

**PROJECT NAME: NORTH HORR
INTEGRATED WATER PROJECTS:
KONON GOS WATER PAN, TINIKU WATER
SUPPLY.
MARSABIT COUNTY
VOLUME 3: DRAWINGS.**

CLIENT:

CONCERN WORLDWIDE



*in conjunction
with*



for



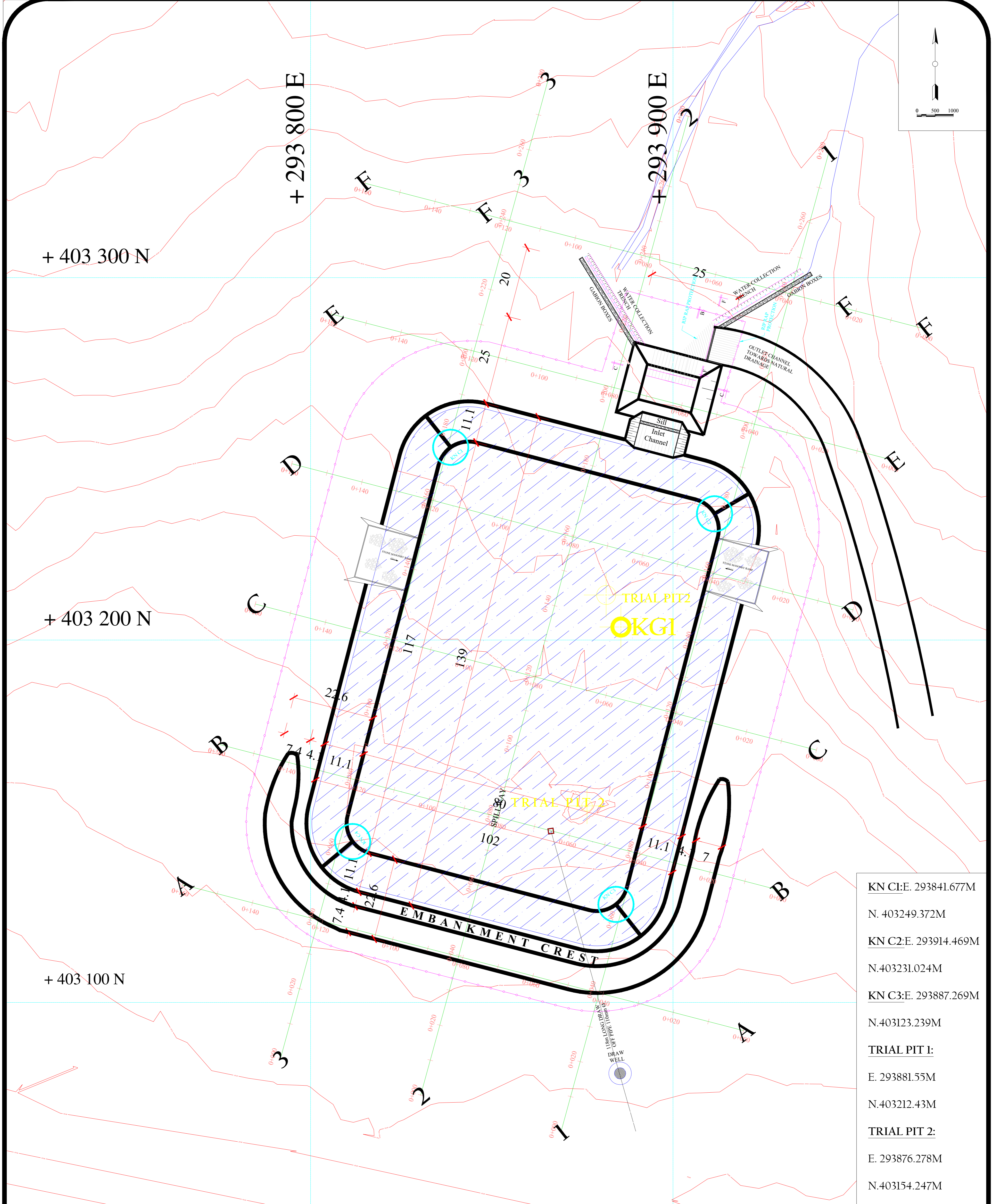
**MARSABIT
COUNTY**

CONSULTANT:

GEO CONSULTANTS

NORTH HERR INTEGRATED WATER PROJECT TECHNICAL DRAWINGS

Drawing No	Drawing Name	SHEET NO
1	Konon Gos water Pan Plan	1 OF 1
2	Konon Gos Water pan Sections	1 OF 1
3	Konon Gos Silt trap drawing	1 OF 1
4	Konon Gos Spill way plan	1 OF 1
5	Konon Gos Gabion Plan	1 OF 1
6	Konon Gos Shallow well drawing	1 OF 1
7	Tiniku Pipeline Profile	1 OF 2
8	Tiniku Pipeline Profile	2 OF 2
9	100m ³ Elevated steel tank	1 OF 1
10	100m ³ Elevated steel tank Foundation details	1 OF 1
11	100m ³ Elevated steel tank tower	1 OF 1
12	Standard Drawings	5 OF 5
13	Water Kiosk	14 OF 14
14	Tiniku Water supply Profile	1 OF 1
15	Standard Sign Board model	1 OF 1



KN C1:E. 293841.677M
 N. 403249.372M
 KN C2:E. 293914.469M
 N.403231.024M
 KN C3:E. 293887.269M
 N.403123.239M
TRIAL PIT 1:
 E. 293881.55M
 N.403212.43M
TRIAL PIT 2:
 E. 293876.278M
 N.403154.247M

STORAGE CAPACITY:	29,617m ³
EXCAVATION VOLUME:	29,456 m ³
EMBANKMENT VOLUME:	3,268m ³
EMBANKMENT BASE WIDTH	22.6m
EMBANKMENT LENGTH	150m
IMPOUNDED AREA:	13,837m ²
MAXIMUM WALL HEIGHT:	3.7m

WALL CREST WIDTH:	4.1m
GROSS FREE BOARD:	0.5m
GATE	6m
FENCE LENGTH:	624m
EMBANKMENT SLOPES -UPSTREAM: 1:3 DOWN STREAM: 1:2	

EMBANKMENT SLOPES -UPSTREAM: 1:3 DOWN STREAM: 1:2
WETTED SURFACE AREA: 12,864m ²
TOTAL SURFACE AREA WHEN FULL: 13,872m ²
SPILLWAY TOP WIDTH 10m
SPILLWAY LENGTH: 30m
SPILLWAY SLOPES: 0.05%

REFERENCE: KG1:E. 293885.62M
 N. 403203.58M
 ELEVATION. 481.179m asl
 KG 03:E. 294116.305M
 N.403477.633M
 ELEVATION. 489.635m asl

SURVEYED & DRAWN BY:
GEOFFREY OKOTH
 DESIGNED BY:
P.K.W

Form Name and Address
 CLIENT:
CONCERN WORLDWIDE

Consultant:
GEO Consultants
 0727-456089
 P.O BOX 103677-00101
 consultantisgeo47@gmail.com

Signature:.....

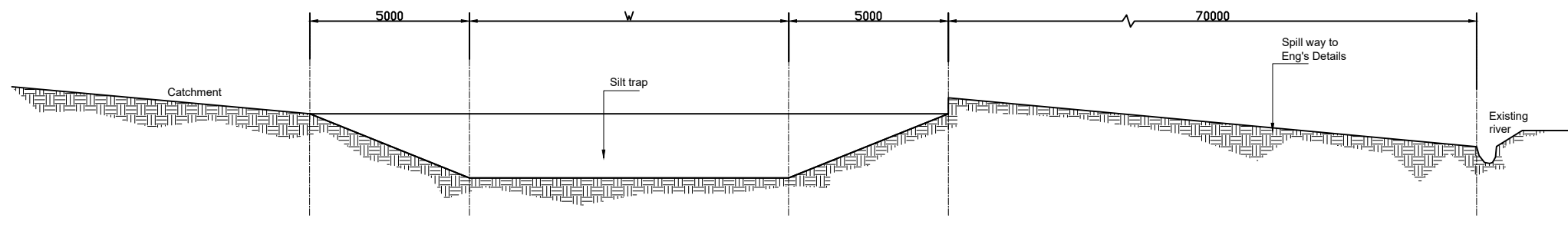
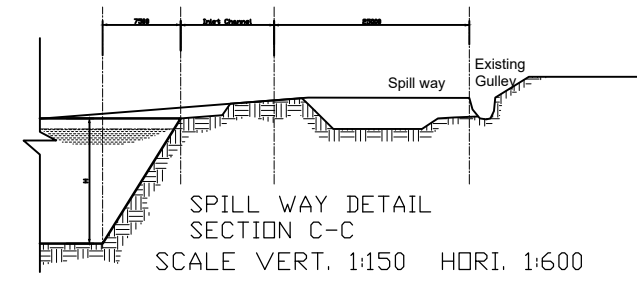
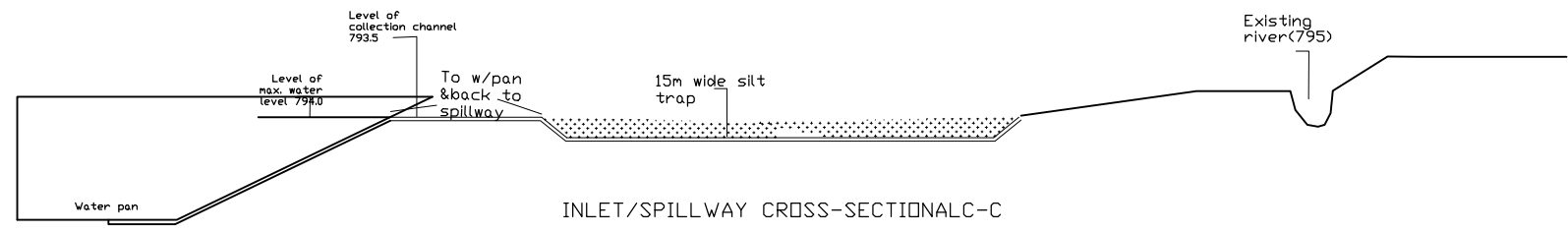
APPROVED BY:
ENG. ANDREW MESSO (A3007)

Project Name and Address
**PROPOSED .
 KONON GOS WATER PAN.
 GENERAL PLAN LAYOUT**

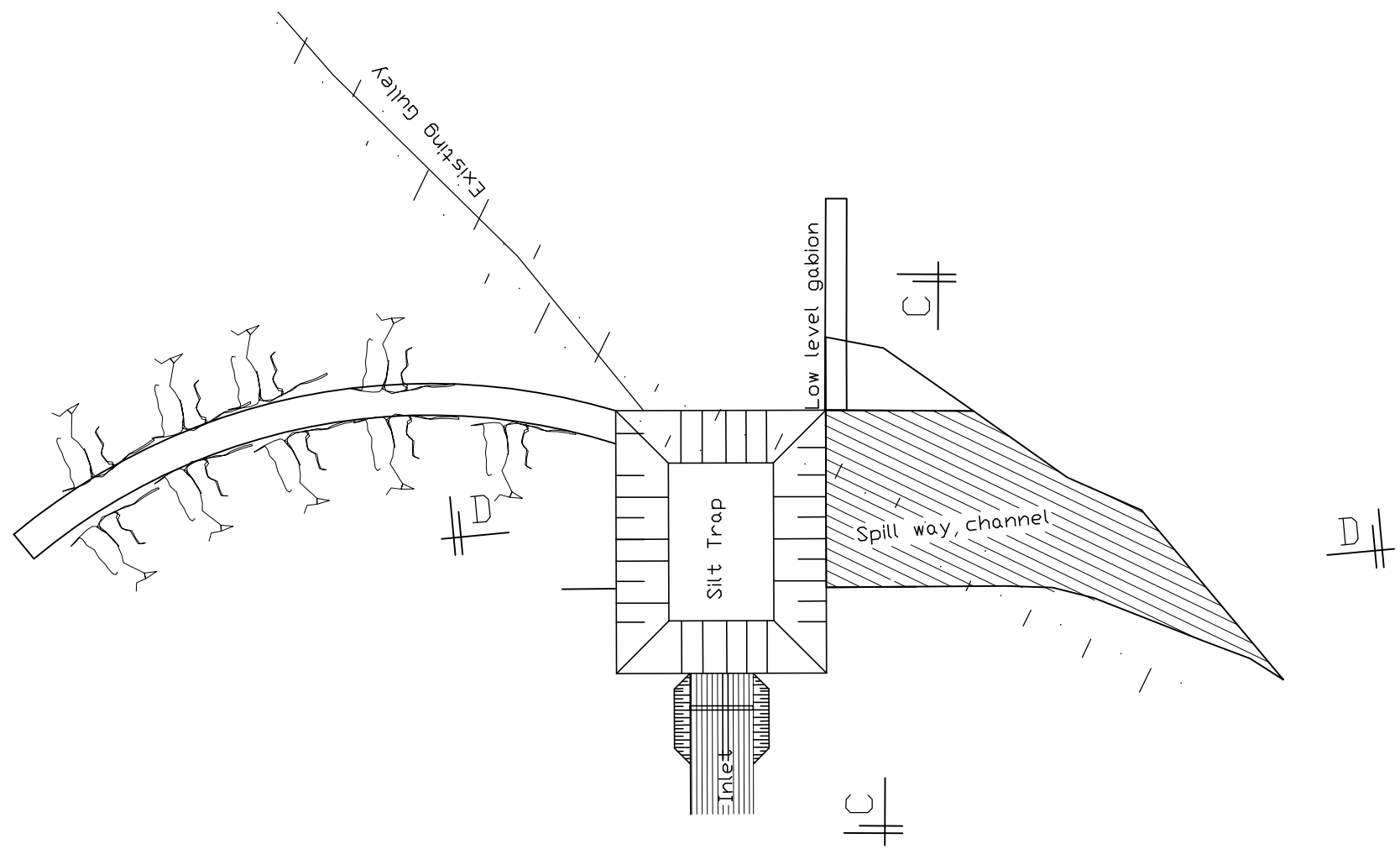
NORTH HORB - WARD
 NORTH HORB SUB-COUNTY
 MARSABIT - COUNTY

Project
 Date: **04 AUGUST/2023**
 Scale: **1:1000**

Sheet
1 of 2
 PRINT ON A1 PAPER SIZE



SECTION D-D
 SCALE VERT. 1:150 HORI. 1:600



General Notes

1. All measurements are in metres

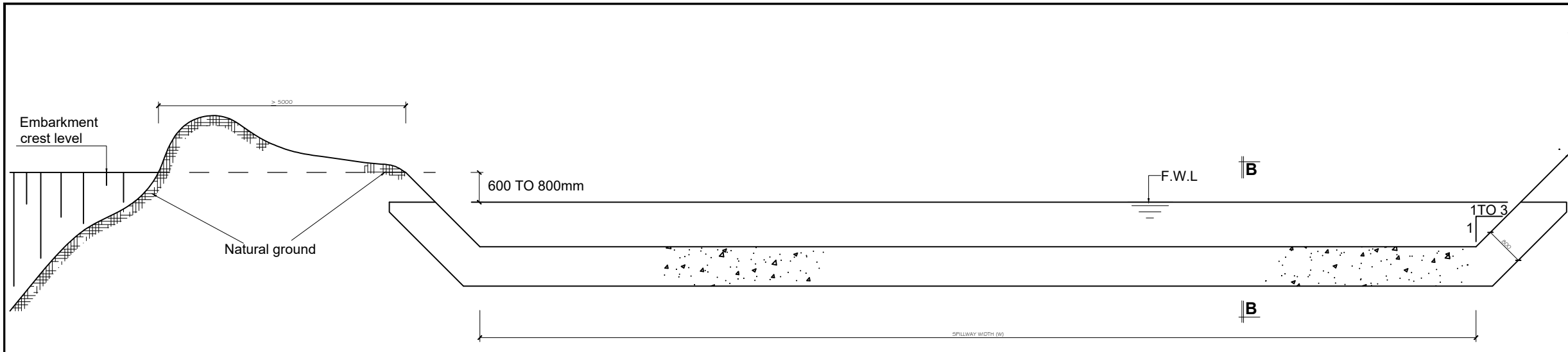
DRAWN BY: MMN
DESIGNED BY: P.K.W
ENG. PAUL WAGURA
CHECKED BY: APPROVED BY: ENG. ANDREW MESSO (A3007)

No.	Revision/Issue	Date

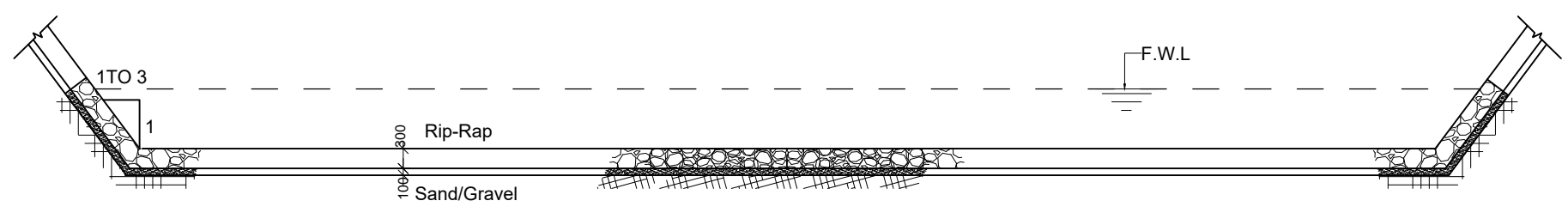
Firm Name and Address
 CONCERN WORLDWIDE
 Consultant:
 GEO Consultants
 0727-456889
 P.O BOX 103677-00101
 consultantsgeo47@gmail.com
 Signature:.....

Project Name and Address
 PROPOSED -
 KONON GOS
 SILT TRAP
 NORTH HERR - WARD
 NORTH HERR SUB-COUNTY
 MARSABIT - COUNTY

Project	Sheet
Date 04 AUGUST/2023	1 of 1
Scale AS SHOWN	PRINT ON A4 PAPER SIZE

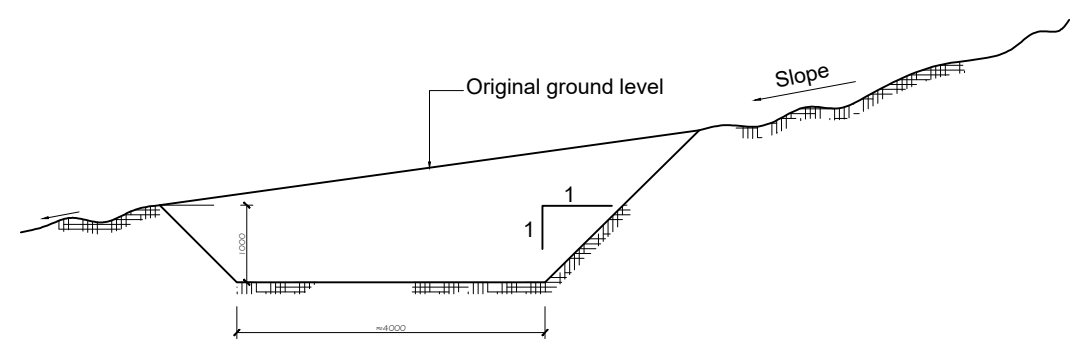


CROSS-SECTION A-A (SPILLWAY CREST)



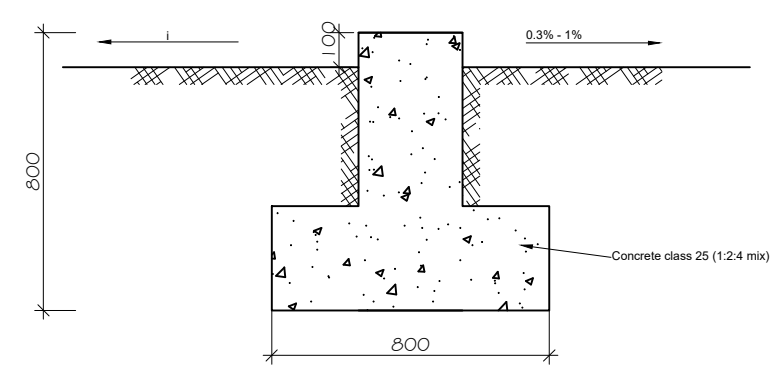
SPILLWAY PROTECTION ARRANGEMENT

Scale 1:100



CROSS-SECTION C-C (PROTECTIVE TRENCH)

Scale 1:100



SILL CROSS SECTION B-B

Scale 1:10

General Notes

1. All measurements are in metres

DRAWN BY: MMN
DESIGNED BY: P.K.W
APPROVED BY: ENG. ANDREW MESSO (A3007)

No.	Revision/Issue	Date

Firm Name and Address
CONCERN WORLDWIDE

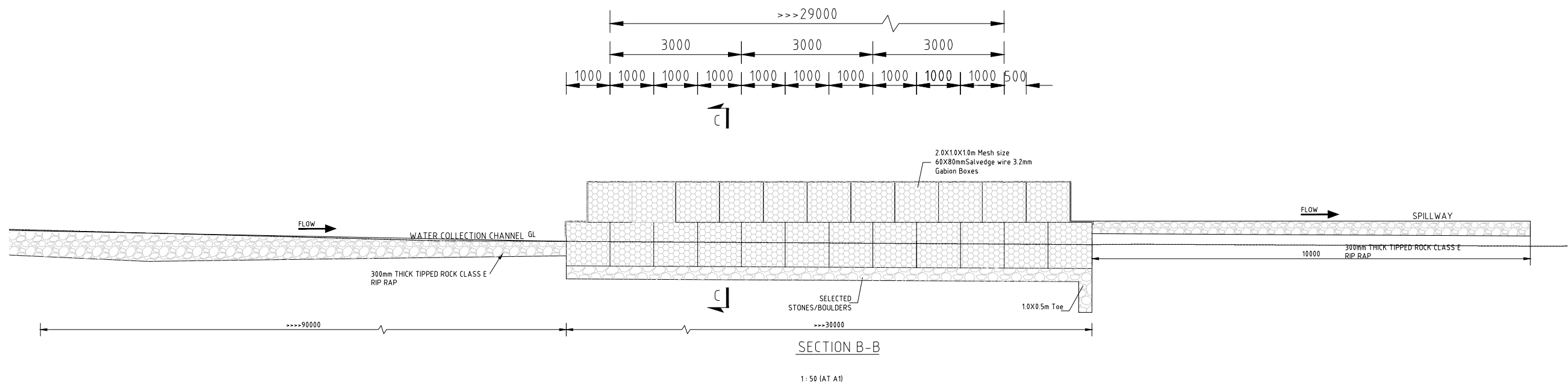
Consultant:
GEO Consultants
0727-456089
P.O BOX 103677-00101
consultantsgeo47@gmail.com
Signature:.....

Project Name and Address
PROPOSED -
KONON GOS SPILLWAY
NORTH HERR - WARD
NORTH HERR SUB-COUNTY
MARSABIT - COUNTY

Project	Sheet
Date: 04 AUGUST/2023	1 of 1
Scale: AS SHOWN	PRINT ON A4 PAPER SIZE

DRAWING NOTES

1. THIS DRG IS TO BE READ WITH ORANGO MC PROFILE DRG
2. DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE INDICATED
3. LEVELS ARE IN METRES



PRINT ON A3 PAPER SIZE

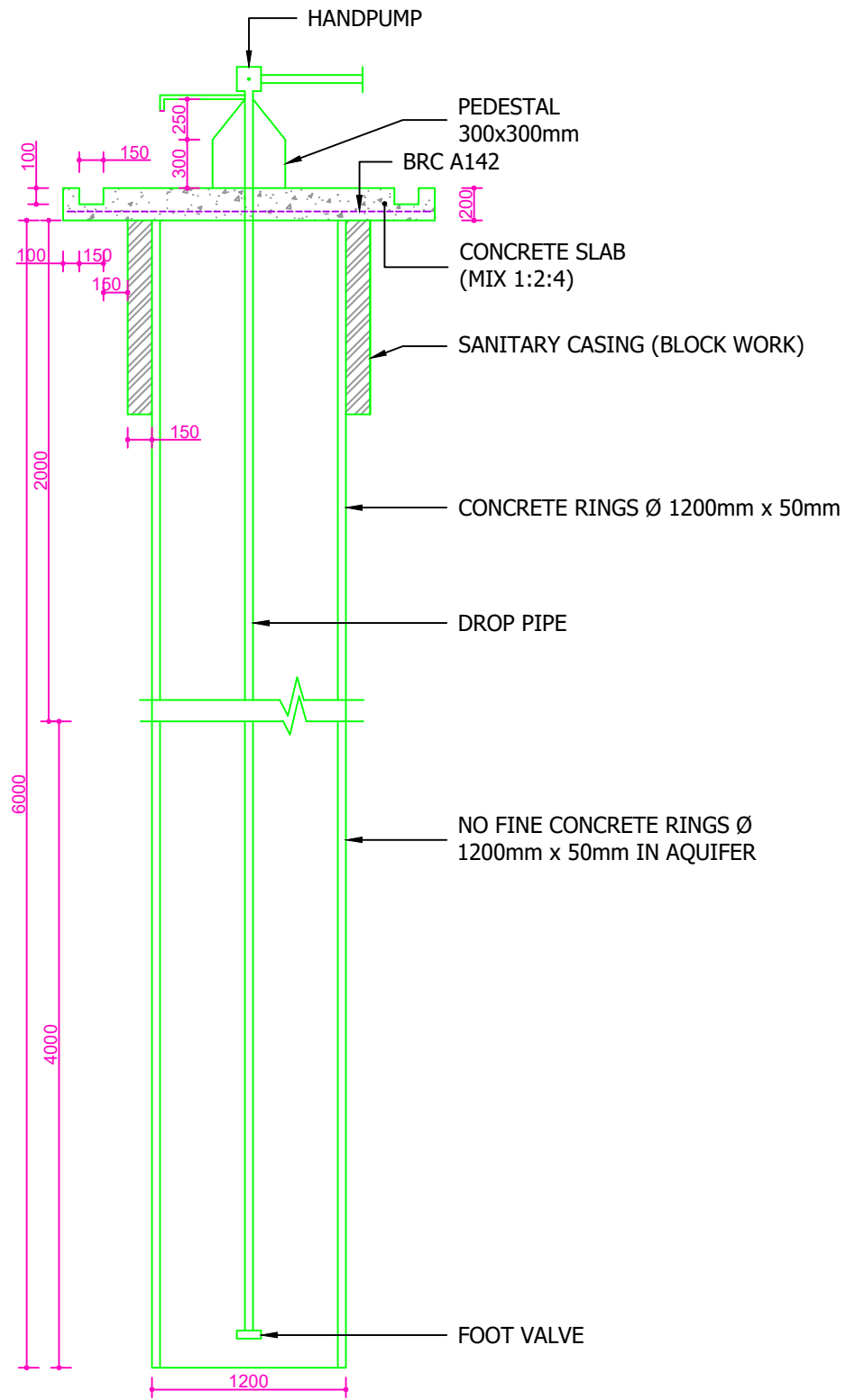
Firm Name and Address
CONCERN WORLDWIDE
 Consultant:
GEO Consultants
 0727-456089
 P.O BOX 103677-00101
 consultantsgeo47@gmail.com
 Signature:.....

No.	REVISION	APPROVAL	DATE	REFERENCE	DWG No.

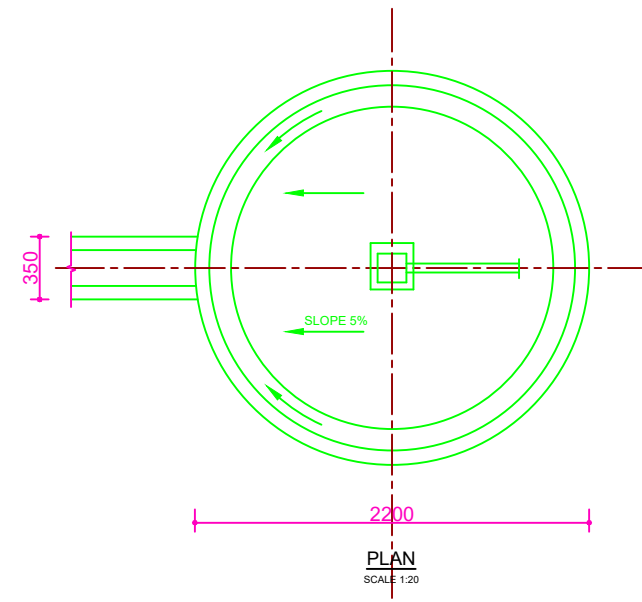
PROJECT NAME:
KONON GOS
NORTH HERR - WARD
NORTH HERR SUB-COUNTY
MARSABIT - COUNTY

PROPOSED.
GABION BOXES
 DWG No. _____ Sheet No. **1 of 1**

Designed: P.K.W	Date: SEP 2023
Drawn: MMN	Date: SEP 2023
Checked: ENG. ANDREW MESSO (A3007)	Date: SEP 2023
Approved:	Date: SEP 2023



CROSS SECTION OF SHALLOW WELL
SCALE 1:20



PLAN
SCALE 1:20

General Notes

1. All measurements are in metres

DRAWN BY:

MMN

DESIGNED BY:

P.K.W

P.K.W

APPROVED BY:

ENG. ANDREW MESSO
(A3007)

No.	Revision/Issue	Date

Firm Name and Address
 CONCERN WORLDWIDE
 Consultant:
 GEO Consultants
 0727-456089
 P.O BOX 103677-00101
 consultantsgeo47@gmail.com
 Signature:.....

Project Name and Address
 PROPOSED .
 KONON GOS WATER PAN.
 SHALLOW WELL PLAN
 &
 SECTIONAL DETAILS
 NORTH HERR - WARD
 NORTH HERR SUB-COUNTY
 MARSABIT - COUNTY

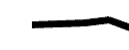




Project	Sheet
Date 04 AUGUST/2023	1 of 1
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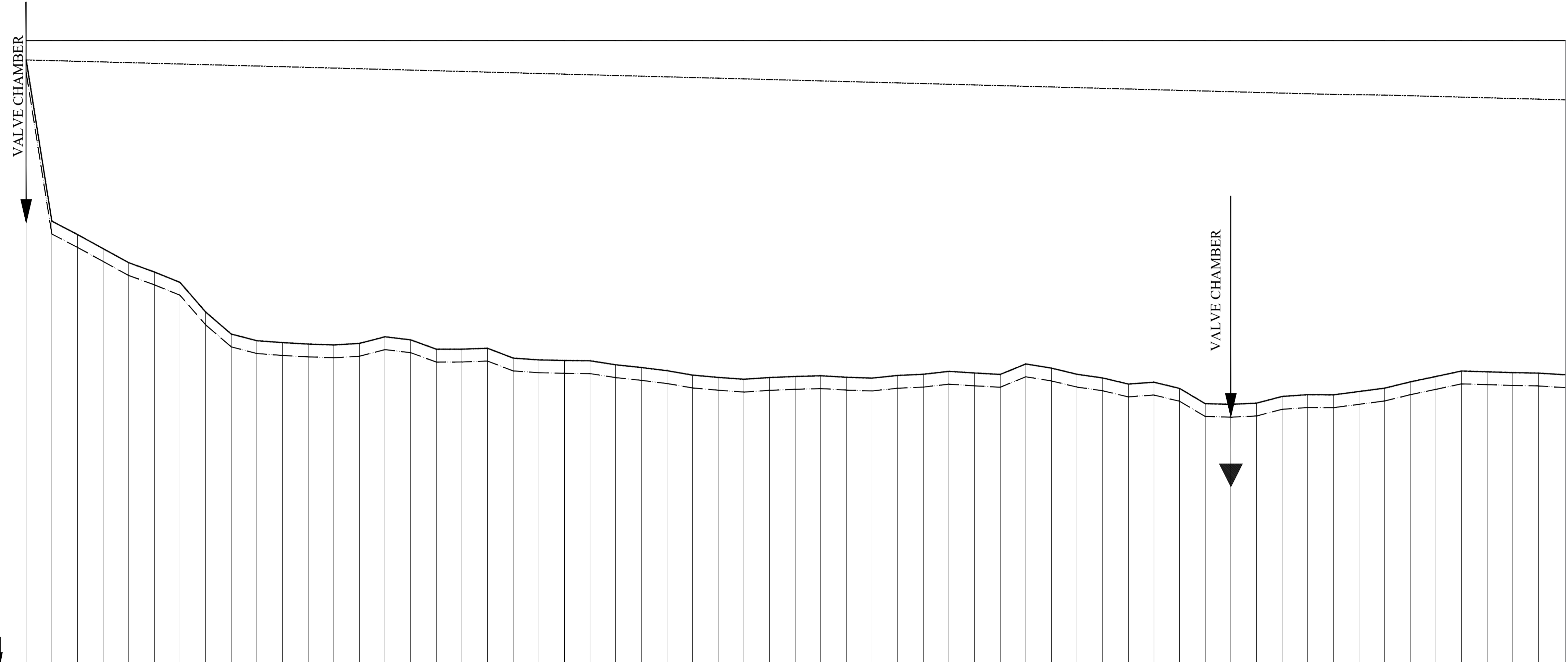
- NOTES**
- Dimensions are in metres unless otherwise stated.
 - This drawing is to be read in conjunction with the designs and other relevant drawings.
 - Scales in A1 paper size.

SCALES

Horizontal Scale 1:2000
Vertical Scale 1:200

LEGEND

-  EXISTING GROUND PROFILE
-  PIPE INVERT
-  SINGLE AIR VALVE
-  DOUBLE AIR VALVE
-  WASHOUT VALVE








HYDRAULIC GRADE (m amsl)	1.110 382.000 383.000/
CHAINAGE (m)	000.00
GROUND LEVEL (m amsl)	1.110 369.434 370.425 025.00 1.110 369.424 370.425 020.00 1.110 368.381 369.380 040.00 1.110 367.282 368.280 060.00 1.110 366.184 367.185 080.00 1.110 365.458 366.460 100.00 1.110 364.649 365.650 120.00 1.110 362.342 363.340 140.00 1.110 360.621 361.620 160.00 1.110 360.101 361.100 180.00 1.110 359.953 360.955 200.00 1.110 359.839 360.840 220.00 1.110 359.771 360.770 240.00 1.110 359.889 360.890 260.00 1.110 359.889 360.890 280.00 1.110 360.407 361.405 280.00 1.110 360.168 361.170 300.00 1.110 359.440 360.440 320.00 1.110 359.442 360.440 340.00 1.110 359.512 360.510 360.00 1.110 359.512 360.510 380.00 1.110 358.745 359.745 380.00 1.110 358.604 359.605 400.00 1.110 358.604 359.605 420.00 1.110 358.560 359.560 420.00 1.110 358.535 359.535 440.00 1.110 358.535 359.535 440.00 1.110 358.225 359.225 460.00 1.110 358.225 359.225 480.00 1.110 358.010 359.010 480.00 1.110 358.010 359.010 480.00 1.110 357.764 358.765 500.00 1.110 357.419 358.420 520.00 1.110 357.238 358.240 540.00 1.110 357.238 358.240 540.00 1.110 357.098 358.100 560.00 1.110 357.098 358.100 560.00 1.110 357.229 358.230 580.00 1.110 357.229 358.230 580.00 1.110 357.311 358.310 600.00 1.110 357.311 358.310 600.00 1.110 357.368 358.370 620.00 1.110 357.368 358.370 620.00 1.110 357.251 358.250 640.00 1.110 357.251 358.250 640.00 1.110 357.184 358.185 660.00 1.110 357.184 358.185 660.00 1.110 357.393 358.395 680.00 1.110 357.393 358.395 680.00 1.110 357.484 358.485 700.00 1.110 357.484 358.485 700.00 1.110 357.712 358.710 720.00 1.110 357.712 358.710 720.00 1.110 357.583 358.585 740.00 1.110 357.583 358.585 740.00 1.110 357.472 358.470 760.00 1.110 357.472 358.470 760.00 1.110 358.288 359.290 780.00 1.110 358.288 359.290 780.00 1.110 357.964 358.965 800.00 1.110 357.964 358.965 800.00 1.110 357.483 358.485 820.00 1.110 357.483 358.485 820.00 1.110 357.197 358.195 840.00 1.110 357.197 358.195 840.00 1.110 356.721 357.720 860.00 1.110 356.721 357.720 860.00 1.110 356.865 357.865 880.00 1.110 356.865 357.865 880.00 1.110 356.382 357.380 900.00 1.110 356.382 357.380 900.00 1.110 355.193 356.195 920.00 1.110 355.193 356.195 920.00 1.110 355.140 356.140 940.00 1.110 355.140 356.140 940.00 1.110 355.232 356.230 960.00 1.110 355.232 356.230 960.00 1.110 355.753 356.755 980.00 1.110 355.753 356.755 980.00 1.110 355.894 356.895 1000.00 1.110 355.894 356.895 1000.00 1.110 355.880 356.880 1020.00 1.110 355.880 356.880 1020.00 1.110 356.141 357.140 1040.00 1.110 356.401 357.400 1060.00 1.110 356.401 357.400 1060.00 1.110 356.881 357.880 1080.00 1.110 356.881 357.880 1080.00 1.110 357.310 358.310 1100.00 1.110 357.310 358.310 1100.00 1.110 357.738 358.740 1120.00 1.110 357.738 358.740 1120.00 1.110 357.676 358.675 1140.00 1.110 357.676 358.675 1140.00 1.110 357.612 358.610 1160.00 1.110 357.612 358.610 1160.00 1.110 357.574 358.575 1180.00 1.110 357.574 358.575 1180.00 1.110 357.450 358.450 1200.00
INVERT LEVEL (m amsl)	1.110 382.000 383.000/
TRENCH DEPTH (m)	
STEADY-STATE HEAD (m)	
DESIGN FLOW (l/s)	0.002
OFFTAKE (l/s)	
PIPE DETAILS	HDPE PIPE CLASS B, Dia 90mm
BEDDING DETAILS	APPROVED BEDDING MATERIAL, COMPACTED TO 85% MPD
GRADIENT (m/km)	-628.80
VERTICAL ANGULAR DEVIATION	29.2° 0.2° 0.0° 1.1° 0.2° 4.3° 1.7° 3.4° 1.1° 0.1° 0.1° 0.5° 1.1° 2.2° 1.4° 2.1° 0.2° 2.4° 1.8° 0.3° 0.1° 1.25° 1.5° 5.0° 10.75° 12.30° 17.25° 9.05° 7.00° 6.55° 4.10° 2.85° 5.85° 3.35° 10.45° 4.55° 11.40° 6.45° 5.55° 40.90° 05.20° 30.23° 8.0° 24.15° 09.45° 2.65° 4.60° 26.05° 7.05° 0.70° 13.03° 24.50° 20.95° 21.40° 3.10° 3.20° 1.90° 6.20°

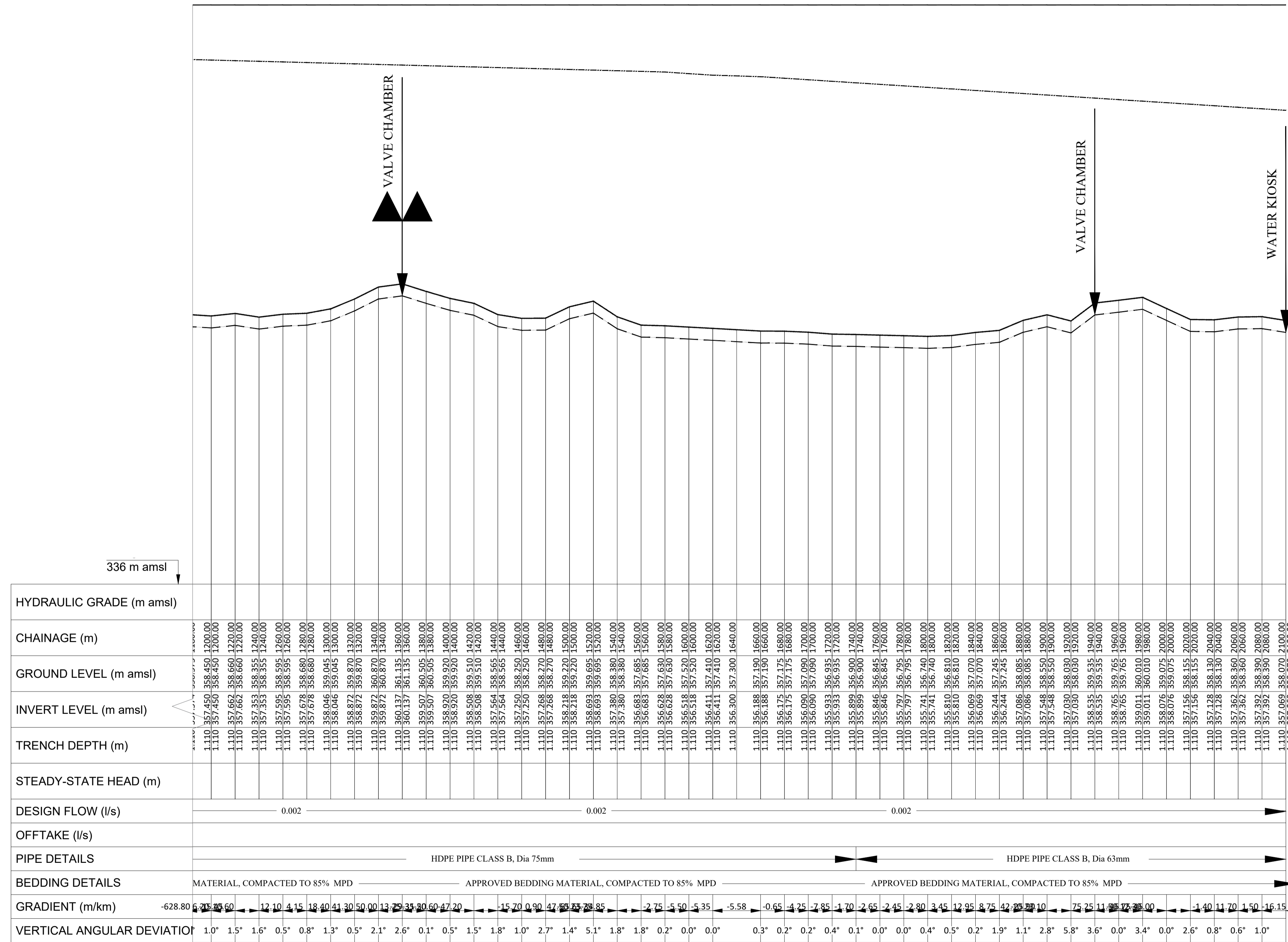
 MARSABIT COUNTY	No.	APPROVAL	DATE	REFERENCE	CLIENT: CONCERN WORLDWIDE  in conjunction with 	CONSULTANT: GEO CONSULTANTS	PROJECT TITLE: TINIKU AND KONON GOS NORTH HORR INTEGRATED PROJECT	TITLE OF DRAWING: NORTH HORR PROFILE Chainage 0+000 to 1+200	Designed: P. K.W	Date: Aug 2023
									Drawn: MMN	Date: Aug 2023
									Checked: ENG ANDREW MESSO (A3007)	Date: Aug 2023
									Approved: ENG ANDREW MESSO (A3007)	Date: Aug 2023
							DWG. No. KAM/DD/203	Sheet No. 1/2		

NOTES
 1. Dimensions are in metres unless otherwise stated.
 2. This drawing is to be read in conjunction with the designs and other relevant drawings
 3. Scales in A1 paper size

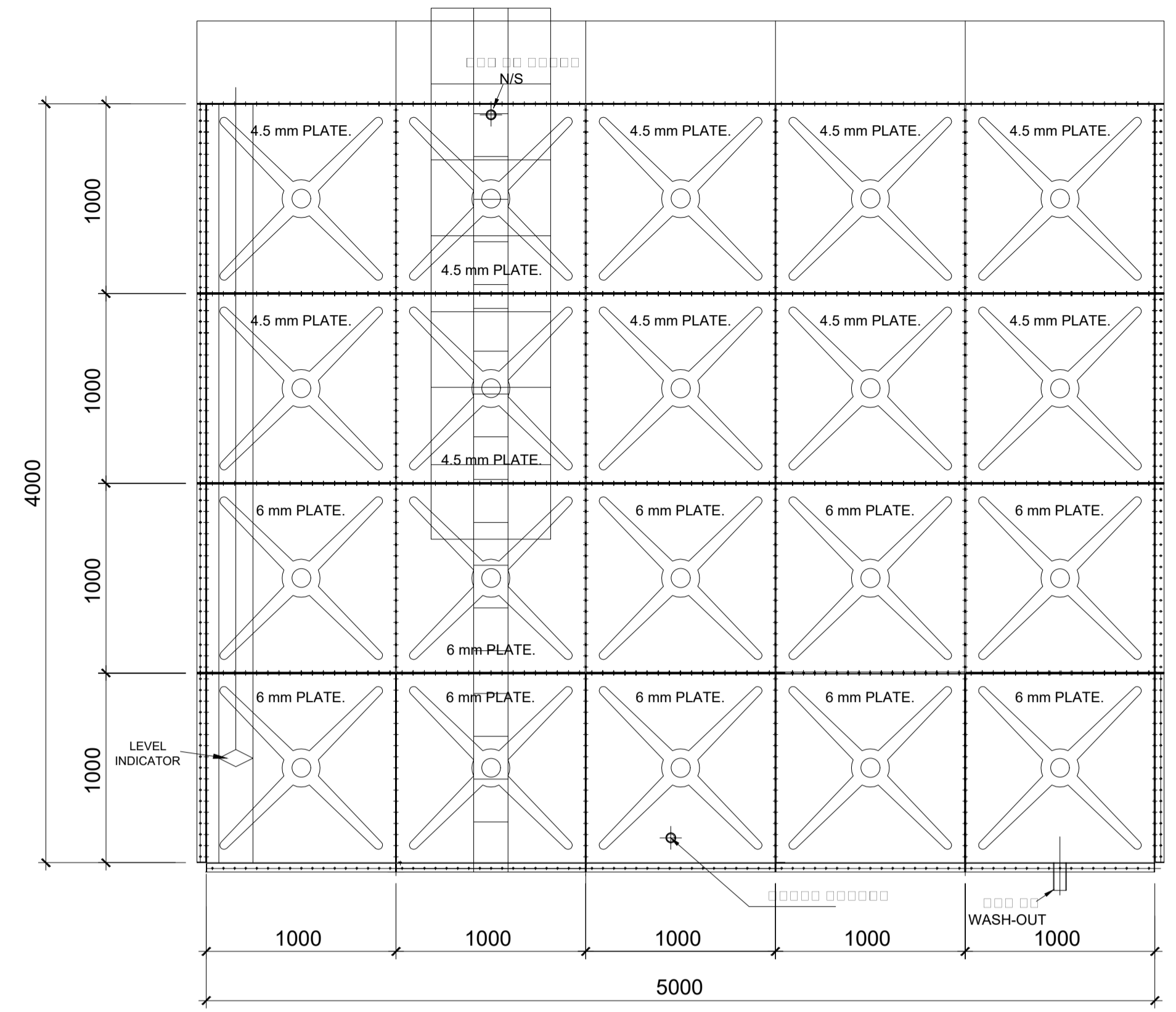
SCALES
 Horizontal Scale 1:2000
 Vertical Scale 1:200

LEGEND

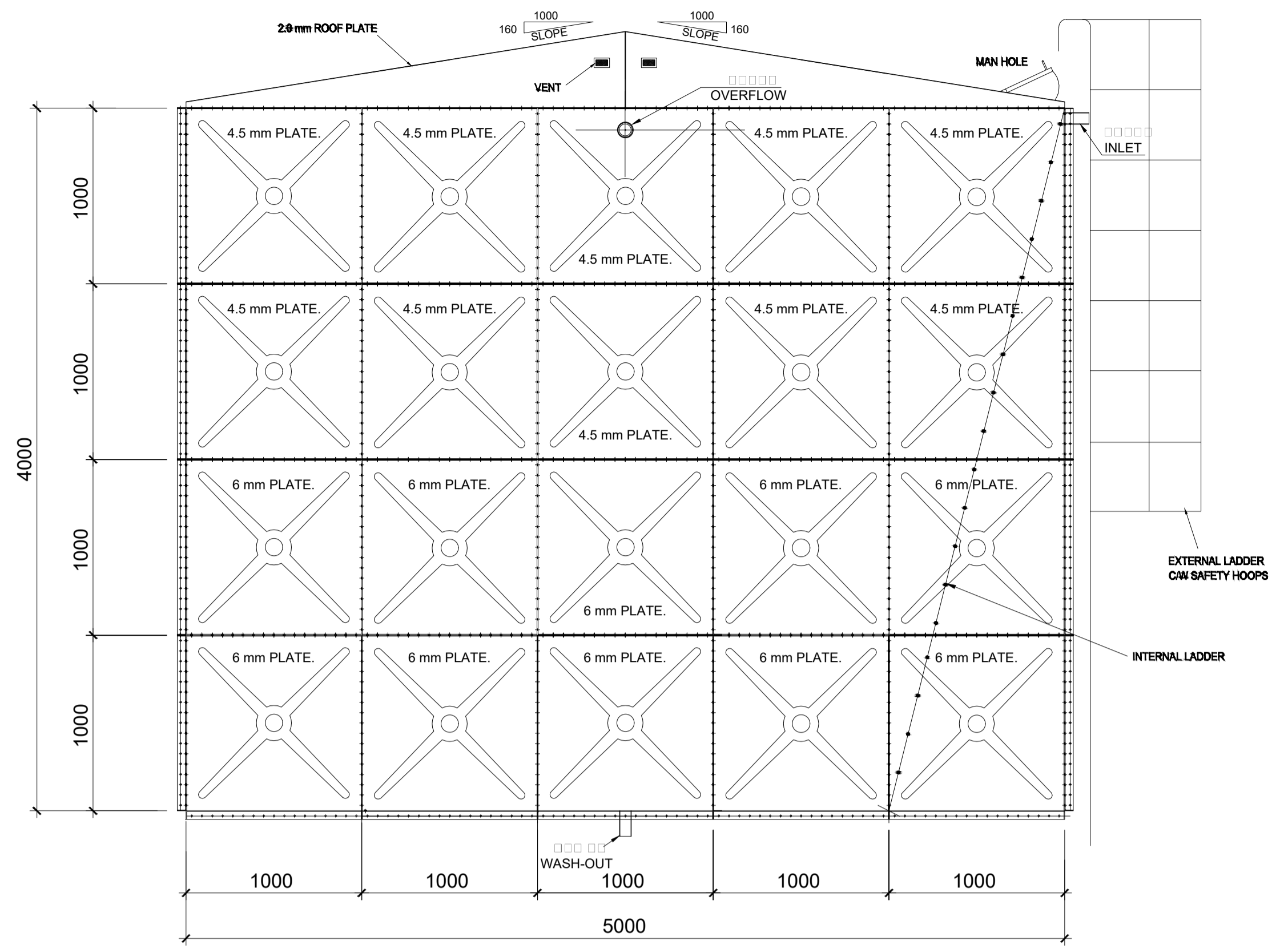
-  EXISTING GROUND PROFILE
-  PIPE INVERT
-  SINGLE AIR VALVE
-  DOUBLE AIR VALVE
-  WASHOUT VALVE



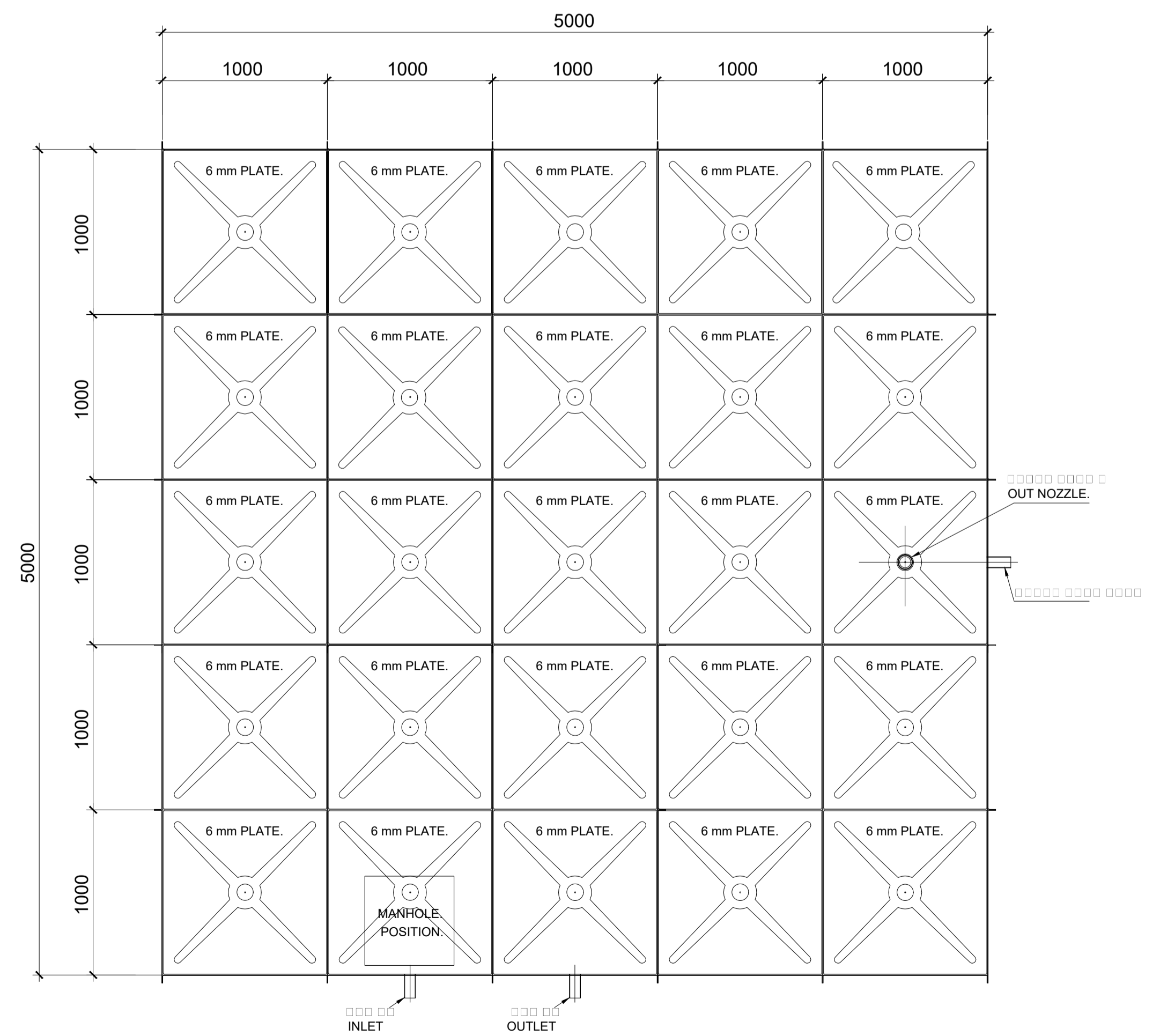
 MARSABIT COUNTY	No.	APPROVAL	DATE	REFERENCE	CLIENT:	CONCERN WORLDWIDE	CONSULTANT:	GEO CONSULTANTS	PROJECT TITLE:	TINIKU AND KONON GOS NORTH HORR INTEGRATED PROJECT	TITLE OF DRAWING:	NORTH HORR PROFILE Chainage 1+200 to 2+100	Designed:	P. K.W	Date:	Aug 2023
						 in conjunction with 					DWG. No.	KAM/DD/203	Drawn:	MMN	Date:	Aug 2023
											Sheet No.	2/2	Checked:	P. K.W	Date:	Aug 2023
											Approved:	ENG ANDREW MESSO (A3007)	Date:	Aug 2023		



SIDE ELEVATION



END ELEVATION



PLAN

DESCRIPTION

OVERFLOW	75MMØ NB
OUTLET	75MMØ NB
WASHOUT	75MMØ NB
INLET	75MMØ NB

GENERAL NOTES:

- 1) ALL STRUCTURAL STEELWORK TO BE GRADE 43C.
- 2) STEELWORK TO BE WIRE BRUSHED PRIOR TO FINISHING APPLICATION.
- 3) INSIDE TANK ONE COAT OF PRIMER & TWO COATS OF NON TOXIC BITUMINOUS PAINT. OUTSIDE TANK ONE COAT OF PRIMER & ONE COAT OF SILVER ALUMINUM PAINT.
- 4) ALL SHOP WELDS TO BE 6MM FILLET WELDS UNLESS OTHERWISE NOTED.
- 5) ALL SECTION SIZES ARE AS SPECIFIED ON DRAWING UNLESS OTHERWISE NOTED.
- 6) BOLTS ARE GALVANIZED GRADE 8.8.

- NOTES**
1. READ THE DRAWING IN CONJUNCTION WITH RELEVANT R.C.
 2. DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
 3. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
 4. ALL PIPEWORK ARE DUCTILE IRON TO NP 10 WITH NP 16 FLANGE.
 5. ALL CONCRETE SHALL BE CLASS C30 UNLESS OTHERWISE STATED.
 6. ALL VALVES TO BE SUPPLIED WITH EXTENSION SPINDLE.
 7. MIN CONCRETE COVER OF 40 mm TO THE MAIN STEEL TO BE MAINTAINED.
 8. SAFE BEARING CAPACITY TAKEN AS OF 150KN/M2.
 9. ALL FOUNDATIONS TO BE TAKEN DOWN TO A SUITABLE ROCK.
 10. MAXIMUM AGGREGATE SIZE FOR CONCRETE IS 20mm.
 11. ALL REINFORCEMENT TO BE INSPECTED BY THE ENGINEER BEFORE CONCRETING.

PROJECT TITLE:
PROPOSED FABRICATION, DELIVERY & INSTALLATION OF 100M3 PRESSED STEEL TANK ON 12M TOWER.

DRAWING TITLE
PANEL DETAILS.

CLIENT:
CONCERN WORLDWIDE

 in conjunction with

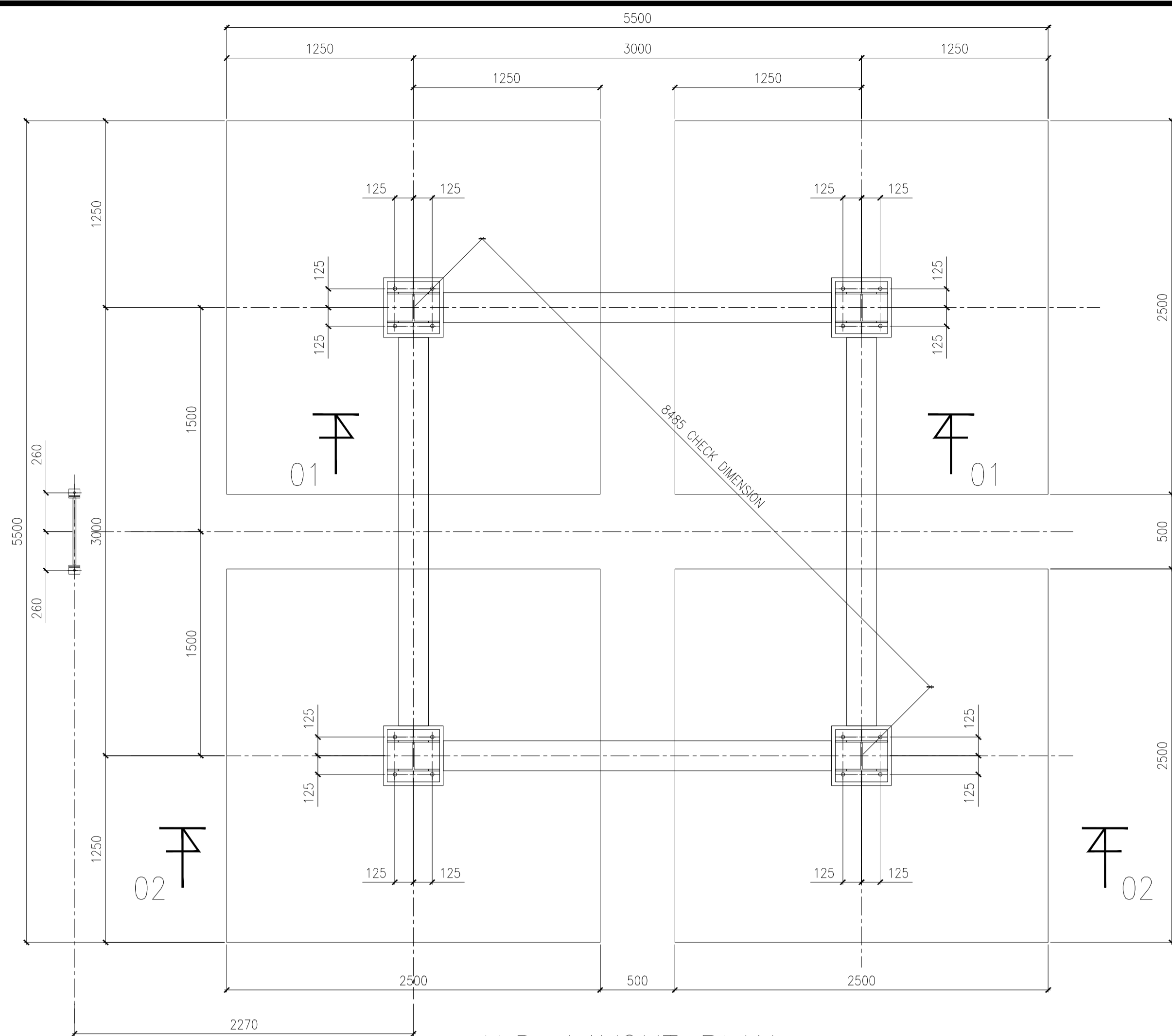
CONSULTANT:
GEO CONSULTANTS MARSABIT COUNTY

PROJECT NAME:
CONSTRUCTION OF 100 m³ ELEVATED STORAGE TANK
TINKU WATER PROJECT
NORTH HORN INTEGRATED PROJECT
MARSABIT COUNTY

SCALE: 1:50

	NAME	DATE
Designed	S.Gateru	AUG 2023
Drawn	MMN	AUG 2023
Checked	Eng. Andrew Messo (A3007)	AUG 2023

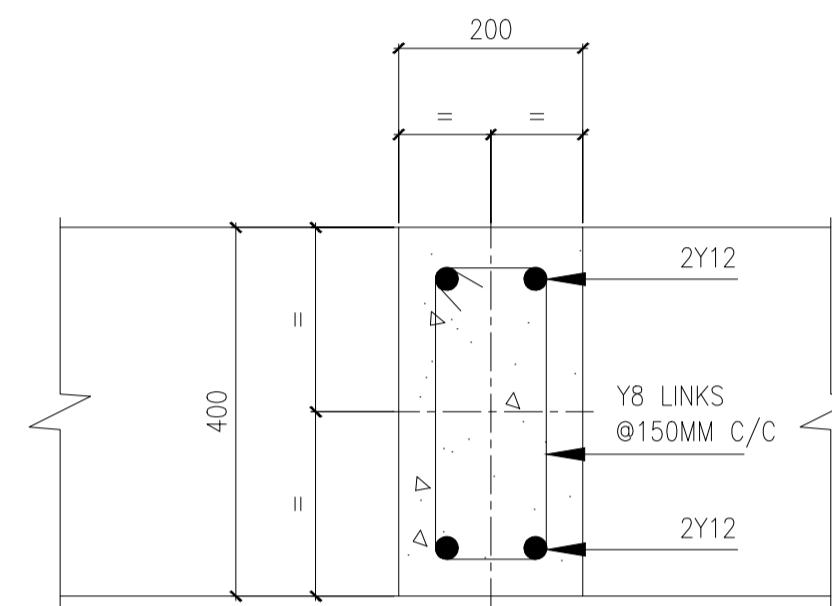
DRG No.	Revision Suffix
02	



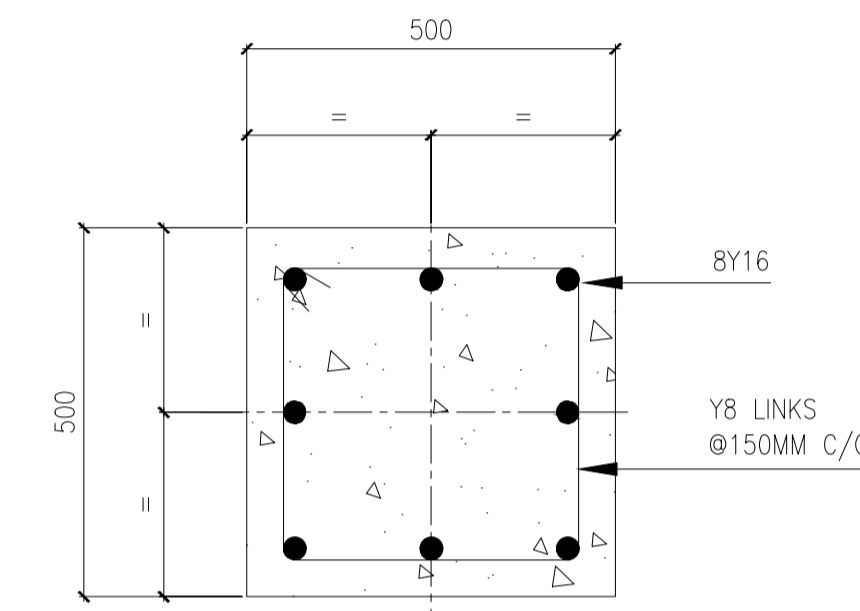
H.D. LAYOUT PLAN



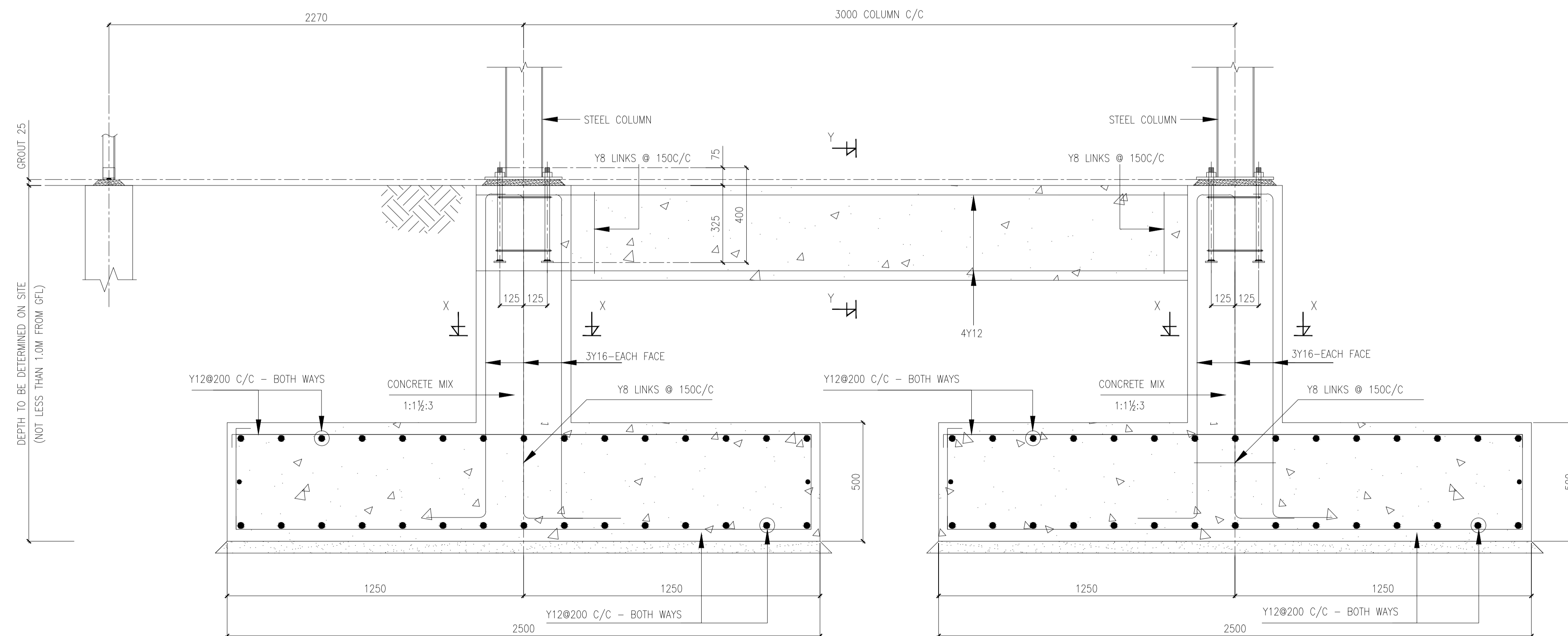
TYPICAL SECTION 01 - 01



TYPICAL SECTION Y - Y
THRU RC BEAMS B1



TYPICAL SECTION X - X
THRU STUB COLUMNS



TYPICAL SECTION 02 - 02

NOTES:

- MIX OF CONCRETE TO ATTAIN THE STRENGTH OF F_{cu} 25 N/mm^2
- CONCRETE MIX 1:1 1/2:3
- CONCRETE MIX 1:4:8 BLINDING
- WATER CEMENT RATIO 0.5
- CUBE STRENGTH 28 DAYS - 25 N/mm^2
- REINFORCEMENT STEEL STRENGTH - 425/250 N/mm^2
- COVER TO BASE - 50mm
- COVER TO COLUMN - 40mm
- CONTRACTOR TO CONFIRM CHECK DIMENSION USING STEEL TAPE MEASURE.
- HOLDING DOWN BOLTS TO BE CAST TO $\pm 5mm$ ACCURACY AND SHOULD BE RECAST IF THIS TOLERANCE IS EXCEEDED.
- CONTRACTOR TO CONFIRM LEVELS OF FOUNDATIONS.
- ASSUMED GROUND BEARING PRESSURE - 80 KN/M^2

NOTES

- READ THE DRAWING IN CONJUNCTION WITH RELEVANT R.C.
- DRAWINGS, ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
- ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
- ALL PIPEWORK ARE DUCTILE IRON TO NP 10 WITH NP 16 FLANG
- ALL CONCRETE SHALL BE CLASS C30 UNLESS OTHERWISE STATED.
- ALL VALVES TO BE SUPPLIED WITH EXTENSION SPINDLE.
- MIN CONCRETE COVER OF 40 mm TO THE MAIN STEEL TO BE MAINTAINED.
- SAFE BEARING CAPACITY TAKEN AS OF 150KN/M2.
- ALL FOUNDATIONS TO BE TAKEN DOWN TO A SUITABLE ROCK.
- MAXIMUM AGGREGATE SIZE FOR CONCRETE IS 20mm.
- ALL REINFORCEMENT TO BE INSPECTED BY THE ENGINEER BEFORE CONCRETING.

PROJECT TITLE:

DRAWING TITLE

RC FOUNDATION & H.D. BOLTS LAYOUT DETAILS.

CLIENT:

CONCERN WORLDWIDE



CONSULTANT:

GEO CONSULTANTS



MARSABIT COUNTY

PROJECT NAME:

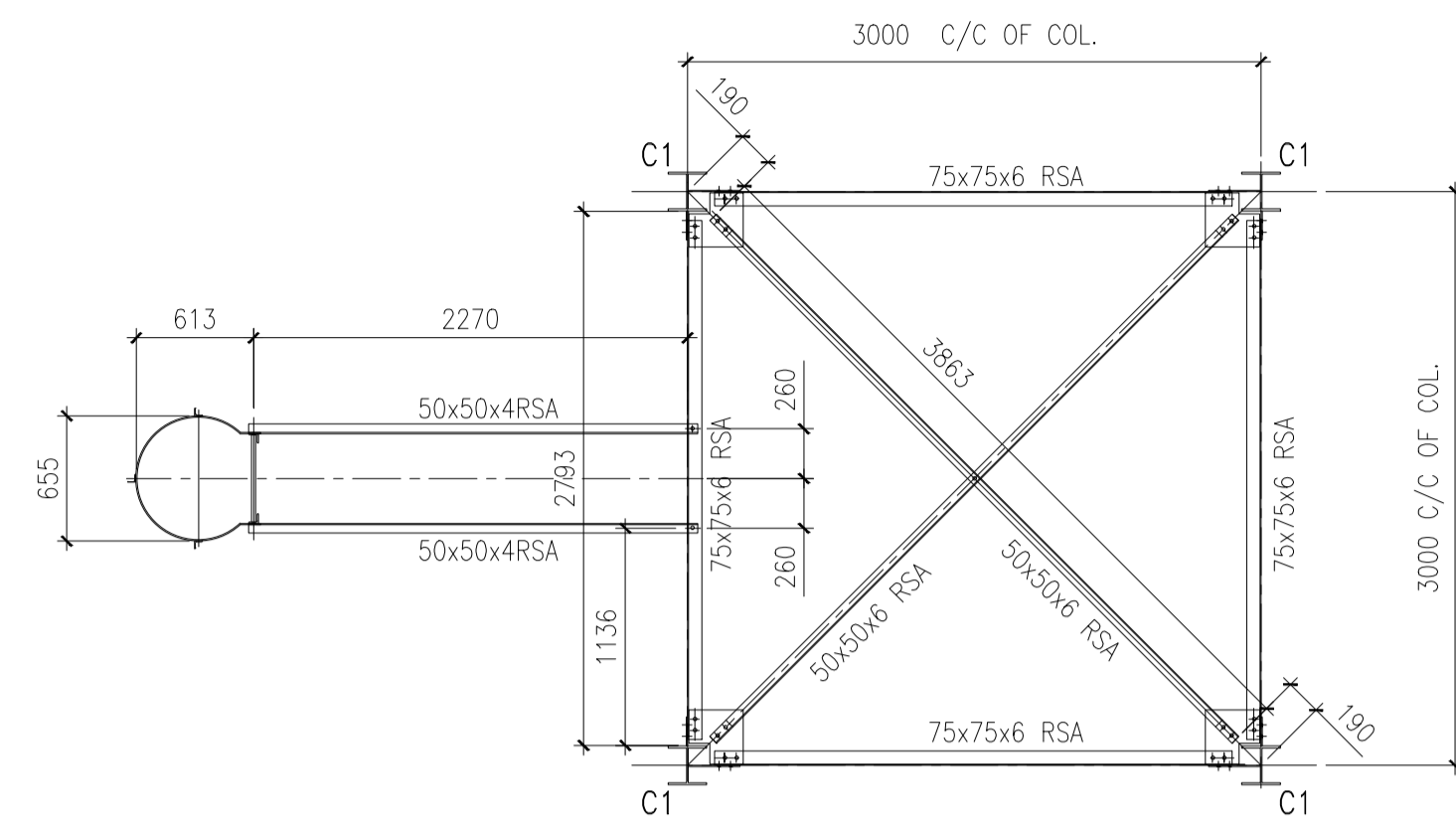
CONSTRUCTION OF 100 m³ ELEVATED STORAGE TANK

TINIKU WATER SUPPLY
NORTH HERR INTEGRATED PROJECT
MARSABIT COUNTY

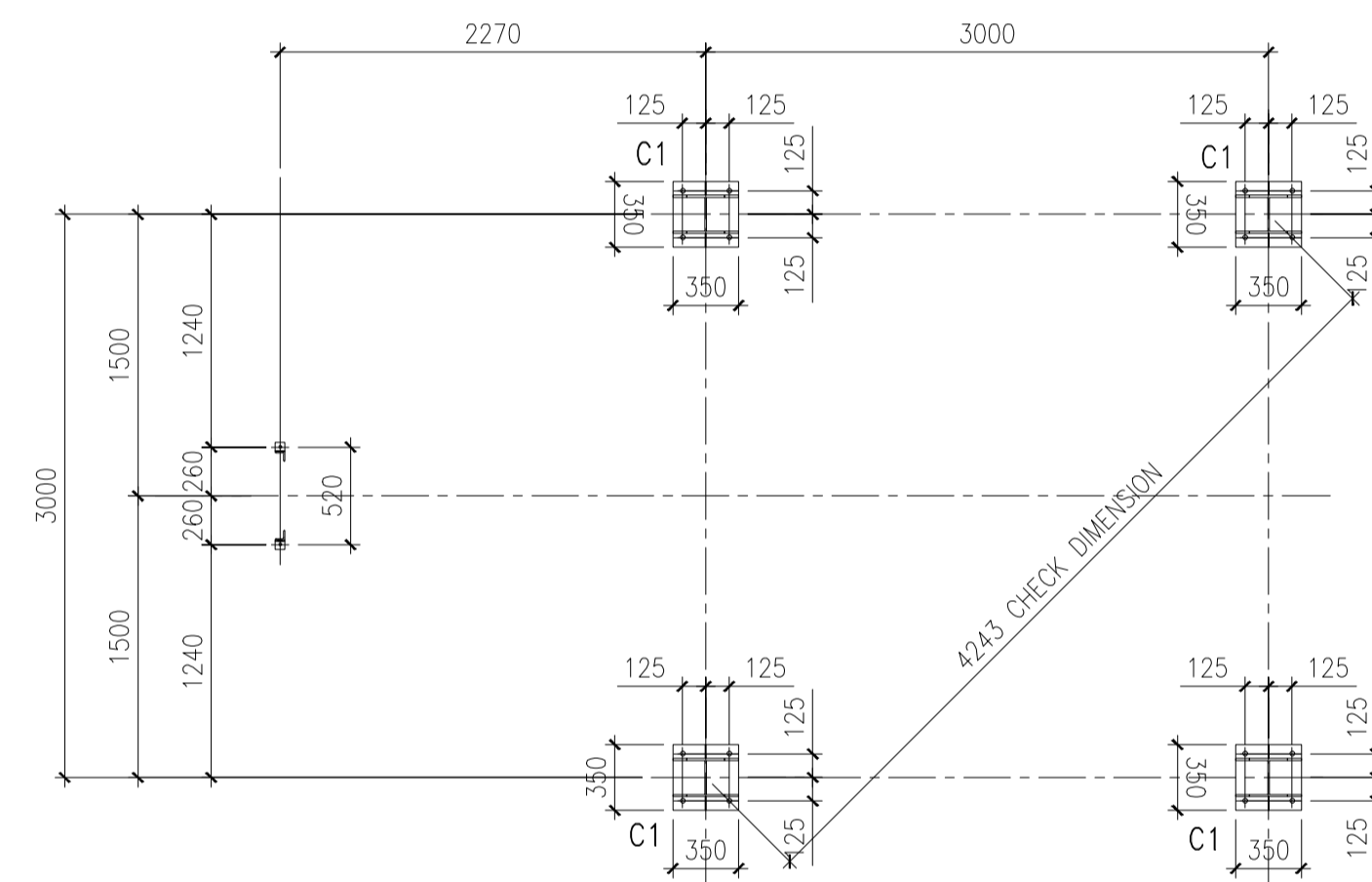
SCALE: 1:50

	NAME	DATE
Designed	S.Gateru	AUG 2023
Drawn	MMN	AUG 2023
Checked	Eng. Andrew Messo (A3007)	AUG 2023

DRG No.	Revision Suffix
01	



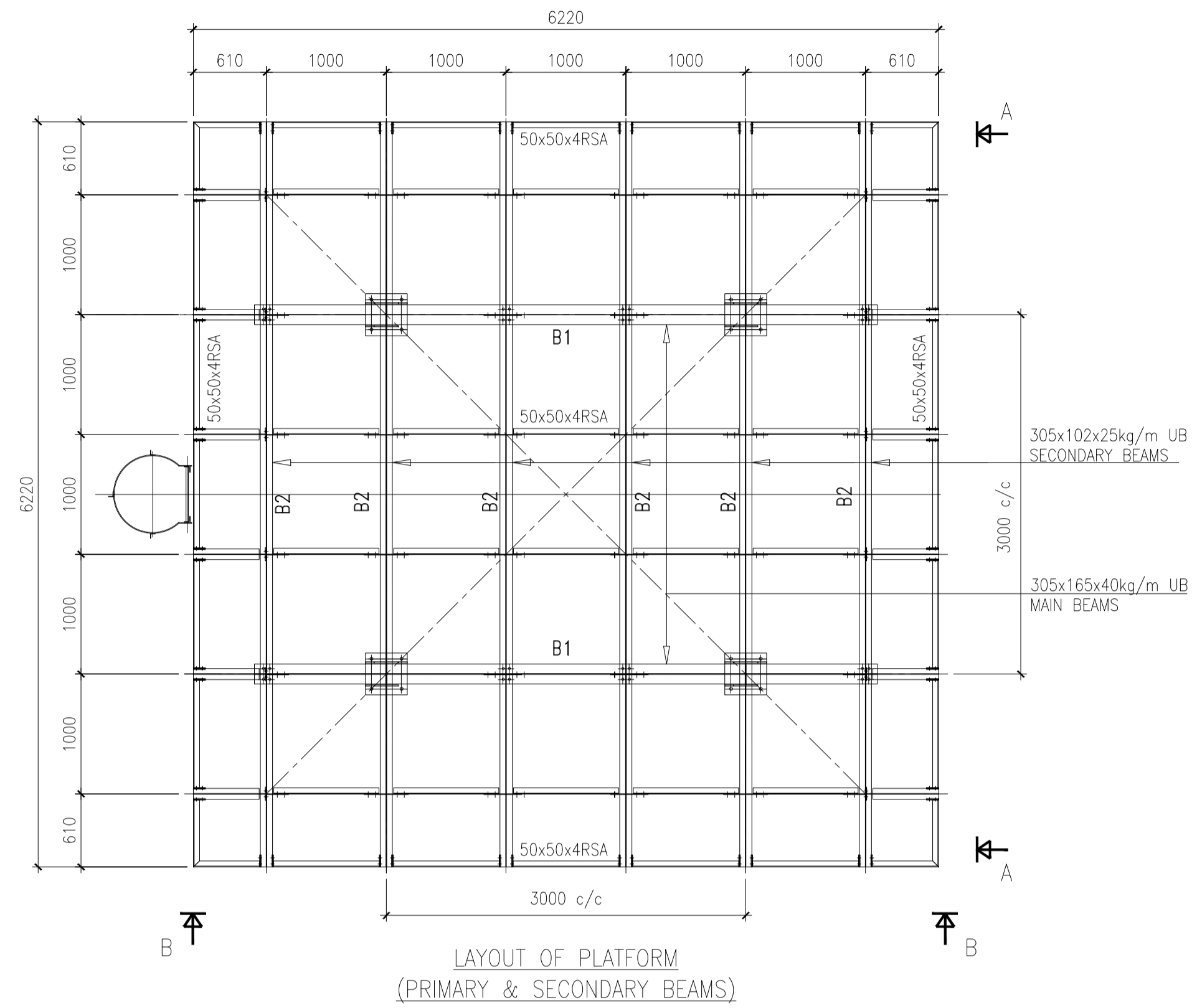
SECTION 01 - 01
TYPICAL PLAN ON HORIZONTAL BRACINGS



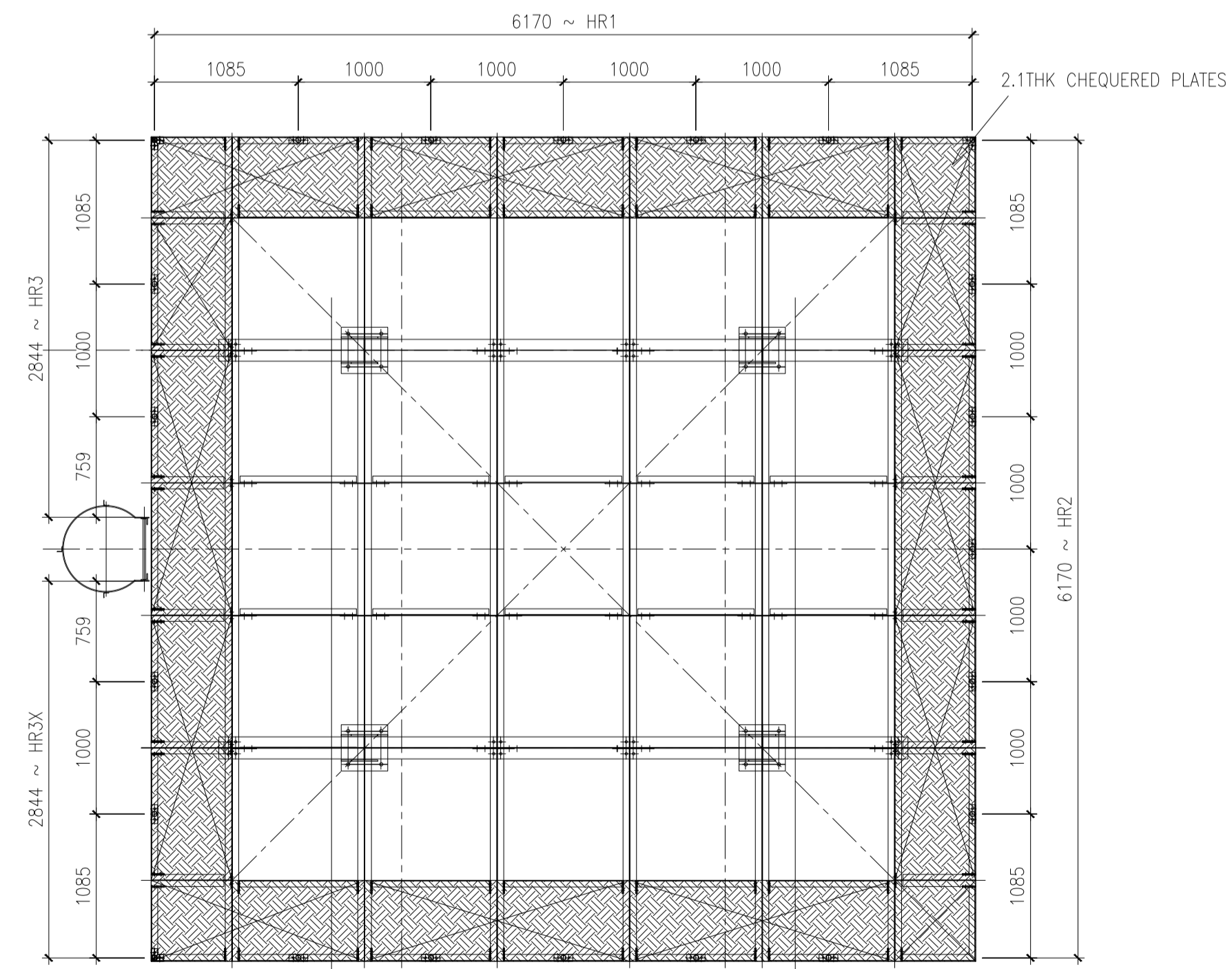
SECTION 02 - 02
BASE PLATE DETAILS

GENERAL NOTES:

- 1) ALL STRUCTURAL STEELWORK TO BE GRADE 43C.
- 2) STEELWORK TO BE WIRE BRUSHED PRIOR TO PAINT APPLICATION.
- 3) APPLY ONE COAT OF GREY OXIDE PRIMER.
- 4) APPLY ONE COAT OF SILVER ALUMINIUM PAINT.
- 5) ALL SHOP WELDS TO BE 6MM FILLET WELDS U.O.N.
- 6) BOLTS ARE GALVANIZED GRADE 4.6. & GRADE 8.8
- 7) ALL SECTION SIZES TO BE AS SPECIFIED ON DRAWING.
- 8) THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.



LAYOUT OF PLATFORM
(PRIMARY & SECONDARY BEAMS)



LAYOUT OF PLATFORM
(CHEQUERED PLATES & HANDRAILS)

NOTES

1. READ THE DRAWING IN CONJUNCTION WITH RELEVANT R.C.
2. DRAWINGS, ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
3. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
4. ALL PIPEWORK ARE DUCTILE IRON TO NP 10 WITH NP 16 FLANG.
5. ALL CONCRETE SHALL BE CLASS C30 UNLESS OTHERWISE STATE.
6. ALL VALVES TO BE SUPPLIED WITH EXTENSION SPINDLE.
7. MIN CONCRETE COVER OF 40 mm TO THE MAIN STEEL TO BE MAINTAINED.
8. SAFE BEARING CAPACITY TAKEN AS OF 150KN/M2.
9. ALL FOUNDATIONS TO BE TAKEN DOWN TO A SUITABLE ROCK.
10. MAXIMUM AGGREGATE SIZE FOR CONCRETE IS 20mm.
11. ALL REINFORCEMENT TO BE INSPECTED BY THE ENGINEER BEFORE CONCRETING.

PROJECT TITLE:

PROPOSED FABRICATION, DELIVERY & INSTALLATION OF 100M3 PRESSED STEEL TANK ON 12M TOWER.

DRAWING TITLE

PLATFORM DETAILS

CLIENT:

CONCERN WORLDWIDE



CONSULTANT:

GEO CONSULTANTS



MARSABIT COUNTY

PROJECT NAME:

CONSTRUCTION OF 100 m³ ELEVATED STORAGE TANK

TINKU WATER SUPPLY

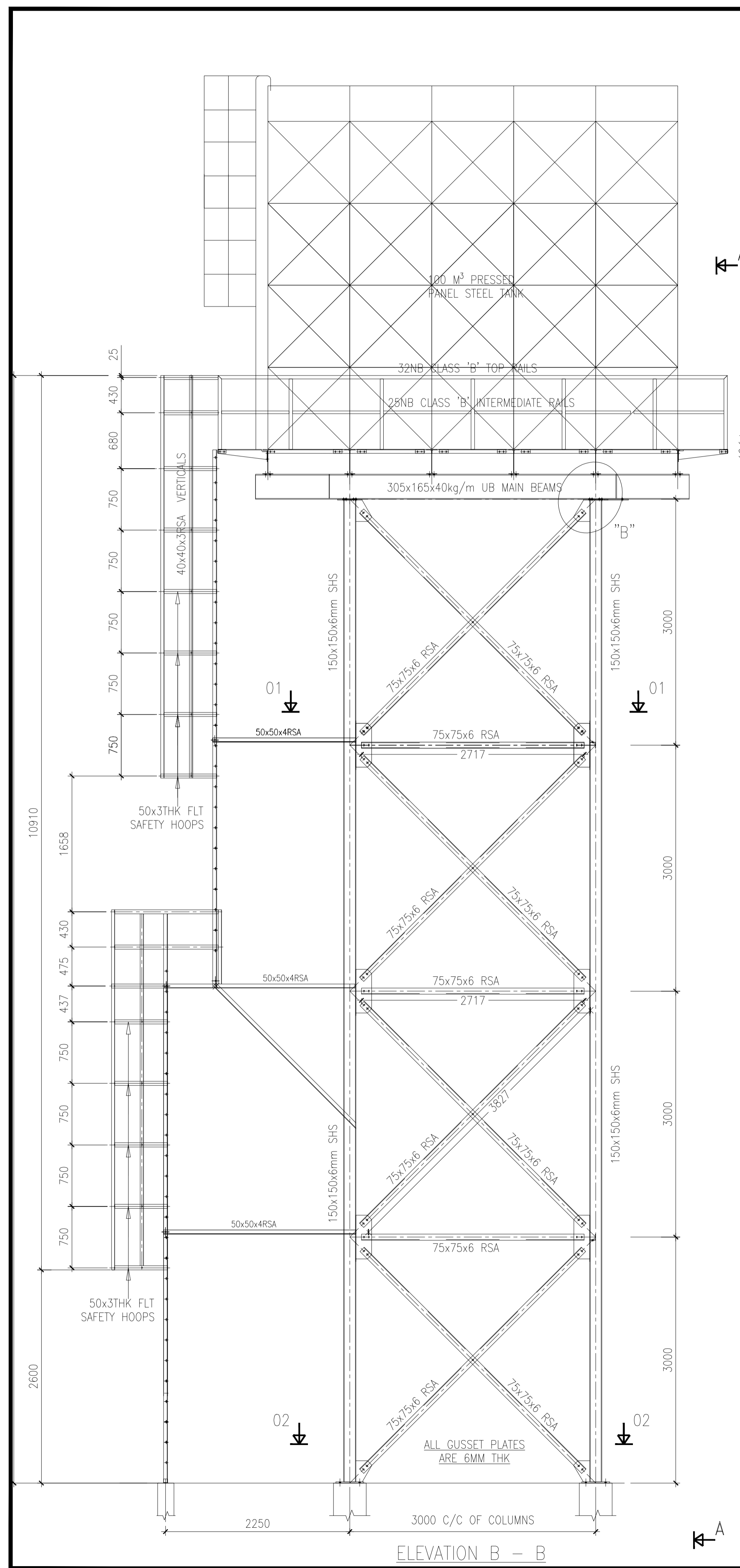
NORTH HORR INTEGRATED PROJECT

MARSABIT COUNTY

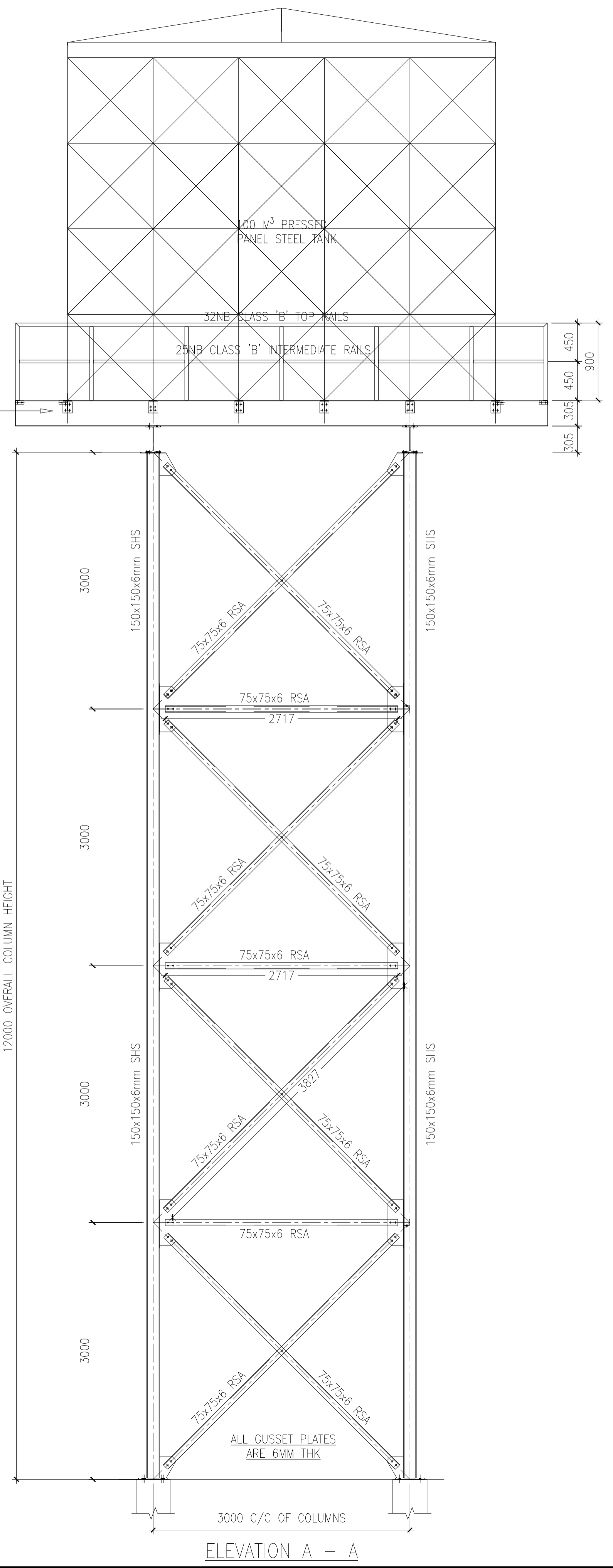
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	NAME	DATE
Designed	ENG S. GATERU	AUG 2023
Drawn	MMN	AUG 2023
Checked	Eng. Andrew Messo (A3007)	AUG 2023

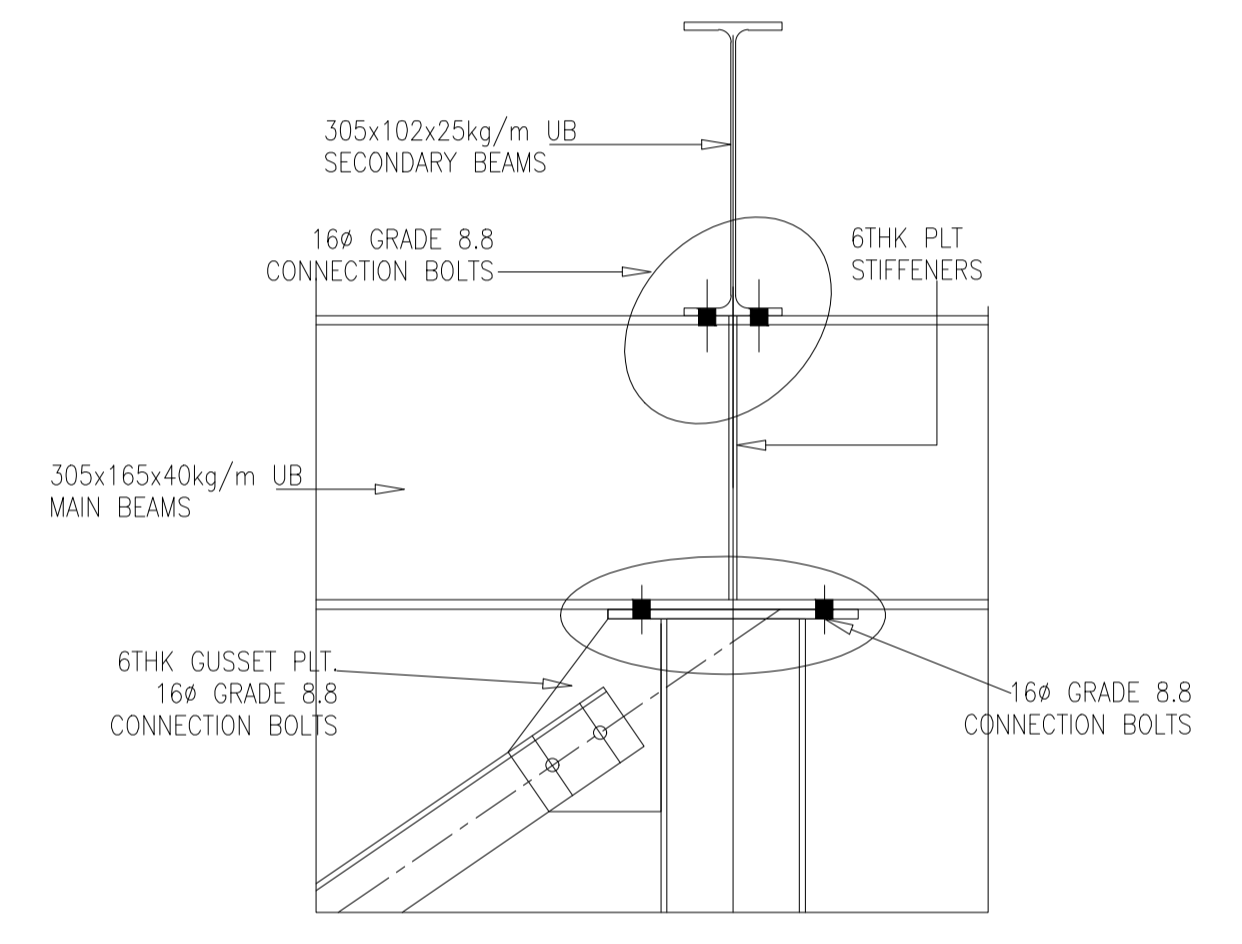
DRG No.	Revision Suffix
04	



ELEVATION B - B



ELEVATION A - A



TYPICAL CONNECTION
DETAIL AT "A"

- GENERAL NOTES:
- 1) ALL STRUCTURAL STEELWORK TO BE GRADE 43C.
 - 2) STEELWORK TO BE WIRE BRUSHED PRIOR TO PAINT APPLICATION.
 - 3) APPLY ONE COAT OF GREY OXIDE PRIMER.
 - 4) APPLY ONE COAT OF SILVER ALUMINIUM PAINT.
 - 5) ALL SHOP WELDS TO BE 6MM FILLET WELDS U.O.N.
 - 6) BOLTS ARE GALVANIZED GRADE 4.6. & GRADE 8.8
 - 7) ALL SECTION SIZES TO BE AS SPECIFIED ON DRAWING.
 - 8) THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

- NOTES
1. READ THE DRAWING IN CONJUNCTION WITH RELEVANT R.C.
 2. DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
 3. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
 4. ALL PIPEWORK ARE DUCTILE IRON TO NP 10 WITH NP 16 FLANGES
 5. ALL CONCRETE SHALL BE CLASS C30 UNLESS OTHERWISE STATED
 6. ALL VALVES TO BE SUPPLIED WITH EXTENSION SPINDLE.
 7. MIN CONCRETE COVER OF 40 mm TO THE MAIN STEEL TO BE MAINTAINED.
 8. SAFE BEARING CAPACITY TAKEN AS OF 150KN/M2.
 9. ALL FOUNDATIONS TO BE TAKEN DOWN TO A SUITABLE ROCK.
 10. MAXIMUM AGGREGATE SIZE FOR CONCRETE IS 20mm.
 11. ALL REINFORCEMENT TO BE INSPECTED BY THE ENGINEER BEFORE CONCRETING.

PROJECT TITLE:
PROPOSED FABRICATION, DELIVERY & INSTALLATION OF 100M³ PRESSED STEEL TANK ON 12M TOWER.

DRAWING TITLE
ELEVATION DETAILS

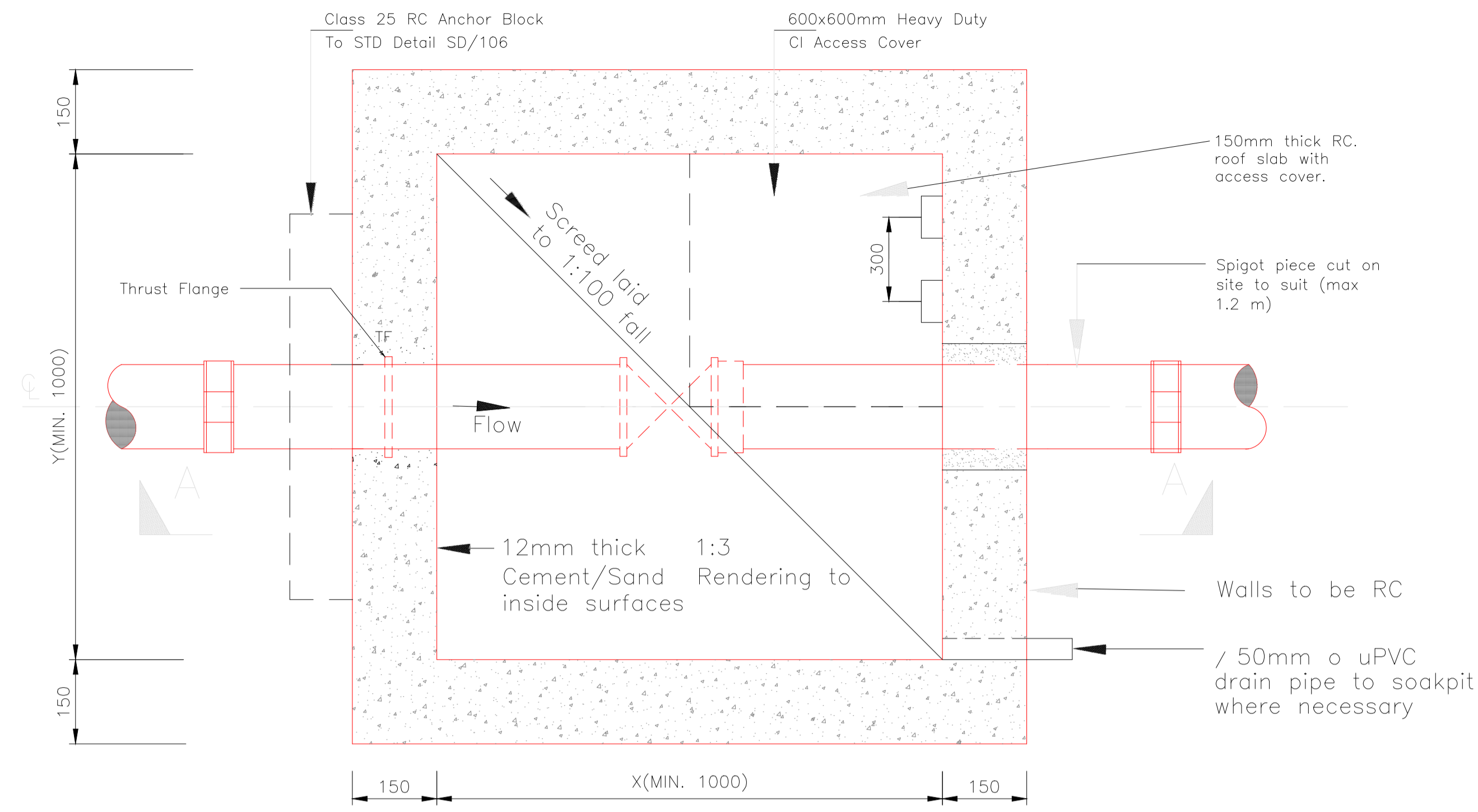
CLIENT:
CONCERN WORLDWIDE
in conjunction with
WaterFund
PLANNING & WATER SECTOR
CONSULTANT:
GEO CONSULTANTS

MARSABIT COUNTY

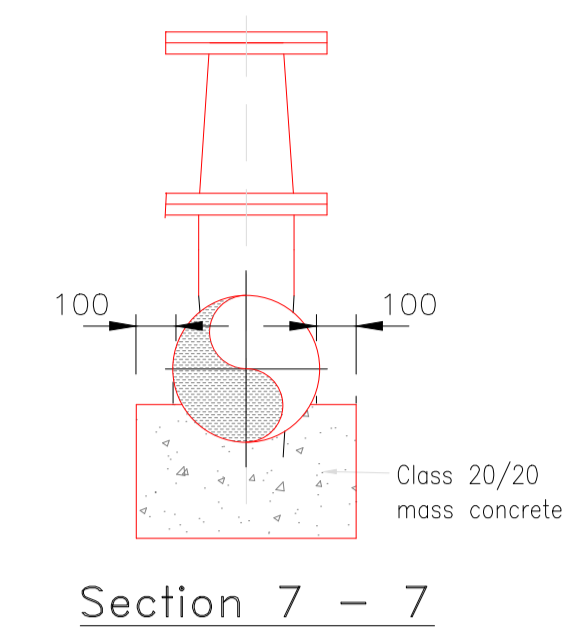
PROJECT NAME:
CONSTRUCTION OF 100 m³ ELEVATED STORAGE TANK
TINKU WATER SUPPLY
NORTH HERR INTEGRATED PROJECT
MARSABIT COUNTY

SCALE: 1:40

	NAME	DATE
Designed	S. Gateru	AUG 2023
Drawn	MMN	AUG 2023
Checked	Eng. Andrew Messo (A3007)	AUG 2023
DRG No.	03	
	Revision	Suffix

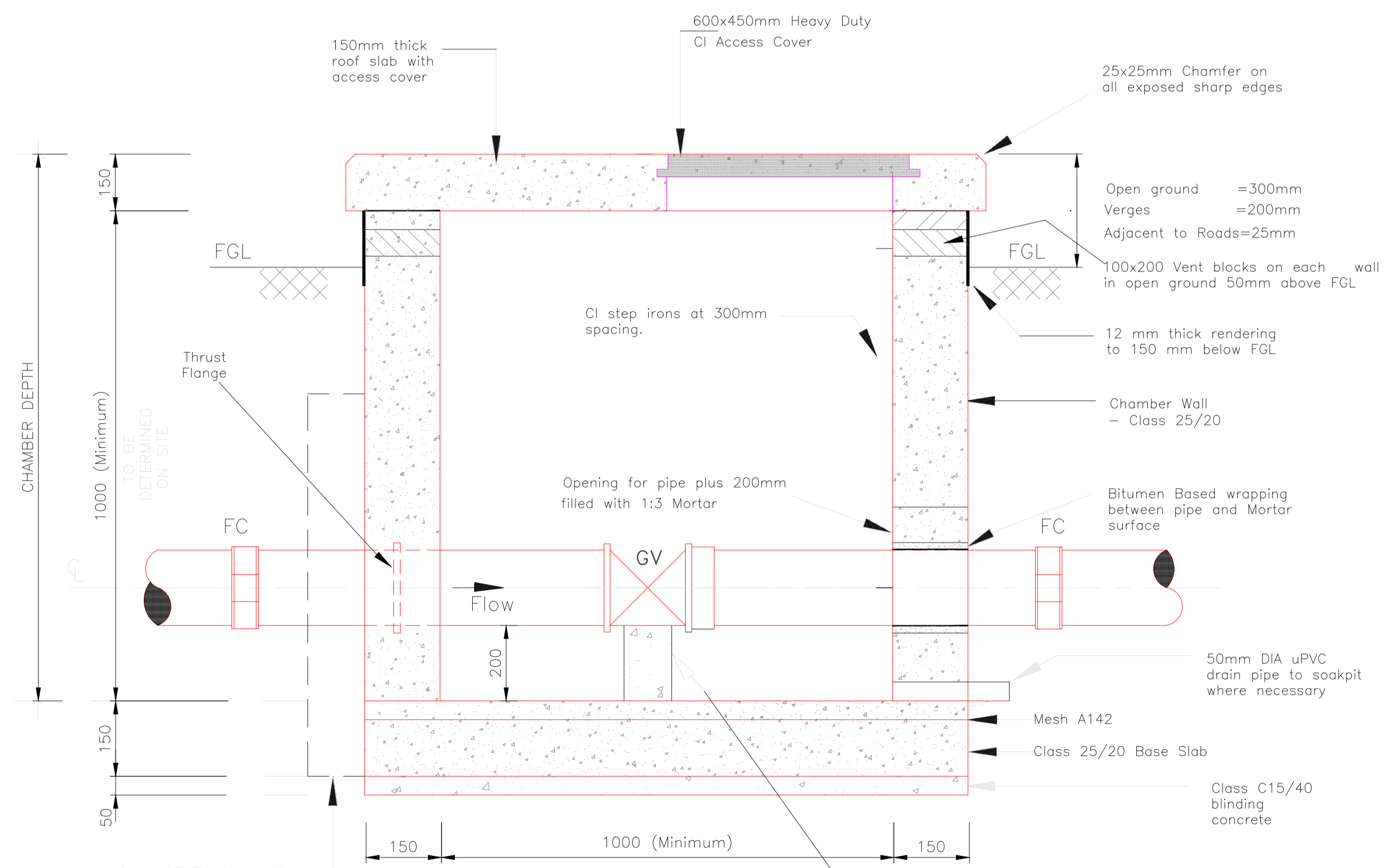


PLAN OF CHAMBER
1:20
(Cover omitted for clarity)

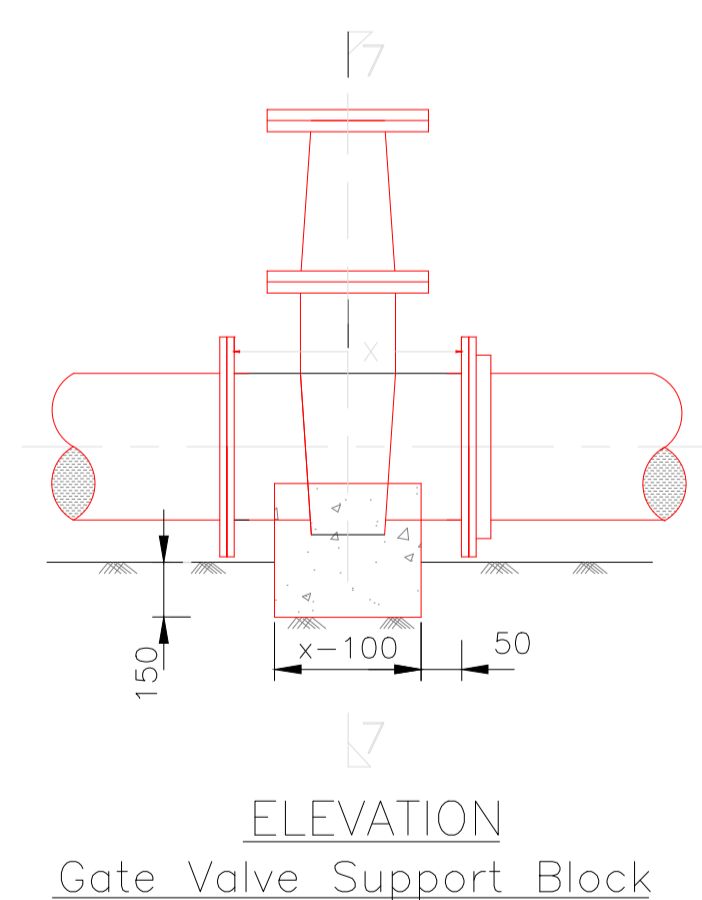


Section 7 - 7

- NOTES**
- All dimensions are in mm unless otherwise stated
 - Where the Chamber wall is used for anchorage, the restraining to be according to Drawing SD/06.
 - Chamber wall to be backfilled wall thickness with 300mm thick granular fill around walls
 - Where the chamber is along footpath in built up areas, the cover may be flushed with the footpath



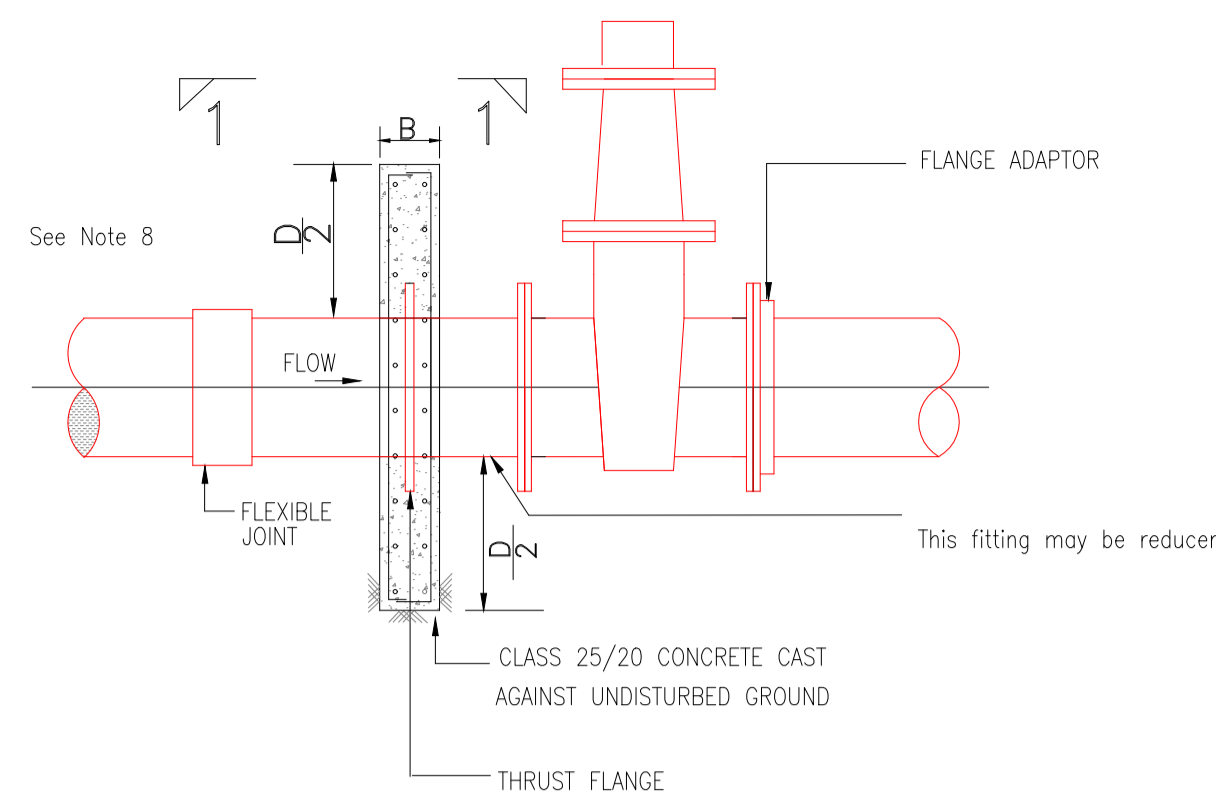
GATE VALVE CHAMBER
SECTION A-A
SCALE 1:20



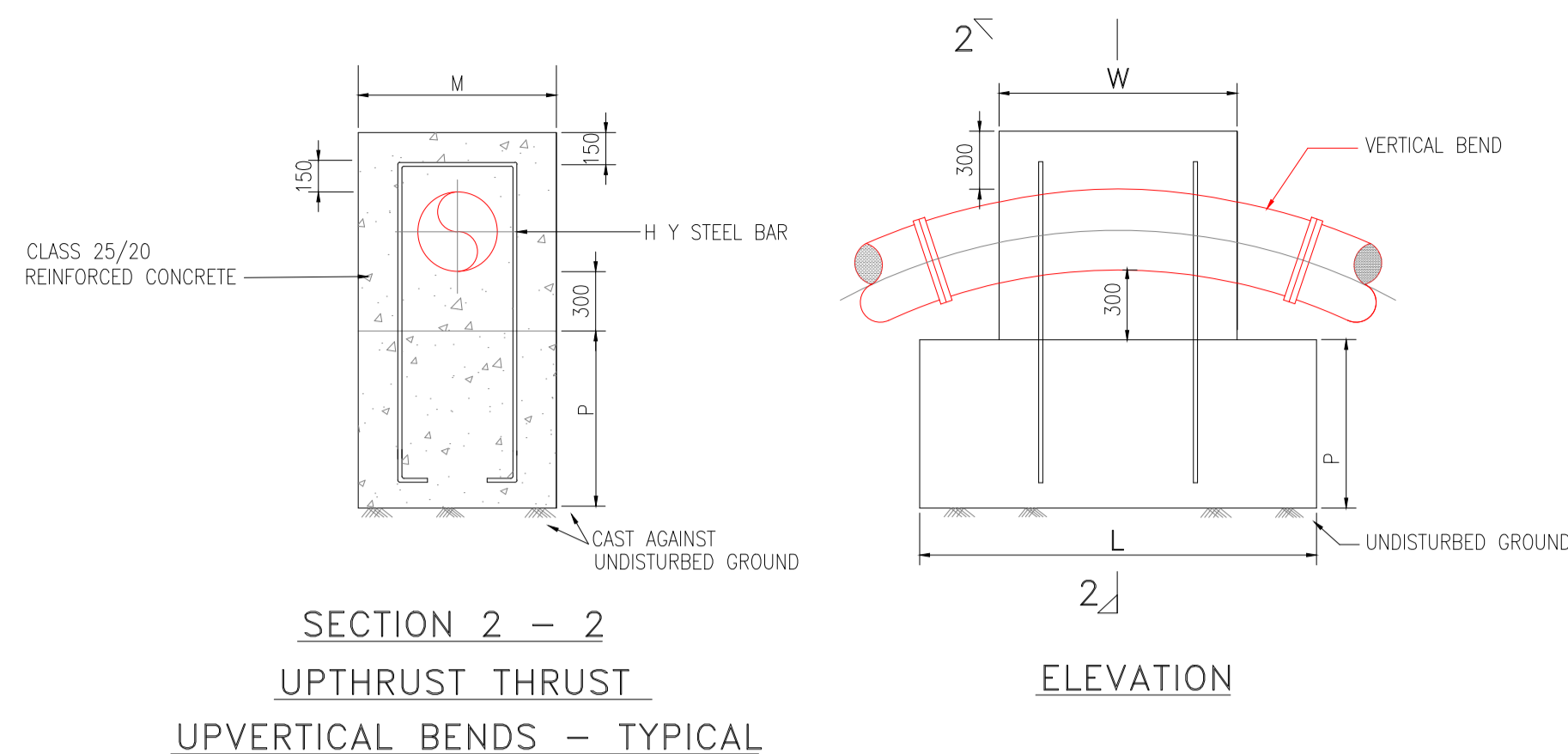
ELEVATION
Gate Valve Support Block

DRAWING TO SCALE IN A1 SIZE

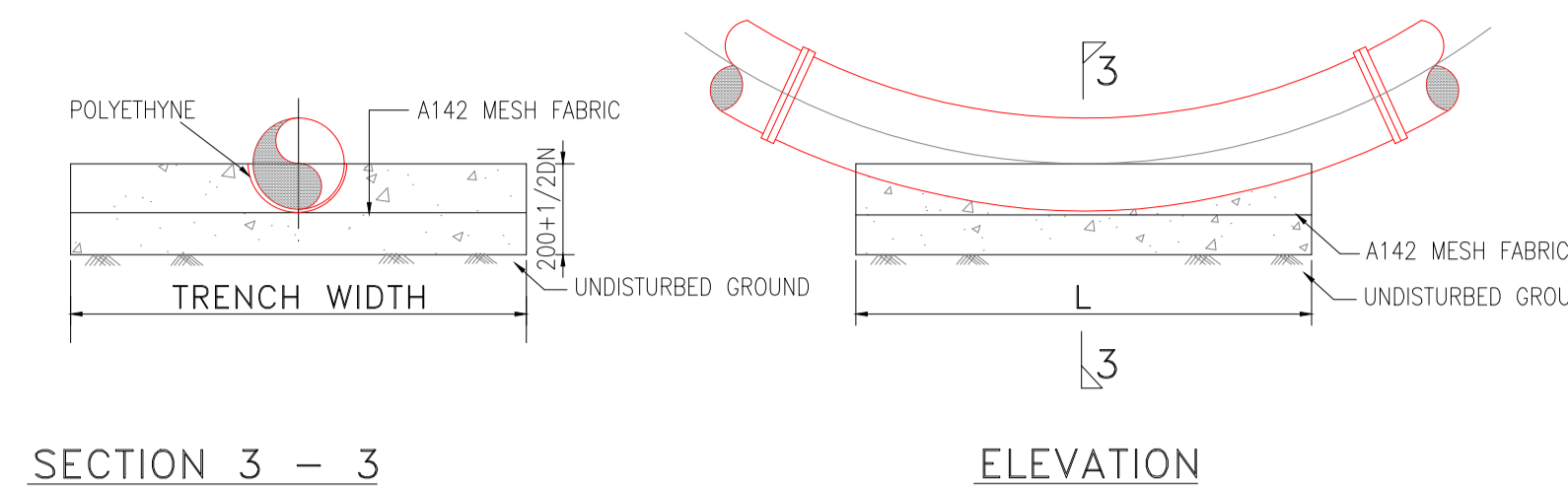
<p>MARSABIT COUNTY</p>	No.	APPROVAL	DATE	REFERENCE	CLIENT: CONCERN WORLDWIDE	CONSULTANT: GEO CONSULTANTS	PROJECT TITLE: TINIKU WATER SUPPLY N.HORR INTEGRATED PROJECT	TITLE OF DRAWING: TINIKU PROJECT GATE VALVE CHAMBERS	Designed: P. K.W	Date: Aug 2023
					<p>in conjunction with</p> <p>Financing the Water Sector</p>			Drawn: MMN	Date: Aug 2023	
							Checked: P. K.W	Date: Aug 2023		
							DWG. No. KAM/DD/203	Sheet No. 1/1	Approved: ENG ANDREW MESSO (A3007)	Date: Aug 2023



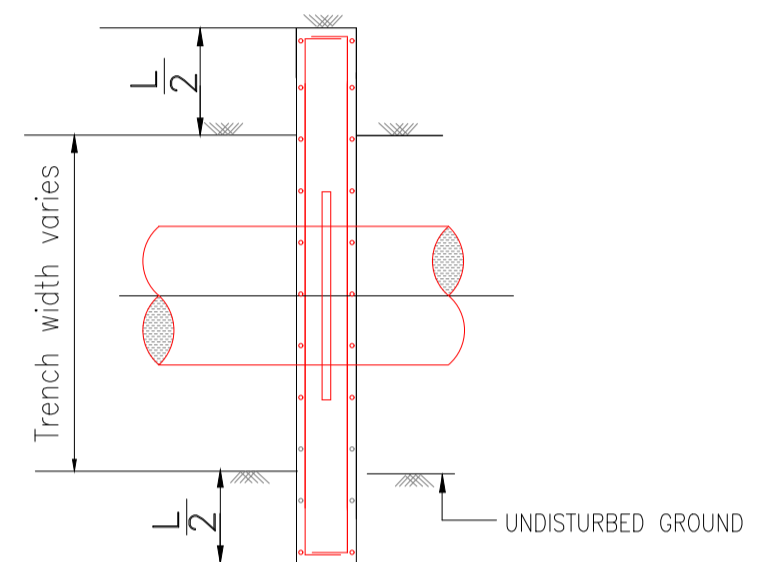
ELEVATION
ANCHOR BLOCK
FOR GATE VALVES



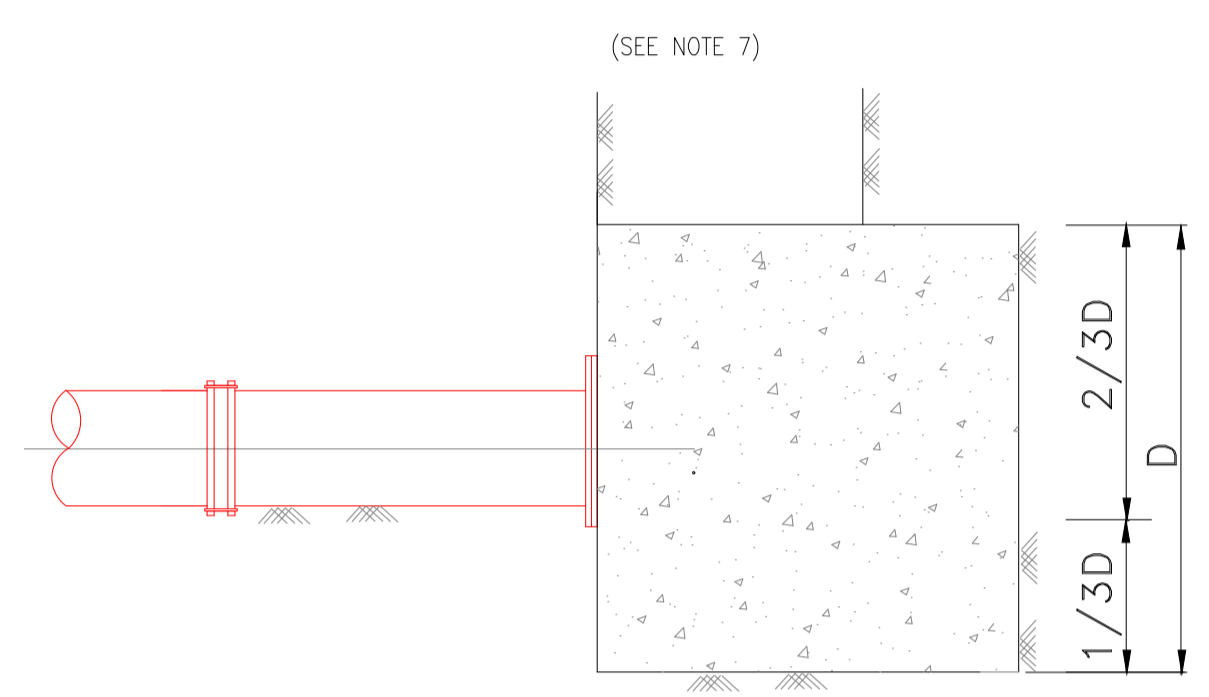
SECTION 2 - 2
UPTHRUST THRUST
UPVERTICAL BENDS - TYPICAL



SECTION 3 - 3
DOWNTHRUST VERTICAL
BENDS - TYPICAL



SECTION 1 - 1

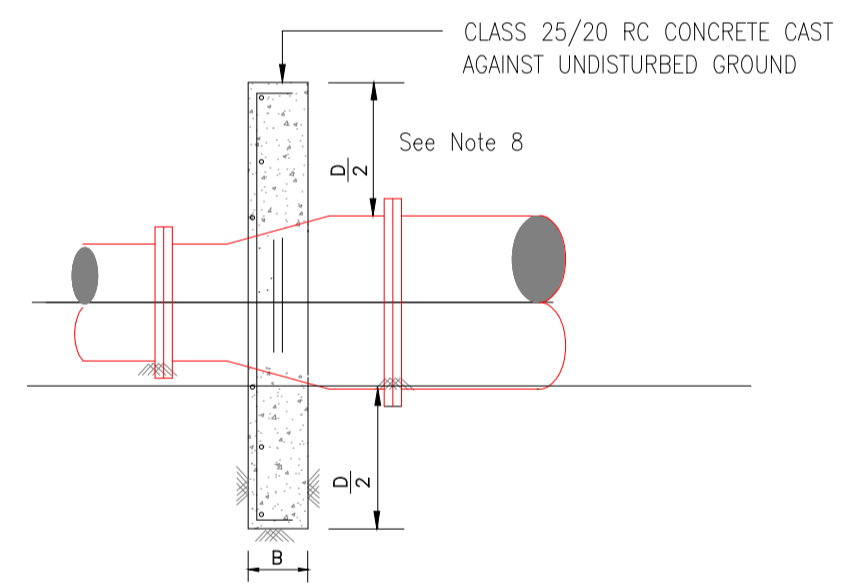


Section 4 - 4

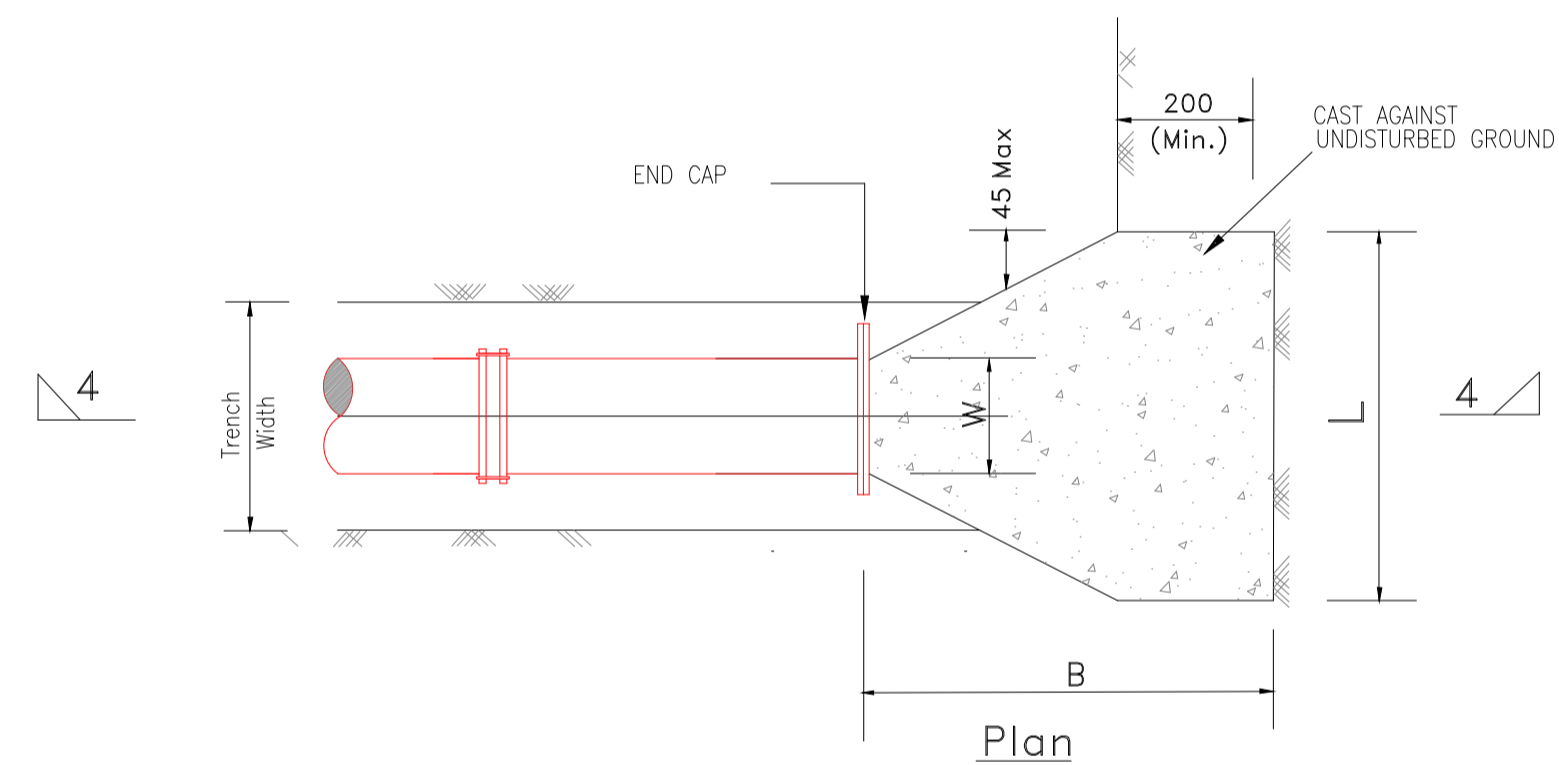
(SEE NOTE 7)

TEST HEAD (m)	PIPE DIA (mm)	D (m)	L (m)	B (m)	CONCRETE VOL (m ³)
100	600	1.6	2.6	1.2	3.1
	500	1.4	2.2	1.1	2.1
	450	1.2	2.0	1.0	1.5
	400	1.2	1.6	0.8	1.0
	350	1.0	1.5	0.8	0.7
	300	1.0	1.2	0.7	0.5
	250	0.8	1.0	0.5	0.3
	200	0.6	0.8	0.5	0.2
	150	0.5	0.6	0.5	0.1
	100	0.5	0.6	0.5	0.1

TABLE OF ANCHOR BLOCKS FOR BLANK ENDS



SECTION 3 - 3
THRUST BLOCKS FOR TAPERS

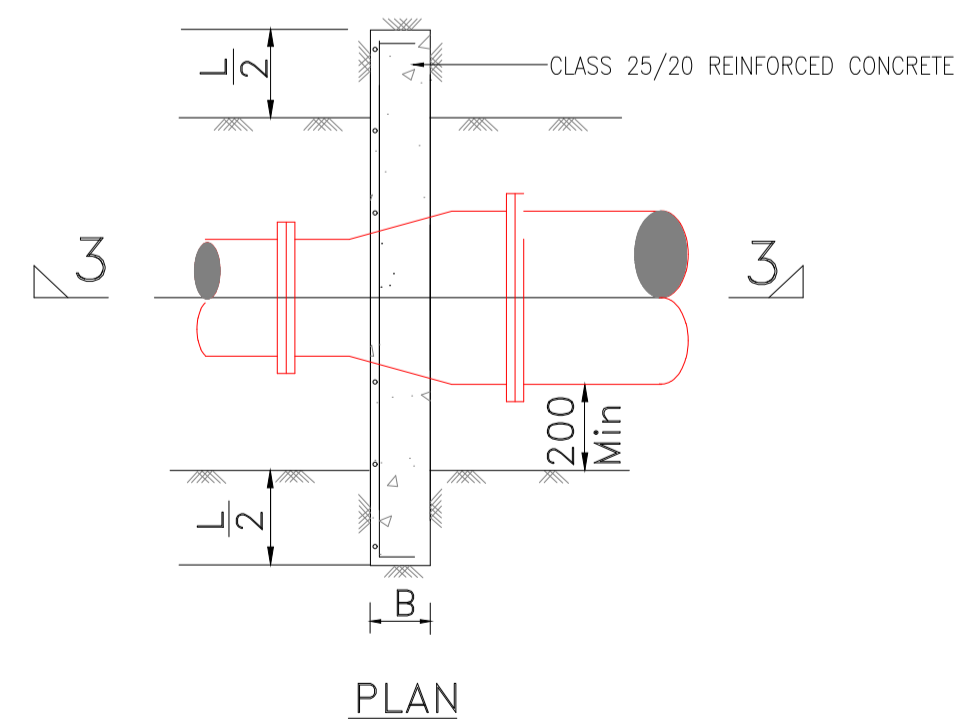


Thrust Block for Blank Ends

TABLE 4

BLOCK TYPE	D (m)	L (m)	B (mm)	MAIN STEEL	DISTRIBUTION STEEL
A	0.6	1.4	200	Y10 - 150	Y10 - 150
B	0.8	1.6	300	Y10 - 150	Y10 - 150
C	1.0	1.8	300	Y12 - 150	Y10 - 150
D	1.2	2.0	400	Y12 - 150	Y12 - 150
E	1.4	2.6	500	Y12 - 150	Y12 - 150
F	1.6	3.2	500	Y12 - 150	Y12 - 150

DETAILS OF ANCHOR BLOCKS FOR GATE VALVES AND TAPERS
(CLASS '25/20' CONCRETE)



PLAN

TABLE 1

MAIN SIZE (mm)	BLOCK TYPE	
	100m Head	160m Head
600	E	E
500	D	E
450	D	D
400	C	D
350	C	C
300	B	C
250	B	B
200	A	A
150	A	A
100	A	A

Table of Anchor Blocks For Gate Valves

TABLE OF THRUST BLOCKS FOR TAPERS

MAIN SIZE (mm)	TAPER (SMALLER SIZE) mm											
	100 m HEAD TEST PRESSURE											
	800	700	600	500	450	400	350	300	250	200	150	100
800	—	D	E	F	—	F	—	E	—	—	—	—
700	—	—	D	E	—	F	F	E	—	—	—	—
600	—	D	D	C	D	D	E	E	—	—	—	—
500	—	B	C	—	B	C	C	D	—	—	—	—
450	—	—	B	—	—	B	C	C	D	—	—	—
400	—	—	—	—	—	—	A	B	C	C	—	—
350	—	—	—	—	—	—	—	A	B	B	C	—
300	—	—	—	—	—	—	—	—	A	B	B	—
250	—	—	—	—	—	—	—	—	—	A	A	B
200	—	—	—	—	—	—	—	—	—	—	A	A
150	—	—	—	—	—	—	—	—	—	—	—	A

TABLE OF ANCHOR BLOCKS FOR GATE VALVES AND TAPERS
(CLASS '25' CONCRETE)
FOR DIMENSIONS (See table 4)

- NOTES
- All dimensions are in mm, unless otherwise stated
 - All concrete thrust blocks shall be constructed on and against firm ground directly. The thrust or anchor blocks shall not be cast against black cotton soil and reference shall be made to the Engineer's Representative for further instructions.
 - The concrete thrust blocks are designed to bear on the original earth surface with bearing pressure of 100kN/m
 - Concrete to be Class '20/20' unless otherwise stated.
 - Concrete in thrust and anchor blocks must be cast clear of joints
 - Dimensions 'W' for thrust blocks on vertical bends to suit the size of bend and clearance required for joints.
 - The steel anchoring reinforcement and the dimensions L, P and M are to be decided by the Engineer's Representative to suit each individual bend.
 - Where D/2 exceeds the cover, increase the depth below the pipe to make the total = D.

- LEGEND
- DN - Nominal diameter
 - BF - Blank Flange
 - FA - Flange Adaptor

DRAWING TO SCALE IN A1 SIZE



No.	APPROVAL	DATE	REFERENCE

CLIENT:
CONCERN WORLDWIDE

in conjunction with
WaterFund
Financing the Water Sector

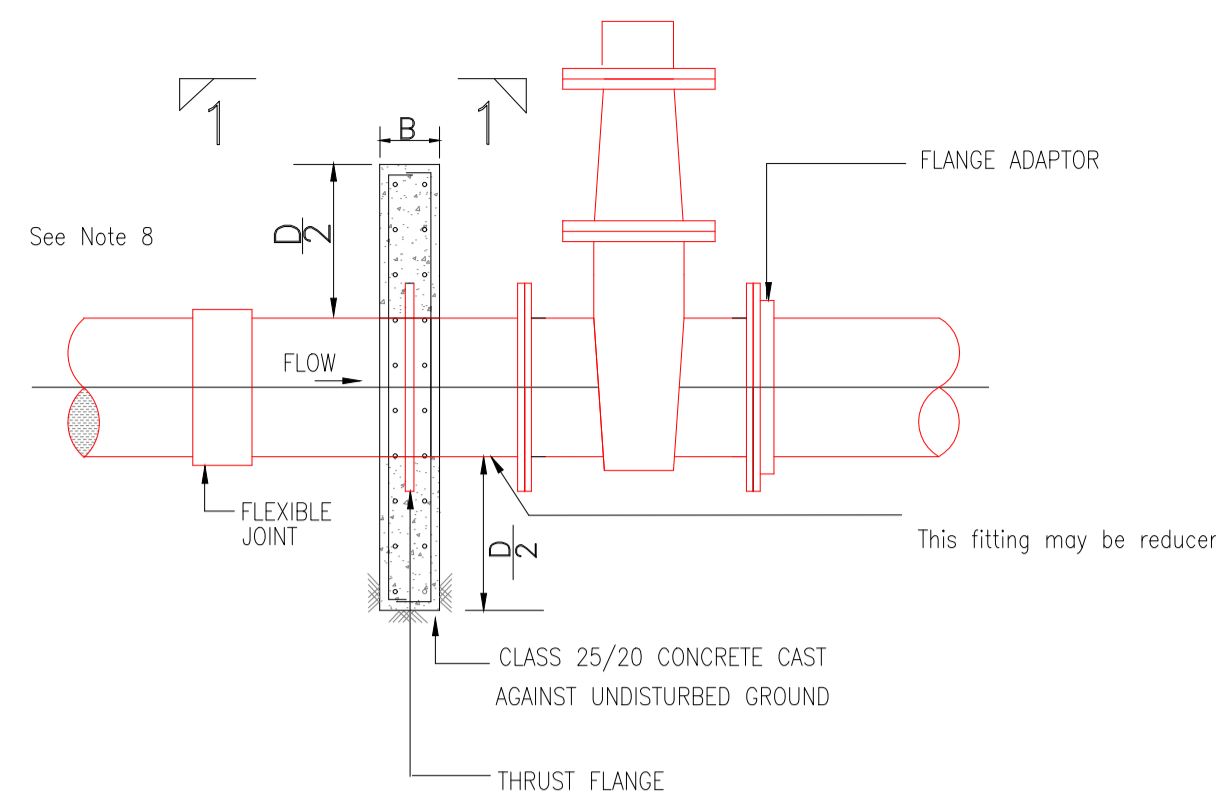
CONSULTANT:
GEO CONSULTANTS

PROJECT TITLE:
**DABEL AND SOLOLO WATER SUPPLY,
MOYALE INTEGRATED PROJECT**

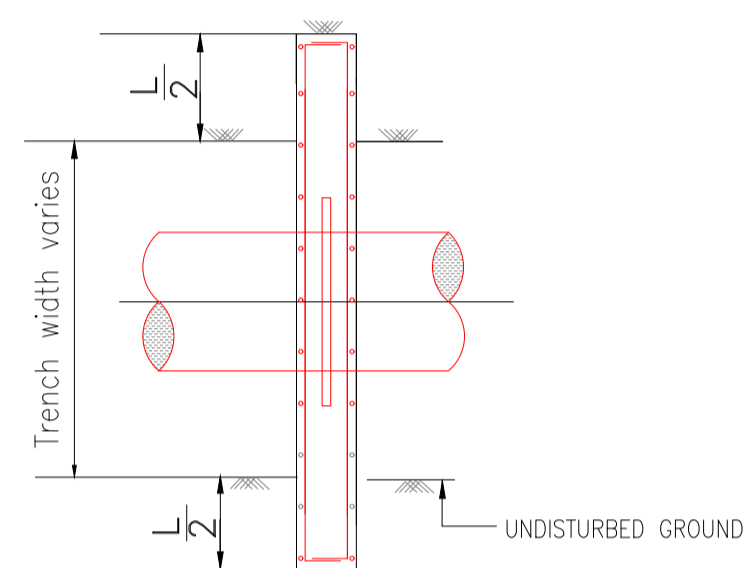
TITLE OF DRAWING:
**DABEL AND SOLOLO PROJECT
TRUNK DISTRIBUTION MAINS THRUST
BLOCKS FOR VERTICAL BENDS, TAPERS
GATE VALVES AND BLANK ENDS**

DWG. No. **KAM/DD/203/17**
Sheet No. **1/1**

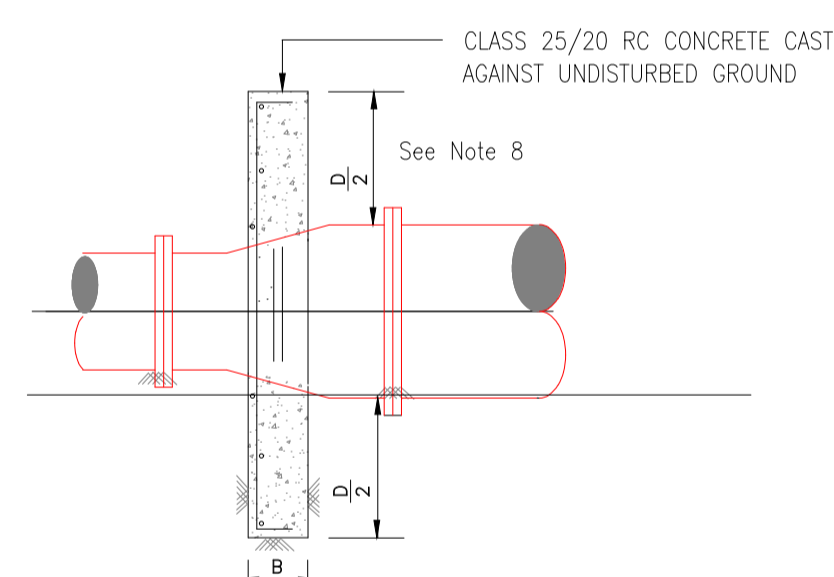
Designed: P. K.W	Date: Aug 2023
Drawn: MMN	Date: Aug 2023
Checked: P. K.W	Date: Aug 2023
Approved: ENG ANDREW MESSO (A3007)	Date: Aug 2023



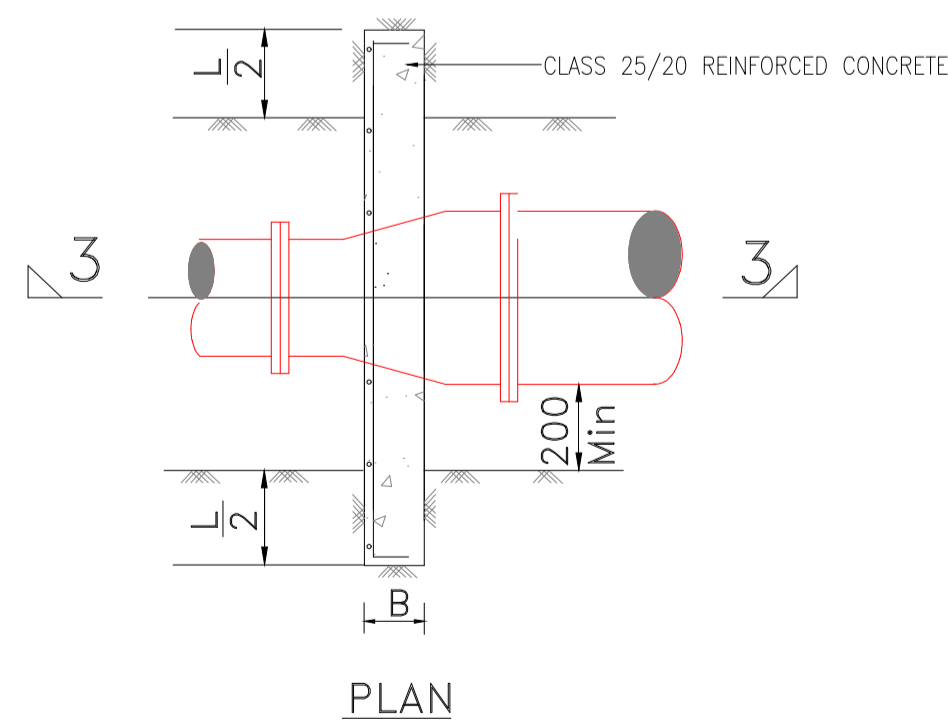
ELEVATION
ANCHOR BLOCK
FOR GATE VALVES



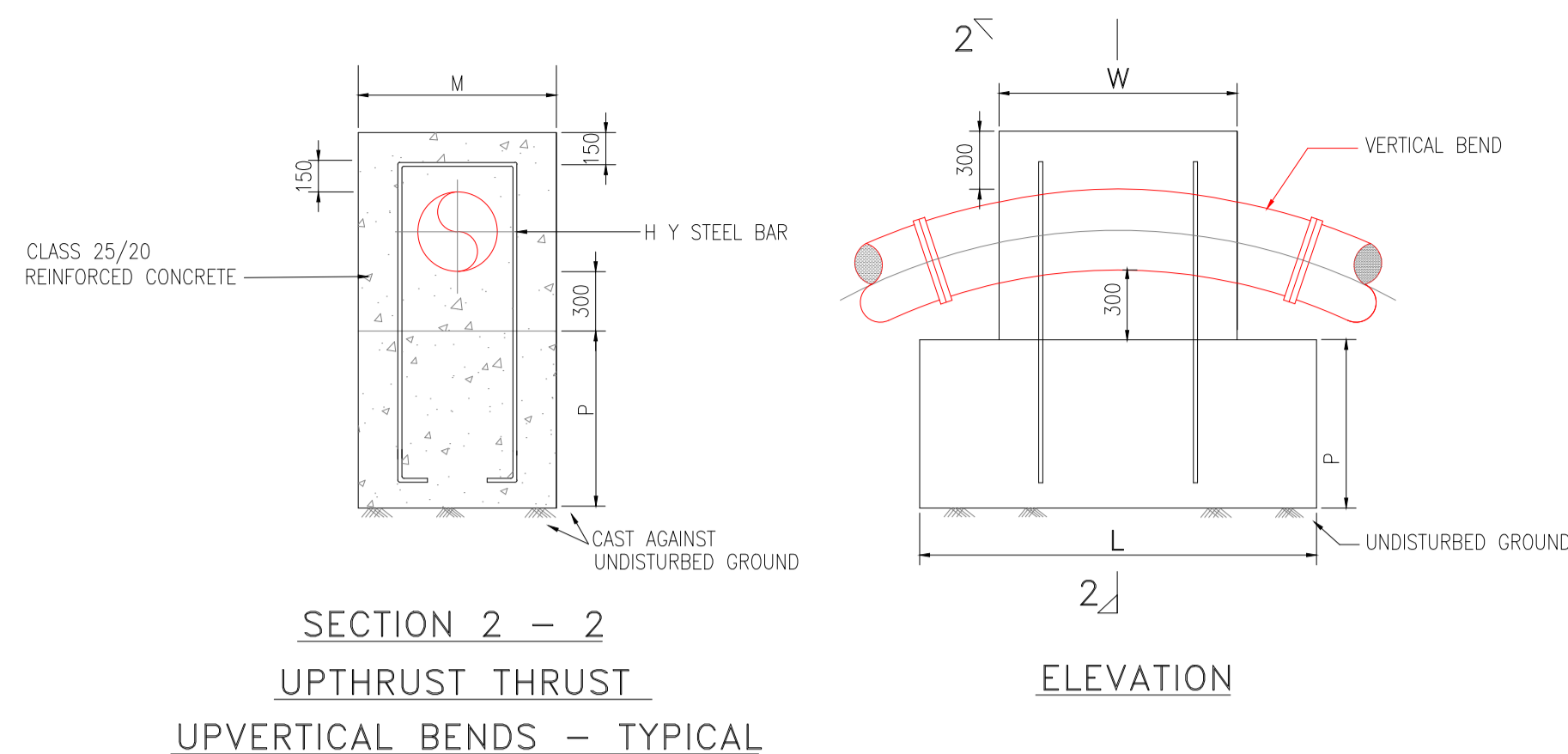
SECTION 1 - 1



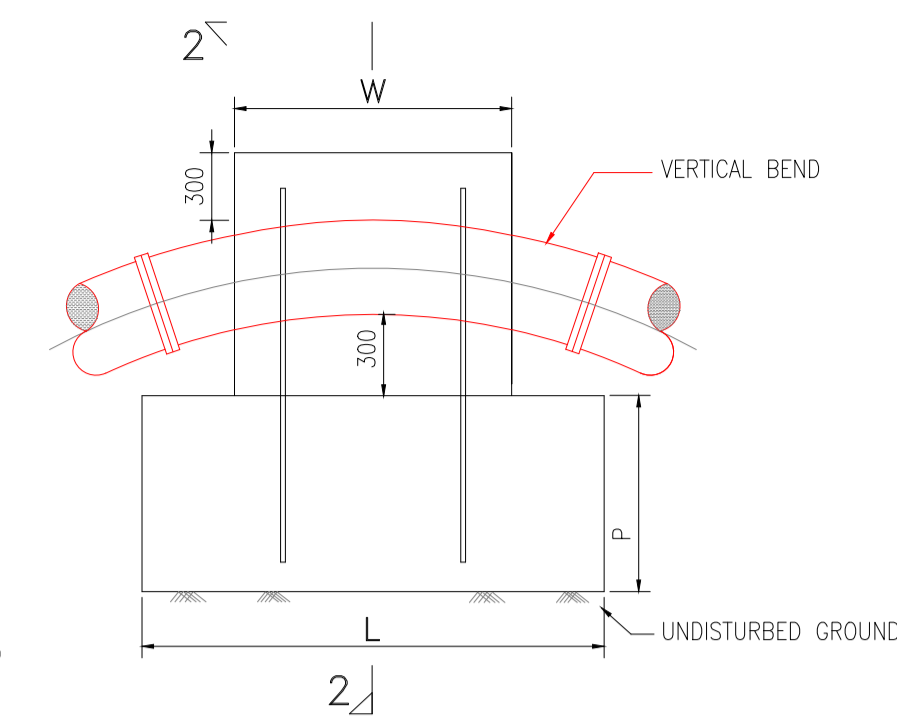
SECTION 3 - 3
THRUST BLOCKS FOR TAPERS



PLAN



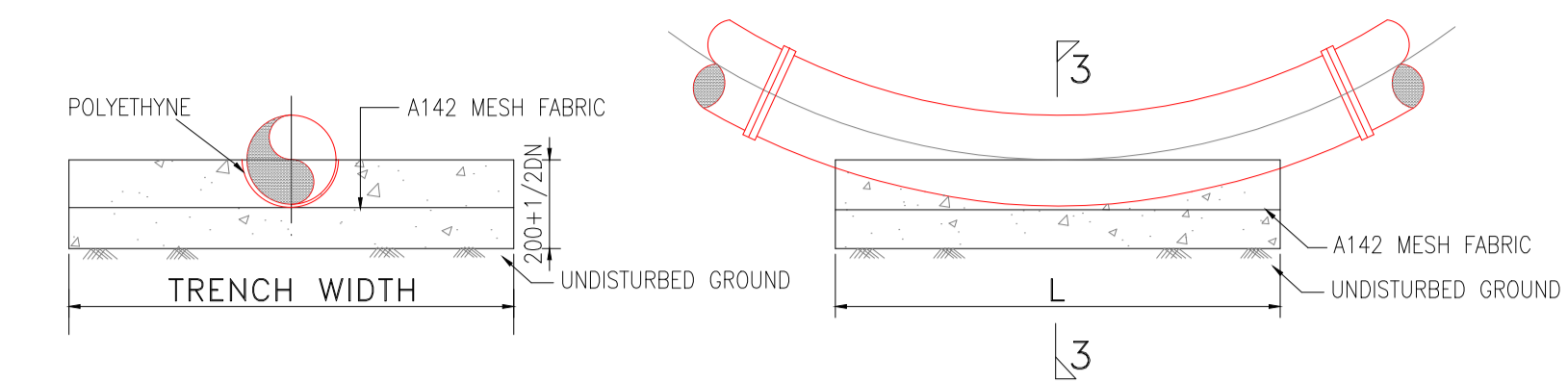
SECTION 2 - 2
UPTHRUST THRUST
UPVERTICAL BENDS - TYPICAL



ELEVATION

SECTION 3 - 3

DOWNTHRUST VERTICAL
BENDS - TYPICAL

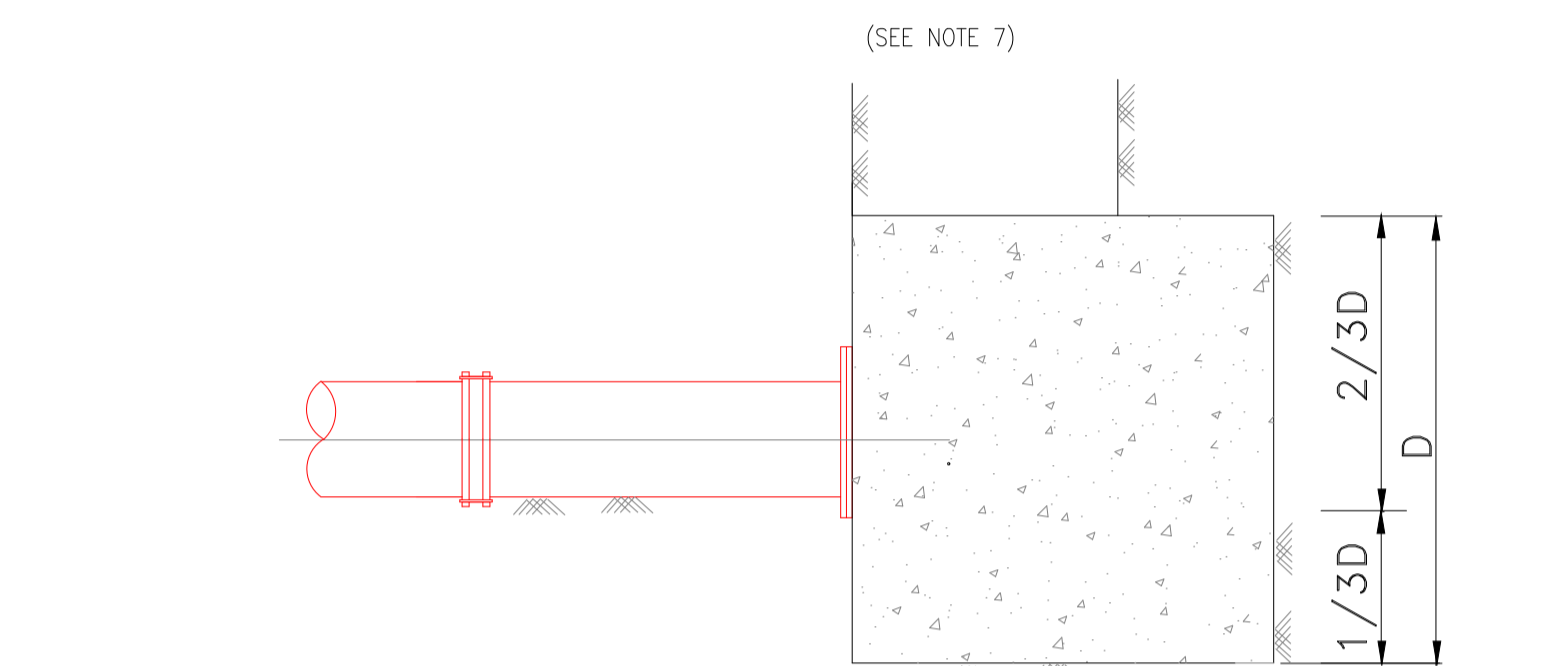


ELEVATION

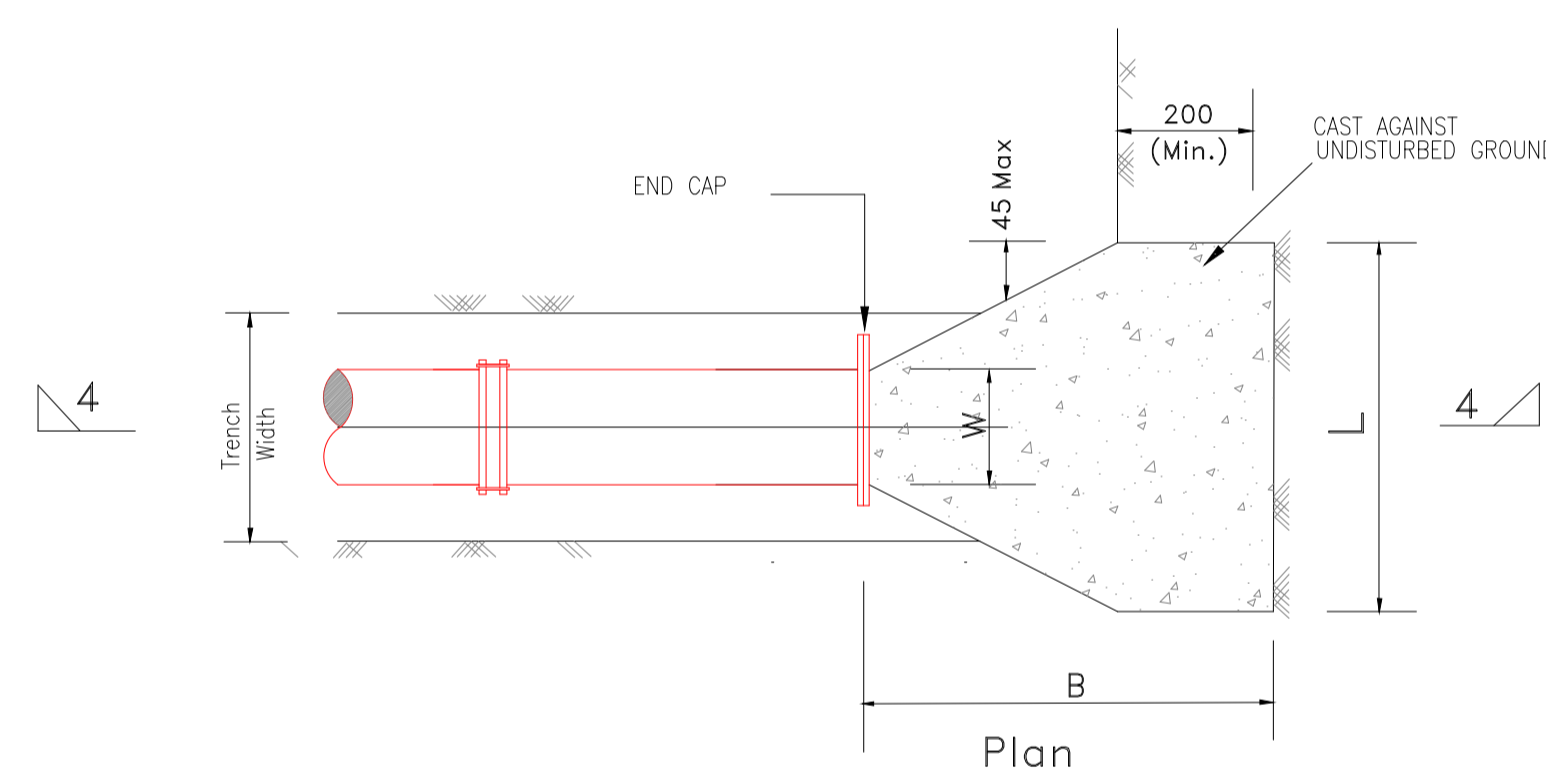
(SEE NOTE 7)

TEST HEAD (m)	PIPE DIA (mm)	D (m)	L (m)	B (m)	CONCRETE VOL (m ³)
100	600	1.6	2.6	1.2	3.1
	500	1.4	2.2	1.1	2.1
	450	1.2	2.0	1.0	1.5
	400	1.2	1.6	0.8	1.0
	350	1.0	1.5	0.8	0.7
	300	1.0	1.2	0.7	0.5
	250	0.8	1.0	0.5	0.3
	200	0.6	0.8	0.5	0.2
	150	0.5	0.6	0.5	0.1
	100	0.5	0.6	0.5	0.1

TABLE OF ANCHOR BLOCKS FOR BLANK ENDS



Section 4 - 4



Thrust Block for Blank Ends

BLOCK TYPE	D (m)	L (m)	B (mm)	MAIN STEEL	DISTRIBUTION STEEL
A	0.6	1.4	200	Y10 - 150	Y10 - 150
B	0.8	1.6	300	Y10 - 150	Y10 - 150
C	1.0	1.8	300	Y12 - 150	Y10 - 150
D	1.2	2.0	400	Y12 - 150	Y12 - 150
E	1.4	2.6	500	Y12 - 150	Y12 - 150
F	1.6	3.2	500	Y12 - 150	Y12 - 150

DETAILS OF ANCHOR BLOCKS FOR GATE VALVES AND TAPERS
(CLASS '25/20' CONCRETE)

MAIN SIZE (mm)	BLOCK TYPE	
	100m Head	160m Head
600	E	E
500	D	E
450	D	D
400	C	D
350	C	C
300	B	C
250	B	B
200	A	A
150	A	A
100	A	A

Table of Anchor Blocks For Gate Valves

MAIN SIZE (mm)	TAPER (SMALLER SIZE) mm											
	100 m HEAD TEST PRESSURE											
	800	700	600	500	450	400	350	300	250	200	150	100
800	—	D	E	F	—	F	—	E	—	—	—	—
700	—	—	D	E	—	F	F	E	—	—	—	—
600	—	D	D	C	D	D	E	E	—	—	—	—
500	—	B	C	—	B	C	C	D	—	—	—	—
450	—	—	B	—	—	B	C	C	D	—	—	—
400	—	—	—	—	—	—	A	B	C	C	—	—
350	—	—	—	—	—	—	—	A	B	B	C	—
300	—	—	—	—	—	—	—	—	A	B	B	—
250	—	—	—	—	—	—	—	—	—	A	A	B
200	—	—	—	—	—	—	—	—	—	—	A	A
150	—	—	—	—	—	—	—	—	—	—	—	A

TABLE OF ANCHOR BLOCKS FOR GATE VALVES AND TAPERS
(CLASS '25' CONCRETE)
FOR DIMENSIONS (See table 4)

NOTES

- All dimensions are in mm, unless otherwise stated
- All concrete thrust blocks shall be constructed on and against firm ground directly. The thrust or anchor blocks shall not be cast against black cotton soil and reference shall be made to the Engineer's Representative for further instructions.
- The concrete thrust blocks are designed to bear on the original earth surface with bearing pressure of 100kN/m
- Concrete to be Class '20/20' unless otherwise stated.
- Concrete in thrust and anchor blocks must be cast clear of joints
- Dimensions 'W' for thrust blocks on vertical bends to suit the size of bend and clearance required for joints.
- The steel anchoring reinforcement and the dimensions L, P and M are to be decided by the Engineer's Representative to suit each individual bend.
- Where D/2 exceeds the cover, increase the depth below the pipe to make the total = D.

LEGEND

- DN - Nominal diameter
- BF - Blank Flange
- FA - Flange Adaptor

DRAWING TO SCALE IN A1 SIZE



MARSABIT COUNTY

No.	APPROVAL	DATE	REFERENCE

CLIENT:
CONCERN WORLDWIDE

in conjunction with
WaterFund
Financing the Water Sector

CONSULTANT:
GEO CONSULTANTS

PROJECT TITLE:
SOLOLO AND DABEL, WATER PROJECT
MOYALE INTEGRATED PROJECT

TITLE OF DRAWING:
TRUNK DISTRIBUTION MAINS THRUST BLOCKS FOR VERTICAL BENDS, TAPERS GATE VALVES AND BLANK ENDS

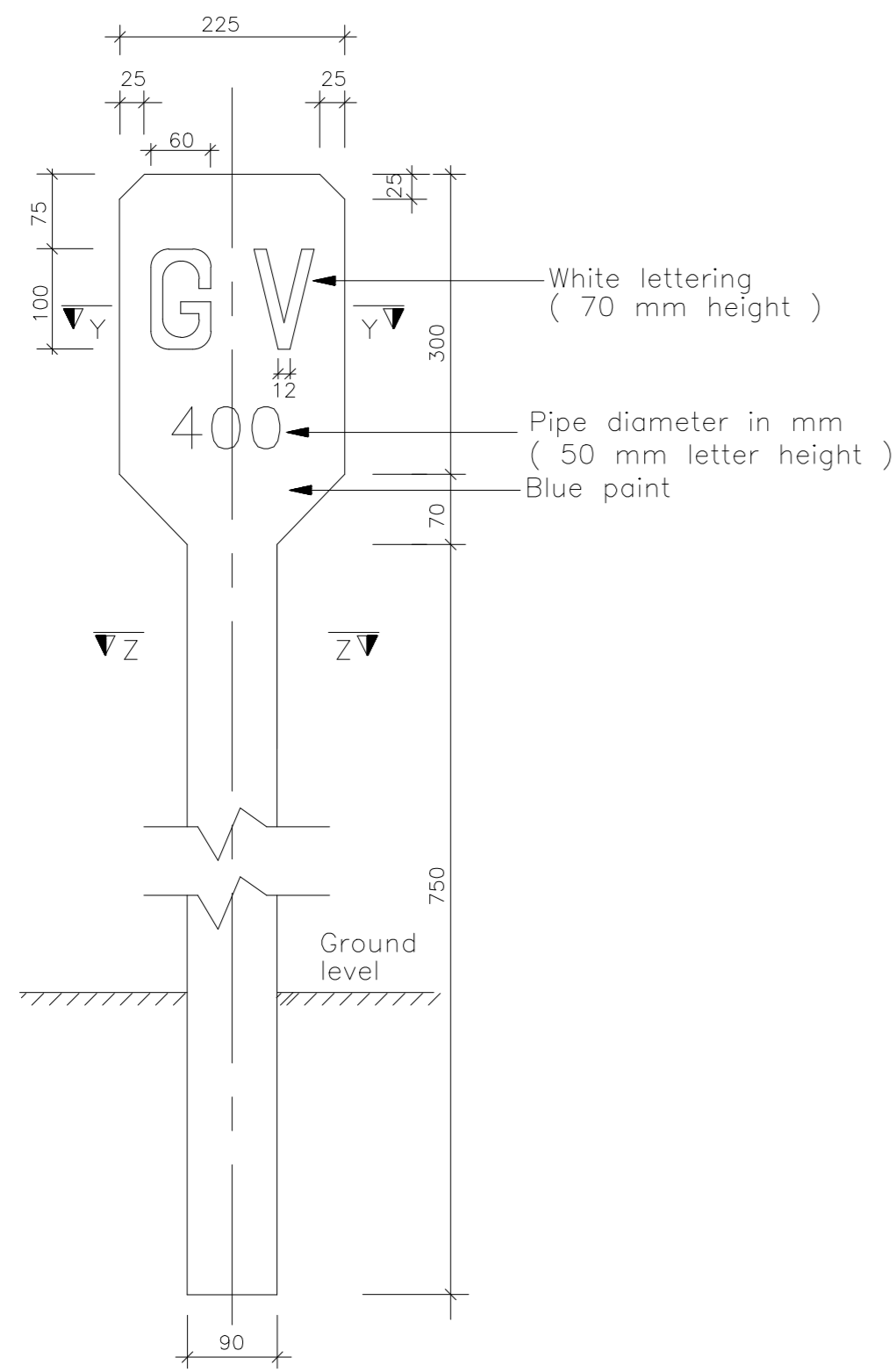
DWG. No. **KAM/DD/203/19**
Sheet No. **1/1**

Designed: P. K.W	Date: Aug 2023
Drawn: MMN	Date: Aug 2023
Checked: P. K.W	Date: Aug 2023
Approved: ENG ANDREW MESSO (A3007)	Date: Aug 2023

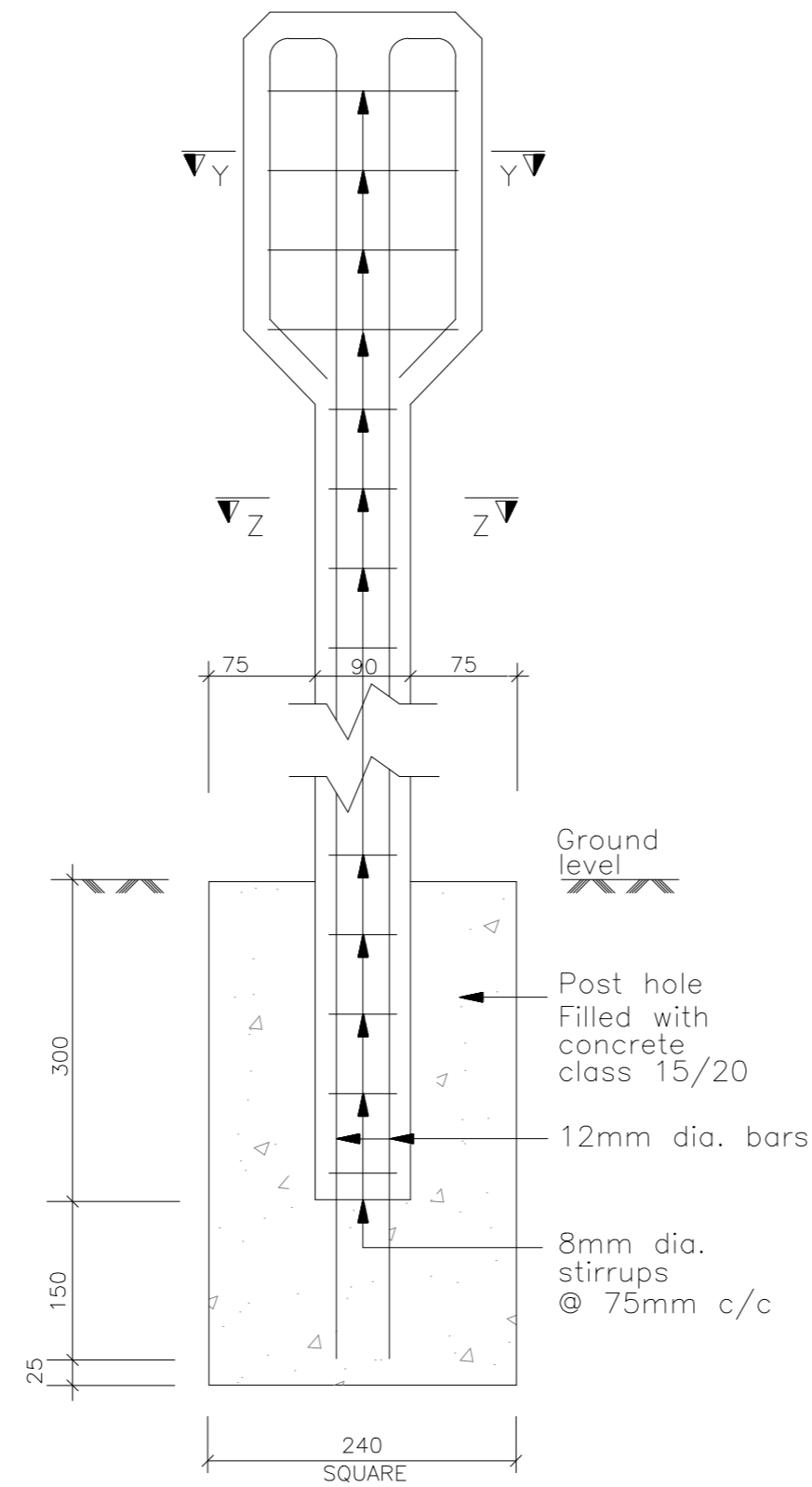
NOTES

- All dimensions are in mm unless otherwise stated.
- Details for indicator posts to be as for gate valve but lettering to be as follows

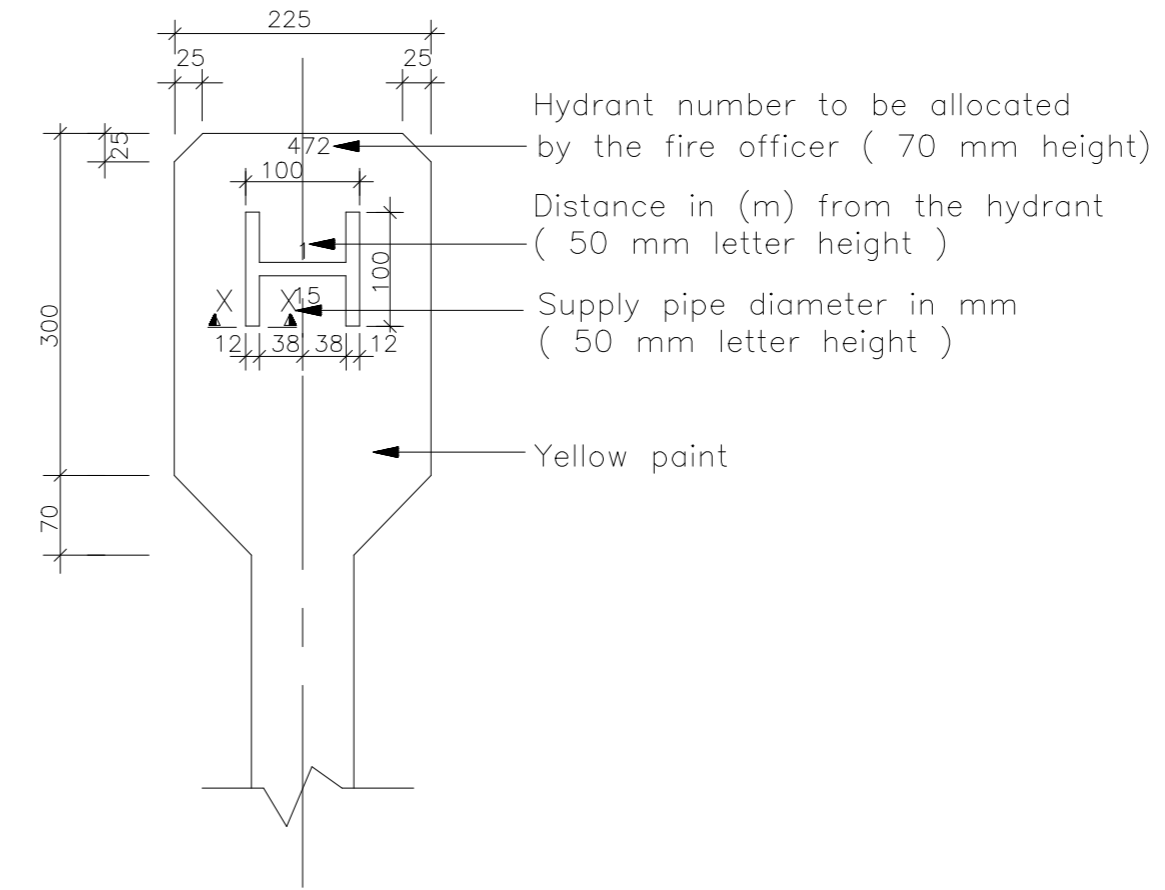
FOR	USE
gate valve	GV
air valve	AV
washout	WO
fire hydrant	H
water main	WM
bulk meter	M
- All indicator posts except fire hydrant posts to be painted with 2 coats blue oil based paint and lettering to engineer's approval.
- Marker posts to be positioned in safe locations where possible against boundary of road reserve



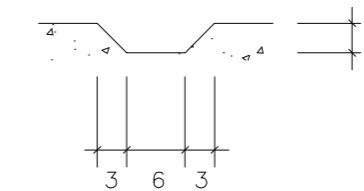
GATE VALVE INDICATOR POST
SCALE 1:10



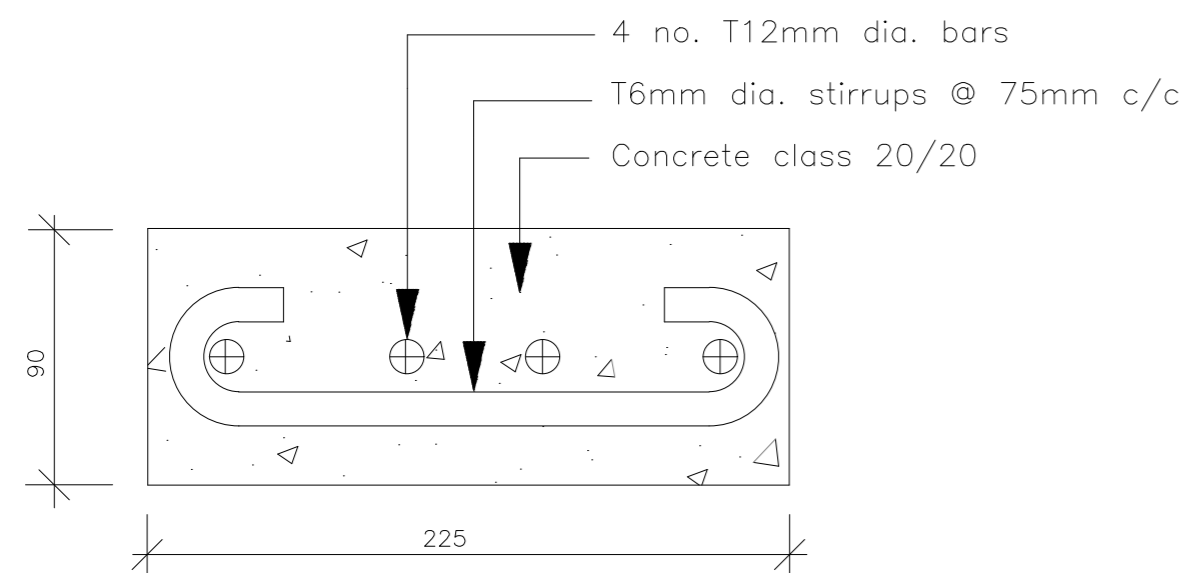
INDICATOR POST REINFORCEMENT DETAILS
SCALE 1:10



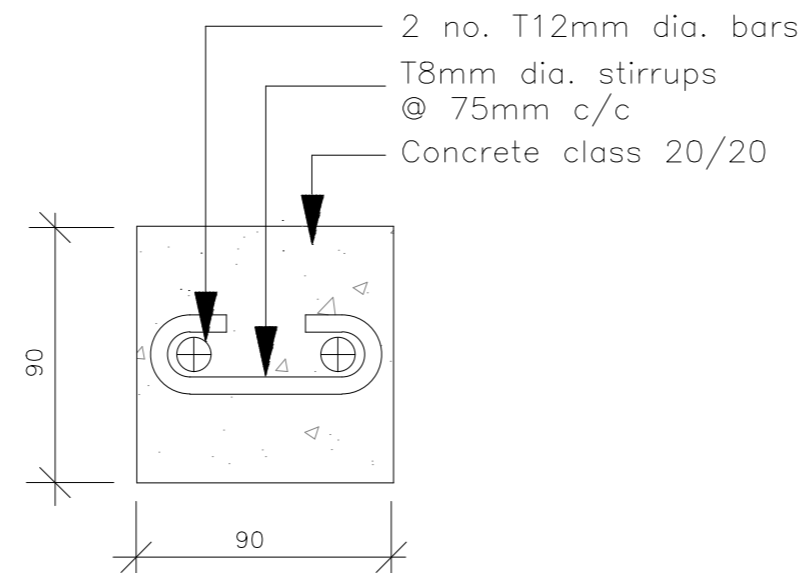
FIRE HYDRANT POST
SCALE 1:10



SECTION X-X
N.T.S.



SECTION Y-Y
SCALE 1:4



SECTION Z-Z
SCALE 1:4

DRAWING TO SCALE IN A1 SIZE



MARSABIT COUNTY

No.	APPROVAL	DATE	REFERENCE

CLIENT:
CONCERN WORLDWIDE

in conjunction with
WaterFund
Financing the Water Sector

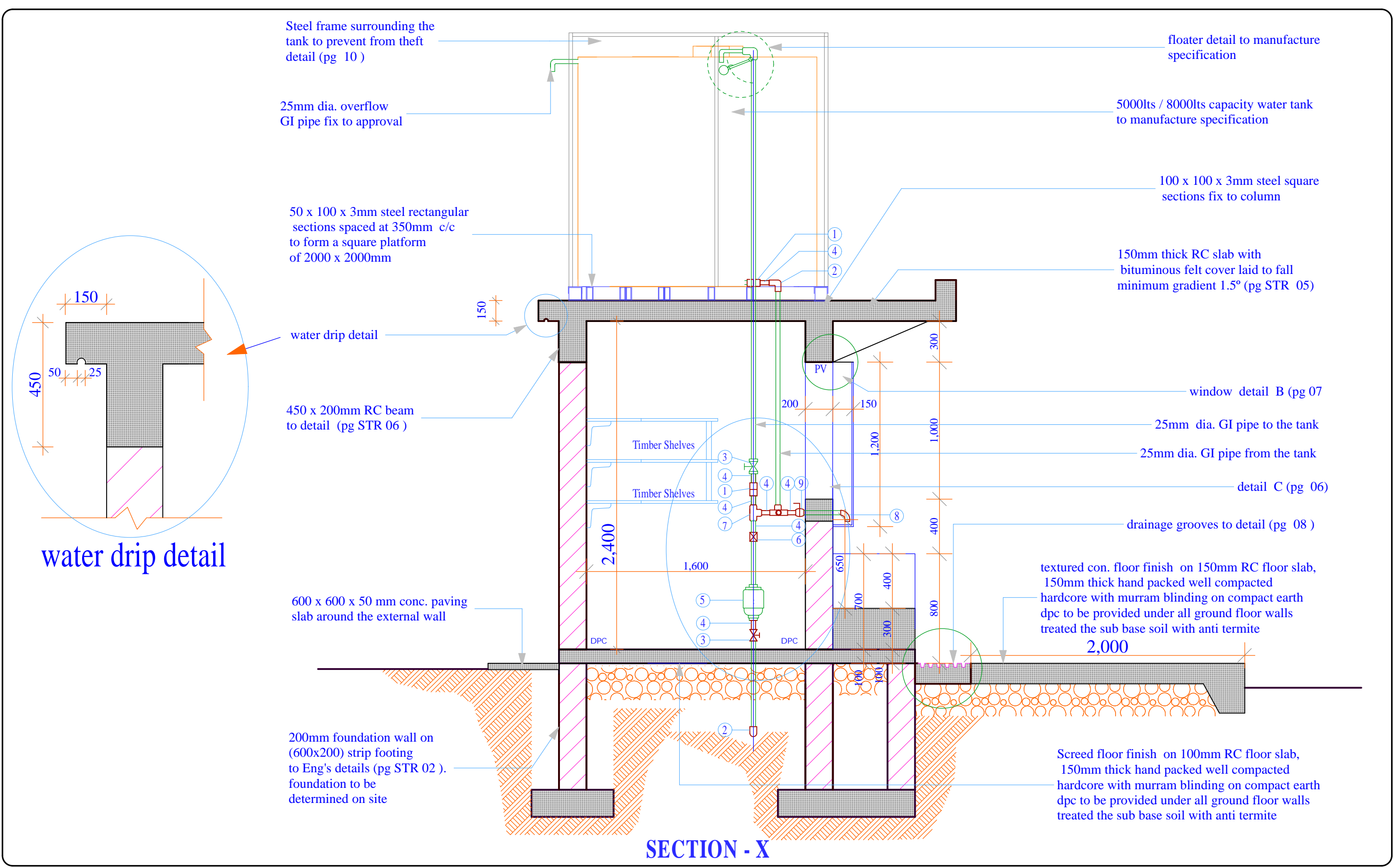
CONSULTANT:
GEO CONSULTANTS

PROJECT TITLE:
PROJECT

TITLE OF DRAWING:
MARKER POSTS DETAILS

DWG. No. **KAM/DD/203** Sheet No. **1/1**

Designed: P. K.W	Date: Aug 2023
Drawn: MMN	Date: Aug 2023
Checked: P. K.W	Date: Aug 2023
Approved: ENG ANDREW MESSO (A3007)	Date: Aug 2023



Project Title:
 WATER KIOSK
 (Type Closed)
 PREFABRICATED

Client:
 WATER SERVICES
 TRUST FUND (WSTF)

drq title:
 SECTION

drq no.:
 ARC 02

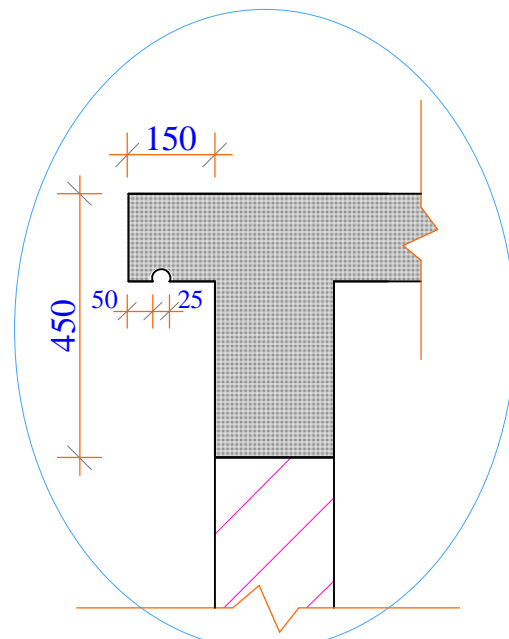
Consultant:
 Edward Kung'u

Designed By
 Eden Mati

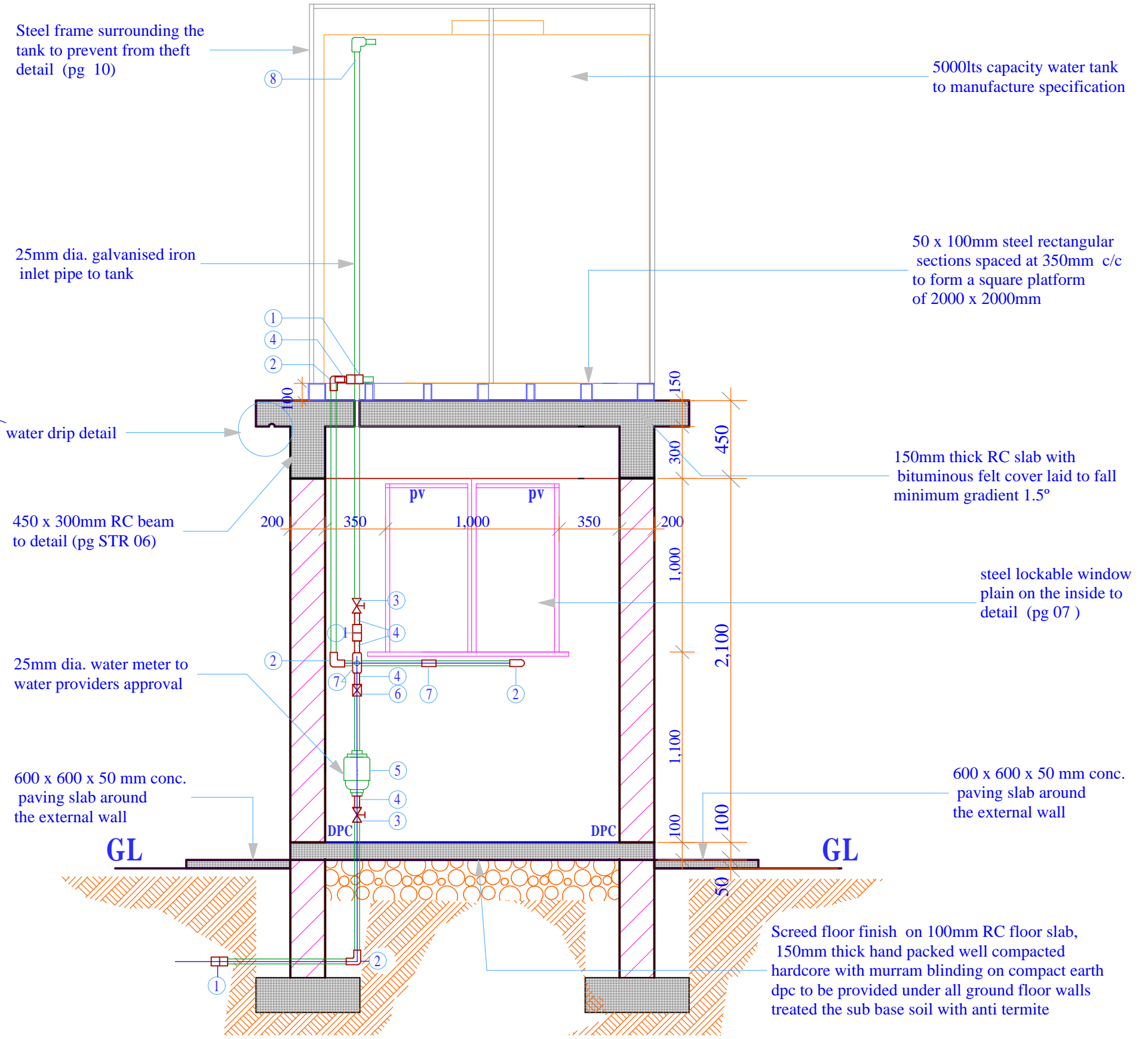
Checked By
 John Orwa

Approved by
 CEO - Water Services Trust Fund
 Signature.....

Scale 1 : 25
 Date: FEBRUARY 2009
 page 02



water drip detail



SECTION - Y

<p><u>Project Title:</u> WATER KIOSK (Type Closed) PREFABRICATED</p>	<p><u>Client:</u> WATER SERVICES TRUST FUND (WSTF)</p>	<p><u>drq title:</u> SECTION</p>	<p><u>drq no.:</u> ARC 03</p>	<p><u>Consultant:</u> Edward Kung'u</p>	<p><u>Designed By</u> Eden Mati</p>	<p><u>Checked By</u> John Orwa</p>	<p><u>Approved by</u> CEO - Water Services Trust Fund Signature.....</p>	<p>Scale 1 : 25 Date: FEBRUARY 2009 page 03</p>
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tank to prevent from theft.
detail (pg 10)

5000lts / 8000lts capacity
water tank to manufacture
specification

25mm dia. galvanised
iron pipe

masonry wall keyed
to approval

steel lockable window
plain on the inside to
detail (pg 07)

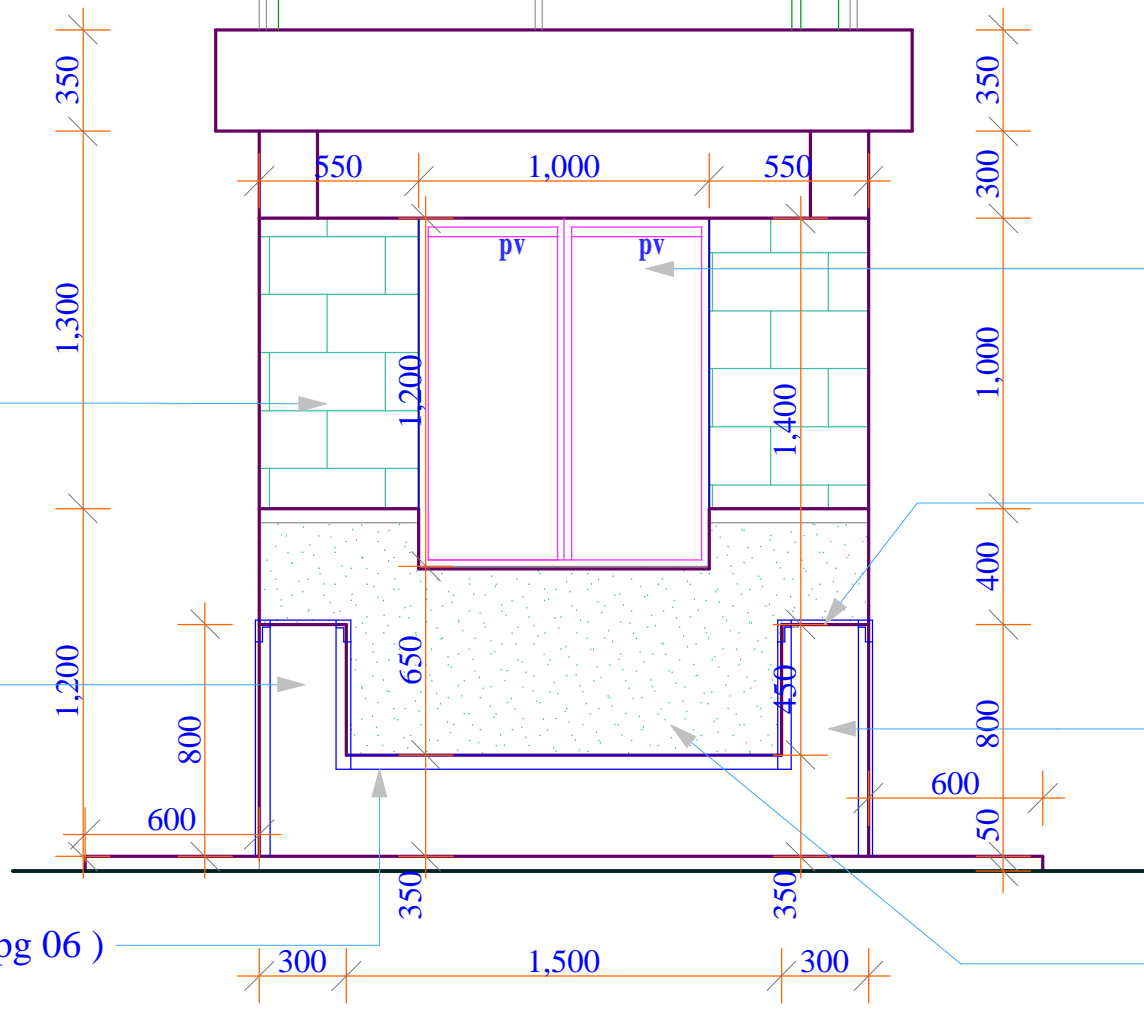
800mm high RC wall
bucket placing bay

50 x 50mm angle section
fixed all round to
detail (pg 06)

800mm high RC wall
bucket placing bay

50 x 50mm angle section
fixed to approval detail (pg 06)

plaster to approval



FRONT ELEVATION

Project Title:
WATER KIOSK
(Type Closed)
PREFABRICATED

Client:
WATER SERVICES
TRUST FUND (WSTF)

drq title:
FRONT ELEVATION

drq no.:
ARC 04

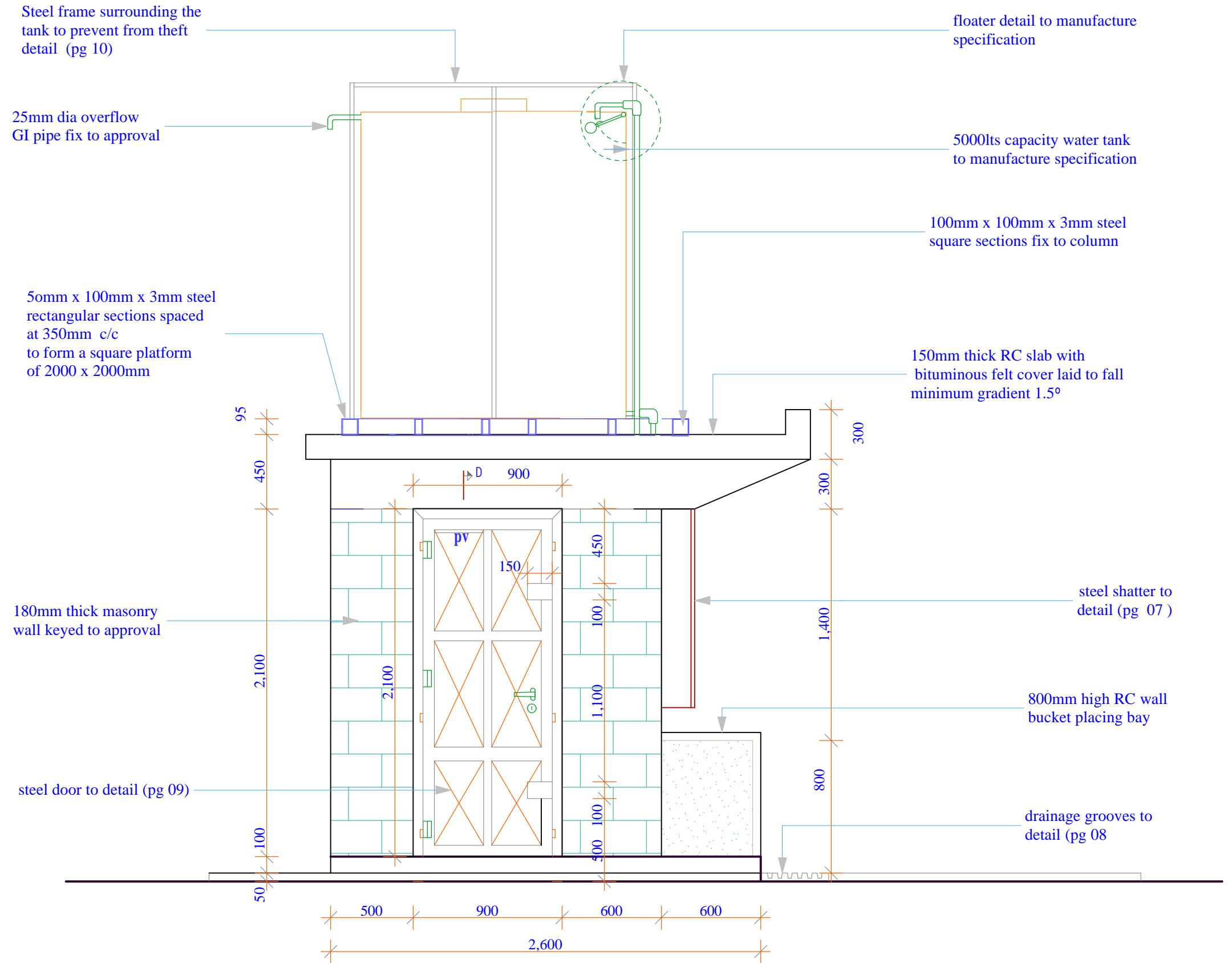
Consultant:
Edward Kung'u

Designed By
Eden Mati

Checked By
John Orwa

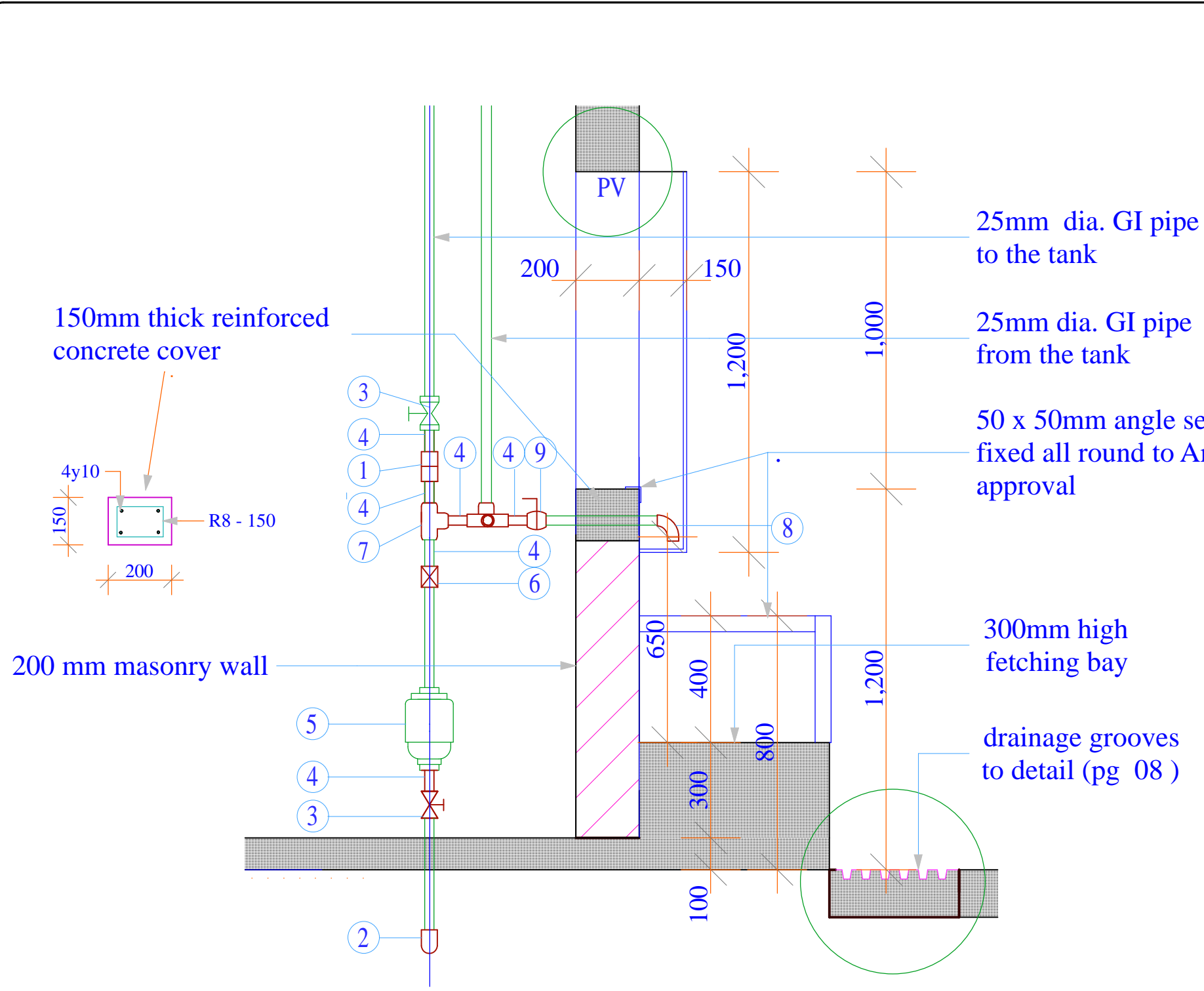
Approved by
CEO - Water Services Trust Fund
Signature.....

Scale 1 : 25
Date:
FEBRUARY 2009
page 04

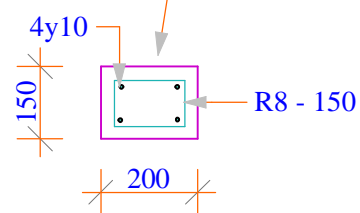


SIDE ELEVATION

<p><u>Project Title:</u> WATER KIOSK (Type Closed) PREFABRICATED</p>	<p><u>Client:</u> WATER SERVICES TRUST FUND (WSTF)</p>	<p><u>drq title:</u> SIDE ELEVATION</p>	<p><u>drq no.:</u> ARC 05</p>	<p><u>Consultant:</u> Edward Kung'u</p>	<p><u>Designed By</u> Eden Mati</p>	<p><u>Checked By</u> John Orwa</p>	<p><u>Approved by</u> CEO - Water Services Trust Fund Signature.....</p>	<p>Scale 1 : 25 Date: FEBRUARY 2009 page 05</p>
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150mm thick reinforced concrete cover



200 mm masonry wall

25mm dia. GI pipe to the tank

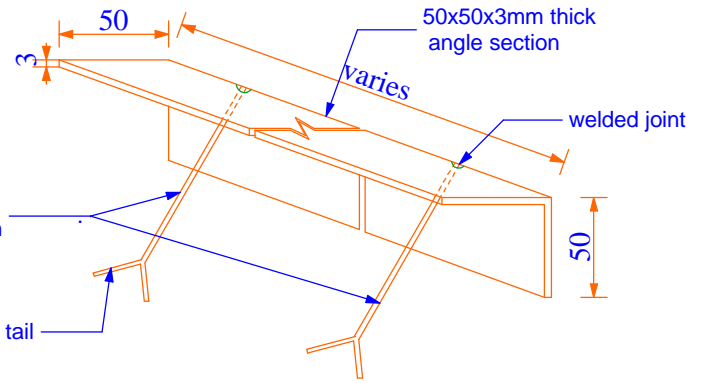
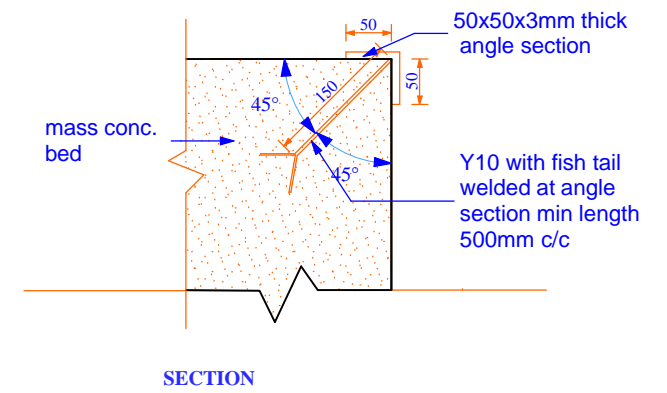
25mm dia. GI pipe from the tank

50 x 50mm angle section fixed all round to Arch. approval

300mm high fetching bay

drainage grooves to detail (pg 08)

DETAIL C



ITEM NO.	DESCRIPTION (ALL 25NN DIA)	UNIT)	QTY
1	Galvanised Iron Union	No.	3
2	Galvanised Iron Elbows	No.	3
3	Galvanised Iron Gate Valve (Pegler)	No.	2
4	Galvanised Iron Nipples	No.	11
5	Water Meter	No.	1
6	Non Return Valve	No.	1
7	Galvanised Iron Equal Tee	No.	5
8	Galvanised Iron Bend	No.	4
9	Ball Cock Water Taps	No.	3
10	Galvanised Iron Long Thread Nipples	No.	2
17	Galvanised Iron Black Nuts	No.	4
12	Galvanised Iron Class B Pipe (per metres)	No.	4
13	Boss white (400g)	No.	3
14	Temp Thread	LM..	2

Project Title:
WATER KIOSK
(Type Closed)
PREFABRICATED

Client:
WATER SERVICES
TRUST FUND (WSTF)

drq title:
PLUMBING DETAIL

drq no.:
ARC 06

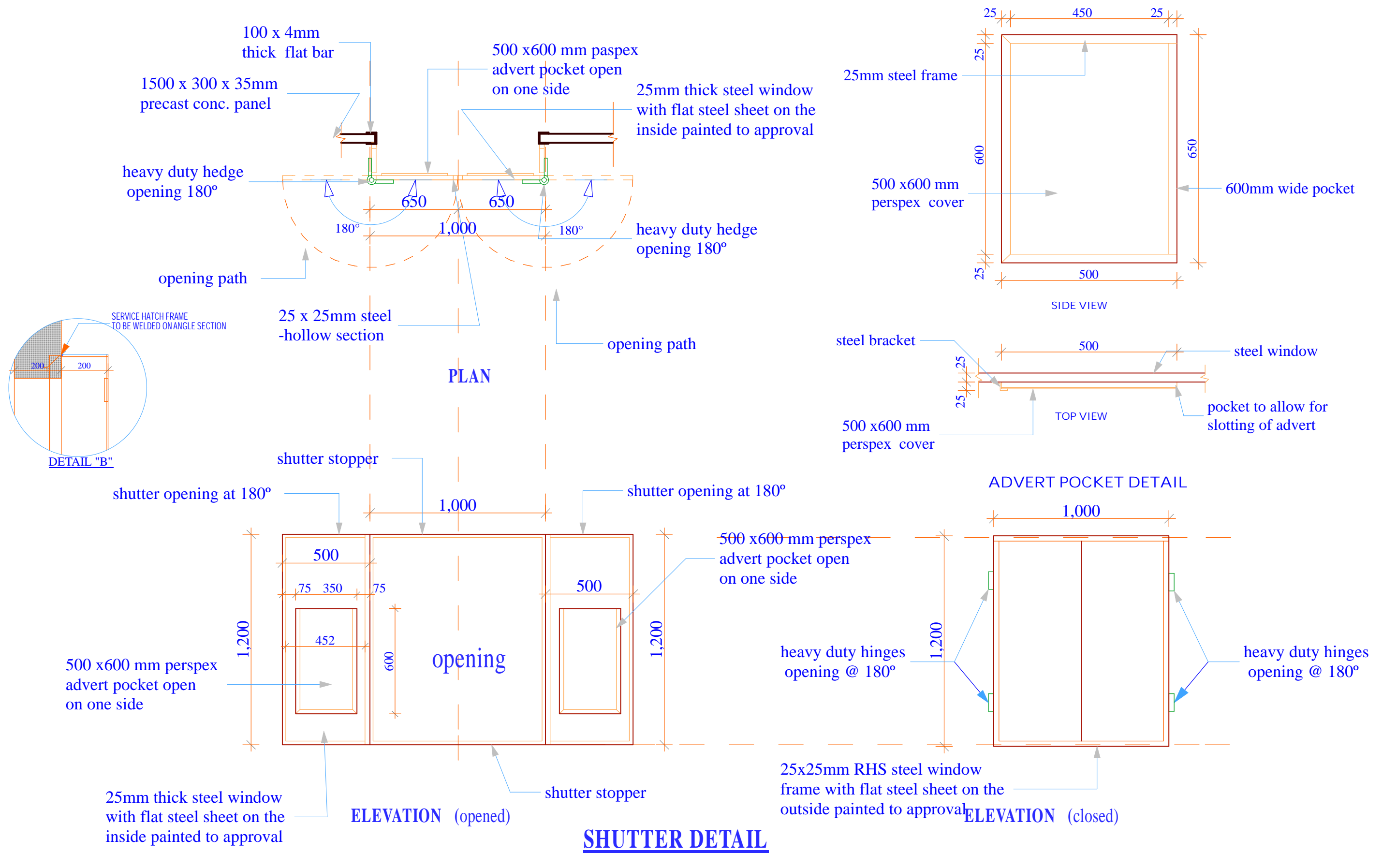
Consultant:
Edward Kung'u

Designed By
Eden Mati

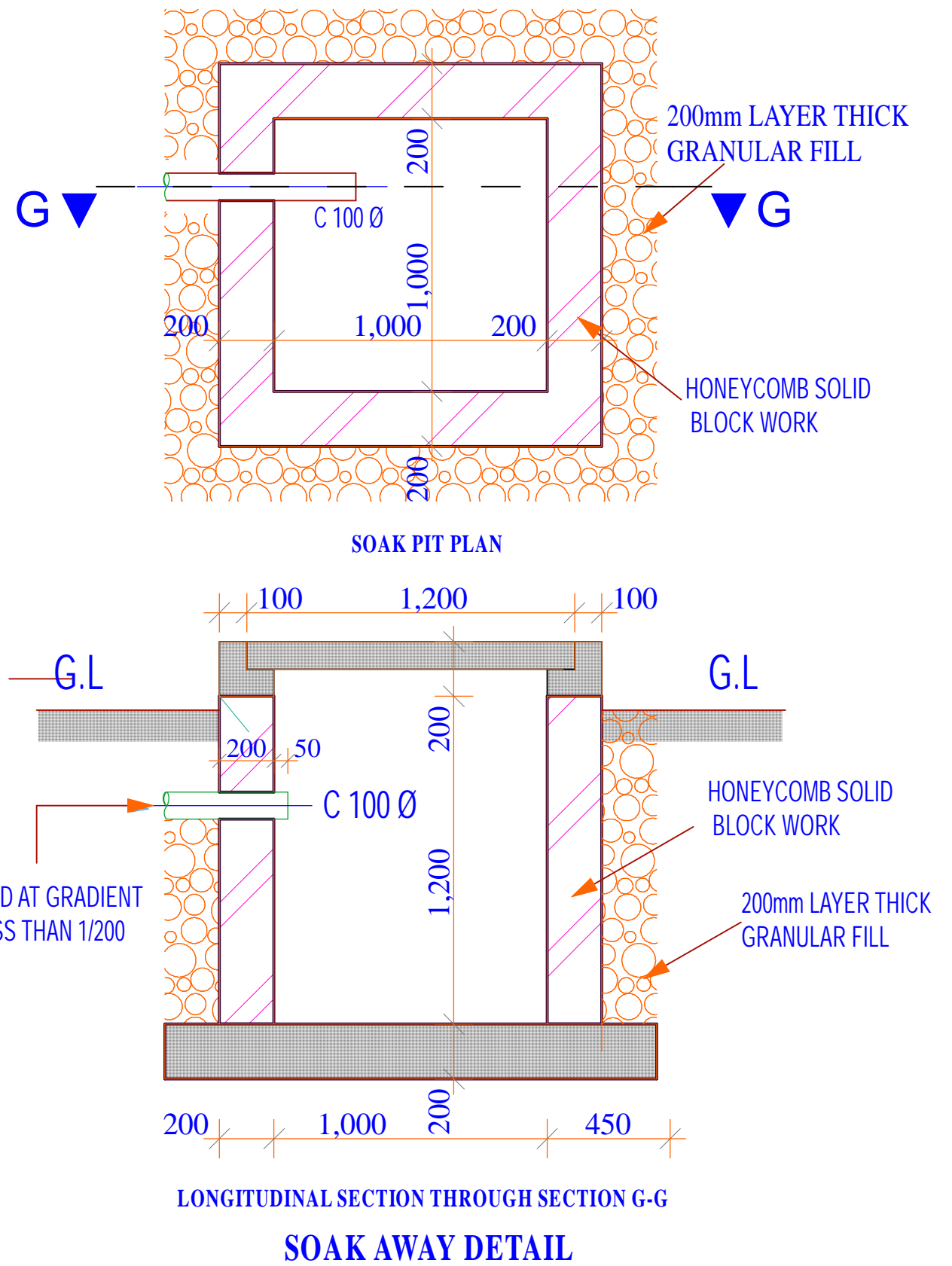
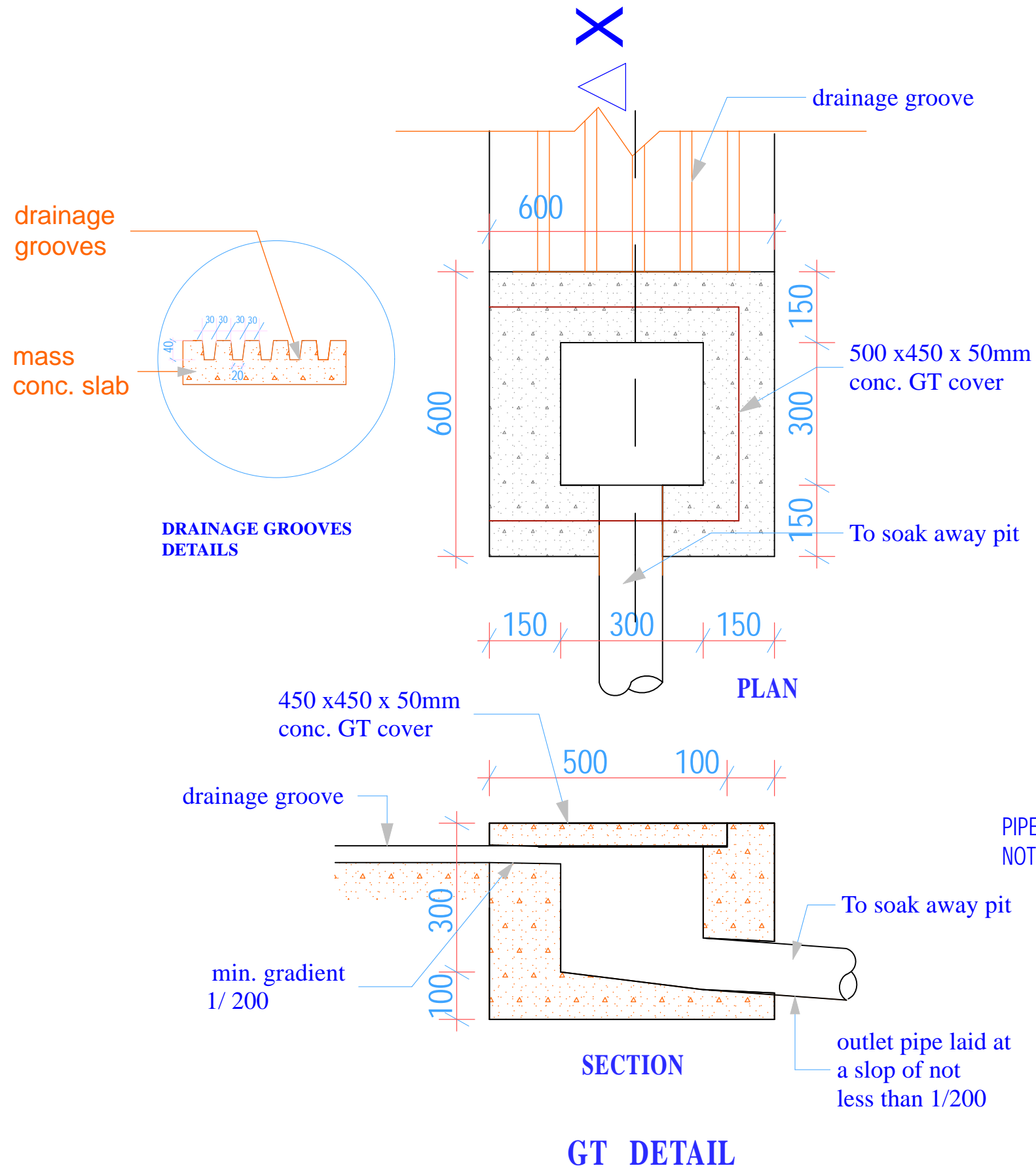
Checked By
John Orwa

Approved by
CEO - Water Services Trust Fund
Signature.....

Scale 1 : 10
Date: FEBRUARY 2009
page 06



Project Title: WATER KIOSK (Type Closed) PREFABRICATED	Client: WATER SERVICES TRUST FUND (WSTF)	drq title: SHUTTER DETAIL	drq no.: ARC 07	Consultant: Edward Kung'u	Designed By: Eden Mati	Checked By: John Orwa	Approved by: CEO - Water Services Trust Fund Signature.....	Scale: 1 : 20 Date: FEBRUARY 2009 page: 07
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Project Title:
WATER KIOSK
(Type Closed)
PREFABRICATED

Client:
WATER SERVICES
TRUST FUND (WSTF)

drq title:
DRAINAGE DETAILS

drq no.:
ARC 08

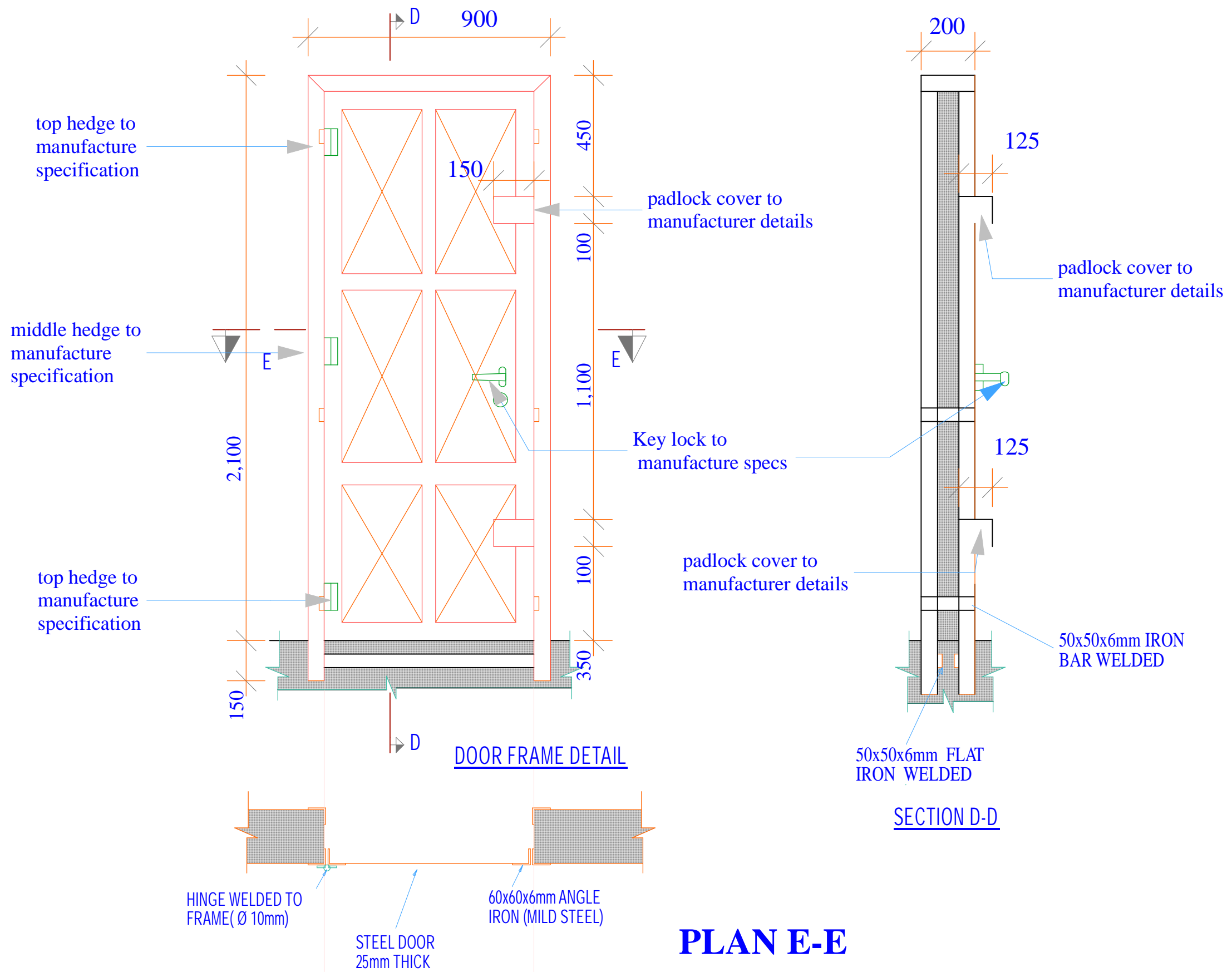
Consultant:
Edward Kung'u

Designed By
Eden Mati

Checked By
John Orwa

Approved by
CEO - Water Services Trust Fund
Signature.....

Scale 1 : 10 1 : 20
Date:
FEBRUARY 2009
page 08



Project Title:
 WATER KIOSK
 (Type Closed)
 PREFABRICATED

Client:
 WATER SERVICES
 TRUST FUND (WSTF)

drq title:
 STEEL DOOR DETAIL

drq no.:
 ARC 9

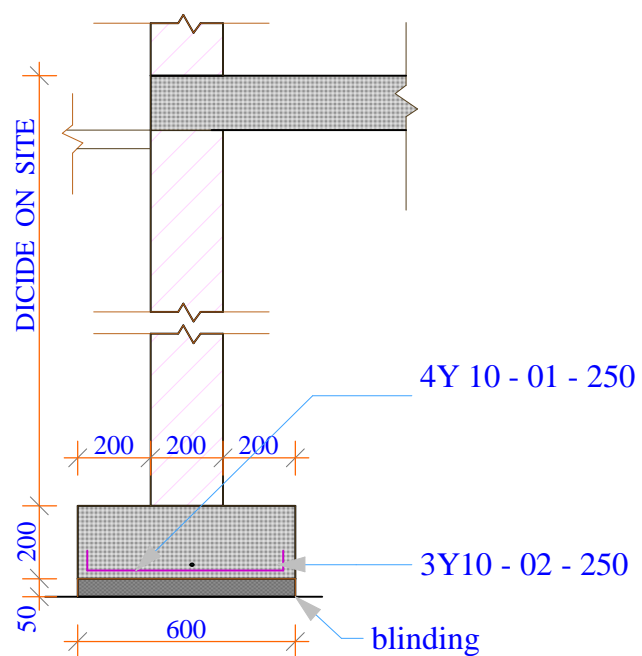
Consultant:
 Edward Kung'u

Designed By
 Eden Mati

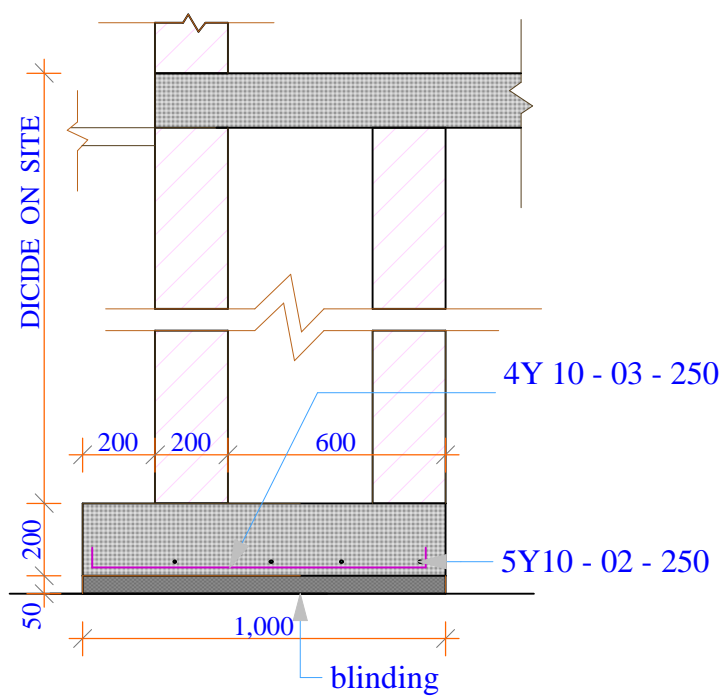
Checked By
 John Orwa

Approved by
 CEO - Water Services Trust Fund
 Signature.....

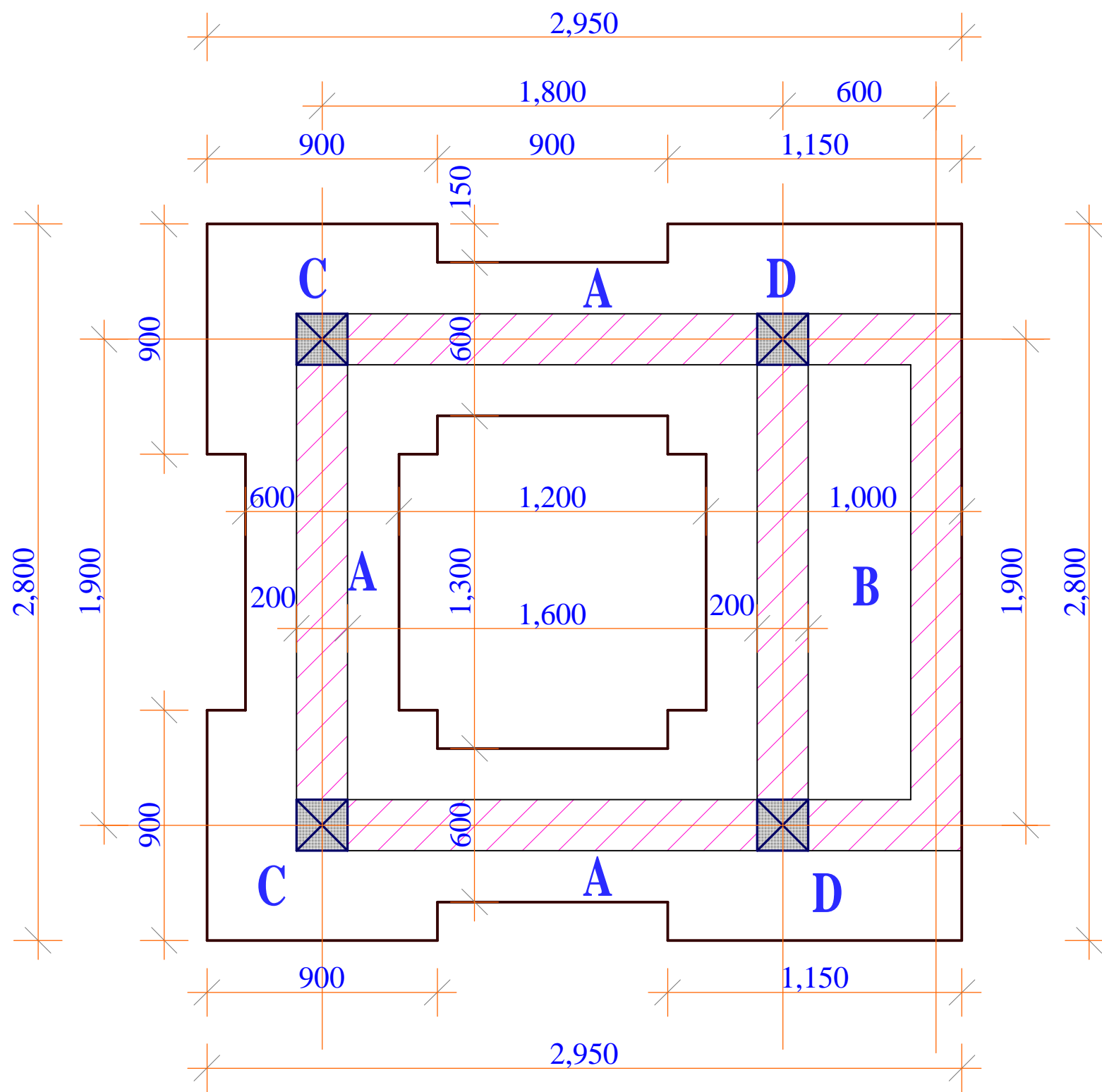
Scale 1 : 15
 Date: FEBRUARY 2009
 page 09



DETAIL FOR STRIP FOOTING SHOWN THUS A



DETAIL FOR STRIP FOOTING SHOWN THUS B



FOUNDATION PLAN

Project Title:
WATER KIOSK
(Type Closed)
PREFABRICATED

Client:
WATER SERVICES
TRUST FUND (WSTF)

drq title:
FOUNDATION PLAN

drq no.:
STR 01

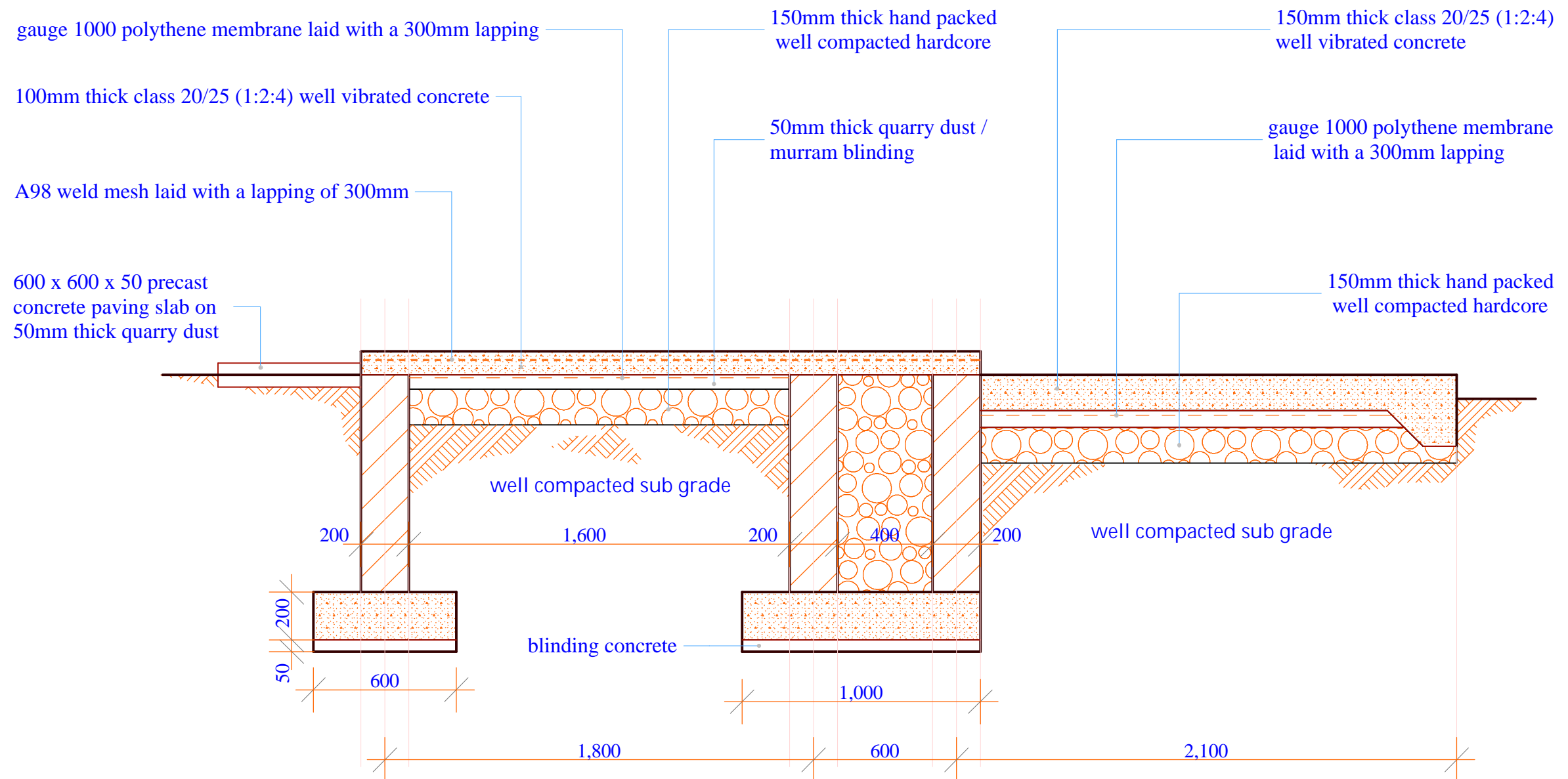
Consultant:
Edward Kung'u

Designed By
Eden Mati

Checked By
John Orwa

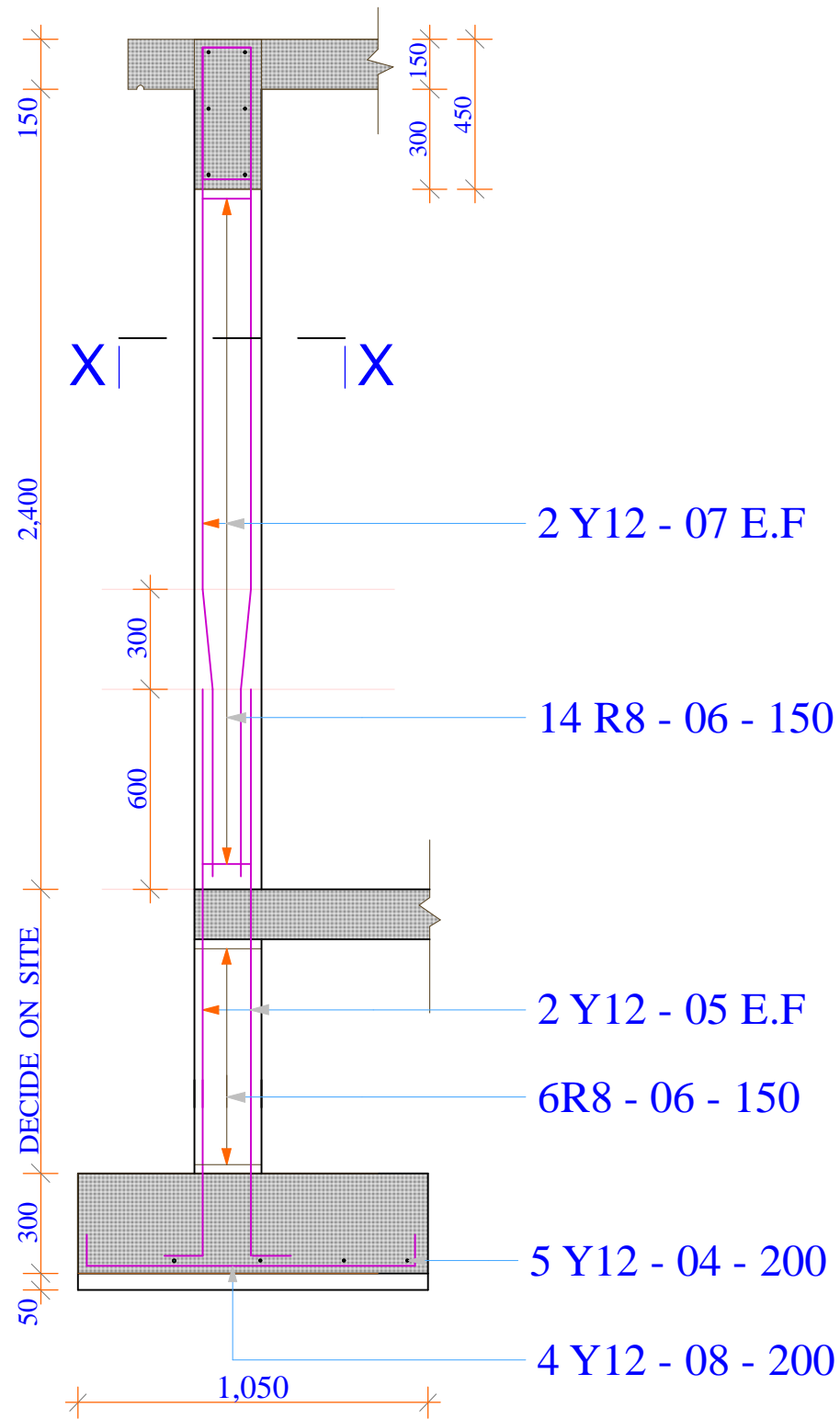
Approved by
CEO - Water Services Trust Fund
Signature.....

Scale 1 : 20
Date: FEBRUARY 2009
page 01

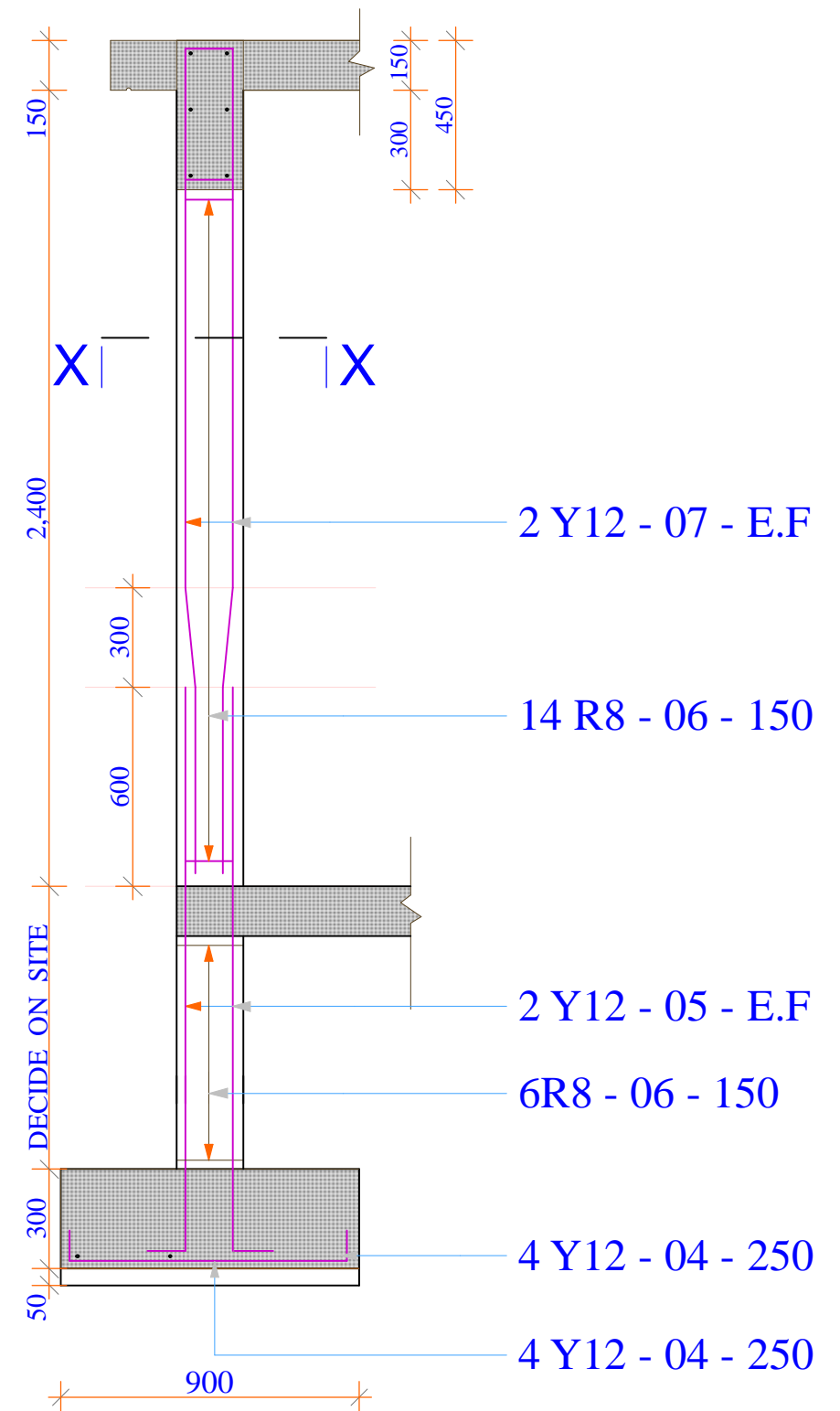
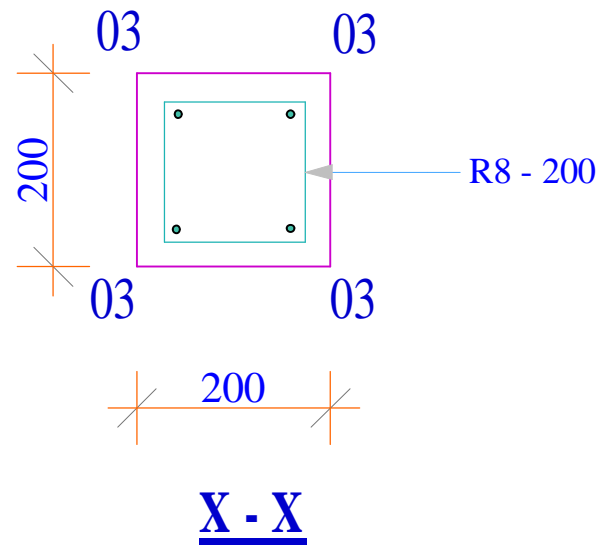


FOUNDATION SECTION

<u>Project Title:</u> WATER KIOSK (Type Closed) PREFABRICATED	<u>Client:</u> WATER SERVICES TRUST FUND (WSTF)	<u>drq title:</u> FOUNDATION SECTION	<u>drq no.:</u> STR 02	<u>Consultant:</u> Edward Kung'u	<u>Designed By</u> Eden Mati	<u>Checked By</u> John Orwa	<u>Approved by</u> CEO - Water Services Trust Fund Signature.....	<u>Scale</u> 1 : 20 <u>Date:</u> FEBRUARY 2009 <u>page</u> 02
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DETAIL FOR COLUMN & COL. BASE
SHOWN THUS D 2no.



DETAIL FOR COLUMN & COL. BASE
SHOWN THUS C 2no.

Project Title:
 WATER KIOSK
 (Type Closed)
 PREFABRICATED

Client:
 WATER SERVICES
 TRUST FUND (WSTF)

drq title:
 COLUMNS REINFORCEMENT
 DETAIL

drq no.:
 STR 03

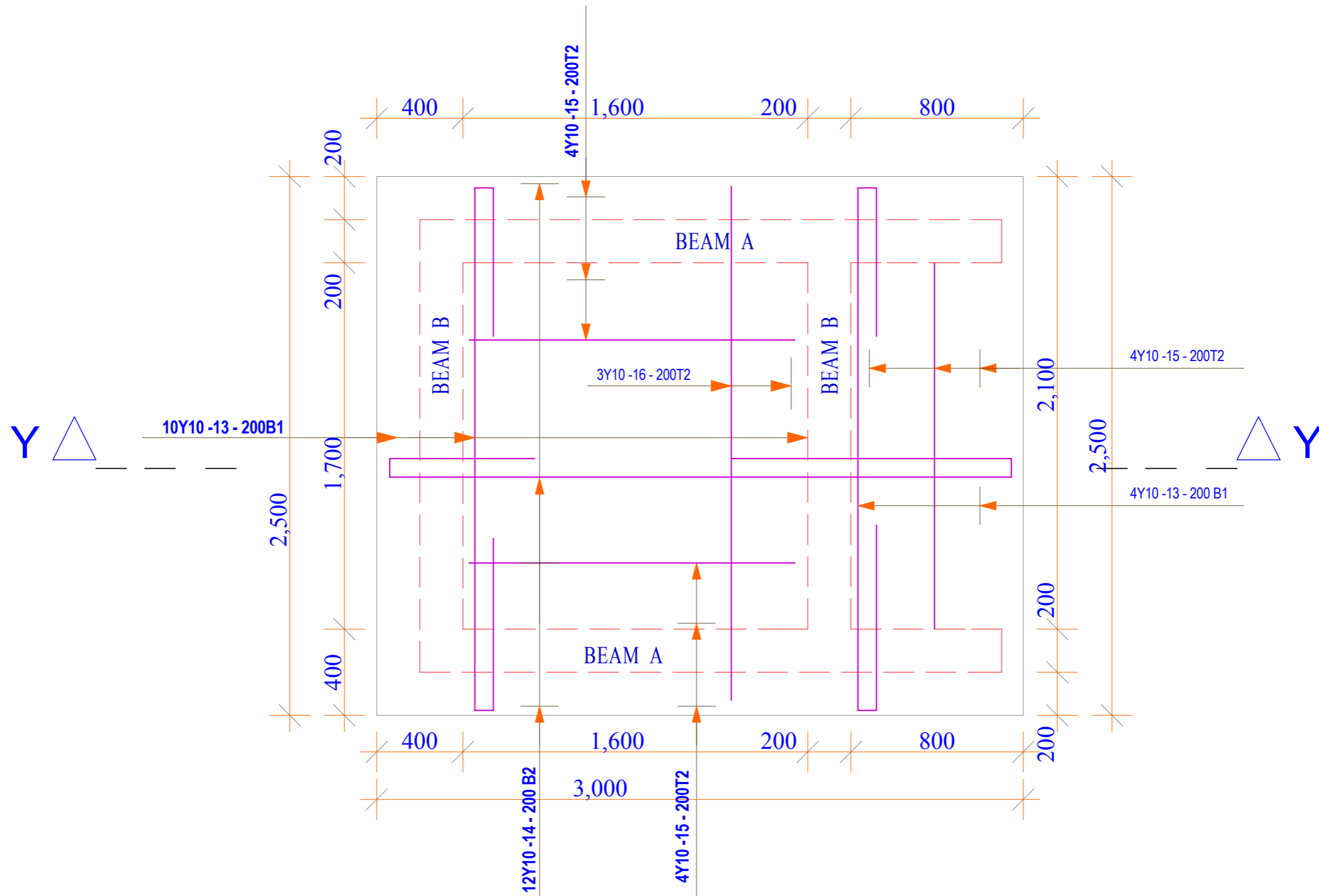
Consultant:
 Edward Kung'u

Designed By
 Eden Mati

Checked By
 John Orwa

Approved by
 CEO - Water Services Trust Fund
 Signature.....

Scale 1 : 20
 Date: FEBRUARY 2009
 page 03



R. C. SLAB DETAILS

Project Title:

**WATER KIOSK
(Type Closed)
PREFABRICATED**

Client:

**WATER SERVICES
TRUST FUND (WSTF)**

drq title:

**SLAB REINFORCEMENT
DETAIL**

drq no:

STR 04

Consultant:

Edward Kung'u

Designed By

Eden Mati

Checked By

John Orwa

Approved by

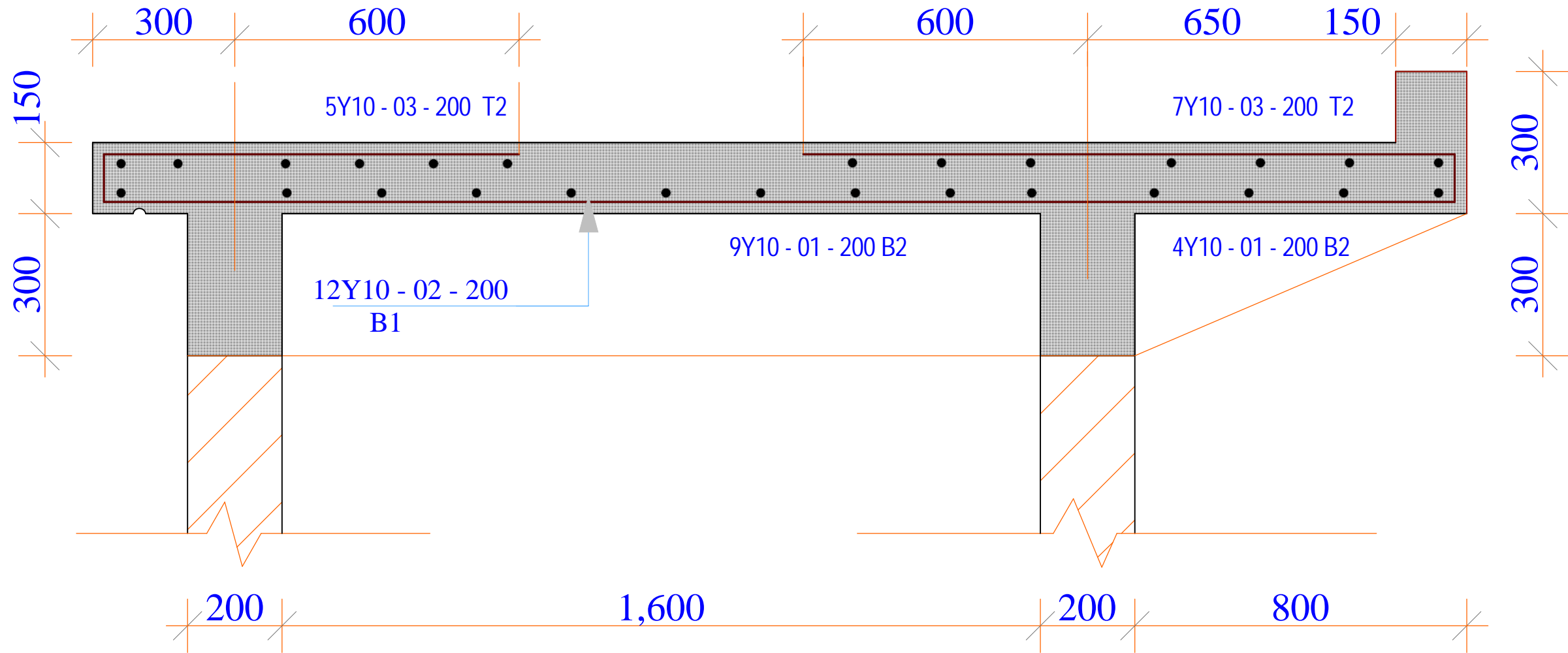
CEO - Water Services Trust Fund

Signature.....

Scale 1 : 20

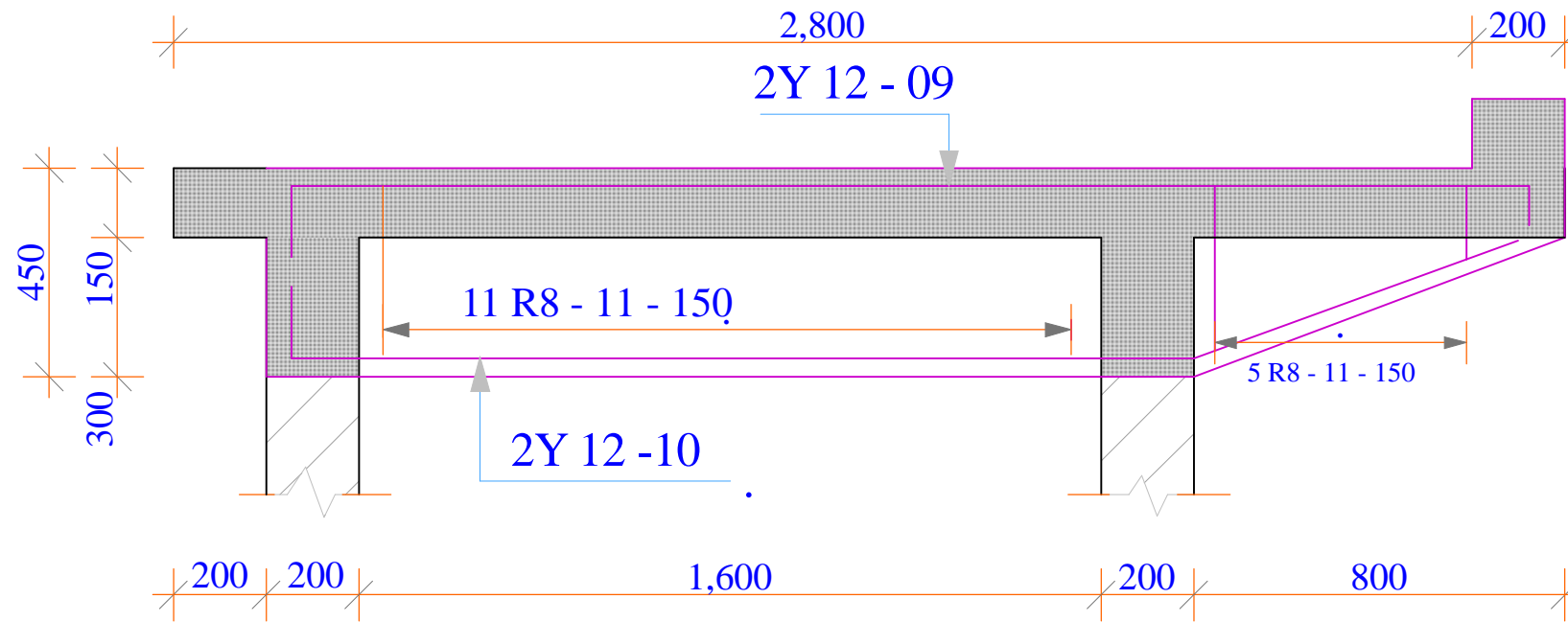
Date:
FEBRUARY 2009

page 04

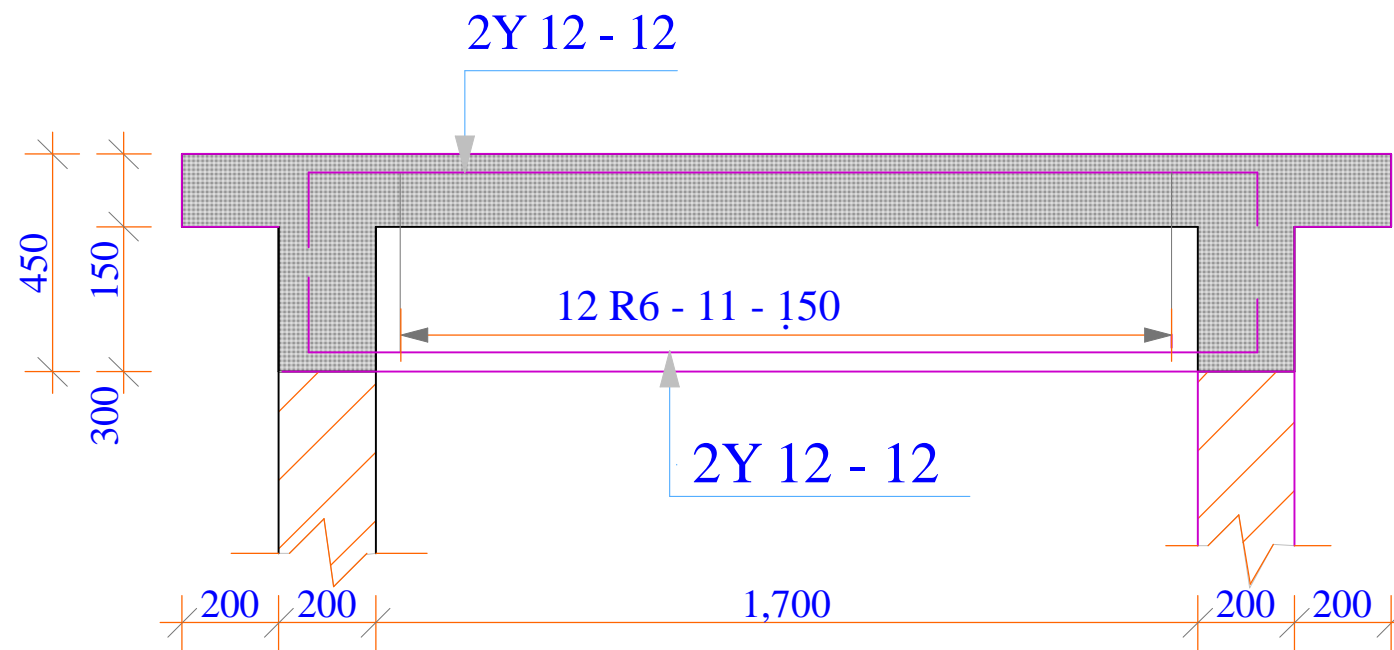


R. C. SLAB SECTION Y-Y

Project Title: WATER KIOSK (Type Closed) PREFABRICATED	Client: WATER SERVICES TRUST FUND (WSTF)	drq title: RC SLAB SECTION	drq no: STR 05	Consultant: Edward Kung'u	Designed By Eden Mati	Checked By John Orwa	Approved by CEO - Water Services Trust Fund Signature.....	Scale 1 : 20 Date: FEBRUARY 2009 page 05
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BEAM A 2No.



BEAM B 2No.

Project Title:
WATER KIOSK
(Type Closed)
PREFABRICATED

Client:
WATER SERVICES
TRUST FUND (WSTF)

drq title:
BEAMS REINFORCEMENT
DETAILS

drq no:
STR 06

Consultant:
Edward Kung'u

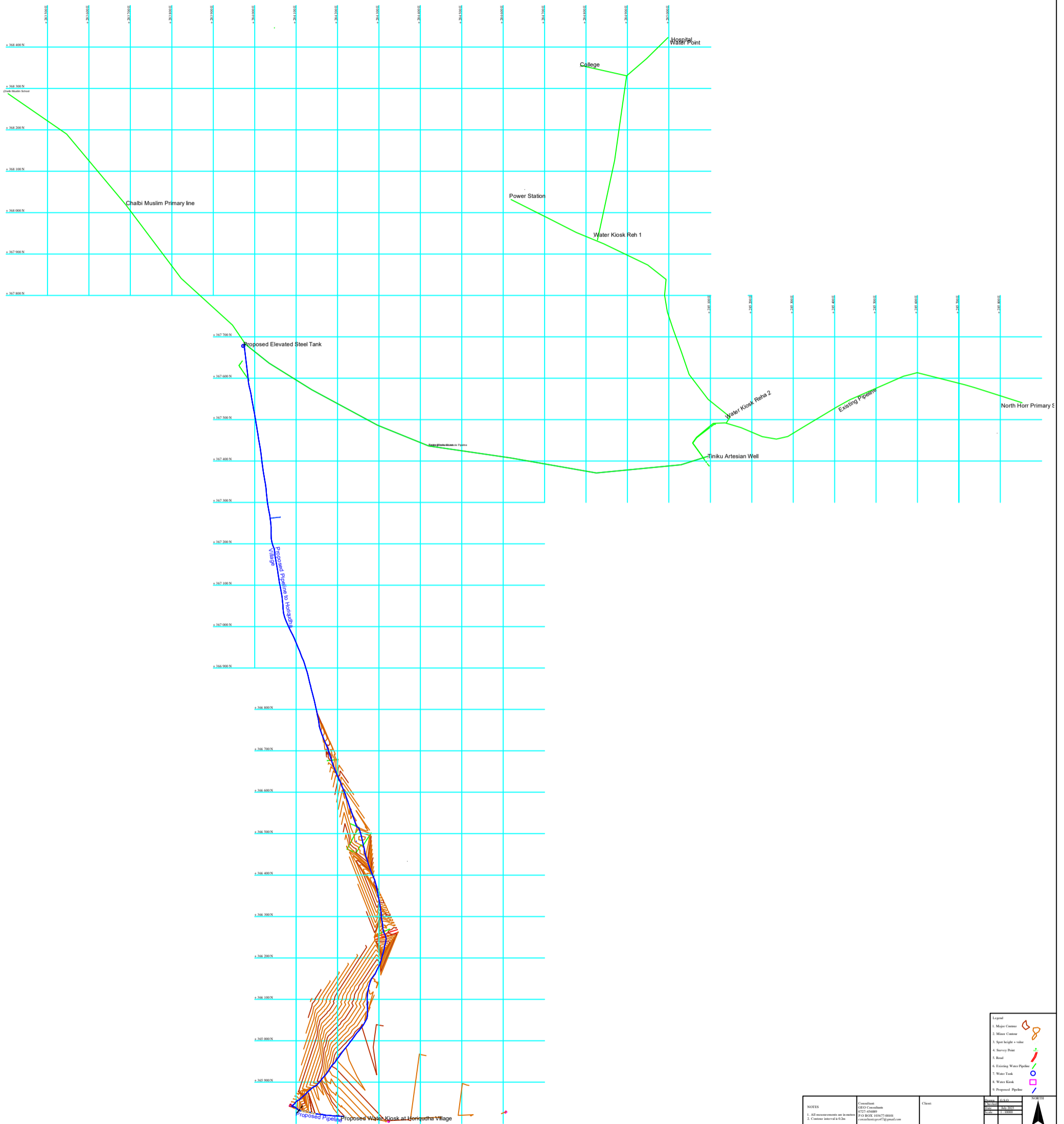
Designed By
Eden Mati

Checked By
John Orwa

Approved by
CEO - Water Services Trust Fund
Signature.....

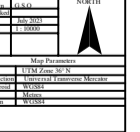
Scale 1 : 15
Date:
FEBRUARY 2009
page 06

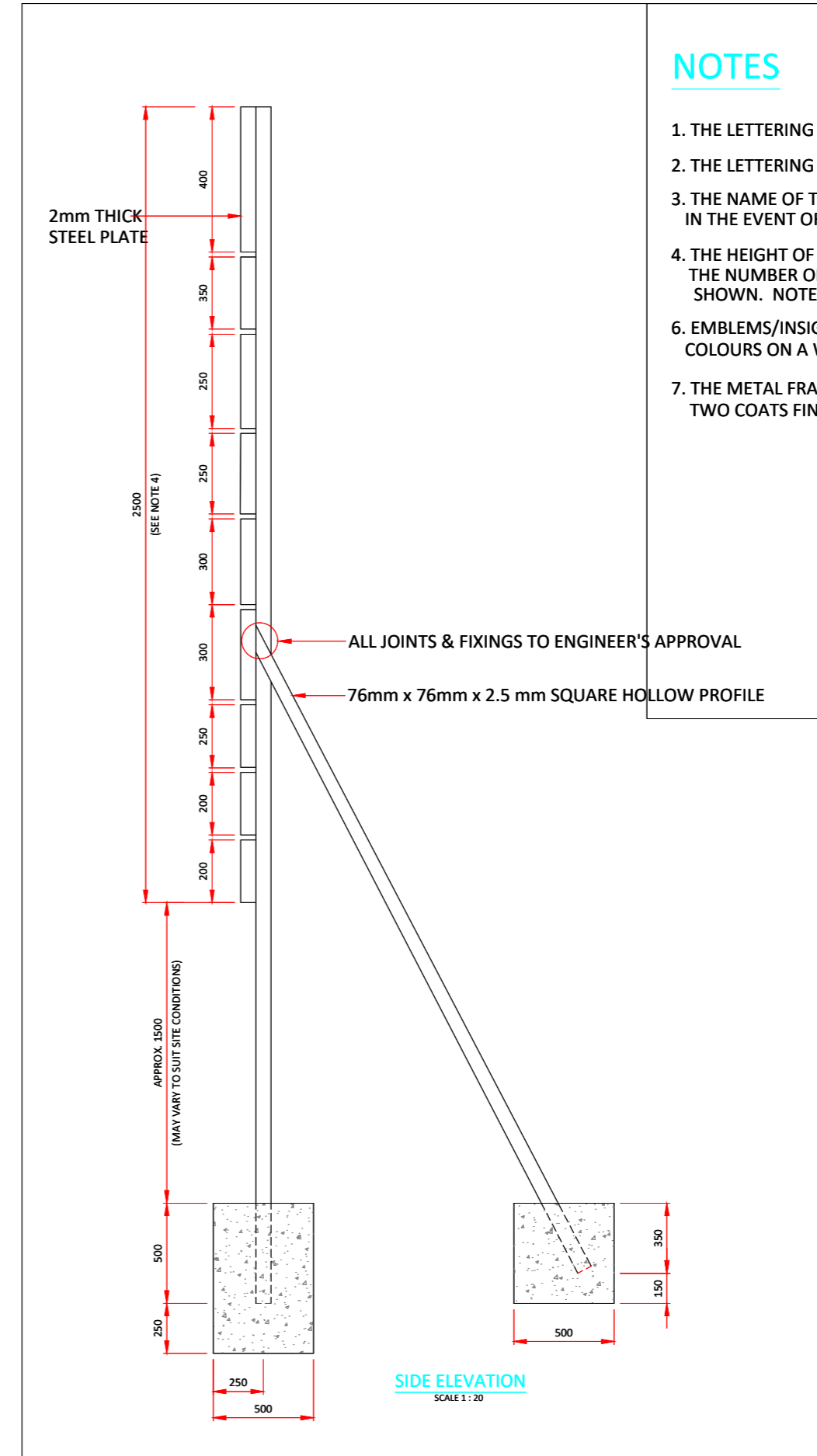
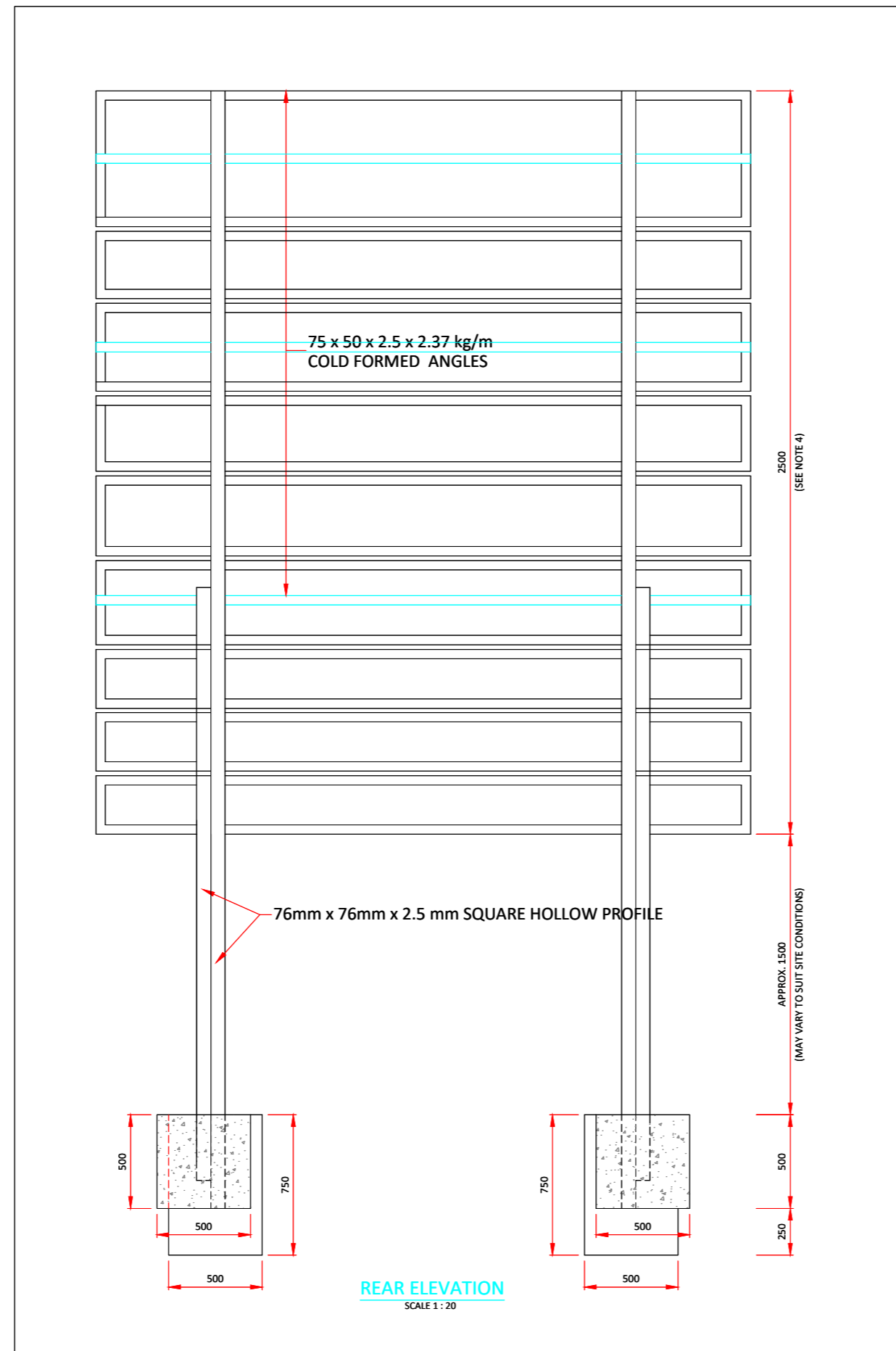
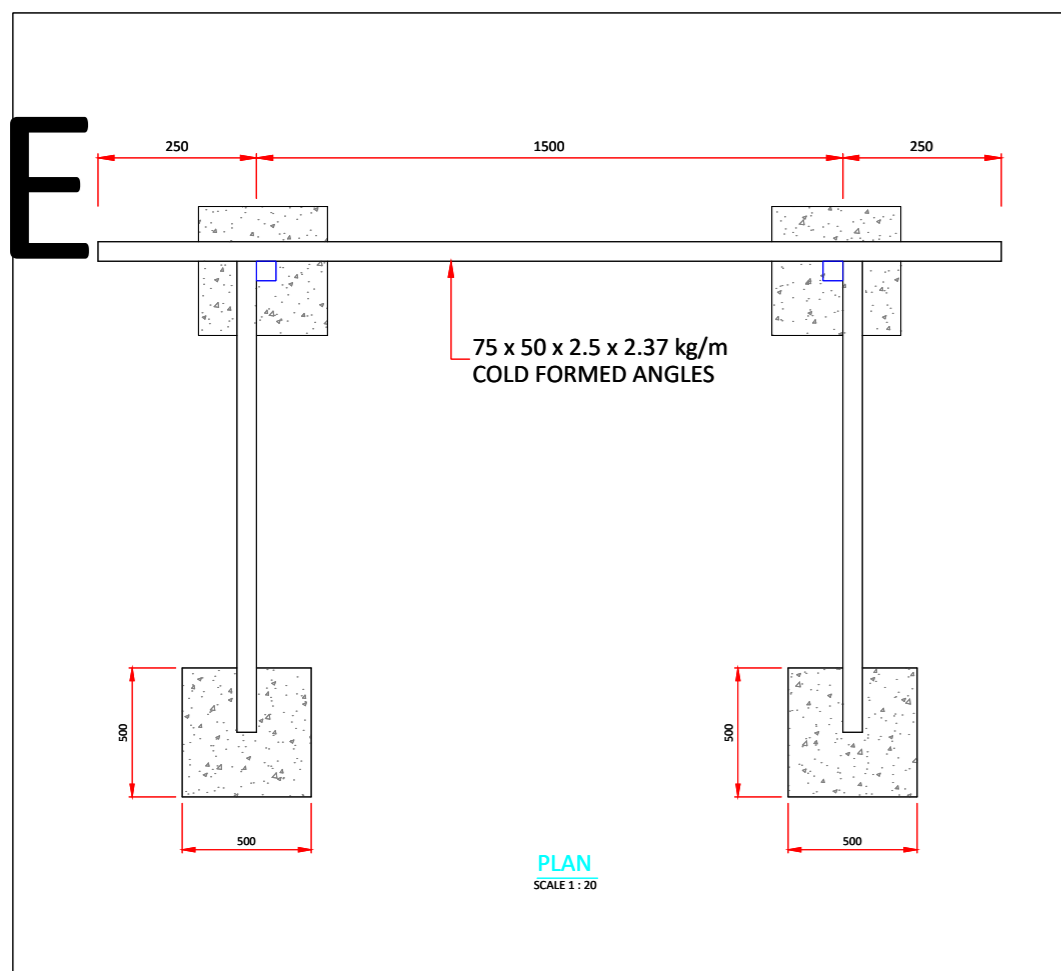
TOPOGRAPHICAL SURVEY LAYOUT OF NORTH HERR PIPELINE



NOTES 1. All measurements are in meters 2. Contour interval is 1:20	Consultant: GHD CONSULTANTS P.O. BOX 10167-00100 GARDIENNE, P.O. BOX 10167-00100	Client: Signature: _____ Date: _____	Scale: 1:10,000 Date: 15/05/2018 Project: 10167-00100
			Map Projection: UTM Zone 39 S Datum: WGS 84 Spheroid: Everest Projection: Transverse Mercator Units: Meters Contour Interval: 1:20

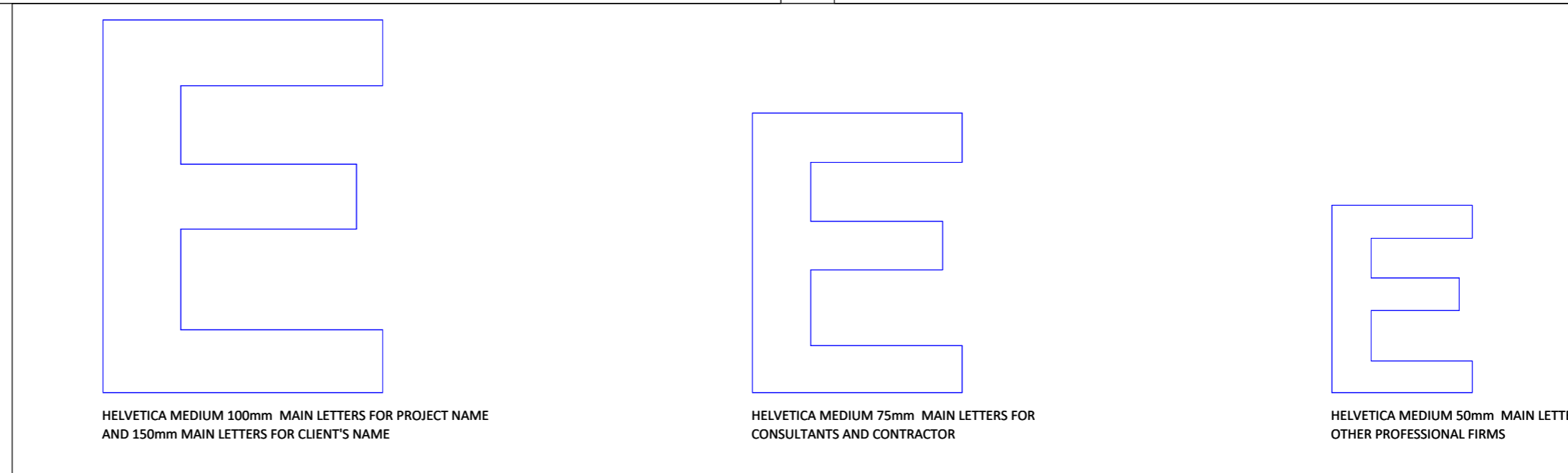
- Legend**
- 1. Major Contour
 - 2. Minor Contour
 - 3. Spot height - water
 - 4. Survey Point
 - 5. Road
 - 6. Existing Water Pipeline
 - 7. Water Tank
 - 8. Water Kiosk
 - 9. Proposed Pipeline





NOTES

1. THE LETTERING TYPE TO BE USED IS HELVETICA MEDIUM.
2. THE LETTERING SIZE AND DIMENSIONS ARE AS SHOWN.
3. THE NAME OF THE PROJECT AND CLIENT MAY BE RE-SIZED PROPORTIONATE IN THE EVENT OF IT BEING TOO LONG.
4. THE HEIGHT OF THE SIGN BOARD MAY VARY DEPENDING ON THE NUMBER OF PROFESSIONAL SERVICES THAT ARE TO BE SHOWN. NOTE THAT ALL THE PROFESSIONAL SERVICES ARE TO BE SHOWN.
5. EMBLEMS/INSIGNIA/COMPANY LOGOS ARE TO BE IN THEIR CORRECT RESPECTIVE COLOURS ON A WHITE BACKGROUND AND ARE TO BE PLACED AS SHOWN.
6. THE METAL FRAME AND SUPPORTS TO BE PAINTED WITH ONE COAT PRIMER AND TWO COATS FINISH. PAINT TO THE ENGINEER'S APPROVAL.



DRAWING TO SCALE IN A1 SIZE

No.	APPROVAL	DATE	REFERENCE	CLIENT:	CONSULTANT:	PROJECT TITLE:	TITLE OF DRAWING:	Designed:	Date:
				CONCERN WORLDWIDE	GEO CONSULTANTS	PROJECT	SIGN BOARD DETAILS	P. K.W	Aug 2023
				CONCERN worldwide in conjunction with WaterFund				MMN	Aug 2023
								P. K.W	Aug 2023
							DWG. No. KAM/DD/203	Approved: ENG ANDREW MESSO (A3007)	Aug 2023
							Sheet No. 1/1		