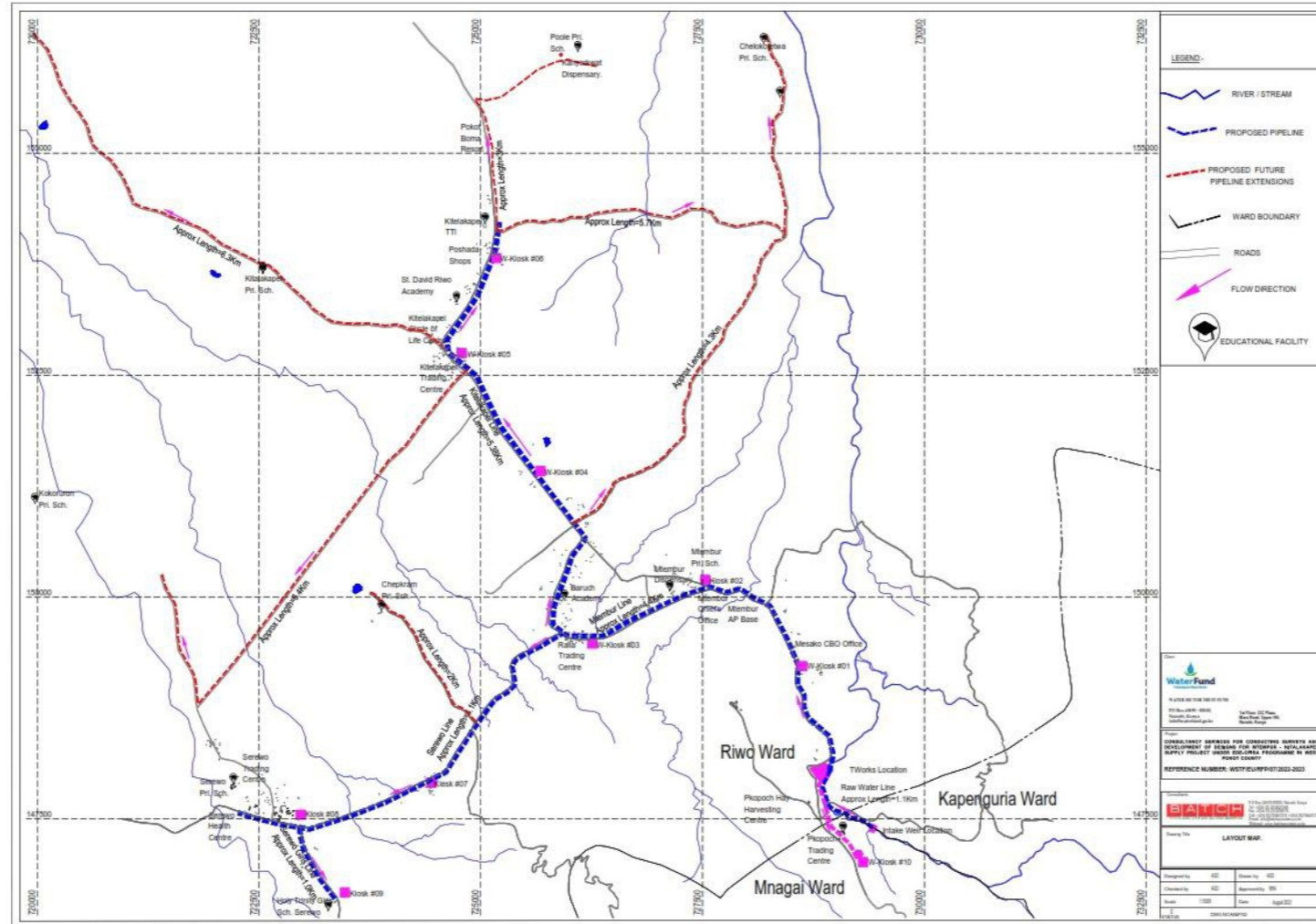




CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR – KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPIRA PROGRAMME IN WEST POKOT COUNTY.



REFERENCE NUMBER: WSTF/EU/RFP/07/2022-2023



BATCH ASSOCIATES LTD
Suite A4 Machera Court, Komo Lane
off Wood Avenue Kilimani
P.O Box 24103-00100, Nairobi, Kenya
Tel: +254 (0) 20 2018176,
Fax: +254 (0) 20 2621168,
Cell: +254 (0)721467213 /+254 (0)736451752
E-mail: info@batchassociates.co.ke
Webmail: www.batchassociates.co.ke

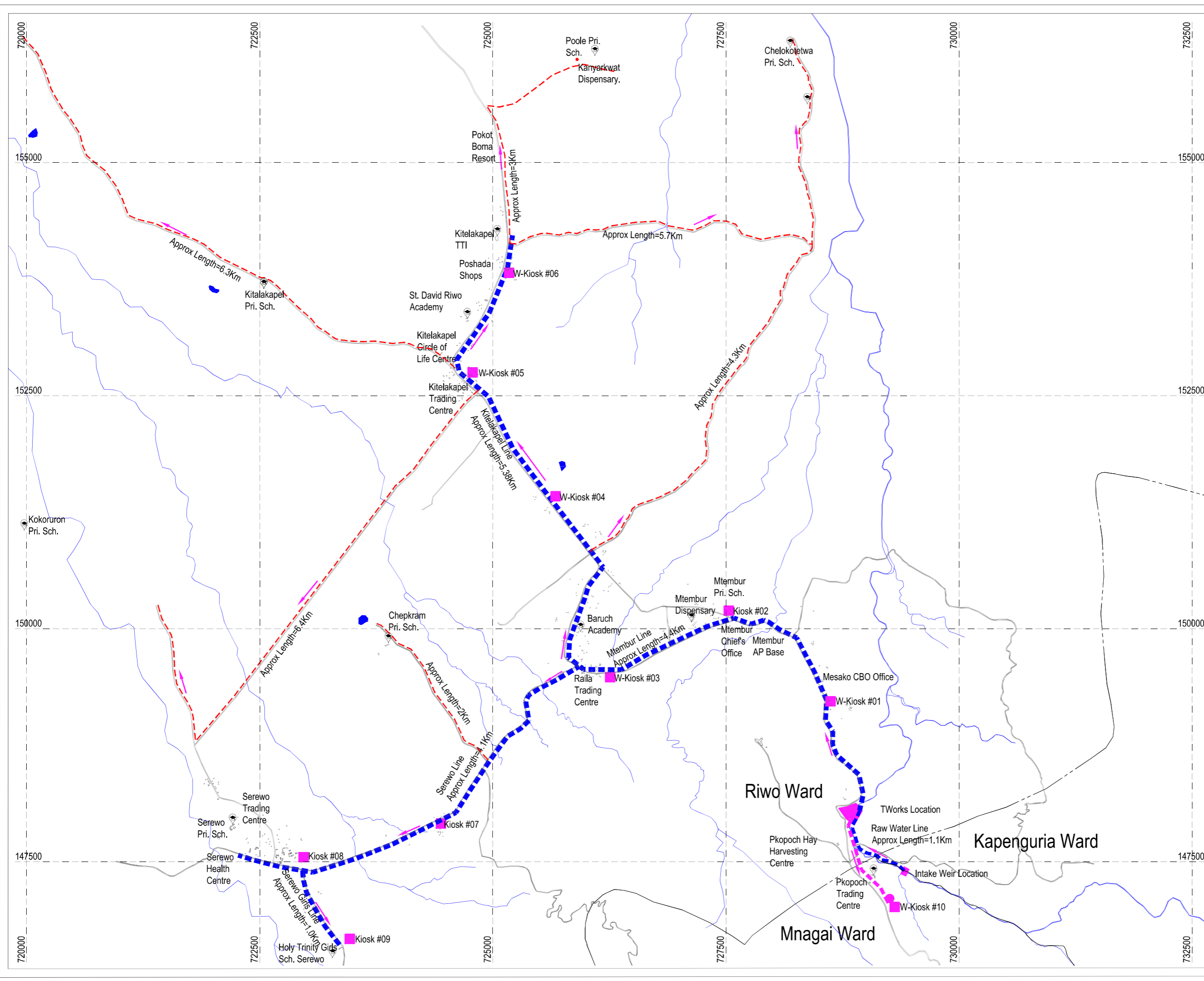


DRAFT DESIGN REVIEW REPORT

Book of Drawings

NOVEMBER 2023

GENERAL LAYOUT MAPS



LEGEND:-

- RIVER / STREAM
- PROPOSED PIPELINE
- PROPOSED FUTURE PIPELINE EXTENSIONS
- WARD BOUNDARY
- ROADS
- FLOW DIRECTION
- EDUCATIONAL FACILITY

Client

WATER SECTOR TRUST FUND
 PO Box 49699 - 00100, Nairobi, Kenya
 info@waterfund.go.ke

1st Floor, CIC Plaza,
 Mars Road, Upper Hill,
 Nairobi, Kenya

Project
 CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMBUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPIRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WSTF/EU/RFP/07/2022-2023

Consultants

P.O. Box 24033-00100, Nairobi, Kenya
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 Cell: +254 (0) 72467223 / +254 (0) 736451752
 E-mail: info@batchassociates.co.ke
 Website: www.batchassociates.co.ke

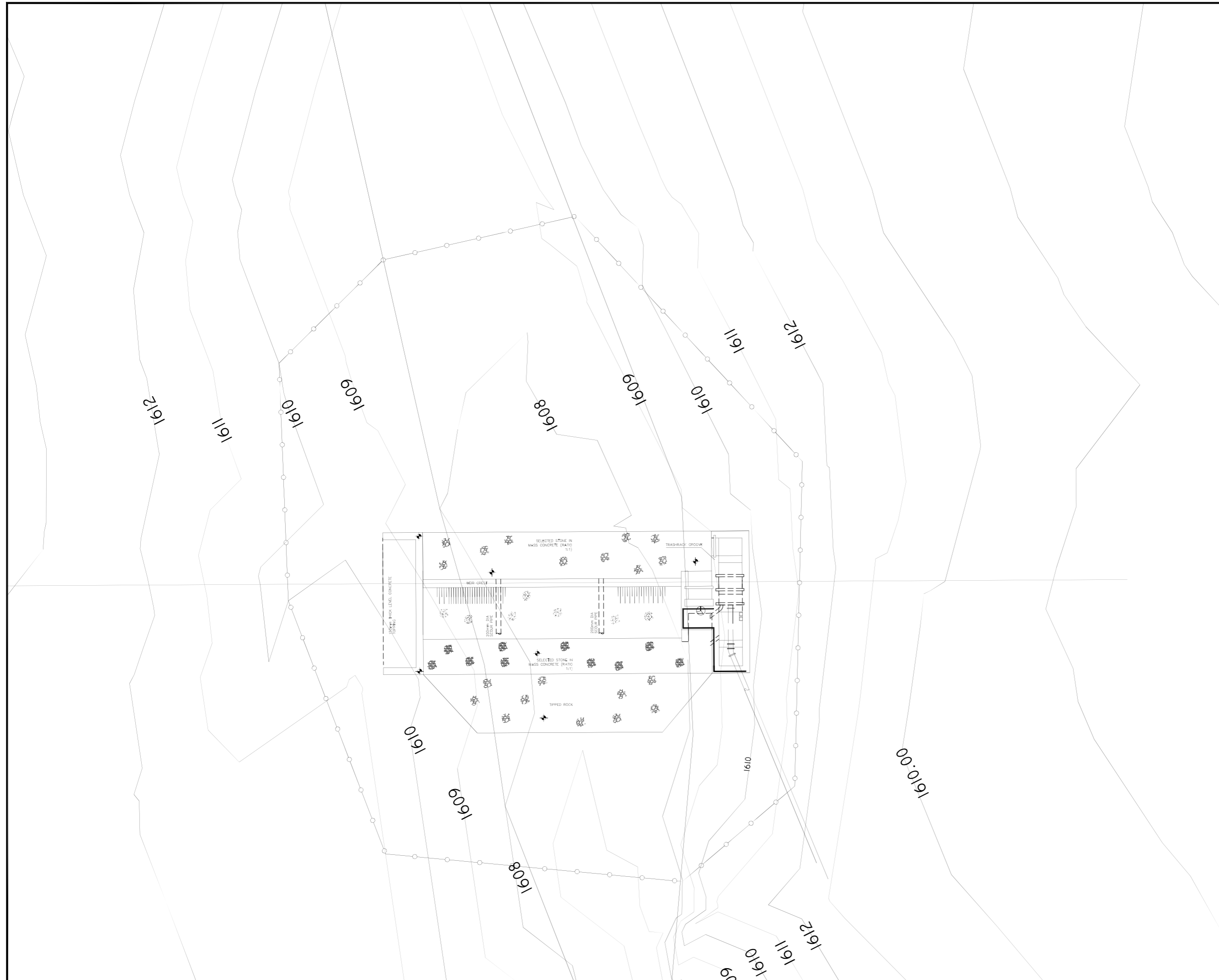
Drawing Title
LAYOUT MAP.

Designed by	AGO	Drawn by	AGO
Checked by	AGO	Approved by	NHA
Scale	1:15000	Date	August 2023
D STATUS	DWG NO-MAP/02		

INTAKE WORKS

GENERAL NOTES:

1. ALL CONCRETE TO BE CLASS 25/20 (1:1.5:3)
2. REINFORCEMENT TO BE HIGH YIELD TENSILE RIBBED BARS
3. MINIMUM COVER TO REINFORCEMENT TO BE
BASES +50mm
COLUMNS+40mm
SLABRAMS +25mm
4. ALL FOUNDATIONS TO BE TAKEN DOWN TO FIRM BEARING STRATA TO ENGINEER'S APPROVAL
5. FOUNDATIONS DESIGNED FOR ALLOWABLE BEARING PRESSURE OF
6. MINIMUM LAP LENGTH TO BE 50 TIMES BAR DIAMETER
7. STRUCTURAL DRAWING TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS
8. ALL THE REINFORCEMENT TO BE INSPECTED BY THE STRUCTURAL ENGINEER BEFORE CONCRETING
9. RWDP & SERVICE DUCTS & CLADDING REQUIREMENTS TO BE CO ORDINATED WITH ARCHITECT ME & EE DRAWINGS



WEST POKOT COUNTY GOVERNMENT



PROJECT:
MTEMBUR WATER PROJECT



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BATCH
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 Cell: +254 (0) 725467213 / +254 (0) 736451752
 E-mail: info@batchconsultants.co.ke
 Webmail: www.batchconsultants.co.ke

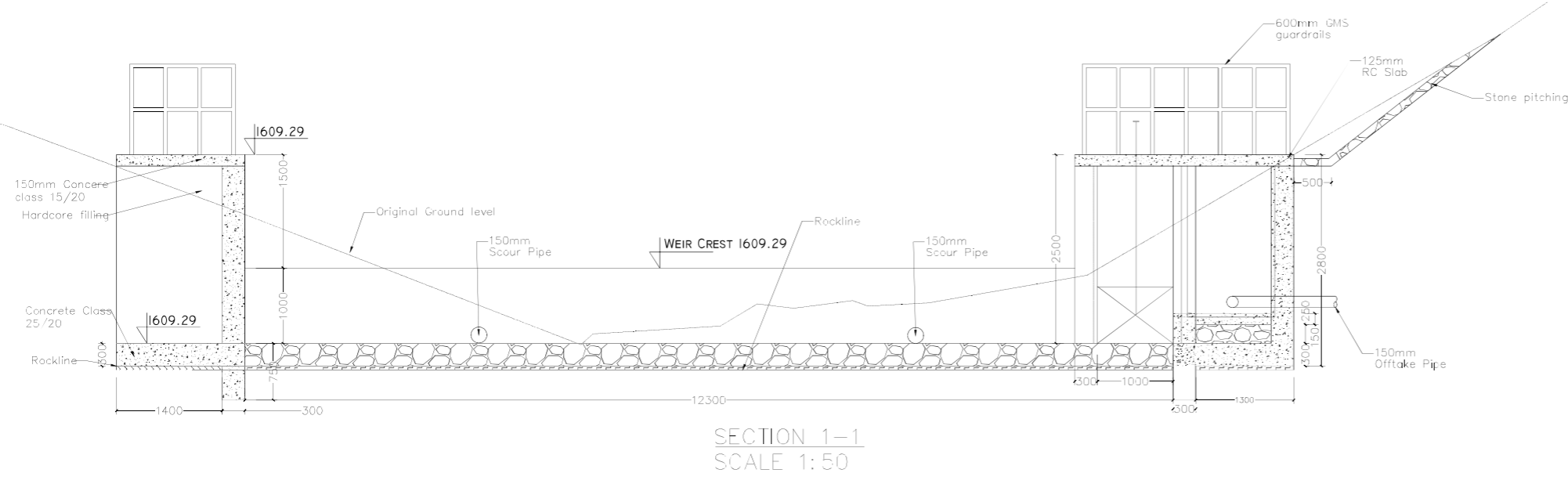
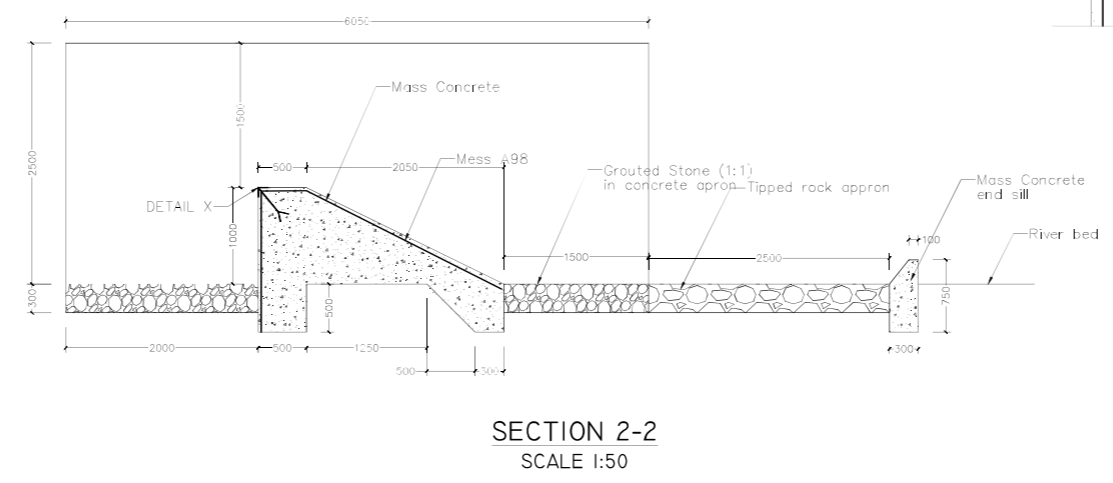
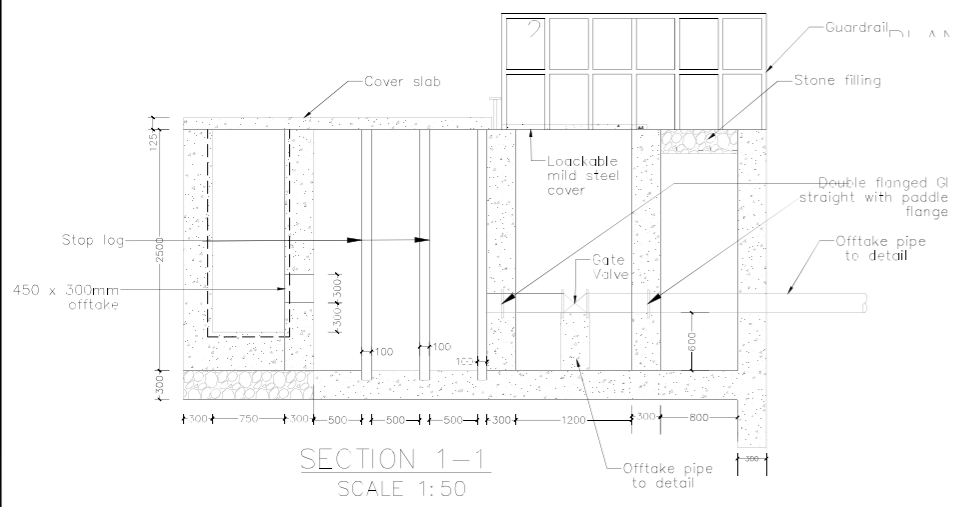
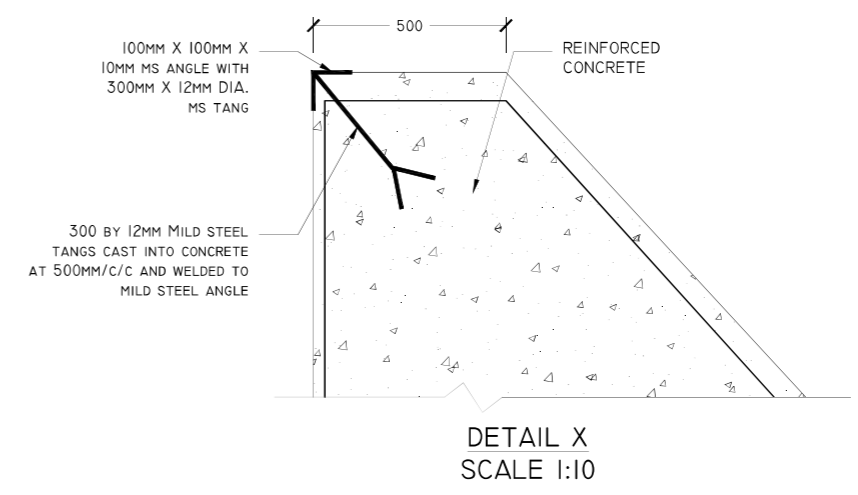
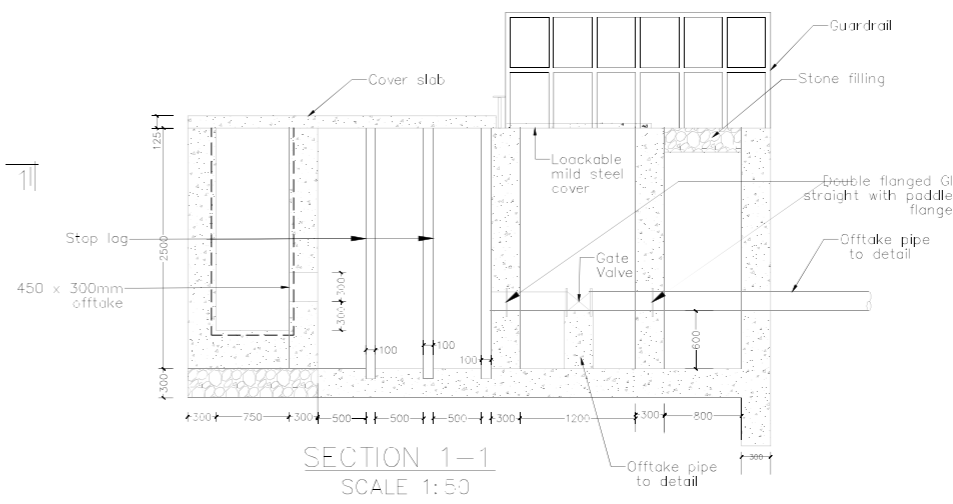
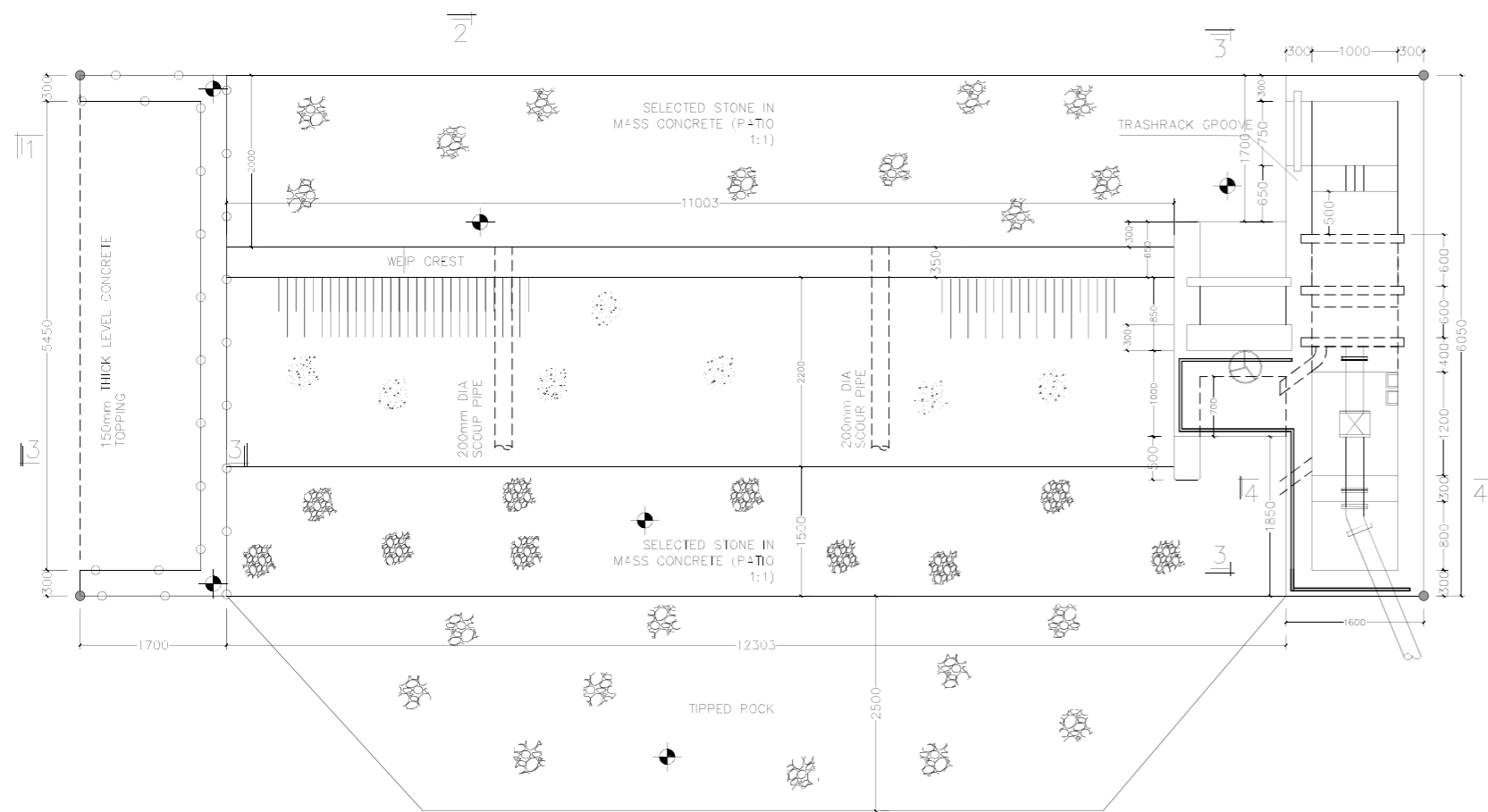
Figured dimensions only to be taken from this drawing

Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

Drawing Title: INTAKE WORKS LAYOUT PLAN	Sheet: Sheet 1 of 2
	Date: Sept. 2023
Scale: 1:75	Drg. No. MK-T-02

GENERAL NOTES:

1. ALL CONCRETE TO BE CLASS 25/20 (1:1.5:3.1)
2. REINFORCEMENT TO BE HIGH YIELD TENSILE REBBERED BARS
3. MINIMUM COVER TO REINFORCEMENT TO BE BASES +50mm COLUMNS+40mm SLABRAMS +25mm
4. ALL FOUNDATIONS TO BE TAKEN DOWN TO FIRM BEARING STRATA TO ENGINEER'S APPROVAL
5. FOUNDATIONS DESIGNED FOR ALLOWABLE BEARING PRESSURE OF
6. MINIMUM LAP LENGTH TO BE 50 TIMES BAR DIAMETER
7. STRUCTURAL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS
8. ALL THE REINFORCEMENT TO BE INSPECTED BY THE STRUCTURAL ENGINEER BEFORE CONCRETING
9. RWDP & SERVICE DUCTS & CLADDING REQUIREMENTS TO BE CO ORDINATED WITH ARCHITECT ME & EE DRAWINGS



WEST POKOT COUNTY GOVERNMENT



PROJECT: MTEMBUR WATER PROJECT

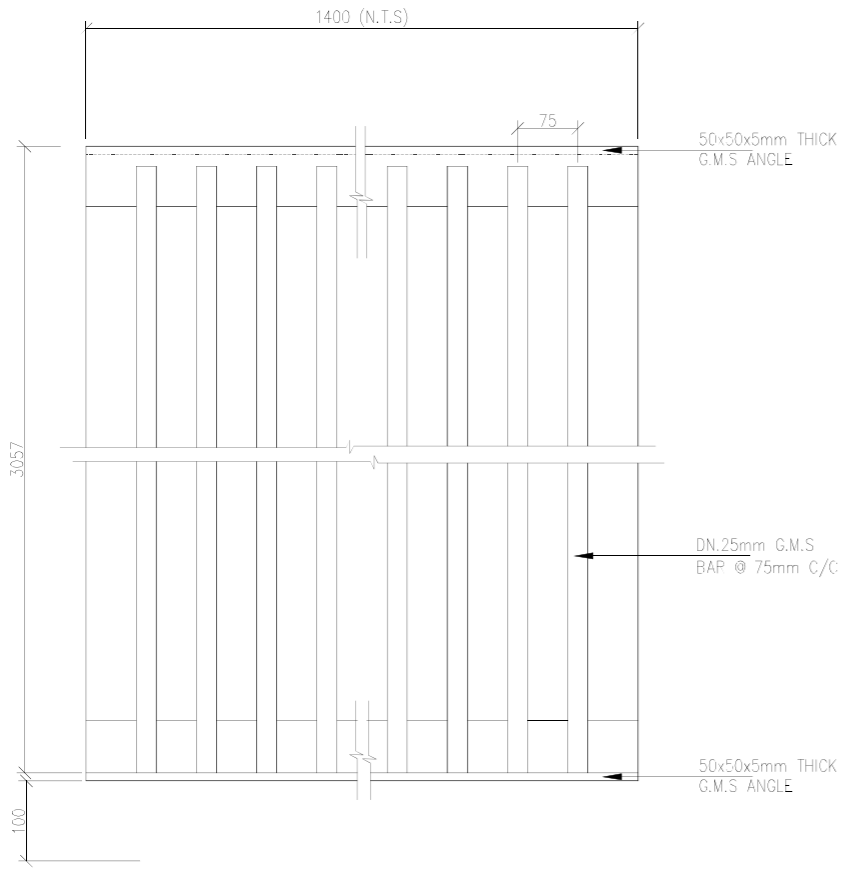
FINANCED BY WSTF

Consultants: P.O Box 24103-00100, Nairobi, Kenya
Tel: +254 (0) 20 2621168
Fax: +254 (0) 20 2081676
Cell: +254 (0) 72467213 / +254 (0) 736451752
E-mail: info@batch.co.ke
Web: www.batch.co.ke

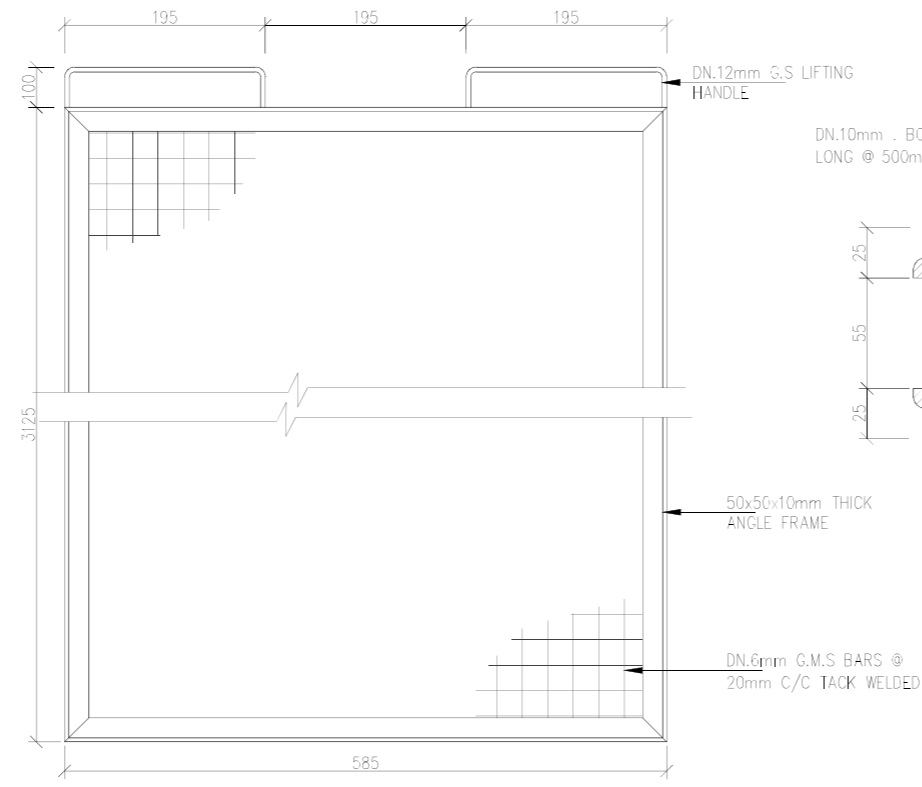
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Drawn by:			
Checked by:			
Approved by:			

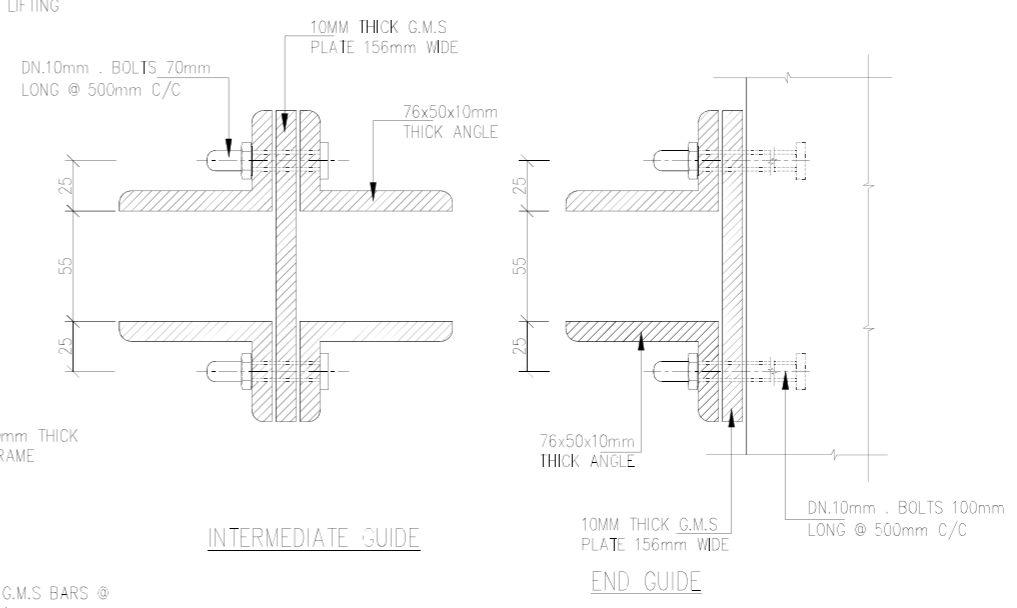
Drawing Title: INTAKE WORKS WEIR PLAN, SECTIONS & DETAILS	Sheet: Sheet 1 of 1
Scale: AS SHOWN	Date: Sept. 2023
	Org. No. MK-T-03



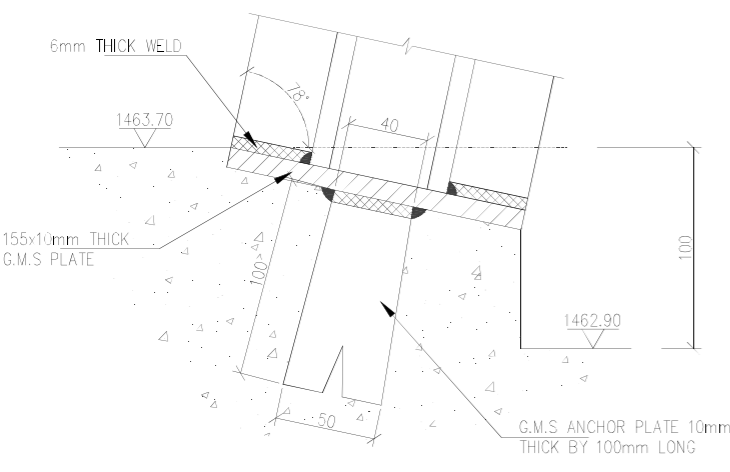
COARSE SCREEN
SCALE 1:5



FINE SCREEN(2 NO.)
NTS



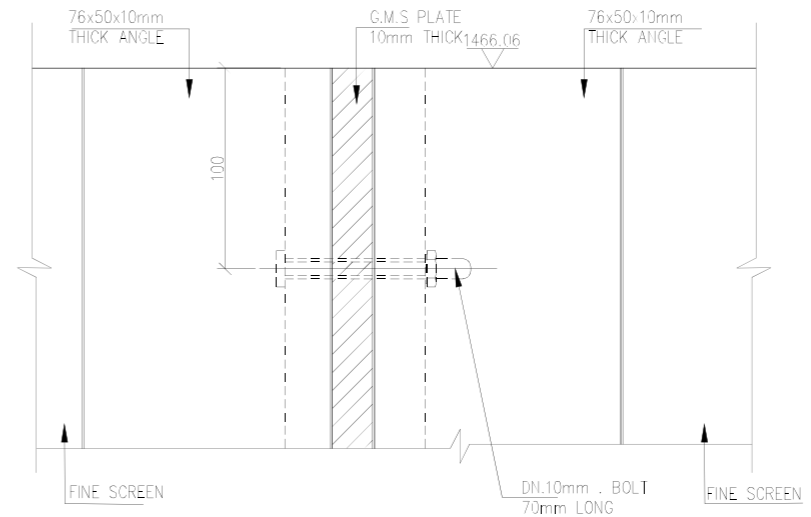
FINE SCREEN GUIDES BRACKETS
SCALE 1:2



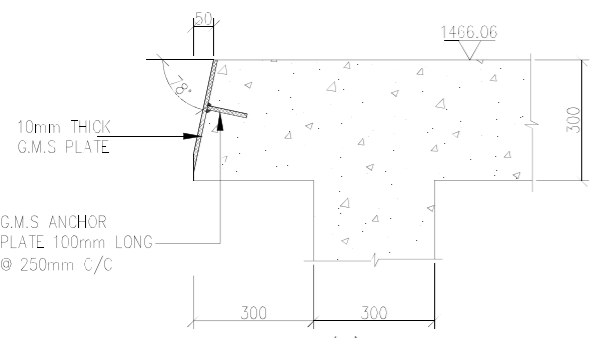
DETAIL 'A'
BOTTOM CONNECTION
SCALE 1:2



FINE SCREEN GUIDES FIXING DETAILS
SCALE 1:2



SECTION 4-4



DETAIL 'A'
TOP CONNECTION
SCALE 1:10

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
 2. ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED
 3. ALL REINFORCED CONCRETE SHALL BE CLASS '30/20' FOR WATER RETAINING STRUCTURES AND OTHER REINFORCED CONCRETE. BLINDING CONCRETE SHALL BE CLASS '15/20' UNLESS OTHERWISE STATED
 4. ALL EXPOSED CONCRETE EDGES SHALL HAVE 20x20mm CHAMFER
 5. ALL PIPES AND FITTINGS TO BE SIZED TO BS4772.
 6. THIS DRAWING TO BE READ IN CONJUNCTION WITH INTAKE WORK CHAMBER DRAWINGS
 7. CONFIRMATION DETAILED SURVEY ON INTAKE SITE TO BE CARRIED OUT TO CONFIRM THE Q PROFILE

- LEGEND**
- GMS - GALVANISED MILD STEEL
 - NTS - NOT TO SCALE
 - C/C - CENTRE TO CENTRE

REPUBLIC OF KENYA
Department of Water, Environment,
Natural Resources & Energy
WEST POKOT COUNTY GOVERNMENT

PROJECT:
MTEMBUR WATER PROJECT

FINANCED BY
WSTF

Consultants
BATCH

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Cell: +254 0714646213 / +254 0735451732
E-mail: info@batchassociates.co.ke
Webmail: www.batchassociates.co.ke

Figured dimensions only to be taken from this drawing

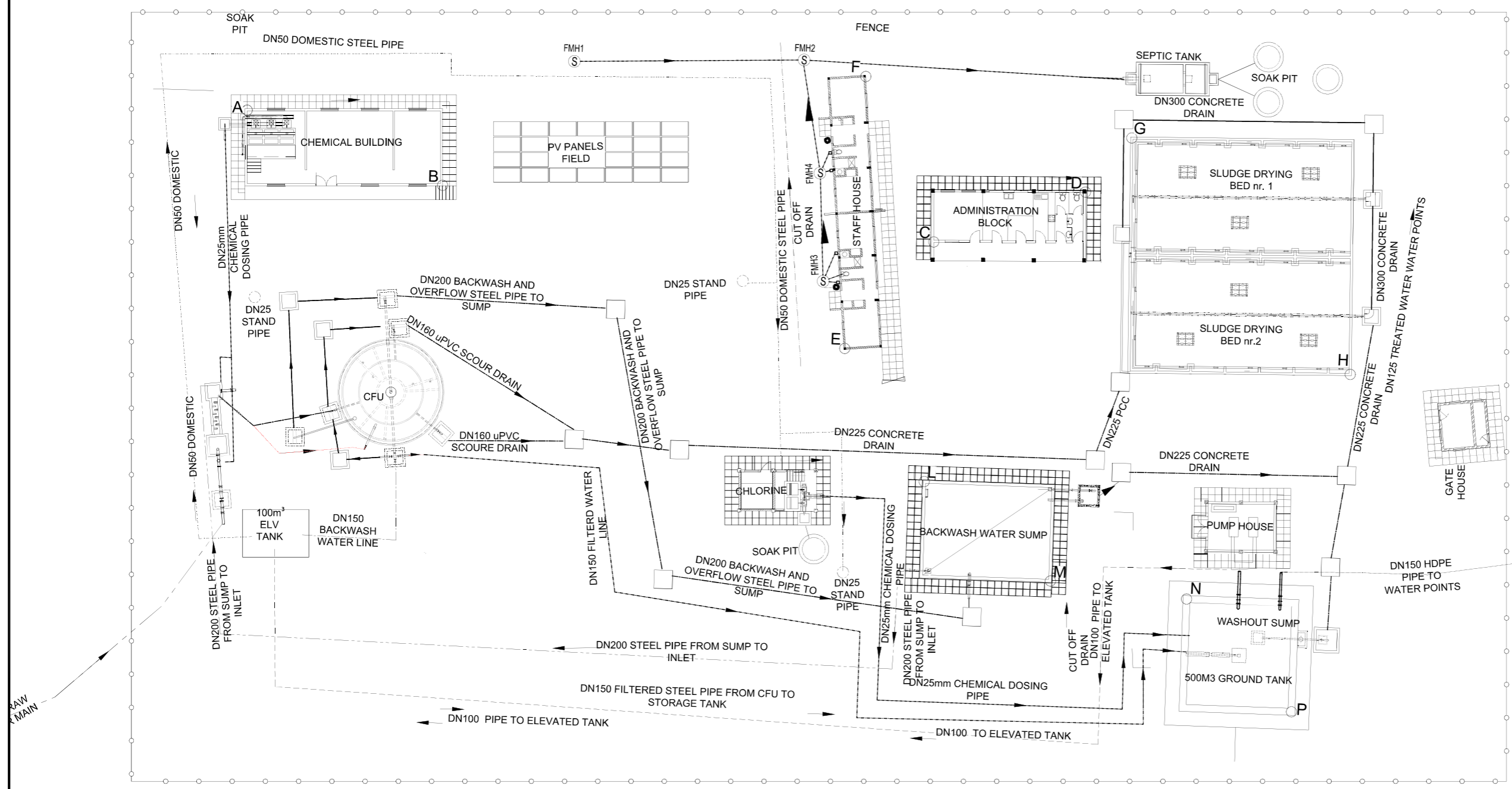
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Designed by:			
Drawn by:			
Checked by:			
Approved by:			

Drawing Title: INTAKE WORKS SCREEN DETAILS	Sheet: Sheet 1 of 1
Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-04

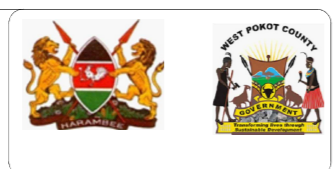
TREATMENT WORKS

GENERAL NOTES:

- 1: ALL CONCRETE TO BE CLASS 25/20 (1 : 1.5 : 3)
- 2: REINFORCEMENT TO BE HIGH YIELD SQUARE TWISTED "Y" AND MILD STEEL ROUND "R" AS INDICATED
- 3: MINIMUM COVER TO REINFORCEMENT TO BE
BASES =50mm
COLUMNS=40mm
150 BEAMS =25mm
- 4: ALL FOUNDATIONS TO BE TAKEN DOWN TO FIRM BEARING STRATA TO ENGINEER'S APPROVAL
- 5: FOUNDATIONS DESIGNED FOR ALLOWABLE BEARING PRESSURE OF
- 6: MINIMUM LAP LENGTH TO BE 50 TIMES BAR DIAMETER
- 7: STRUCTURAL DRAWING TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS
- 8: ALL THE REINFORCEMENT TO BE INSPECTED BY THE STRUCTURAL ENGINEER BEFORE CONCRETING
- 9: RWDP & SERVICE DUCTS & CLADDING REQUIREMENTS TO BE CO ORDINATED WITH ARCHITECT, ME & EE DRAWINGS



- FMH3 (S) - FOUL WATER MANHOLES
- SMH3 (□) - WASH OUT CHAMBERS
- DOMESTIC WATER SUPPLY
- RAW WATER PIPELINE
- BACKWASH PIPE
- FOUL WATER PIPE
- IBD DRAIN
- BACKWASH PIPE
- DISTRIBUTION PIPELINE



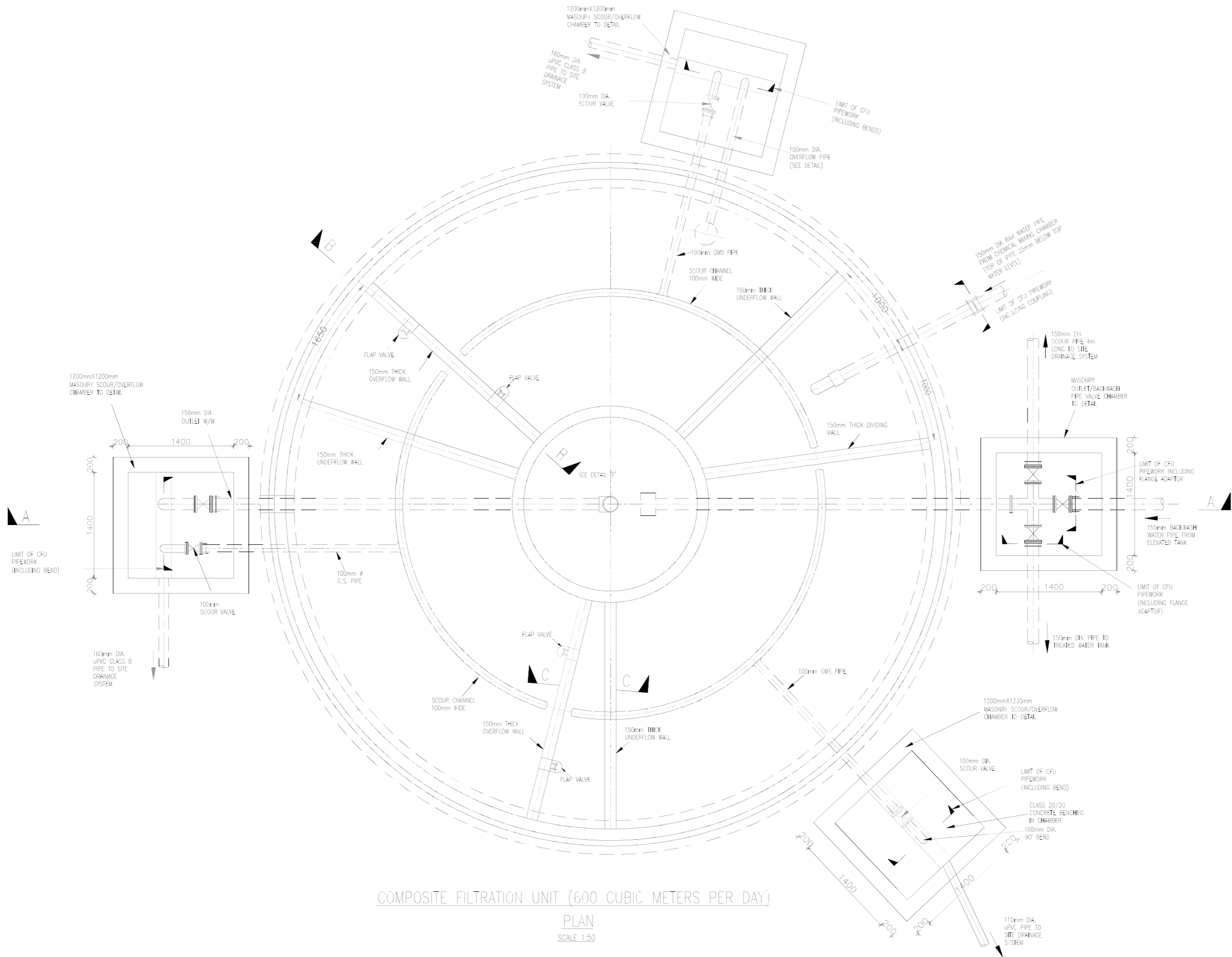
GENERAL NOTES:

Figured dimensions only to be taken from this drawing			
Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

Drawing Title: TREATMENT WORKS GENERAL ARRANGEMENT	Sheet: Sheet 1 of 1
	Date: Sept. 2023
Scale: 1:200	Dr. No. MK-T-06

NOTES:

1. DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED
2. ABBREVIATIONS;
W/W – WASHWATER
G.M.S – GALVANISED MILD STEEL ROUND
TO B.S. 4449
3. REINFORCEMENT BARS ARE HIGH TENSILE BARS TO B.S. 4449
4. ALL PIPE DIAMETERS ARE NOMINAL SIZES
5. ALL PIPEWORK WITHIN THE CFU UP TO THE LIMITS SHOWN TO BE QUANTIFIED WITH THE CFU PIPES FERROUS PIPES AND FITTINGS TO BE APPROVED LINED AND FITTINGS



COMPOSITE FILTRATION UNIT (600 CUBIC METERS PER DAY)

PLAN
SCALE 1:50

WEST POKOT COUNTY GOVERNMENT



PROJECT:

MTEMBUR WATER PROJECT



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E-mail: info@batch.co.ke
Webmail: www.batch.co.ke

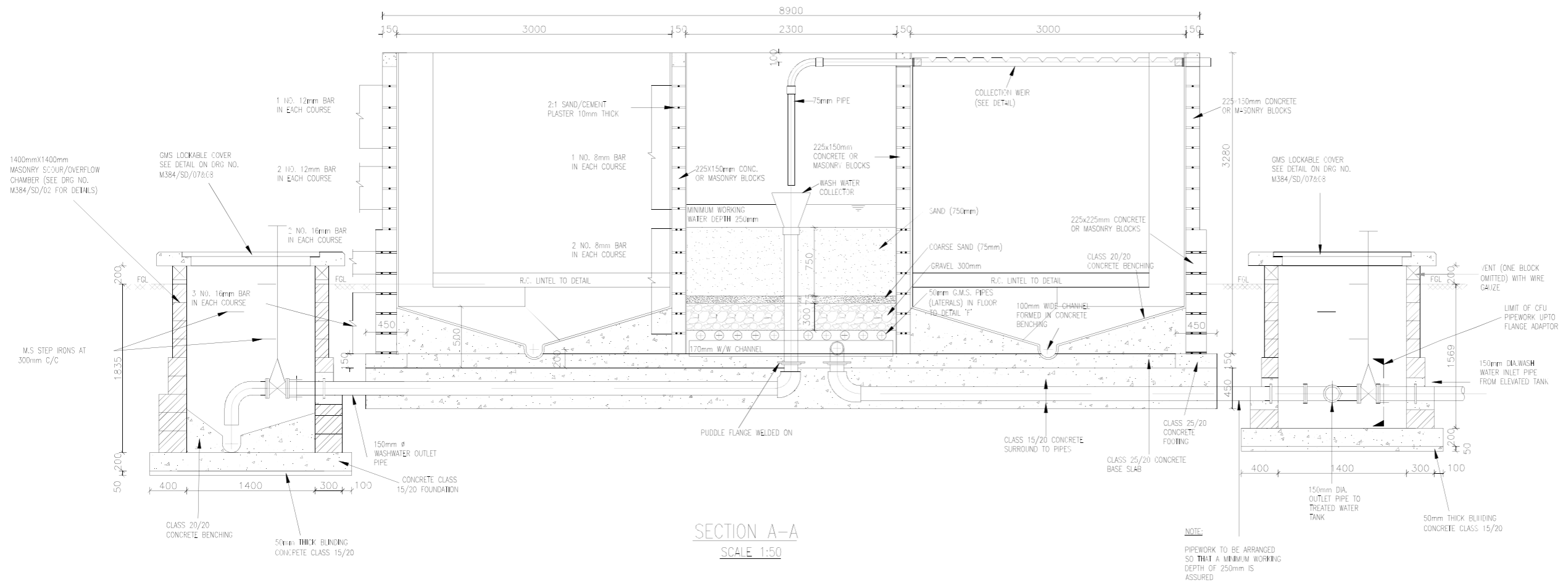
Figured dimensions only to be taken from this drawing

Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

Drawing Title: 600M³/DAY COMPOSITE FILTRATION UNIT GENERAL LAYOUT	Sheet: Sheet 1 of 4
Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-11/01

NOTES:

1. DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED
2. ABBREVIATIONS:
W/W – WASHWATER
G.M.S – GALVANISED MILD STEEL ROUND
3. REINFORCEMENT BARS ARE HIGH TENSILE BARS TO B.S. 4449
4. ALL PIPE DIAMETERS ARE NOMINAL SIZES
5. ALL PIPEWORK WITHIN THE CFU UP TO THE LIMITS SHOWN TO BE QUANTIFIED WITH THE CFU PIPES FERROUS PIPES AND FITTINGS TO BE APPROVED LINED AND FITTINGS



FILTER MEDIA DETAILS

MATERIAL	DIAMETER (mm)	DEPTH IN mm	LOCATION
GRAVEL	38-20	75	BOTTOM
	20-12	75	"
	12-5	75	"
	5-2	75	"
COARSE SAND EFFECTIVE SIZE	1.0	75	MIDDLE
SAND EFFECTIVE SIZE	0.5		
UNIFORMITY COEFFICIENT	1.5	750	TOP
TOTAL THICKNESS OF FILTER BED		1125	

DETAILS OF LATERALS

50mm G.M.S. PIPES REQUIRED		
OVERALL LENGTH (mm)	NO. OF HOLES PER PIPES	NO. REQUIRED (Nr)
900	5	4
1300	7	2
1700	9	2
2100	11	4
REQUIRED 96 NOZZLES IN ALL		

WEST POKOT COUNTY GOVERNMENT



PROJECT:
MTEMBUR WATER PROJECT



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BATCH
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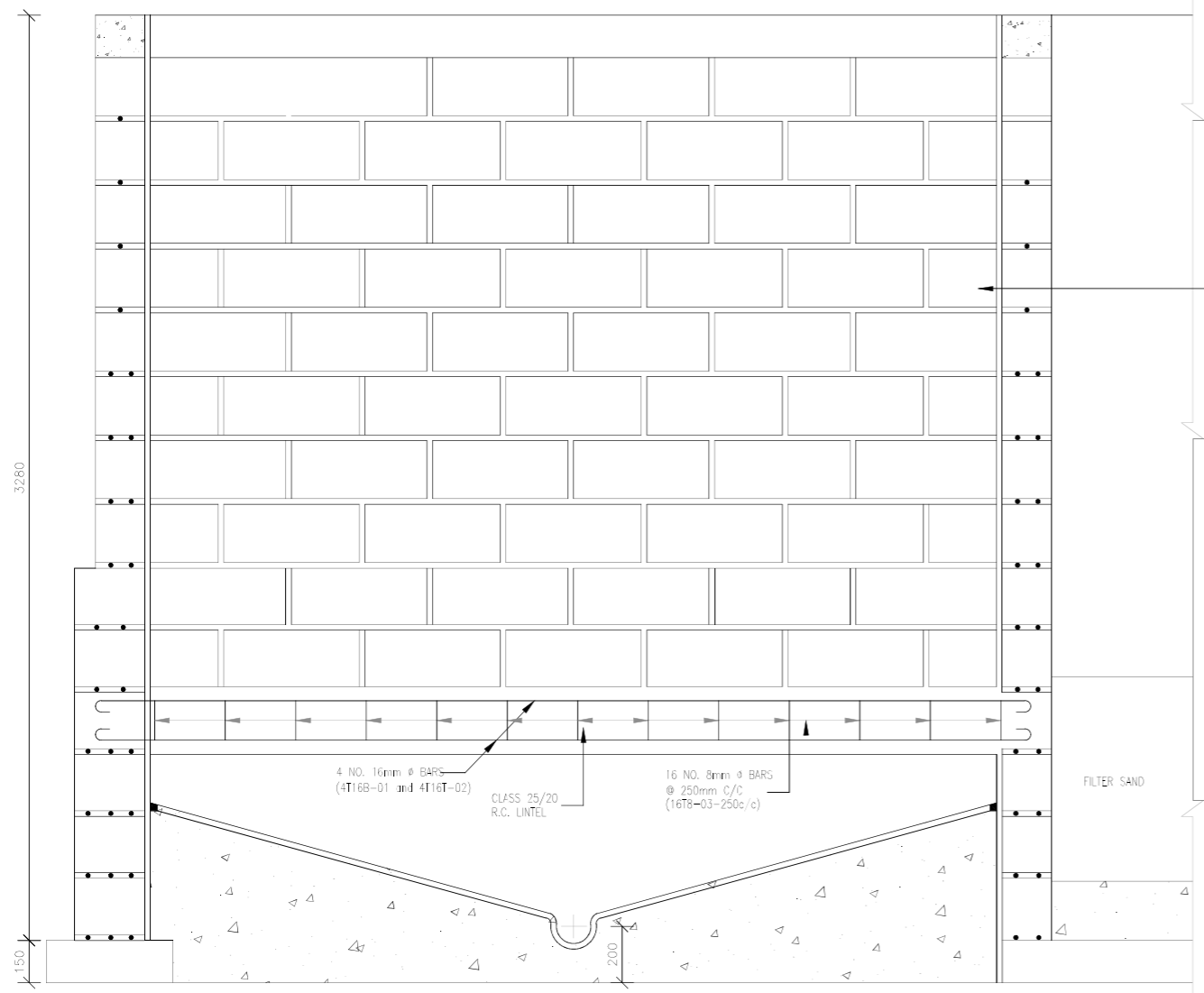
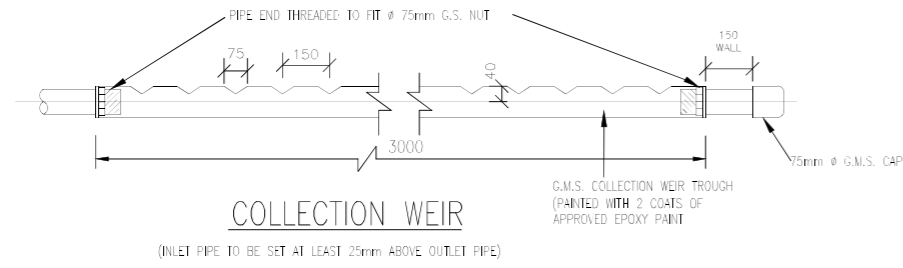
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Activity	Name	Sign	Date
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Drawn by:			
Checked by:			
Approved by:			

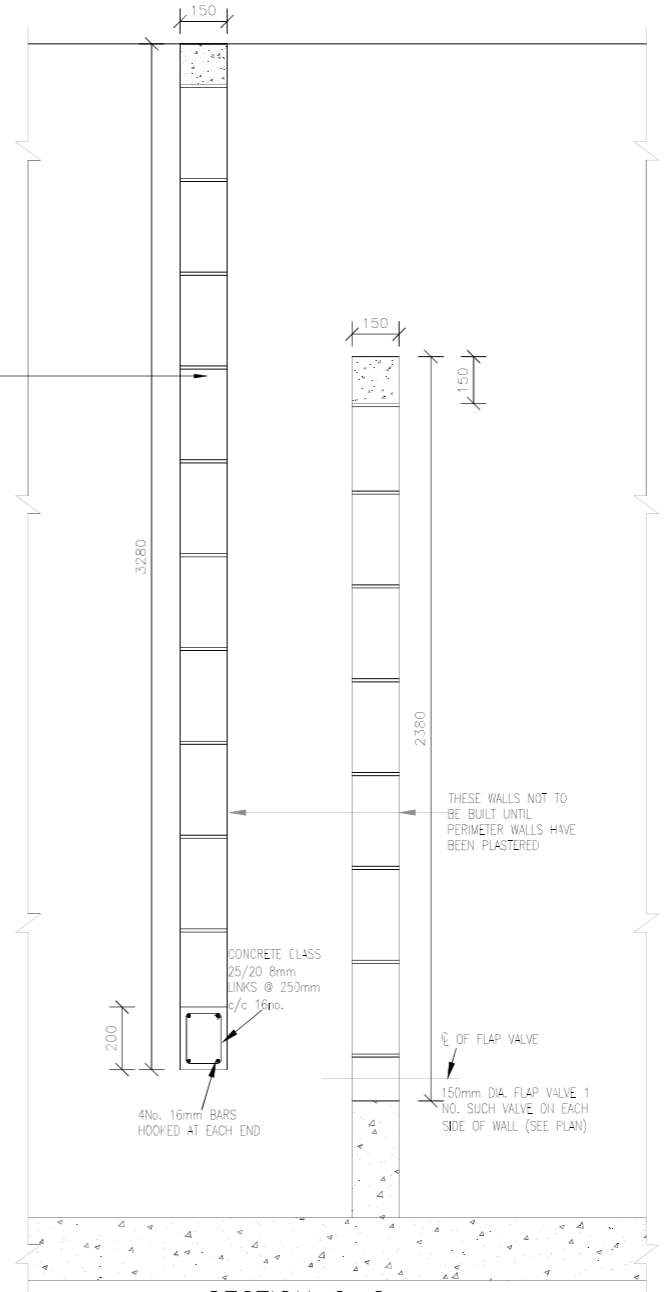
Drawing Title: 600M³/DAY COMPOSITE FILTRATION UNIT SECTIONS AND DETAILS.	Sheet: Sheet 2 of 4
Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-11/02

NOTES:

1. DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED
2. ABBREVIATIONS:
 W/W – WASHWATER
 G.M.S – GALVANISED MILD STEEL



SECTION B-B




SECTION C-C

WEST POKOT COUNTY GOVERNMENT



PROJECT:
MTEMBUR WATER PROJECT

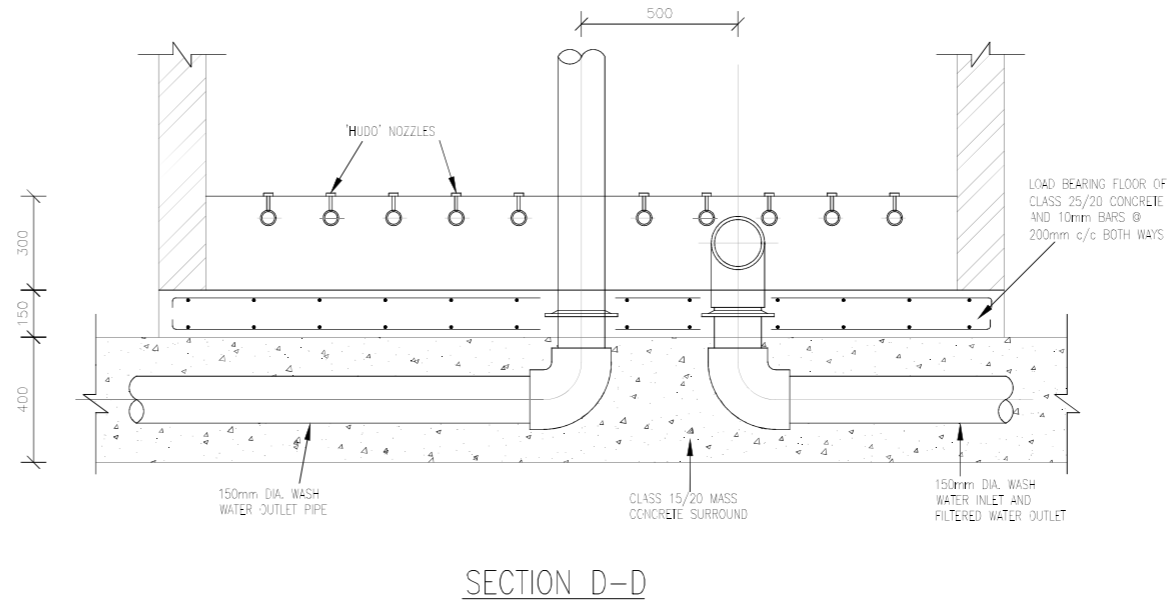
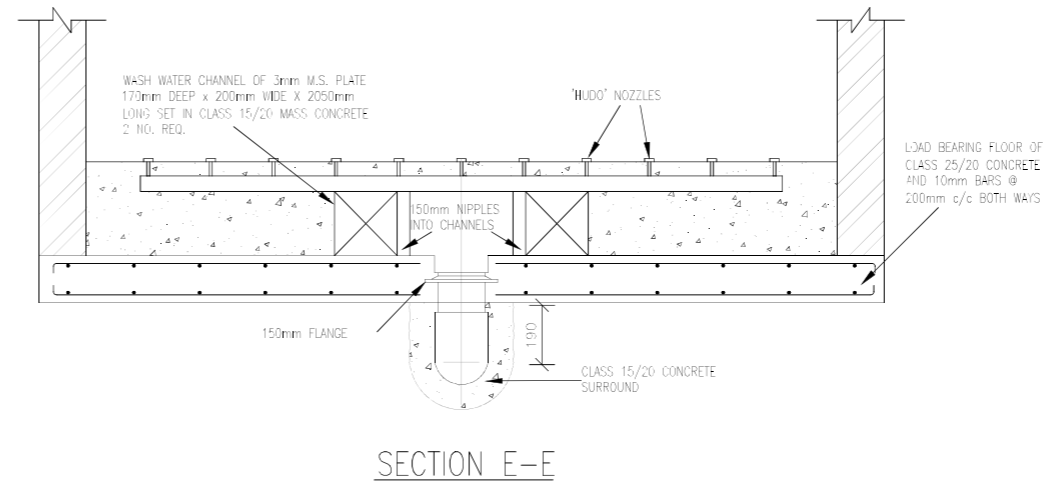
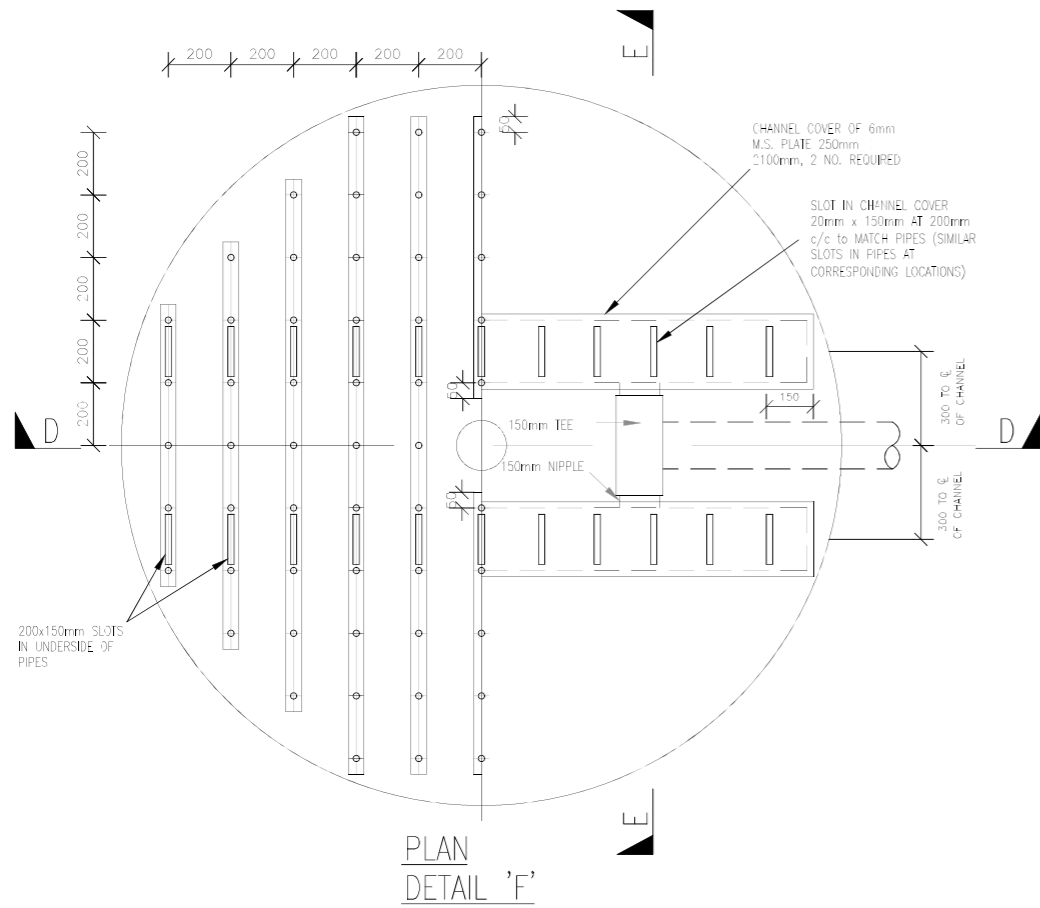
FINANCED BY
WSTF  

Consultants  P.O. Box 24103-00100, Nairobi, Kenya
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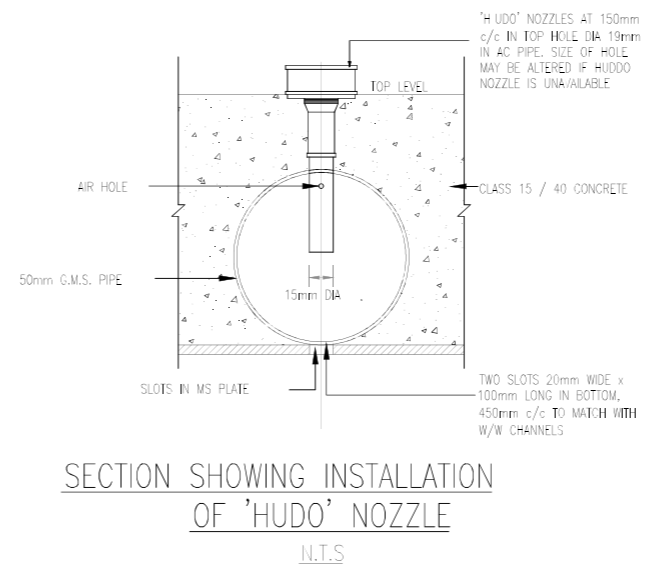
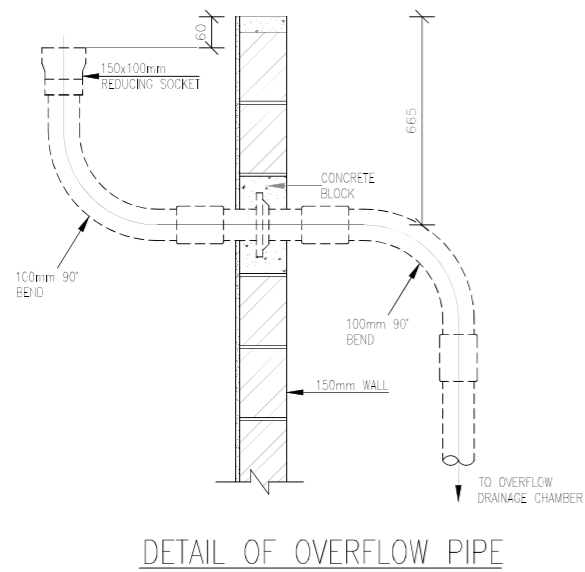
Figured dimensions only to be taken from this drawing

Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

Drawing Title: 600M³/DAY COMPOSITE FILTRATION UNIT SECTIONS AND DETAILS.	Sheet: Sheet 3 of 4
Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-11/03



NOTE:
UNDERDRAIN PIPES AND CHANNELS TO BE SECURED AS DIRECTED BY THE ENGINEER WITH NO.8 GAUGE WIRE STIRRUPS PRIOR TO PLACEMENT OF MASS CONCRETE.



NOTES:

1. DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED
2. ABBREVIATIONS:
W/W - WASHWATER
G.M.S. - GALVANISED MILD STEEL

WEST POKOT COUNTY GOVERNMENT



PROJECT:

MTEMBUR WATER PROJECT

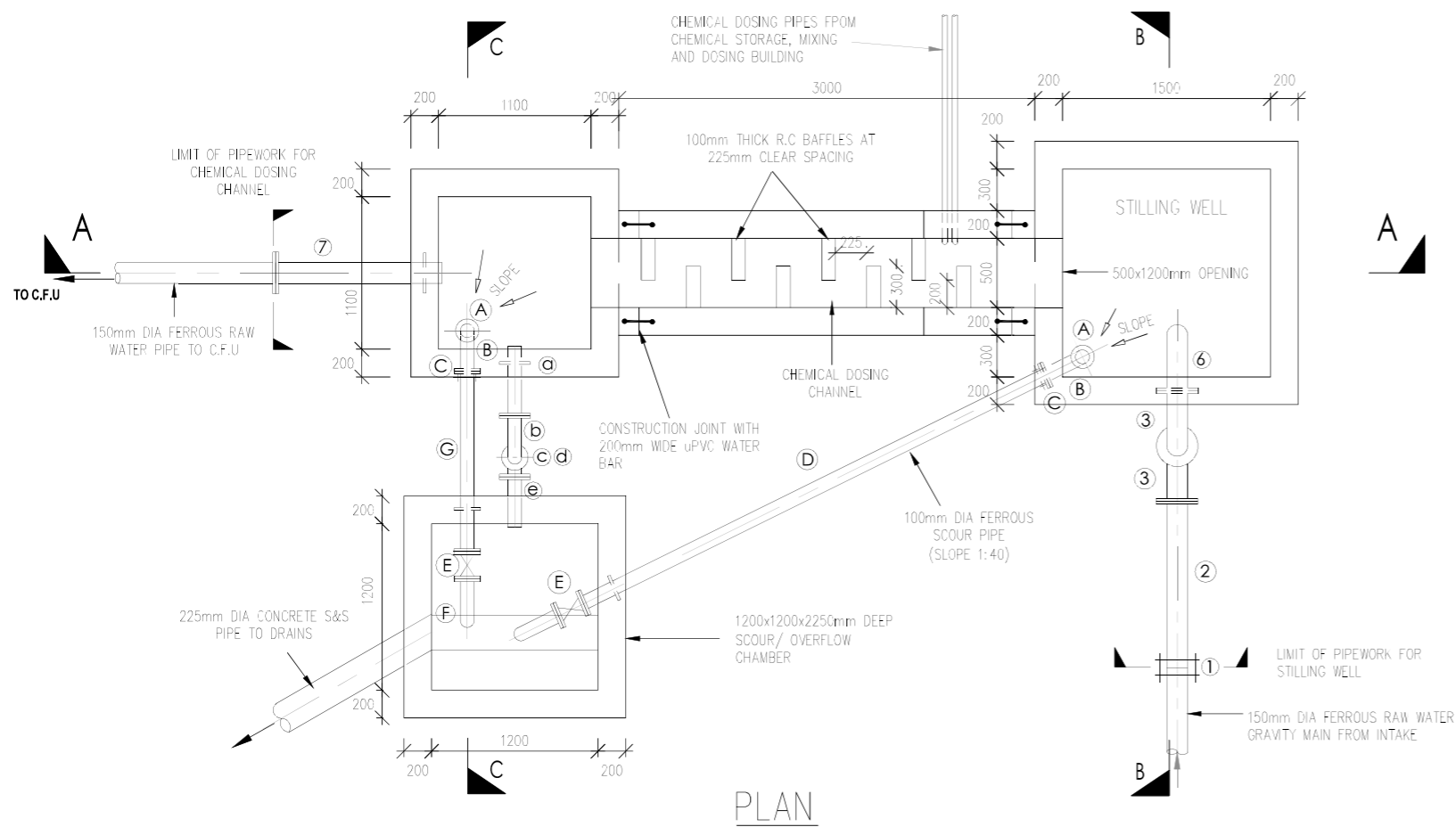


Consultants
BATCH
P.O. Box 2403-00000, Nairobi, Kenya
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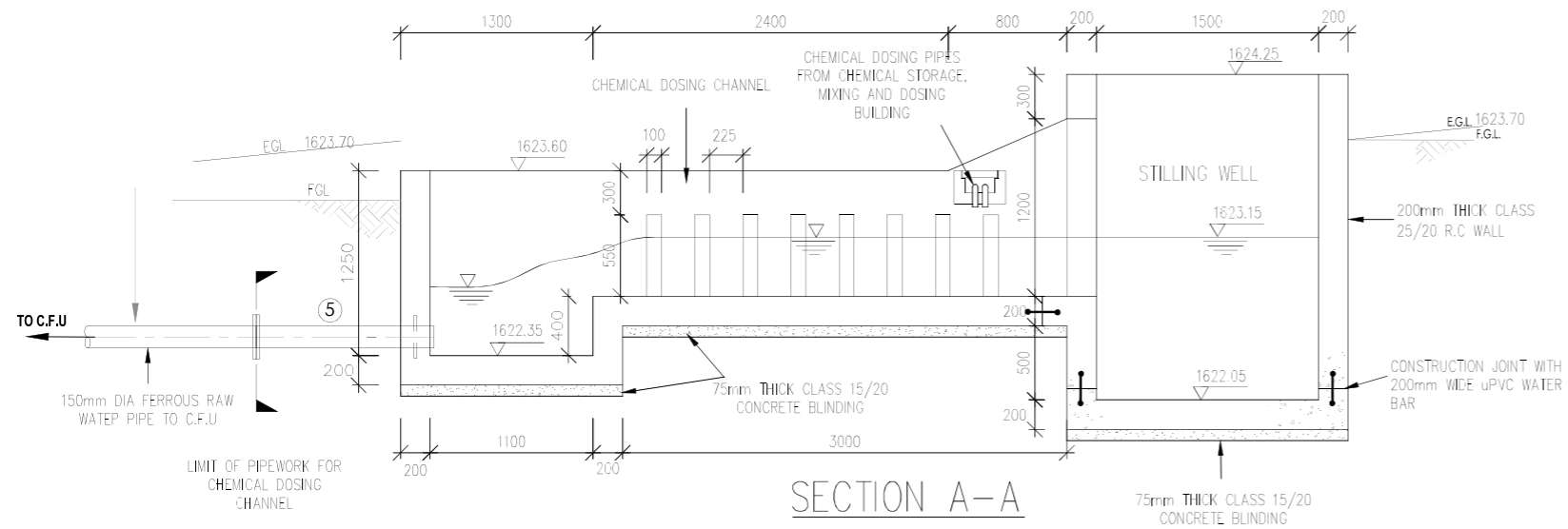
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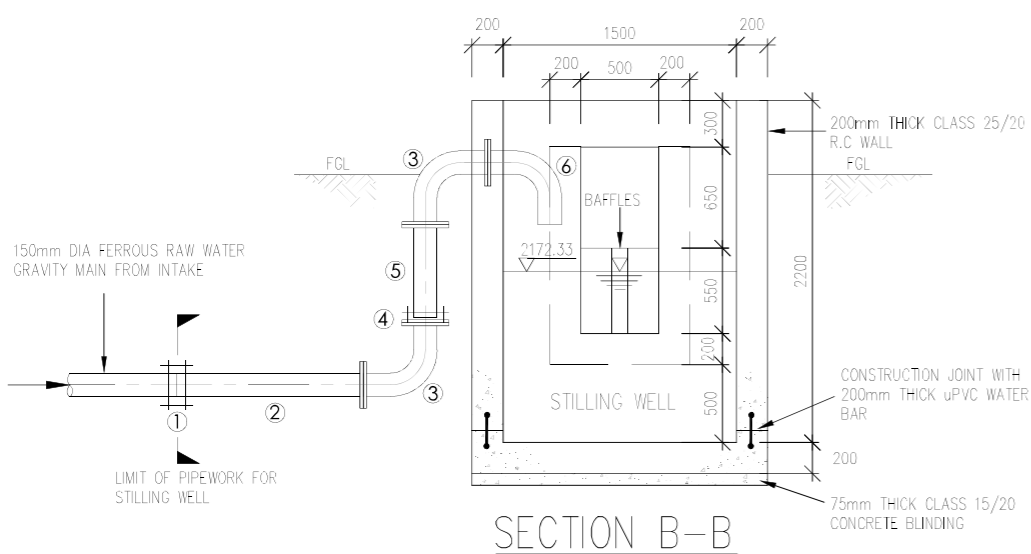
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	Drg. No. MK-T-11/04



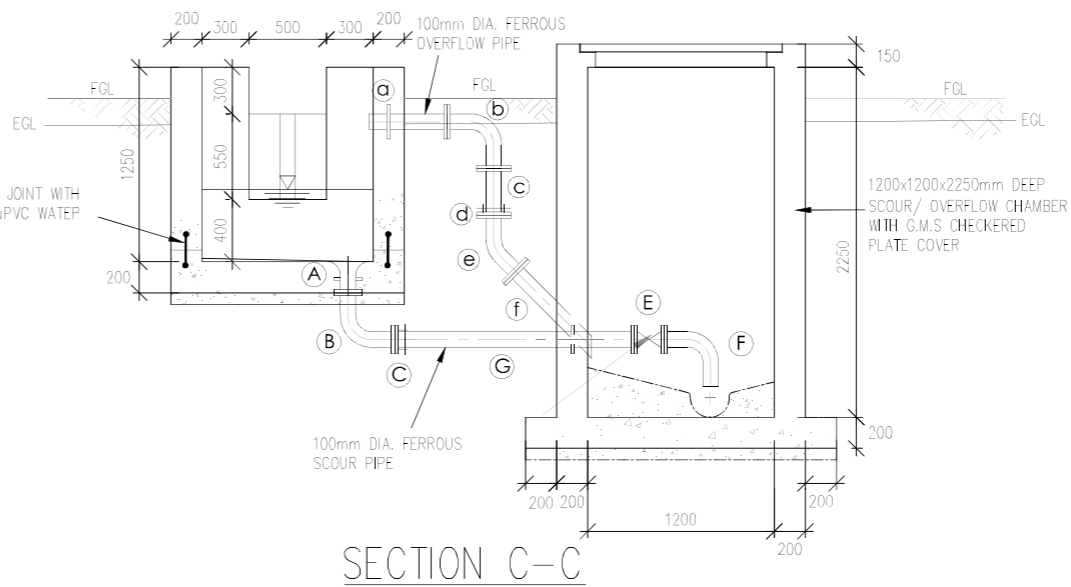
PLAN



SECTION A-A



SECTION B-B



SECTION C-C

PIPEWORK SCHEDULE
RAW WATER GRAVITY MAIN INLET PIPEWORK

ITEM No.	DESCRIPTION	DIA (mm)	LENGTH (mm)	QUANTITY (No.)
①	COUPLING	150	-	1
②	FLANGED SPIGOT PIPE	150	1200	1
③	ALL FLANGED 90° BEND	150	1500	2
④	FLANGE ADAPTOR	150	-	1
⑤	FLANGED SPIGOT PIPE (CUT TO SUIT ON SITE)	150	1000	1
⑥	SINGLE FLANGED 90° BEND	100	1000	1

OUTLET PIPEWORK

⑦	FLANGED SPIGOT PIPE WITH PUDDLE FLANGE 100mm FROM SPIGOT END	150	1200	1
---	--	-----	------	---

SCOUR PIPEWORK

A	FLANGED BELL MOUTH WITH PUDDLE FLANGE 100mm FROM BELLMOUTH END	100	200	2
B	ALL FLANGED 90° BEND	100	1000	2
C	FLANGE ADAPTOR	100	-	2
D	FLANGED SPIGOT PIPE WITH PUDDLE FLANGE ±T 230mm FROM ONE END (CUT TO SUIT ON SITE)	100	4000	1
E	ALL FLANGED GATE VALVE WITH EXTENSION SPINDLE 2500mm LONG	100	300	2
F	SINGLE FLANGED 90° BEND	100	1000	2
G	FLANGED SPIGOT PIPE WITH PUDDLE FLANGE ±T 400mm FROM FLANGED END (CUT TO SUIT ON SITE)	100	1500	1

OVERFLOW PIPEWORK

a	FLANGED SPIGOT PIPE WITH A PUDDLE FLANGE AT 100mm FROM SPIGOT END	100	500	1
b	ALL FLANGED 90° BEND	100	1000	1
c	FLANGED SPIGOT PIPE (CUT TO SUIT ON SITE)	100	500	1
d	FLANGE ADAPTOR	100	-	1
e	ALL FLANGED 45° BEND	100	1000	1
f	FLANGED SPIGOT PIPE WITH ONE BEVELLED END	100	700	1

NOTES:

- ALL DIMENSIONS IN mm UNLESS OTHERWISE SPECIFIED
- ALL PIPE DIAMETERS ARE NOMINAL SIZES
- THIS DRAWING TO BE READ IN CONJUNCTION WITH LAYOUT DRAWING
- ALL INVERT LEVELS ARE IN METERS
- LEVELS TO BE CONFIRMED BY PROJECT MANAGER PRIOR TO COMMENCEMENT OF CONSTRUCTION
- ABBREVIATIONS
C.F.U - COMPOSITE FILTRATION UNIT
E.G.L - EXISTING GROUND LEVEL
F.G.L - FINISHED GROUND LEVEL
G.M.S - GALVANISED MILD STEEL
R.C - REINFORCED CONCRETE

LEGEND

SLOPE → - DIRECTION OF SLOPE FOR FLOOR

WEST POKOT COUNTY GOVERNMENT



PROJECT:

MTEMBUR WATER PROJECT

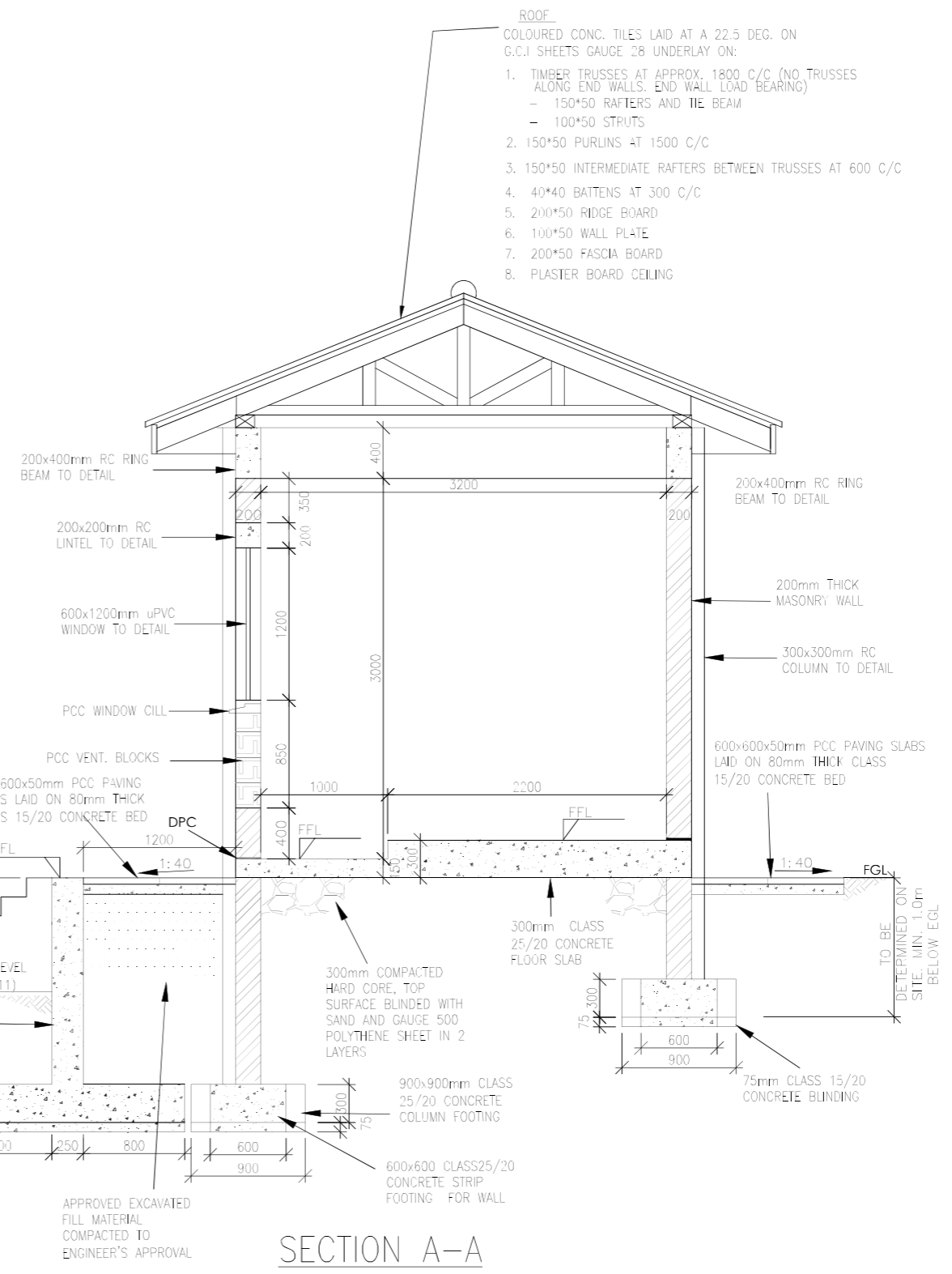
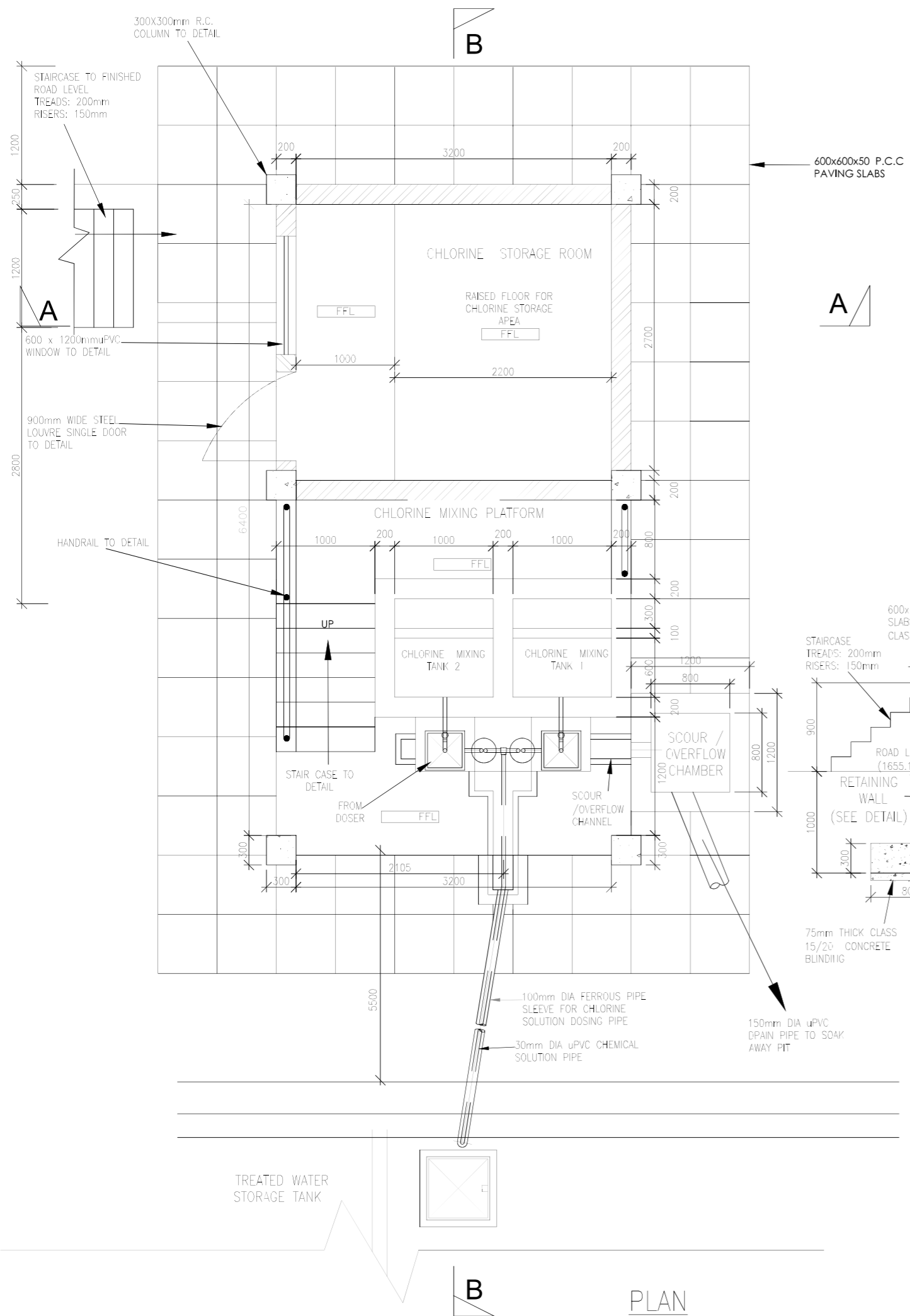


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Cell: +254 (0) 721487213 / +254 (0) 736451752
E-mail: info@batchassociates.co.ke
Webmail: www.batchassociates.co.ke

Figured dimensions only to be taken from this drawing

Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

Drawing Title: STILLING WELL & CHEMICAL DOSING CHANNEL - SECTIONS & SCOUR DETAILS	Sheet: Sheet 1 of 1 Date: Sept. 2023
Scale: AS SHOWN	Drg. No. MK-T-12



- ROOF**
 COLOURED CONC. TILES LAID AT A 22.5 DEG. ON G.C.I SHEETS GAUGE 28 UNDERLAY ON:
1. TIMBER TRUSSES AT APPROX. 1800 C/C (NO TRUSSES ALONG END WALLS. END WALL LOAD BEARING)
 - 150*50 RAFTERS AND TIE BEAM
 - 100*50 STRUTS
 2. 150*50 PURLINS AT 1500 C/C
 3. 150*50 INTERMEDIATE RAFTERS BETWEEN TRUSSES AT 600 C/C
 4. 40*40 BATTENS AT 300 C/C
 5. 200*50 RIDGE BOARD
 6. 100*50 WALL PLATE
 7. 200*50 FASCIA BOARD
 8. PLASTER BOARD CEILING

1. DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED
2. ALL EXPOSED CONCRETE EDGES TO HAVE A 25mm x 25mm CHAMFER.
3. ABBREVIATIONS:
 - R.C - REINFORCED CONCRETE
 - D.P.C - DAMP PROOF COURSE
 - E.G.L - EXISTING GROUND LEVEL
 - F.G.L - FINISHED GROUND LEVEL
 - F.F.L - FINISHED FLOOR LEVEL
 - P.C.C - PRECAST CONCRETE
 - G.C.I - GALVANIZED CORRUGATED IRON
4. ALL INTERNAL SURFACES OF MIXING TANKS TO BE LINED WITH 3 COATS OF APPROVED EPOXY LINING
5. P.C.C WINDOW CILLS TO HAVE DRIPS
6. CONCRETE WORKS : ALL REINFORCED CONCRETE TO BE CLASS 25/20 EXCEPT WHERE OTHERWISE SPECIFIED
7. STEEL REINFORCEMENT : UNLESS WHERE SPECIFIED, CONTRACTOR TO ALLOW 120kg OF HIGH TENSILE STEEL REINFORCEMENT TO SRN 127, SIZE 12mm DIA AND ABOVE, IN HIS QUANTITIES FOR BUILDING WORKS, INCLUDING FOR CUTTING, TYING, PROPPING, SPACER BLOCKS, ETC AS REQUIRED.



PROJECT:
MTEMBUR WATER PROJECT

FINANCED BY
WSTF

Consultants: **BATCH**
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Figured dimensions only to be taken from this drawing

Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

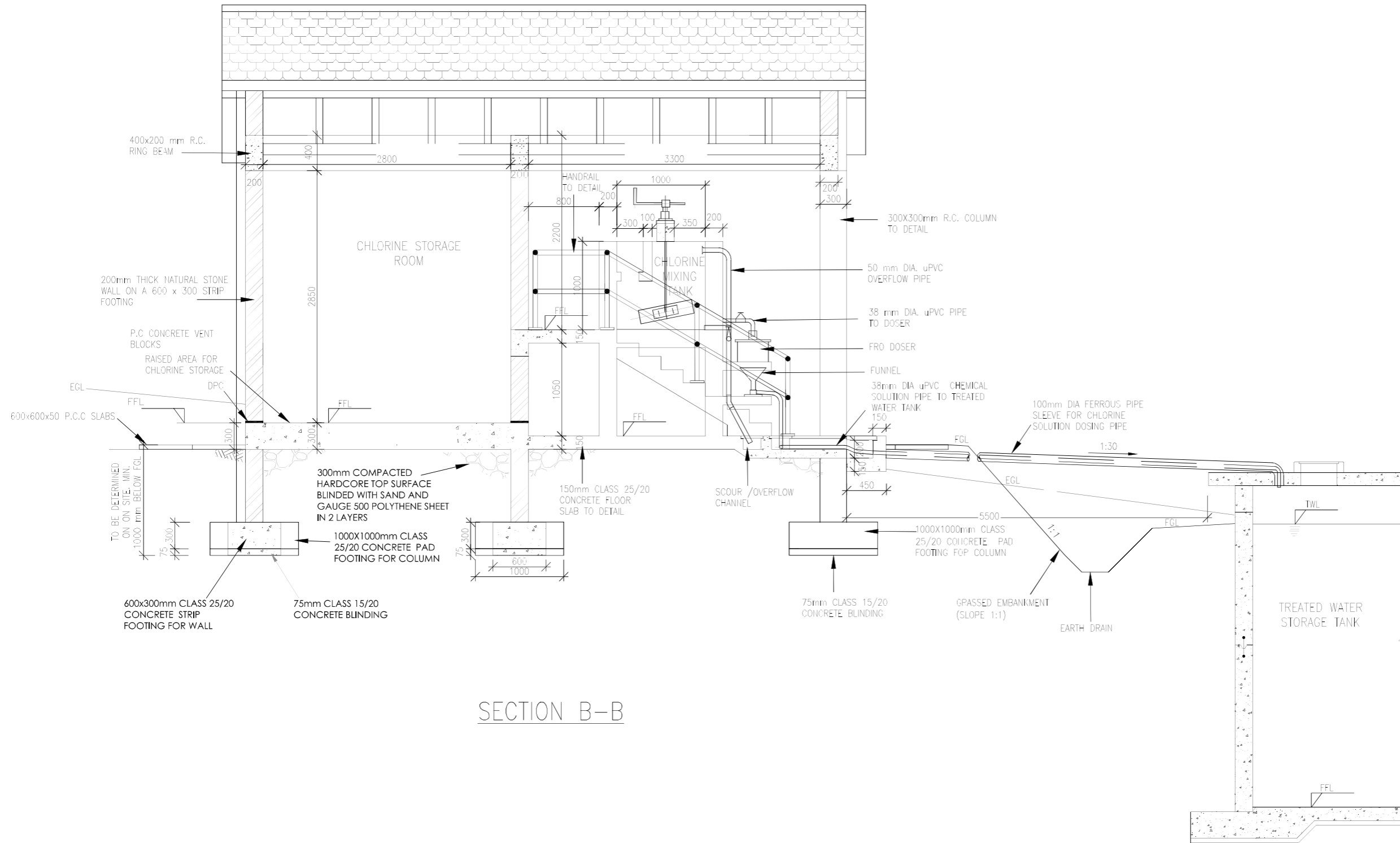
Drawing Title:
 TREATMENT WORKS
 CHLORINE MIXING/DOSING &
 STORAGE BUILDING
 SECTIONS AND DETAILS

Sheet:
 Sheet 1 of 3

Date:
 Sept. 2023

Scale:
 AS SHOWN

Drg. No.
 MK-T-13/01



SECTION B-B

1. DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED
2. ALL EXPOSED CONCRETE EDGES TO HAVE A 25mm x 25mm CHAMFER
3. ABBREVIATIONS:
 - R.C - REINFORCED CONCRETE
 - D.P.C - DAMP PROOF COURSE
 - E.G.L - EXISTING GROUND LEVEL
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7. STEEL REINFORCEMENT : UNLESS WHERE SPECIFIED, CONTRACTOR TO ALLOW 120kg OF HIGH TENSILE STEEL REINFORCEMENT TO SRN 127, SIZE 12mm DIA AND ABOVE, IN HIS QUANTITIES FOR BUILDING WORKS, INCLUDING FOR CUTTING, TYING, PROPPING, SPACER BLOCKS, ETC AS REQUIRED.

WEST POKOT COUNTY GOVERNMENT



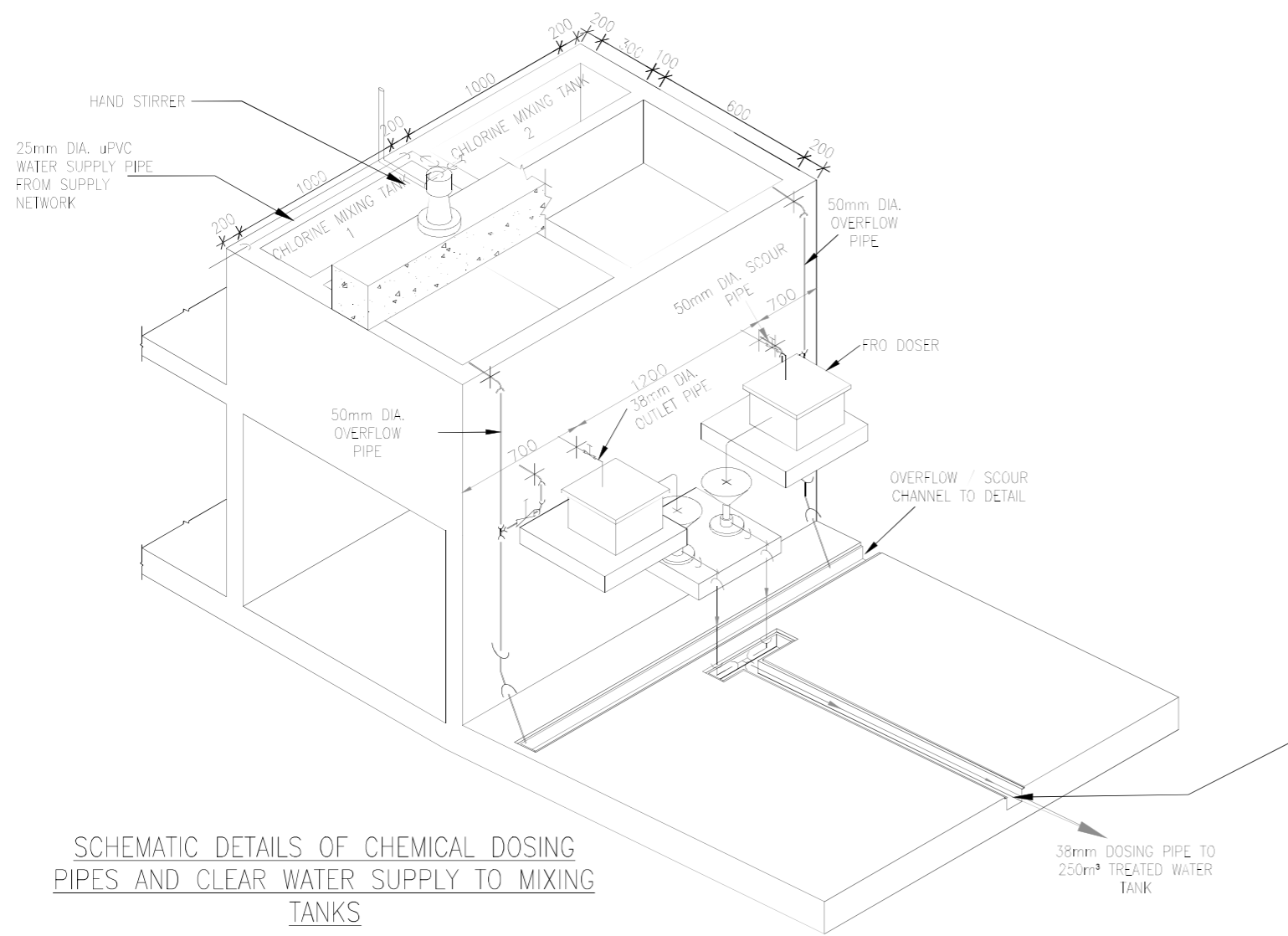
PROJECT:
MTEMBUR WATER PROJECT



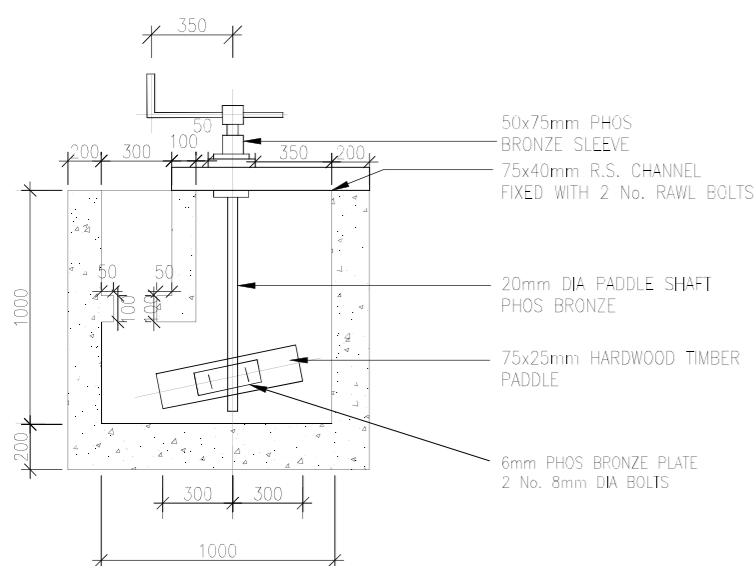
Consultants
BATCH
 P.O Box 24103-00800, Nairobi, Kenya
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Activity	Name	Sign	Date
Designed by:			
Drawn by:			
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Approved by:			

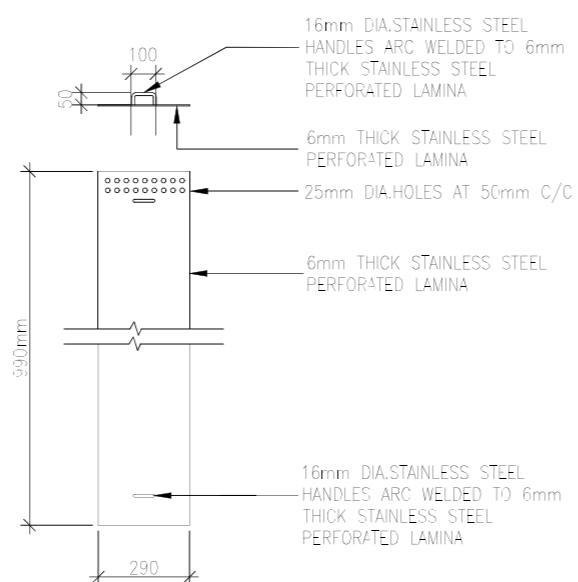
Drawing Title: TREATMENT WORKS CHLORINE MIXING/DOSING & STORAGE BUILDING SECTIONS AND DETAILS	Sheet: Sheet 2 of 3
Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-13/02



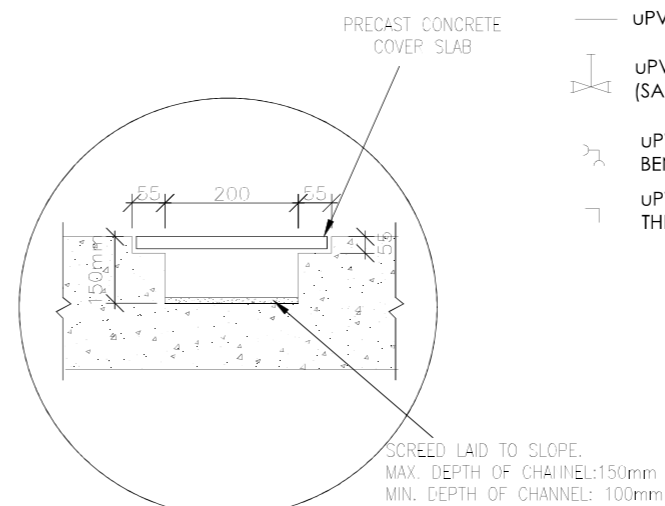
SCHEMATIC DETAILS OF CHEMICAL DOSING PIPES AND CLEAR WATER SUPPLY TO MIXING TANKS
NOT TO SCALE



DETAILS OF HAND STIRRER IN MIXING TANKS
NOT TO SCALE



SECTION AND PLAN OF CHEMICAL MIXING TRAY
NOT TO SCALE



OVERFLOW / SCOUR CHANNEL DETAIL
NOT TO SCALE

NOTES:

1. CHLORINE DOSING PIPES SHALL BE REINFORCED NYLON PIPES OR UPVC AS INDICATED ON DETAILS
2. SHOP DRAWINGS FOR PIPEWORK TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE FABRICATION

LEGEND FOR ISOMETRIC DETAILS OF CLEAR WATER SUPPLY TO CHEMICAL MIXING TANKS

- UPVC PIPE
- ⊥ UPVC SOCKETED TEE
- ⌋ UPVC SOCKETED BEND
- ⊞ SOCKET OR COUPLER
- ⊥ UPVC TAP

LEGEND FOR ISOMETRIC DETAILS OF CHEMICAL DOSING PIPEWORK

- UPVC PIPE
- ⊥ UPVC FEMALE THREADED STOP VALVE (SAUNDERS VALVES)
- ⊥ UPVC SOCKETED TEE
- ⌋ UPVC SOCKETED BEND WITH RODING EYE

LEGEND FOR ISOMETRIC DETAILS OF OVERFLOW PIPEWORK

- UPVC PIPE
- ⌋ UPVC SOCKETED BEND (90°)

LEGEND FOR ISOMETRIC DETAILS OF SCOUR PIPEWORK

- UPVC PIPE
- ⊥ UPVC FEMALE THREADED STOP VALVE (SAUNDERS VALVES)
- ⌋ UPVC SOCKETED BEND
- ⌋ UPVC SIGOT BEND WITH ONE END THREADED

1. DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED
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D.P.C — DAMP PROOF COURSE
E.G.L — EXISTING GROUND LEVEL
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P.C.C — PRECAST CONCRETE
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4. ALL INTERNAL SURFACES OF MIXING TANKS TO BE LINED WITH 3 COATS OF APPROVED EPOXY LINING
5. P.C.C WINDOW CILLS TO HAVE DRIPS
6. CONCRETE WORKS : ALL REINFORCED CONCRETE TO BE CL45S 25/20 EXCEPT WHERE OTHERWISE SPECIFIED
7. STEEL REINFORCEMENT : UNLESS WHERE SPECIFIED, CONTRACTOR TO ALLOW 120kg OF HIGH TENSILE STEEL REINFORCEMENT TO SRN 127, SIZE 12mm DIA AND ABOVE, IN HIS QUANTITIES FOR BUILDING WORKS, INCLUDING FOR CUTTING, TYING, PROPPING, SPACER BLOCKS, ETC AS REQUIRED.



PROJECT:
MTEMBUR WATER PROJECT



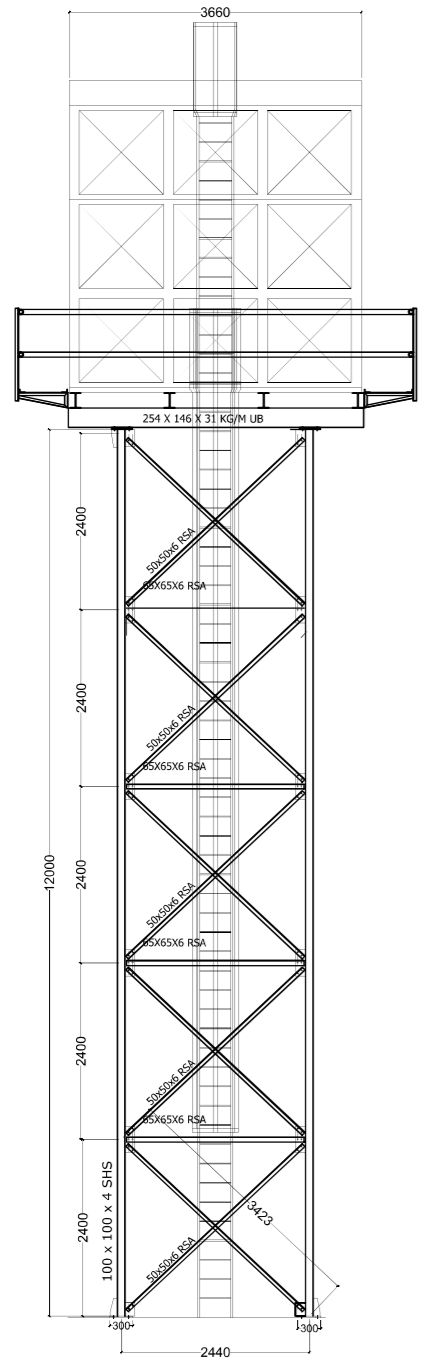
FINANCED BY
WSTF

Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

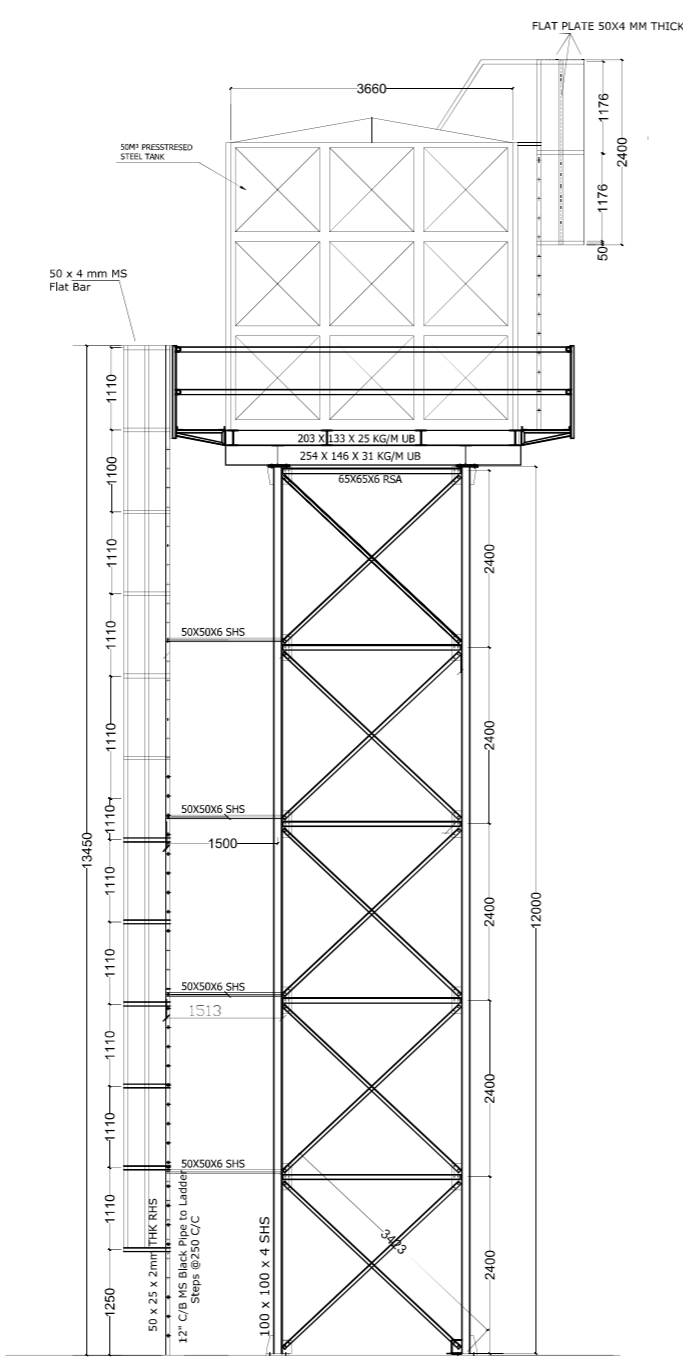
Drawing Title: TREATMENT WORKS CHLORINE MIXING/DOSING & STORAGE BUILDING SECTIONS AND DETAILS	Sheet: Sheet 3 of 3
Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-13/03

GENERAL NOTES:

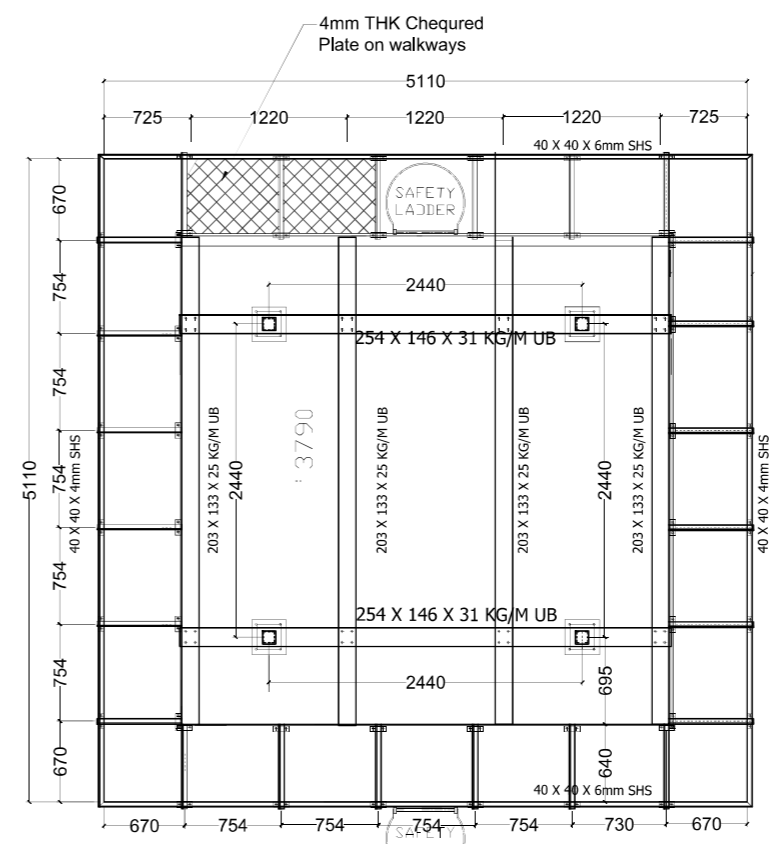
1. ALL CONCRETE TO BE CLASS 25/20 (1:1.5:3)
2. REINFORCEMENT TO BE HIGH YIELD SQUARE TWISTED "Y" AND MILD STEEL ROUND "R" AS INDICATED
3. MINIMUM COVER TO REINFORCEMENT TO BE BASES +50mm COLUMNS +40mm 50 KN/M² MS = 25mm
4. ALL FOUNDATIONS TO BE TAKEN DOWN TO FIRM BEARING STRATA TO ENGINEER'S APPROVAL
5. FOUNDATIONS DESIGNED FOR ALLOWABLE BEARING PRESSURE OF
6. MINIMUM LAP LENGTH TO BE 50 TIMES BAR DIAMETER
7. STRUCTURAL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS
8. ALL THE REINFORCEMENT TO BE INSPECTED BY THE STRUCTURAL ENGINEER BEFORE CONCRETING
9. RWDP & SERVICE DUCTS & CLADDING REQUIREMENTS TO BE CO-ORDINATED WITH ARCHITECTURE & EE DRAWINGS



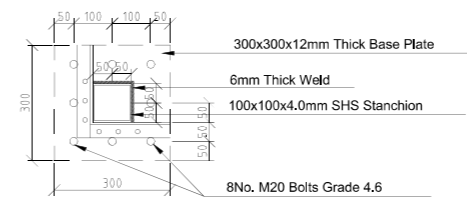
ELEVATION A
SCALE 1:50



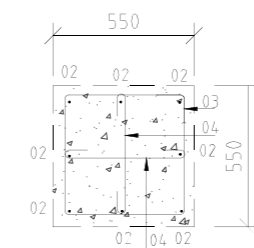
ELEVATION B
SCALE 1:50



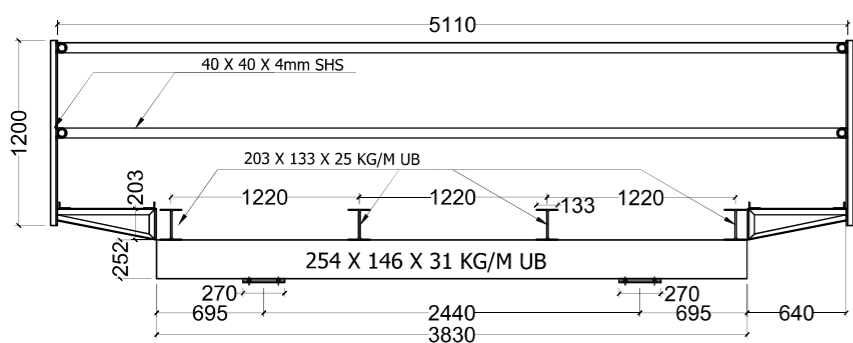
TANK SUPPORT PLATFORM
SCALE 1:25



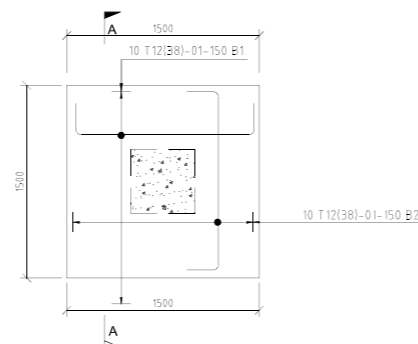
BASE PLATE DETAIL
(SCALE 1:10)



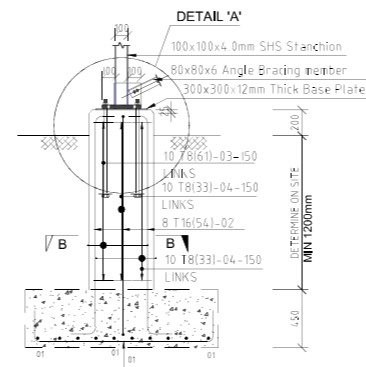
SECTION B-B
SCALE 1:15



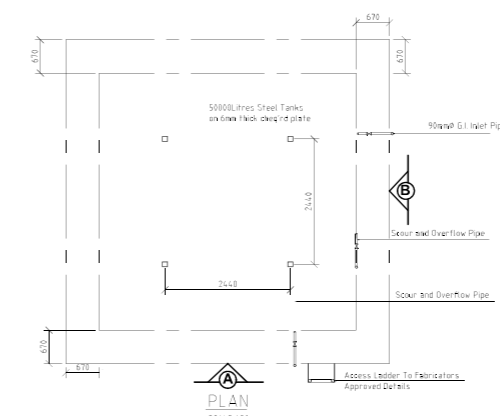
GRILLAGE FRONT VIEW
SCALE: 1:25



TYPICAL STUB COLUMN BASE
1500x1500x450mm (8No.)
SCALE 1:30



STUB COLUMN (4 No.)
SCALE 1:30



PLAN
SCALE 1:50

REPUBLIC OF KENYA
Department of Water, Environment,
Natural Resources & Energy
SAMBURU COUNTY GOVERNMENT



PROJECT:
MTEMBUR WATER PROJECT

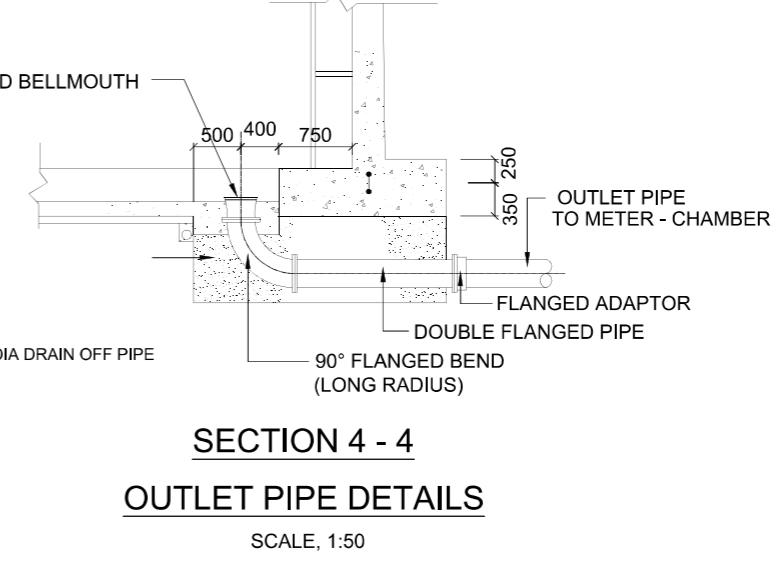
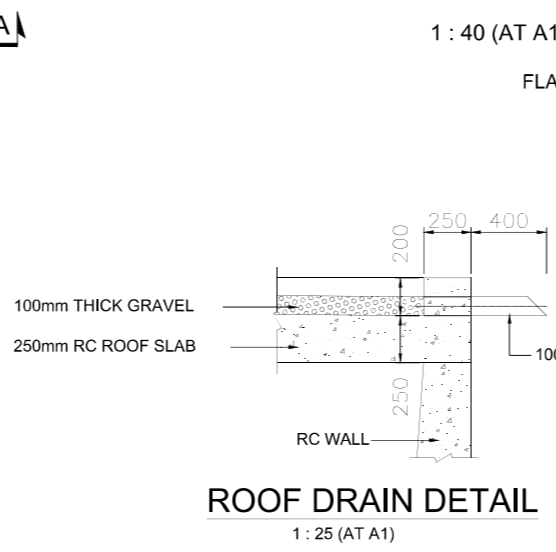
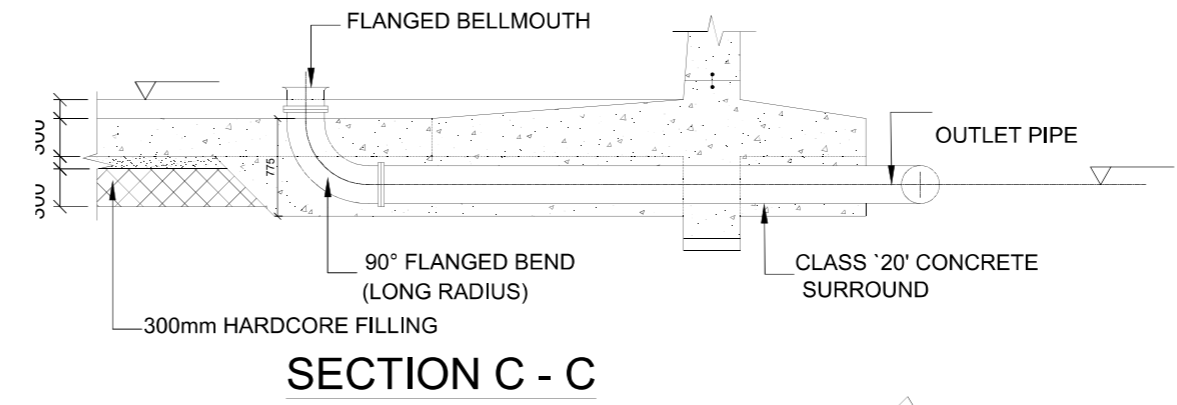
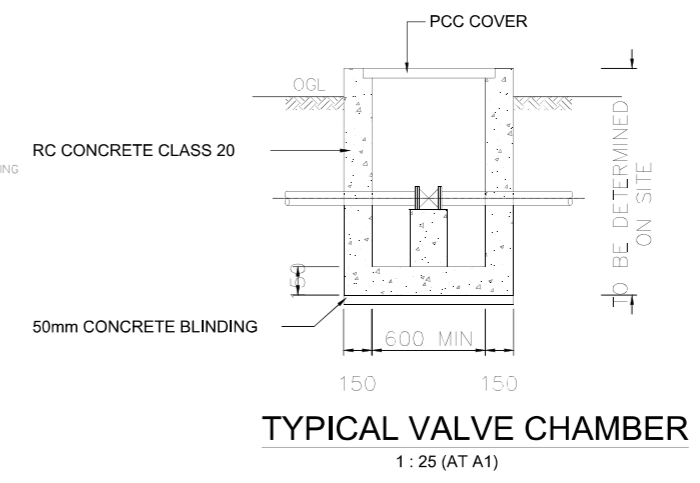
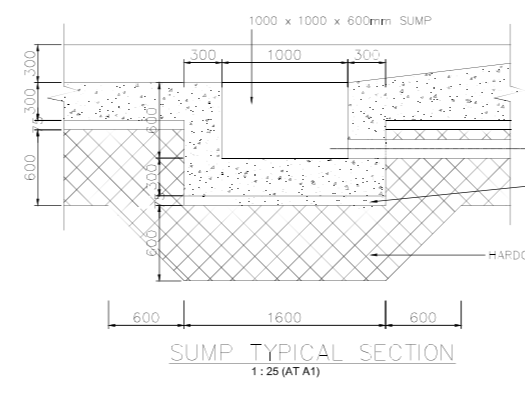
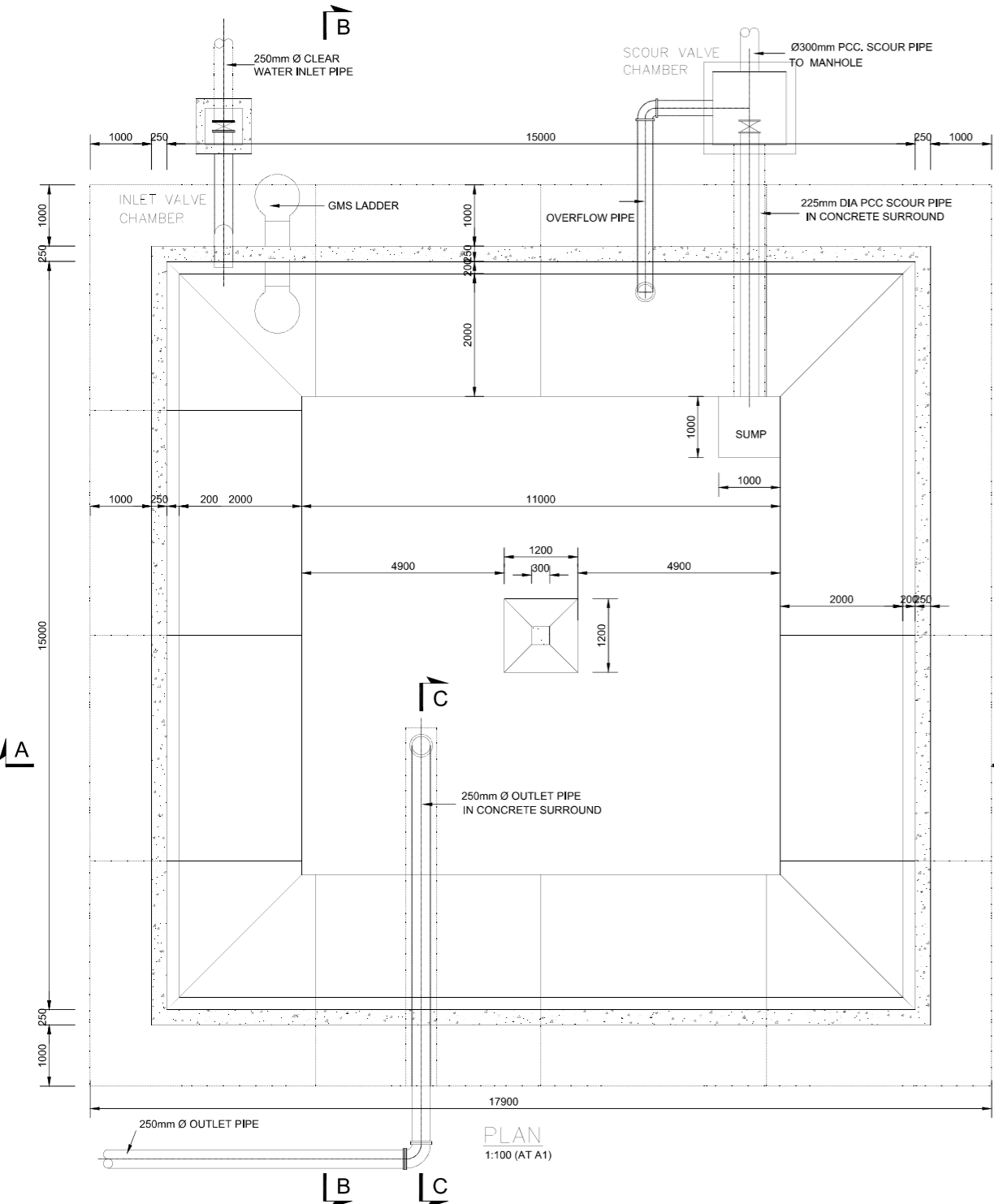
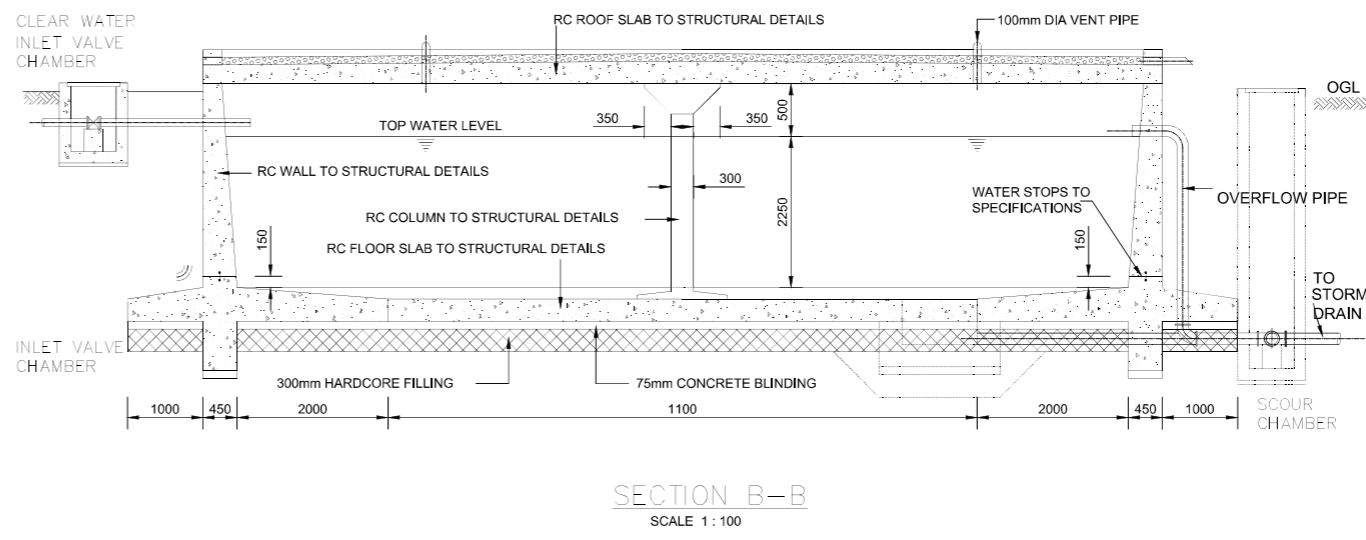
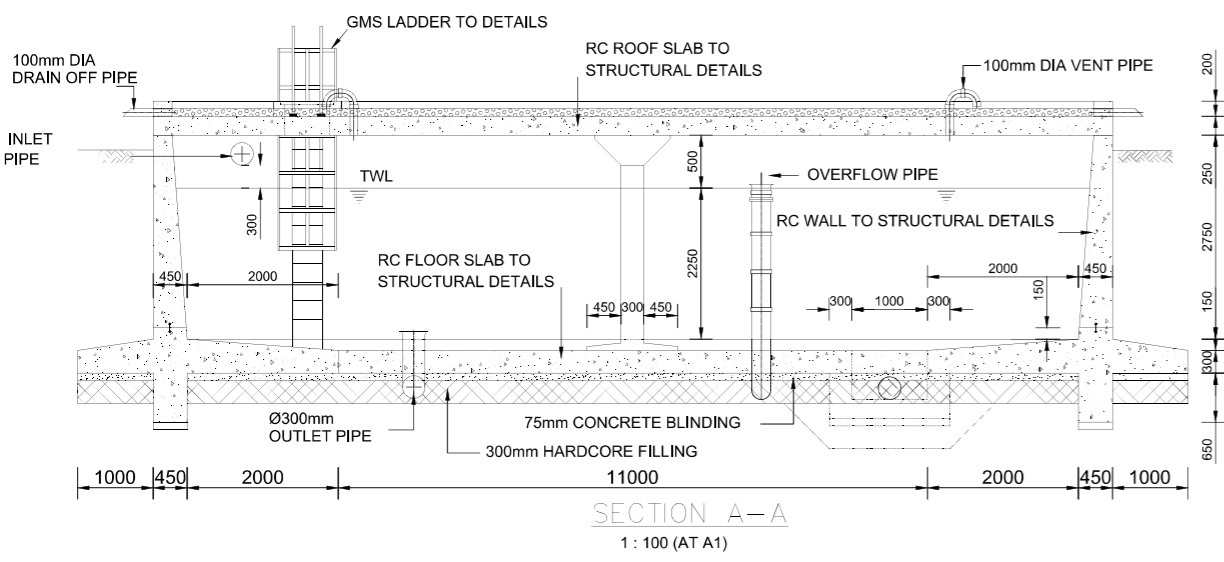
FINANCED BY
WSTF
WaterFund
EUROPEAN UNION

Figured dimensions only to be taken from this drawing

Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

Drawing Title: 50M³ BACKWASH ELEVATED STEEL TANK	Sheet: Sheet 1 of 1 Date: Sept. 2023
Scale: AS SHOWN	Drg. No. MK-T-14

NOTES:



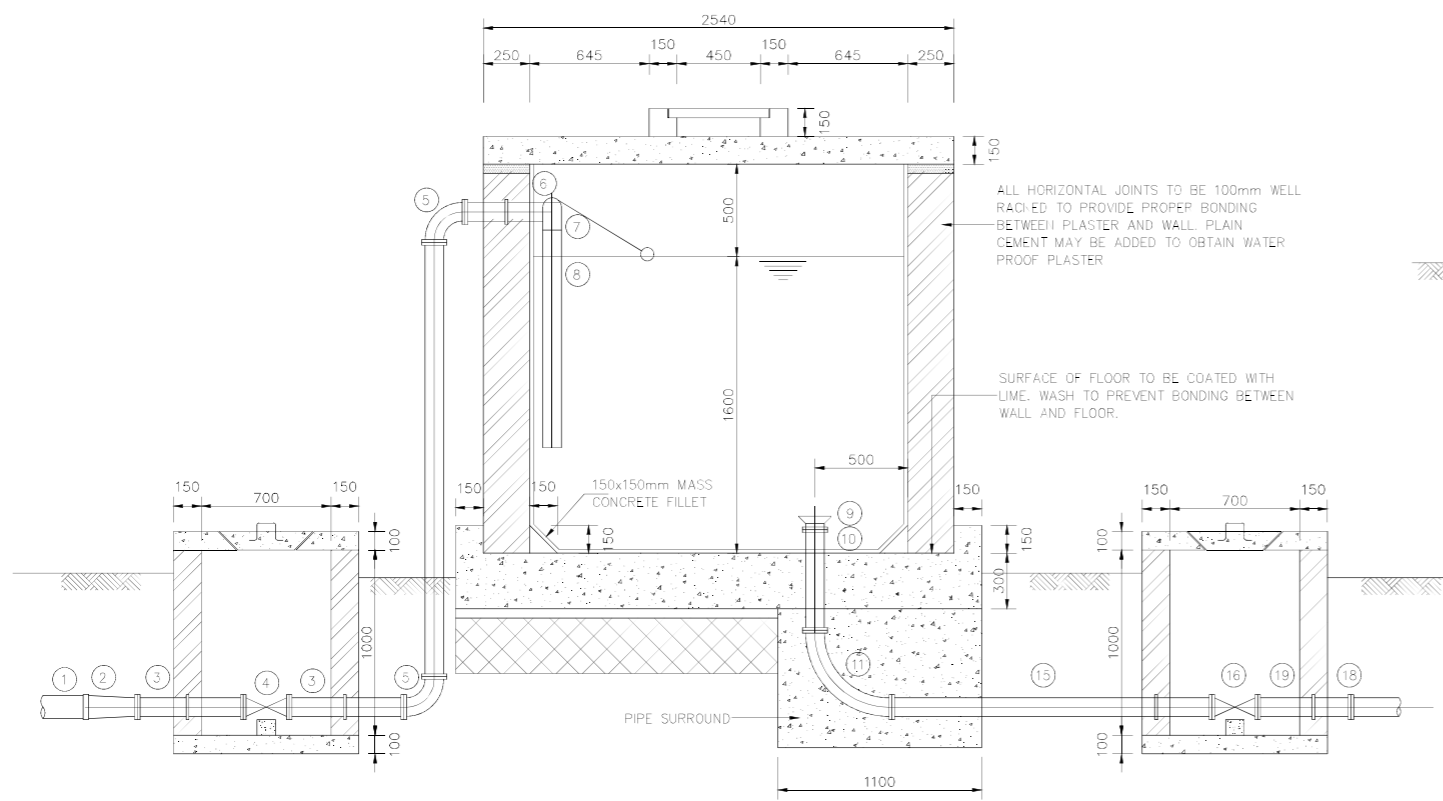
PROJECT:
MTEMBUR WATER PROJECT



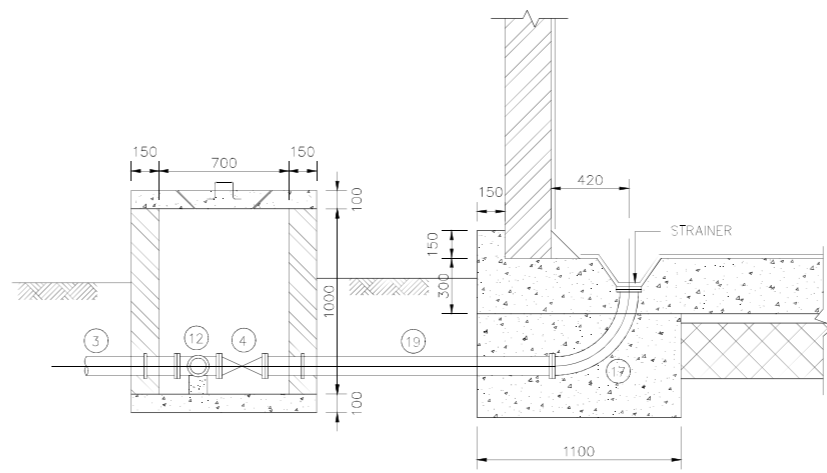
Figured dimensions only to be taken from this drawing

Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

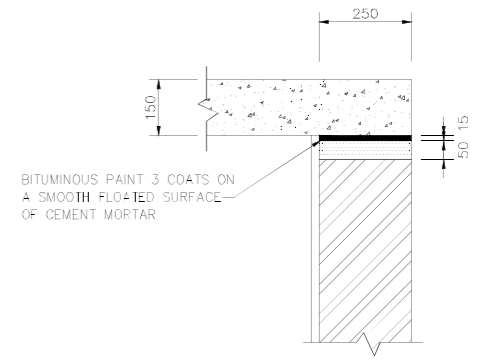
Drawing Title:	Sheet:
500M ³ CLEAR WATER STORAGE TANK PLAN AND DETAILS.	Sheet 1 of 1
Scale:	Date:
AS SHOWN	Sept. 2023
	Drg. No.:
	MT-T-15/01



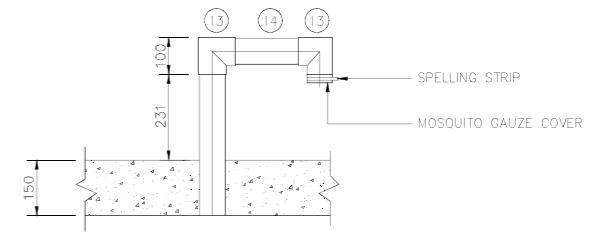
SECTION A-A
SCALE 1:20



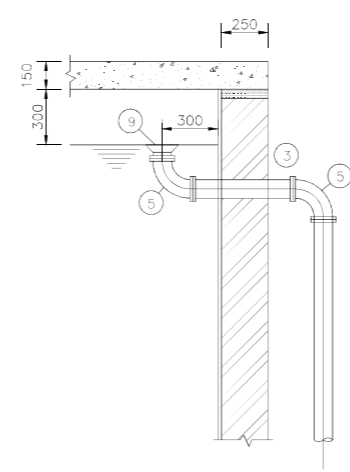
SECTION B-B
SCALE 1:20



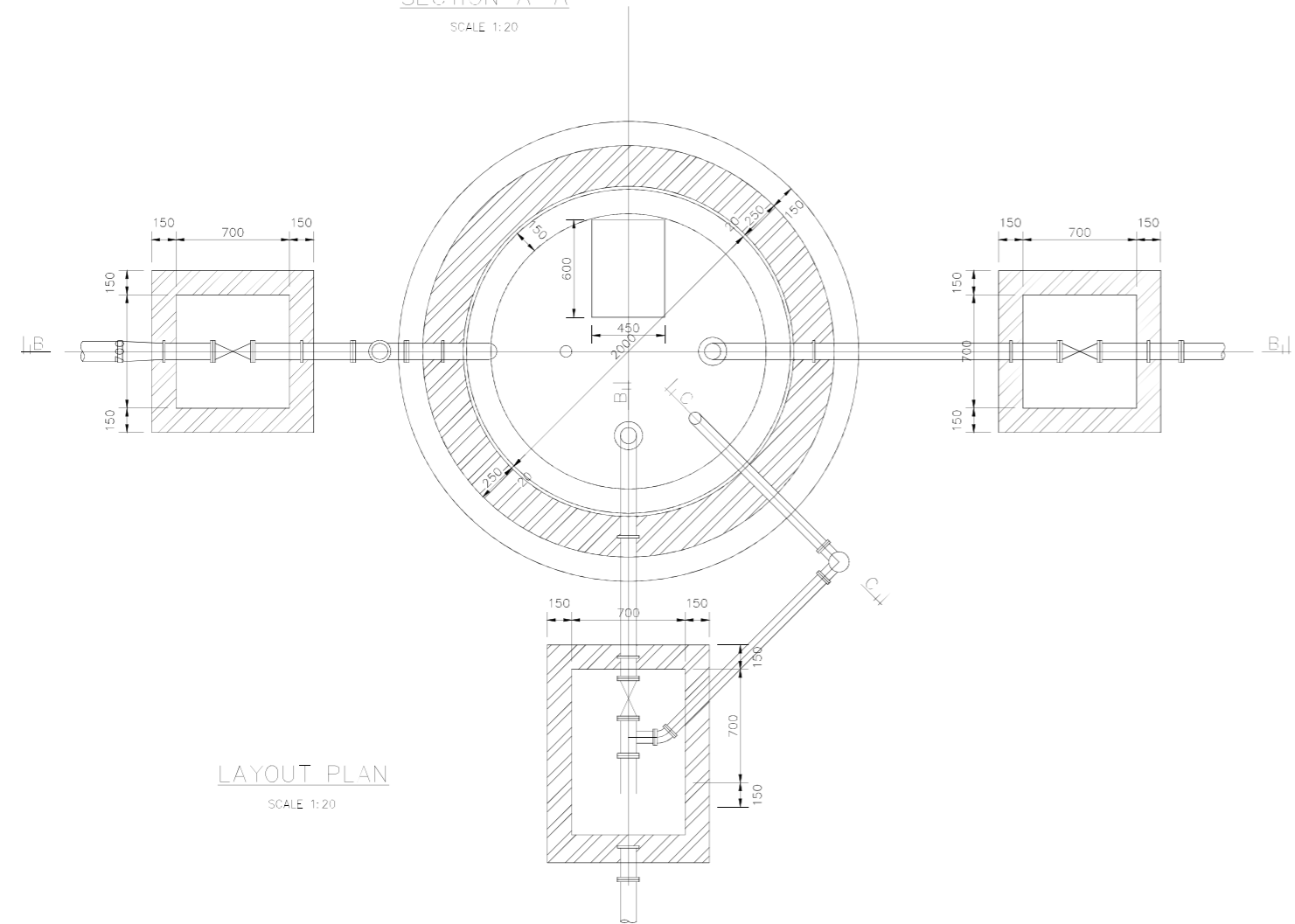
ROOF-WALL JOINT DETAIL
SCALE 1:10



AIR VALVE DETAIL
SCALE 1:10



SECTION C-C
SCALE 1:10

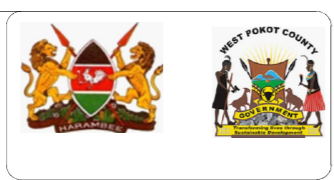


LAYOUT PLAN
SCALE 1:20

BREAK PRESSURE TANK FITTINGS DESCRIPTIONS	
FITTING No.	DESCRIPTIONS
1	V J FLANGED ADAPTOR DUCTILE/PVC (NP16)
2	DUCTILE IRON DOUBLE FLANGED CONCENTRIC TAPER
3	DUCTILE IRON DOUBLE FLANGED STRAIGHT WITH CENTRAL PUDDLE FLANGE
4	DUCTILE IRON FLANGED SV PN10
5	DUCTILE IRON DOUBLE FLANGED 90° SHORT RADIUS BEND
6	DUCTILE IRON FLANGED SPIGOT STRAIGHT WITH CENTRAL PUDDLE FLANGE
7	BALL FLOAT VALVE OPERATING PRESSURE 10 BAR
8	DUCTILE IRON FLANGED SPIGOT STRAIGHT
9	DUCTILE IRON BELLMOUTH
10	DUCTILE IRON UNION
11	DUCTILE IRON DOUBLE FLANGED 90° LONG RADIUS BEND
12	DUCTILE IRON FLANGED EQUAL TEE
13	DUCTILE IRON 90° ELBOW
14	DUCTILE IRON NIPPLE
15	DUCTILE IRON DOUBLE FLANGED STRAIGHT WITH PUDDLE FLANGE
16	DUCTILE IRON FLANGED SV PN10
17	DUCTILE IRON DOUBLE FLANGED 90° LONG RADIUS BEND
18	V J FLANGED ADAPTOR DUCTILE IRON/PVC (NP10)
19	DUCTILE IRON DOUBLE FLANGED STRAIGHT WITH PUDDLE FLANGE

GENERAL NOTES:

REPUBLIC OF KENYA
Department of Water, Environment,
Natural Resources & Energy
WEST POKOT COUNTY GOVERNMENT



PROJECT:
MTEMBUR WATER PROJECT

FINANCED BY
WSTF

Consultants

BATCH

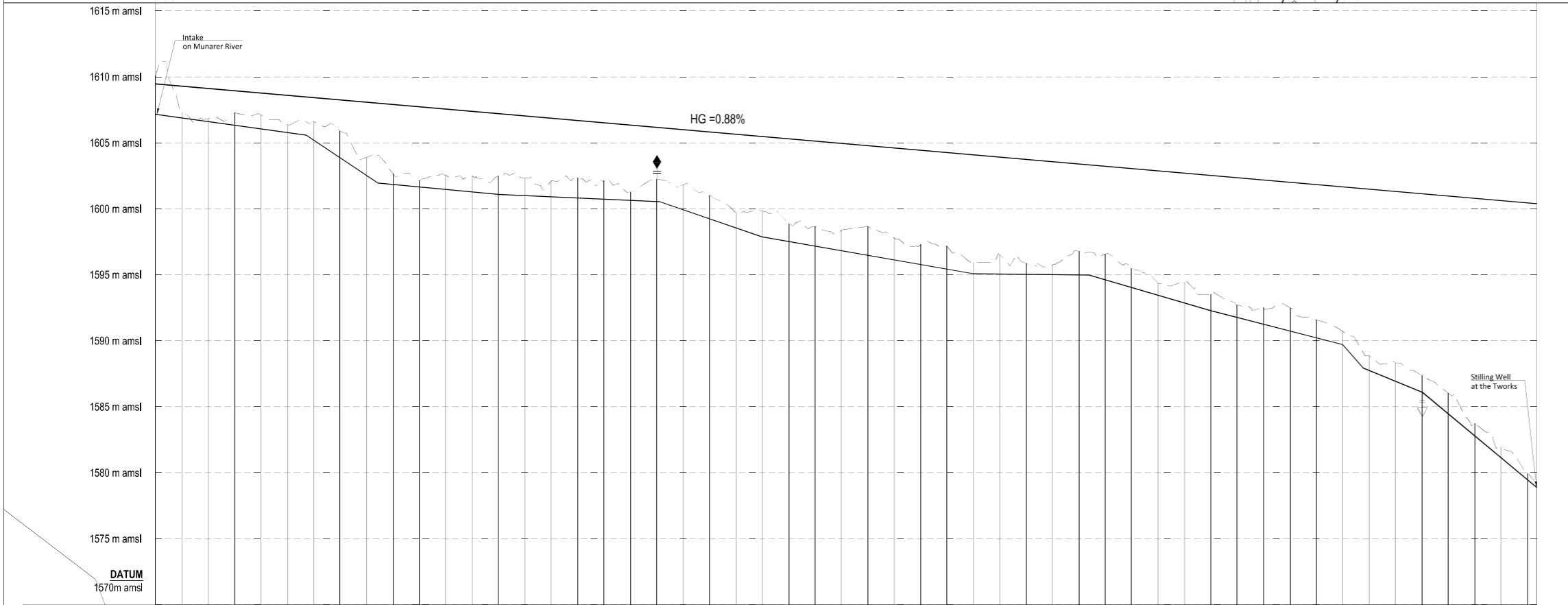
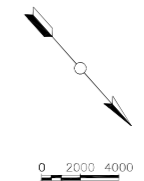
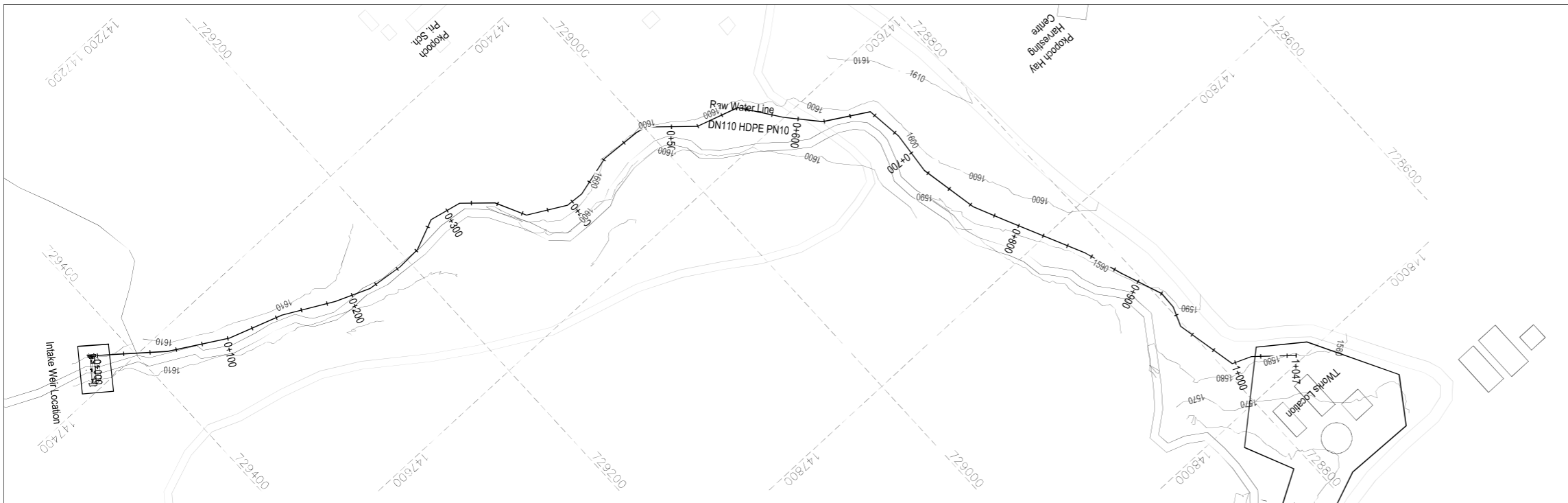
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Fax: +254 (0) 20 262166.
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E-mail: info@batchassociates.co.ke
Webmail: www.batchassociates.co.ke

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Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

Drawing Title: BREAK PRESSURE TANK, PLAN, DETAILS AND SECTIONS	Sheet: Sheet 1 of 1
	Date: Sept. 2023
Scale: AS SHOWN	Drg. No. MK-T-16

**PROJECT PIPELINES
PLAN AND PROFILE**

RAW WATER LINE PLAN AND PROFILE

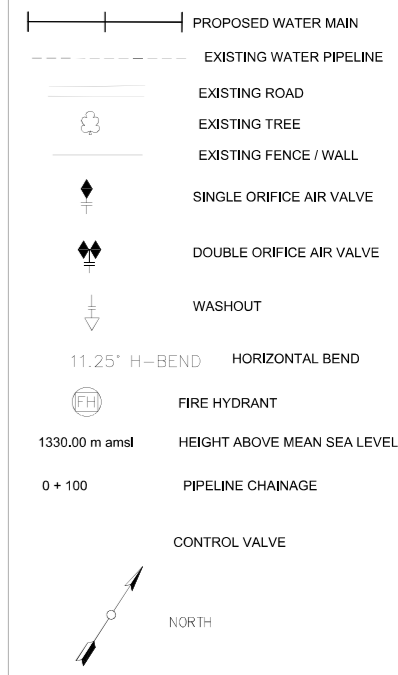


Hydraulic Level (m amsl)	3.07 1607.16 1610.09 1600.00 1603.46
Chainage (m)	0.57 1606.88 1607.32 0+200.00 0.35 1606.90 1606.82 0+400.00 1.07 1606.32 1607.26 0+600.00 1.19 1606.04 1607.10 0+800.00 0.72 1605.77 1606.36 0+1000.00 1.53 1605.19 1606.59 0+1200.00 2.17 1603.86 1606.90 0+1400.00 1.50 1602.52 1603.89 0+1600.00 0.94 1601.85 1602.66 0+1800.00 0.60 1601.66 1602.13 0+2000.00 1.20 1601.47 1602.54 0+2200.00 1.34 1601.28 1602.49 0+2400.00 1.55 1601.08 1602.51 0+2600.00 1.46 1600.89 1602.32 0+2800.00 1.33 1600.90 1602.10 0+3000.00 1.64 1600.81 1602.32 0+3200.00 1.53 1600.72 1602.12 0+3400.00 0.78 1600.83 1601.28 0+3600.00 1.84 1600.54 1602.25 0+3800.00 2.03 1599.92 1601.82 0+4000.00 1.90 1599.24 1601.00 0+4200.00 1.26 1598.85 1599.68 0+4400.00 2.09 1597.87 1598.83 0+4600.00 1.48 1597.52 1598.86 0+4800.00 1.61 1597.17 1598.65 0+5000.00 1.70 1596.82 1598.39 0+5200.00 2.34 1596.47 1598.68 0+5400.00 1.78 1596.12 1597.77 0+5600.00 1.65 1595.77 1597.29 0+5800.00 1.86 1595.42 1597.15 0+6000.00 0.97 1595.08 1596.91 0+6200.00 1.57 1595.05 1596.50 0+6400.00 0.95 1595.03 1595.85 0+6600.00 0.87 1595.01 1595.75 0+6800.00 1.83 1594.98 1596.78 0+7000.00 2.08 1594.81 1596.58 0+7200.00 1.58 1594.03 1595.47 0+7400.00 1.06 1593.44 1594.37 0+7600.00 1.74 1592.85 1594.46 0+7800.00 1.36 1592.27 1593.51 0+8000.00 1.08 1591.76 1592.71 0+8200.00 1.41 1591.24 1592.52 0+8400.00 1.89 1590.73 1592.49 0+8600.00 1.49 1590.21 1591.57 0+8800.00 1.14 1589.69 1590.70 0+9000.00 1.24 1589.74 1588.86 0+9200.00 1.54 1589.92 1588.33 0+9400.00 1.39 1588.10 1587.36 0+9600.00 1.69 1584.45 1586.01 0+9800.00 1.08 1582.79 1583.74 1+0000.00 0.86 1581.13 1581.95 1+0200.00 0.83 1579.46 1579.96 1+0400.00 0.63 1578.89 1579.28 1+0600.00 1600.38
Ground Level (m amsl)	
Invert Level (m amsl)	
Trench Depth (m)	
Notes	
Design Flows (l/s)	6.07l/s
Pipe Details	DN110 HDPE PIPE PN 10
Ground Condition	GRAVEL UNDERLAIN ROCK
Bedding Details	SELECTED IMPORTED GRANULAR MATERIAL MIN=100mm.
Horizontal Deviation	NO BENDS.

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:



PROJECT: MTEMBUR WATER PROJECT

FINANCED BY
WSTF

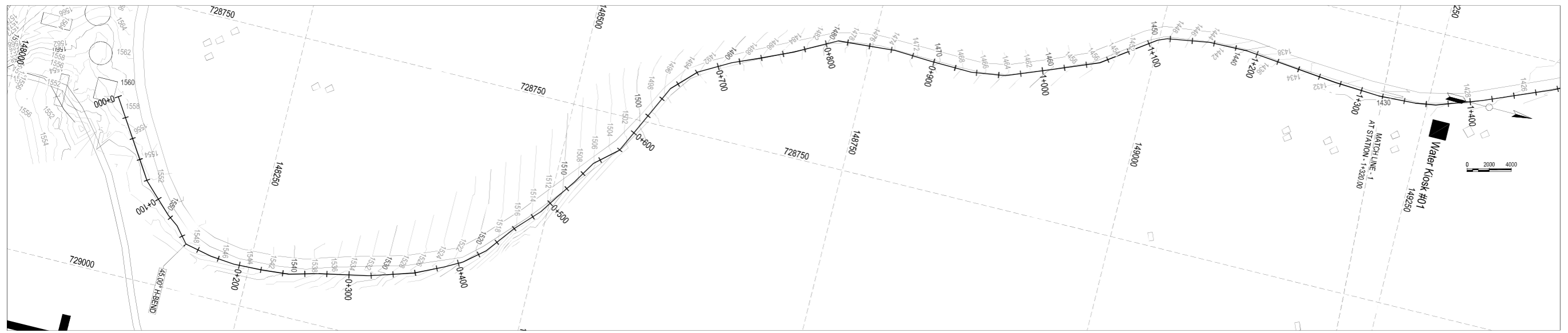
Consultants: **BATCH** P.O. Box 24103-01000, Nairobi, Kenya
Tel: +254 (0) 20 2629168
Fax: +254 (0) 20 2081076
Cell: +254 (0) 72467213 / +254 (0) 736481732
E-mail: info@batchkenya.co.ke
Webmail: www.batchkenya.co.ke

Figured dimensions only to be taken from this drawing

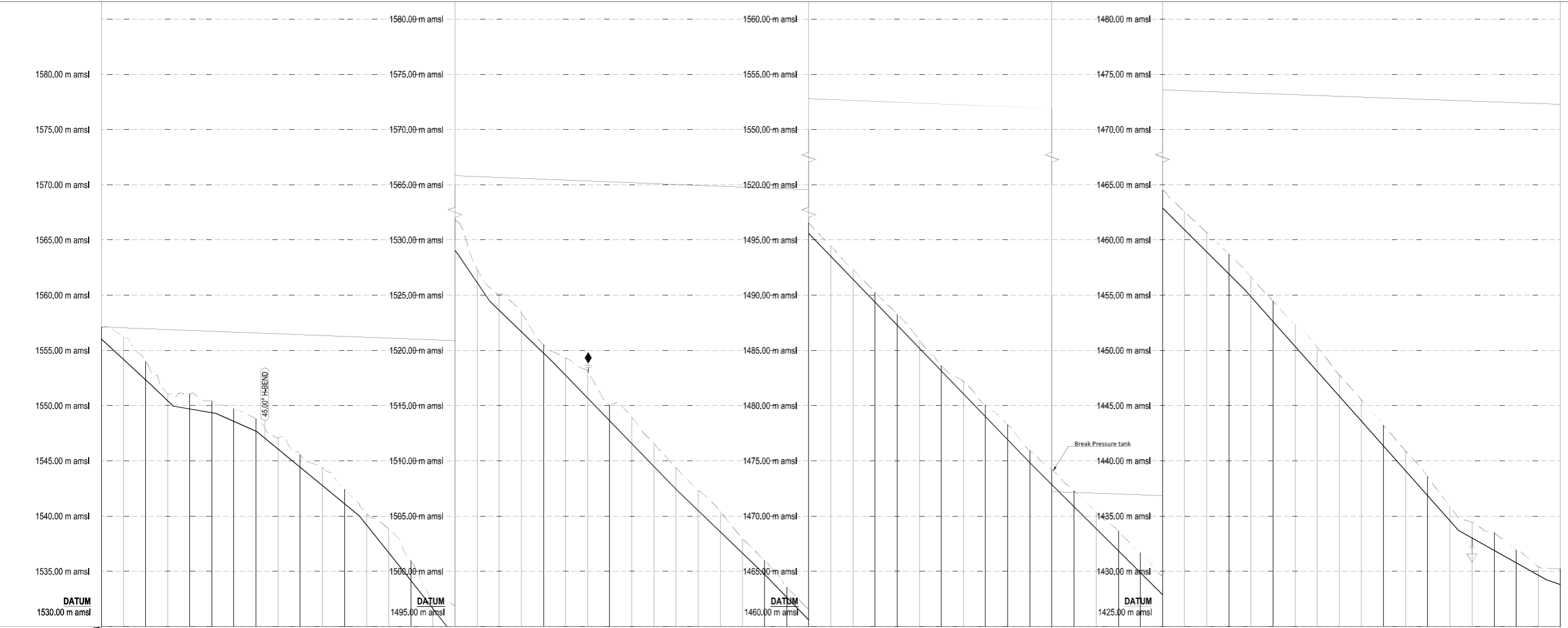
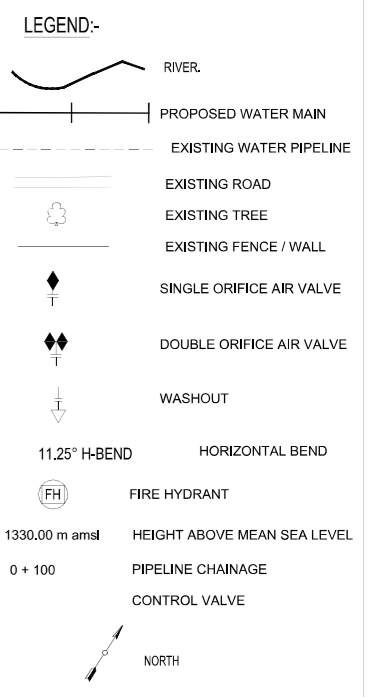
Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

Drawing Title: RAW WATER PIPELINE	Sheet: Sheet 1 of 1
Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-05

**MTEMBUR – RAILA CENTRE
PLAN AND PROFILE**



- NOTES:**
- All Levels are in metres based on National Datum
 - The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
 - Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
 - Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
 - Minimum cover top all pipes to be 1.0m



Hydraulic Level (m amsl)	Chainage (m)	Ground Level (m amsl)	Invert Level (m amsl)	Trench Depth (m)	Notes
1557.14	1.21	1556.03	1557.13	0.00	
1555.00	2.22	1554.19	1556.30	0.42	
1553.00	3.23	1552.35	1554.03	0.40	
1551.00	4.24	1550.45	1551.08	0.36	
1549.00	5.25	1548.70	1551.05	0.35	
1547.00	6.26	1549.36	1550.43	0.10	
1545.00	7.27	1548.57	1549.70	0.20	
1543.00	8.28	1547.89	1548.79	0.40	
1541.00	9.29	1546.07	1547.11	0.60	
1539.00	10.30	1544.42	1545.59	0.80	
1537.00	11.31	1542.77	1544.42	1.00	
1535.00	12.32	1541.12	1542.49	1.20	
1533.00	13.33	1539.19	1540.29	1.40	
1531.00	14.34	1536.89	1538.84	1.60	
1529.00	15.35	1534.18	1536.94	1.80	
1527.00	16.36	1531.61	1534.41	2.00	
1525.00	17.37	1529.05	1531.88	2.20	
1523.00	18.38	1526.14	1527.35	2.40	
1521.00	19.39	1523.82	1525.07	2.60	
1519.00	20.40	1521.89	1523.41	2.80	
1517.00	21.41	1519.76	1520.50	3.00	
1515.00	22.42	1517.75	1519.32	3.20	
1513.00	23.43	1515.88	1518.11	3.40	
1511.00	24.44	1513.81	1515.03	3.60	
1509.00	25.45	1511.55	1513.95	3.80	
1507.00	26.46	1509.48	1511.58	4.00	
1505.00	27.47	1507.42	1509.37	4.20	
1503.00	28.48	1505.89	1507.37	4.40	
1501.00	29.49	1503.57	1505.47	4.60	
1499.00	30.50	1501.85	1502.94	4.80	
1497.00	31.51	1499.73	1500.99	5.00	
1495.00	32.52	1497.86	1498.60	5.20	
1493.00	33.53	1495.59	1496.53	5.40	
1491.00	34.54	1493.51	1494.44	5.60	
1489.00	35.55	1491.44	1492.33	5.80	
1487.00	36.56	1489.36	1490.28	6.00	
1485.00	37.57	1487.29	1488.27	6.20	
1483.00	38.58	1485.22	1486.34	6.40	
1481.00	39.59	1483.14	1484.63	6.60	
1479.00	40.60	1481.07	1483.18	6.80	
1477.00	41.61	1479.00	1480.02	7.00	
1475.00	42.62	1476.92	1478.27	7.20	
1473.00	43.63	1474.85	1476.69	7.40	
1471.00	44.64	1472.85	1474.20	7.60	
1469.00	45.65	1470.86	1472.28	7.80	
1467.00	46.66	1468.87	1470.41	8.00	
1465.00	47.67	1466.88	1468.54	8.20	
1463.00	48.68	1464.89	1466.67	8.40	
1461.00	49.69	1462.90	1464.54	8.60	
1459.00	50.70	1460.91	1462.55	8.80	
1457.00	51.71	1458.92	1460.66	9.00	
1455.00	52.72	1456.93	1458.74	9.20	
1453.00	53.73	1454.96	1456.67	9.40	
1451.00	54.74	1452.91	1454.46	9.60	
1449.00	55.75	1450.86	1452.35	9.80	
1447.00	56.76	1448.81	1450.29	10.00	
1445.00	57.77	1446.76	1448.18	10.20	
1443.00	58.78	1444.71	1446.10	10.40	
1441.00	59.79	1442.66	1444.00	10.60	
1439.00	60.80	1440.61	1441.89	10.80	
1437.00	61.81	1438.56	1439.55	11.00	
1435.00	62.82	1436.51	1437.46	11.20	
1433.00	63.83	1434.46	1435.69	11.40	
1431.00	64.84	1432.41	1434.45	11.60	
1429.00	65.85	1430.36	1433.48	11.80	
1427.00	66.86	1428.31	1433.48	12.00	
1425.00	67.87	1426.26	1433.45	12.20	
1423.00	68.88	1424.21	1433.42	12.40	
1421.00	69.89	1422.16	1433.42	12.60	
1419.00	70.90	1420.11	1433.24	12.80	
1417.00	71.91	1418.06	1432.24	13.00	

Client

WaterFund
Financing the Water Sector

WATER SECTOR TRUST FUND
P.O. Box #9699 - 00100, Nairobi, Kenya
info@waterfund.go.ke

1st Floor, CIC Plaza, Mara Road, Upper Hill, Nairobi, Kenya

Project

CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants

BATCH
CONSULTING ENGINEERS

P.O. Box 28103-00100, Nairobi, Kenya
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Call: +254 (0) 20 4402223 / +254 (0) 734451752
E-mail: info@batchconsultants.co.ke
Website: www.batchconsultants.co.ke

Drawing Title

**MTEMPUR TO RAILA PIPELINE
PLAN AND PROFILE
SHEET 1 OF 4.**

Designed by AGO
Checked by NHA

Drawn by AGO
Approved by NHA

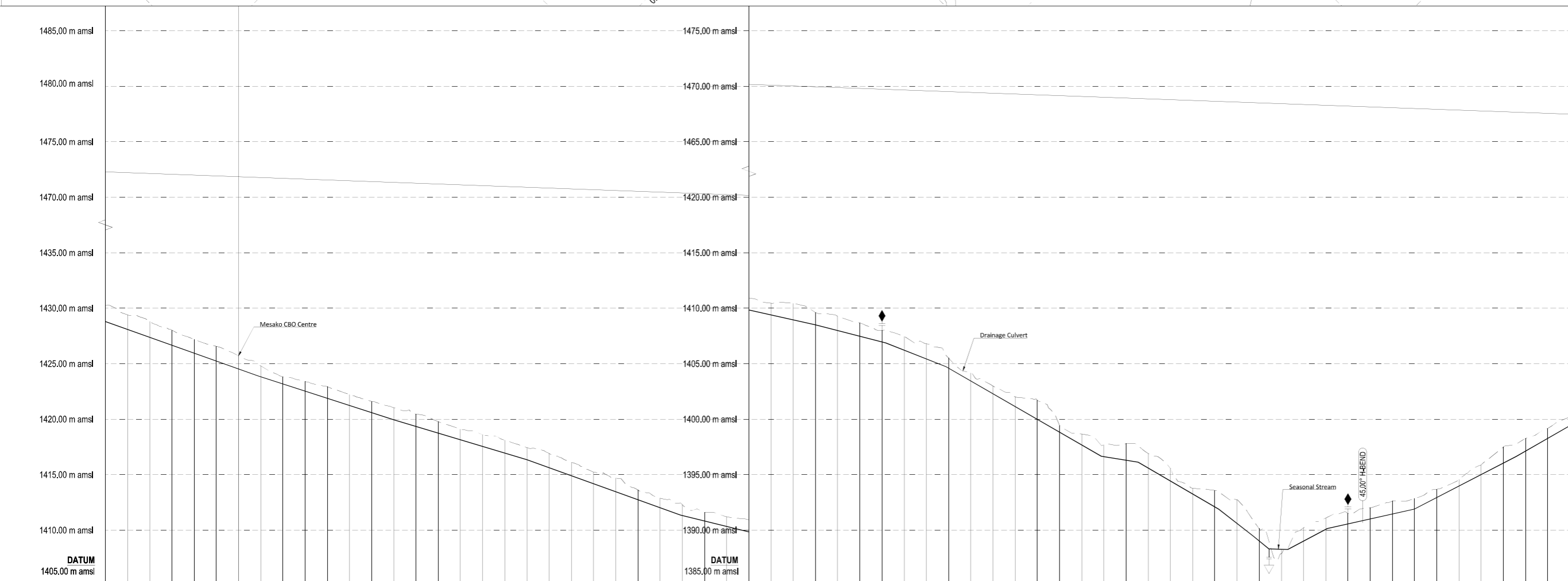
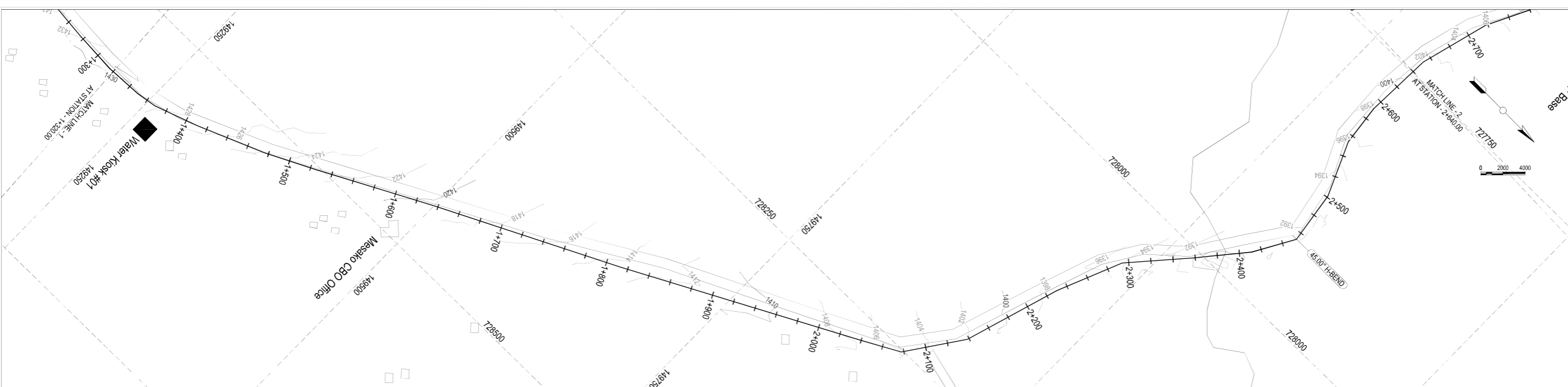
Scale 1:1500
Date August 2023

STATUS DWG NO: MK-07/01

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-



Hydraulic Level (m amsl)	1471.89																										
Chainage (m)	1+350.00	1+360.00	1+370.00	1+380.00	1+390.00	1+400.00	1+410.00	1+420.00	1+430.00	1+440.00	1+450.00	1+460.00	1+470.00	1+480.00	1+490.00	1+500.00	1+510.00	1+520.00	1+530.00	1+540.00	1+550.00	1+560.00	1+570.00	1+580.00	1+590.00	1+600.00	
Ground Level (m amsl)	1428.79	1429.24	1429.39	1429.88	1429.38	1428.08	1427.37	1426.86	1426.01	1425.16	1424.53	1423.82	1423.07	1422.22	1421.47	1420.72	1419.97	1419.22	1418.47	1417.72	1416.97	1416.22	1415.47	1414.72	1413.97	1413.22	1412.47
Invert Level (m amsl)	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79	1428.79
Trench Depth (m)	1.57	1.43	1.47	1.51	1.55	1.49	1.43	1.37	1.31	1.25	1.19	1.13	1.07	1.01	0.95	0.89	0.83	0.77	0.71	0.65	0.59	0.53	0.47	0.41	0.35	0.29	0.23
Notes	WK #01																										
Design Flows (l/s)	6.07l/s													5.72l/s													
Pipe Details	DN125 HDPE PIPE PN 10																										
Ground Condition	GRAVEL UNDERLAIN ROCK																										
Bedding Details	SELECTED IMPORTED GRANULAR MATERIAL MIN=100mm																										
Horizontal Deviation	N7° 42' 28" W L=0.33m	N7° 46' 29" W L=0.34m	N10° 1' 28" W L=0.34m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m	N12° 14' 28" W L=0.33m

Client

WATER SECTOR TRUST FUND
PO Box 49699 - 00100, Nairobi, Kenya
info@waterfund.go.ke

Project

CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants

P.O Box 28103 00100, Nairobi, Kenya
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Fax: +254 (0) 20 2081876
Call: +254 (0) 714627213 / +254 (0) 736451752
E-mail: info@batchconsultants.co.ke
Website: www.batchconsultants.co.ke

Drawing Title

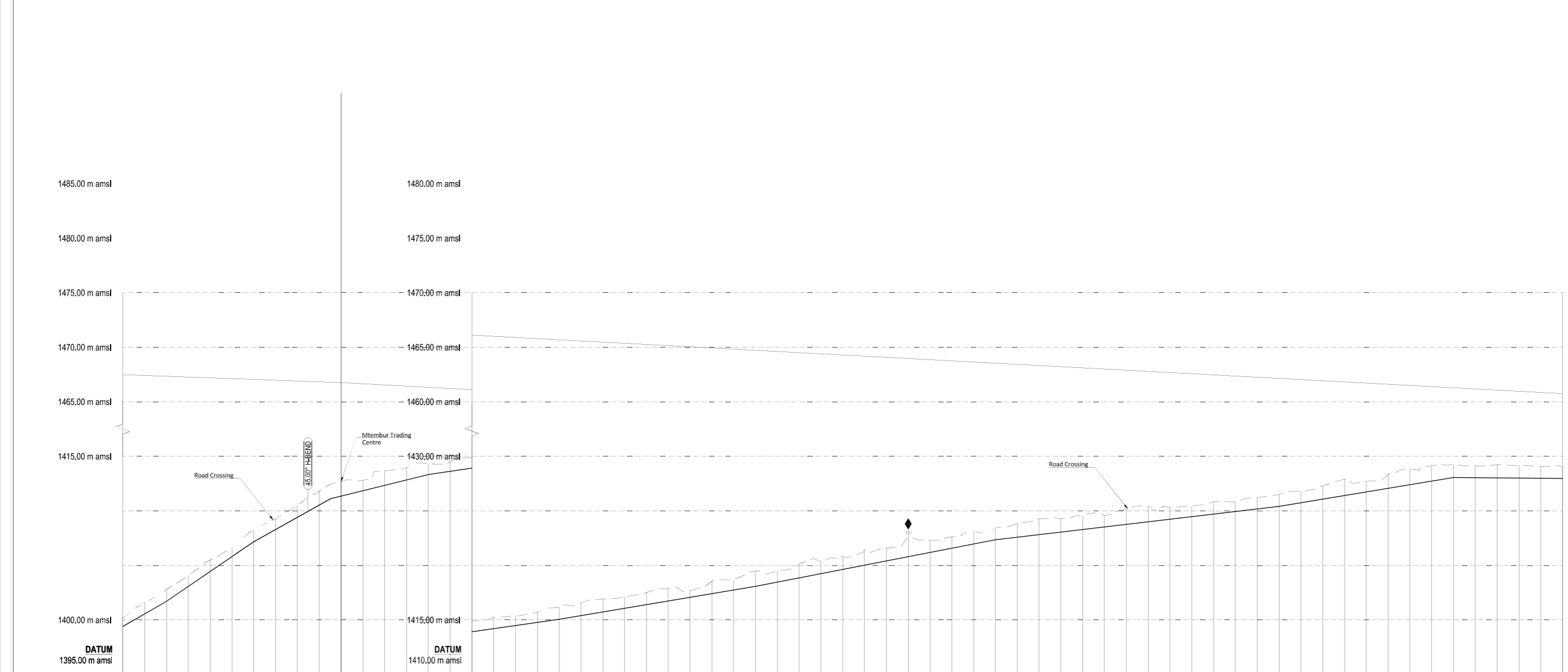
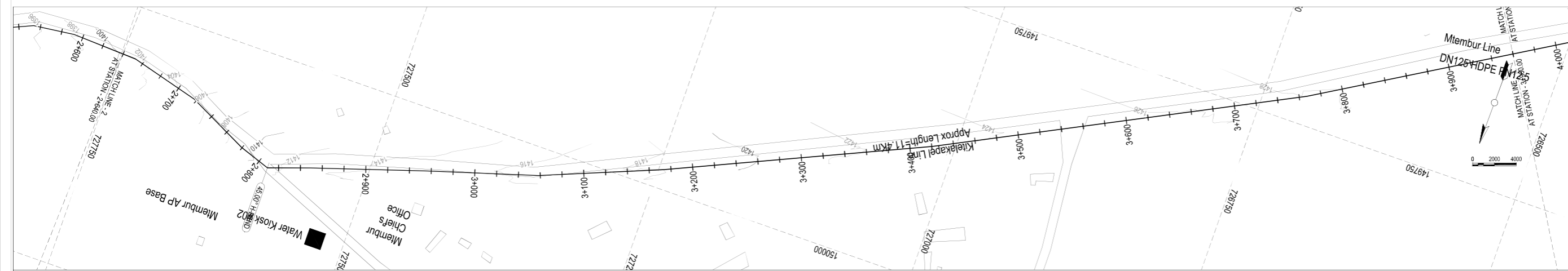
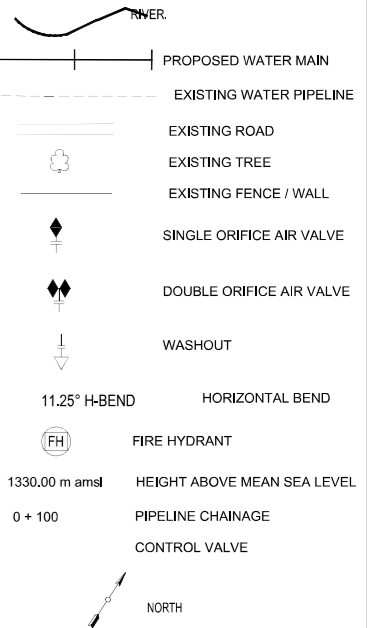
MTEMPUR TO RAILA PIPELINE PLAN AND PROFILE SHEET 2 OF 4.

Designed by AGO | Drawn by AGO
Checked by IHA | Approved by IHA
Scale 1:1500 | Date August 2023
STATUS DWG NO: MGT-0702

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-



Hydraulic Level (m amsl)	1439.41	1440.22	1445.00	1446.77	1448.54	1450.31	1452.08	1453.85	1455.62	1457.39	1459.16	1460.93	1462.70	1464.47	1466.21	1467.95	1469.69	1471.43	1473.17	1474.91	1476.65	1478.39	1480.13	1481.87	1483.61	1485.35		
Chainage (m)	2+450.00	2+460.00	2+500.00	2+550.00	2+600.00	2+650.00	2+700.00	2+750.00	2+800.00	2+850.00	2+900.00	2+950.00	3+000.00	3+050.00	3+100.00	3+150.00	3+200.00	3+250.00	3+300.00	3+350.00	3+400.00	3+450.00	3+500.00	3+550.00	3+600.00	3+650.00		
Ground Level (m amsl)	1439.41	1440.22	1445.00	1446.77	1448.54	1450.31	1452.08	1453.85	1455.62	1457.39	1459.16	1460.93	1462.70	1464.47	1466.21	1467.95	1469.69	1471.43	1473.17	1474.91	1476.65	1478.39	1480.13	1481.87	1483.61	1485.35		
Invert Level (m amsl)	1439.41	1440.22	1445.00	1446.77	1448.54	1450.31	1452.08	1453.85	1455.62	1457.39	1459.16	1460.93	1462.70	1464.47	1466.21	1467.95	1469.69	1471.43	1473.17	1474.91	1476.65	1478.39	1480.13	1481.87	1483.61	1485.35		
Trench Depth (m)	0.99	1.18	1.40	1.63	1.86	2.09	2.32	2.55	2.78	3.01	3.24	3.47	3.70	3.93	4.16	4.39	4.62	4.85	5.08	5.31	5.54	5.77	6.00	6.23	6.46	6.69		
Notes																												
Design Flows (l/s)	5.72l/s										5.03l/s																	
Pipe Details	DN110 HDPE PIPE PN 10																											
Ground Condition	GRAVEL UNDERLAIN ROCK																											
Bedding Details	SELECTED IMPORTED GRANULAR MATERIAL MIN=100mm																											
Horizontal Deviation	<div style="display: flex; justify-content: space-between;"> <div style="width: 20%;">N17° 18' 19" W L=20.11m</div> <div style="width: 20%;">N50° 46' 57" W L=20.11m</div> <div style="width: 20%;">N10° 47' 19" W L=20.11m</div> <div style="width: 20%;">S19° 47' 49" W L=20.11m</div> <div style="width: 20%;">S17° 32' 29" W L=20.11m</div> <div style="width: 20%;">S88° 28' 11" W L=20.11m</div> <div style="width: 20%;">S85° 44' 59" W L=20.11m</div> <div style="width: 20%;">S87° 03' 14" W L=20.11m</div> <div style="width: 20%;">S89° 04' 59" W L=20.11m</div> </div>																											

Client
WaterFund
 Financing the Water Sector
 WATER SECTOR TRUST FUND
 P.O. Box 49699 - 00100, Nairobi, Kenya
 info@waterfund.go.ke

Project
CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMBUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants
BATCH
 CONSULTING ENGINEERS
 P.O. Box 28103-00100, Nairobi, Kenya
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 Cell: +254 (0) 724627273 / +254 (0) 724627273
 E-mail: info@batchassociates.co.ke
 Web: www.batchassociates.co.ke

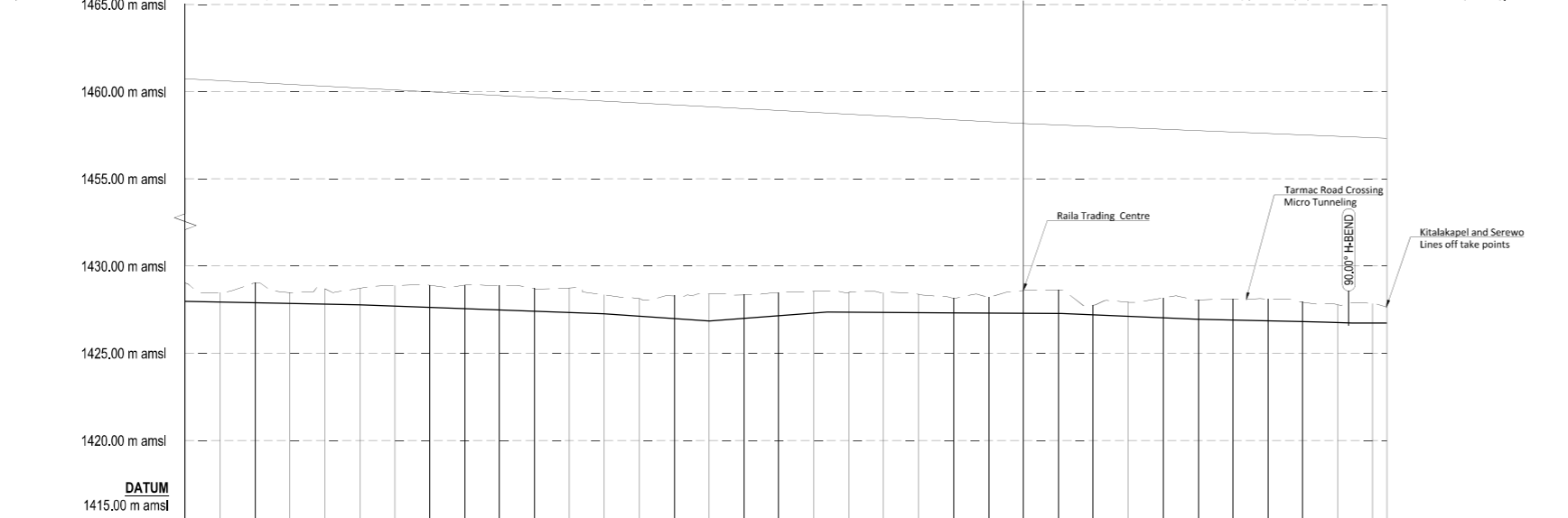
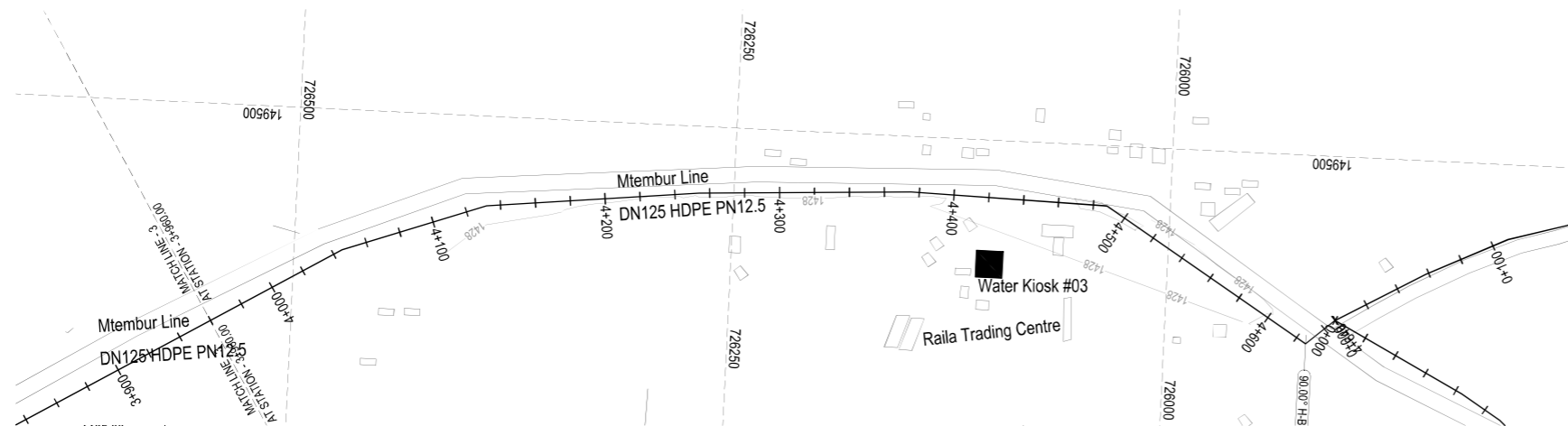
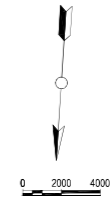
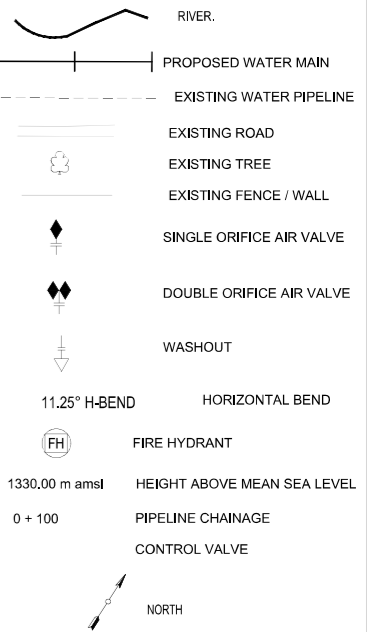
Drawing Title
MTEMBUR TO RAILA PIPELINE PLAN AND PROFILE SHEET 3 OF 4.

Designed by AGO | Drawn by AGO
 Checked by NHA | Approved by NHA
 Scale 1:1500 | Date August 2023
 STATUS DWG NO: MK-T-0703

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-



Hydraulic Level (m amsl)	1458.18																			
Chainage (m)	0+000.00	0+050.00	0+100.00	0+150.00	0+200.00	0+250.00	0+300.00	0+350.00	0+400.00	0+450.00	0+500.00	0+550.00	0+600.00	0+650.00	0+700.00	0+750.00	0+800.00	0+850.00	0+900.00	0+950.00
Ground Level (m amsl)	1428.03	1428.46	1429.01	1429.48	1429.99	1430.54	1431.11	1431.70	1432.31	1432.94	1433.60	1434.29	1435.00	1435.74	1436.51	1437.31	1438.14	1439.00	1439.89	1440.81
Invert Level (m amsl)	1427.97	1428.46	1429.01	1429.48	1429.99	1430.54	1431.11	1431.70	1432.31	1432.94	1433.60	1434.29	1435.00	1435.74	1436.51	1437.31	1438.14	1439.00	1439.89	1440.81
Trench Depth (m)	0.06	0.02	0.04	0.01	0.01	0.04	0.09	0.14	0.21	0.29	0.39	0.51	0.64	0.79	0.96	1.15	1.36	1.59	1.83	2.09
Notes											WK #03									
Design Flows (l/s)	5.03l/s										4.38l/s									
Pipe Details	DN110 HDPE PIPE PN 10																			
Ground Condition	GRAVEL UNDERLAIN ROCK																			
Bedding Details	SELECTED IMPORTED GRANULAR MATERIAL MIN=100mm																			
Horizontal Deviation	S17° 18' 14" W L=8.50m, S17° 51' 59" W L=11.63m, S16° 0' 29" W L=11.42m, N10° 36' 10" W L=14.24m, N37° 54' 29" W L=18.84m, S49° 58' 39" W L=8.87m																			

Client

WATER SECTOR TRUST FUND
 PO Box 49699 - 00100, Nairobi, Kenya
 1st Floor, CIC Plaza, Mara Road, Upper Hill, Nairobi, Kenya
 info@waterfund.go.ke

Project
CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPIRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants

P.O Box 26103, 00100, Nairobi, Kenya
 Tel: +254 (0) 20 2621168
 Fax: +254 (0) 20 2028176
 Cell: +254 (0) 714627213 / +254 (0) 736451752
 E-mail: info@batchconsultants.co.ke
 Website: www.batchconsultants.co.ke

Drawing Title
MTEMPUR TO RAILA PIPELINE PLAN AND PROFILE SHEET 4 OF 4.

Designed by	AGO	Drawn by	AGO
Checked by	NHA	Approved by	NHA
Scale	1:15000	Date	August 2023
STATUS		DWG NO:	MKT-0704

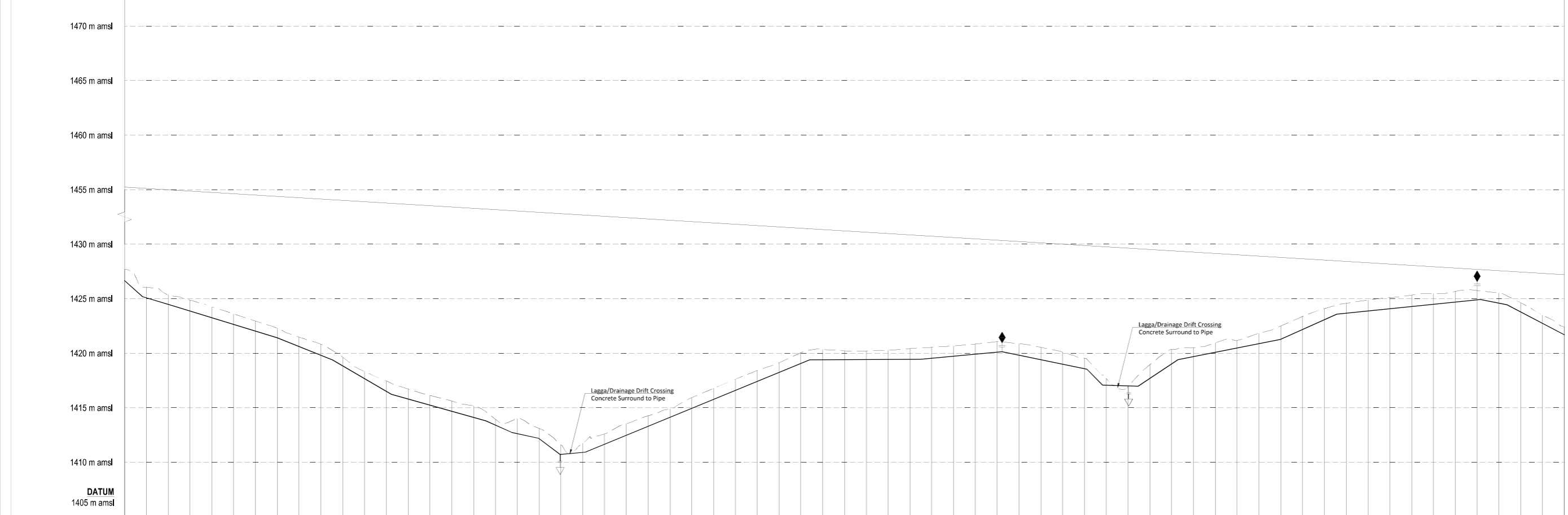
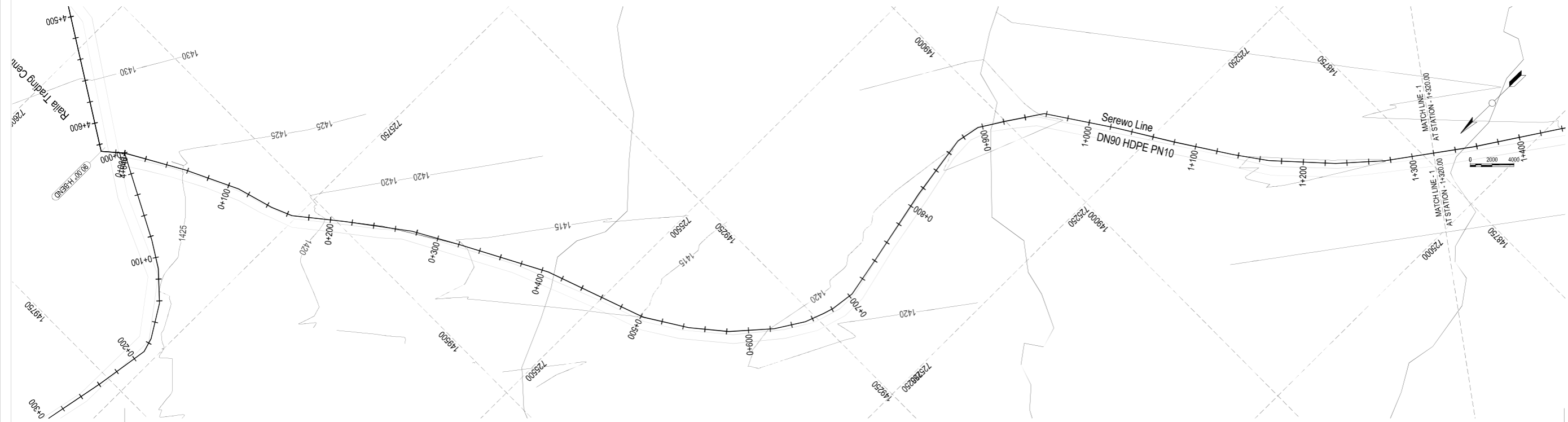
**RAILA CENTRE - SEREWO
PLAN AND PROFILE**

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-

- PROPOSED WATER MAIN
- EXISTING WATER PIPELINE
- EXISTING ROAD
- EXISTING TREE
- EXISTING FENCE / WALL
- SINGLE ORIFICE AIR VALVE
- DOUBLE ORIFICE AIR VALVE
- WASHOUT
- 11.25° H-BEND
- HORIZONTAL BEND
- FIRE HYDRANT
- 1330.0 m amsl HEIGHT ABOVE MEAN SEA LEVEL
- 0 + 100 PIPELINE CHAINAGE
- CONTROL VALVE
- NORTH



Hydraulic Level (m amsl)	Chainage (m)	Ground Level (m amsl)	Invert Level (m amsl)	Trench Depth (m)	Notes
1457.33	0+000.00	1426.85	1427.70	1.17	
	0+020.00	1426.05	1426.95	1.11	
	0+040.00	1425.38	1425.38	1.01	
	0+060.00	1424.87	1424.87	1.13	
	0+080.00	1424.25	1424.25	1.13	
	0+100.00	1423.61	1423.61	1.09	
	0+120.00	1422.95	1422.95	1.06	
	0+140.00	1422.30	1422.30	1.02	
	0+160.00	1421.48	1421.48	1.00	
	0+180.00	1420.62	1420.62	1.14	
	0+200.00	1419.64	1419.64	0.93	
	0+220.00	1418.32	1418.32	0.79	
	0+240.00	1417.46	1417.46	1.09	
	0+260.00	1416.73	1416.73	1.05	
	0+280.00	1415.15	1415.15	1.02	
	0+300.00	1414.61	1414.61	1.07	
	0+320.00	1413.18	1413.18	1.20	
	0+340.00	1411.59	1411.59	1.00	
	0+360.00	1411.75	1411.75	0.98	
	0+380.00	1412.69	1412.69	1.08	
	0+400.00	1413.54	1413.54	1.19	
	0+420.00	1414.27	1414.27	1.10	
	0+440.00	1414.87	1414.87	0.89	
	0+460.00	1415.52	1415.52	1.11	
	0+480.00	1416.78	1416.78	1.15	
	0+500.00	1417.62	1417.62	1.17	
	0+520.00	1418.41	1418.41	1.13	
	0+540.00	1419.12	1419.12	1.02	
	0+560.00	1419.03	1419.03	1.11	
	0+580.00	1419.35	1419.35	1.09	
	0+600.00	1419.22	1419.22	0.94	
	0+620.00	1419.21	1419.21	0.92	
	0+640.00	1419.28	1419.28	0.98	
	0+660.00	1419.44	1419.44	1.12	
	0+680.00	1419.54	1419.54	1.13	
	0+700.00	1419.72	1419.72	1.08	
	0+720.00	1419.84	1419.84	1.06	
	0+740.00	1420.07	1420.07	1.10	
	0+760.00	1420.88	1420.88	1.19	
	0+780.00	1420.53	1420.53	1.26	
	0+800.00	1420.10	1420.10	1.24	
	0+820.00	1419.54	1419.54	1.10	
	0+840.00	1417.70	1417.70	0.77	
	0+860.00	1416.93	1416.93	0.06	
	0+880.00	1416.94	1416.94	1.38	
	0+900.00	1420.35	1420.35	1.43	
	0+920.00	1420.49	1420.49	0.93	
	0+940.00	1420.95	1420.95	0.99	
	0+960.00	1421.17	1421.17	0.82	
	0+980.00	1421.85	1421.85	1.07	
	1+000.00	1422.49	1422.49	1.34	
	1+020.00	1423.37	1423.37	1.32	
	1+040.00	1424.09	1424.09	1.14	
	1+060.00	1424.54	1424.54	1.15	
	1+080.00	1424.55	1424.55	1.19	
	1+100.00	1424.65	1424.65	1.13	
	1+120.00	1424.67	1424.67	1.11	
	1+140.00	1424.75	1424.75	0.99	
	1+160.00	1424.55	1424.55	1.06	
	1+180.00	1424.65	1424.65	0.97	
	1+200.00	1423.50	1423.50	0.89	
	1+220.00	1422.40	1422.40	0.84	

Client

 WATER SECTOR TRUST FUND
 PO Box 49699 - 00100, Nairobi, Kenya
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Project
 CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants

 P.O. Box 28103-00100, Nairobi, Kenya
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Drawing Title
SEREWU PIPELINE PLAN AND PROFILE SHEET 1 OF 4.

Designed by	AGO	Drawn by	AGO
Checked by	NHA	Approved by	NHA
Scale	1:15000	Date	August 2023
STATUS	DWG NO: M-T-48/01		

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-

PROPOSED WATER MAIN

EXISTING WATER PIPELINE

EXISTING ROAD

EXISTING TREE

EXISTING FENCE / WALL

SINGLE ORIFICE AIR VALVE

DOUBLE ORIFICE AIR VALVE

WASHOUT

11.25° H-BEND HORIZONTAL BEND

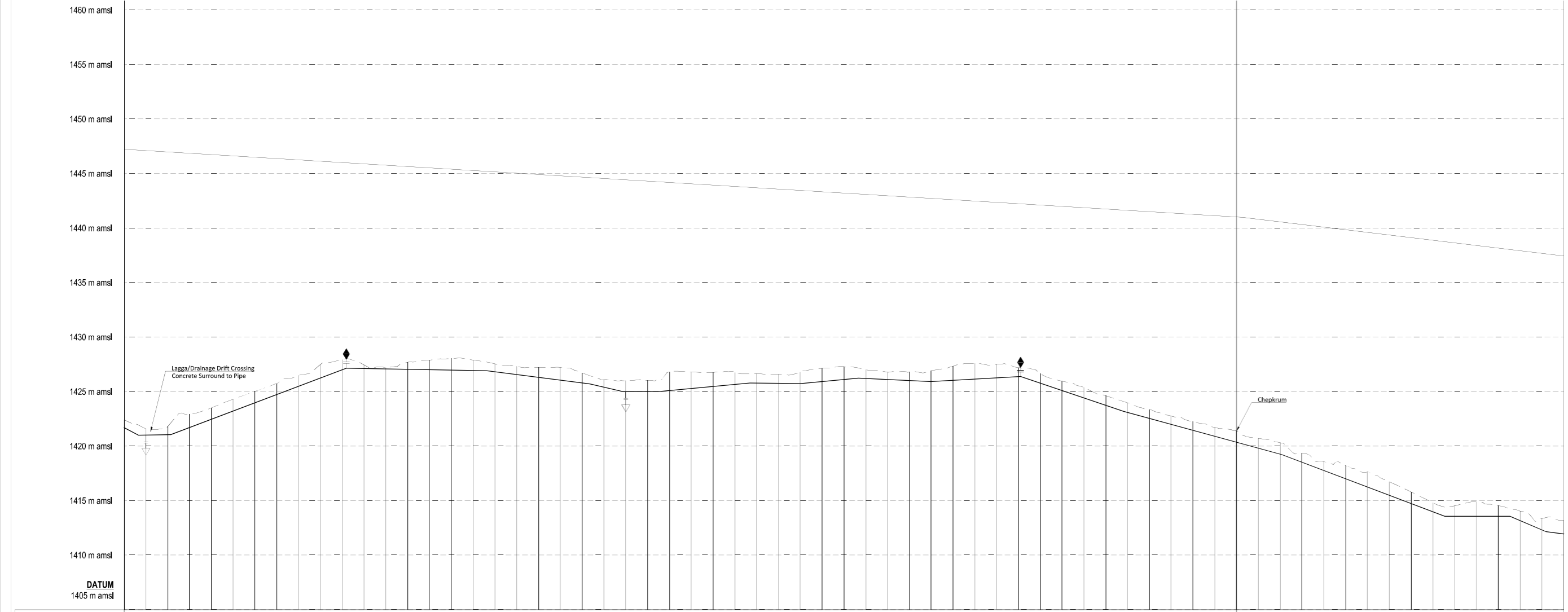
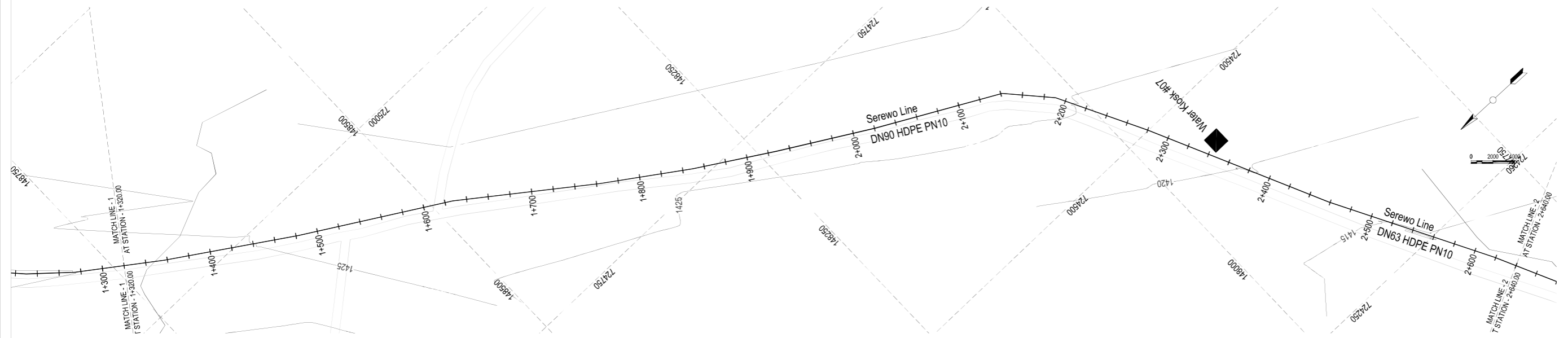
FIRE HYDRANT

1330.00 m amsl HEIGHT ABOVE MEAN SEA LEVEL

0 + 100 PIPELINE CHAINAGE

CONTROL VALVE

NORTH



Hydraulic Level (m amsl)	Chainage (m)	Ground Level (m amsl)	Invert Level (m amsl)	Trench Depth (m)	Notes
1421.68	1+300.00	1422.49	1421.60	0.84	
1421.01	1+340.00	1421.79	1420.88	0.88	
1421.05	1+350.00	1422.55	1420.56	0.88	
1421.71	1+360.00	1422.51	1420.51	0.88	
1422.46	1+400.00	1423.51	1421.00	1.18	
1423.22	1+420.00	1424.28	1421.00	1.21	
1423.97	1+440.00	1425.02	1421.00	1.18	
1424.73	1+460.00	1425.71	1421.00	1.11	
1425.49	1+480.00	1426.48	1421.00	1.13	
1426.24	1+500.00	1427.48	1421.00	1.37	
1427.00	1+520.00	1427.93	1421.00	1.06	
1427.11	1+540.00	1427.44	1421.00	0.46	
1427.08	1+560.00	1427.20	1421.00	0.25	
1427.04	1+580.00	1427.68	1421.00	0.76	
1427.01	1+600.00	1427.86	1421.00	1.01	Combination SAV
1426.97	1+620.00	1428.03	1421.00	1.19	
1426.94	1+640.00	1427.88	1421.00	1.08	
1426.92	1+660.00	1427.55	1421.00	0.86	
1426.96	1+680.00	1427.32	1421.00	0.88	
1426.31	1+700.00	1427.21	1421.00	1.03	
1426.05	1+720.00	1427.21	1421.00	1.29	
1426.79	1+740.00	1426.71	1421.00	1.05	
1426.40	1+760.00	1426.08	1421.00	0.82	
1424.98	1+780.00	1426.01	1421.00	1.15	Wash Out
1425.01	1+800.00	1425.03	1421.00	1.15	
1425.10	1+820.00	1426.61	1421.00	1.64	
1425.29	1+840.00	1426.86	1421.00	1.64	
1425.47	1+860.00	1426.76	1421.00	1.42	
1425.86	1+880.00	1426.73	1421.00	1.20	
1425.79	1+900.00	1426.63	1421.00	0.98	
1425.77	1+920.00	1426.58	1421.00	0.95	
1425.75	1+940.00	1426.89	1421.00	1.18	
1425.93	1+960.00	1427.14	1421.00	1.34	
1426.12	1+980.00	1427.26	1421.00	1.31	
1426.21	2+000.00	1427.01	1421.00	0.94	
1426.11	2+020.00	1426.79	1421.00	0.80	
1426.02	2+040.00	1426.81	1421.00	0.82	
1425.93	2+060.00	1426.91	1421.00	1.11	
1426.04	2+080.00	1427.32	1421.00	1.42	
1426.15	2+100.00	1427.58	1421.00	1.56	
1426.37	2+140.00	1427.19	1421.00	0.96	
1425.77	2+160.00	1426.63	1421.00	0.99	
1425.09	2+180.00	1425.96	1421.00	1.00	
1424.42	2+200.00	1425.38	1421.00	1.09	
1423.74	2+220.00	1424.62	1421.00	1.01	
1423.09	2+240.00	1423.96	1421.00	1.00	
1422.54	2+260.00	1423.32	1421.00	0.91	
1421.99	2+280.00	1422.76	1421.00	0.89	
1421.45	2+300.00	1422.23	1421.00	0.92	
1420.90	2+320.00	1421.71	1421.00	0.84	
1420.35	2+340.00	1421.38	1421.00	1.17	
1419.81	2+360.00	1420.71	1421.00	1.03	
1419.26	2+380.00	1420.31	1421.00	1.18	
1418.52	2+400.00	1419.37	1421.00	0.88	
1417.76	2+420.00	1418.57	1421.00	0.94	
1417.00	2+440.00	1418.19	1421.00	1.32	
1416.24	2+460.00	1417.62	1421.00	1.50	
1415.48	2+480.00	1416.73	1421.00	1.37	
1414.73	2+500.00	1415.79	1421.00	1.20	
1413.97	2+520.00	1414.81	1421.00	0.87	
1413.56	2+540.00	1414.53	1421.00	1.10	
1413.56	2+560.00	1414.88	1421.00	1.45	
1413.56	2+580.00	1415.54	1421.00	1.11	
1413.16	2+600.00	1414.03	1421.00	1.00	
1412.31	2+620.00	1413.37	1421.00	1.19	
1411.95	2+640.00	1413.17	1421.00	1.36	

Client

WATER SECTOR TRUST FUND

P.O. Box #9699 - 00100, Nairobi, Kenya
1st Floor, CIC Plaza, Mara Road, Upper Hill, Nairobi, Kenya

Project

CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants

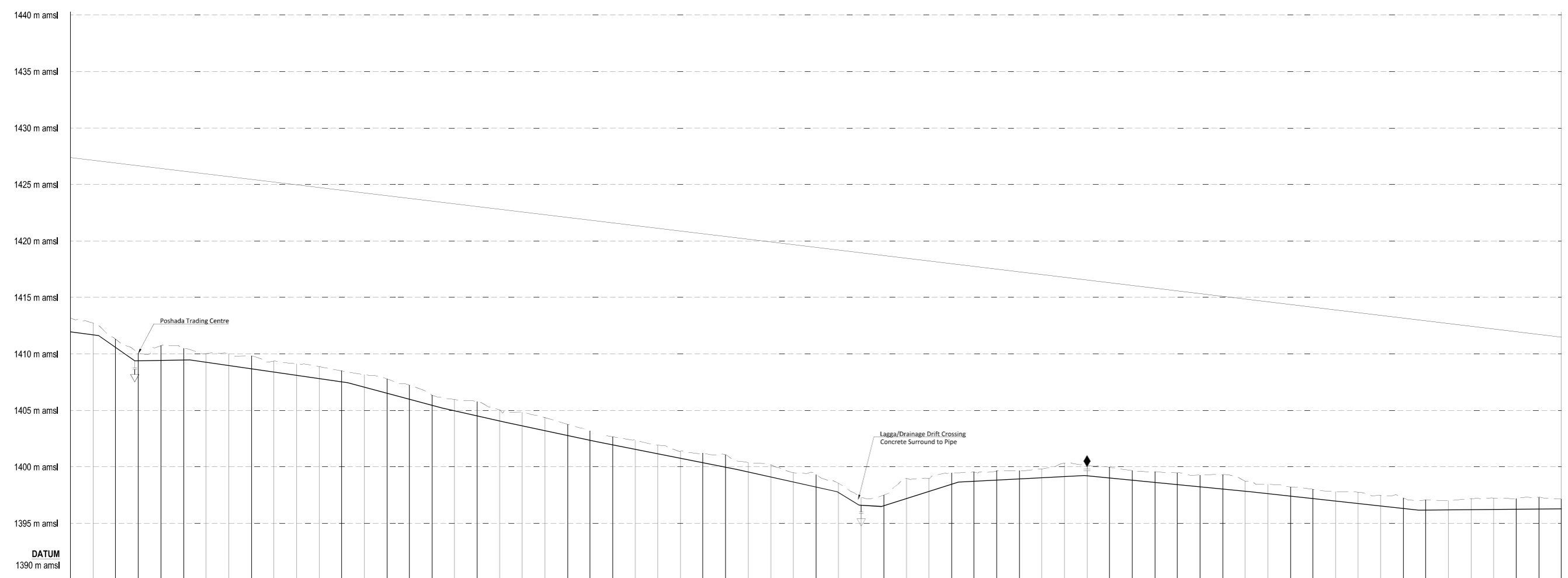
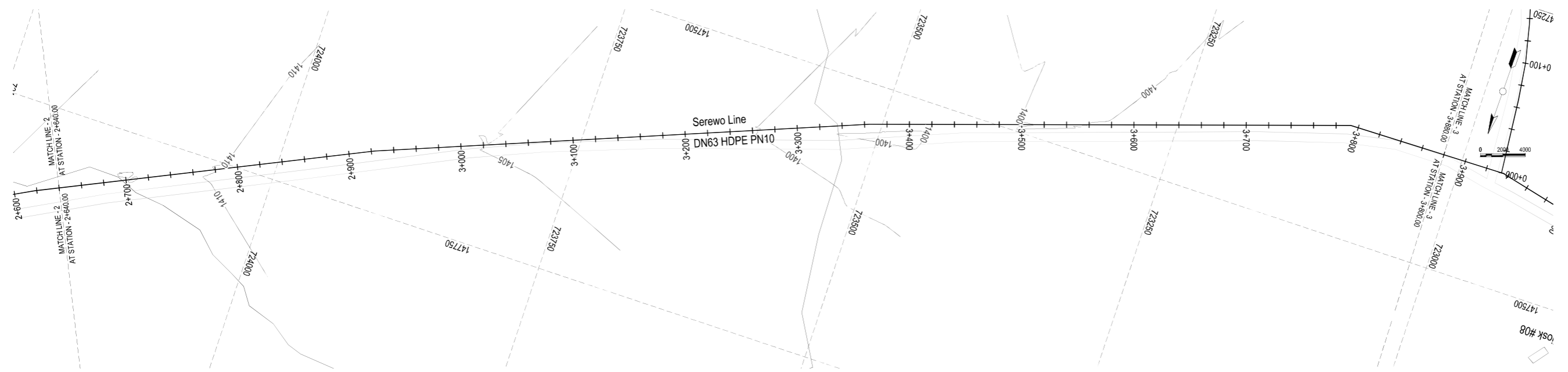
BATCH CONSULTING ENGINEERS

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Drawing Title

SEREWU PIPELINE PLAN AND PROFILE SHEET 2 OF 4.

Designed by	AGO	Drawn by	AGO
Checked by	NHA	Approved by	NHA
Scale	1:1500	Date	August 2023
STATUS	0	DWG NO.	M/T-0802



Hydraulic Level (m amsl)	Chainage (m)	Ground Level (m amsl)	Invert Level (m amsl)	Trench Depth (m)
1440	2+600	1413.17	1411.96	1.23
1435	2+700	1412.73	1411.69	1.05
1430	2+800	1411.29	1410.56	0.73
1425	2+900	1410.06	1409.38	0.68
1420	3+000	1410.73	1409.42	1.31
1415	3+100	1410.50	1409.45	1.05
1410	3+200	1410.03	1409.26	0.77
1405	3+300	1409.99	1408.97	1.02
1400	3+400	1409.84	1408.68	1.16
1395	3+500	1409.37	1408.39	0.98
	3+600	1408.12	1408.10	1.02
	3+700	1408.87	1407.81	1.06
	3+800	1408.50	1407.52	0.98
	3+900	1408.17	1407.05	1.11
	3+1000	1407.79	1406.52	1.27
	3+2000	1407.24	1405.99	1.25
	3+3000	1406.34	1405.46	0.88
	3+4000	1405.96	1404.97	1.00
	3+5000	1405.77	1404.52	1.25
	3+6000	1405.03	1404.07	0.97
	3+7000	1404.84	1403.63	1.21
	3+8000	1404.36	1403.21	1.15
	3+9000	1403.77	1402.78	0.99
	3+10000	1403.21	1402.35	0.86
	3+20000	1402.66	1401.95	0.71
	3+30000	1402.36	1401.55	0.81
	3+40000	1401.92	1401.16	0.76
	3+50000	1401.39	1400.76	0.64
	3+60000	1401.22	1400.38	0.85
	3+70000	1401.08	1399.98	1.12
	3+80000	1400.38	1399.54	0.84
	3+90000	1400.19	1399.10	1.09
	3+100000	1399.49	1398.65	0.83
	3+200000	1399.33	1398.21	1.12
	3+300000	1398.55	1397.71	0.83
	3+400000	1397.31	1396.61	0.69
	3+500000	1397.51	1396.55	0.96
	3+600000	1398.97	1397.19	1.79
	3+700000	1398.99	1397.62	1.17
	3+800000	1399.48	1398.46	1.03
	3+900000	1399.55	1398.72	0.82
	3+1000000	1399.64	1398.63	0.62
	3+2000000	1399.66	1398.93	0.73
	3+3000000	1399.82	1399.04	0.78
	3+4000000	1400.33	1399.14	1.19
	3+5000000	1400.16	1399.21	0.95
	3+6000000	1399.88	1399.02	0.86
	3+7000000	1399.68	1398.82	0.85
	3+8000000	1399.56	1398.63	0.94
	3+9000000	1399.48	1398.43	1.05
	3+10000000	1399.28	1398.23	1.05
	3+20000000	1399.30	1398.04	1.26
	3+30000000	1398.74	1397.84	0.90
	3+40000000	1398.44	1397.63	0.81
	3+50000000	1398.23	1397.41	0.81
	3+60000000	1398.02	1397.19	0.83
	3+70000000	1397.81	1396.98	0.84
	3+80000000	1397.77	1396.76	1.01
	3+90000000	1397.47	1396.54	0.93
	3+100000000	1397.26	1396.32	0.94
	3+200000000	1397.06	1396.18	0.88
	3+300000000	1397.03	1396.20	0.83
	3+400000000	1397.19	1396.21	0.98
	3+500000000	1397.24	1396.23	1.01
	3+600000000	1397.21	1396.25	0.97
	3+700000000	1397.31	1396.26	1.05
	3+800000000	1397.16	1396.28	0.88

- NOTES:**
- All Levels are in metres based on National Datum
 - The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
 - Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
 - Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
 - Minimum cover top all pipes to be 1.0m
- LEGEND:-**
- PROPOSED WATER MAIN
 - EXISTING WATER PIPELINE
 - EXISTING ROAD
 - EXISTING TREE
 - EXISTING FENCE / WALL
 - SINGLE ORIFICE AIR VALVE
 - DOUBLE ORIFICE AIR VALVE
 - WASHOUT
 - 11.25° H-BEND HORIZONTAL BEND
 - FIRE HYDRANT
 - 1330.00 m amsl HEIGHT ABOVE MEAN SEA LEVEL
 - 0 + 100 PIPELINE CHAINAGE
 - CONTROL VALVE
 - NORTH

Client: WATER SECTOR TRUST FUND
 PO Box 49699 - 00100, Nairobi, Kenya
 1st Floor, CIC Plaza, Mara Road, Upper Hill, Nairobi, Kenya
 info@waterfund.go.ke

Project: CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPIRA PROGRAMME IN WEST POKOT COUNTY
REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants: P.O. Box 34033-00100, Nairobi, Kenya
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 E-mail: info@batchconsultants.co.ke
 Website: www.batchconsultants.co.ke

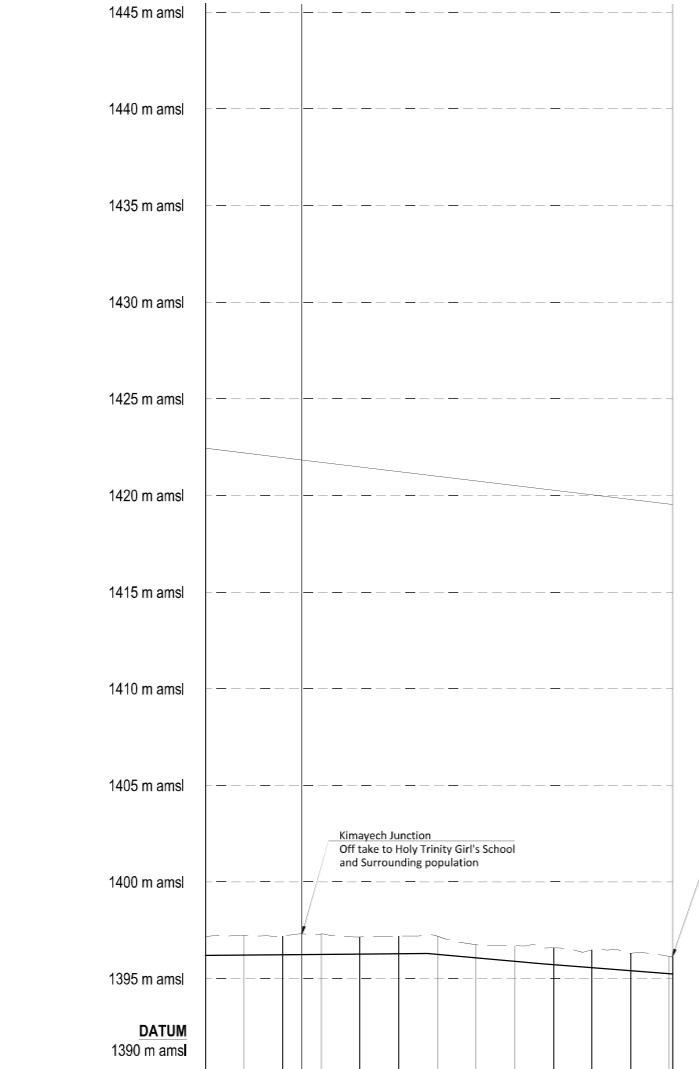
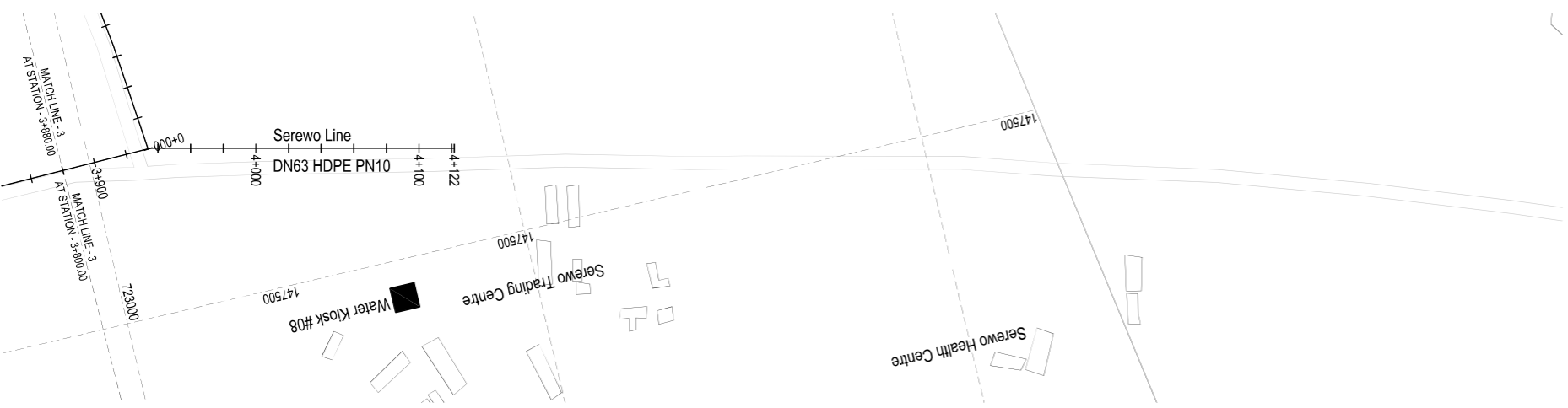
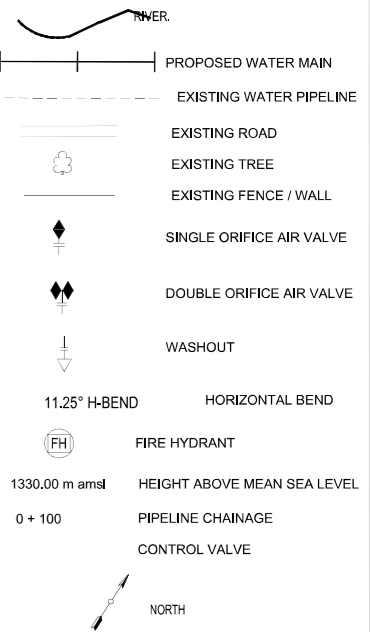
Drawing Title: **SEREWI PIPELINE PLAN AND PROFILE SHEET 3 OF 4.**

Designed by: AGO | Drawn by: AGO
 Checked by: NHA | Approved by: NHA
 Scale: 1:15000 | Date: August 2023
 STATUS: DWG NO: MGT-0803

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-



Hydraulic Level (m amsl)	1423.94	1421.62
Chainage (m)	3+880.00	4+216.63
Ground Level (m amsl)	1397.21	1396.13
Invert Level (m amsl)	1396.21	1395.16
Trench Depth (m)	0.98	1.01
Notes	Offtake Tee - WK #08	
Design Flows (l/s)	0.98l/s	0.60l/s
Pipe Details	DN50 HDPE PIPE PN 10	
Ground Condition	SELECTED IMPORTED GRANULAR MATERIAL MIN=100mm.	
Horizontal Deviation	889.087° NW L=142.20m	109.447° NW L=98.21m

Client

 WATER SECTOR TRUST FUND
 P.O. Box 49699 - 00100, Nairobi, Kenya
 info@waterfund.go.ke

Project
 CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPIRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WSTF/EU/RFP/07/2022-2023

Consultants

 P.O. Box 28103-00100, Nairobi, Kenya
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 Call: +254 (0) 734467213 / +254 (0) 734451752
 E-mail: info@batchconsultants.co.ke
 Web: www.batchconsultants.co.ke

Drawing Title
SEREWU PIPELINE PLAN AND PROFILE SHEET 4 OF 4.

Designed by	AGO	Drawn by	AGO
Checked by	NHA	Approved by	NHA
Scale	1:15000	Date	August 2023
STATUS	DWG NO: MK-T-08/04		

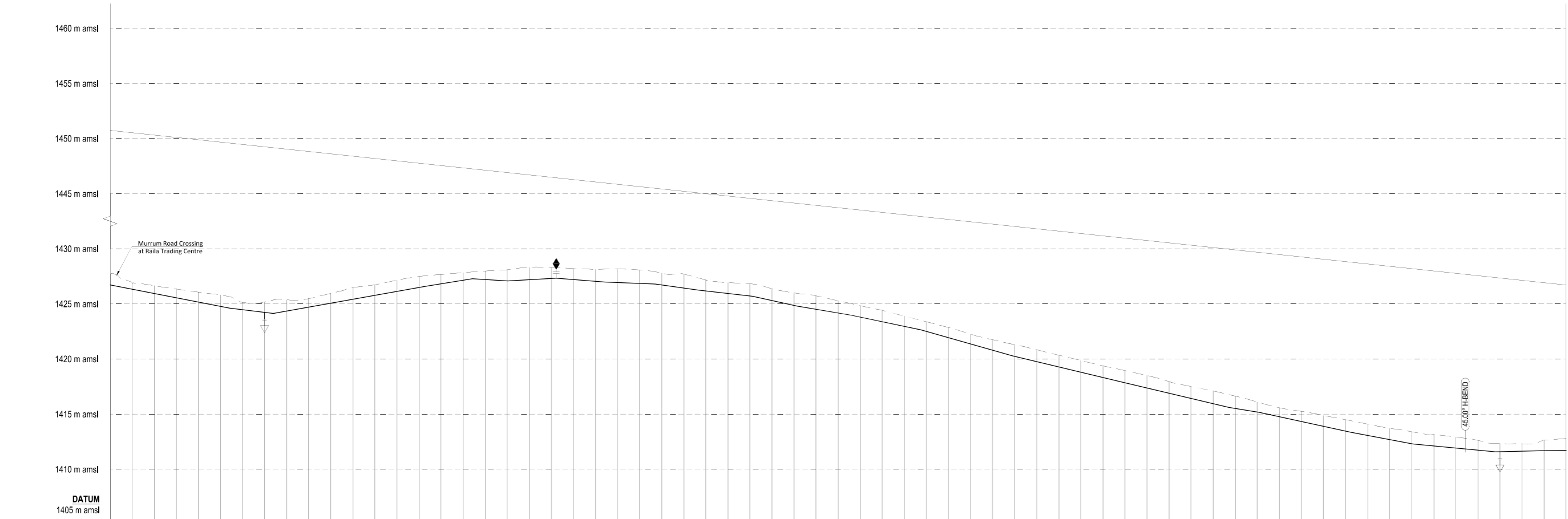
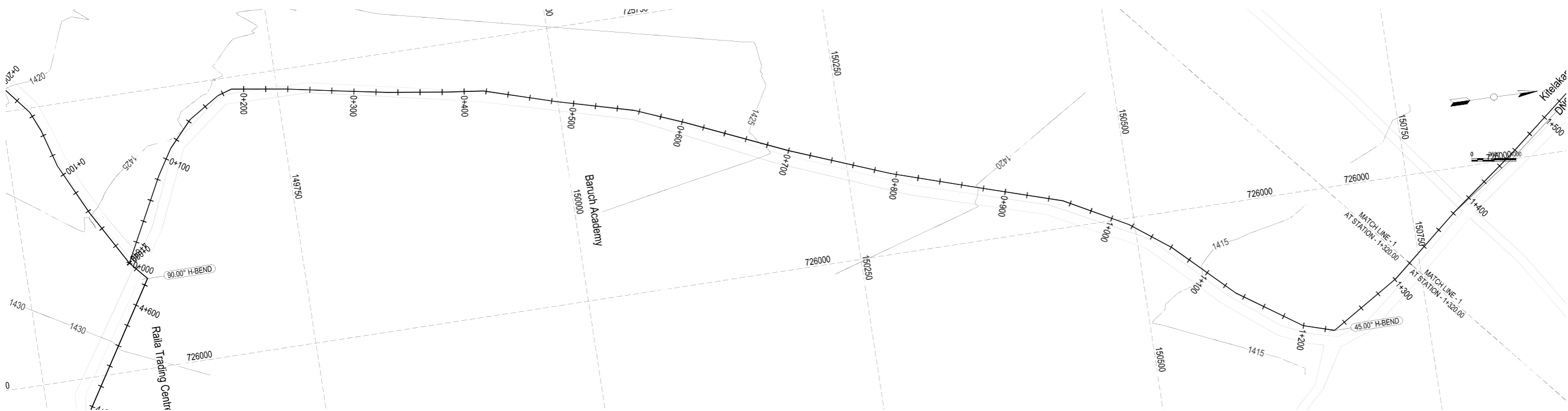
RAILA CENTRE - KITALAKAPEL PLAN AND PROFILE

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-

PROPOSED WATER MAIN
 EXISTING WATER PIPELINE
 EXISTING ROAD
 EXISTING TREE
 EXISTING FENCE / WALL
 SINGLE ORIFICE AIR VALVE
 DOUBLE ORIFICE AIR VALVE
 WASHOUT
 11.25° H-BEND HORIZONTAL BEND
 (FH) FIRE HYDRANT
 1330.0 m amsl HEIGHT ABOVE MEAN SEA LEVEL
 0 + 100 PIPELINE CHAINAGE
 CONTROL VALVE
 NORTH



Hydraulic Level (m amsl)	Chainage (m)	Ground Level (m amsl)	Invert Level (m amsl)	Trench Depth (m)	Notes
1457.33	0+000.00	1427.70	1427.70	0.88	
1457.33	0+100.00	1426.90	1426.90	0.88	
1457.33	0+200.00	1426.85	1426.85	0.71	
1457.33	0+300.00	1426.34	1426.34	0.79	
1457.33	0+400.00	1426.07	1426.07	0.90	
1457.33	0+500.00	1425.81	1425.81	1.03	
1457.33	0+600.00	1425.14	1425.14	0.66	
1457.33	0+700.00	1425.18	1425.18	0.58	
1457.33	0+800.00	1425.37	1425.37	1.02	
1457.33	0+900.00	1425.48	1425.48	0.77	
1457.33	1+000.00	1425.95	1425.95	0.89	
1457.33	1+100.00	1426.49	1426.49	1.07	
1457.33	1+200.00	1426.73	1426.73	0.85	
1457.33	1+300.00	1427.15	1427.15	1.02	
1457.33	1+400.00	1427.48	1427.48	0.99	
1457.33	1+500.00	1427.67	1427.67	0.84	
1457.33	1+600.00	1427.83	1427.83	0.69	
1457.33	1+700.00	1427.98	1427.98	0.77	
1457.33	1+800.00	1428.09	1428.09	1.02	
1457.33	1+900.00	1428.32	1428.32	1.13	
1457.33	2+000.00	1428.29	1428.29	0.98	
1457.33	2+100.00	1428.20	1428.20	0.99	
1457.33	2+200.00	1428.13	1428.13	1.08	
1457.33	2+300.00	1428.16	1428.16	1.23	
1457.33	2+400.00	1428.08	1428.08	1.23	
1457.33	2+500.00	1427.79	1427.79	1.07	
1457.33	2+600.00	1427.70	1427.70	1.28	
1457.33	2+700.00	1427.16	1427.16	0.98	
1457.33	2+800.00	1426.83	1426.83	0.98	
1457.33	2+900.00	1426.83	1426.83	1.11	
1457.33	3+000.00	1426.37	1426.37	1.06	
1457.33	3+100.00	1426.00	1426.00	1.13	
1457.33	3+200.00	1425.73	1425.73	1.22	
1457.33	3+300.00	1425.28	1425.28	1.11	
1457.33	3+400.00	1424.84	1424.84	1.04	
1457.33	3+500.00	1424.42	1424.42	1.04	
1457.33	3+600.00	1423.89	1423.89	0.93	
1457.33	3+700.00	1423.37	1423.37	0.87	
1457.33	3+800.00	1422.85	1422.85	0.92	
1457.33	3+900.00	1422.25	1422.25	0.88	
1457.33	4+000.00	1421.75	1421.75	0.84	
1457.33	4+100.00	1421.30	1421.30	1.06	
1457.33	4+200.00	1420.84	1420.84	1.08	
1457.33	4+300.00	1420.35	1420.35	1.07	
1457.33	4+400.00	1419.86	1419.86	1.06	
1457.33	4+500.00	1419.38	1419.38	1.06	
1457.33	4+600.00	1418.95	1418.95	1.11	
1457.33	4+700.00	1418.51	1418.51	1.14	
1457.33	4+800.00	1417.95	1417.95	1.06	
1457.33	4+900.00	1417.51	1417.51	1.09	
1457.33	5+000.00	1417.09	1417.09	1.15	
1457.33	5+100.00	1416.63	1416.63	1.12	
1457.33	5+200.00	1416.10	1416.10	0.92	
1457.33	5+300.00	1415.57	1415.57	0.81	
1457.33	5+400.00	1415.24	1415.24	0.92	
1457.33	5+500.00	1414.87	1414.87	0.98	
1457.33	5+600.00	1414.49	1414.49	1.02	
1457.33	5+700.00	1414.09	1414.09	1.02	
1457.33	5+800.00	1413.71	1413.71	1.02	
1457.33	5+900.00	1413.41	1413.41	1.05	
1457.33	6+000.00	1413.16	1413.16	1.04	
1457.33	6+100.00	1412.92	1412.92	1.00	
1457.33	6+200.00	1412.82	1412.82	0.89	
1457.33	6+300.00	1412.33	1412.33	0.74	
1457.33	6+400.00	1412.31	1412.31	0.67	
1457.33	6+500.00	1412.63	1412.63	0.94	
1457.33	6+600.00	1412.29	1412.29	1.08	

Client

 WATER SECTOR TRUST FUND
 P.O. Box 49699 - 00100, Nairobi, Kenya
 info@waterfund.go.ke

Project
 CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPRA PROGRAMME IN WEST POKOT COUNTY
REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants

 P.O. Box 28103-00100, Nairobi, Kenya
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 Fax: +254 (0) 20 2621876
 Call: +254 (0) 734667233 / +254 (0) 7346451752
 E-mail: info@batch.co.ke
 Website: www.batch.co.ke

Drawing Title
KITALAKAPEL PIPELINE PLAN AND PROFILE SHEET 1 OF 5.

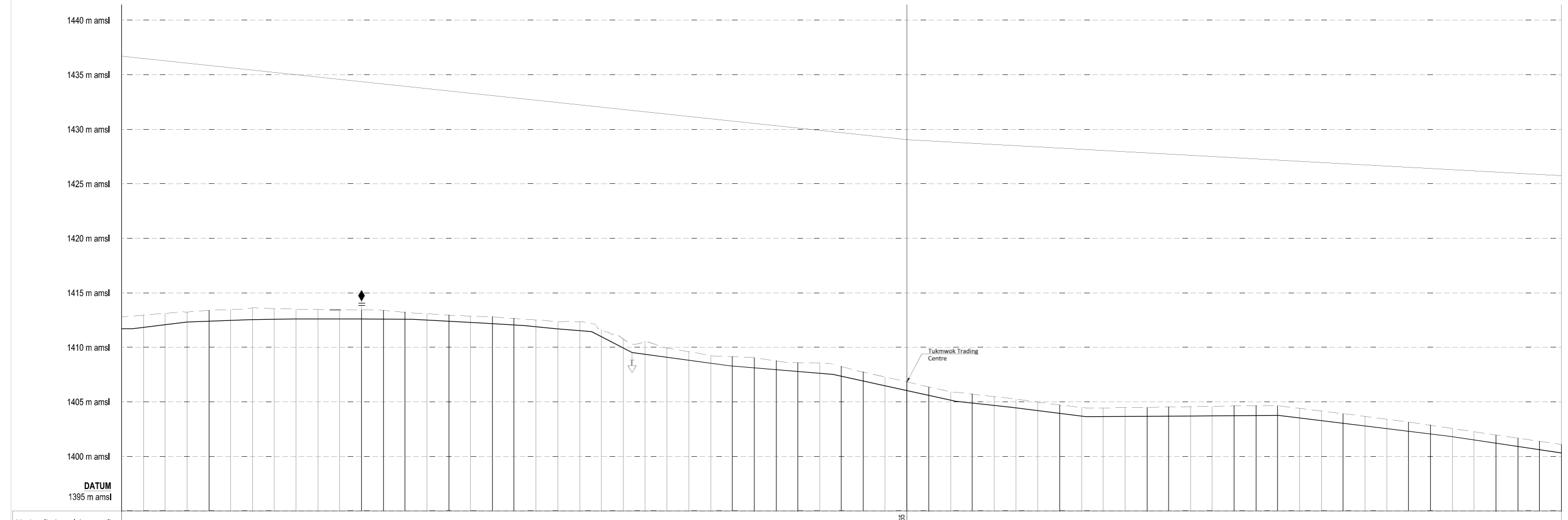
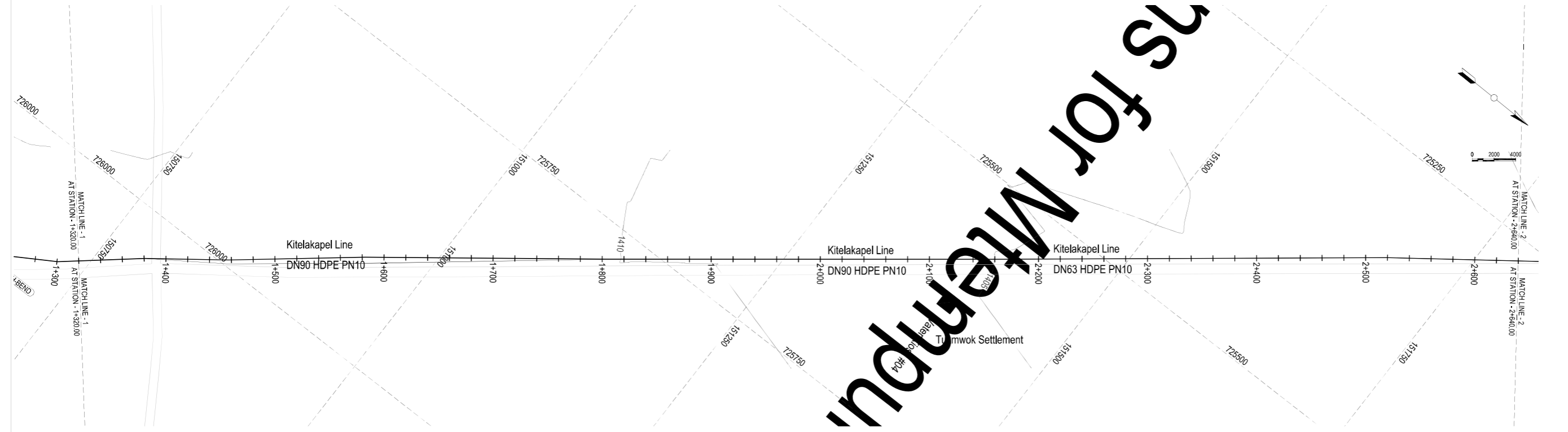
Designed by AGO Drawn by AGO
 Checked by NHA Approved by NHA
 Scale 1:15000 Date August 2023
 STATUS DWG NO: MK-T-0801

NOTES:

1. All Levels are in metres based on National Datum
2. The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
3. Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
4. Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
5. Minimum cover top all pipes to be 1.0m

LEGEND:-

- WATER MAIN
- EXISTING WATER PIPELINE
- EXISTING ROAD
- EXISTING TREE
- EXISTING FENCE / WALL
- SINGLE ORIFICE AIR VALVE
- DOUBLE ORIFICE AIR VALVE
- WASHOUT
- 11.25° H-BEND
- HORIZONTAL BEND
- FIRE HYDRANT
- 1330.00 m amsl HEIGHT ABOVE MEAN SEA LEVEL
- 0 + 100 PIPELINE CHAINAGE
- CONTROL VALVE
- NORTH



Hydraulic Level (m amsl)										
Chainage (m)	1+300.00	1+320.00	1+340.00	1+360.00	1+380.00	1+400.00	1+420.00	1+440.00	1+460.00	1+480.00
Ground Level (m amsl)	1412.79	1412.78	1412.96	1413.24	1413.24	1413.40	1413.47	1413.62	1413.66	1413.65
Invert Level (m amsl)	1412.79	1412.78	1412.96	1413.24	1413.24	1413.40	1413.47	1413.62	1413.66	1413.65
Trench Depth (m)	1.08	1.12	1.14	1.16	1.18	1.20	1.22	1.24	1.26	1.28
Notes						Combination SAV			Wash Out	
Design Flows (l/s)	2.42l/s					1.69l/s				
Pipe Details	DN75 HDPE PIPE PN 10					DN75 HDPE PIPE PN 10				
Bedding Details	SELECTED IMPORTED GRANULAR MATERIAL MIN=100mm.									
Horizontal Deviation	<div style="display: flex; justify-content: space-between;"> <div style="width: 20%;">N07 88' 30" W L=24.31m</div> <div style="width: 20%;">N07 88' 30" W L=24.31m</div> <div style="width: 20%;">N07 88' 30" W L=24.31m</div> <div style="width: 20%;">N07 88' 30" W L=24.31m</div> <div style="width: 20%;">N07 88' 30" W L=24.31m</div> </div>									

Client:

WATER SECTOR TRUST FUND
 PO Box 49699 - 00100, Nairobi, Kenya
 info@waterfund.go.ke

Project:
 CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPIRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants:

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 Website: www.batchconsultants.co.ke

Drawing Title:
 KITALAKAPEL PIPELINE PLAN AND PROFILE
 SHEET 2 OF 5.

Designed by AGO Drawn by AGO
 Checked by NHA Approved by NHA

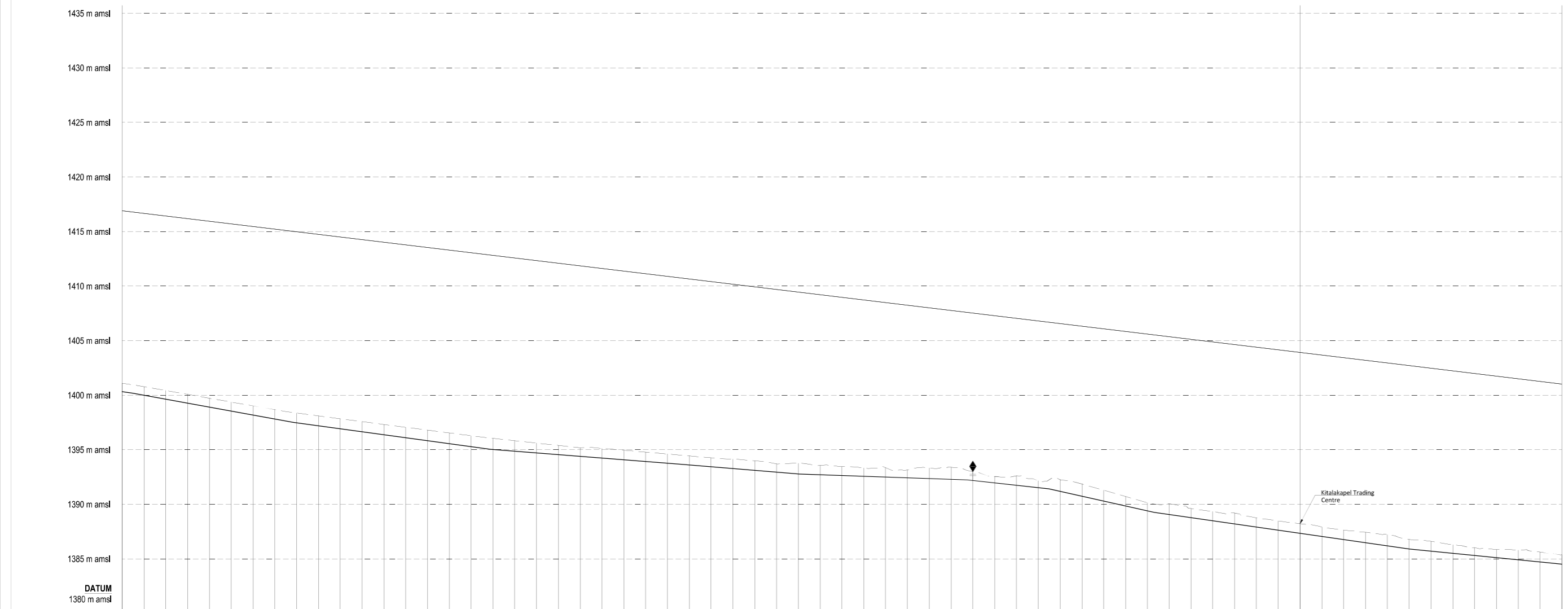
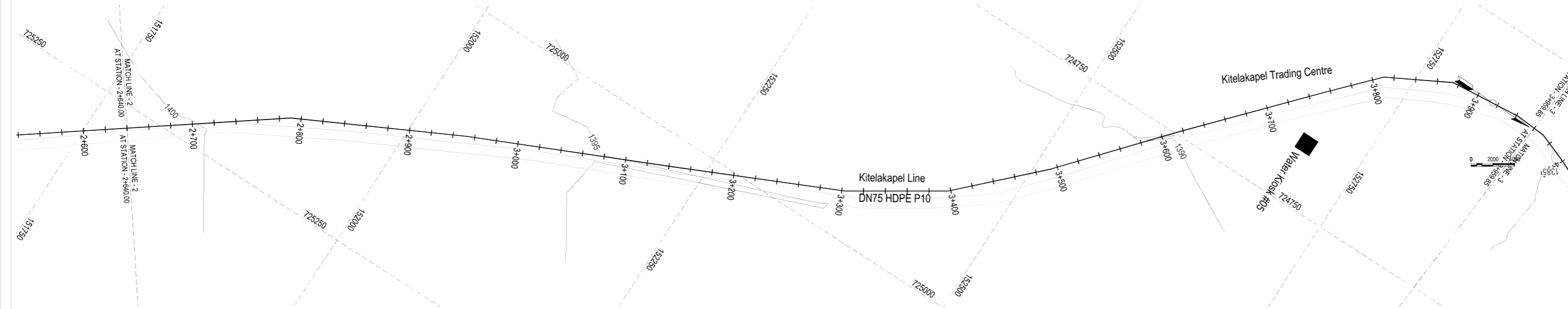
Scale: 1:15000 Date: August 2023
 STATUS: DWG NO: MK-T-0902

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-

- PROPOSED WATER MAIN
- EXISTING WATER PIPELINE
- EXISTING ROAD
- EXISTING TREE
- EXISTING FENCE / WALL
- SINGLE ORIFICE AIR VALVE
- DOUBLE ORIFICE AIR VALVE
- WASHOUT
- 11.25° H-BEND HORIZONTAL BEND
- (FH) FIRE HYDRANT
- 1330.00 m amsl HEIGHT ABOVE MEAN SEA LEVEL
- 0 + 100 PIPELINE CHAINAGE
- CONTROL VALVE
- NORTH



Hydraulic Level (m amsl)	Chainage (m)	Ground Level (m amsl)	Invert Level (m amsl)	Trench Depth (m)	Notes
1435.00	2+400.00	1401.10	1401.10	0.77	
1434.78	2+450.00	1400.78	1400.78	0.79	
1434.43	2+500.00	1400.43	1400.43	0.80	
1434.08	2+550.00	1400.08	1400.08	0.81	
1433.73	2+600.00	1399.73	1399.73	0.82	
1433.38	2+650.00	1399.38	1399.38	0.83	
1433.02	2+700.00	1399.02	1399.02	0.84	
1432.67	2+750.00	1398.67	1398.67	0.85	
1432.31	2+800.00	1398.31	1398.31	0.86	
1431.95	2+850.00	1397.95	1397.95	0.87	
1431.59	2+900.00	1397.59	1397.59	0.88	
1431.23	2+950.00	1397.23	1397.23	0.89	
1430.87	3+000.00	1396.87	1396.87	0.90	
1430.51	3+050.00	1396.51	1396.51	0.91	
1430.15	3+100.00	1396.15	1396.15	0.92	
1429.79	3+150.00	1395.79	1395.79	0.93	
1429.43	3+200.00	1395.43	1395.43	0.94	
1429.07	3+250.00	1395.07	1395.07	0.95	
1428.71	3+300.00	1394.71	1394.71	0.96	
1428.35	3+350.00	1394.35	1394.35	0.97	
1427.99	3+400.00	1393.99	1393.99	0.98	
1427.63	3+450.00	1393.63	1393.63	0.99	
1427.27	3+500.00	1393.27	1393.27	1.00	
1426.91	3+550.00	1392.91	1392.91	1.01	
1426.55	3+600.00	1392.55	1392.55	1.02	
1426.19	3+650.00	1392.19	1392.19	1.03	
1425.83	3+700.00	1391.83	1391.83	1.04	
1425.47	3+750.00	1391.47	1391.47	1.05	
1425.11	3+800.00	1391.11	1391.11	1.06	
1424.75	3+850.00	1390.75	1390.75	1.07	
1424.39	3+900.00	1390.39	1390.39	1.08	
1424.03	3+950.00	1389.03	1389.03	1.09	

Client

 WATER SECTOR TRUST FUND
 P.O. Box 49699 - 00100, Nairobi, Kenya
 info@waterfund.go.ke

Project
 CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPRA PROGRAMME IN WEST POKOT COUNTY

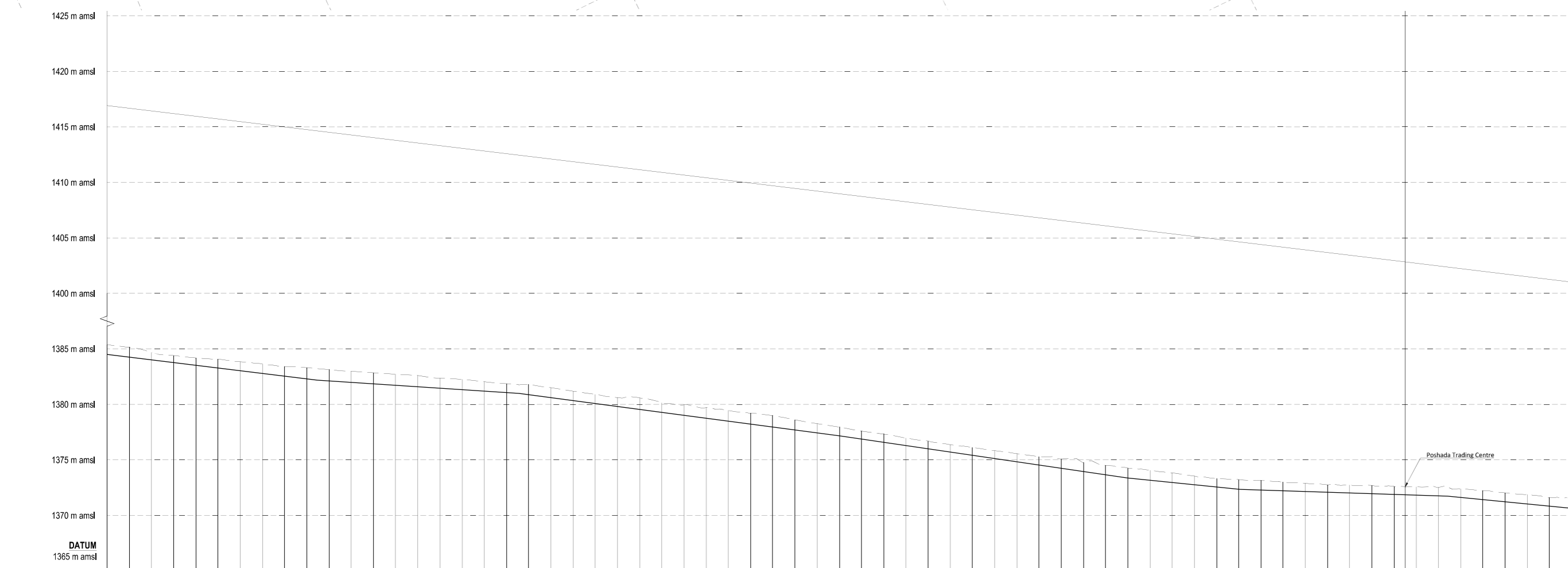
REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants

 P.O. Box 28103-00100, Nairobi, Kenya
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 E-mail: info@batchconsultants.co.ke
 Website: www.batchconsultants.co.ke

Drawing Title
KITALAKAPEL PIPELINE PLAN AND PROFILE SHEET 3 OF 5.

Designed by AGO Drawn by AGO
 Checked by IHA Approved by IHA
 Scale 1:15000 Date August 2023
 STATUS DWG NO: MK-1-29103



Hydraulic Level (m amsl)	Chainage (m)	Ground Level (m amsl)	Invert Level (m amsl)	Trench Depth (m)	Notes	Design Flows (l/s)	Pipe Details	Ground Condition	Bedding Details	Horizontal Deviation
1385.38	3+985.85	1385.38	1385.38	0.00	SELECTED IMPORTED GRANULAR MATERIAL MIN=100mm.	0.92l/s	DN50 HDPE PIPE PN 10			N01 20 8FE L=28.80m
1385.14	3+990.00	1385.14	1385.14	0.00						N02 20 8FE L=28.80m
1384.68	4+000.00	1384.68	1384.68	0.00						N03 20 8FE L=28.80m
1384.38	4+020.00	1384.38	1384.38	0.00						N04 20 8FE L=28.80m
1384.18	4+040.00	1384.18	1384.18	0.00						N05 20 8FE L=28.80m
1384.08	4+060.00	1384.08	1384.08	0.00						N06 20 8FE L=28.80m
1383.84	4+080.00	1383.84	1383.84	0.00						N07 20 8FE L=28.80m
1383.64	4+100.00	1383.64	1383.64	0.00						N08 20 8FE L=28.80m
1383.42	4+120.00	1383.42	1383.42	0.00						
1383.30	4+140.00	1383.30	1383.30	0.00						
1383.12	4+160.00	1383.12	1383.12	0.00						
1382.98	4+180.00	1382.98	1382.98	0.00						
1382.86	4+200.00	1382.86	1382.86	0.00						
1382.71	4+220.00	1382.71	1382.71	0.00						
1382.60	4+240.00	1382.60	1382.60	0.00						
1382.36	4+260.00	1382.36	1382.36	0.00						
1382.25	4+280.00	1382.25	1382.25	0.00						
1382.04	4+300.00	1382.04	1382.04	0.00						
1381.86	4+320.00	1381.86	1381.86	0.00						
1381.79	4+340.00	1381.79	1381.79	0.00						
1381.50	4+360.00	1381.50	1381.50	0.00						
1381.19	4+380.00	1381.19	1381.19	0.00						
1380.90	4+400.00	1380.90	1380.90	0.00						
1380.61	4+420.00	1380.61	1380.61	0.00						
1380.58	4+440.00	1380.58	1380.58	0.00						
1380.13	4+460.00	1380.13	1380.13	0.00						
1379.97	4+480.00	1379.97	1379.97	0.00						
1379.72	4+500.00	1379.72	1379.72	0.00						
1379.45	4+520.00	1379.45	1379.45	0.00						
1379.20	4+540.00	1379.20	1379.20	0.00						
1378.98	4+560.00	1378.98	1378.98	0.00						
1378.67	4+580.00	1378.67	1378.67	0.00						
1378.27	4+600.00	1378.27	1378.27	0.00						
1377.95	4+620.00	1377.95	1377.95	0.00						
1377.59	4+640.00	1377.59	1377.59	0.00						
1377.32	4+660.00	1377.32	1377.32	0.00						
1376.96	4+680.00	1376.96	1376.96	0.00						
1376.69	4+700.00	1376.69	1376.69	0.00						
1376.37	4+720.00	1376.37	1376.37	0.00						
1376.12	4+740.00	1376.12	1376.12	0.00						
1375.82	4+760.00	1375.82	1375.82	0.00						
1375.56	4+780.00	1375.56	1375.56	0.00						
1375.29	4+800.00	1375.29	1375.29	0.00						
1375.09	4+820.00	1375.09	1375.09	0.00						
1374.74	4+840.00	1374.74	1374.74	0.00						
1374.51	4+860.00	1374.51	1374.51	0.00						
1374.26	4+880.00	1374.26	1374.26	0.00						
1374.05	4+900.00	1374.05	1374.05	0.00						
1373.83	4+920.00	1373.83	1373.83	0.00						
1373.54	4+940.00	1373.54	1373.54	0.00						
1373.32	4+960.00	1373.32	1373.32	0.00						
1373.23	4+980.00	1373.23	1373.23	0.00						
1373.14	5+000.00	1373.14	1373.14	0.00						
1372.99	5+020.00	1372.99	1372.99	0.00						
1372.90	5+040.00	1372.90	1372.90	0.00						
1372.75	5+060.00	1372.75	1372.75	0.00						
1372.73	5+080.00	1372.73	1372.73	0.00						
1372.71	5+100.00	1372.71	1372.71	0.00						
1372.61	5+120.00	1372.61	1372.61	0.00						
1372.57	5+140.00	1372.57	1372.57	0.00						
1372.51	5+160.00	1372.51	1372.51	0.00						
1372.38	5+180.00	1372.38	1372.38	0.00						
1372.24	5+200.00	1372.24	1372.24	0.00						
1372.03	5+220.00	1372.03	1372.03	0.00						
1371.89	5+240.00	1371.89	1371.89	0.00						
1371.60	5+260.00	1371.60	1371.60	0.00						
1371.49	5+280.00	1371.49	1371.49	0.00						

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-

Client

WaterFund
POWERING THE WATER SECTOR

WATER SECTOR TRUST FUND
PO Box 49699 - 00100, Nairobi, Kenya
info@waterfund.go.ke

1st Floor, CIC Plaza, Mara Road, Upper Hill, Nairobi, Kenya

Project

CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CIPRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants

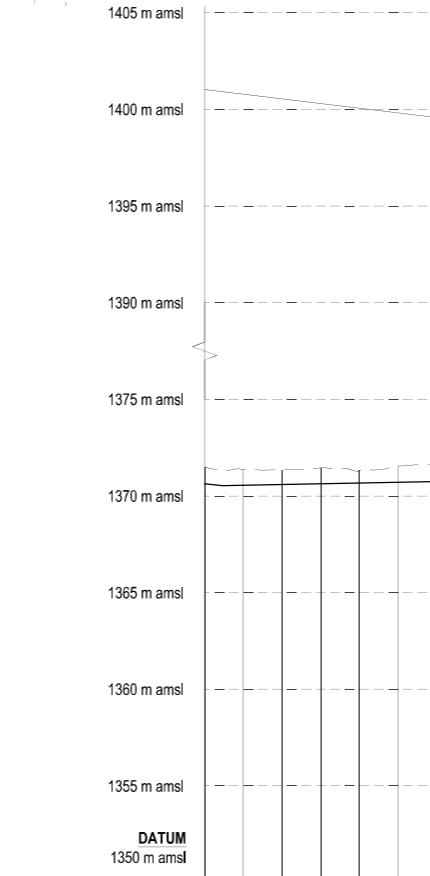
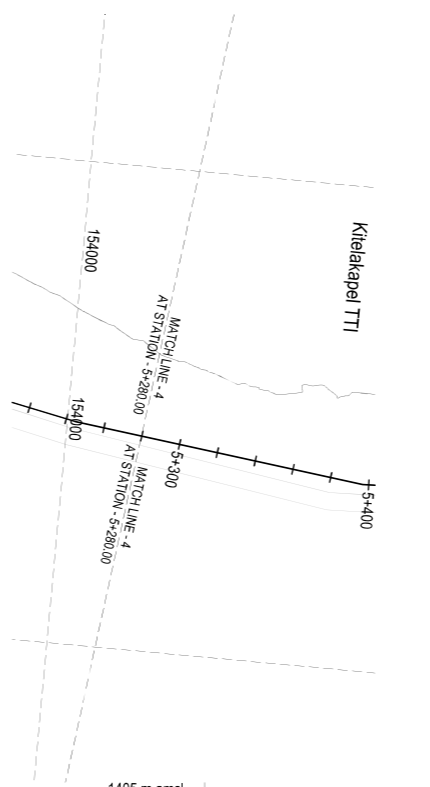
BATCH CONSULTING ENGINEERS

P.O Box 38103-00100, Nairobi, Kenya
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Fax: +254 (0) 20 2081876,
Call: +254 (0) 20 1462223 / +254 (0) 736451752
E-mail: info@batchengineers.co.ke
Webmail: www.batchengineers.co.ke

Drawing Title

KITALAKAPEL PIPELINE PLAN AND PROFILE SHEET 4 OF 5.

Designed by	AGO	Drawn by	AGO
Checked by	NHA	Approved by	NHA
Scale	1:1500	Date	August 2023
STATUS		DWG NO:	MK-T-0904



Hydraulic Level (m amsl)	
Chainage (m)	5+280.00, 5+300.00, 5+320.00, 5+340.00, 5+360.00, 5+380.00, 5+400.00
Ground Level (m amsl)	1371.49, 1371.39, 1371.36, 1371.46, 1371.31, 1371.55, 1371.63
Invert Level (m amsl)	1371.49, 1371.39, 1371.36, 1371.46, 1371.31, 1371.55, 1371.63
Trench Depth (m)	0.86, 0.83, 0.76, 0.82, 0.63, 0.84, 0.88
Notes	
Design Flows (l/s)	0.43l/s
Pipe Details	DN40 HDPE PIPE PN 10
Ground Condition	
Bedding Details	SELECTED IMPORTED GRANULAR MATERIAL MIN=100mm.
Horizontal Deviation	1:1000

NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-

SEWER
 PROPOSED WATER MAIN
 EXISTING WATER PIPELINE
 EXISTING ROAD
 EXISTING TREE
 EXISTING FENCE / WALL
 SINGLE ORIFICE AIR VALVE
 DOUBLE ORIFICE AIR VALVE
 WASHOUT
 11.25° H-BEND HORIZONTAL BEND
 FIRE HYDRANT
 1330.00 m amsl HEIGHT ABOVE MEAN SEA LEVEL
 0 + 100 PIPELINE CHAINAGE
 CONTROL VALVE
 NORTH

Client

WATER SECTOR TRUST FUND
 PO Box 49699 - 00100, Nairobi, Kenya
 info@waterfund.go.ke 1st Floor, CIC Plaza, Mara Road, Upper Hill, Nairobi, Kenya

Project
CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants

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 E-mail: info@batchengineers.co.ke
 Webmail: www.batchengineers.co.ke

Drawing Title
KITALAKAPEL PIPELINE PLAN AND PROFILE SHEET 5 OF 5.

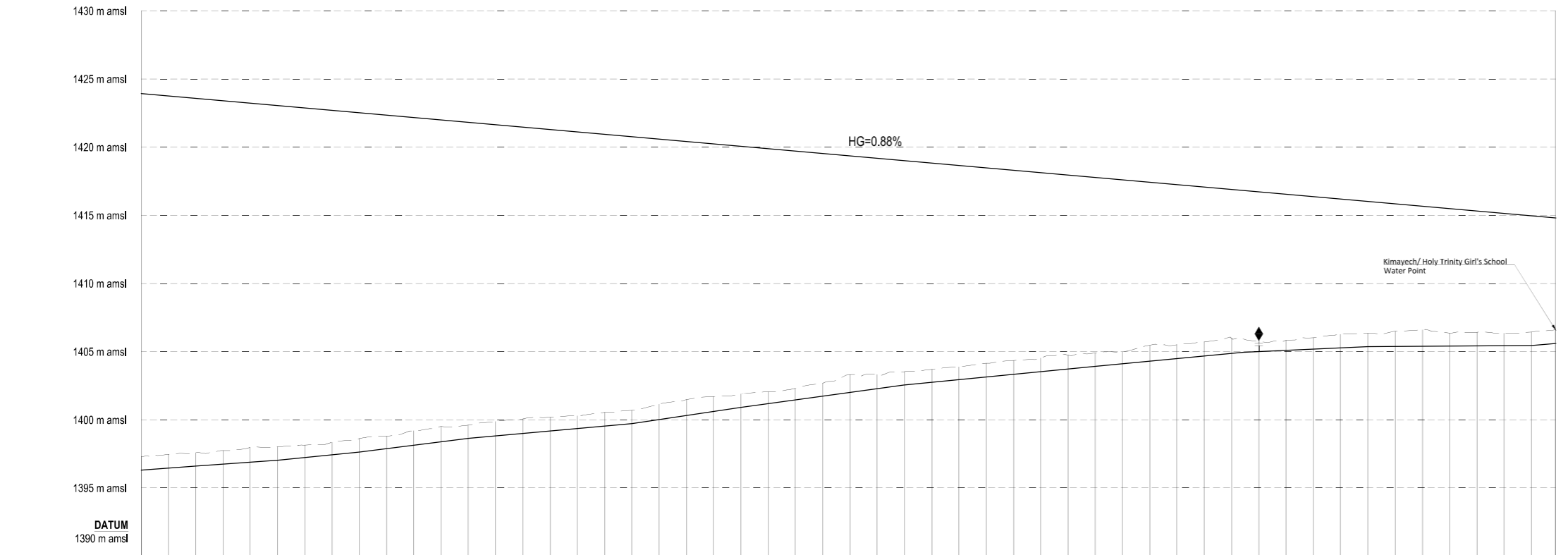
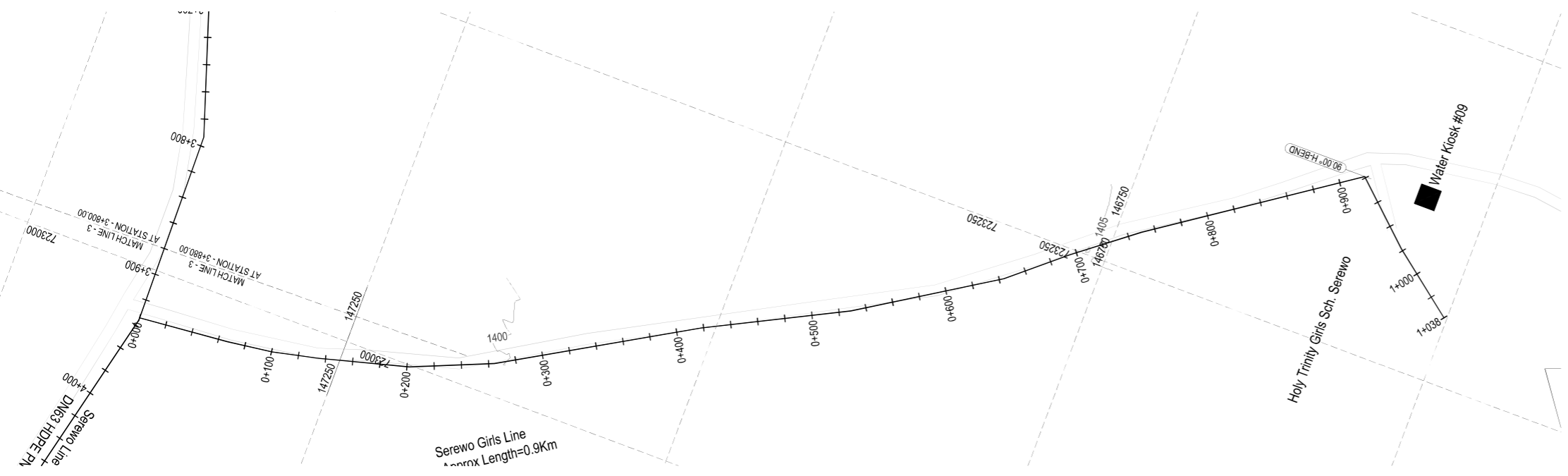
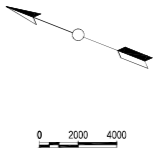
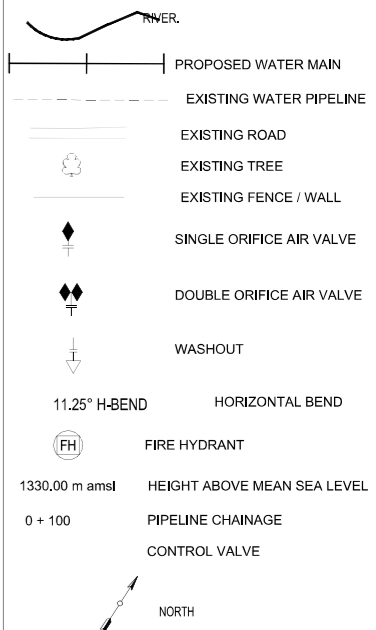
Designed by	AGO	Drawn by	AGO
Checked by	NHA	Approved by	NHA
Scale	1:15000	Date	August 2023
STATUS	DWG NO: MKT-0805		

SEREWU - KAMAYECH LINE PLAN AND PROFILE

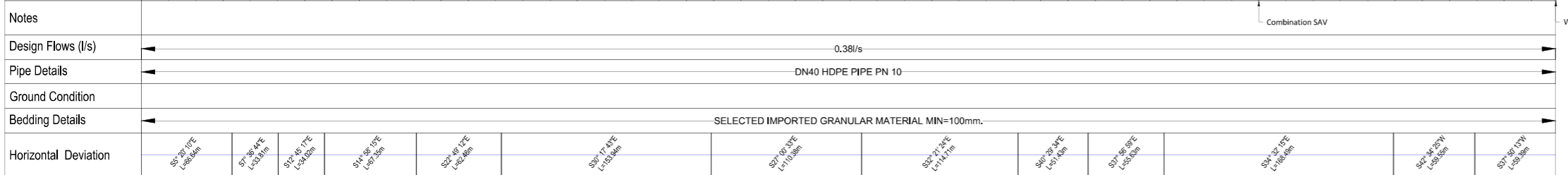
NOTES:

- All Levels are in metres based on National Datum
- The location of pipes from edges of roads, plot boundaries and fences as shown are approximate, the actual location will be determined on site by the Engineers representative
- Precise location of Sluice Valves, Air Valves, Washouts, Fire Hydrants, and other Valves will be determined on site by the Engineer's Representative
- Exact Location of underground services to be crossed by pipelines to be determined by the Contractor with assistance from the relevant authority and full responsibility for any damage lies with the Contractor
- Minimum cover top all pipes to be 1.0m

LEGEND:-



Hydraulic Level (m amsl)	Chainage (m)	Ground Level (m amsl)	Invert Level (m amsl)	Trench Depth (m)	Notes
1423.94	0+000.00	1397.29	1397.29	1.11	
	0+100.00	1397.46	1397.46	1.13	
	0+200.00	1397.59	1397.59	1.11	
	0+300.00	1397.74	1397.74	1.12	
	0+400.00	1397.98	1397.98	1.21	
	0+500.00	1398.02	1398.02	1.11	
	0+600.00	1398.15	1398.15	1.04	
	0+700.00	1398.36	1398.36	1.05	
	0+800.00	1398.62	1398.62	1.11	
	0+900.00	1398.80	1398.80	1.04	
	1+000.00	1398.91	1398.91	1.19	
	1+100.00	1399.50	1399.50	1.25	
	1+200.00	1399.61	1399.61	1.11	
	1+300.00	1399.88	1399.88	1.20	
	1+400.00	1400.06	1400.06	1.19	
	1+500.00	1400.19	1400.19	1.15	
	1+600.00	1400.28	1400.28	1.06	
	1+700.00	1400.55	1400.55	1.14	
	1+800.00	1400.69	1400.69	1.11	
	1+900.00	1401.15	1401.15	1.26	
	2+000.00	1401.46	1401.46	1.30	
	2+100.00	1401.70	1401.70	1.22	
	2+200.00	1401.90	1401.90	1.11	
	2+300.00	1402.06	1402.06	1.00	
	2+400.00	1402.31	1402.31	0.87	
	2+500.00	1402.69	1402.69	1.08	
	2+600.00	1403.32	1403.32	1.44	
	2+700.00	1403.32	1403.32	1.17	
	2+800.00	1403.54	1403.54	1.11	
	2+900.00	1403.71	1403.71	1.08	
	3+000.00	1403.90	1403.90	1.08	
	3+100.00	1404.16	1404.16	1.14	
	3+200.00	1404.35	1404.35	1.14	
	3+300.00	1404.53	1404.53	1.13	
	3+400.00	1404.75	1404.75	1.15	
	3+500.00	1404.91	1404.91	1.11	
	3+600.00	1404.98	1404.98	0.99	
	3+700.00	1405.47	1405.47	1.30	
	3+800.00	1405.50	1405.50	1.14	
	3+900.00	1405.71	1405.71	1.16	
	4+000.00	1405.97	1405.97	1.22	
	4+100.00	1405.75	1405.75	0.87	
	4+200.00	1405.84	1405.84	0.87	
	4+300.00	1406.02	1406.02	0.86	
	4+400.00	1406.27	1406.27	1.12	
	4+500.00	1406.35	1406.35	1.11	
	4+600.00	1406.49	1406.49	1.23	
	4+700.00	1406.61	1406.61	1.34	
	4+800.00	1406.36	1406.36	1.08	
	4+900.00	1406.42	1406.42	1.12	
	5+000.00	1406.36	1406.36	1.05	
	5+100.00	1406.44	1406.44	1.11	
	5+200.00	1406.59	1406.59	1.11	
	5+300.00	1406.81	1406.81	1.11	
	5+400.00	1406.81	1406.81	1.11	
	5+500.00	1406.81	1406.81	1.11	
	5+600.00	1406.81	1406.81	1.11	
	5+700.00	1406.81	1406.81	1.11	
	5+800.00	1406.81	1406.81	1.11	
	5+900.00	1406.81	1406.81	1.11	
	6+000.00	1406.81	1406.81	1.11	



Client: **WaterFund**
 WATER SECTOR TRUST FUND
 PO Box 49699 - 00100, Nairobi, Kenya
 1st Floor, CIC Plaza, Mara Road, Upper Hill, Nairobi, Kenya

Project: CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMPUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPRA PROGRAMME IN WEST POKOT COUNTY

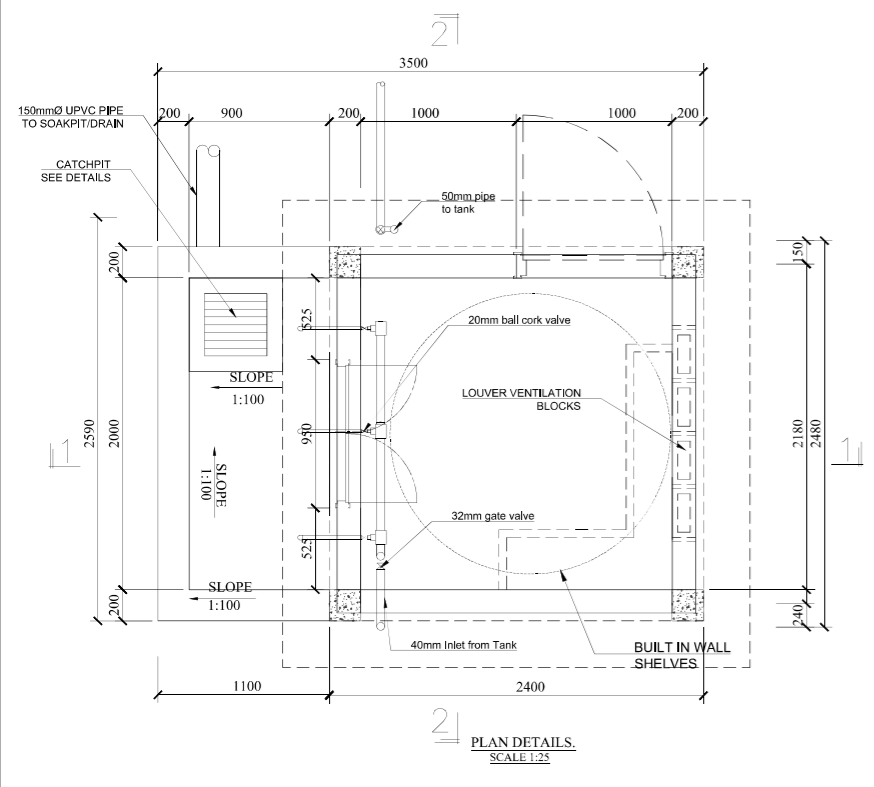
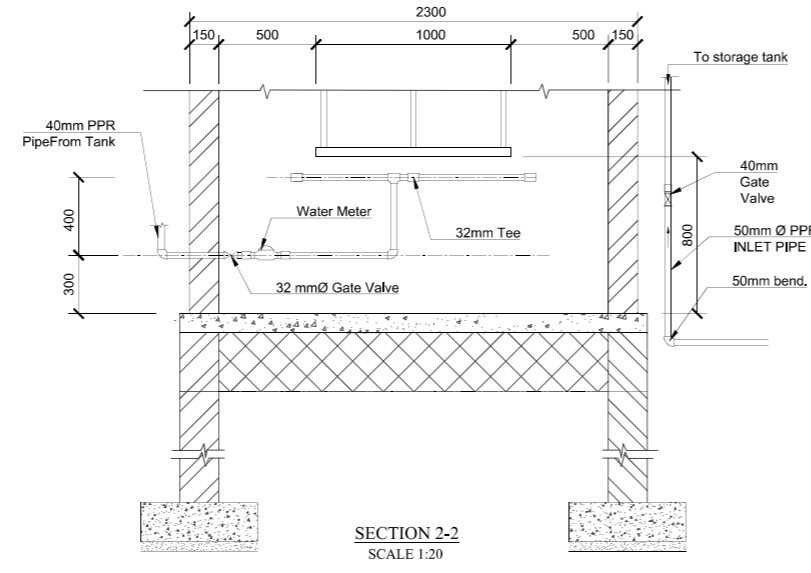
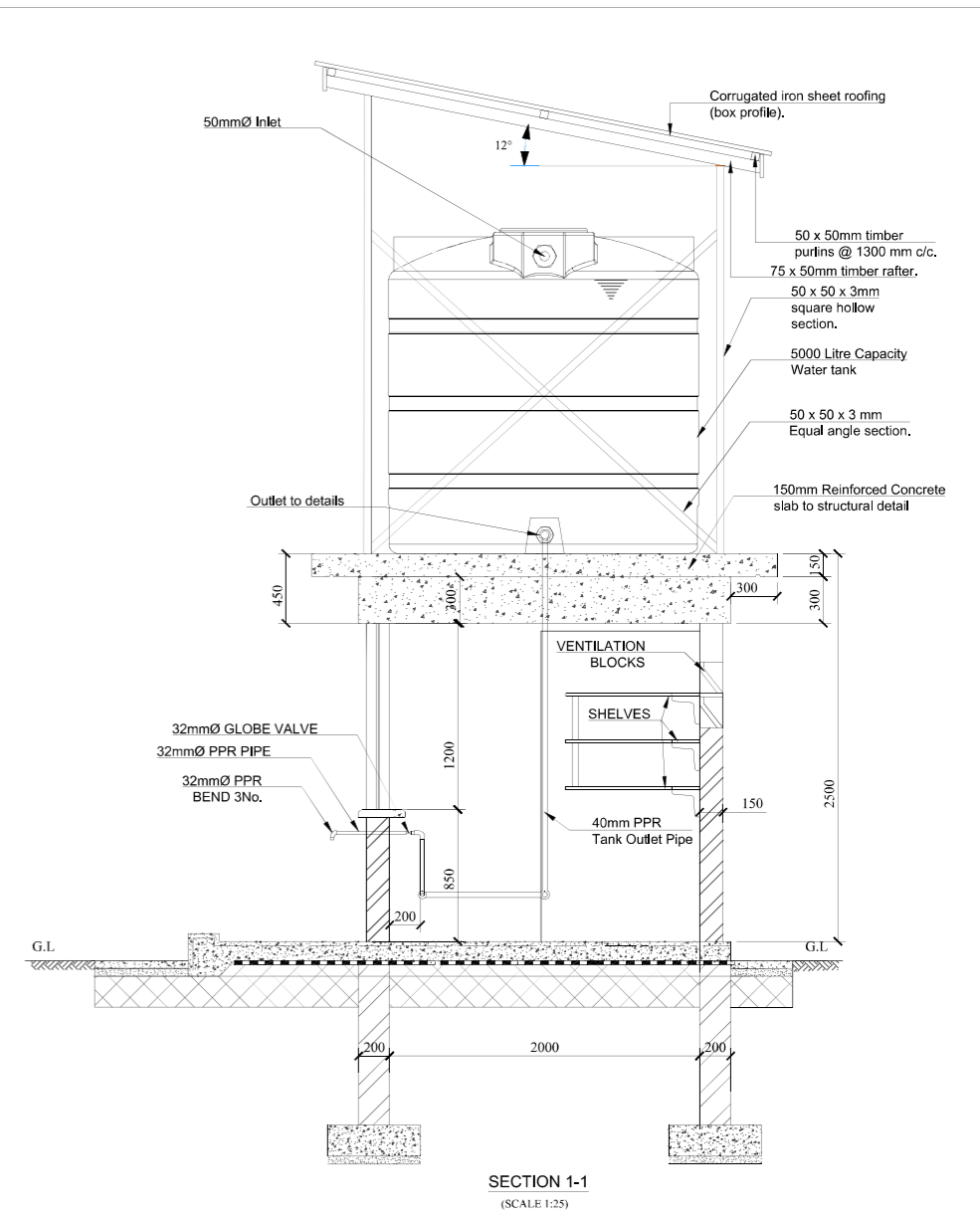
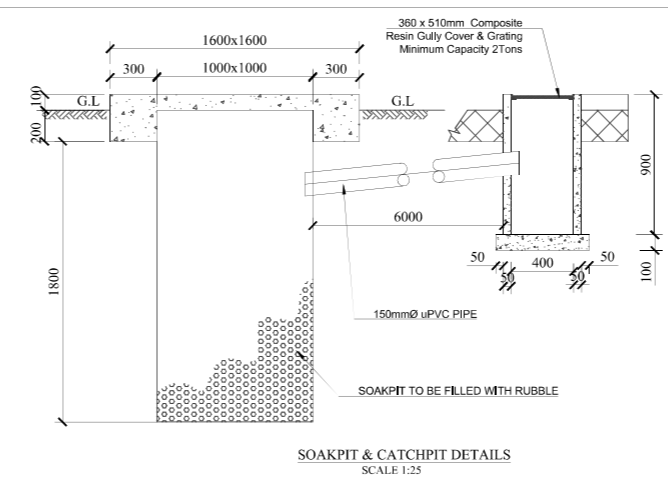
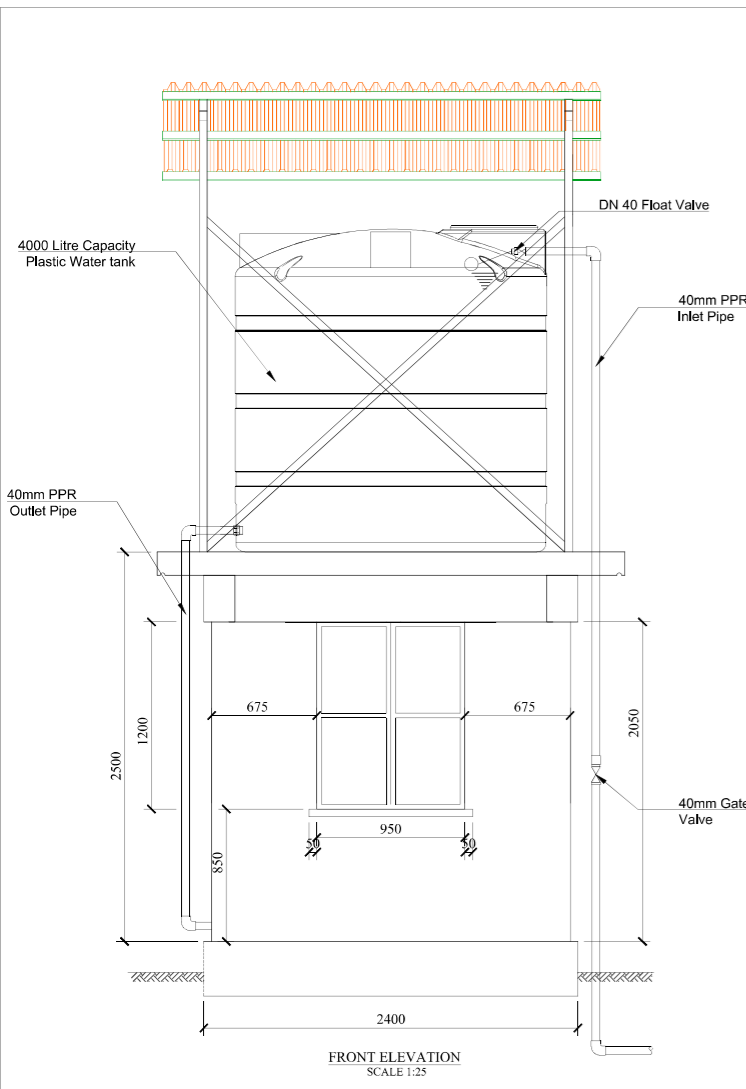
REFERENCE NUMBER: WST/EU/RFP/07/2022-2023

Consultants: **BATCH ENGINEERS**
 P.O Box 34033-00100, Nairobi, Kenya
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 E-mail: info@batchengineers.co.ke
 Webmail: www.batchengineers.co.ke

Drawing Title: **SEREWU GIRLS PIPELINE PLAN AND PROFILE SHEET 1 OF 1.**

Designed by: AGO
 Checked by: NHA
 Scale: 1:1500
 STATUS: 0

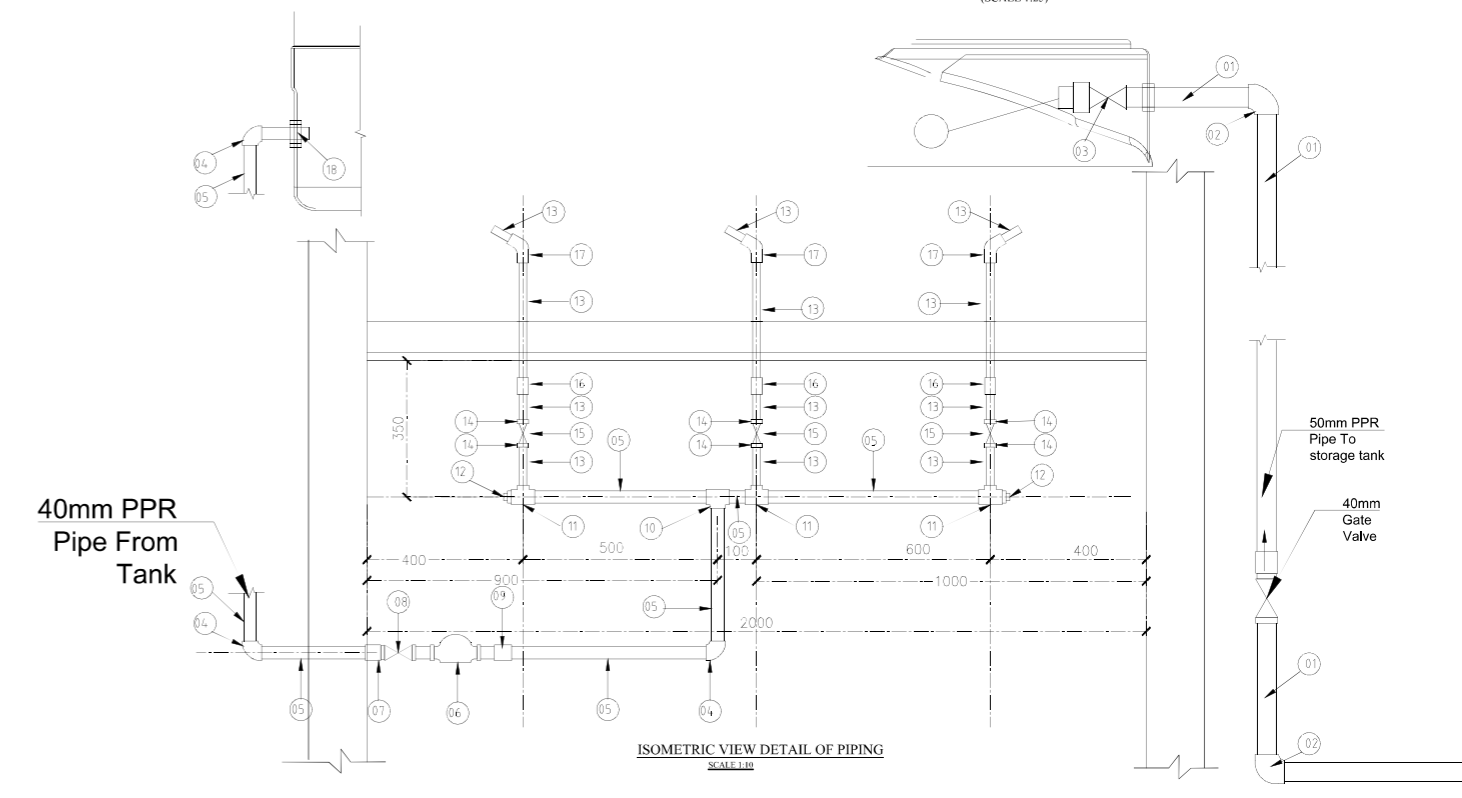
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 Approved by: NHA
 Date: August 2023
 DWG NO: MK-1001

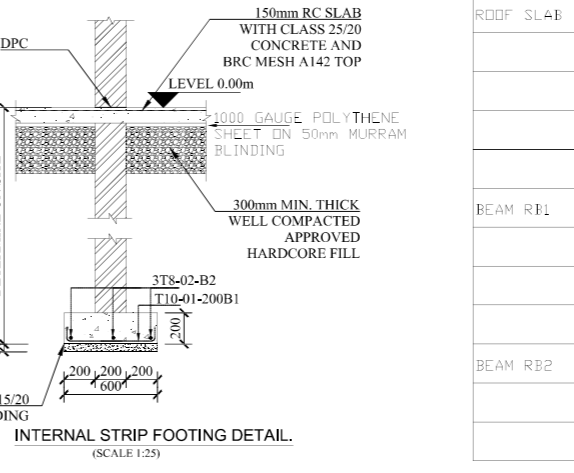
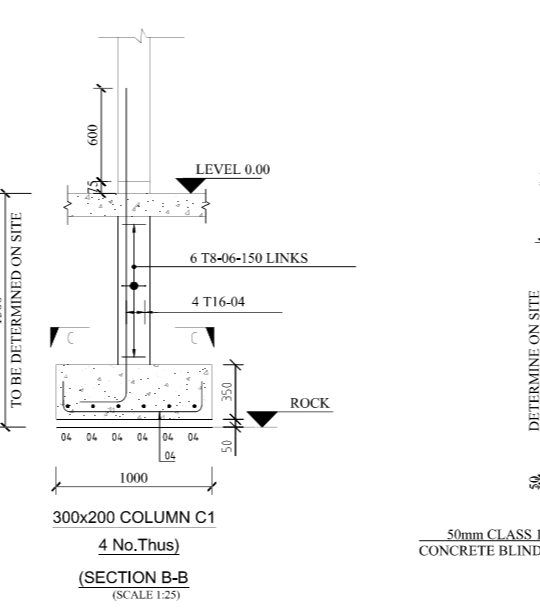
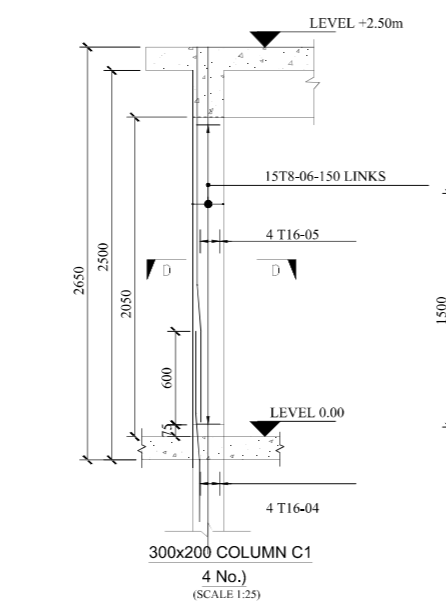
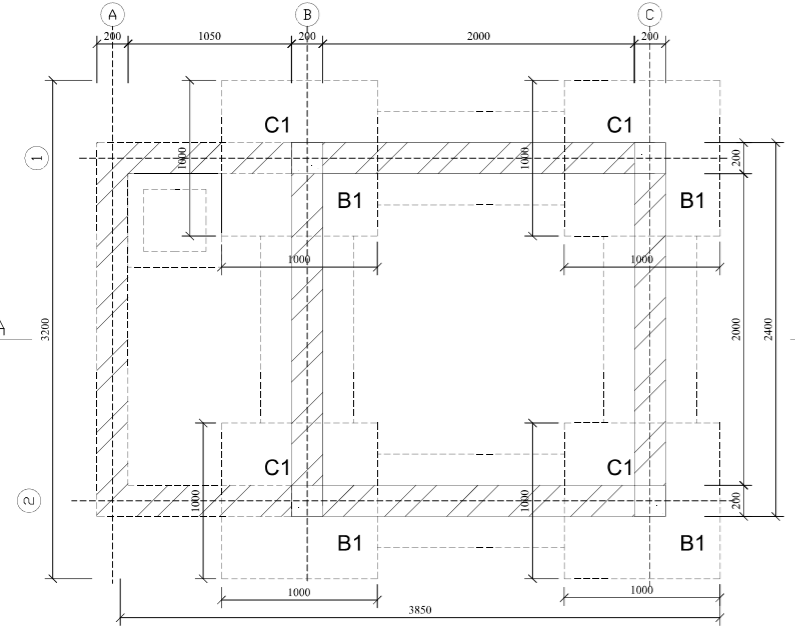
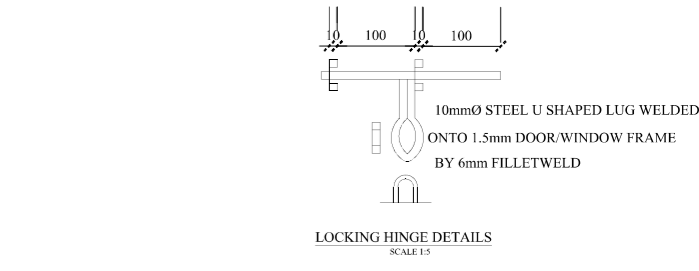
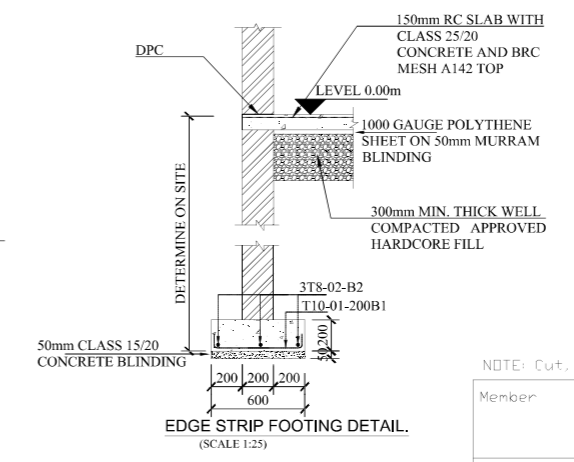
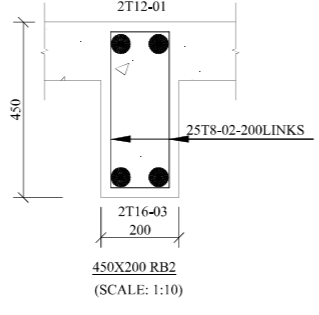
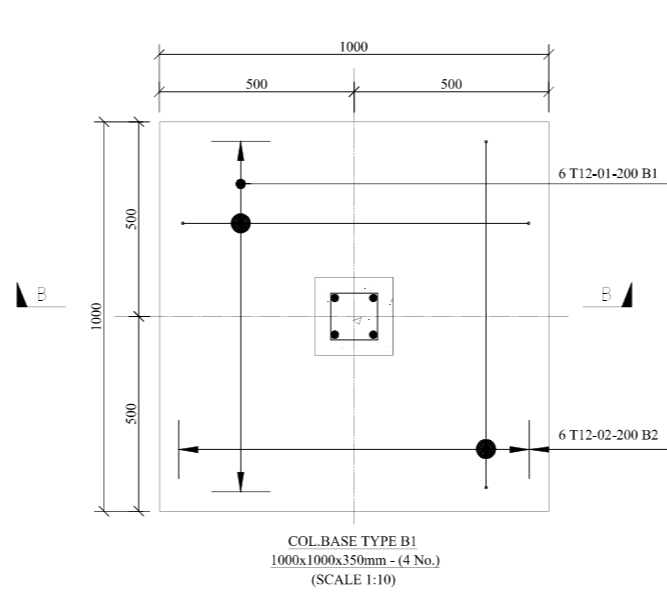
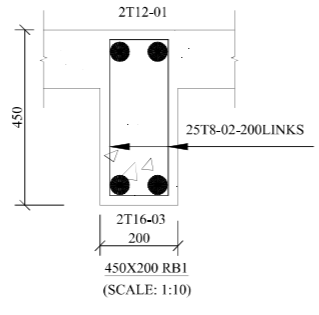
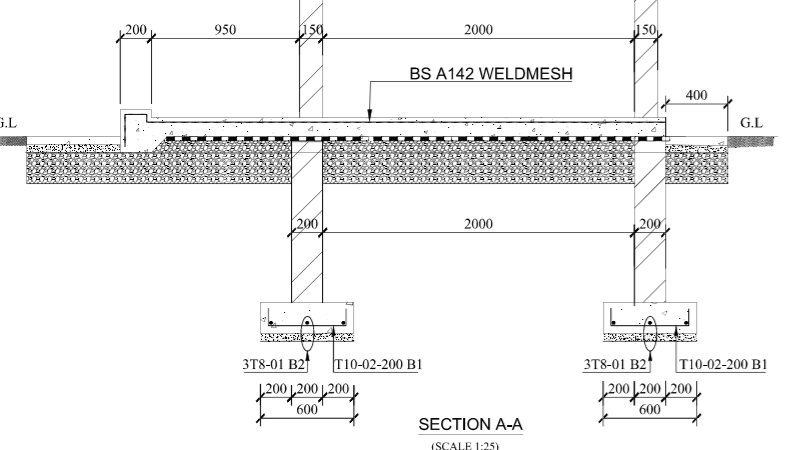
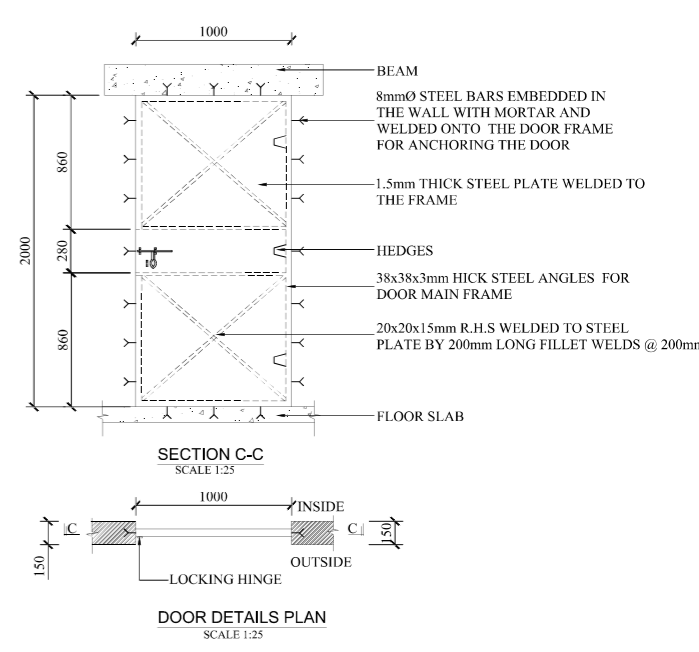
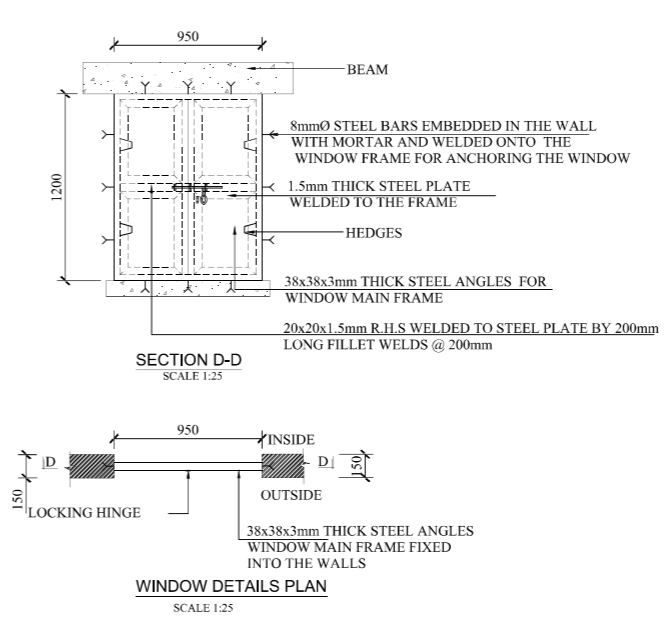
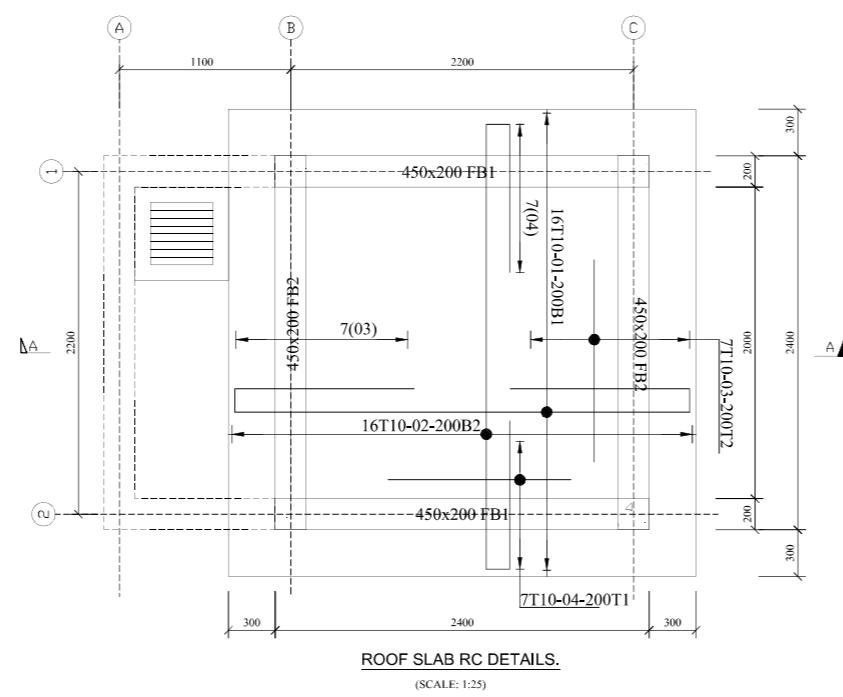
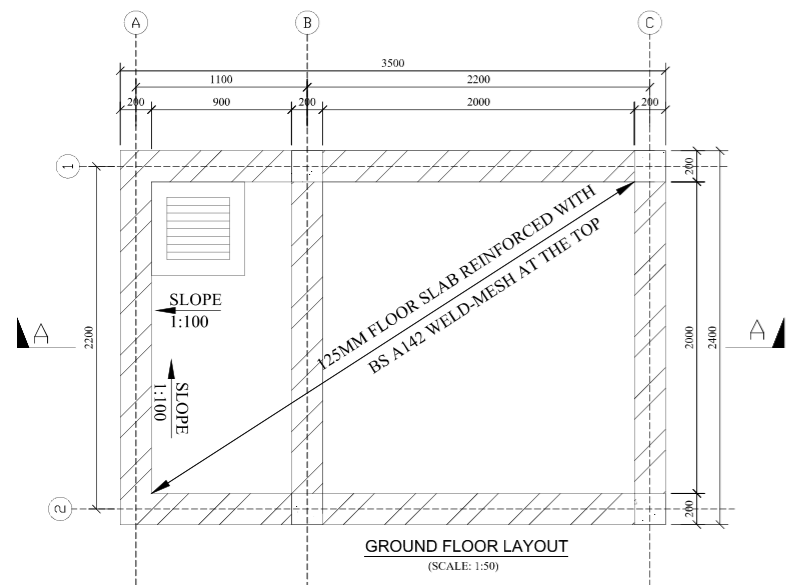


LIST OF PIPE MATERIAL

ITEM	DESCRIPTION	UNIT	QUANTITY
18	40mm PPR BOLT-ON BULKHEAD FITTINGS	PIECES	1
17	32mm PPR ELBOW	PIECES	3
16	32mm PPR UNION	PIECES	3
15	32mm BALL COCK VALVE	PIECES	3
14	32mm PPR MALE ADAPTERS	PIECES	6
13	32mm PPR PIPE CUT FIT	METRES	10
12	40mm PPR END PLUG AND FEMALE ADAPTER	PIECES	2
11	40mm x 32mm PPR REDUCING TEE	PIECES	3
10	40mm PPR EQUAL TEE	PIECES	1
9	40mm x 1/2" FEMALE PPR UNION	PIECES	1
8	32mm GATE VALVE	PIECES	1
7	40mm x 1/2" MALE PPR UNION	PIECES	1
6	32mm WATER METER C/W LIERS	PIECES	1
5	40mm PPR PIPE CUT TO FIT	METRES	6
4	40mm PPR ELBOW	PIECES	5
3	40mm FLOAT VALVE C/W BULKHEAD FITTINGS	PIECES	1
2	40mm PPR ELBOW	PIECES	2
1	40mm PPR PIPE	METRES	12

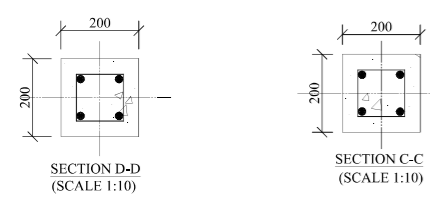
SCHEDULE OF OF PIPES AND FITTINGS

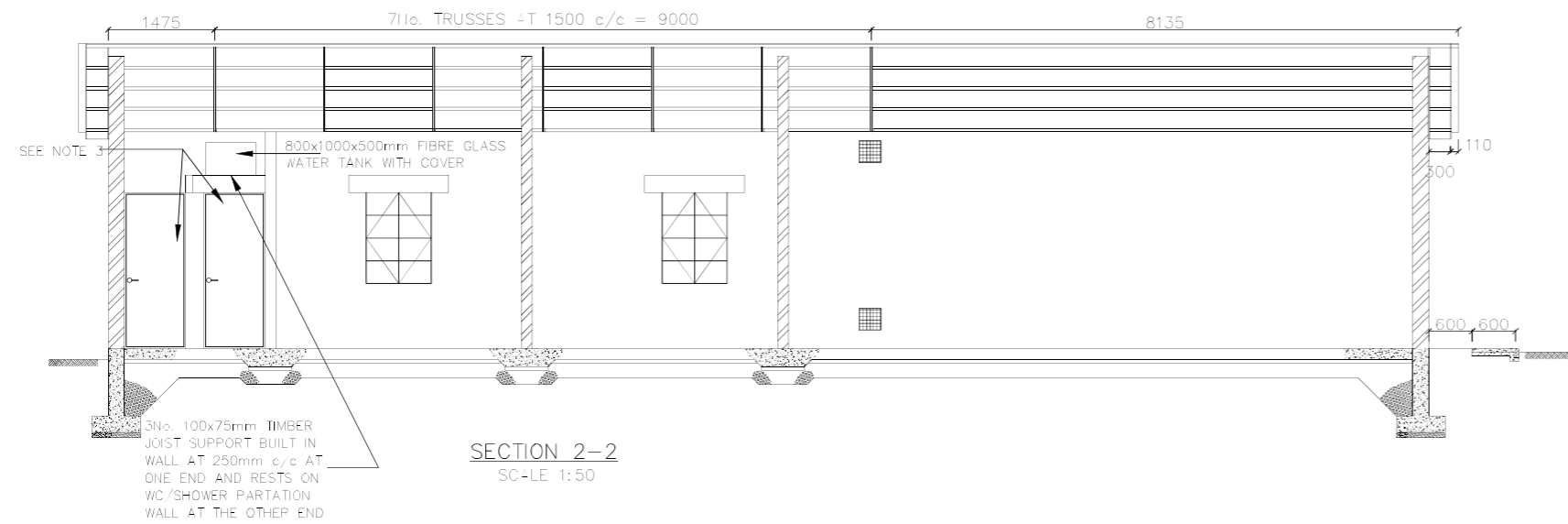




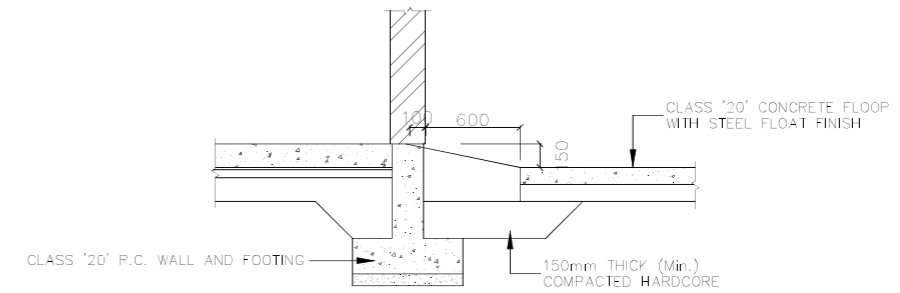
NOTE: Cut, Bend and lap to suit on site

Member	Bar mark	Type and size	No. of mtrs	No. of bars in each	Total no.	Length of each bar (mm)	Shape code	A* mm	B* mm	C* mm	D* mm	E/R* mm	Rev letter
STRIP FTN	01	T10	1	25	25	740	38	110	520	110			
	02	T8	1	3	3	5000	20	5000					
BASE TYPE B1	01	T12	4	6	24	1200	38	150	900	150			
	03	T12	4	6	24	1200	38	150	900	150			
	03	T12	4	4	16	2250	37	150	2100				
	03	T8	4	11	44	900	61	200	200	200	200	100	
COLUMN C1	01	T16	4	4	16	2565	41	600	300	1800			
	02	T8	4	4	16	2650	61	200	200	200	200	100	
ROOF SLAB	01	T10	1	16	16	5580	55	1150	140	3000	140	1150	
	02	T10	1	20	20	5580	55	1150	140	3000	140	1150	
	03	T10	1	14	14	1300	20	1300					
	04	T10	1	14	14	1300	20	1300					
BEAM RB1	01	T12	2	2	4	2600	38	150	2300	150			
	02	T8	2	25	50	1400	61	450	200	450	200	100	
	03	T16	2	2	4	2600	38	150	2300	150			
BEAM RB2	01	T12	2	2	4	2600	38	150	2300	150			
	02	T8	2	25	50	1400	61	450	200	450	200	100	
	03	T16	2	2	4	2600	38	150	2300	150			

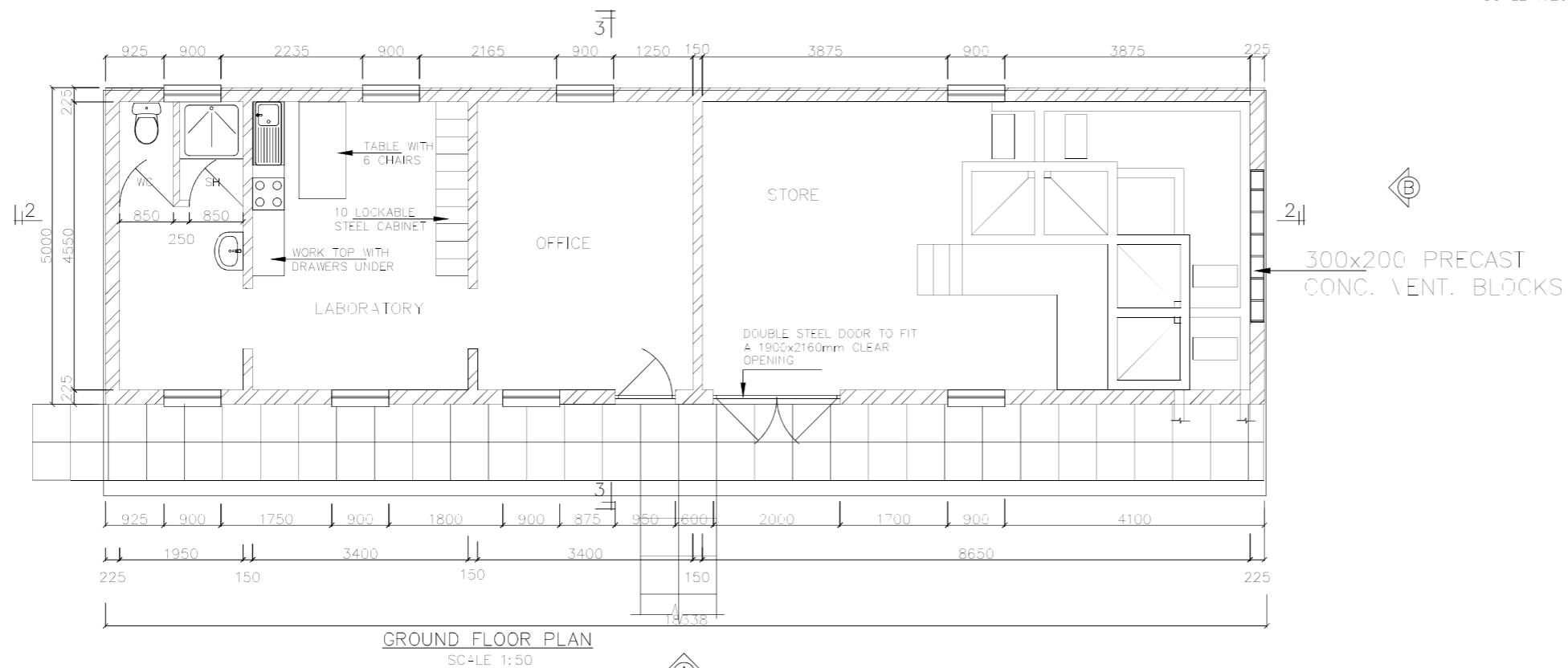




SECTION 2-2
SC-LE 1:50



DETAIL OF STORE ROOM STEP
SCALE 1:20



GROUND FLOOR PLAN
SC-LE 1:50

NOTES:

1. All dimensions are in millimetres unless stated otherwise.
2. This drawing should be read in conjunction with all the relevant drawings.
3. Foundation depths to be determined on site and to reach suitable subsoil. Selected fill material to be used appropriately.
4. Reinforced concrete shall be class 25 (1 : 1.5 : 3).
5. Minimum laps to all bars to be 50 x diameter of bar.
6. All high tensile (T) bars to be in accordance with B.S 4449.
7. Minimum clear concrete cover to main reinforcement shall be as follows: -
 - Foundations - 50mm
 - R.C Walls & Columns - 40mm
 - Suspended Slabs - 25mm
 - Beams - 30mm
 - Staircases - 25mm
8. All construction joints for water-tight structures shall have 200mm wide PVC water bar unless specifically indicated otherwise.

WEST POKOT COUNTY GOVERNMENT



PROJECT:
MTEMBUR WATER PROJECT

FINANCED BY
WSTF  

Consultants
BATCH CONSULTING ENGINEERS
P.O. Box 24003-00100, Nairobi, Kenya
Tel: +254 (0) 20 2621166
Fax: +254 (0) 20 2018176
Cell: +254 (0) 7121467215 / +254 (0) 736461752
Email: info@batchconsultants.co.ke
Webmail: www.batchconsultants.co.ke

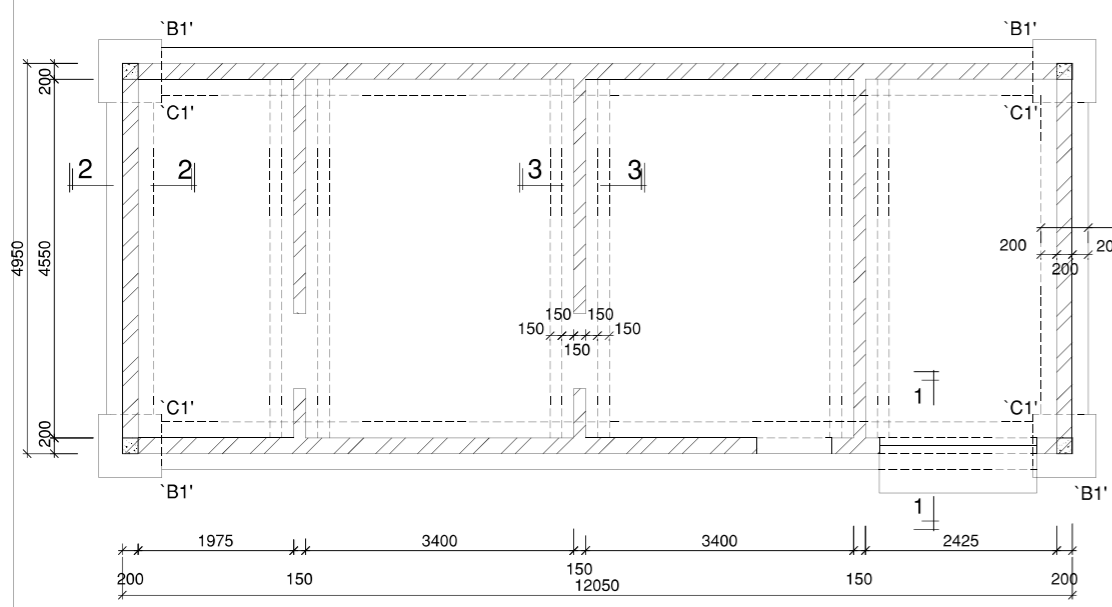
Figured dimensions only to be taken from this drawing

Activity	Name	Sign	Date
Designed by:			
Drawn by:			
Checked by:			
Approved by:			

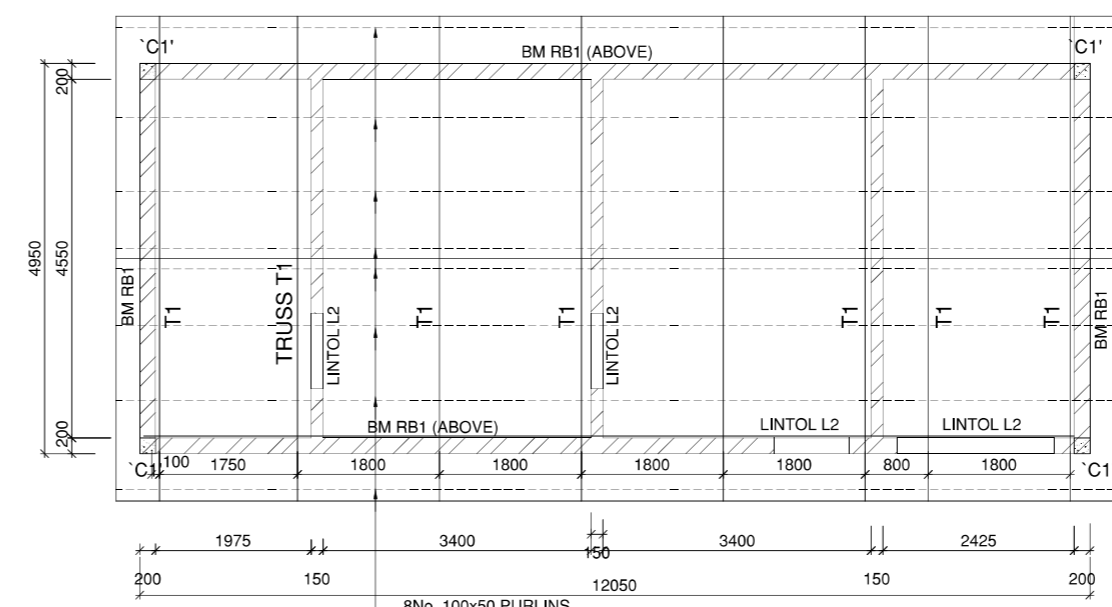
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Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-18/01

NOTES:

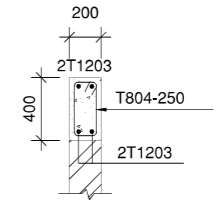
- All dimensions are in millimetres unless stated otherwise.
- This drawing should be read in conjunction with all the relevant drawings.
- Foundation depths to be determined on site and to reach suitable subsoil. Selected fill material to be used appropriately.
- Reinforced concrete shall be class 25 (1 : 1.5 : 3).
- Minimum laps to all bars to be 50 x diameter of bar.
- All high tensile (T) bars to be in accordance with B.S 4449.
- Minimum clear concrete cover to main reinforcement shall be as follows:-
 - Foundations - 50mm
 - R.C Walls & Columns - 40mm
 - Suspended Slabs - 25mm
 - Beams - 30mm
 - Staircases - 25mm
- All construction joints for water-tight structures shall have 200mm wide PVC water bar unless specifically indicated otherwise.



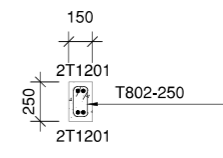
FOUNDATION/GROUND FLOOR LAYOUT
SCALE 1:50



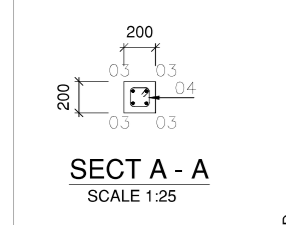
ROOF LAYOUT
SCALE 1:50



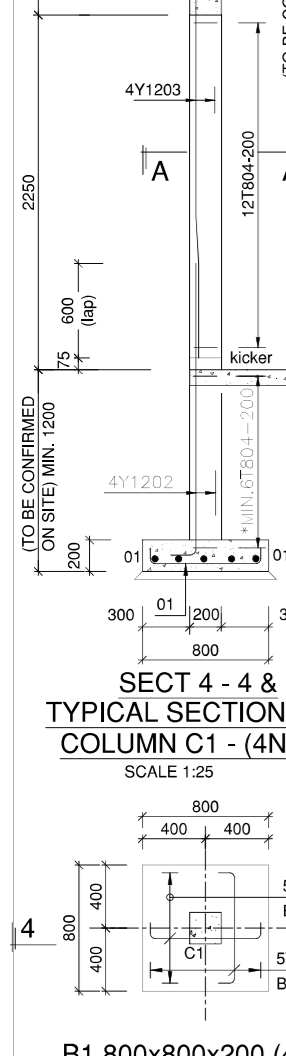
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SCALE 1:25



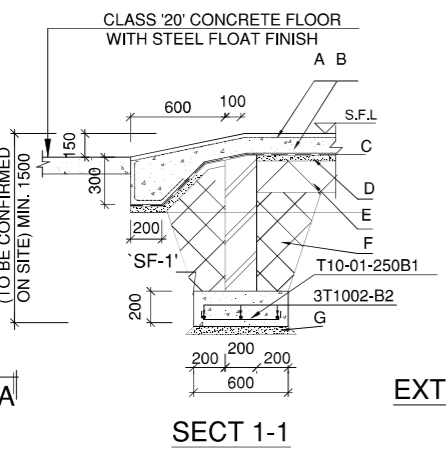
250x200 LINTOL L2
SCALE 1:25



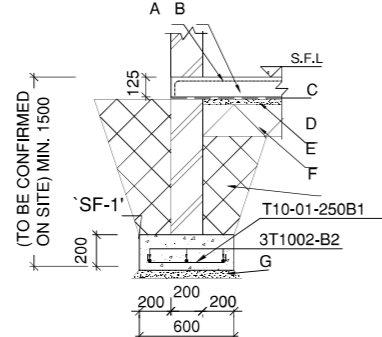
SECT A - A
SCALE 1:25



B1 800x800x200 (4No.)
Scale 1:25

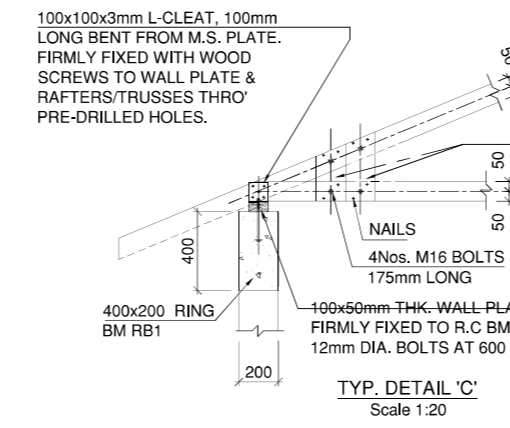


SECT 1-1

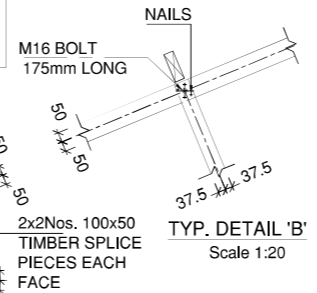


SECT 2-2
TYPICAL SECTION THRO'
EXTERNAL STRIP FOOTING SF-1
SCALE 1:25

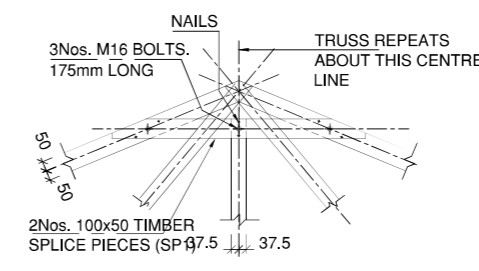
- NOTES FOR BOLT CONNECTIONS**
- BOLT HOLES MUST NOT BE MORE THAN 2mm LARGER THAN THE BOLT DIAMETER.
 - WASHERS OF DIAMETERS OF MIN. 3 x BOLT DIA. AND THICKNESS OF MIN. 1/4 x BOLT SIZE TO BE FITTED UNDER EACH NUT.
 - ALL BOLTED CONNECTIONS TO USE GRADE 4.6 BOLTS UNLESS NOTED OTHERWISE.
 - ALL BOLTS CONNECTING TIMBER SPLICES TO TRUSSES TO HAVE 1 NUT & 2 WASHERS.
 - USE SCREWS FOR ANGLE CLEAT TO WALL PLATE
 - IN EVERY JOINT, PROVIDE AT LEAST 2 NAILS ONE FROM EITHER SIDE.
 - HOLES FOR NAILING THROUGH MILD STEEL GUSSET PLATES TO BE PRE-DRILLED.



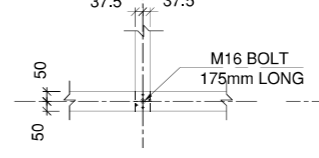
TYP. DETAIL 'C'
Scale 1:20



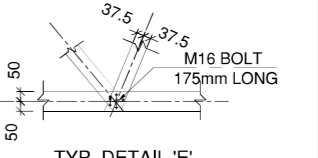
TYP. DETAIL 'B'
Scale 1:20



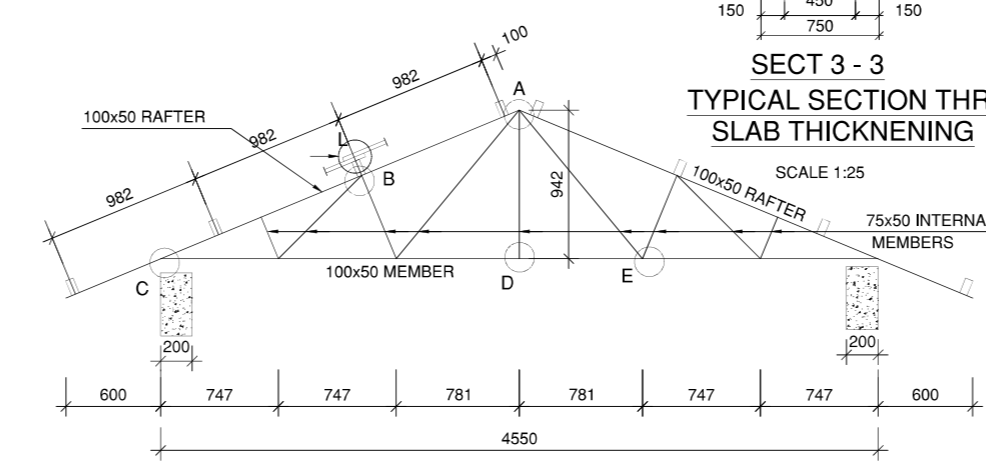
TYP. DETAIL 'A'
Scale 1:20



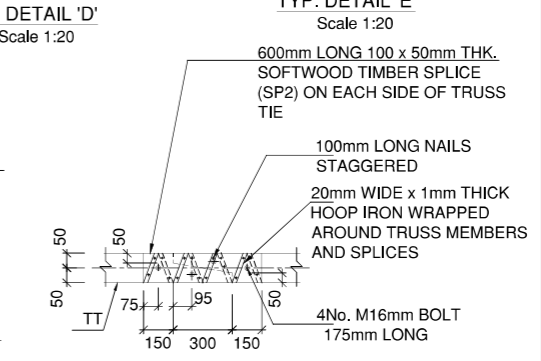
TYP. DETAIL 'D'
Scale 1:20



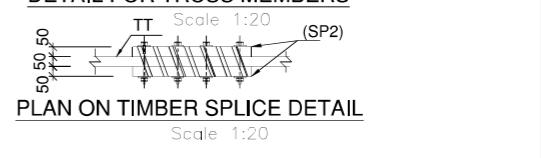
TYP. DETAIL 'E'
Scale 1:20



TYP. TRUSS T1 (8No.)
SCALE 1:25



TYP. TIMBER SPLICE CONNECTION
DETAIL FOR TRUSS MEMBERS
SCALE 1:20



PLAN ON TIMBER SPLICE DETAIL
SCALE 1:20

NB:
1. L - INDICATES POINT OF LAPPING FOR IRON SHEETS.

- LEGEND:**
- A - BRC MESH REF. A98.
 - B - 100mm THK. GROUND FLOOR CONCRETE SLAB
 - C - 1000g POLYTHENE D.P.M.
 - D - 50mm THK. QUARRY DUST OR MURRAM BLINDING
 - E - MINIMUM 200mm THICK WELL COMPACTED HARD CORE OR MURRAM
 - F - SELECTED BACKFILL MATERIAL
 - G - WELL PREPARED FOUNDATION LEVEL
 - H - 200mm WIDE HESSIAN BASED DPC
 - S.F.L- STRUCTURAL FLOOR LEVEL
 - F.G.L- FINISHED GROUND LEVEL.
 - F.F.L- FINISHED FLOOR LEVEL.
 - N.T.S- NOT TO SCALE
- LOAD BEARING WALL



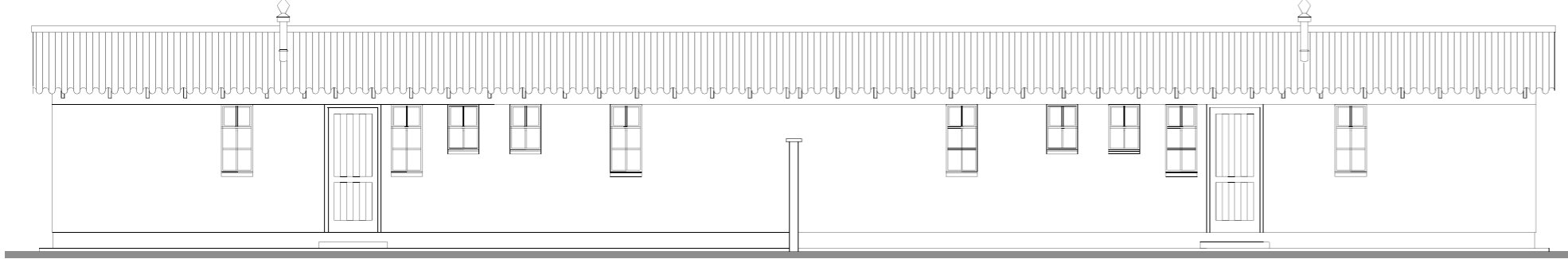
PROJECT:
MTEMBUR WATER PROJECT



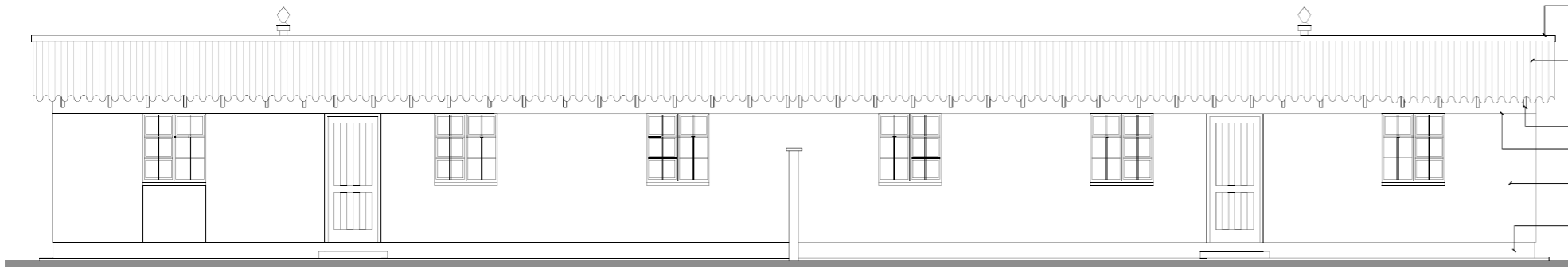
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Activity	Name	Sign	Date
Designed by:			
Drawn by:			
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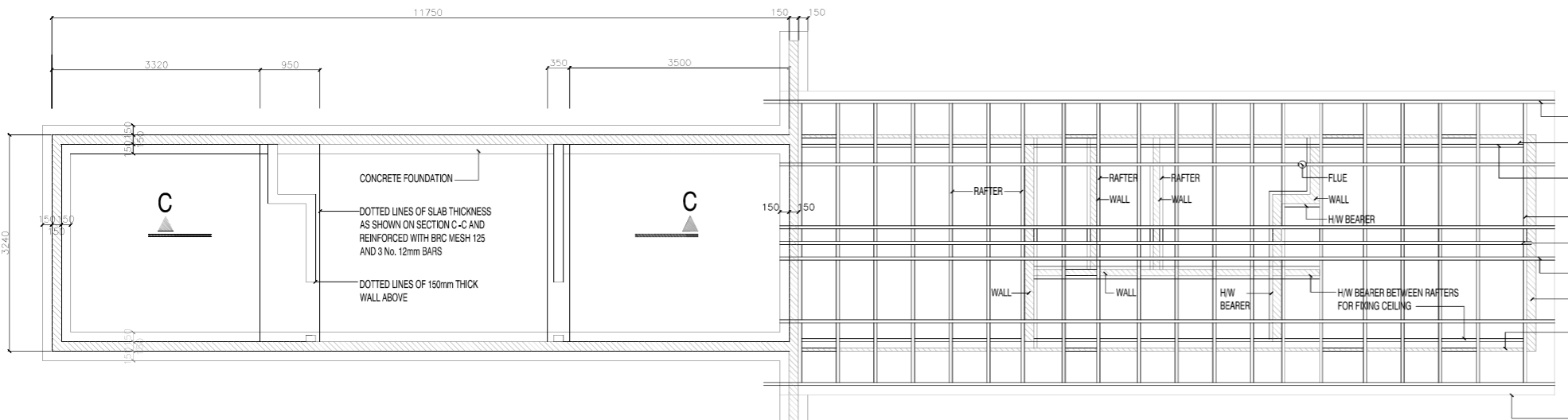
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Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-18/02



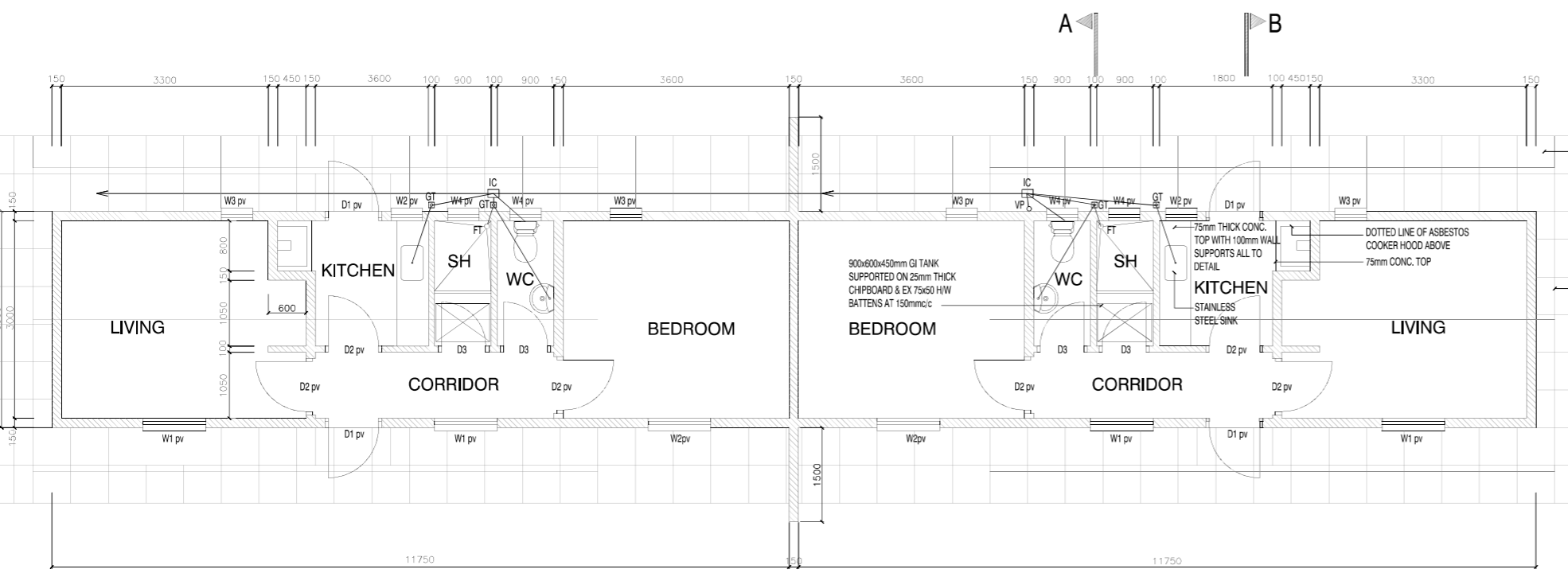
REAR ELEVATION



FRONT ELEVATION



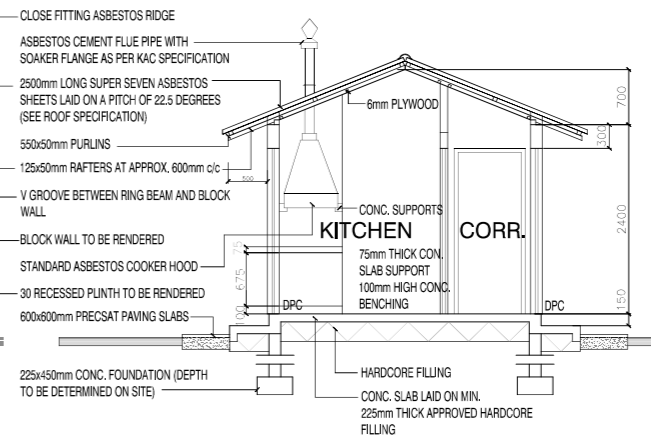
FOUNDATION PLAN (PART PLAN)



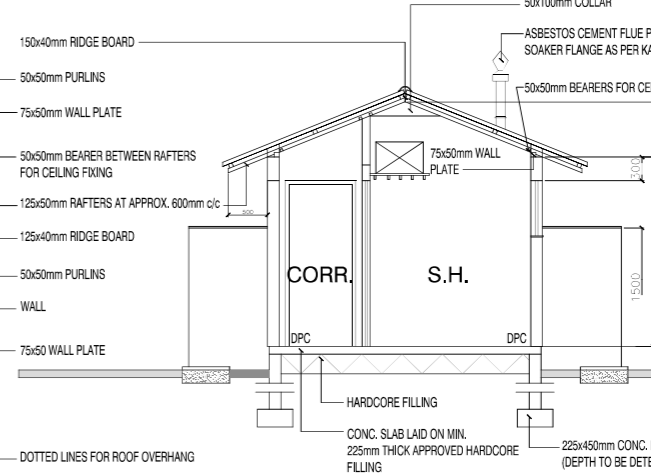
ROOF PLAN (PART PLAN)



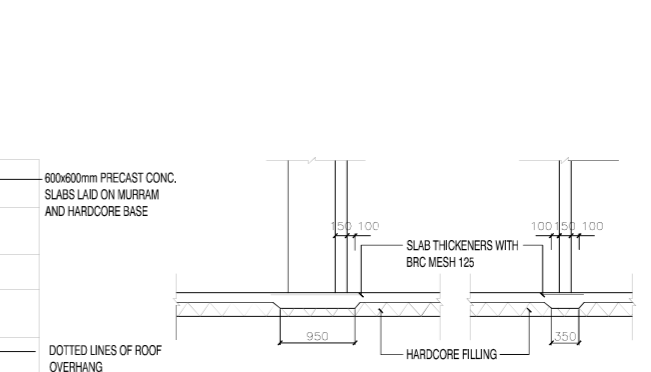
PLAN



SECTION A-A



SECTION B-B



SECTION C-C

- ROOF SPECIFICATIONS**
- 250mm LONG SUPER SEVEN ASBESTOS SHEETS LAID ON A PITCH OF 22.5 DEG. ON
 - 50*50 PURLINS (MAX. PURLIN SPACE 1175mm)
 - 125*50 RAFTERS AT APPROX. 600 c/c
 - 75*50 WALL PLATE
 - 50*50 BEARERS FOR CEILING FIXING (AS SHOWN ON ROOF PLAN)
 - 8mm PLYWOOD CEILING
 - EX. 50*25 CORNICE

- NOTES**
- ALL DIMENSIONS AND CONDITIONS MUST BE CHECKED ON SITE AND ANY DISCREPANCIES REFERRED TO THE ENGINEER
 - ALL LEVELS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK.
 - DEPTH OF FOUNDATION TO BE DETERMINED ON SITE. FOUNDATION TO BE CARRIED DOWN TO HARD BASE TO THE APPROVAL OF THE ENGINEER AND ALL SOILS TO BE EXCAVATED AND THE OPENING FILLED WITH HARD CORE.
 - FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALE.
 - THREE PLY TROPICAL 'PLUVEX' BITUMINOUS FELT D.P.C. UNDER ALL WALLS TO BE RENDERED IN HOT BITUMEN.
 - ALL WALLS LESS THAN 200mm THICK TO BE REINFORCED WITH HEAVY GAUGE HOOP IRON AT EVERY ALTERNATIVE COURSE.
 - P.V. DENOTES PERMANENT VENT TO BE PROVIDED TO ALL HABITABLE ROOMS AND AS SHOWN ON PLAN.
 - ALL DRAIN PIPES TO ENGINEER'S SATISFACTION.
 - WHERE DRAIN PASSES UNDER THE BUILDING OR DRIVEWAY IT SHALL BE OF CAST IRON AND ENCASED IN 150mm WEAK CONCRETE ALL ROUND.
 - ALL SANITARY WORK TO BE CARRIED OUT IN ACCORDANCE TO THE MUNICIPAL COUNCIL'S RULES AND REGULATION.
 - MANHOLES IN DRIVEWAY TO HAVE HEAVY DUTY COVERS SET IN CART GREASE.
 - ALL REINFORCED CONCRETE WORK TO STRUCTURAL ENGINEER'S DETAIL DRGS.
 - ALL STEEL GLAZED WINDOWS TO HAVE GLUGLAR PROOFING TO DETAIL.
 - EXTERNAL DOORS (D,1) TO HAVE DRIPS.
 - 600X450mm MIRRORS OVER ALL W.H.B.s.
 - CONCRETE WINDOW CILLS TO HAVE DRIPS.
 - FOR ALL WINDOWS PROVIDE 150X150mm CYPRESS PELMET BOXES PAINTED AND WITH CURTAIN RAILS.
 - ALL STEEL GLAZED WINDOWS TO HAVE BUILT-IN MOSQUITO PROOF 'GREENVAC' PERMANENT VENTS.
 - ROOF EAVES SOFIT 50X25mm TIMBER BATTENS AND WIRE GAUZE WITH COFFEE TRAY WIRE.
 - 1000 GAUGE POLYTHENE SHEET BELOW FLOOR SLAB.
 - 21 B.R.C. IN FLOOR SLAB.

- FINISHES SCHEDULE**
- INTERNAL FINISHES**
- *FLOOR- COLOURED GRANO SKIRTINGS- COLOURED GRANO
 - *WALLS- PLASTERED AND PAINTED
 - *CEILING- CHIPBOARD PAINTED
 - *CORNICES- TIMBER AND PAINTED
- EXTERNAL FINISHES**
- *NATURAL STONE WITH HORIZONTAL JOINTS RAKED
 - *WALLS BELOW WINDOWS, RING BEAMS AND GABLE WALLS TO BE RENDERED



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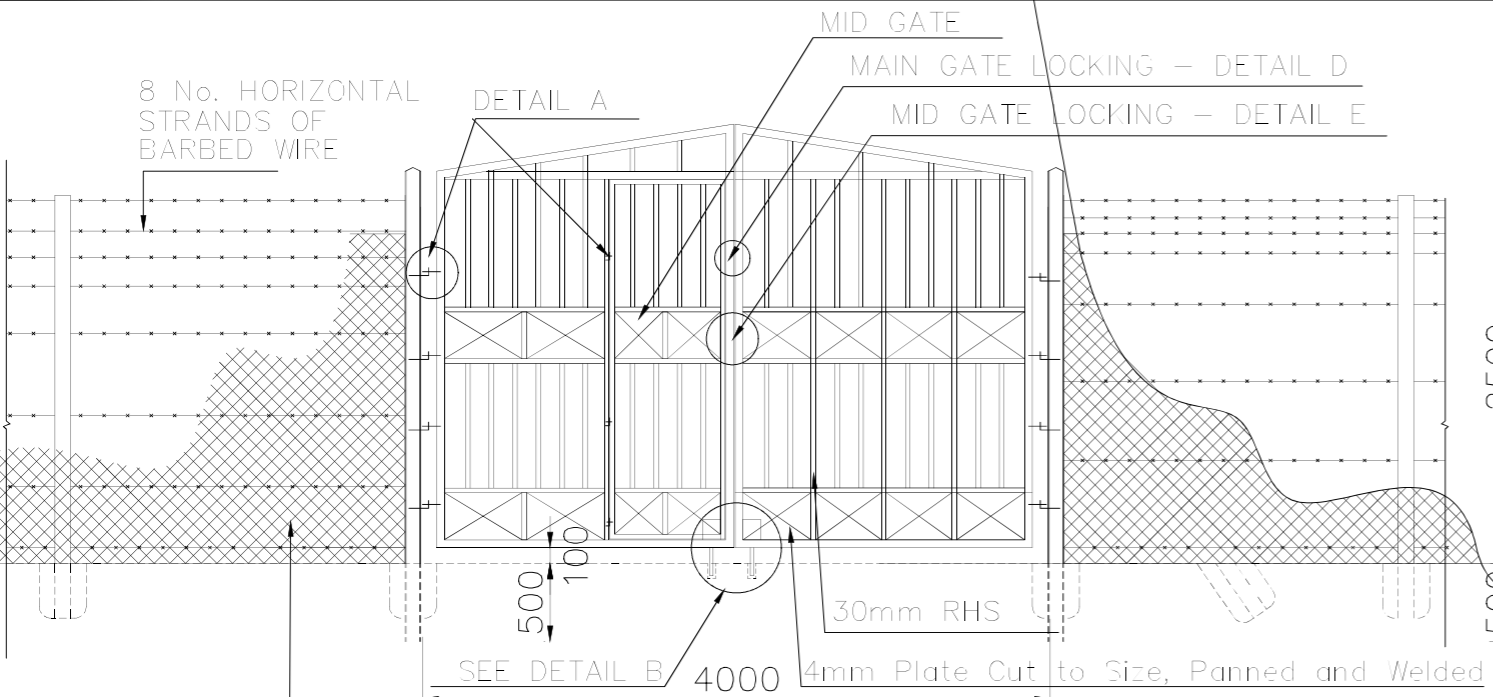
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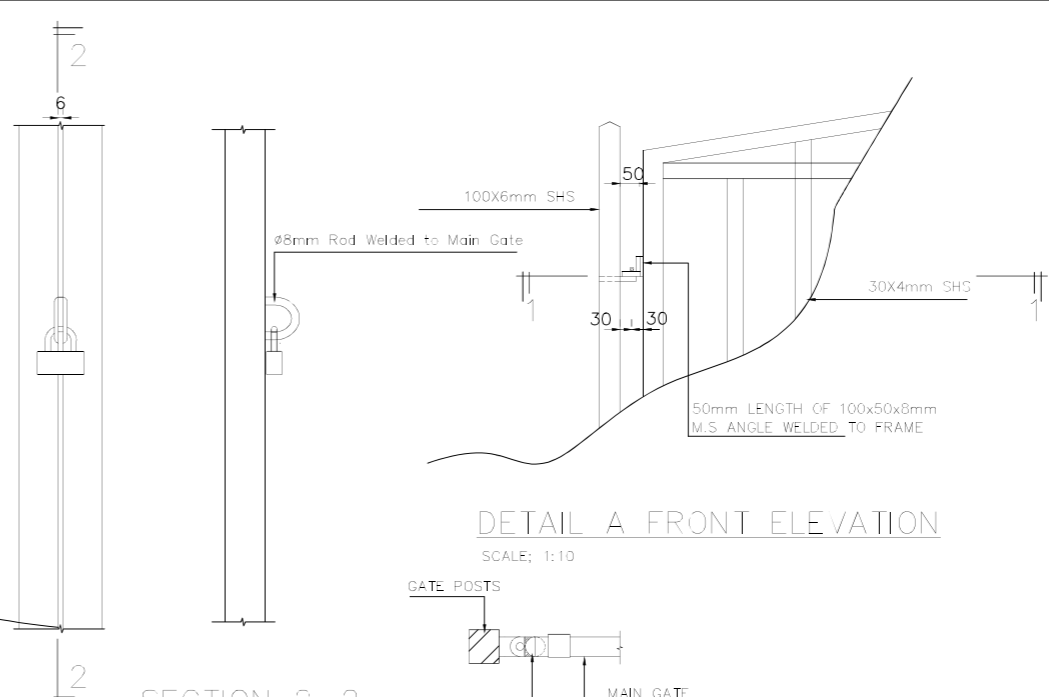
Drawing Title: STAFF HOUSING PLAN, SECTION S AND DETAILS	Sheet: Sheet 1 of 1
Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-19/01

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
2. ALL STEELWORKS IS TO BE CLEANED IN ACCORDANCE WITH THE SPECIFICATION ON DIPPED GALVANISED
3. ALL PRECAST ITEM TO BE CLASS '20'
5. INTERMEDIATE POSTS TO BE AT 2.0M INTERVAL
6. STRAINING POSTS TO BE AT 25M INTERVAL



GATE AND FENCE DETAILS ELEVATION
SCALE: 1:25

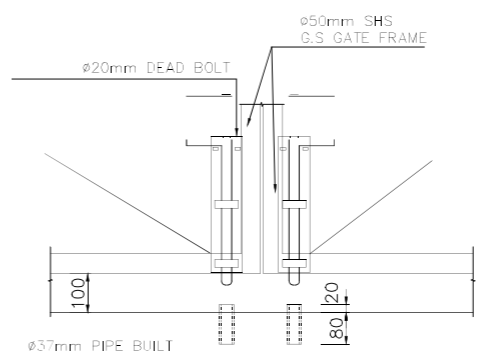


SECTION 2-2 MAIN GATE DETAIL D
SCALE: 1:5

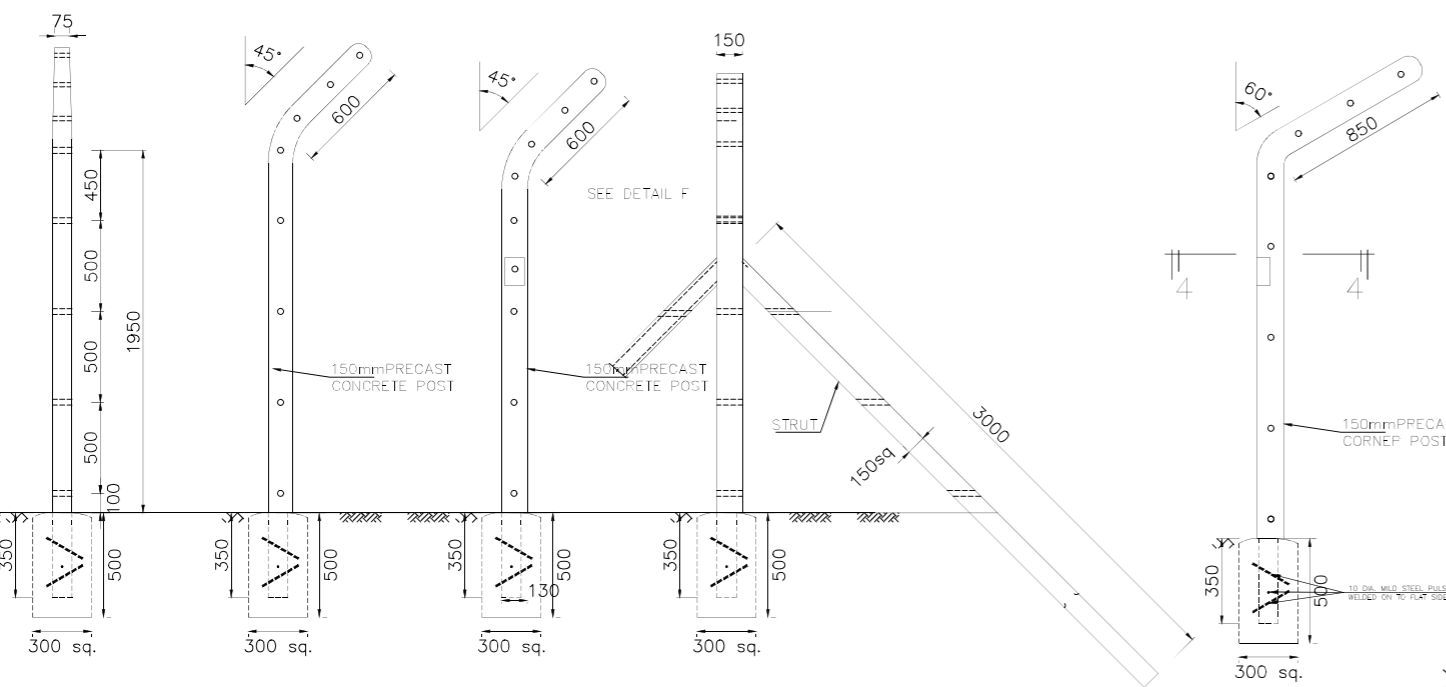
GATE HINGE DETAIL A
SCALE: 1:10



PLAN
SCALE: 1:25



MAIN GATE BOLTING DETAIL B
SCALE: 1:10

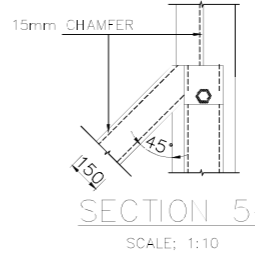


FRONT INTERMEDIATE POST @2.5M INTERVAL
SCALE: 1:20

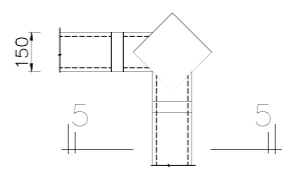
SIDE STRAINING POST
SCALE: 1:20

SIDE
SCALE: 1:20

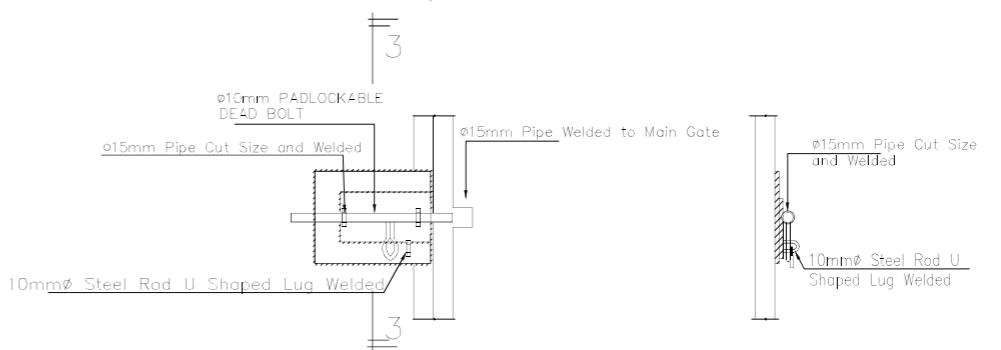
DETAIL F
SCALE: 1:10



SECTION 5-5
SCALE: 1:10



SECTION 4-4
SCALE: 1:10



MID GATE LOCKING DETAIL E
SCALE: 1:10

WEST POKOT COUNTY GOVERNMENT

PROJECT:
MTEMBUR WATER PROJECT

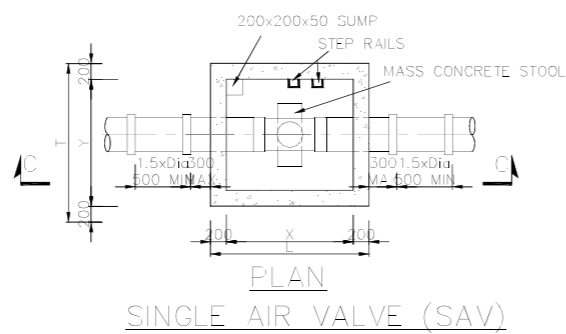
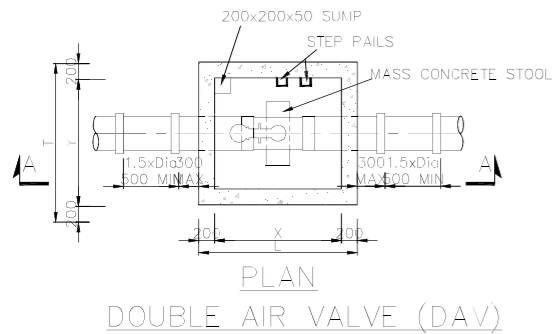
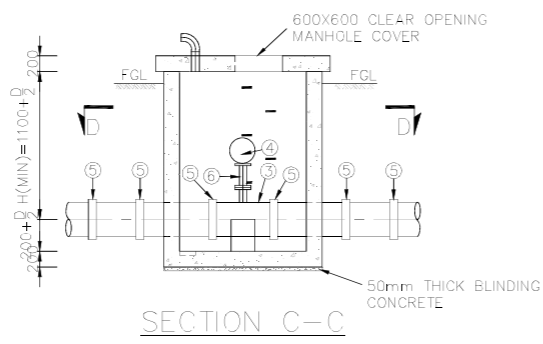
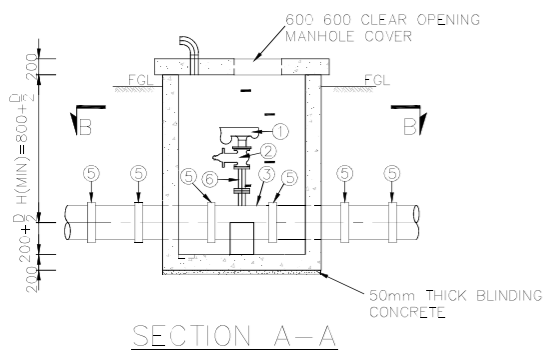
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BATCH
Consultants
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Checked by:			
Approved by:			

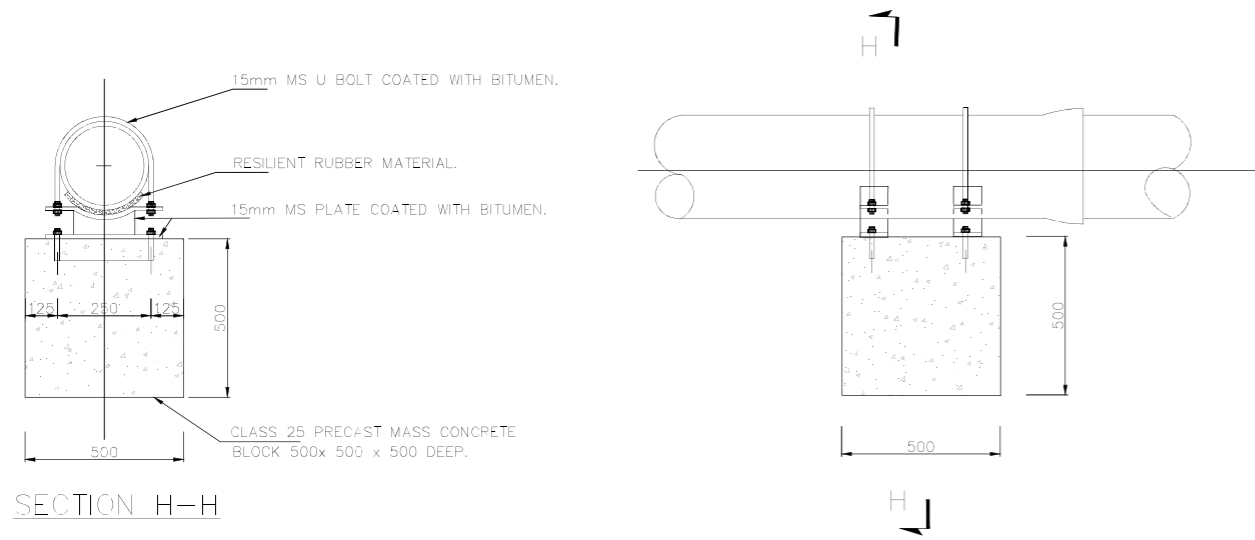
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	Date: Sept. 2023
Scale: AS SHOWN	Drg. No.: MK-T-20



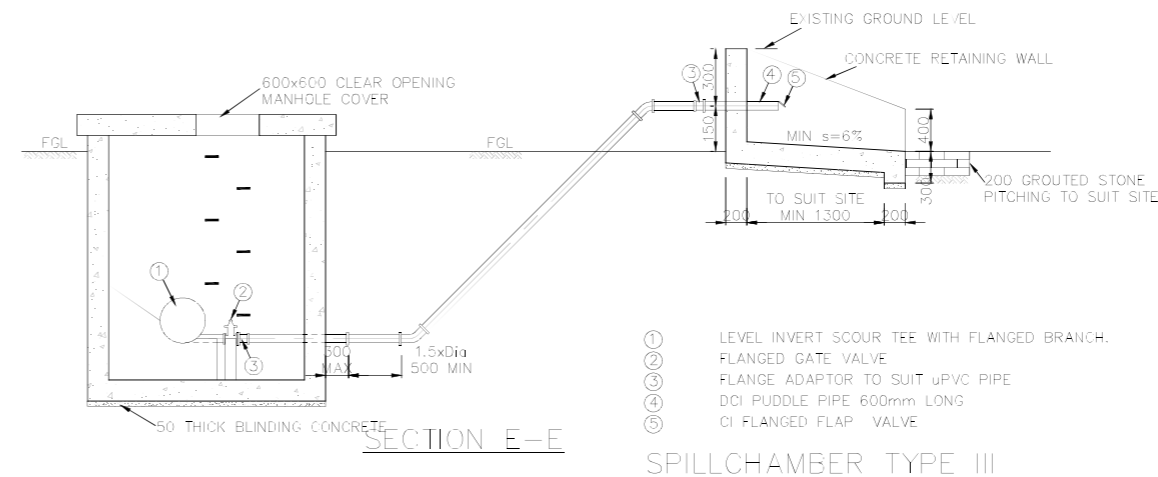
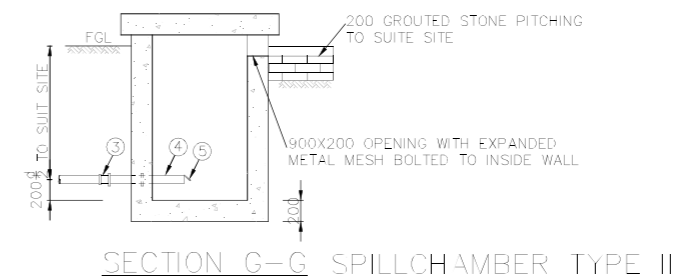
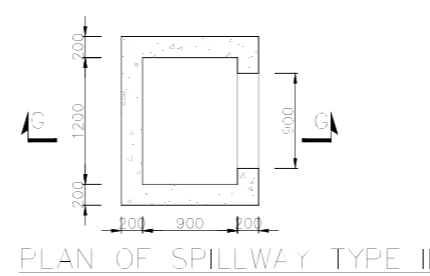
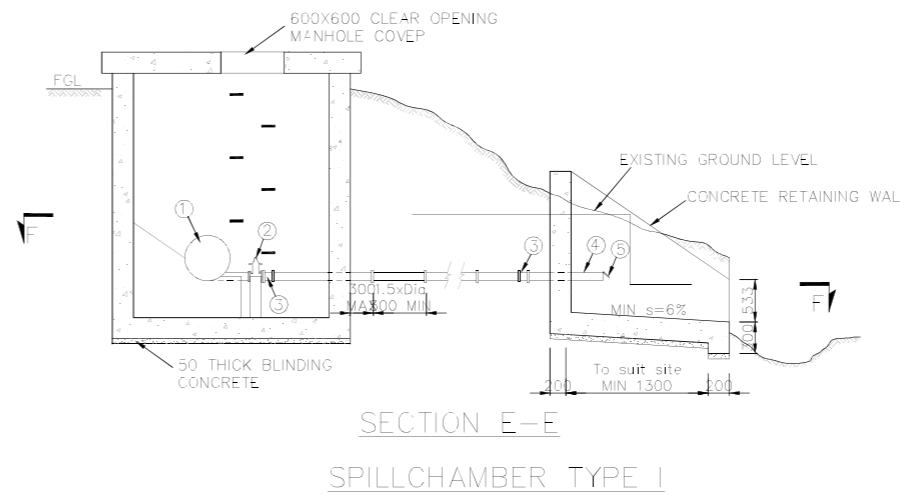
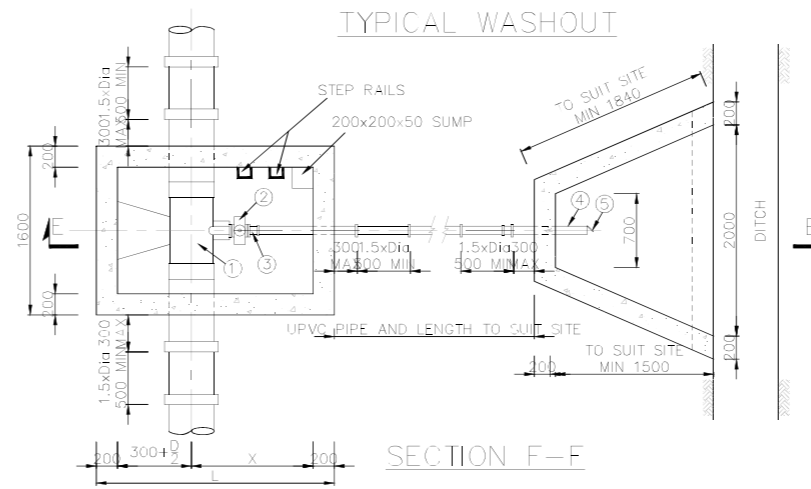
- ① DOUBLE ORIFICE AIR VALVE
- ② FLANGED GATE VALVE (50mm)
- ③ FLANGED BRANCH TEE
- ④ SMALL ORIFICE SINGLE AIR VALVE WITH ISOLATING COCK AND DN 25 THREADED BRANCH
- ⑤ FLEXIBLE COUPLINGS
- ⑥ DOUBLE FLANGED PIPE PIECE 50ø mm

DIMENSIONS FOR DOUBLE & SINGLE AIR VALVES

DN	80	100	150	200
X	1000	1000	1000	1000
L	1400	1400	1400	1400
Y	800	800	800	1000
T	1200	1200	1200	1400



PIPE ANCHORAGE DETAIL IN WATERLOGGED AREAS



- ① LEVEL INVERT SCOUR TEE WITH FLANGED BRANCH.
- ② FLANGED GATE VALVE
- ③ FLANGE ADAPTOR TO SUIT UPVC PIPE
- ④ DCI PUDDLE PIPE 600mm LONG
- ⑤ CI FLANGED FLAP VALVE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
2. ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED
3. ALL CONCRETE IS CLASS '25' UNLESS OTHERWISE STATED
4. ALL EXPOSED CONCRETE EDGES SHALL HAVE 20x20mm CHAMFER

LEGEND

- F.A - FLANGE ADAPTOR
- V.J - VIKING JOHNSON
- G.I - GALVANISED IRON
- I.L - INVERT LEVEL
- D.I - DUCTILE IRON

WEST POKOT COUNTY GOVERNMENT



PROJECT:

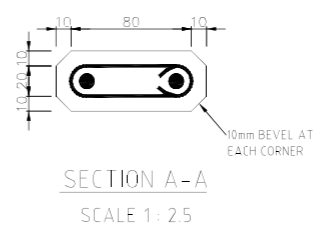
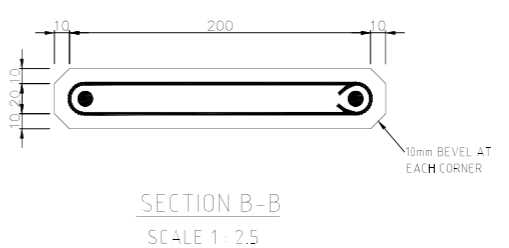
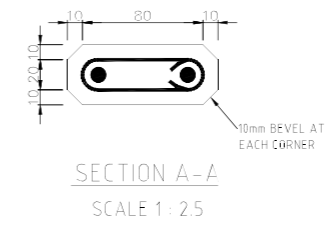
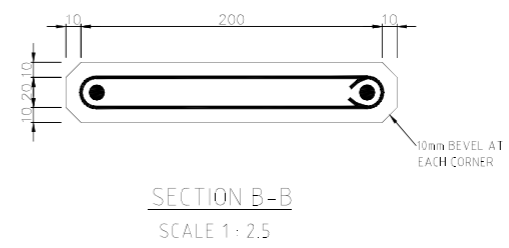
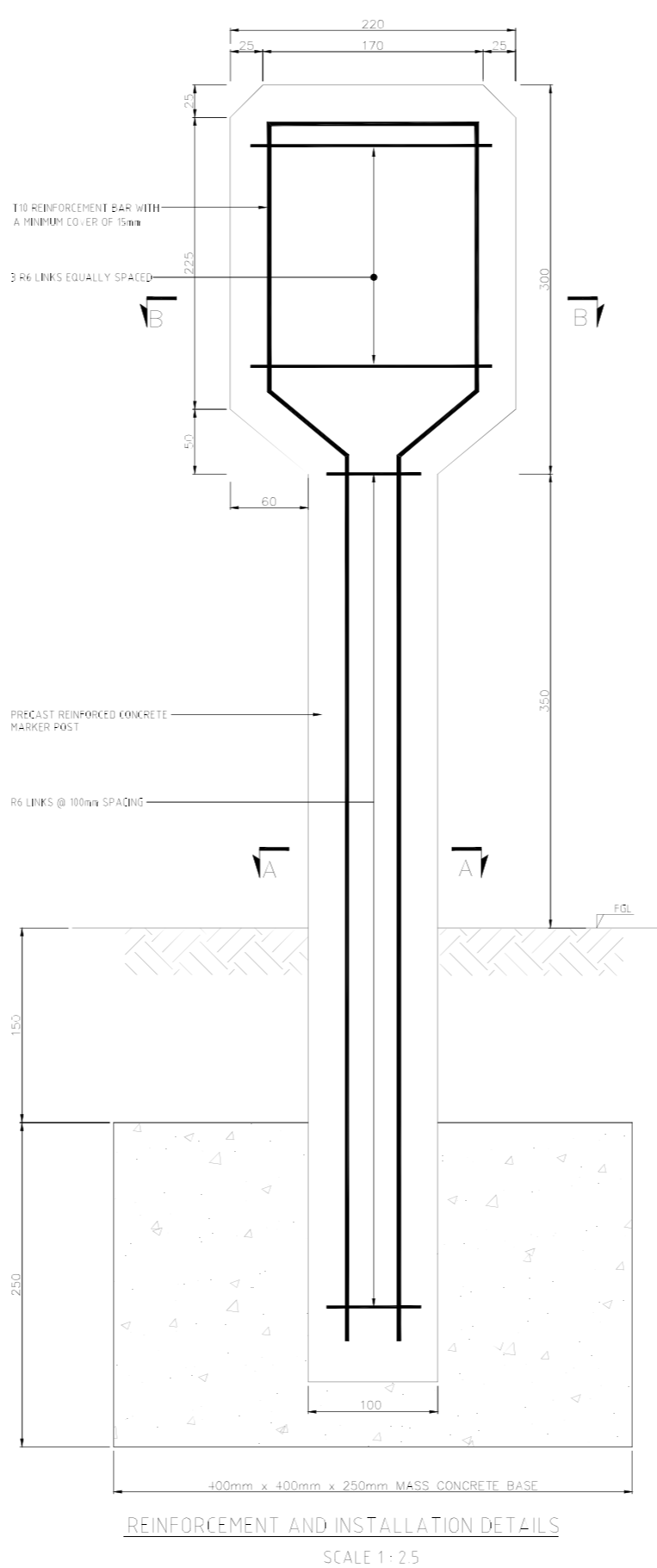
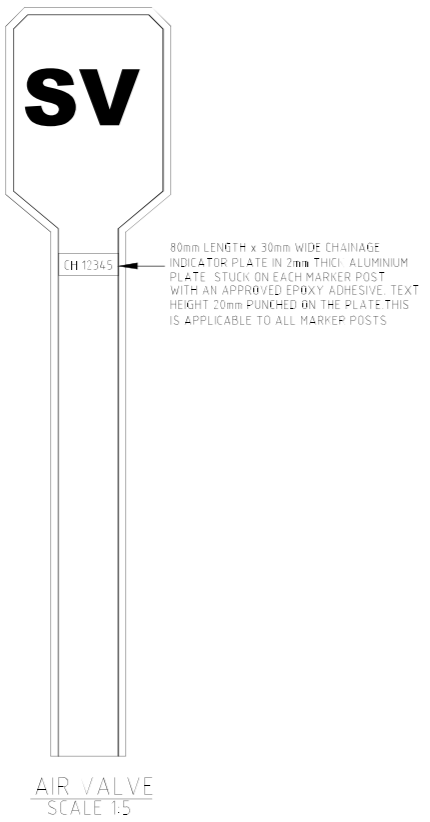
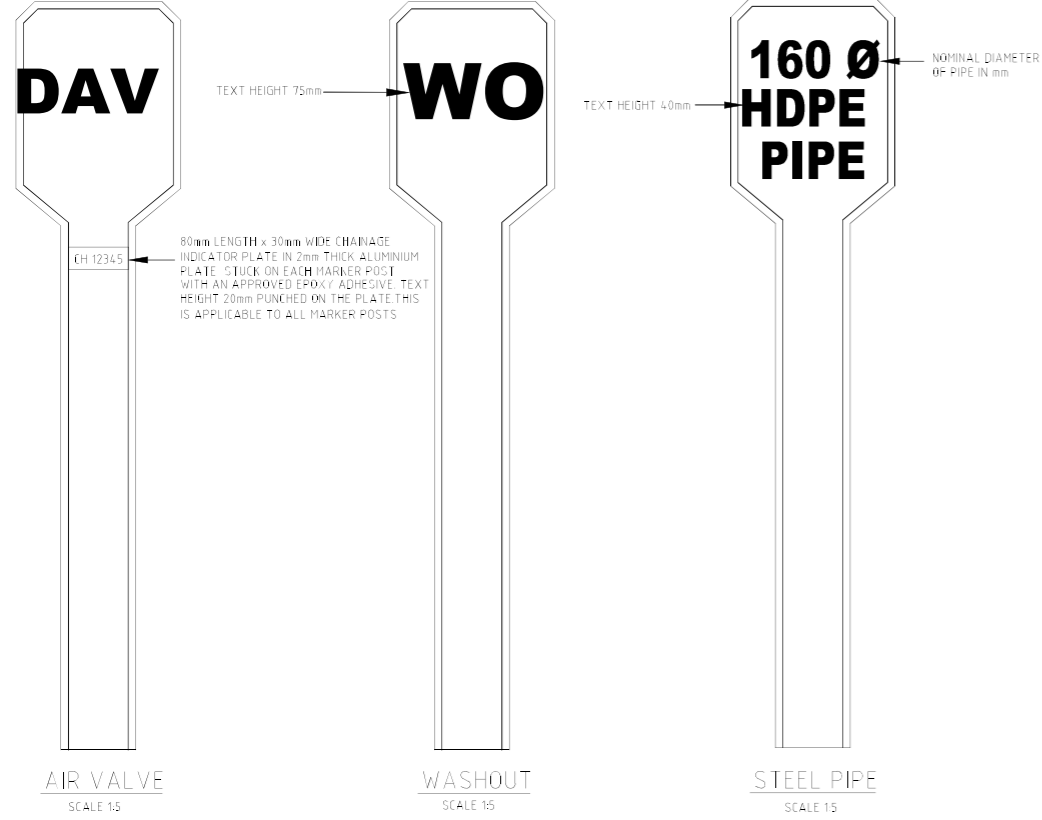
MTEMBUR WATER PROJECT



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Activity	Name	Sign	Date
Designed by:			
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Approved by:			

<p>Drawing Title: TYPICAL AIR VALVE AND WASHOUT CHAMBER DETAILS</p> <p>Scale: AS SHOWN</p>	<p>Sheet: Sheet 1 of 1</p> <p>Date: Sept. 2023</p> <p>Drg. No.: MK-T-21</p>
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- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
 2. ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED
 3. ALL CONCRETE IS CLASS '25' UNLESS OTHERWISE STATED
 4. ALL EXPOSED CONCRETE EDGES SHALL HAVE 20x20mm CHAMFER

- LEGEND**
- F.A - FLANGE ADAPTOR
 - V.J - VIKING JOHNSON
 - G.I - GALVANISED IRON
 - I.L - INVERT LEVEL
 - D.I - DUCTILE IRON



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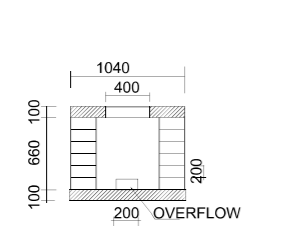
WaterFund
EUROPEAN UNION

Consultants
BATCH
P.O. Box 2403-00100, Nairobi, Kenya
Tel: +254 (0) 20 263166
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E-mail: info@batchassociates.co.ke
Webmail: www.batchassociates.co.ke

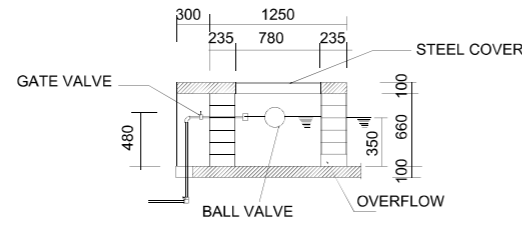
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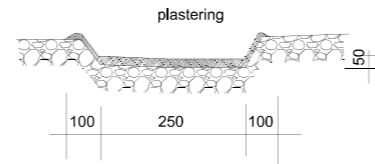
Drawing Title: PIPELINE MARKER POSTS DETAILS	Sheet: Sheet 1 of 1
Scale: AS SHOWN	Date: Sept. 2023
	Drg. No. MK-T-22



SECTION F - F



SECTION E - E



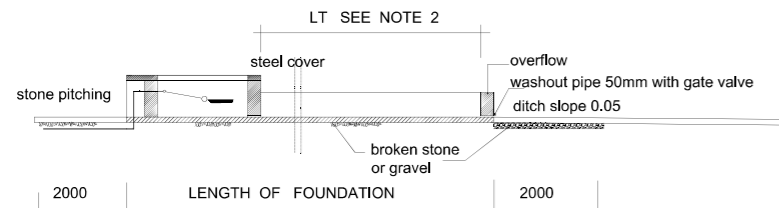
SECTION C - C

Required Fittings

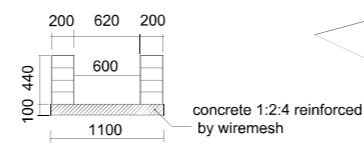
1. 2 no 50mm Elbows
2. 2 no 50mm gate valve
3. 1 no 50mm ball valve

NOTE

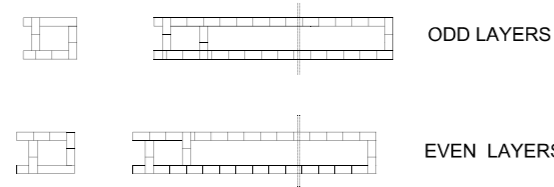
1. Structure in 400x200x100mm cement blocks plastered in 1:3 mix on all showing surfaces.
2. Length of trough according to expected herd size.
LT = 500m - SMALL CATTLE HEADS, GOATS & SHEEP



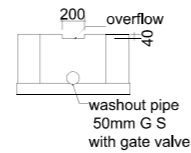
SECTION A - A



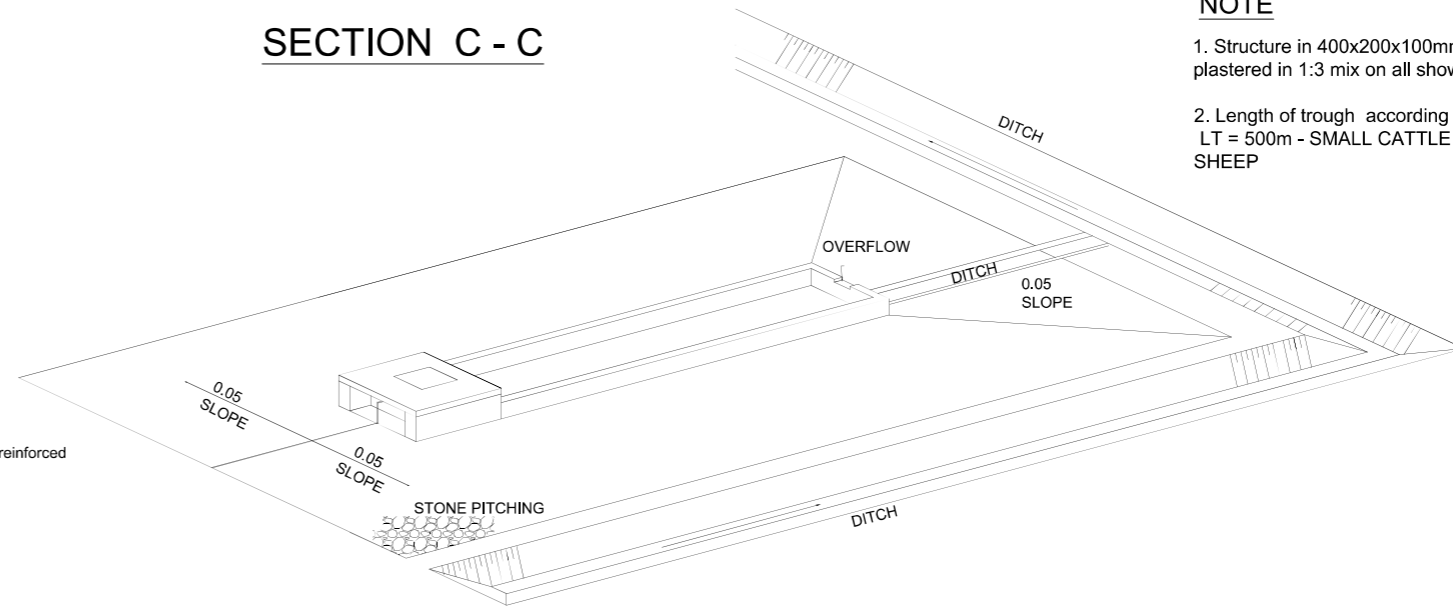
SECTION G - G



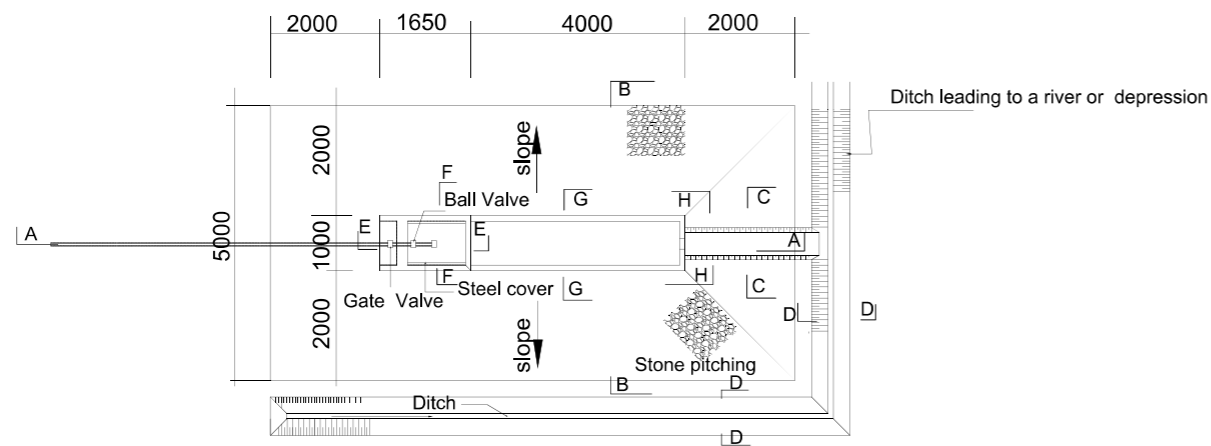
BLOCK LAYING



SECTION H - H

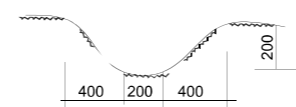


ISOMETRIC VIEW

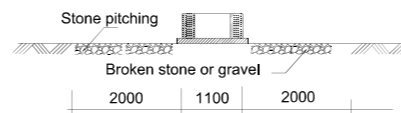


Ditch only required if surrounding area slopes towards trough

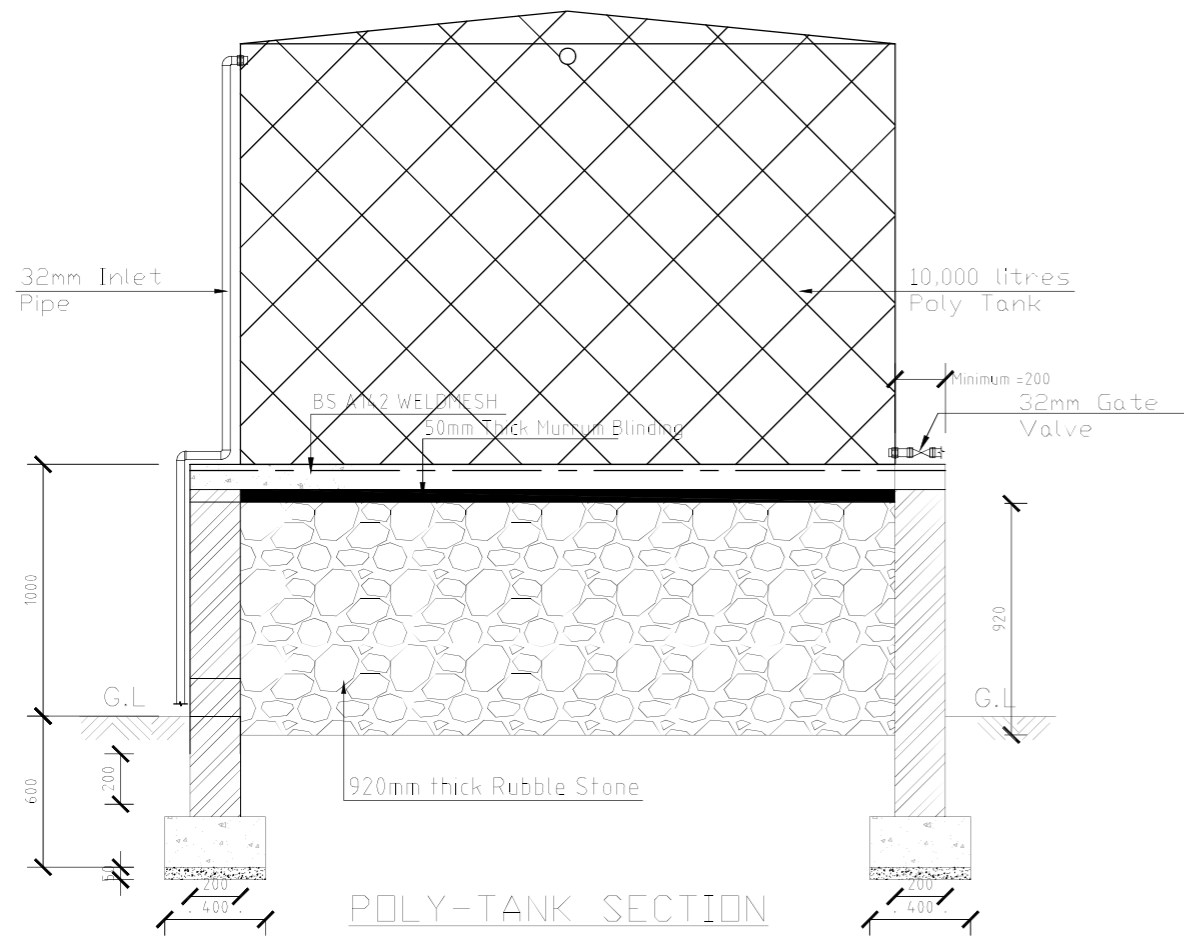
PLAN OF CATTLE TROUGH



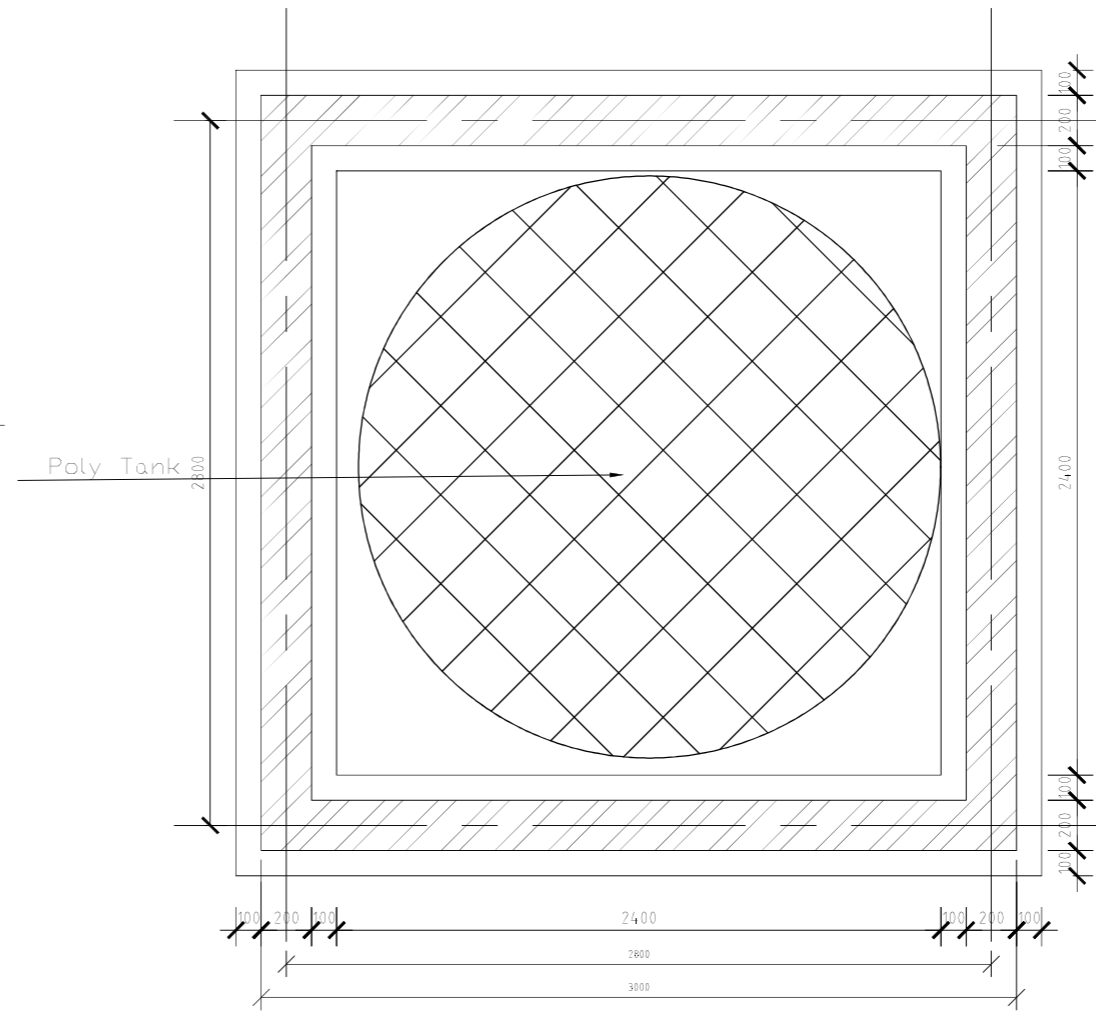
SECTION D - D



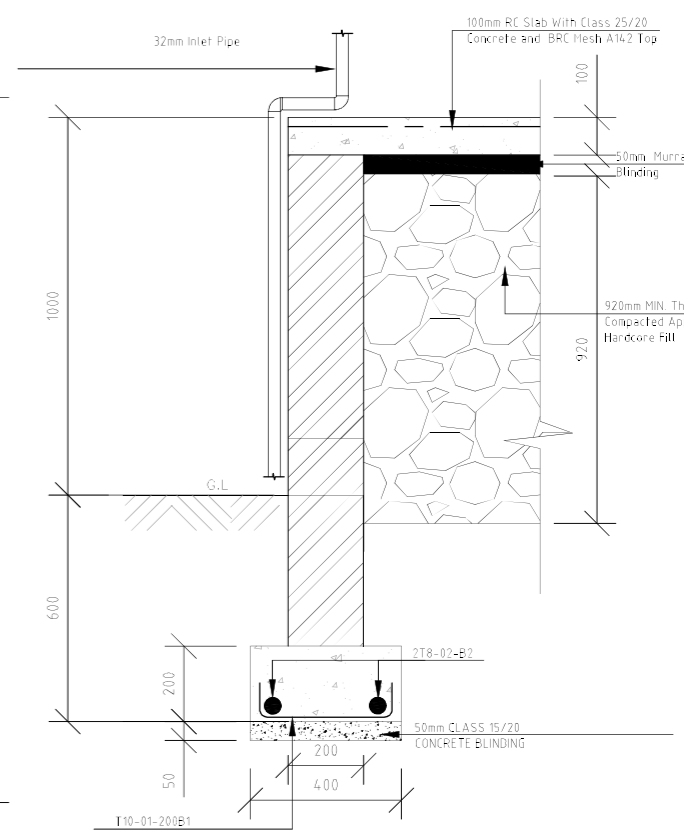
SECTION B - B



POLY-TANK SECTION
(SCALE: 1:15)



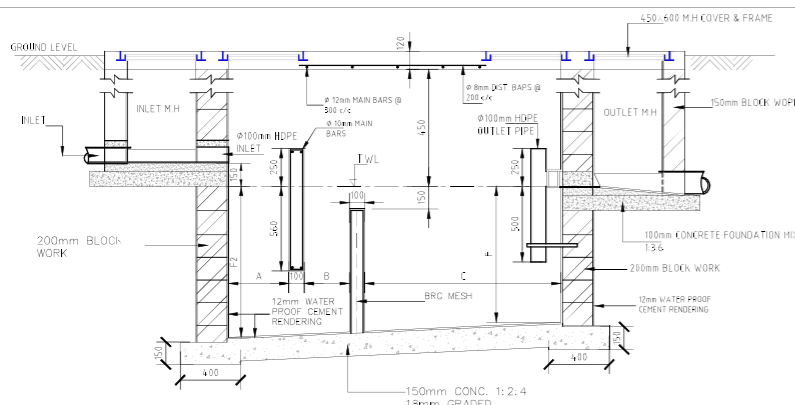
TANK BASE LAYOUT PLAN
(SCALE: 1:15)



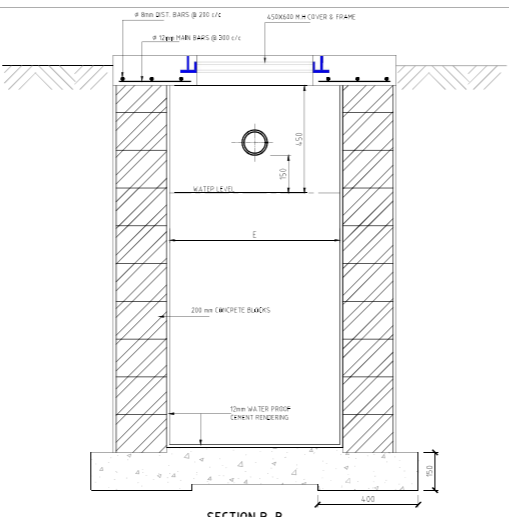
FOUNDATION DETAILS
(SCALE: 1:10)

NOTES

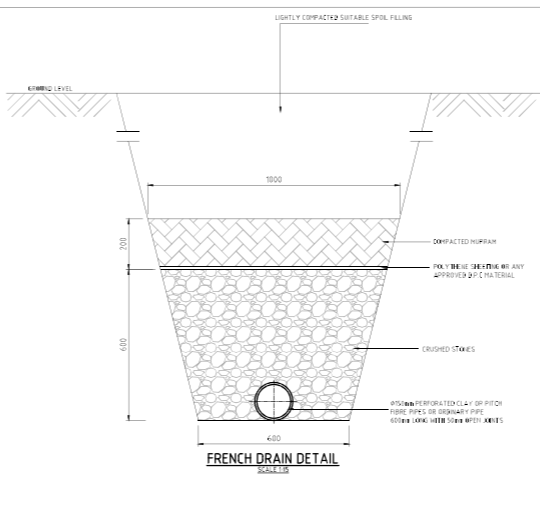
1. The base Must be at least 200mm Wider than the base of the tank
2. The base must be smooth in the sense that sharp object or ballast should not protrude on the surface
3. The quarry blocks should be allowed to set dry for 36 hours before filling with the rubble stones
4. The rubble stones must be properly compacted and treated with anti-termites



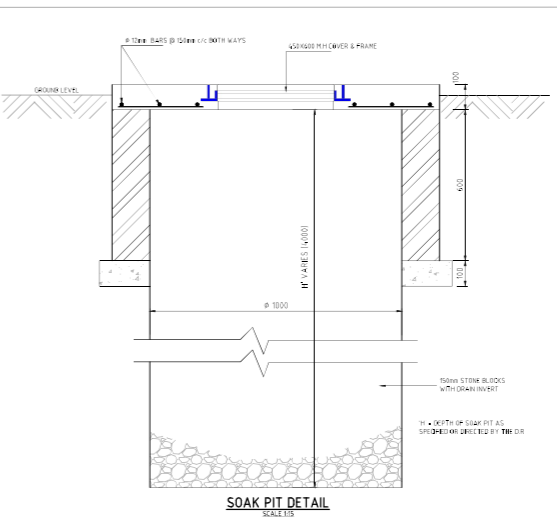
SECTION A-A
SCALE 1:25



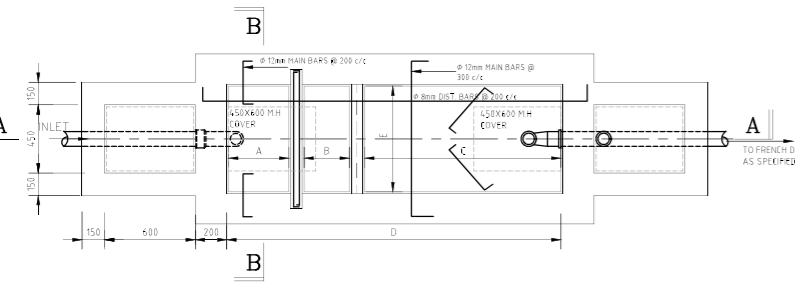
SECTION B-B
SCALE 1:25



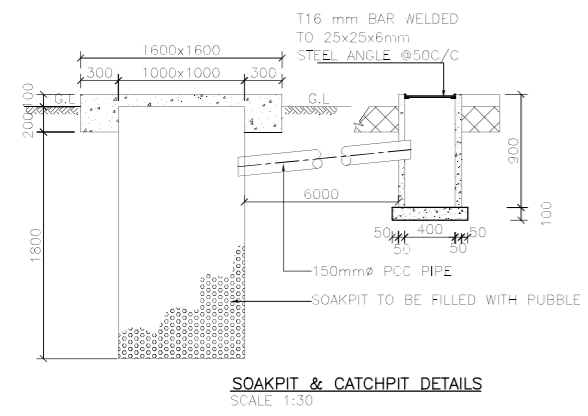
FRENCH DRAIN DETAIL
SCALE 1:25



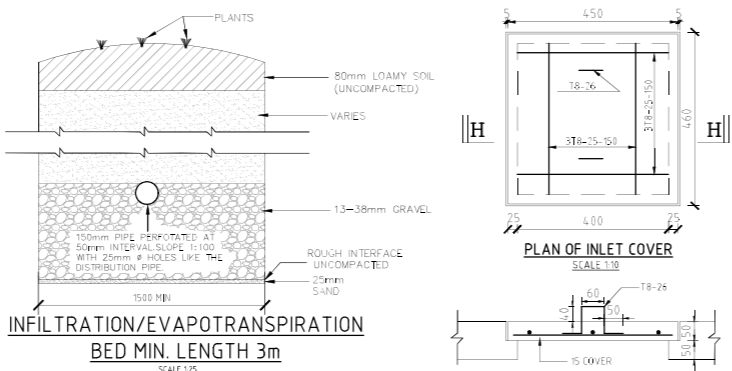
SOAK PIT DETAIL
SCALE 1:25



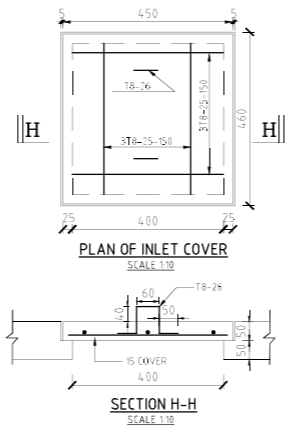
PLAN WITH COVER SLAB REINFORCEMENT
SCALE 1:25



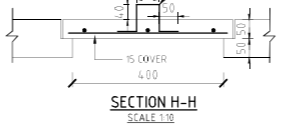
SOAKPIT & CATCHPIT DETAILS
SCALE 1:30



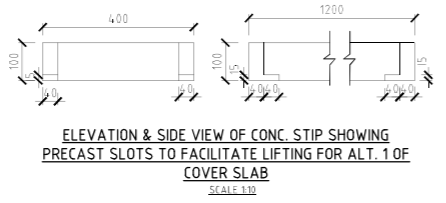
INFILTRATION/EVAPOTRANSPIRATION BED MIN. LENGTH 3m
SCALE 1:25



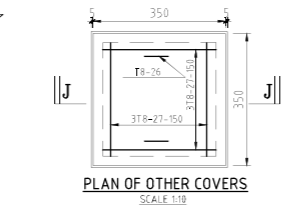
PLAN OF INLET COVER
SCALE 1:10



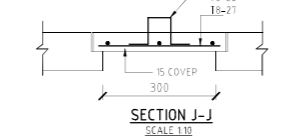
SECTION H-H
SCALE 1:10



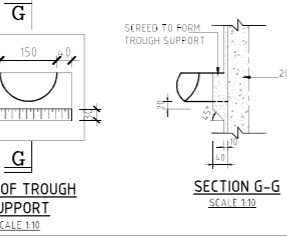
ELEVATION & SIDE VIEW OF CONC STIP SHOWING PRECAST SLOTS TO FACILITATE LIFTING FOR ALT. 1 OF COVER SLAB
SCALE 1:10



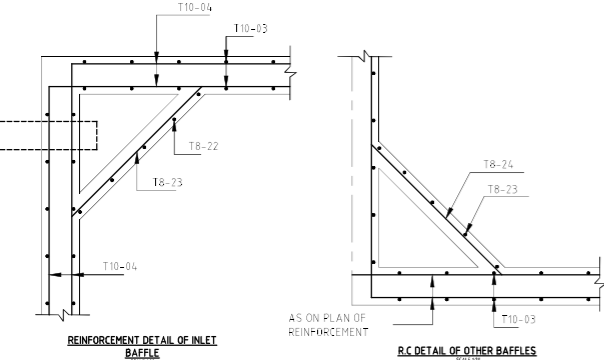
PLAN OF OTHER COVERS
SCALE 1:10



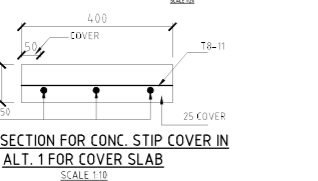
SECTION J-J
SCALE 1:10



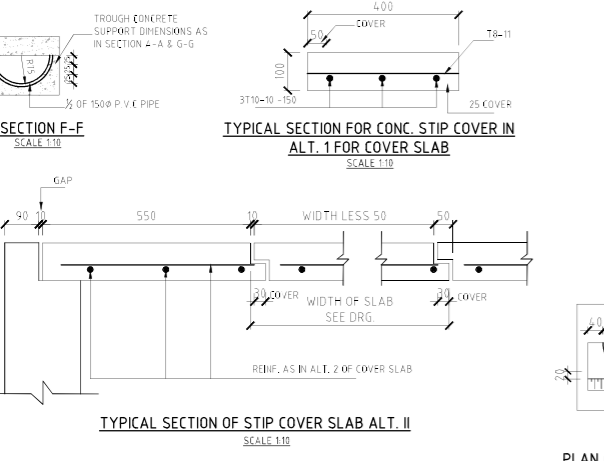
PLAN OF TROUGH SUPPORT
SCALE 1:10



REINFORCEMENT DETAIL OF INLET BAFFLE
SCALE 1:10



R.C DETAIL OF OTHER BAFFLES
SCALE 1:10



TYPICAL SECTION OF STIP COVER SLAB ALT. II
SCALE 1:10

CAPACITY		No. OF PERSONS	DIMENSIONS IN mm						
GALLONS	LITRES		A	B	C	D	E	F	F2
300	1360	UP TO 10	400	300	1300	2200	700	900	1000
600	2720	11-20	750	600	1350	2900	900	1100	1150
900	4080	21-30	900	750	1350	3200	1100	1200	1300
1200	5440	31-40	900	850	1350	3300	1300	1300	1420
1500	6800	41-50	1000	950	1350	3500	1400	1400	1550

NOTES:
 1. CONCRETE TO BE 1:2:4 20mm GRADED & TO BE ACCORDING TO GENERAL SPECIFICATION
 2. REINFORCEMENT - MILD STEEL BARS TO BS 785
 3. COVER TO BARS FROM FACE OF CONCRETE TO BE 20mm.
 4. 1:2 CEMENT RENDERING ON THE WALLS AND SCUM BAFFLES

BAR BENDING SCHEDULE					
No.	DI4 (mm)	LENGTH (mm)	TOTAL No OF BARS	TOTAL LENGTH (m)	SKETCH
1	10	5720	17	100.00	50 5620
2	10	1620	34	55.00	50
3	10	2370	14	350.00	250 2000
4a	10	5500	10	55.00	1280 240
4b	10	5500	10	55.00	1630 360 1520
5a	10	6200	10	62.00	2220 240 1280
5b	10	6200	10	62.00	1980 360 1520
6a	10	5340	10	54.00	1280 1270 1760
6b	10	5340	10	54.00	1080 380 1520
7a	10	3700	6	23.00	240 970 1280
7b	10	3700	6	23.00	360 730 1520
8	10	1820	11	15.00	50 1220
9	10	1570	31	50.00	250 1200

BAR BENDING SCHEDULE					
No.	DI4 (mm)	LENGTH (mm)	TOTAL No OF BARS	TOTAL LENGTH (m)	SKETCH
10	10	1350	56	77.00	STRAIGHT
11	6	350	98	35.00	—
12	6	150	7	1.10	—
13	10	840	3	2.60	—
14	10	900	11	10.00	—
15	10	650	10	6.60	—
16	10	500	44	22.00	—
17	10	910	6	5.50	—
18	10	800	10	8.00	—
19	10	800	1	1.00	—
20	10	750	4	3.00	—
21	10	1150	1	1.20	—
22	6	1220	4	5.00	240 740 76
23	6	680	19	13.00	STRAIGHT
24	6	1030	20	21.00	240 550 76
25	6	420	6	2.60	STRAIGHT
26	6	310	12	3.80	500 240 76
27	6	320	30	10.00	—

BUILDING MATERIALS
 1 FOR CONCRETE BLINDING STRUCTURAL AND SCREED
 CEMENT ---- 4.18 TONNES
 SAND ----- 8.50 TONNES
 AGGREGATE -- 15.76 TONNES

2. 11 METRES OF 150X150mm CONCRETE BLOCKS

3. 1 No. 6 METRES LONG P.V.C TO BE USED AT INFLUENT, EFFLUENT, FILTER CHAMBER, PIPE TO INFILTRATION TRENCH.

- GENERAL NOTES:**
- ALL CONCRETE TO BE CLASS 25/20 (1 : 1.5 : 3)
 - REINFORCEMENT TO BE HIGH YIELD TENSILE STEEL REINFORCEMENT.
 - MINIMUM COVER TO REINFORCEMENT TO BE BASES =50mm
COLUMNS=40mm
BEAMS =25mm
 - ALL FOUNDATIONS TO BE TAKEN DOWN TO FIRM BEARING STRATA TO ENGINEER'S APPROVAL
 - FOUNDATIONS DESIGNED FOR ALLOWABLE BEARING PRESSURE OF 150 KN/m²
 - MINIMUM LAP LENGTH TO BE 50 TIMES BAR DIAMETER
 - STRUCTURAL DRAWING TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS
 - ALL THE REINFORCEMENT TO BE INSPECTED BY THE STRUCTURAL ENGINEER BEFORE CONCRETING
 - RWD & SERVICE DUCTS & CLADDING REQUIREMENTS TO BE CO ORDINATED WITH ARCHITECT, ME & EE DRAWINGS

Client

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Project

CONSULTANCY SERVICES FOR CONDUCTING SURVEYS AND DEVELOPMENT OF DESIGNS FOR MTEMUR - KITALAKAPEL SUPPLY PROJECT UNDER EDE-CPRA PROGRAMME IN WEST POKOT COUNTY

REFERENCE NUMBER: WST/EUR/FP/07/2022-2023

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Drawing Title

SEPTIC TANK AND SOAK AWAY PLANS, SECTIONS AND DETAILS

Designed by	AI	Drawn by	AI
Checked by	AGO	Approved by	NHA
Scale	AS SHOWN	Date	Sept 2023
D STATUS	DWG NO: MK-T-25		