



MWE - **MINISTRY OF WATER AND ENVIRONMENT**  
DIRECTORATE OF WATER DEVELOPMENT

RURAL WATER SUPPLY AND SANITATION DEPARTMENT

## **Bidding Document for the Procurement of Works**

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREKO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND  
SANITATION SYSTEM**

**VOLUME IV - BOOK OF DRAWINGS**

**September, 2023**



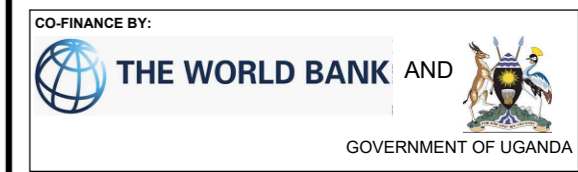
List of Drawings	
Drg No	Drawing Tittle
<b>General Layout</b>	
MWE/GWE/0.0.0	Transmission and Distribution Network
<b>Water Treatment Plant: Water Treatment Plant</b>	
MWE/GWE/1.0.1	General Site Layout
MWE/GWE/1.0.2	Hydraulic Profile
MWE/GWE/1.0.3	Plan view (DWD 89709)
MWE/GWE/1.0.4	Section view (DWD 89709)
MWE/GWE/1.0.5	Plan view (BH2)
MWE/GWE/1.0.6	Section view (BH2)
MWE/GWE/1.0.7	Riser main details
<b>Water Treatment Plant: Aerator and Sedimentation Tank</b>	
MWE/GWE/1.1.1	Top Plan
MWE/GWE/1.1.2	Sectional Plan
MWE/GWE/1.1.3	Section A-A
MWE/GWE/1.1.4	Section B-B_C-C and Section D-D
<b>Water Treatment Plant: Rapid Gravity Filters</b>	
MWE/GWE/1.2.1	Top Plan
MWE/GWE/1.2.2	Sectional Plan
MWE/GWE/1.2.3	Section A-A
MWE/GWE/1.2.4	Section B-B
MWE/GWE/1.2.5	Section C-C
<b>Water Treatment Plant: Treated Water Tank and Pump House</b>	
MWE/GWE/1.3.1	Sectional Plan
MWE/GWE/1.3.2	Section A-A
MWE/GWE/1.3.3	Section B-B and Section B-B
<b>Water Treatment Plant: Chemical House and Office Block</b>	
MWE/GWE/1.4.1	Ground Floor Plan
MWE/GWE/1.4.2	Roof Plan
MWE/GWE/1.4.3	Section S[01]
MWE/GWE/1.4.4	Elevation_[L01] and Elevation L[02]
MWE/GWE/1.4.5	Elevation_[L03] and Elevation L[04]
<b>Water Treatment Plant: 62.3m<sup>3</sup> Backwash and Service Tank</b>	
MWE/GWE/1.5.1	Top Plan
MWE/GWE/1.5.2	Sections and Details
MWE/GWE/1.5.3	Foundation layout and Details
<b>Water Treatment Plant: Staff House</b>	
MWE/GWE/1.6.1	Ground Floor Plan
MWE/GWE/1.6.2	Roof Plan
MWE/GWE/1.6.3	Section S[01]
MWE/GWE/1.6.4	Elevation_[L01] and Elevation L[02]
MWE/GWE/1.6.5	Elevation_[L03] and Elevation L[04]
<b>Water Treatment Plant: Guard House</b>	
MWE/GWE/1.7.1	Plan and Sections
Water Treatment Plant: Manhole Details	
MWE/GWE/1.8.1	Plan and Sections
<b>Solar Drawings</b>	
MWE/GWE/1.9.1	DWD BH2 Solar Panel Array (Layout & Elevations)

List of Drawings	
Drg No	Drawing Tittle
MWE/GWE/1.9.2	DWD BH2 Solar Panel Array (Electrical layout)
MWE/GWE/1.9.3	DWD 89709 Solar Panel Array(Layout &Elevations)
MWE/GWE/1.9.4	DWD 89709 Solar Panel Array(Electrical layout)
MWE/GWE/1.9.5	WTP Solar Panel Array(Layout &Elevations)
MWE/GWE/1.9.6	WTP Solar Panel Array(Electrical layout)
<b>Transmission Main</b>	
MWE/GWE/2.1.1	Transmission Mains (CH 0+000.00 - 0+600.00)
MWE/GWE/2.1.2	Transmission Mains (CH 0+600.00 - 1+200.00)
MWE/GWE/2.1.3	Transmission Mains (CH 1+200.00 - 1+800.00)
MWE/GWE/2.1.4	Transmission Mains (CH 1+800.00 - 2+400.00)
MWE/GWE/2.1.5	Transmission Mains (CH 2+400.00 - 2+910.96)
<b>Transmission Main 01</b>	
MWE/GWE/2.2.1	Transmssion Main 01 (CH 0+000.00 - 0+600.00)
MWE/GWE/2.2.2	Transmssion Main 01 (CH 0+600.00 - 1+200.00)
MWE/GWE/2.2.3	Transmssion Main 01 (CH 1+200.00 - 1+800.00)
MWE/GWE/2.2.4	Transmssion Main 01 (CH 1+800.00 - 1+874.10)
<b>Lefori Reservoir Tank_222m<sup>3</sup></b>	
MWE/GWE/3.1.1	Site Layout
MWE/GWE/3.1.2	Top Plan
MWE/GWE/3.1.3	Section A-A
MWE/GWE/3.1.4	Section B-B
MWE/GWE/3.1.5	Foundation Details
<b>General Layout - Distribution Mains</b>	
MWE/GWE/4.0.0	General Overview
<b>Distribution Line 01</b>	
MWE/GWE/4.1.1	Distribution Line 01 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.1.2	Distribution Line 01 (CH 0+600.00 - 1+200.00)
MWE/GWE/4.1.3	Distribution Line 01 (CH 1+200.00 - 1+800.00)
MWE/GWE/4.1.4	Distribution Line 01 (CH 1+800.00 - 2+400.00)
MWE/GWE/4.1.5	Distribution Line 01 (CH 2+400.00 - 3+000.00)
MWE/GWE/4.1.6	Distribution Line 01 (CH 3+000.00 - 3+600.00)
MWE/GWE/4.1.7	Distribution Line 01 (CH 3+600.00 - 4+200.00)
MWE/GWE/4.1.8	Distribution Line 01 (CH 4+200.00 - 4+800.00)
MWE/GWE/4.1.9	Distribution Line 01 (CH 4+800.00 - 5+400.00)
MWE/GWE/4.1.10	Distribution Line 01 (CH 5+400.00 - 6+000.00)
MWE/GWE/4.1.11	Distribution Line 01 (CH 6+000.00 - 6+600.00)
MWE/GWE/4.1.12	Distribution Line 01 (CH 6+600.00 - 7+200.00)
MWE/GWE/4.1.13	Distribution Line 01 (CH 7+200.00 - 7+800.00)
MWE/GWE/4.1.14	Distribution Line 01 (CH 7+800.00 - 8+400.00)
MWE/GWE/4.1.15	Distribution Line 01 (CH 8+400.00 - 9+000.00)
MWE/GWE/4.1.16	Distribution Line 01 (CH 9+000.00 - 9+600.00)
MWE/GWE/4.1.17	Distribution Line 01 (CH 9+600.00 - 10+200.00)
MWE/GWE/4.1.18	Distribution Line 01 (CH 10+200.00 - 10+800.00)

AMENDMENTS		
No	Date	Revision
1	4.8.2024	Draft Design

NOTES
1. All dimensions are in metres unless stated otherwise.
2. All levels are in metres above sea level.
3. For Site location see Dwg. MWE/GWE/0.0.0
4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

LEGEND



CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug


PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:



**SARI CONSULTING LTD**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:

DRAWING LIST  
Drawing List

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date:	Checked:	O.R Daniel
Dec-2022	Approved:	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/      Cad file No WSS<22\_11>

List of Drawings	
Dwg No	Drawing Title
<b>Distribution Line 01</b>	
MWE/GWE/4.1.19	Distribution Line 01 (CH 10+800.00 - 11+400.00)
MWE/GWE/4.1.20	Distribution Line 01 (CH 11+400.00 - 12+000.00)
MWE/GWE/4.1.21	Distribution Line 01 (CH 12+000.00 - 12+090.84)
<b>Distribution Line 1A</b>	
MWE/GWE/4.1a.1	Distribution Line 1A (CH 0+000.00 - 0+600.00)
MWE/GWE/4.1a.2	Distribution Line 1A (CH 0+600.00 - 1+200.00)
MWE/GWE/4.1a.3	Distribution Line 1A (CH 1+200.00 - 1+800.00)
MWE/GWE/4.1a.4	Distribution Line 1A (CH 1+800.00 - 2+400.00)
MWE/GWE/4.1a.5	Distribution Line 1A (CH 2+400.00 - 3+000.00)
MWE/GWE/4.1a.6	Distribution Line 1A (CH 3+000.00 - 3+244.93)
<b>Distribution Line 02</b>	
MWE/GWE/4.2.1	Distribution Line 02 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.2.2	Distribution Line 02 (CH 0+600.00 - 1+200.00)
MWE/GWE/4.2.3	Distribution Line 02 (CH 1+200.00 - 1+800.00)
MWE/GWE/4.2.4	Distribution Line 02 (CH 1+800.00 - 1+871.76)
<b>Distribution Line 03</b>	
MWE/GWE/4.3.1	Distribution Line 03 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.3.2	Distribution Line 03 (CH 0+600.00 - 1+200.00)
MWE/GWE/4.3.3	Distribution Line 03 (CH 1+200.00 - 1+800.00)
MWE/GWE/4.3.4	Distribution Line 03 (CH 1+800.00 - 2+400.00)
MWE/GWE/4.3.5	Distribution Line 03 (CH 2+400.00 - 2+710.55)
<b>Distribution Line 04</b>	
MWE/GWE/4.4.1	Distribution Line 04 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.4.2	Distribution Line 04 (CH 0+600.00 - 1+200.00)
MWE/GWE/4.4.3	Distribution Line 04 (CH 1+200.00 - 1+793.17)
<b>Distribution Line 05</b>	
MWE/GWE/4.5.1	Distribution Line 05 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.5.2	Distribution Line 05 (CH 0+600.00 - 0+709.38)
<b>Distribution Line 06</b>	
MWE/GWE/4.6.1	Distribution Line 06 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.6.2	Distribution Line 06 (CH 0+600.00 - 1+200.00)
MWE/GWE/4.6.3	Distribution Line 06 (CH 1+200.00 - 1+392.35)
<b>Distribution Line 07</b>	
MWE/GWE/4.7.1	Distribution Line 07 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.7.2	Distribution Line 07 (CH 0+600.00 - 1+200.00)
MWE/GWE/4.7.3	Distribution Line 07 (CH 1+200.00 - 1+800.00)
MWE/GWE/4.7.4	Distribution Line 07 (CH 1+800.00 - 2+400.00)
MWE/GWE/4.7.5	Distribution Line 07 (CH 2+400.00 - 2+998.02)


List of Drawings	
Dwg No	Drawing Title
<b>Distribution Line 08</b>	
MWE/GWE/4.8.1	Distribution Line 08 (CH 0+000.00 - 0+600.00) (1)
MWE/GWE/4.8.2	Distribution Line 08 (CH 0+600.00 - 1+013.01)
<b>Distribution Line 09</b>	
MWE/GWE/4.9.1	Distribution Line 09 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.9.2	Distribution Line 09 (CH 0+600.00 - 0+902.63)
<b>Distribution Line 10</b>	
MWE/GWE/4.10.1	Distribution Line 10 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.10.2	Distribution Line 10 (CH 0+600.00 - 0+670.80)
<b>Distribution Line 11</b>	
MWE/GWE/4.11.1	Distribution Line 11 (CH 0+000.00 - 0+601.01)
<b>Distribution Line 12</b>	
MWE/GWE/4.12.1	Distribution Line 12 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.12.2	Distribution Line 12 (CH 0+600.00 - 1+200.00)
MWE/GWE/4.12.3	Distribution Line 12 (CH 1+200.00 - 1+475.96)
<b>Distribution Line 13</b>	
MWE/GWE/4.13.1	Distribution Line 13 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.13.2	Distribution Line 13 (CH 0+600.00 - 1+200.00)
MWE/GWE/4.13.3	Distribution Line 13 (CH 1+200.00 - 1+800.00)
MWE/GWE/4.13.4	Distribution Line 13 (CH 1+800.00 - 2+400.00)
MWE/GWE/4.13.5	Distribution Line 13 (CH 2+400.00 - 3+000.00)
MWE/GWE/4.13.6	Distribution Line 13 (CH 3+000.00 - 3+467.73)
<b>Distribution Line 14</b>	
MWE/GWE/4.14.1	Distribution Line 14 (CH 0+000.00 - 0+600.00)
<b>Distribution Line 15</b>	
MWE/GWE/4.15.1	Distribution Line 15 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.15.2	Distribution Line 15 (CH 0+600.00 - 0+961.96)
<b>Distribution Line 16</b>	
MWE/GWE/4.16.1	Distribution Line 16 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.16.2	Distribution Line 16 (CH 0+600.00 - 1+200.00)
MWE/GWE/4.16.3	Distribution Line 16 (CH 1+200.00 - 1+725.00)
<b>Distribution Line 17</b>	
MWE/GWE/4.17.1	Distribution Line 17 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.17.2	Distribution Line 17 (CH 0+600.00 - 1+123.70)
<b>Distribution Line 18</b>	
MWE/GWE/4.18.1	Distribution Line 18 (CH 0+000.00 - 0+600.00)
MWE/GWE/4.18.2	Distribution Line 18 (CH 0+600.00 - 0+816.29)

AMENDMENTS		
No	Date	Revision
1	7.30.2023	Draft Design

NOTES
1. All dimensions are in metres unless stated otherwise.
2. All levels are in metres above sea level.
3. For Site location see Dwg. MWE/GWE/0.0.0
4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

LEGEND

CO-FINANCE BY:



THE WORLD BANK AND GOVERNMENT OF UGANDA

CLIENT



MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel: +256 417 889 400, Email: mwe@mwe.go.ug  
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PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:






Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:

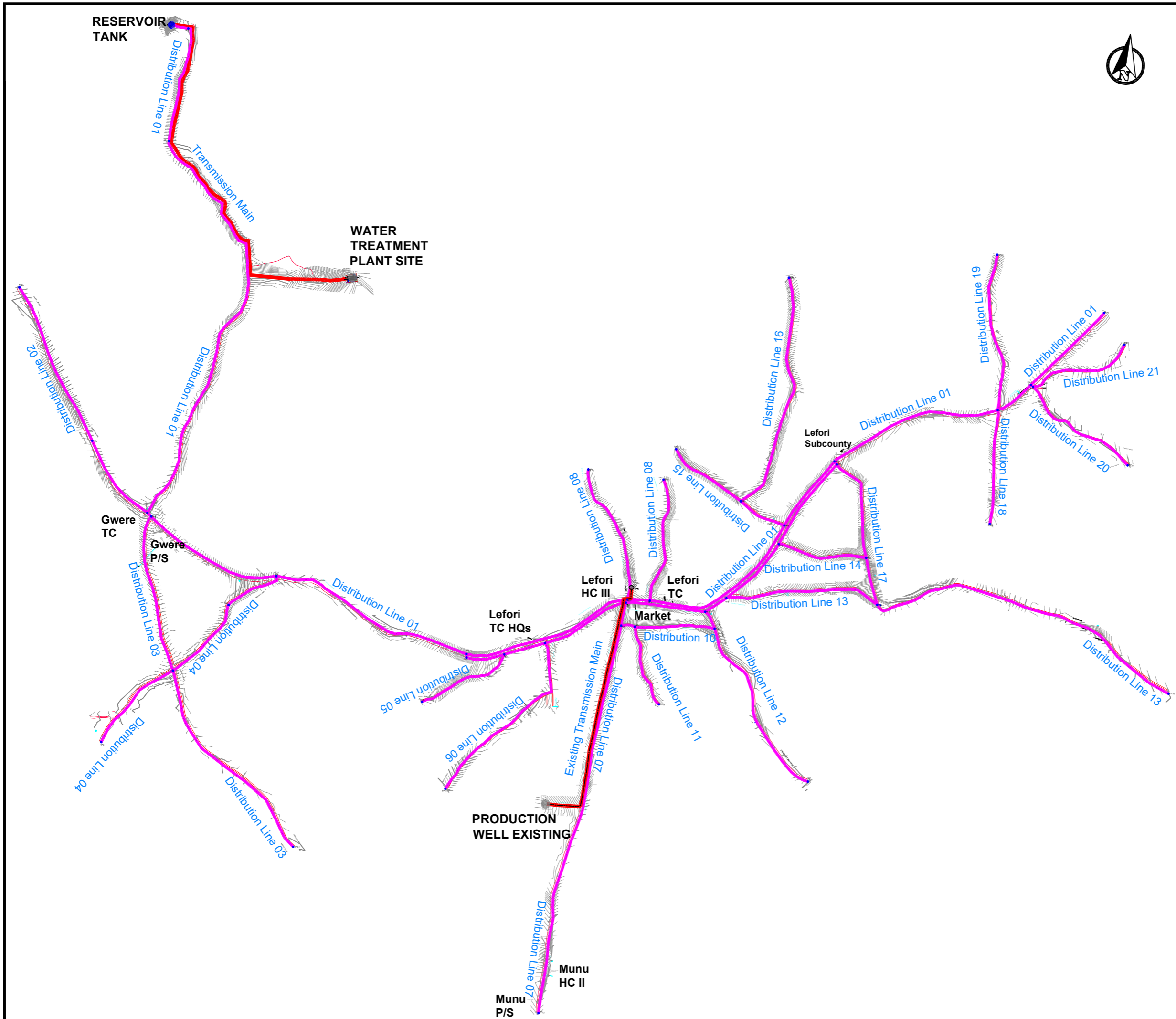
DRAWING LIST  
Drawing List (2)

Scale:	Designed:	O.R Daniel
Date:	Drawn:	P.S Eyamu
Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel
ENGINEERING DESIGN DRAWING		
Drg No: MWE/GWE/	Cad file No WSS<22_11>	

List of Drawings		List of Drawings		AMENDMENTS		
Dwg No	Drawing Title	Dwg No	Drawing Title	No	Date	Revision
<b>Distribution Line 19</b>		MWE/GWE/7.3.4	Electrical Installation	1	7.30.2023	Draft Design
MWE/GWE/4.19.1	Distribution Line 19 (CH 0+000.00 - 0+600.00)	MWE/GWE/7.3.5	Plumbing Layout			
MWE/GWE/4.19.2	Distribution Line 19 (CH 0+600.00 - 1+133.37)	<b>Standard Drawings</b>		<b>NOTES</b>		
<b>Distribution Line 20</b>		MWE/GWE/SD100	General Notes	1. All dimensions are in metres unless stated otherwise.		
MWE/GWE/4.20.1	Distribution Line 20 (CH 0+000.00 - 0+600.00)	MWE/GWE/SD101	Sign Post	2. All levels are in metres above sea level.		
MWE/GWE/4.20.2	Distribution Line 20 (CH 0+600.00 - 0+938.11)	MWE/GWE/SD104	Fence & Gate	3. For Site location see Dwg. MWE/GWE/0.0.0		
<b>Distribution Line 21</b>		MWE/GWE/SD107E	Ladder Type A	4. For Node details, see Dwg. MWE/GWE/5.0.0		
MWE/GWE/4.21.1	Distribution Line 21 (CH 0+000.00 - 0+600.00)	MWE/GWE/SD111A	Gate Valve I	5. All valves, hydrants and washout locations are identified by marker post in positions.		
MWE/GWE/4.21.2	Distribution Line 21 (CH 0+600.00 - 0+778.39)	MWE/GWE/SD112A	Air Valve Pipework	<b>LEGEND</b>		
<b>Distribution Mains - Node Details</b>		MWE/GWE/SD112B	Air Valve Chamber			
MWE/GWE/5.0.1	Node Details A	MWE/GWE/SD114A	Washout Pipe details			
MWE/GWE/5.0.2	Node Details B	MWE/GWE/SD114B	Washout Chamber			
MWE/GWE/5.0.3	Node Details C	MWE/GWE/SD116	Outfall			
MWE/GWE/5.0.4	Node Details D	MWE/GWE/SD117	Marker Post			
MWE/GWE/5.0.5	Node Details E	MWE/GWE/SD118A	Anchor blocks for Tapers			
MWE/GWE/5.0.6	Node Details F	MWE/GWE/SD118B	Anchor blocks for Bends 1			
<b>Typical Sand Post</b>		MWE/GWE/SD118C	Anchor blocks for Bends 2			
MWE/GWE/5.1.1	Plan and Sections	MWE/GWE/SD122	Surface Box			
<b>Typical Yard Connection</b>		MWE/GWE/SD135A	Washout GV Chamber	CO-FINANCE BY:		
MWE/GWE/5.2.1	Sectional Elevation	MWE/GWE/SD135C	Washout GV Roof Slab			
<b>Water Office Block</b>		MWE/GWE/SD137	Flexible pipe joint details	CLIENT		
MWE/GWE/6.1.1	Ground Floor Plan	MWE/GWE/SD204	Pipe Bedding	 MINISTRY OF WATER AND ENVIRONMENT DIRECTORATE OF WATER DEVELOPMENT (DWD) RURAL WATER SUPPLY AND SANITATION DEPARTMENT Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala Tel : +256 417 889 400, Email: mwe@mwe.go.ug Website: www.mwe.go.ug		
MWE/GWE/6.1.2	Roof Plan	MWE/GWE/SD220	Pipe Supports (R.C Details)	PROJECT		
MWE/GWE/6.1.3	Section S[01]			Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -		
MWE/GWE/6.1.4	Elevations			<b>CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM</b>		
<b>School Toilets - Boys and Girls</b>				Consultant:		
MWE/GWE/7.1.1	Boys Toilet			 <b>SARI CONSULTING LTD</b> Corporate Headquarter 10 Philpot Lane, 1st Floor, London EC3M 8AA, United Kingdom		
MWE/GWE/7.1.2	Girls Toilet			Drawing Title:		
MWE/GWE/7.1.3	Toilets-Details			DRAWING LIST		
MWE/GWE/7.1.4	Incinerator			Drawing List (3)		
<b>6 Stanced VIP Public Toilet</b>				Scale:		
MWE/GWE/7.2.1	Ground Floor Plan			Designed: O.R Daniel		
MWE/GWE/7.2.2	Roof Plan			Drawn: P.S Eyamu		
MWE/GWE/7.2.3	Section D_D			Date:		
MWE/GWE/7.2.4	Section E_E and Section F_F			Dec-2022		
<b>6 Stances Waterborne Public Toilet</b>				Checked: O.R Daniel		
MWE/GWE/7.3.1	Ground Floor Plan			Approved: O.R Daniel		
MWE/GWE/7.3.2	Section L[S-01]			ENGINEERING DESIGN DRAWING		
MWE/GWE/7.3.3	Elevations			Drg No: MWE/GWE/		
				Cad file No WSS<22_11>		

# **GENERAL LAYOUT**

## **(Transmission and Distribution Network)**



AMENDMENTS		
No	Date	Revision
1	7.30.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washout locations are identified by marker post in positions.
  - For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
DAV	Double Orifice Air Valve
WO_2	Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
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Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

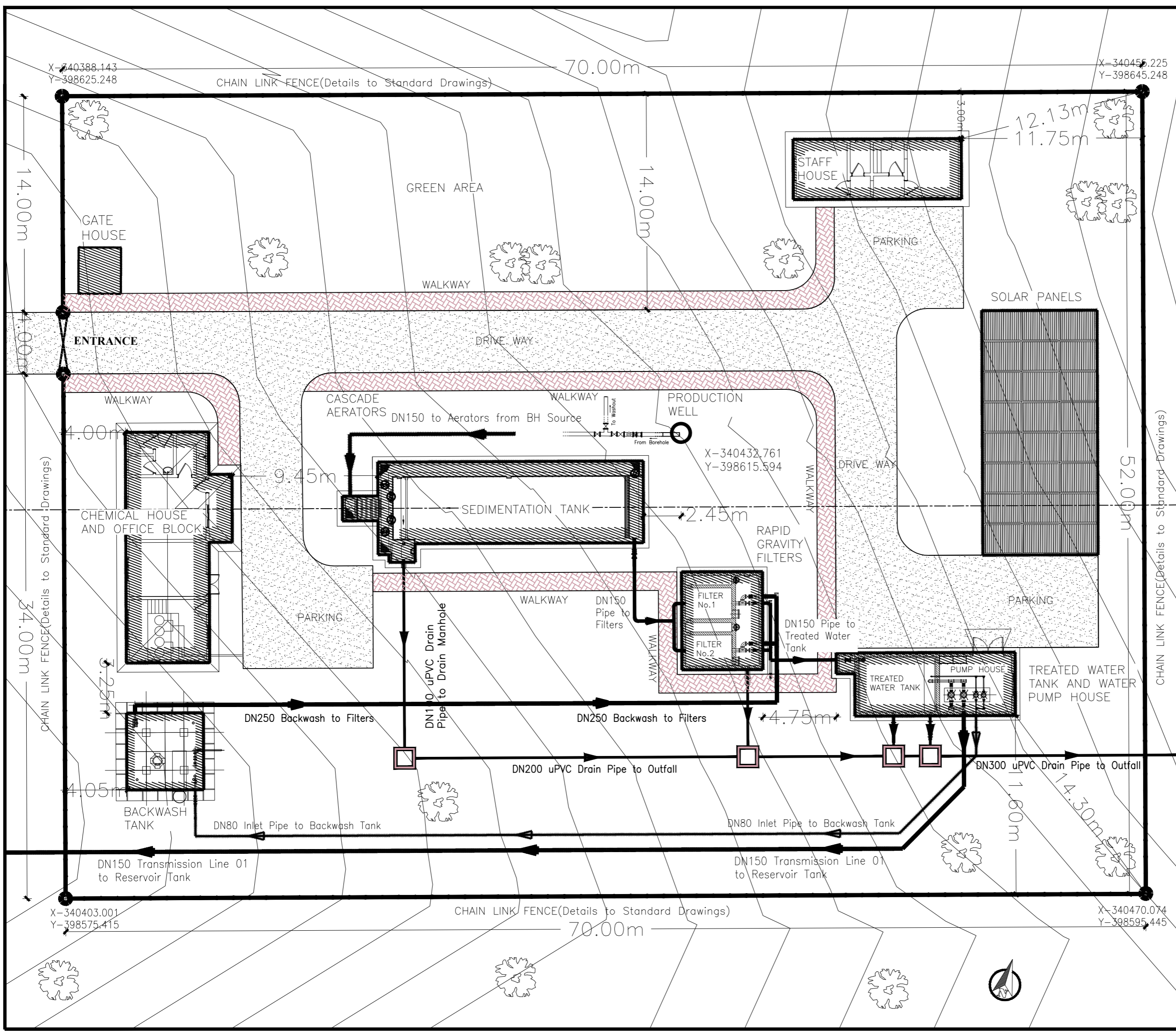
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

**GENERAL LAYOUT**  
 Transmission and Distribution Network

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

# **WATER TREATMENT PLANT**



AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
  2. All levels are in metres above sea level.
  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

CHAIN LINK FENCE (Details to Standard Drawings)

CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities in Refugee Settlements and Host Districts in West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**Corporate Headquarter**  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

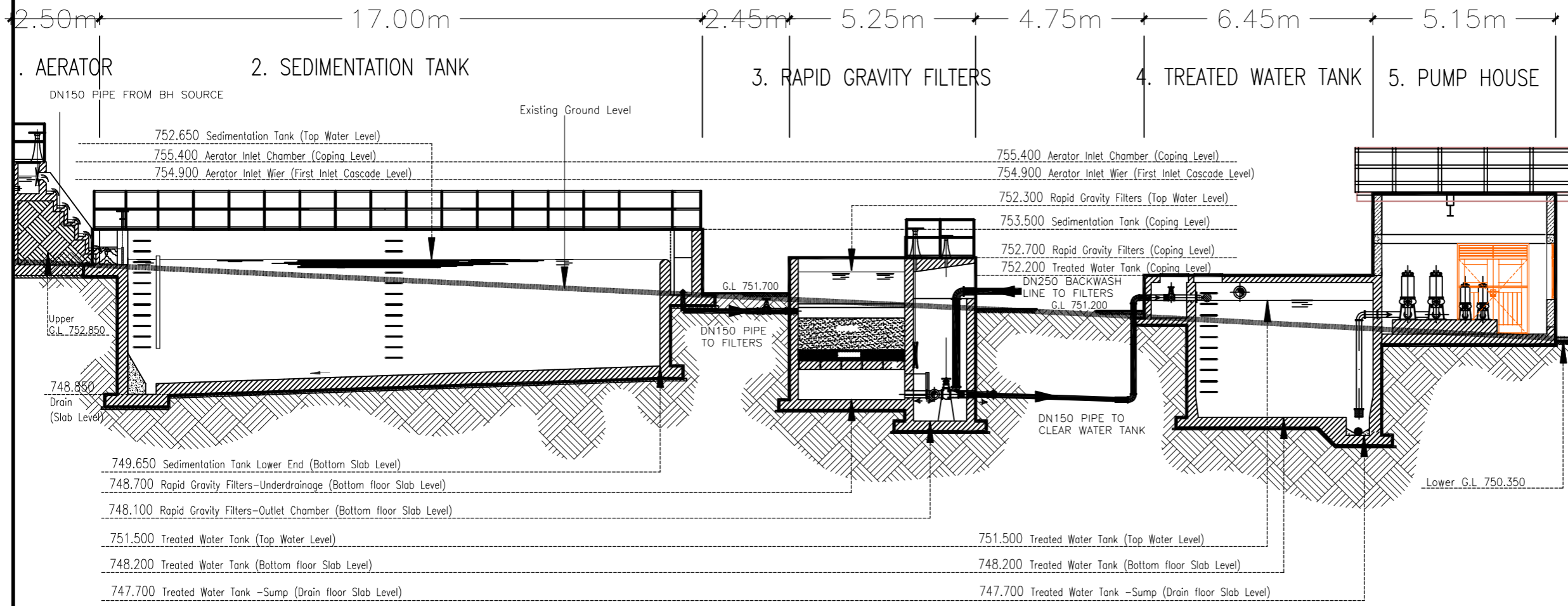
**Drawing Title:**

**WATER TREATMENT PLANT**  
General Site Layout

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel
ENGINEERING DESIGN DRAWING		
<b>Drg No:</b> MWE/GWE/1.0.1	Cad file No WSS<22_11>	



# CROSS SECTIONAL ELEVATION WATER TREATMENT PLANT



AMENDMENTS		
No	Date	Revision
1	8.16.2023	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
  2. All levels are in metres above sea level.
  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

PROJECT

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**Corporate Headquarter**  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

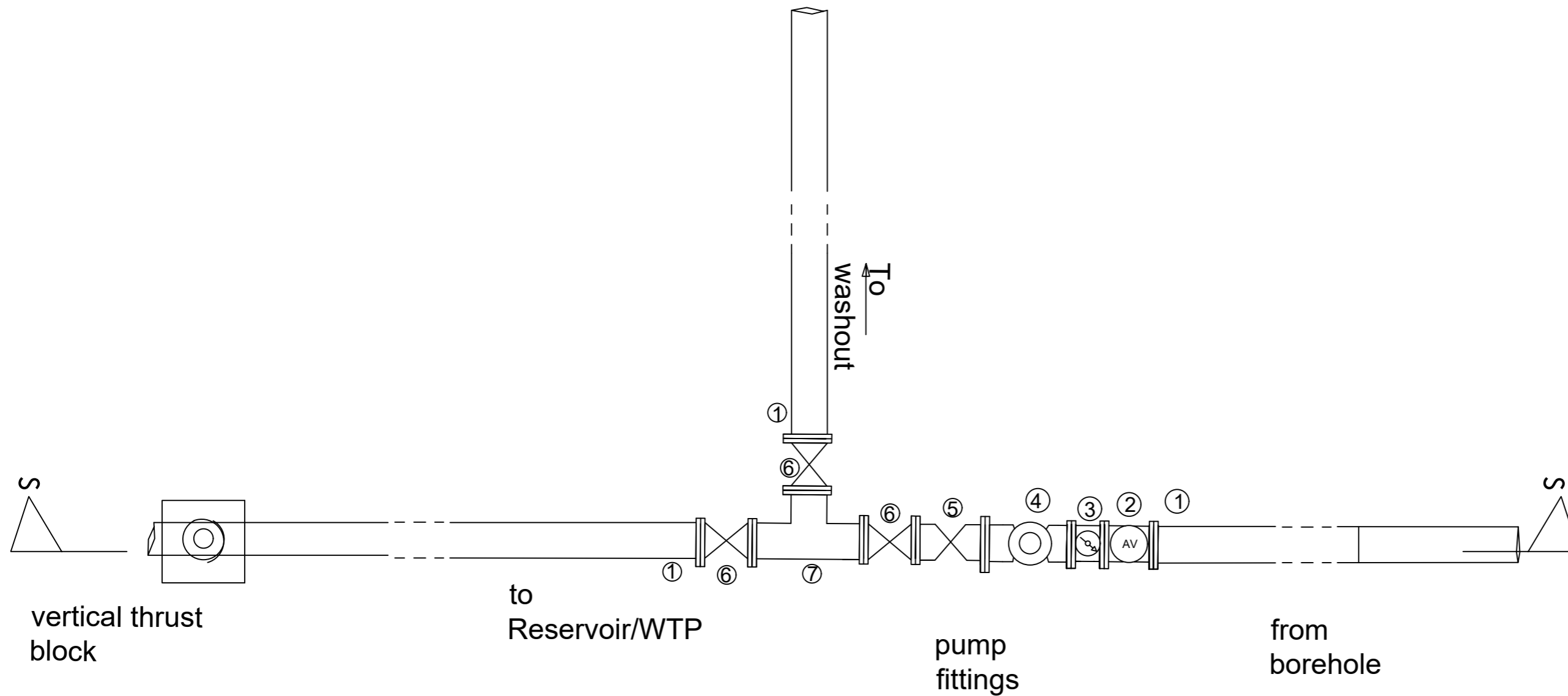
Drawing Title:

WATER TREATMENT PLANT  
Hydraulic Profile

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/1.0.2 | Cad file No WSS<22\_11>



# PLAN VIEW

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

**NOTES**

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4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

- PIPE FITTINGS (DWD 89709)**
1. 3No.DN125 G.I pipe
  2. 1No.DN125 Air Release Valve.
  3. 1No.DN125 Pressure Gauge.
  4. 1No.DN125 Flow meter.
  5. 1No.DN125 Non return valve
  6. 3No.DN125 gate valve.
  7. 1No.DN125 Equal tee.



**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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 Website: www.mwe.go.ug

**PROJECT**

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**LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

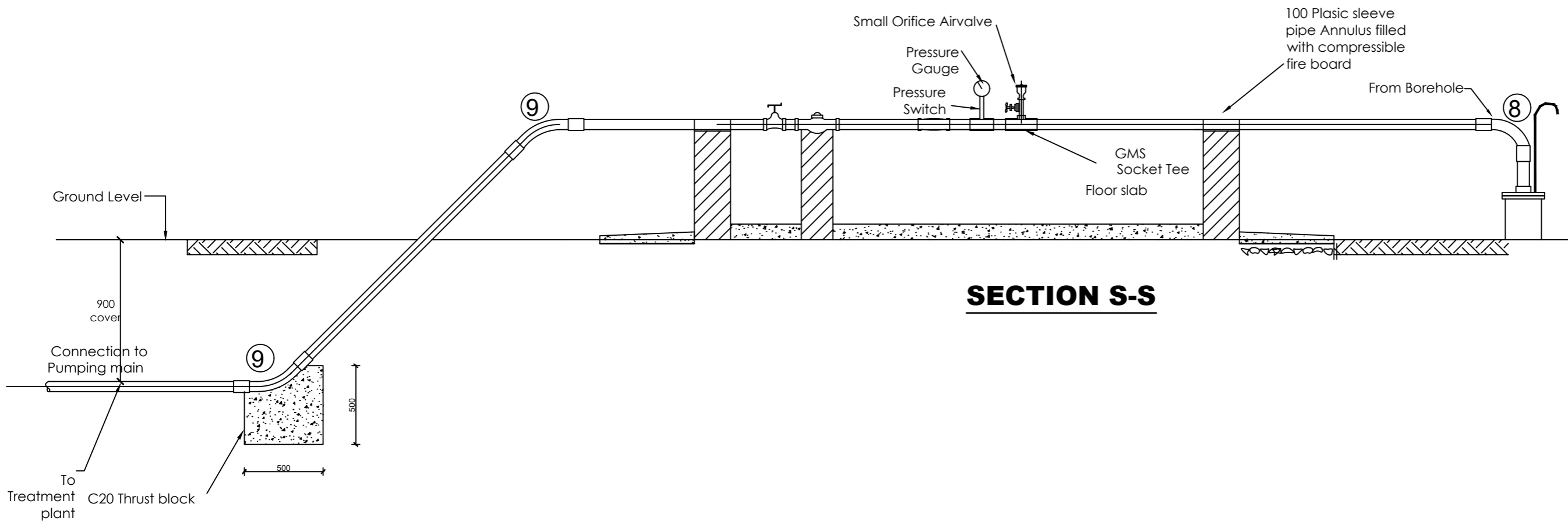
**Consultant:**

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**

**BOREHOLE PUMP HOUSE**  
 Ground Floor Plan

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel



**SECTION S-S**

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
  2. All levels are in metres above sea level.
  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

- PIPE FITTINGS (DWD 89709)**
1. 3No.DN125 G.I pipe
  2. 1No.DN125 Air Release Valve.
  3. 1No.DN125 Pressure Gauge.
  4. 1No.DN125 Flow meter.
  5. 1No.DN125 Non return valve
  6. 3No.DN125 gate valve.
  7. 1No.DN125 Equal tee.
  8. 2No.DN125 45° bend.
  9. 1No.DN125 90° bend



**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

**PROJECT**

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

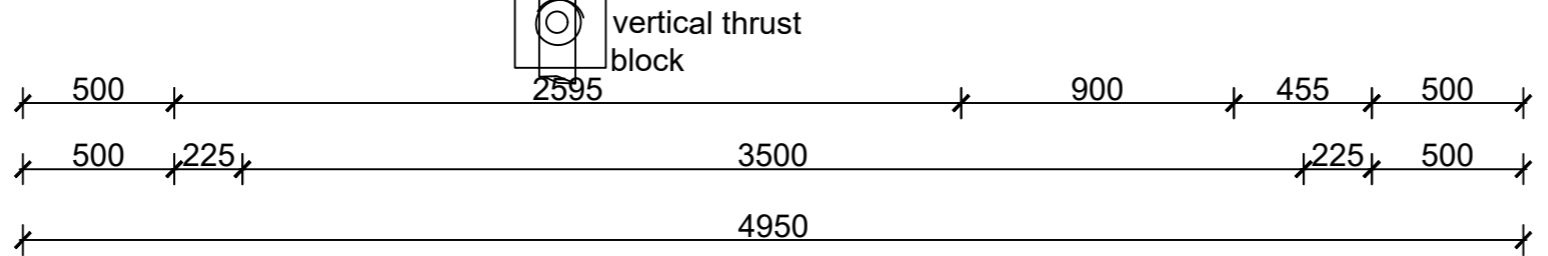
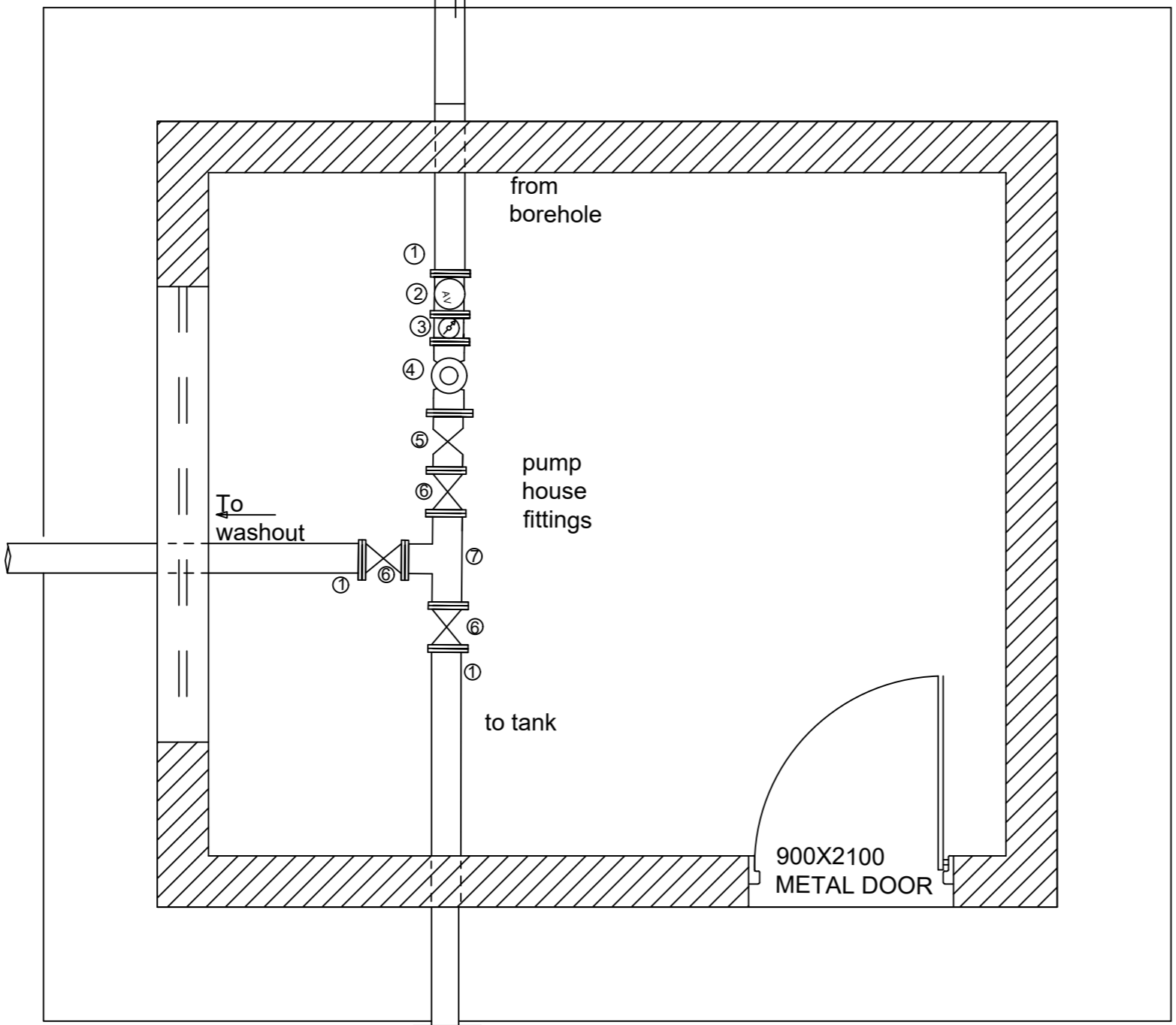
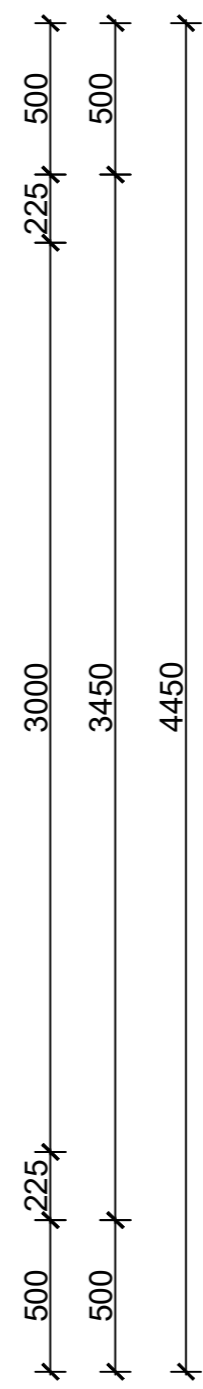
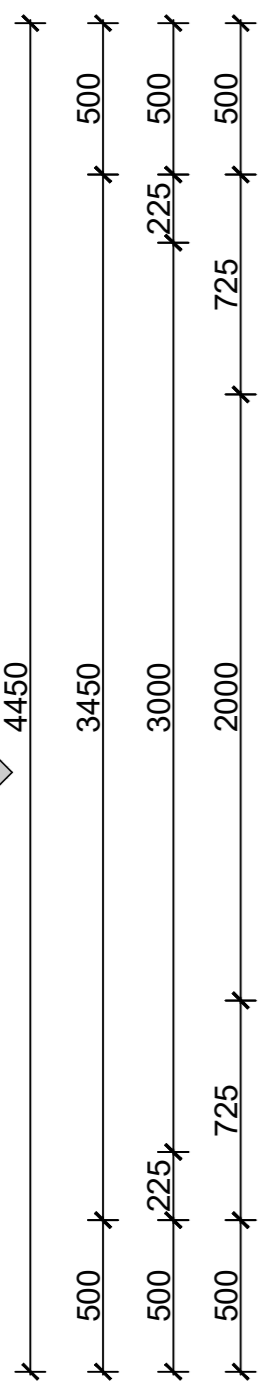
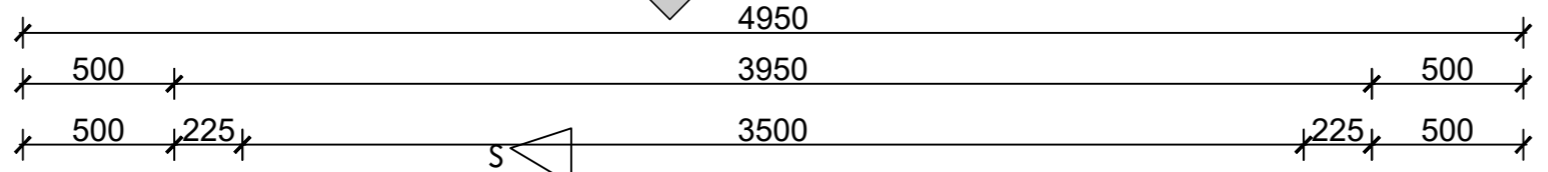
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**

**BOREHOLE PUMP HOUSE**  
 Section S-S

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

[E--]03



[E--]01

**GROUND FLOOR PLAN**

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
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  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

- PIPE FITTINGS (existing borehole)**
1. 3No.DN50 G.I pipe
  2. 1No.DN50 Air Release Valve.
  3. 1No.DN50 Pressure Gauge.
  4. 1No.DN50 Flow meter.
  5. 1No.DN50 Non return valve
  6. 3No.DN50 gate valve.
  7. 1No.DN50 Equal tee.



**CLIENT**  
 MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

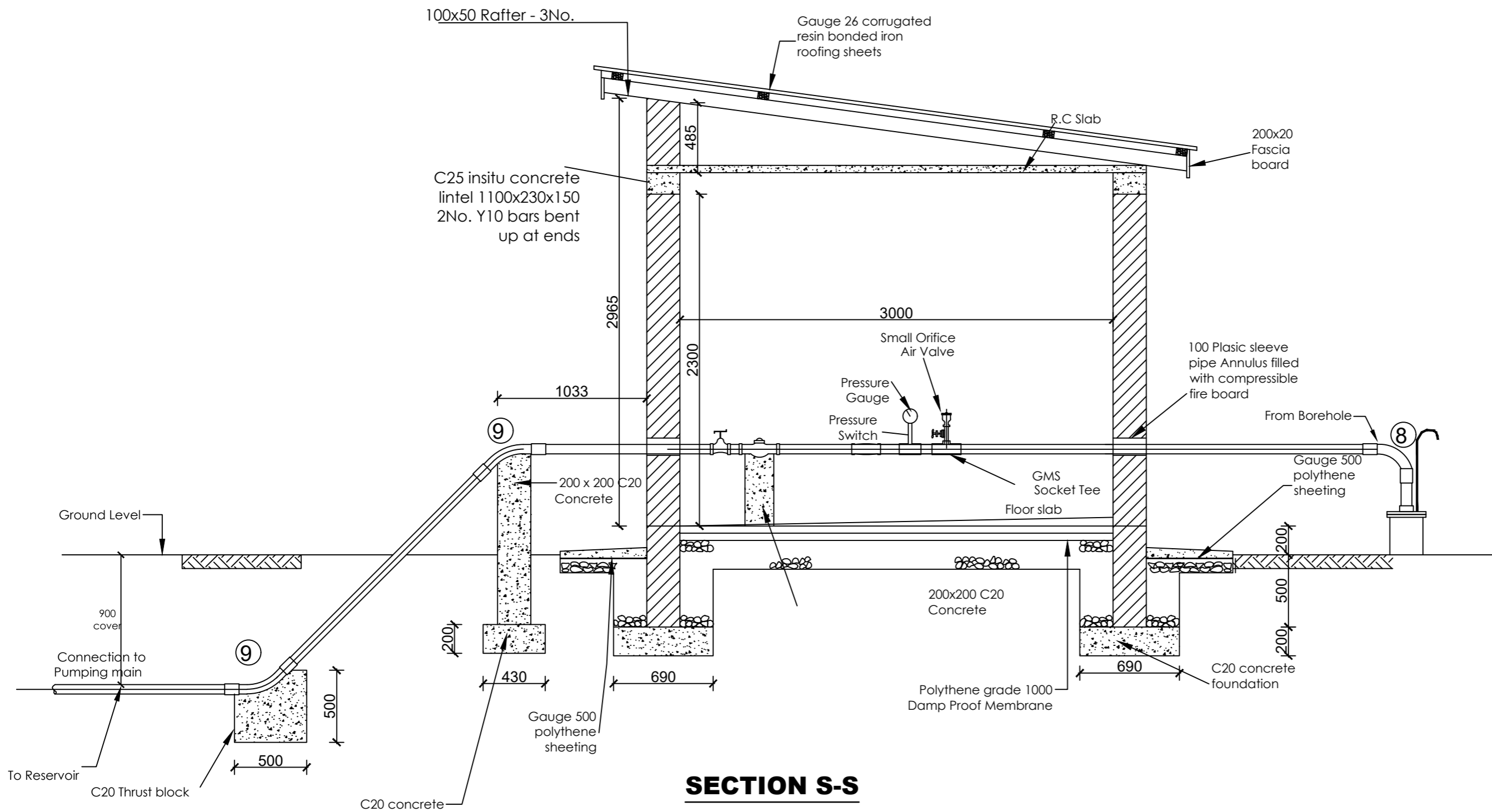
**PROJECT**  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
**BOREHOLE PUMP HOUSE**  
 Ground Floor Plan

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel

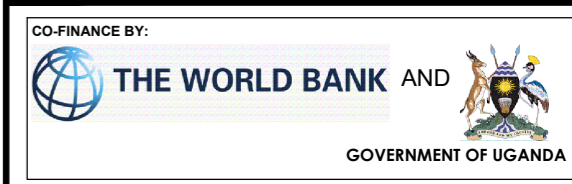


**SECTION S-S**

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
  2. All levels are in metres above sea level.
  3. For Site location see Dwg. MWE/GWE/0.0.0
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- PIPE FITTINGS (DWD 89709)**
1. 3No.DN50 G.I pipe
  2. 1No.DN50 Air Release Valve.
  3. 1No.DN50 Pressure Gauge.
  4. 1No.DN50 Flow meter.
  5. 1No.DN50 Non return valve
  6. 3No.DN50 gate valve.
  7. 1No.DN50 Equal tee.
  8. 2No.DN50 45<sup>0</sup> bend.
  9. 1No.DN50 90<sup>0</sup> bend



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PROJECT

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**LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS**

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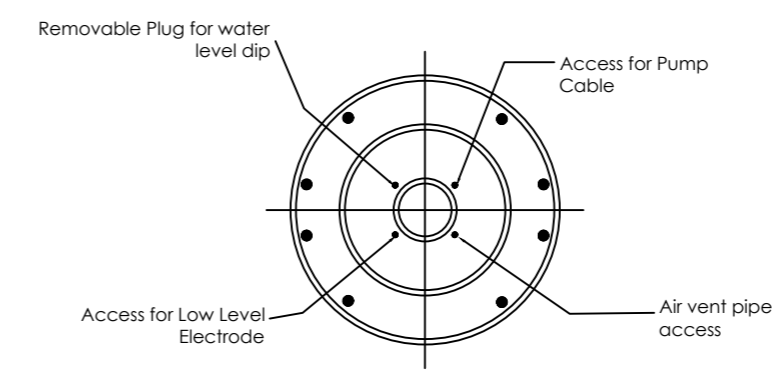
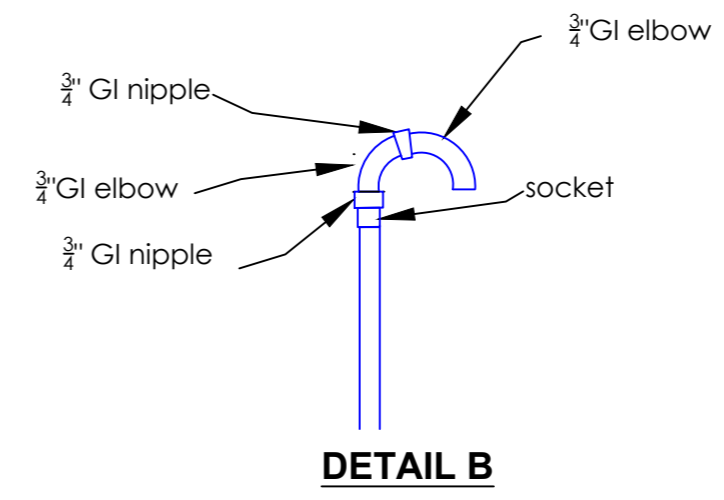
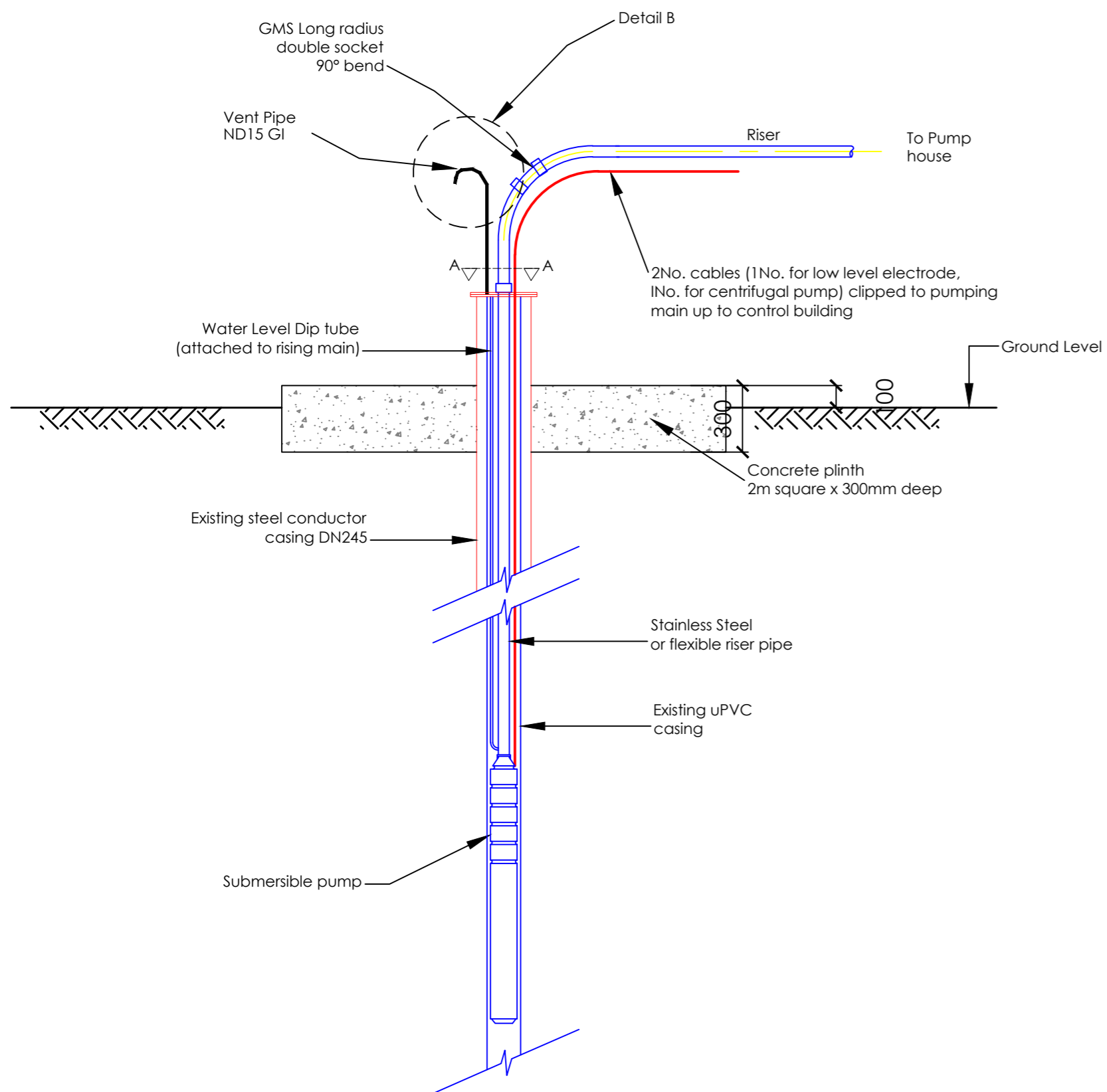
Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

**BOREHOLE PUMP HOUSE**  
 Section S-S

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date:	Checked:	O.R Daniel
	Approved:	O.R Daniel



**SECTION A-A**  
Scale: 1:20

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

- NOTES**
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  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**


CO-FINANCE BY:

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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 Website: www.mwe.go.ug

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**LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

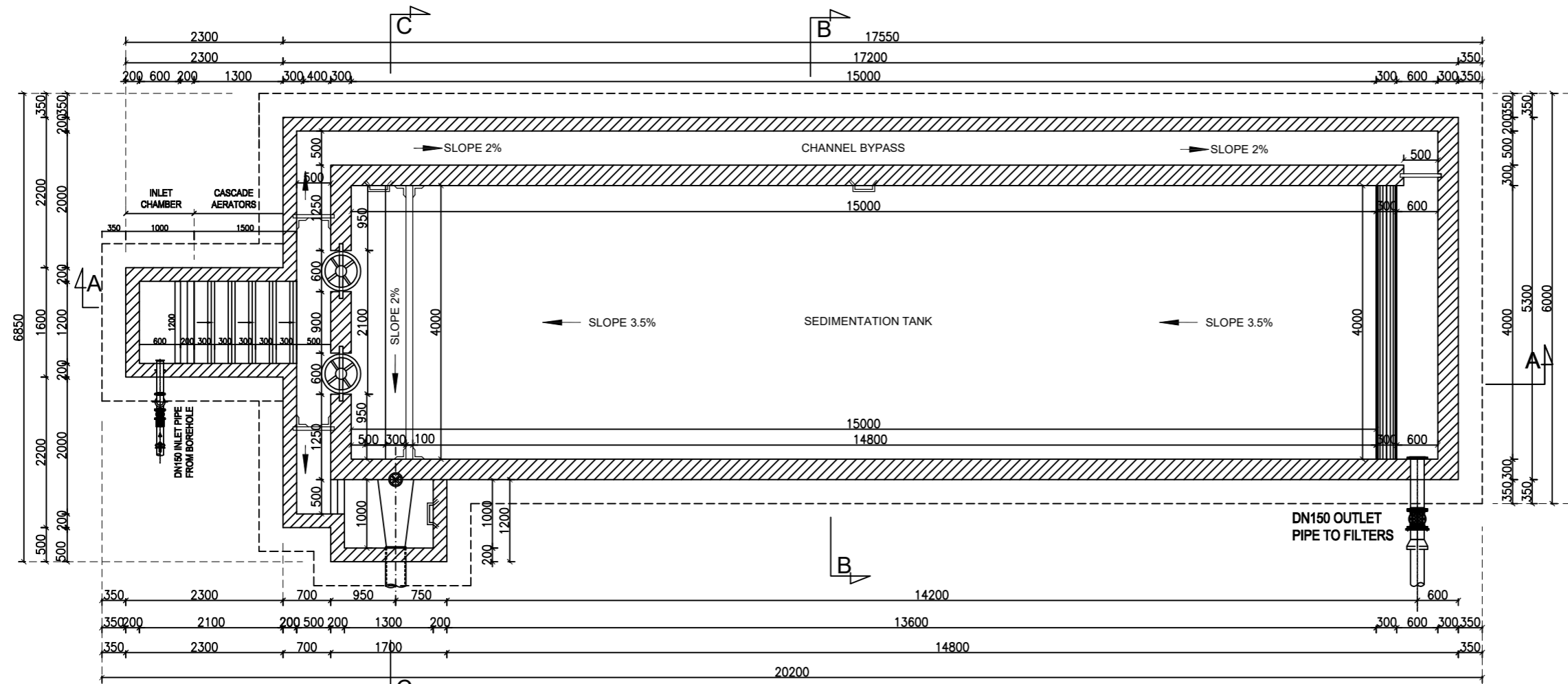
Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

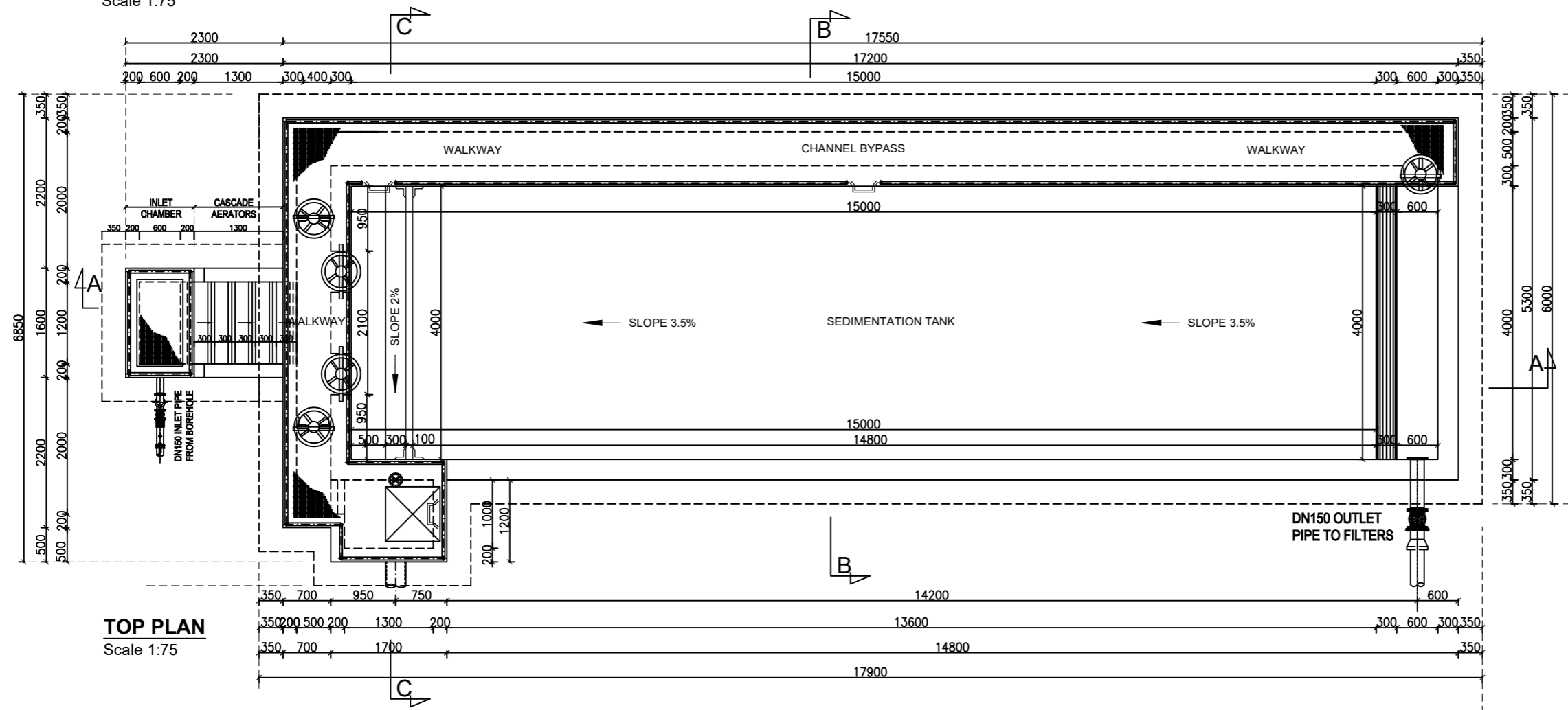
**Drawing Title:**

**BOREHOLE PUMP HOUSE**  
 Riser Mains Details

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel



**SECTIONAL PLAN**  
Scale 1:75



**TOP PLAN**  
Scale 1:75

**AMENDMENTS**

No	Date	Revision
1	8.16.2023	Draft Design

**NOTES**

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3. For Site location see Dwg. MWE/GWE/0.0.0
4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

CO-FINANCE BY:



CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

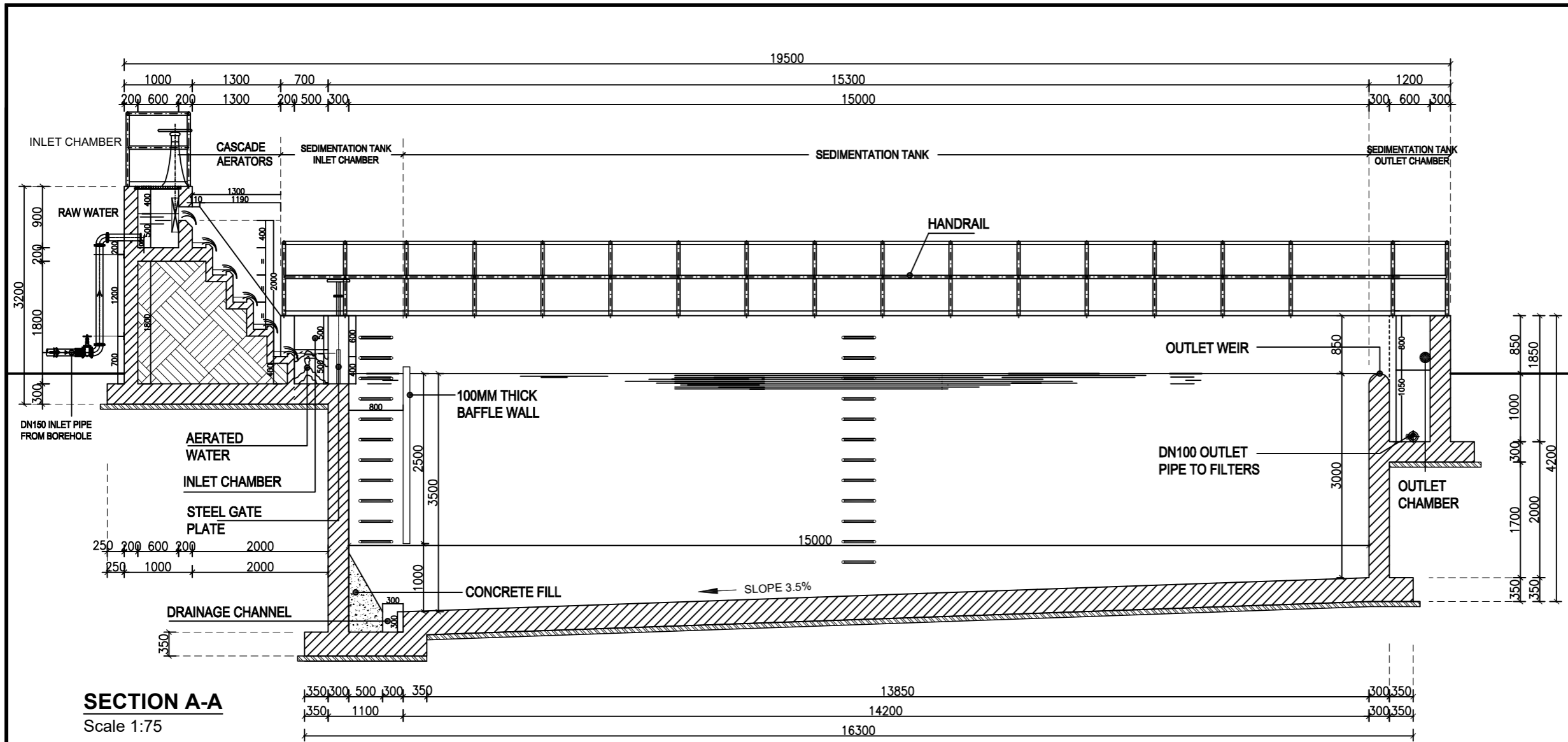


Drawing Title:

**AERATOR AND SEDIMENTATION TANK**  
Top Plan and Sectional Plan

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
Drg No: MWE/GWE/1.1.1 | Cad file No WSS<22\_11>



**SECTION A-A**  
Scale 1:75

AMENDMENTS		
No	Date	Revision
1	8.16.2023	Draft Design

- NOTES**
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  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**


CO-FINANCE BY:

CLIENT  
**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

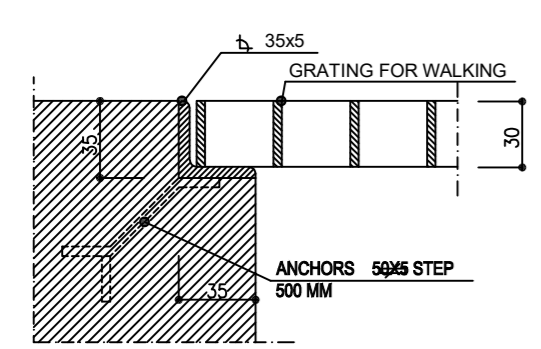
PROJECT  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

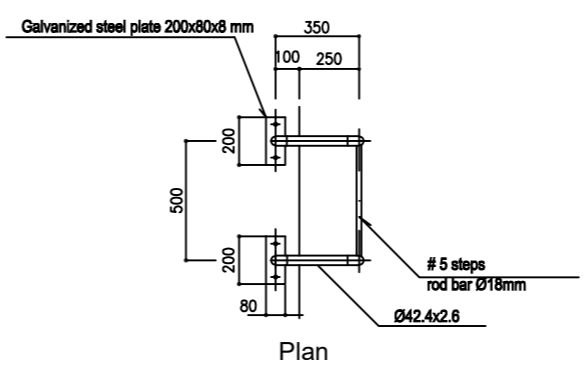
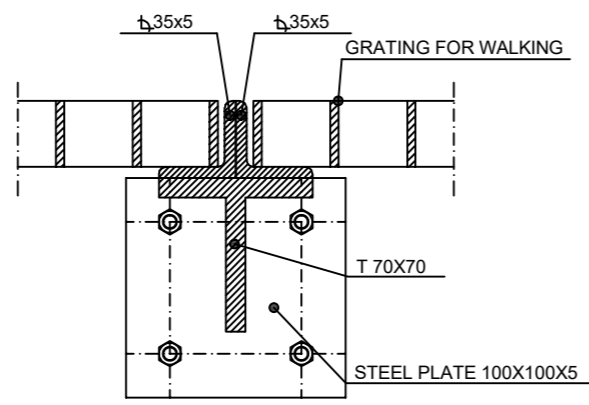
Consultant:  
  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**AERATOR AND SEDIMENTATION TANK**  
 Section A-A

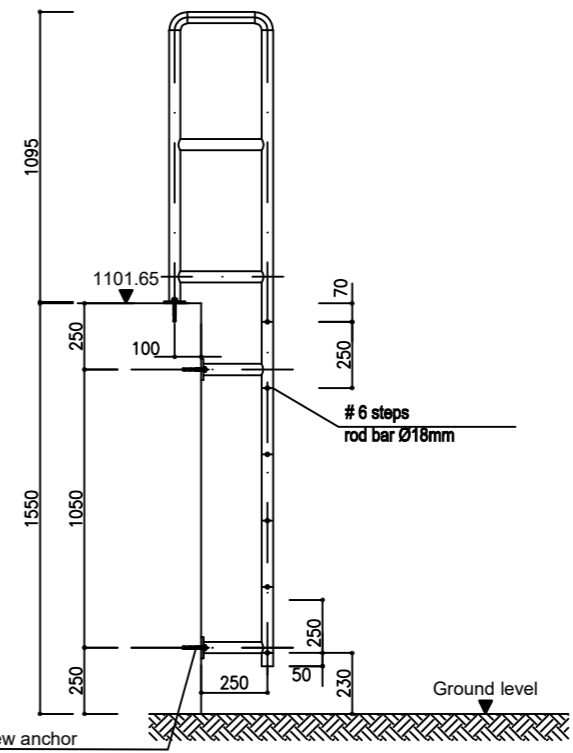
Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel



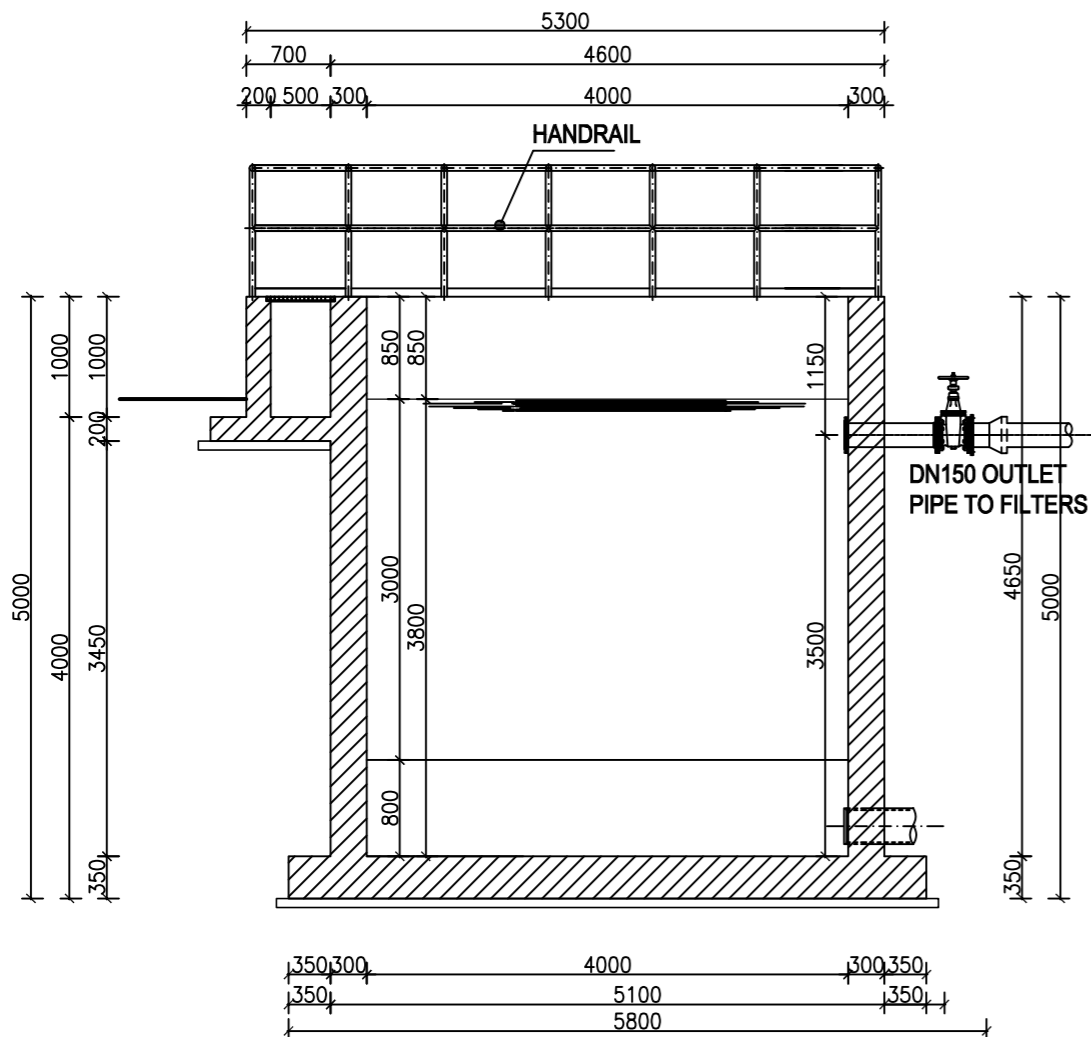
**DETAIL GRATING COVER**  
SCALE 1:3 (MEASURING IN MM)



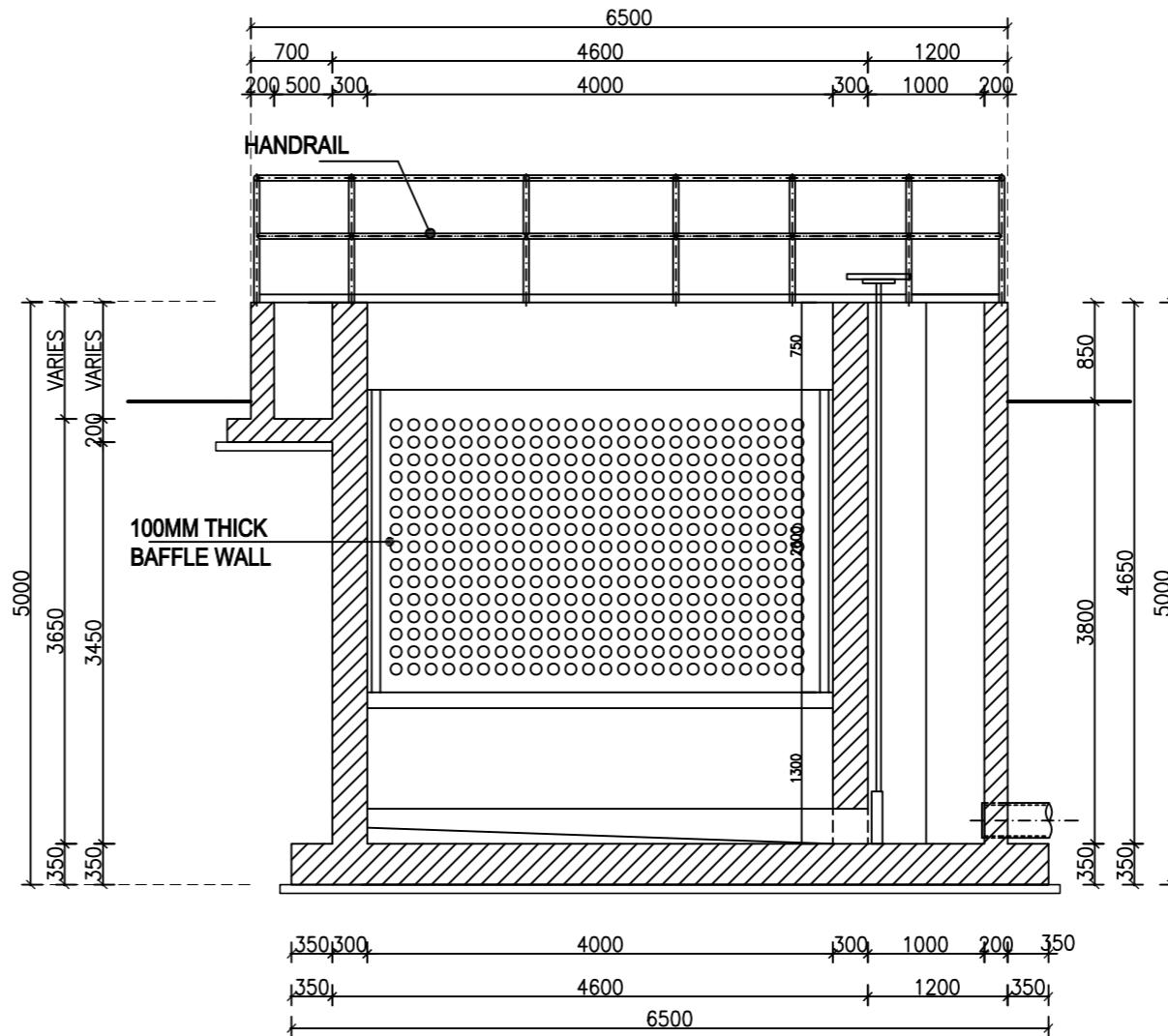
**DETAIL "Y"**  
STEP IRON #2 Pieces  
Front view  
Scale 1:25 (measuring in mm)







**SECTION B-B**  
Scale 1:75



**SECTION C-C**  
Scale 1:75

AMENDMENTS		
No	Date	Revision
1	8.16.2023	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
  2. All levels are in metres above sea level.
  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**



**CLIENT**  
MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

**PROJECT**  
Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

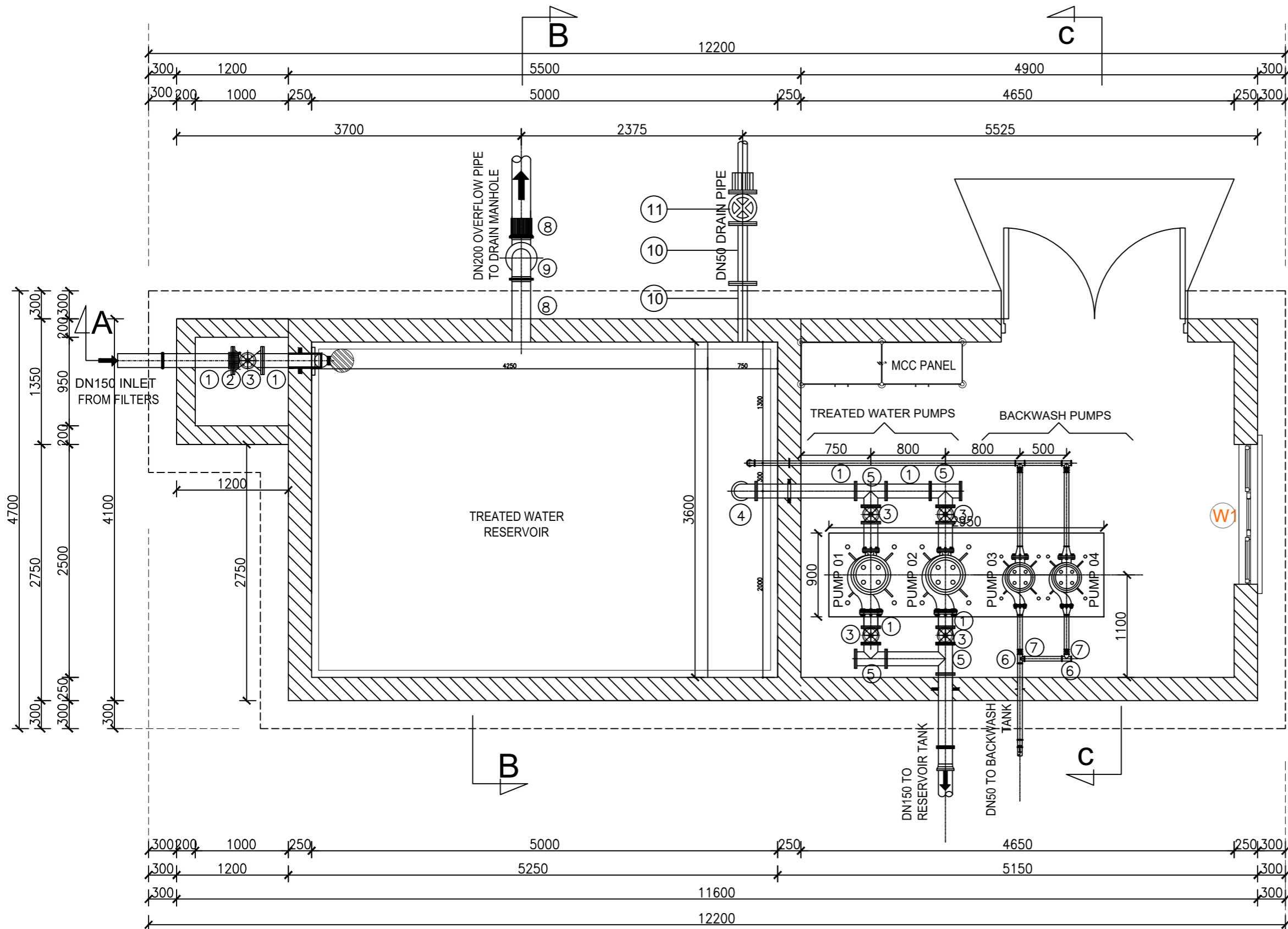
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**  
 **SARI CONSULTING LTD**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

**Drawing Title:**  
AERATOR AND SEDIMENTATION TANK  
Section B-B and Section C-C

<b>Scale:</b> Dec-2022	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
Drg No: MWE/GWE/1.1.3 | Cad file No WSS<22\_11>



# SECTIONAL PLAN

Scale 1:50

### AMENDMENTS

No	Date	Revision
1	4.5.2024	Draft Design

### PIPE SCHEDULE

1. 6No.DN150 Flanged Adaptor, Maxi type or similar..
3. 5No.DN150 All Flanged Gate Valve.
4. 1No.DN150 90° bend.
5. 4No.DN150 All Equal Tee.
6. 4No.DN50 All Equal Tee.
7. 4No.DN50 Gate Valve.
8. 2No.DN200 Flanged Adaptor, Maxi type or similar.
9. 2No.DN200 90° bend.
10. 2No.DN50 Flanged pipe not exceeding 1.0m.
11. 1No.DN50 Gate Valve.

### CO-FINANCE BY:



### CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
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### PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

### CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM

### Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

### Drawing Title:

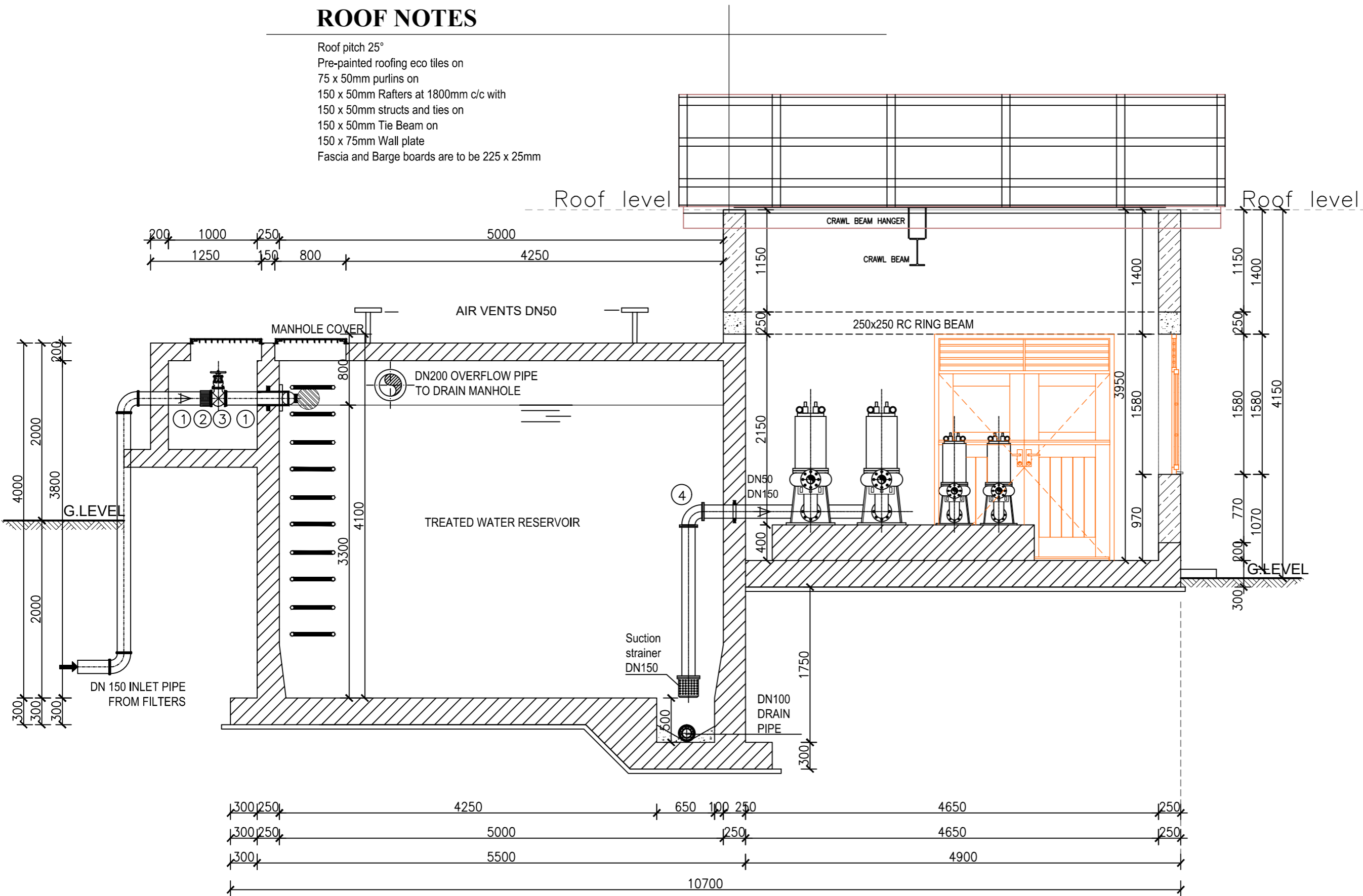
TREATED WATER TANK AND PUMP HOUSE  
 Sectional Plan

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/1.3.1 | Cad file No WSS<22\_11>

## ROOF NOTES

Roof pitch 25°  
 Pre-painted roofing eco tiles on  
 75 x 50mm purlins on  
 150 x 50mm Rafters at 1800mm c/c with  
 150 x 50mm structs and ties on  
 150 x 50mm Tie Beam on  
 150 x 75mm Wall plate  
 Fascia and Barge boards are to be 225 x 25mm



## SECTION A-A

Scale 1:50

### AMENDMENTS

No	Date	Revision
1	4.5.2024	Draft Design

### PIPE SCHEDULE

- 6No.DN150 Flanged Adaptor, Maxi type or similar..
- 5No.DN150 All Flanged Gate Valve.
- 1No.DN150 90° bend.
- 4No.DN150 All Equal Tee.
- 4No.DN50 All Equal Tee.
- 4No.DN50 Gate Valve.
- 2No.DN200 Flanged Adaptor, Maxi type or similar.
- 2No.DN200 90° bend.
- 2No.DN50 Flanged pipe not exceeding 1.0m.
- 1No.DN50 Gate Valve.

CO-FINANCE BY:



CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

### CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM

Consultant:



Drawing Title:

TREATED WATER TANK AND PUMP HOUSE  
 Section A-A

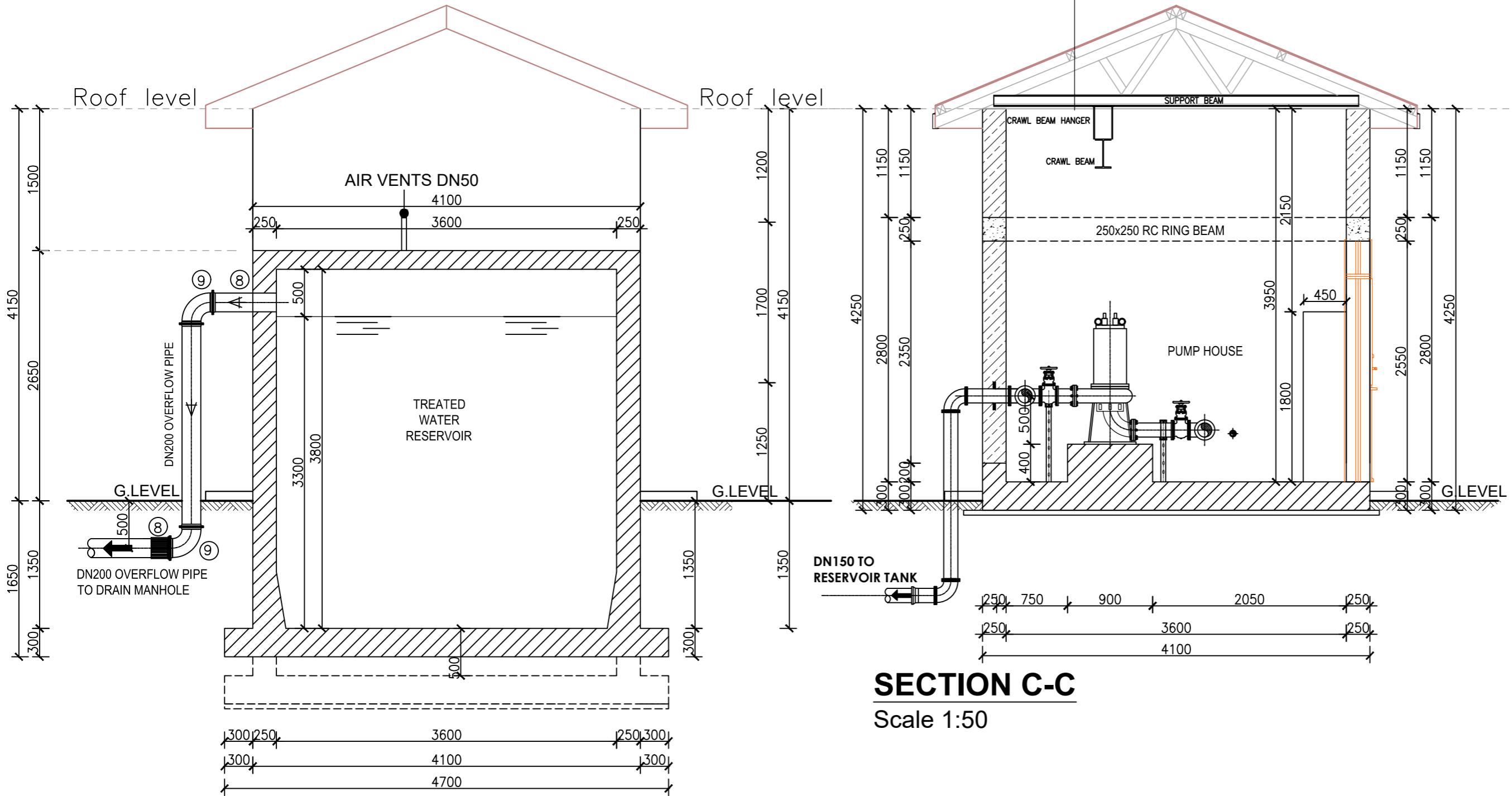
Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/1.3.2 | Cad file No WSS<22\_11>

### ROOF NOTES

Roof pitch 25°  
 Pre-painted roofing eco tiles on  
 75 x 50mm purlins on  
 150 x 50mm Rafters at 1800mm c/c with  
 150 x 50mm struts and ties on  
 150 x 50mm Tie Beam on  
 150 x 75mm Wall plate  
 Fascia and Barge boards are to be 225 x 25mm



**SECTION C-C**  
 Scale 1:50

**SECTION B-B**  
 Scale 1:50

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

PIPE SCHEDULE		
1.	6No.	DN150 Flanged Adaptor, Maxi type or similar..
3.	5No.	DN150 All Flanged Gate Valve.
4.	1No.	DN150 90° bend.
5.	4No.	DN150 All Equal Tee.
6.	4No.	DN50 All Equal Tee.
7.	4No.	DN50 Gate Valve.
8.	2No.	DN200 Flanged Adaptor, Maxi type or similar.
9.	2No.	DN200 90° bend.
10.	2No.	DN50 Flanged pipe not exceeding 1.0m.
11.	1No.	DN50 Gate Valve.



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**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

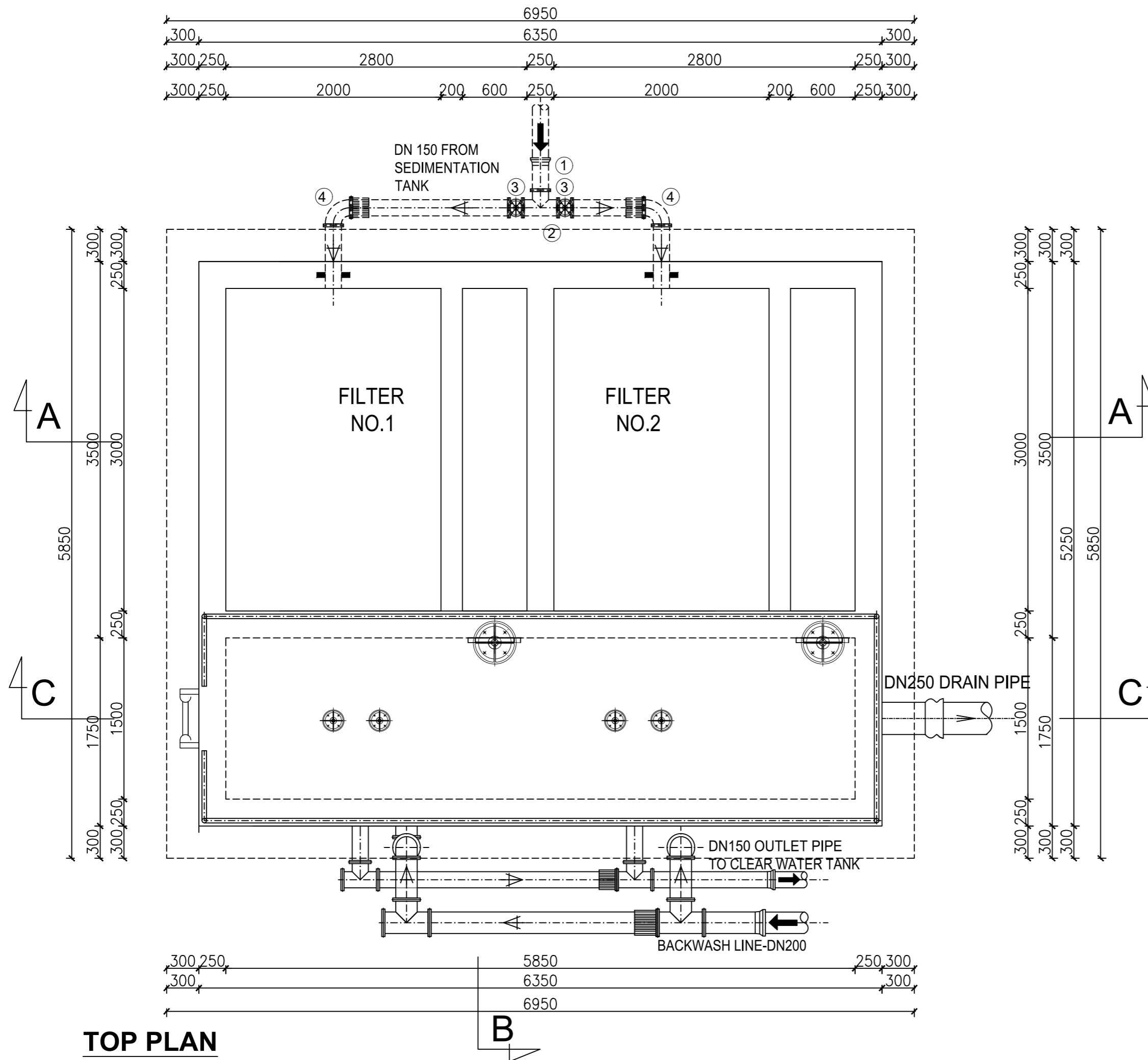
PROJECT  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**TREATED WATER TANK AND PUMP HOUSE**  
 Section B-B and Section C-C

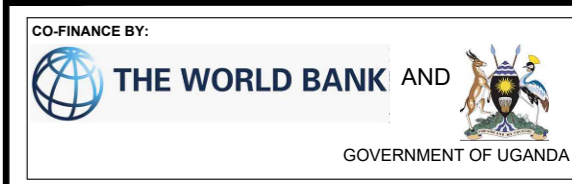
<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel



**TOP PLAN**  
Scale 1:50

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

PIPE SCHEDULE	
1.	14No.DN150 Flanged Adaptor,Maxi type or similar..
2.	3No.DN150 All Equal Tee.
3.	2No.DN150 All Flanged Gate Valve.
4.	2No.DN150 All Flanged 90° bend.
5.	4No.DN200/250 Tee.
6.	2No.DN200 /150 taper.
7.	6No.DN200 All Flanged 90° bend.
8.	2No.DN200 All Flanged Gate Valve.
9.	15No.DN250 Flanged Adaptor,Maxi type or similar.
10.	2No.DN250 All Flanged Gate Valve.
11.	2No.DN200 Flanged Adaptor,Maxi type or similar.



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 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

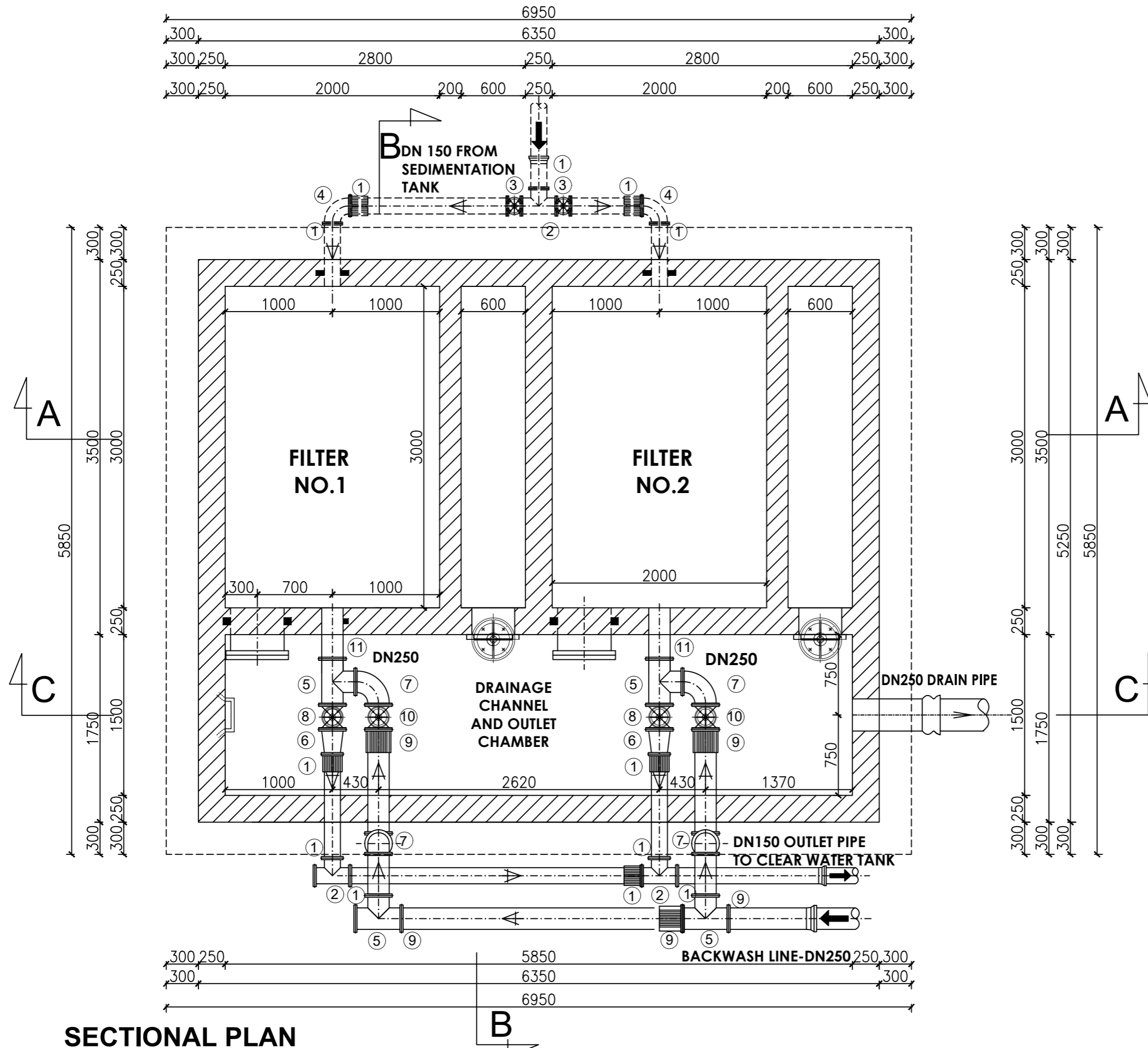
PROJECT  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**RAPID GRAVITY FILTERS**  
 Top Plan

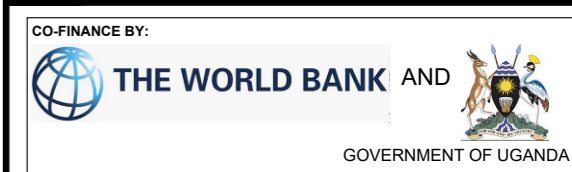
Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel



**SECTIONAL PLAN**  
Scale 1:50

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

PIPE SCHEDULE	
1.	14No.DN150 Flanged Adaptor, Maxi type or similar..
2.	3No.DN150 All Equal Tee.
3.	2No.DN150 All Flanged Gate Valve.
4.	2No.DN150 All Flanged 90° bend.
5.	4No.DN200/250 Tee.
6.	2No.DN200 /150 taper.
7.	6No.DN200 All Flanged 90° bend.
8.	2No.DN200 All Flanged Gate Valve.
9.	15No.DN250 Flanged Adaptor, Maxi type or similar.
10.	2No.DN250 All Flanged Gate Valve.
11.	2No.DN200 Flanged Adaptor, Maxi type or similar.



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 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

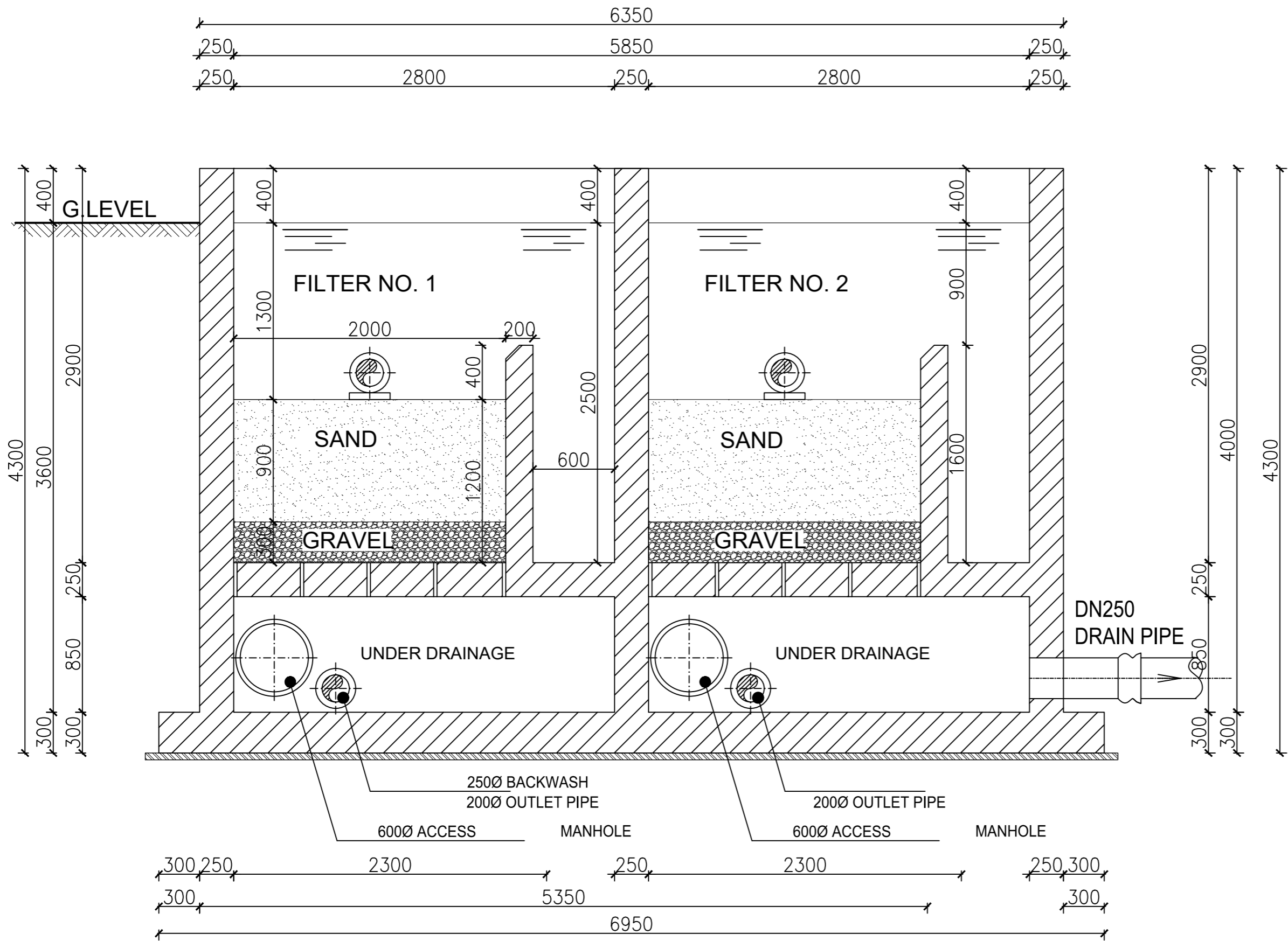
PROJECT  
 Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**RAPID GRAVITY FILTERS**  
 Sectional Plan

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel



**SECTION A-A**  
Scale 1:50

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

PIPE SCHEDULE
1. 14No.DN150 Flanged Adaptor,Maxi type or similar..
2. 3No.DN150 All Equal Tee.
3. 2No.DN150 All Flanged Gate Valve.
4. 2No.DN150 All Flanged 90° bend.
5. 4No.DN200/250 Tee.
6. 2No.DN200 /150 taper.
7. 6No.DN200 All Flanged 90° bend.
8. 2No.DN200 All Flanged Gate Valve.
9. 15No.DN250 Flanged Adaptor,Maxi type or similar.
10. 2No.DN250 All Flanged Gate Valve.
11. 2No.DN200 Flanged Adaptor,Maxi type or similar.

CO-FINANCE BY:

THE WORLD BANK AND GOVERNMENT OF UGANDA

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

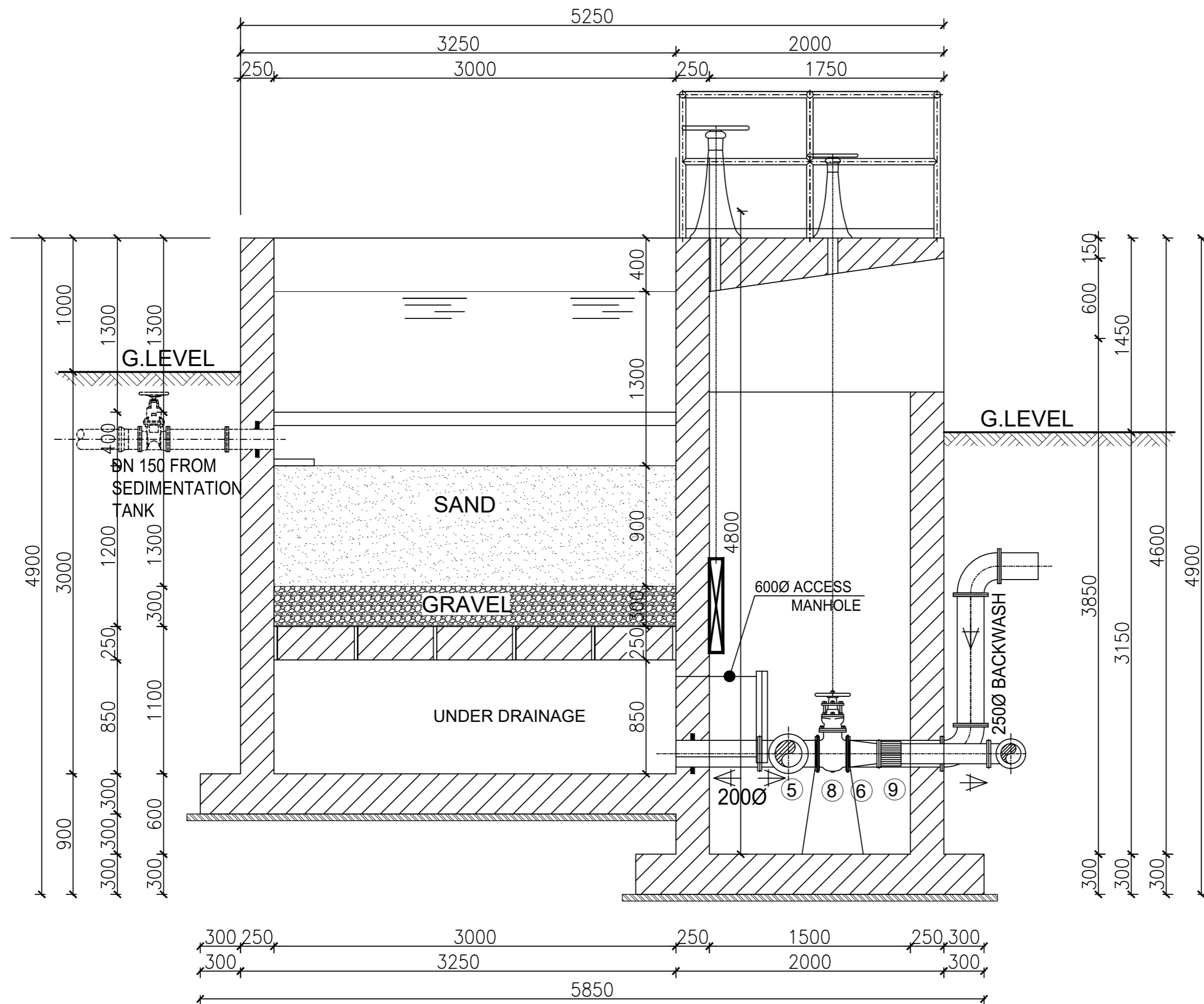
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:  
**RAPID GRAVITY FILTERS**  
Section A-A

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel



**SECTION B-B**  
Scale 1:50

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

PIPE SCHEDULE
1. 14No.DN150 Flanged Adaptor,Maxi type or similar..
2. 3No.DN150 All Equal Tee.
3. 2No.DN150 All Flanged Gate Valve.
4. 2No.DN150 All Flanged 90° bend.
5. 4No.DN200/250 Tee.
6. 2No.DN200 /150 taper.
7. 6No.DN200 All Flanged 90° bend.
8. 2No.DN200 All Flanged Gate Valve.
9. 15No.DN250 Flanged Adaptor,Maxi type or similar.
10. 2No.DN250 All Flanged Gate Valve.
11. 2No.DN200 Flanged Adaptor,Maxi type or similar.

CO-FINANCE BY:

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DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

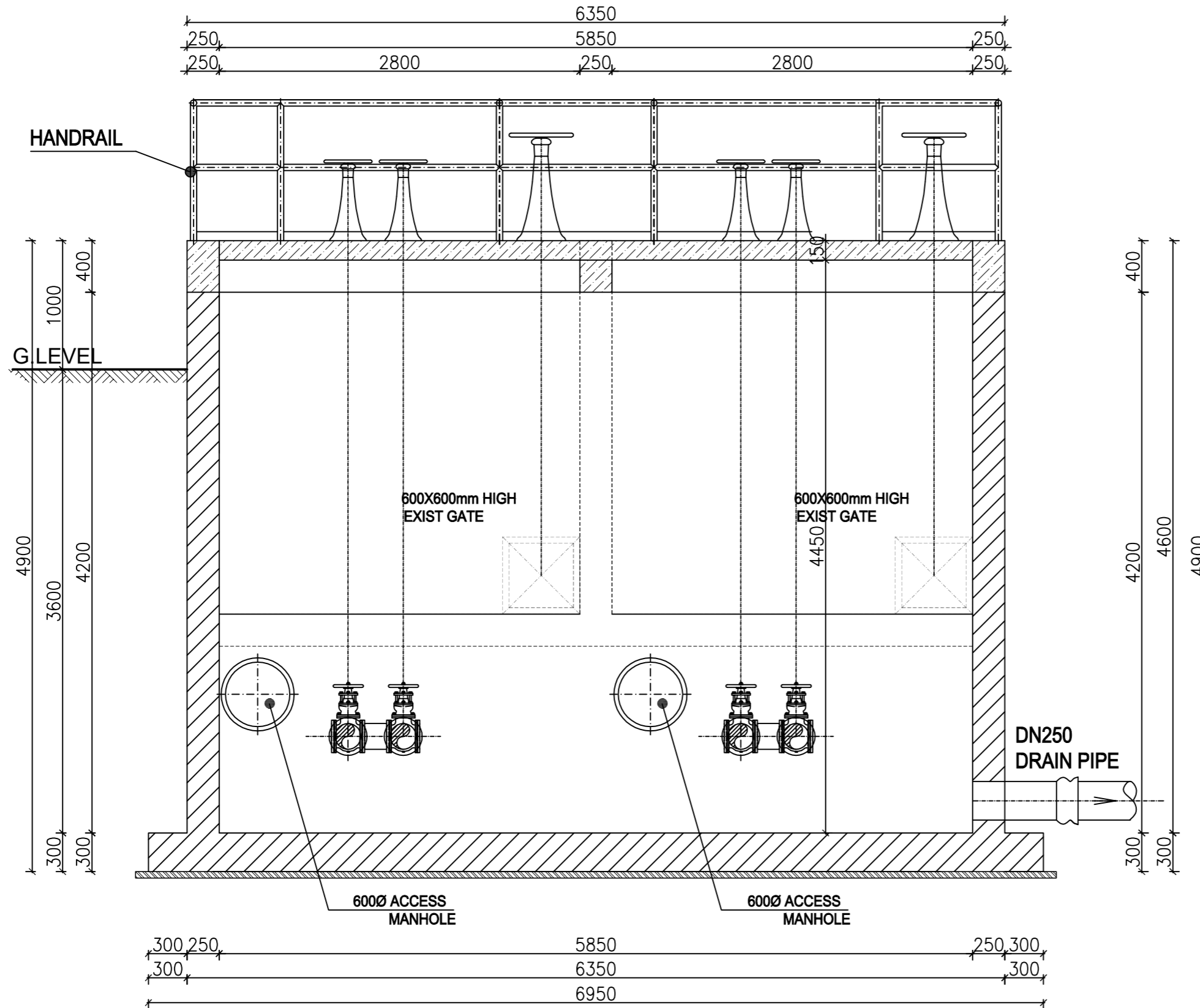
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:

**RAPID GRAVITY FILTERS**  
Section B-B

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date:	Checked:	O.R Daniel
	Approved:	O.R Daniel





**SECTION C-C**  
Scale 1:50

AMENDMENTS		
No	Date	Revision
1	7.11.2023	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
  2. All levels are in metres above sea level.
  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**


CO-FINANCE BY:

CLIENT  
**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

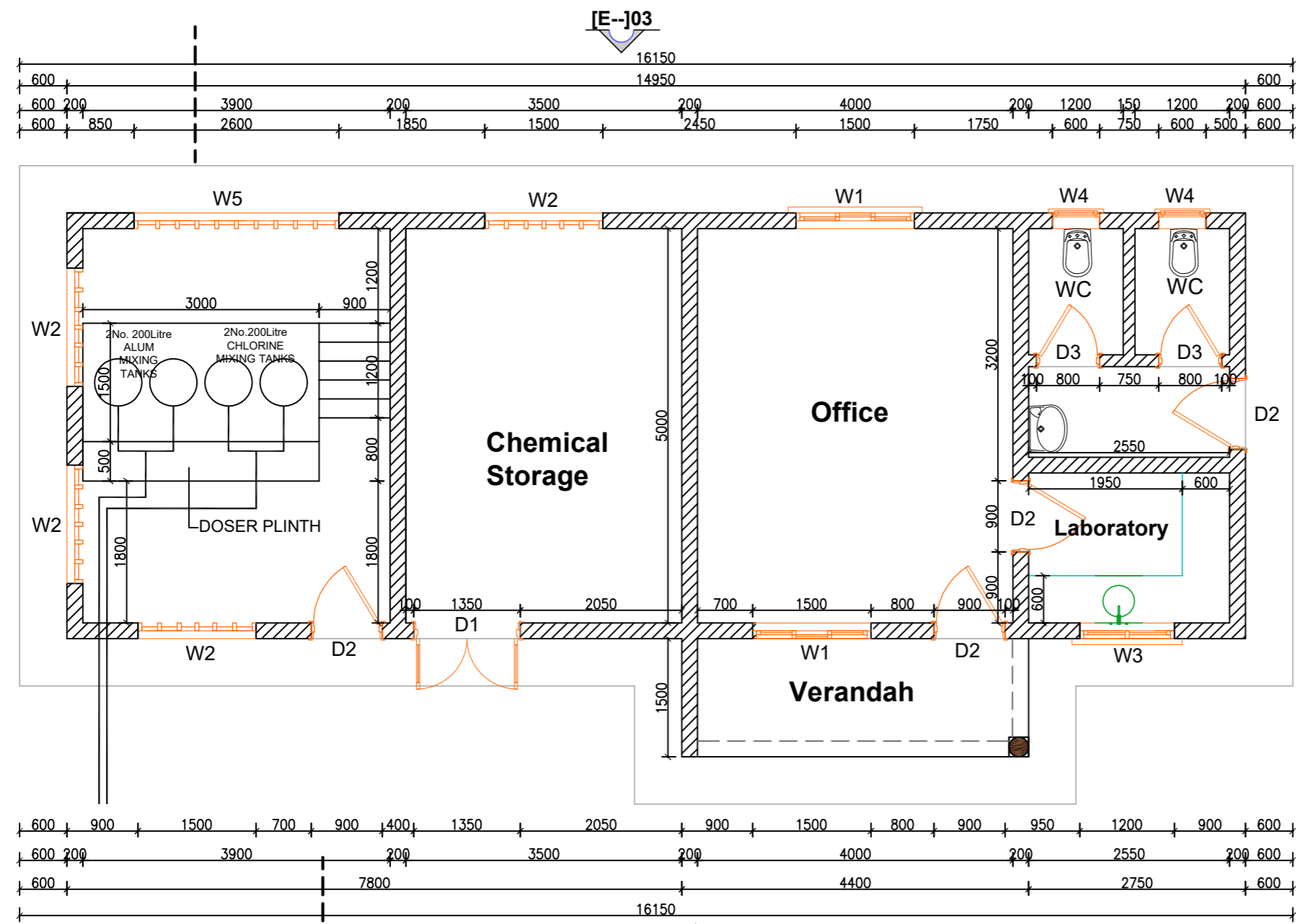
PROJECT  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpott Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**RAPID GRAVITY FILTERS**  
 Section C-C

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel
ENGINEERING DESIGN DRAWING		
Drg No: MWE/GWE/1.2.5	Cad file No WSS<22_11>	



**GROUND FLOOR PLAN**  
Scale 1:75

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
  2. All levels are in metres above sea level.
  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**



CLIENT  
**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

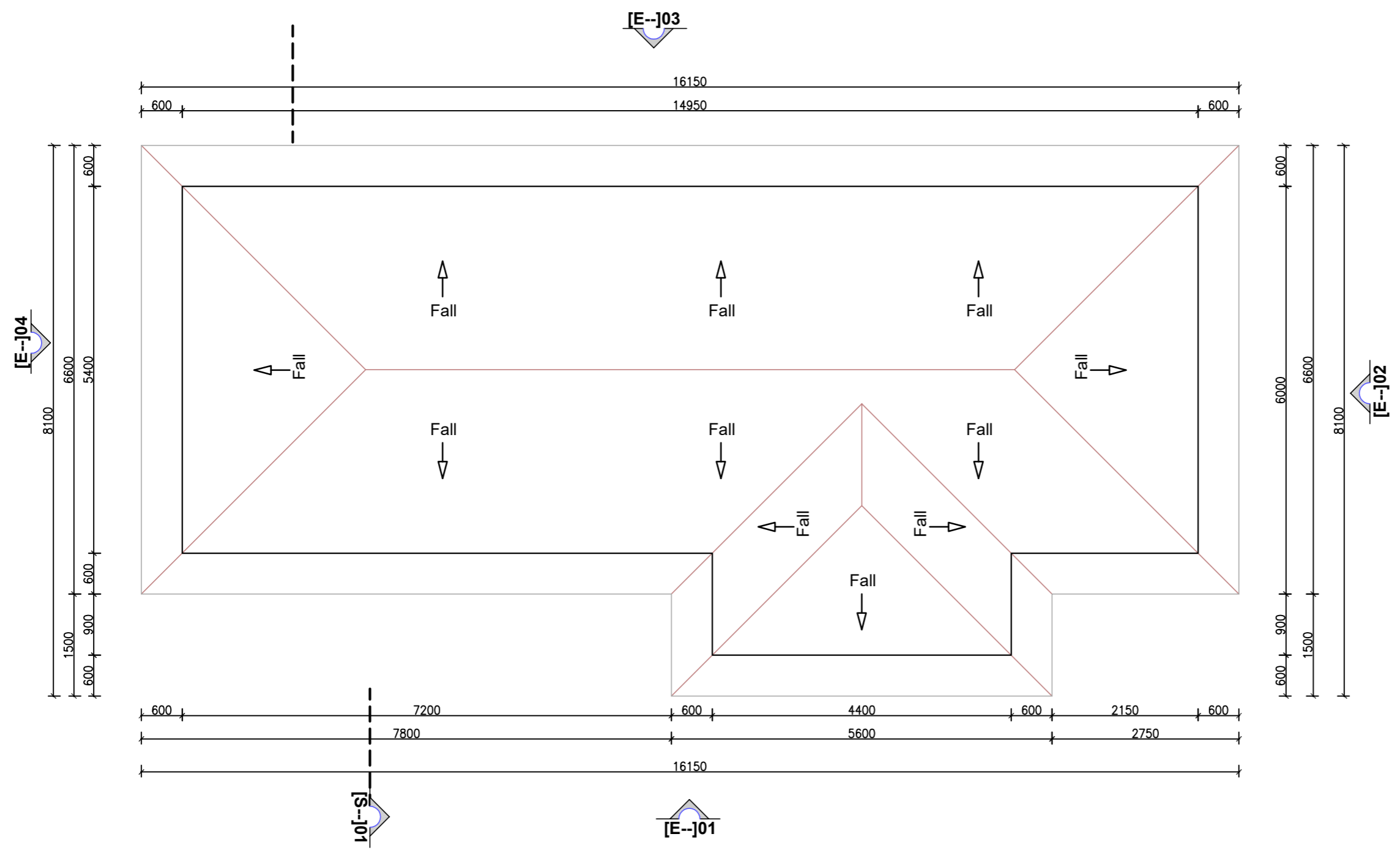
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**CHEMICAL HOUSE AND OFFICE BLOCK**  
 Ground Floor Plan

<b>Scale:</b> Dec-2022	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/1.4.1 | Cad file No WSS<22\_11>



AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
  2. All levels are in metres above sea level.
  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**



CLIENT  
 MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

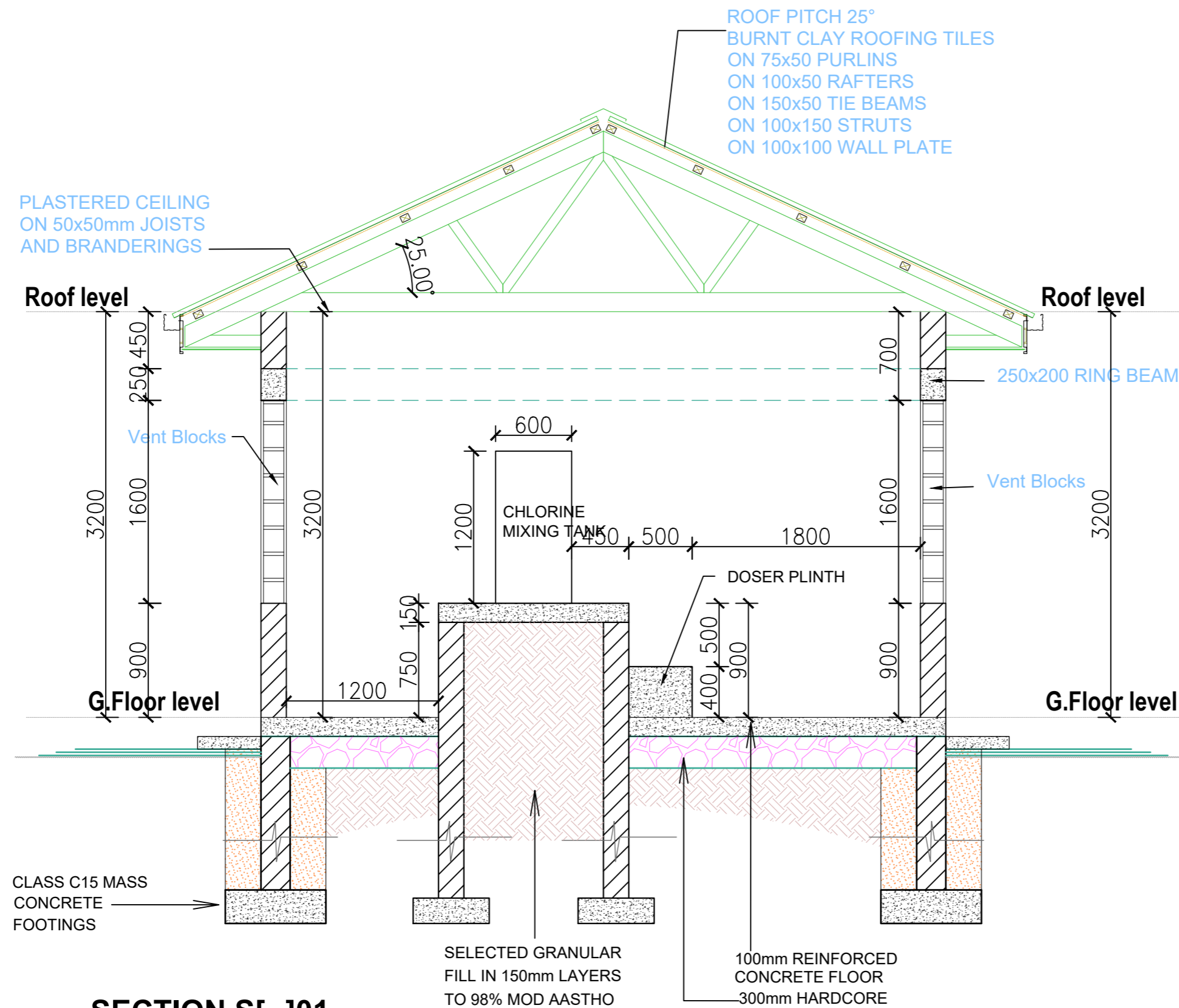
Consultant:  

 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
 CHEMICAL HOUSE AND OFFICE BLOCK  
 Roof Plan

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/1.4.2 | Cad file No WSS<22\_11>



**SECTION S[--]01**  
Staff House

AMENDMENTS		
No	Date	Revision
1	10.3.2023	Draft Design

**NOTES**

- All dimensions are in metres unless stated otherwise.
- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/1.0.1

**LEGEND**



CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities in Refugee Settlements and Host Districts in West Nile and Northern Uganda  
- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

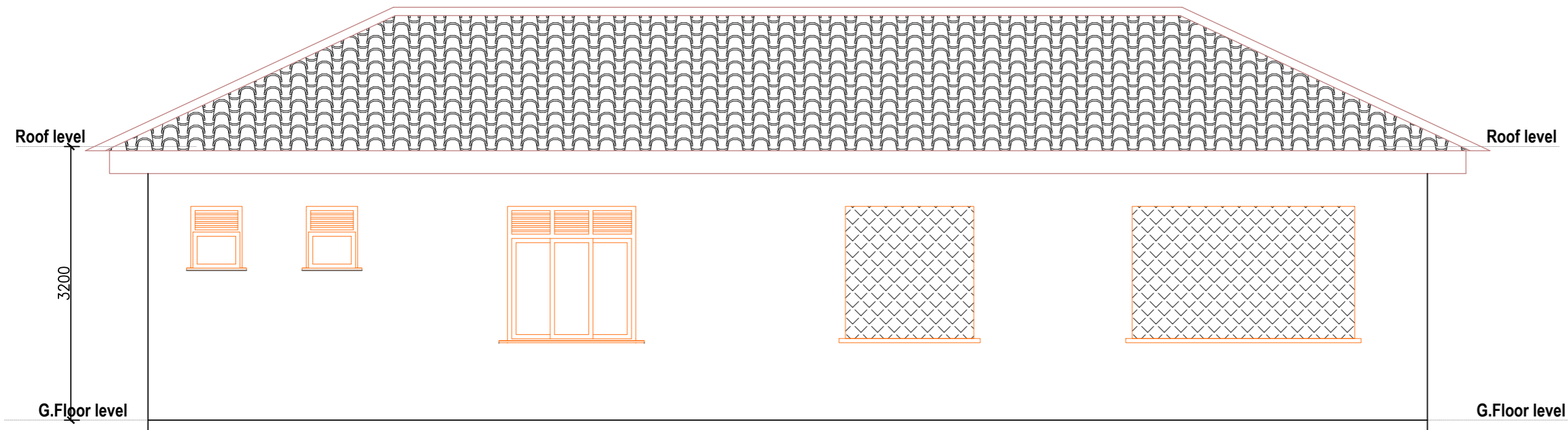
Consultant:

Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

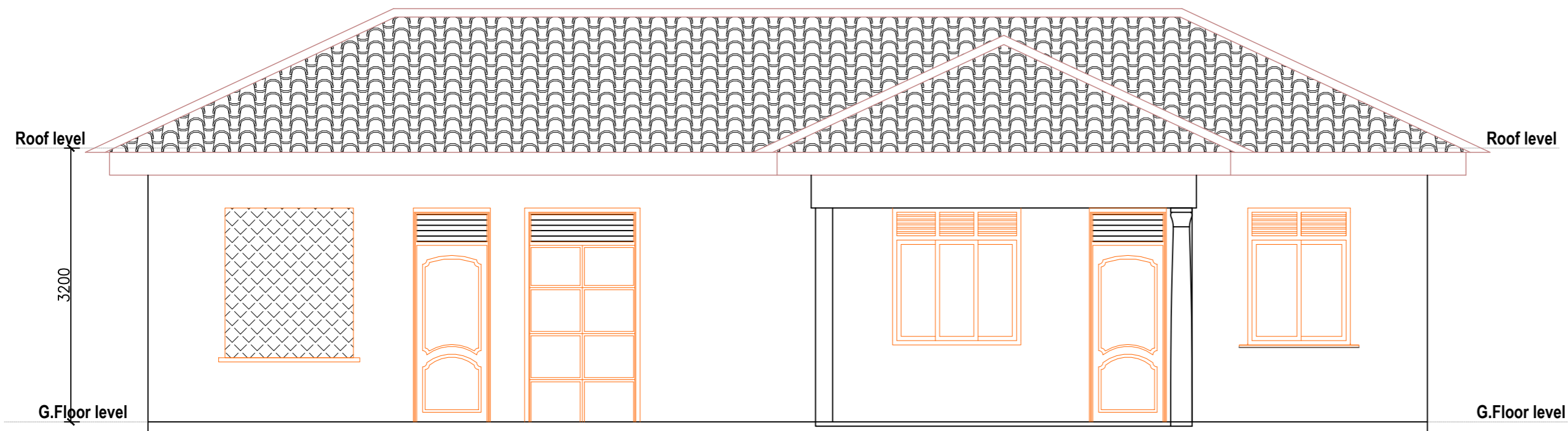
Drawing Title:  
CHEMICAL HOUSE AND OFFICE BLOCK  
Section S[01]

Scale:	Designed:	O.R Daniel
Date:	Drawn:	P.S Eyamu
Sep-2023	Checked:	O.R Daniel
	Approved:	O.R Daniel

ENGINEERING DESIGN DRAWING  
Drg No: MWE/GWE/1.4.3 | Cad file No WSS<22\_11>



**ELEVATION E[--]02**  
Staff House



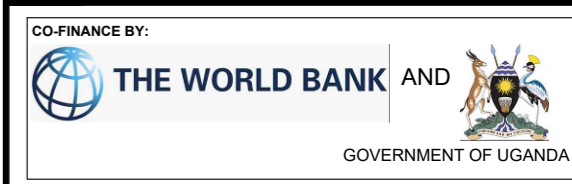
**ELEVATION E[--]01**  
Staff House

AMENDMENTS		
No	Date	Revision
1	10.4.2023	Draft Design

**NOTES**

1. All dimensions are in metres unless stated otherwise.
2. All levels are in metres above sea level.
3. For Site location see Dwg. MWE/GWE/1.0.1

**LEGEND**



**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

**PROJECT**

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

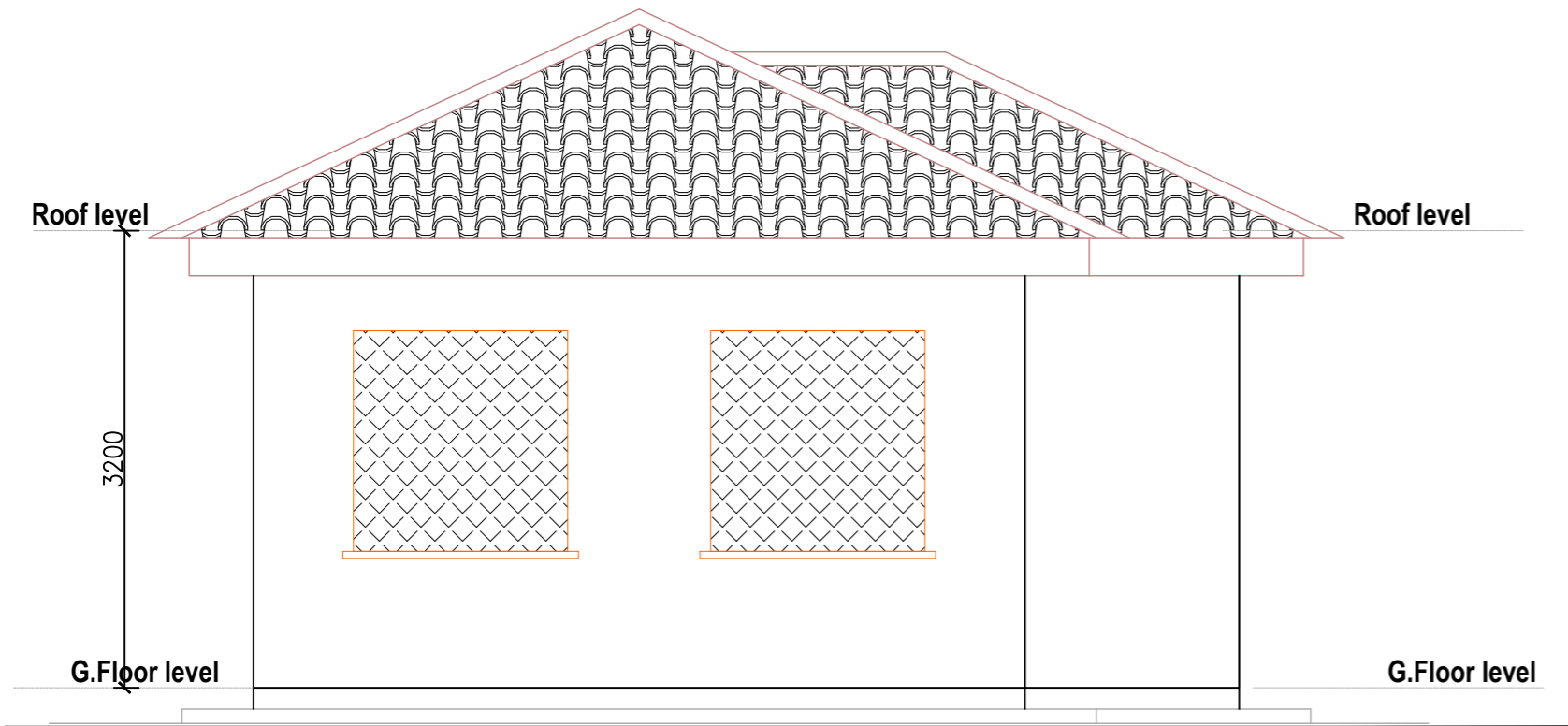


**Drawing Title:**  
CHEMICAL HOUSE AND OFFICE BLOCK  
Elevation\_[L01] and Elevation L[02]

Scale:	Designed:	O.R Daniel
Date:	Drawn:	P.S Eyamu
Sep-2023	Checked:	O.R Daniel
	Approved:	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/1.4.4    Cad file No: WSS<22\_11>



**ELEVATION E[--]04**  
Staff House

DOOR SCHEDULE				
MARK	WIDTH	HEIGHT	No.	DESCRIPTION
D1	1300	2500	01	DOUBLE LEAF STEEL CASEMENT DOORS
D2	900	2500	04	SINGLE LEAF HARDWOOD TIMBER DOORS
D3	800	2500	02	SOLID FLUSH TIMBER DOORS

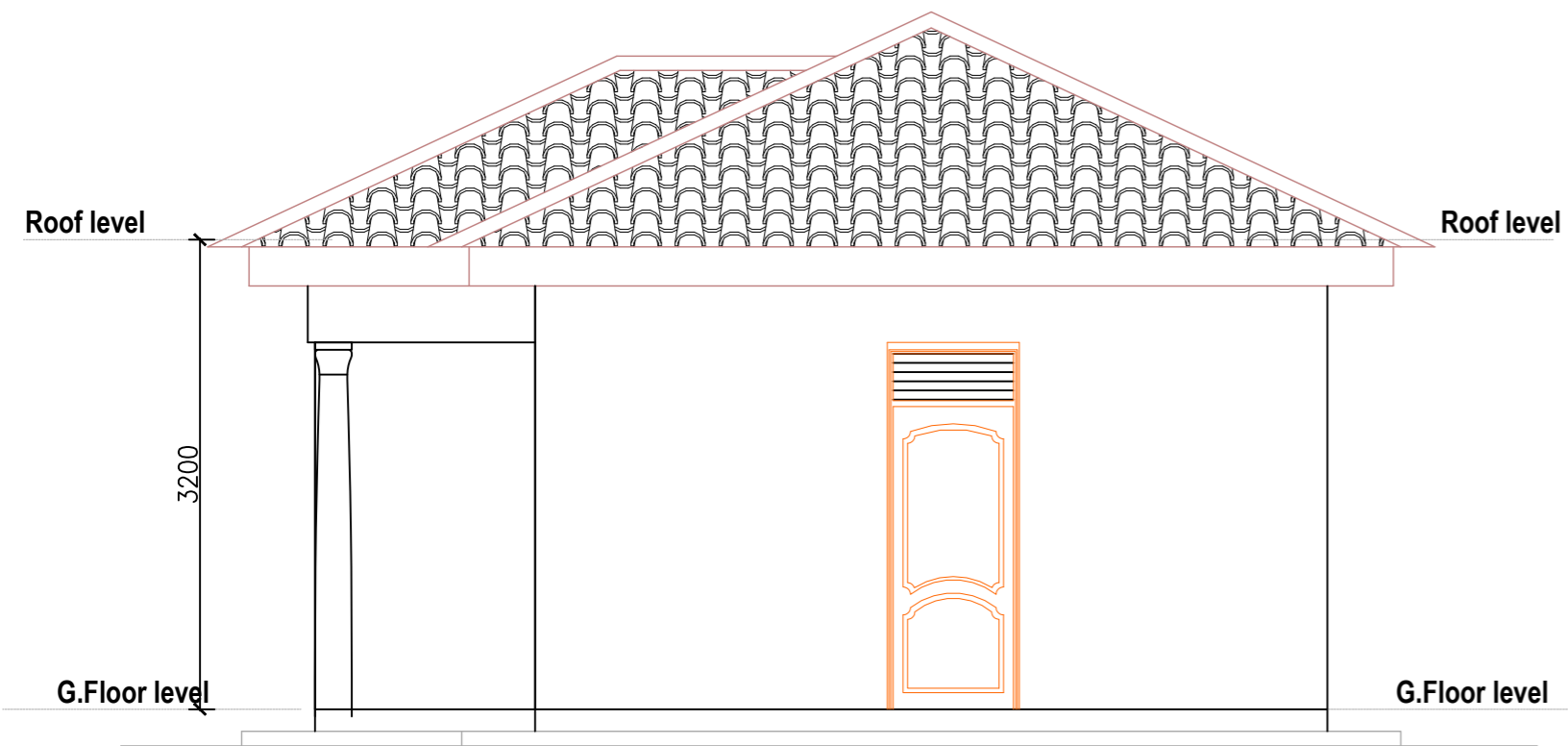
WINDOW SCHEDULE				
MARK	WIDTH	HEIGHT	No.	DESCRIPTION
W1	1500	1600	02	STEEL CASEMENT WINDOWS
W2	1500	1600	04	POMPEY GRILL FILLED OPENING
W3	1200	1600	01	STEEL CASEMENT WINDOWS
W4	600	900	02	TOP HUNG WINDOW
W5	2600	1600	01	POMPEY GRILL FILLED OPENING

AMENDMENTS		
No	Date	Revision
1	10.3.2023	Draft Design

**NOTES**

- All dimensions are in metres unless stated otherwise.
- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/1.0.1

**LEGEND**



**ELEVATION E[--]03**  
Staff House

CO-FINANCE BY:

THE WORLD BANK AND GOVERNMENT OF UGANDA

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

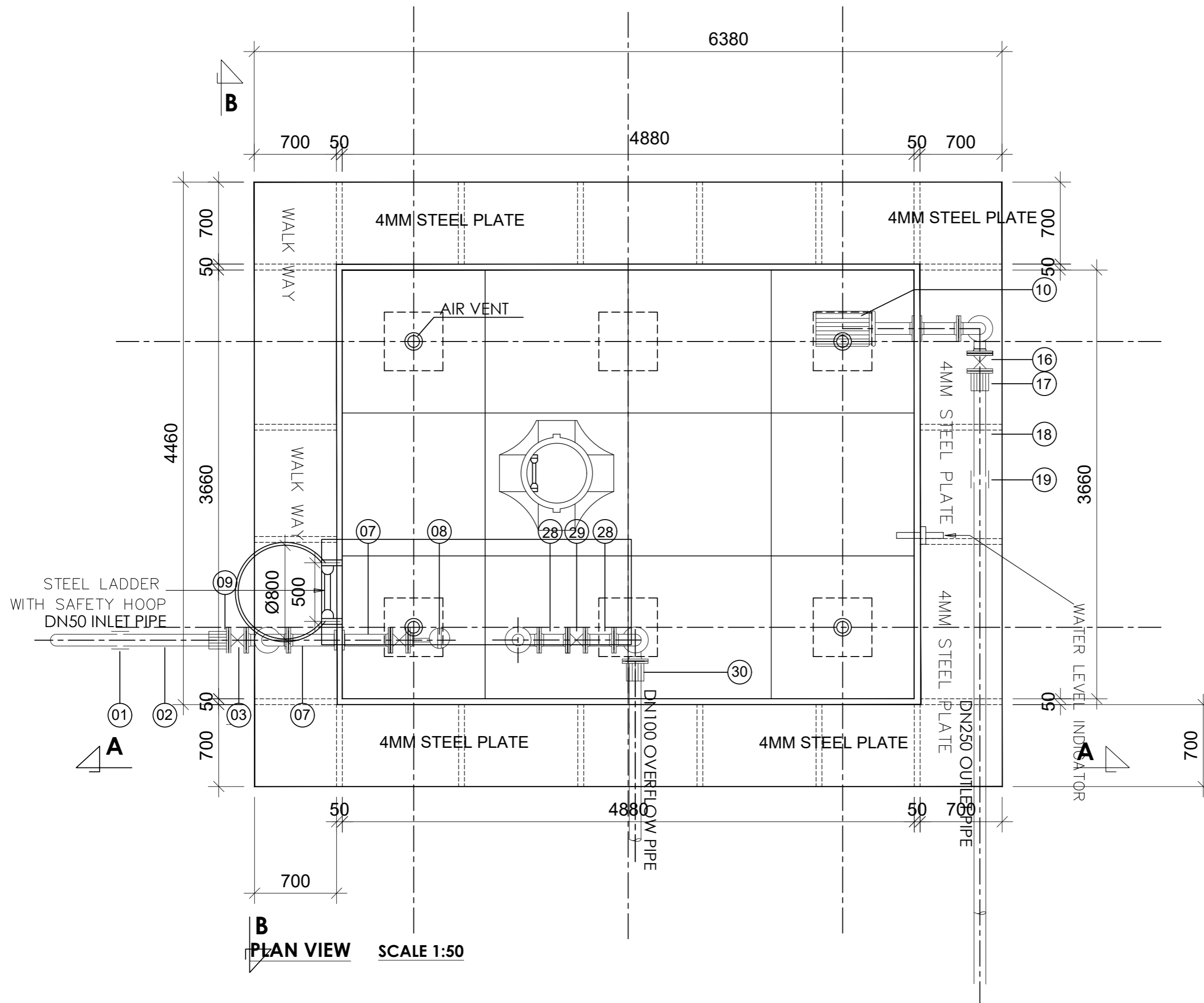
Consultant:

Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

**Drawing Title:**  
CHEMICAL HOUSE AND OFFICE BLOCK  
Elevation\_[L03] and Elevation L[04]

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Sep-2023	<b>Approved:</b>	O.R Daniel

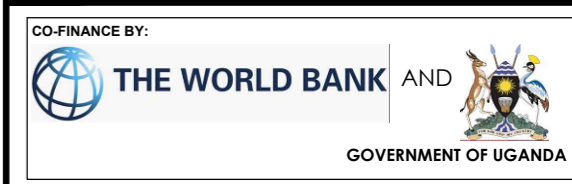
ENGINEERING DESIGN DRAWING  
Drg No: MWE/GWE/1.4.5 | Cad file No WSS<22\_11>



**PLAN VIEW** SCALE 1:50

AMENDMENTS		
No	Date	Revision
1	10.3.2023	Draft Design

PIPE SCHEDULE
1. 1No.DN50Vicking Johnson or Similar Coupling.
2. 1No.DN50 Pipe not exceeding 2.0m.
3. 1No.DN50 All Flanged Gate Valve.
4. 1No.DN50 All Flanged Duck foot 90° bend.
5. 3No.DN50 Double Flanged Pipe not exceeding 6.0m.
6. 1No.DN50 All Flanged 90° bend.
7. 2No.DN50 Double Flanged Pipe not exceeding 0.6m.
8. 1No.DN50 Flanged Ball Float Valve.
9. 1No.DN50 Flanged Adaptor, Maxi type or similar.
10. 1No.DN250 Flanged Outlet Pipe Strainer.
11. 2No.DN250 Double Flanged Pipe not exceeding 0.6m.
12. 1No.DN250 All Flanged 90° bend.
13. 2No.DN250 Double Flanged Pipe not exceeding 6.0m.
14. 1No.DN250 Double Flanged Pipe not exceeding 2.0m.
15. 1No.DN250 All Flanged Duck foot 90° bend.
16. 1No.DN250 Flanged Gate Valve.
17. 1No.DN250 Flanged Adaptor, Maxi type or similar.
18. 1No.DN100 Flanged Adaptor, Maxi type or similar.
19. 1No.DN250 Vicking Johnson or Similar Coupling.
20. 1No.DN100 Flanged Bell Mouth.
21. 1No.DN100 Double Flanged Pipe not exceeding 2.8m.
22. 1No.DN100 Double Flanged Pipe not exceeding 2.0m.
23. 1No.DN50/100 All Flanged Tee.
24. 2No.DN100 Double Flanged Pipe not exceeding 6.0m.
25. 1No.DN100 All Flanged Duck foot 90° bend.
26. 1No.DN50 All Flanged Pipe with puddle flange n.e 2.0m.
27. 1No.DN50 All Flanged 90° bend.
28. 2No.DN50 Double Flanged Pipe not exceeding 0.4m.
29. 1No.DN50 Flanged Gate Valve.



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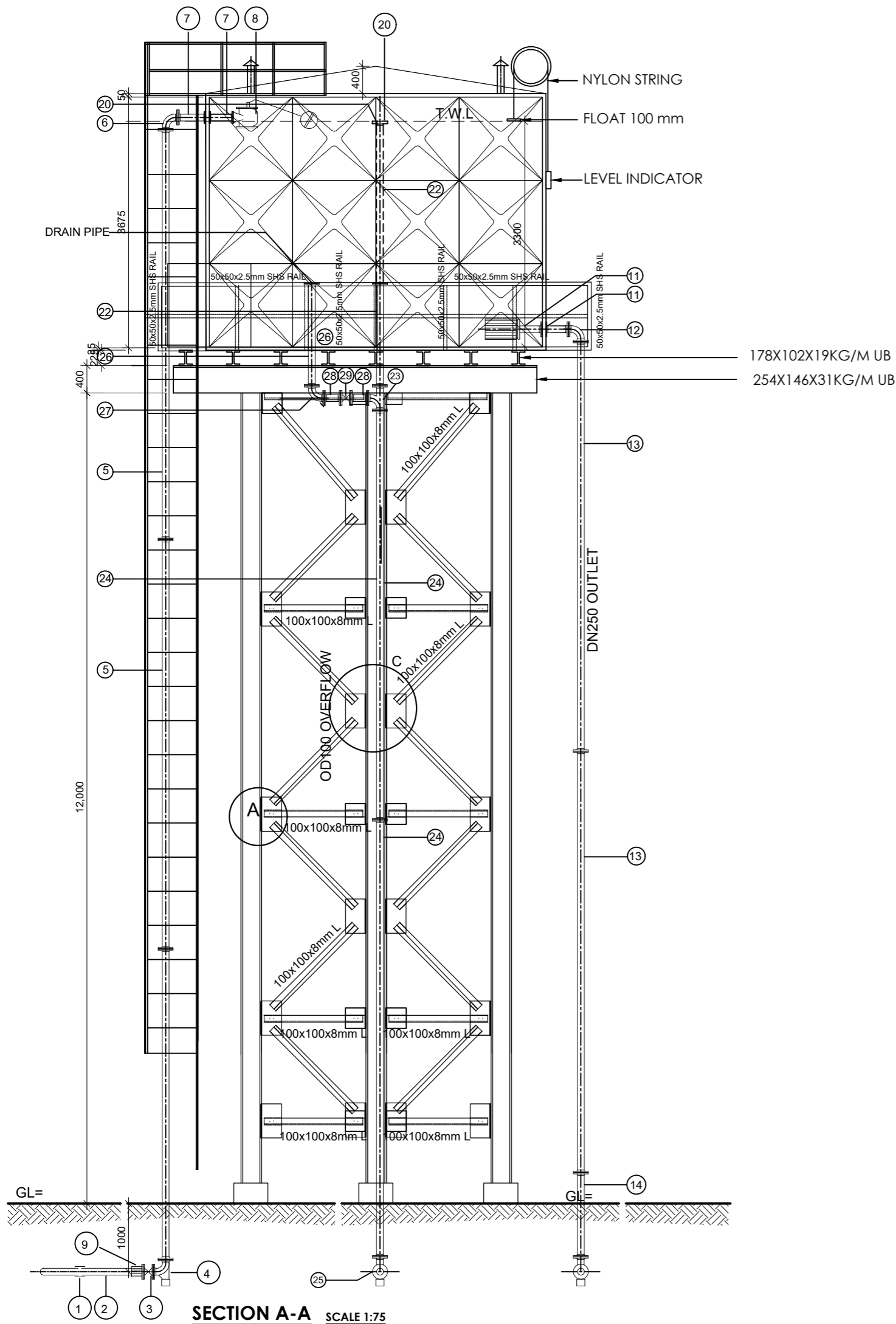
**PROJECT**  
 Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

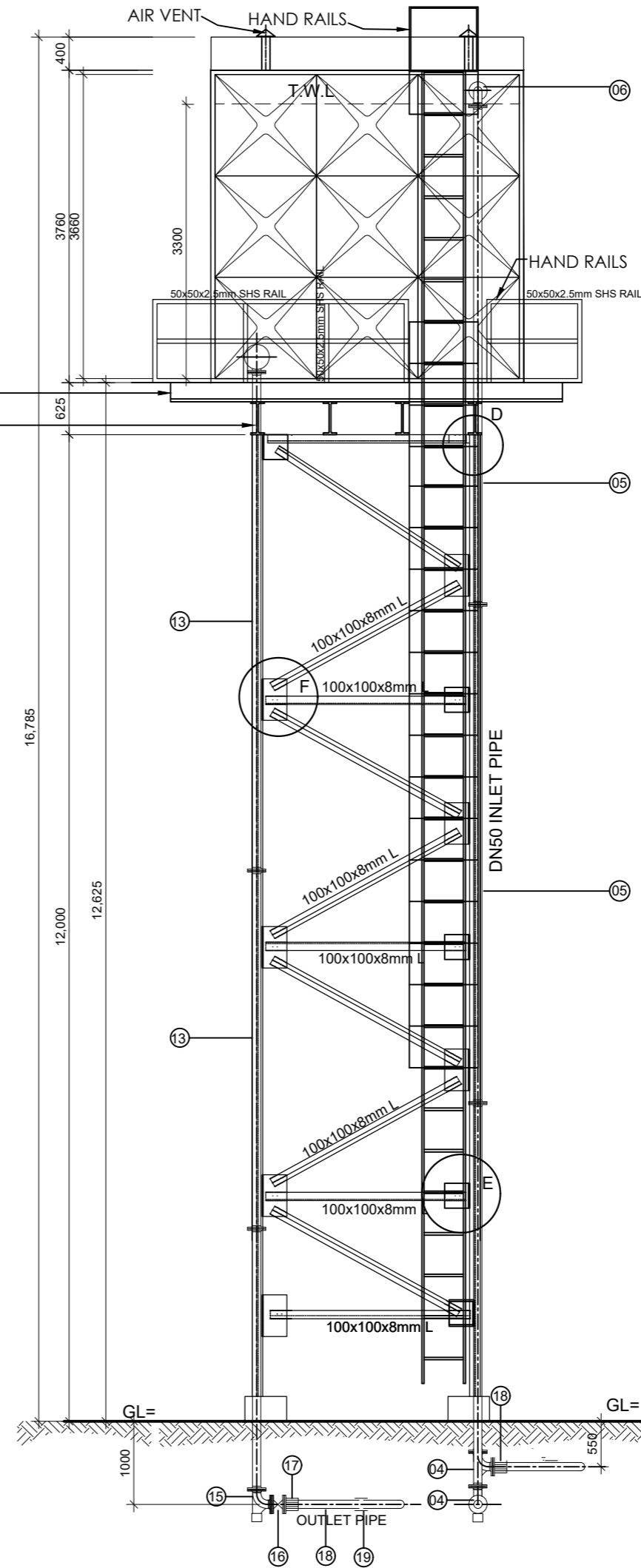
**Consultant:**  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
 62.3m³ BACKWASH AND SERVICE TANK  
 Top Plan

<b>Date:</b> Jul-2023	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Jul-2023	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel



**SECTION A-A** SCALE 1:75



**SECTION B-B** SCALE 1:75

AMENDMENTS		
No	Date	Revision
1	10.3.2023	Draft Design

- PIPE SCHEDULE**
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  - 1No.DN50 All Flanged Gate Valve.
  - 1No.DN50 All Flanged Duck foot 90° bend.
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  - 1No.DN50 Flanged Ball Float Valve.
  - 1No.DN50 Flanged Adaptor, Maxi type or similar.
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  - 1No.DN250 All Flanged 90° bend.
  - 2No.DN250 Double Flanged Pipe not exceeding 6.0m.
  - 1No.DN250 Double Flanged Pipe not exceeding 2.0m.
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  - 1No.DN250 Flanged Gate Valve.
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
 62.3m<sup>3</sup> BACKWASH AND SERVICE TANK  
 Sections and Details

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Jul-2023	<b>Approved:</b>	O.R Daniel
<b>ENGINEERING DESIGN DRAWING</b>		
<b>Drp No: MWE/GWE/1.5.2</b>   Cad file No: WSS<22_11>		



AMENDMENTS		
No	Date	Revision
1	7.30.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**


CO-FINANCE BY:



**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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**PROJECT**

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**



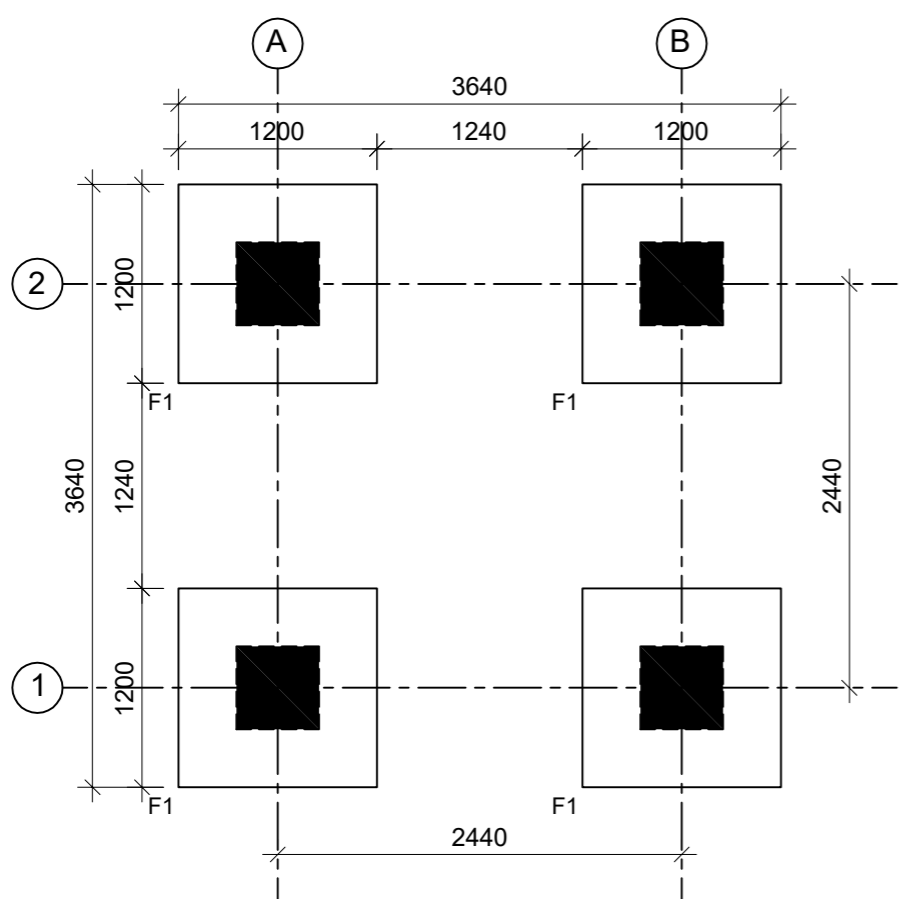
**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**

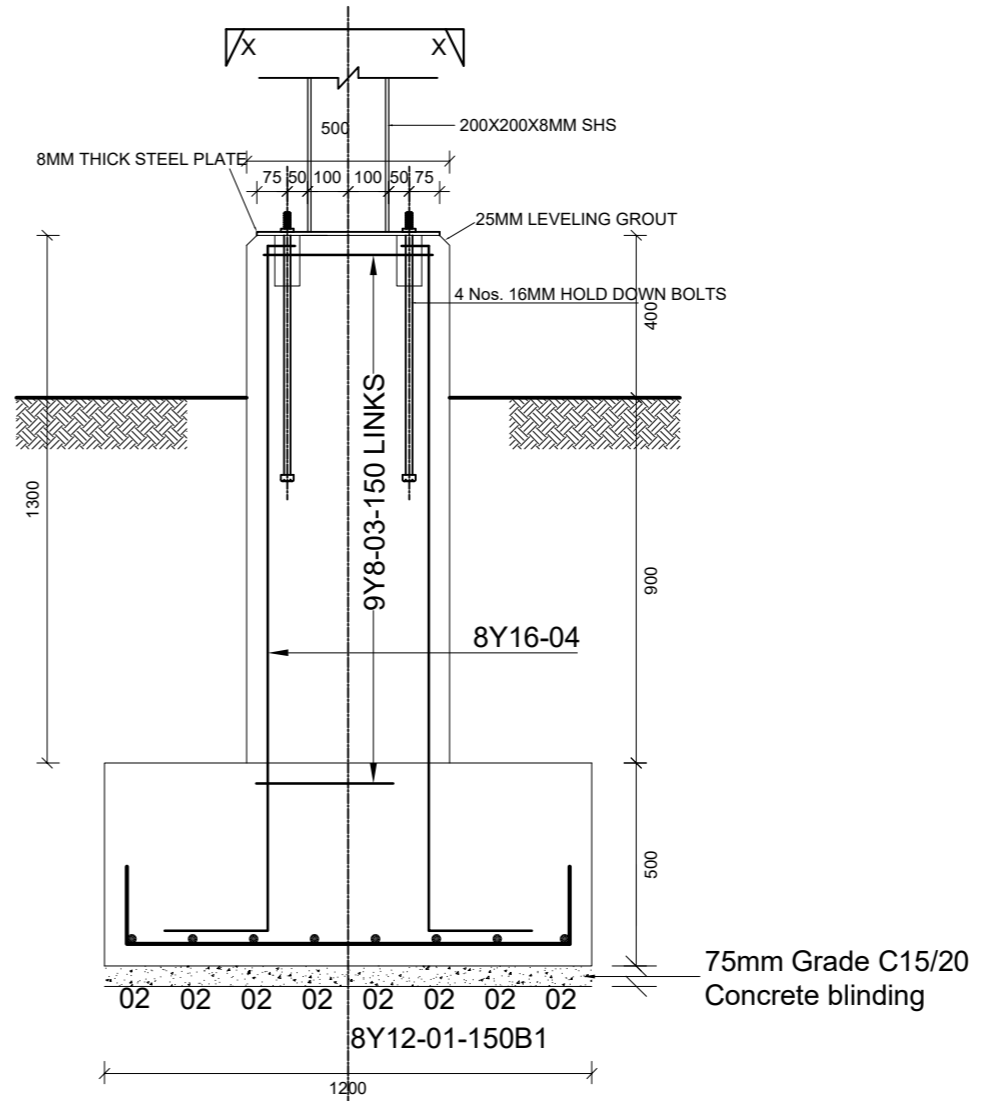
62.3M<sup>3</sup> BACKWASH AND SERVICE TANK  
 Foundation layout and Details

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Jul-2023	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

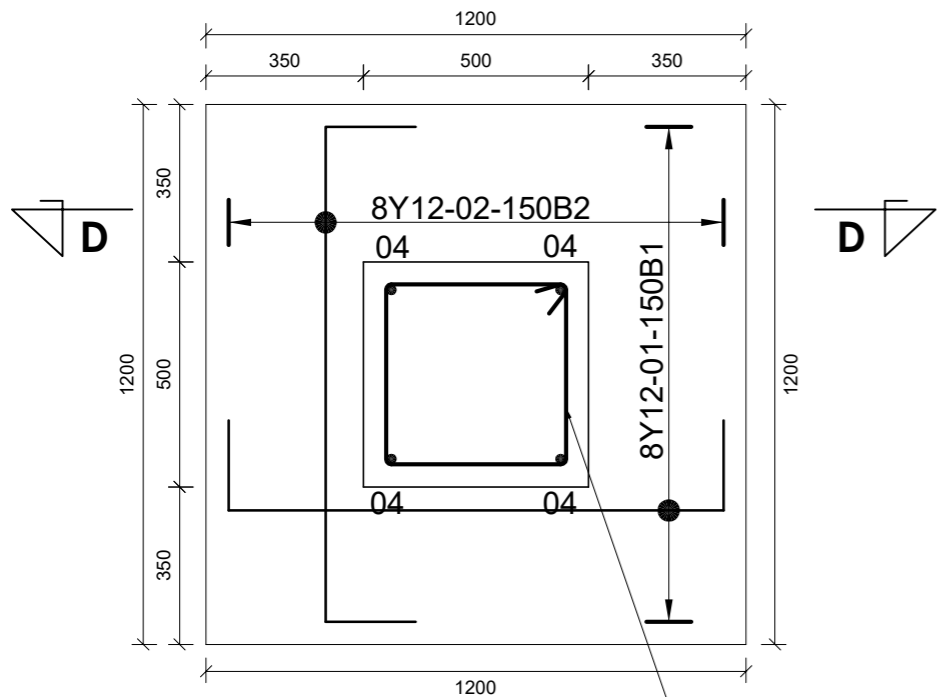
ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/1.5.3 | Cad file No WSS<22\_11>



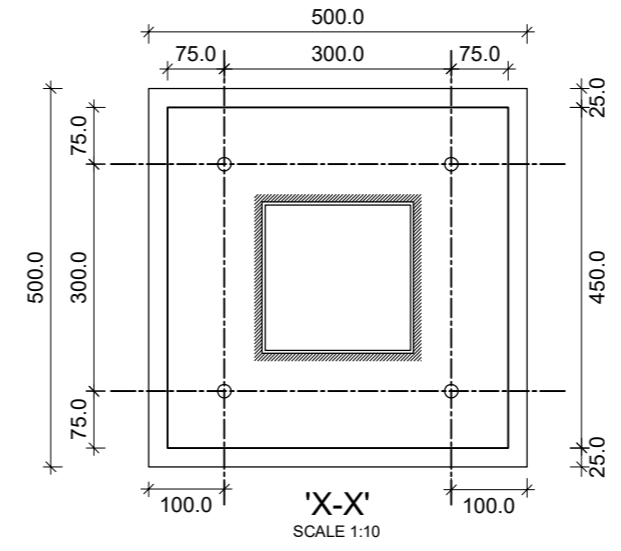
**FOUNDATION LAYOUT**  
SCALE 1:50



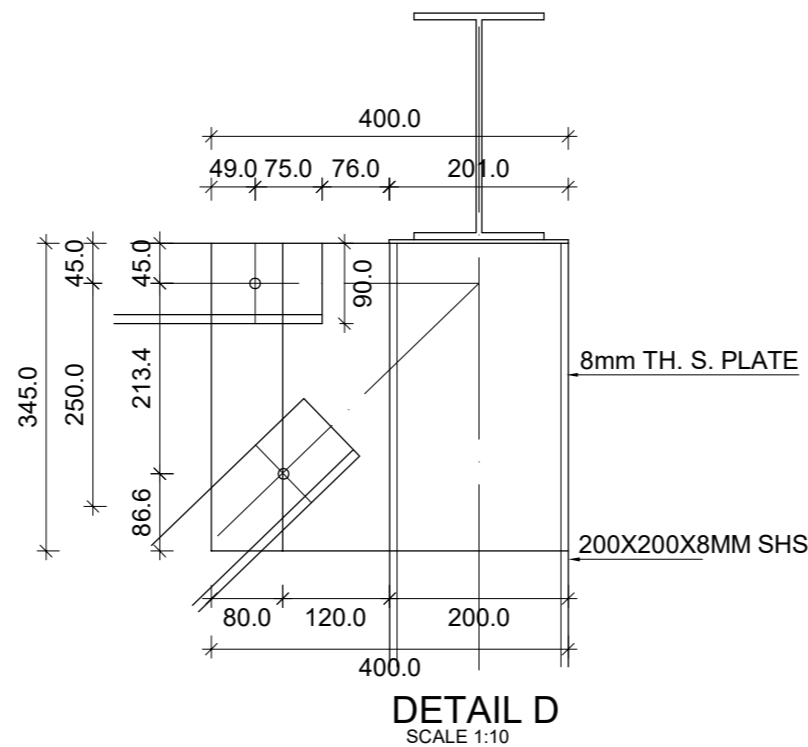
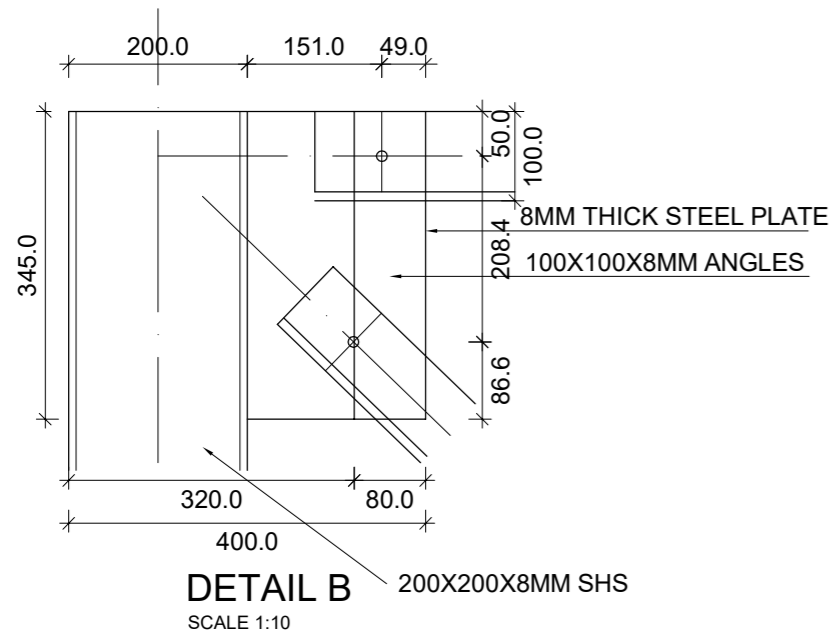
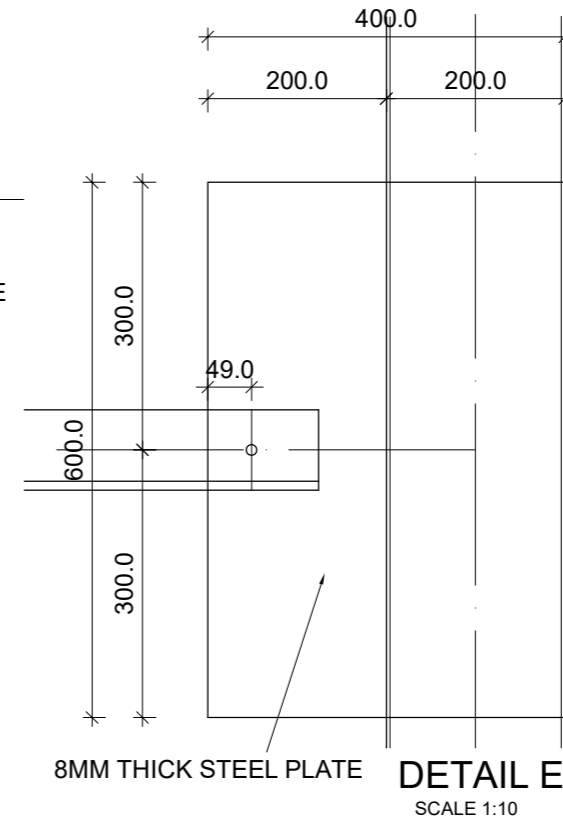
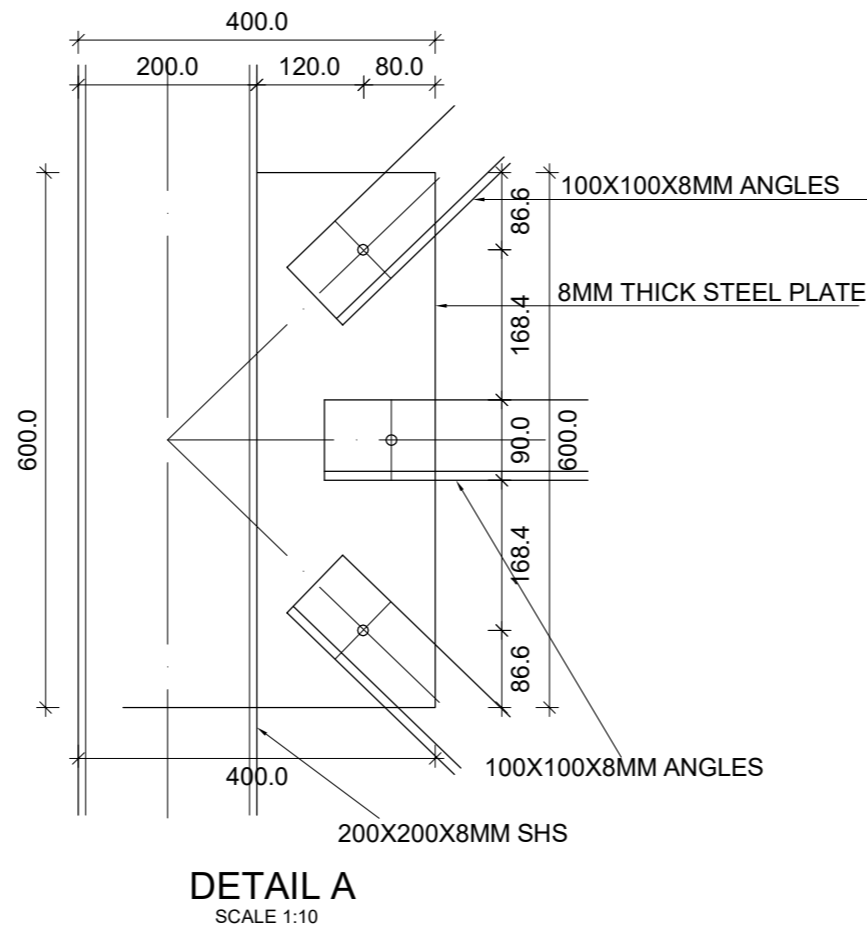
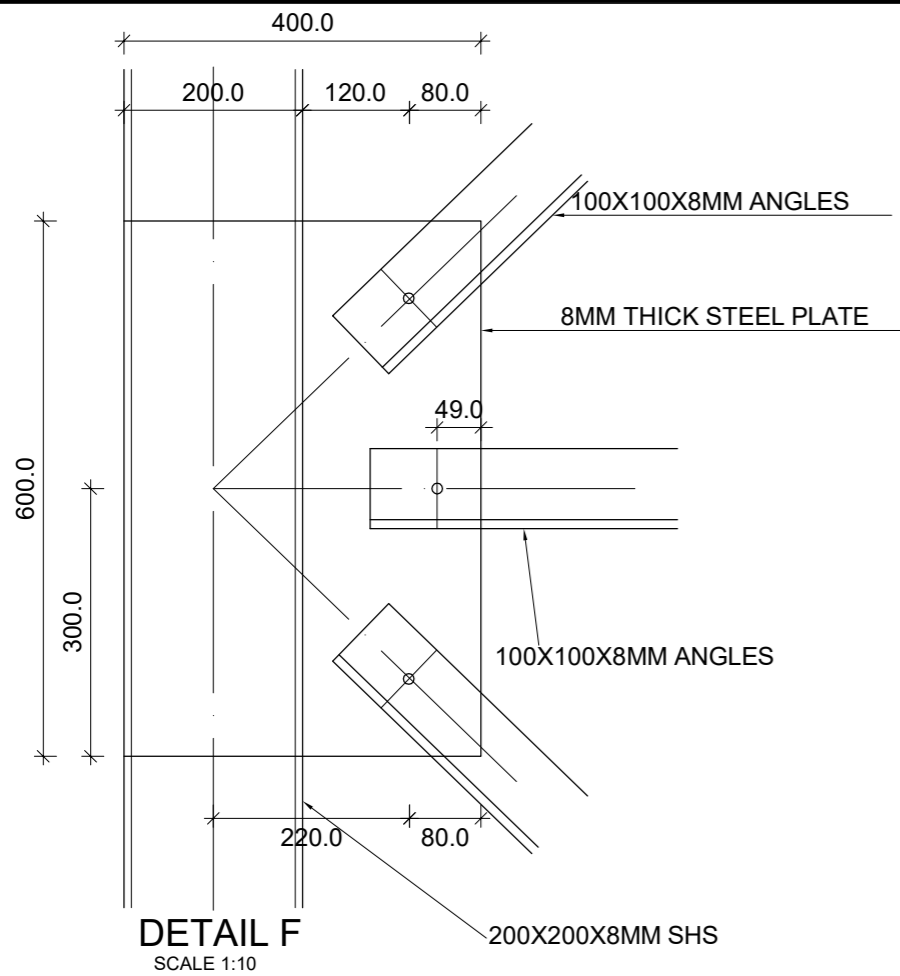
**SECTION D - D**  
Scale 1:20



**FOOTING DETAIL, F1** 9Y8-03-150 LINKS  
SCALE 1:20



**'X-X'**  
SCALE 1:10



**AMENDMENTS**

No	Date	Revision
1	7.30.2023	Draft Design

**NOTES**

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4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

CO-FINANCE BY:

**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

**Corporate Headquarter**  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

**Drawing Title:**  
62.3M<sup>3</sup> BACKWASH AND SERVICE TANK  
Steel Connection Details

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Jul-2023	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
Drg No: MWE/GWE/1.5.4 | Cad file No WSS<22\_11>

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
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**LEGEND**



CLIENT  
**MINISTRY OF WATER AND ENVIRONMENT**  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

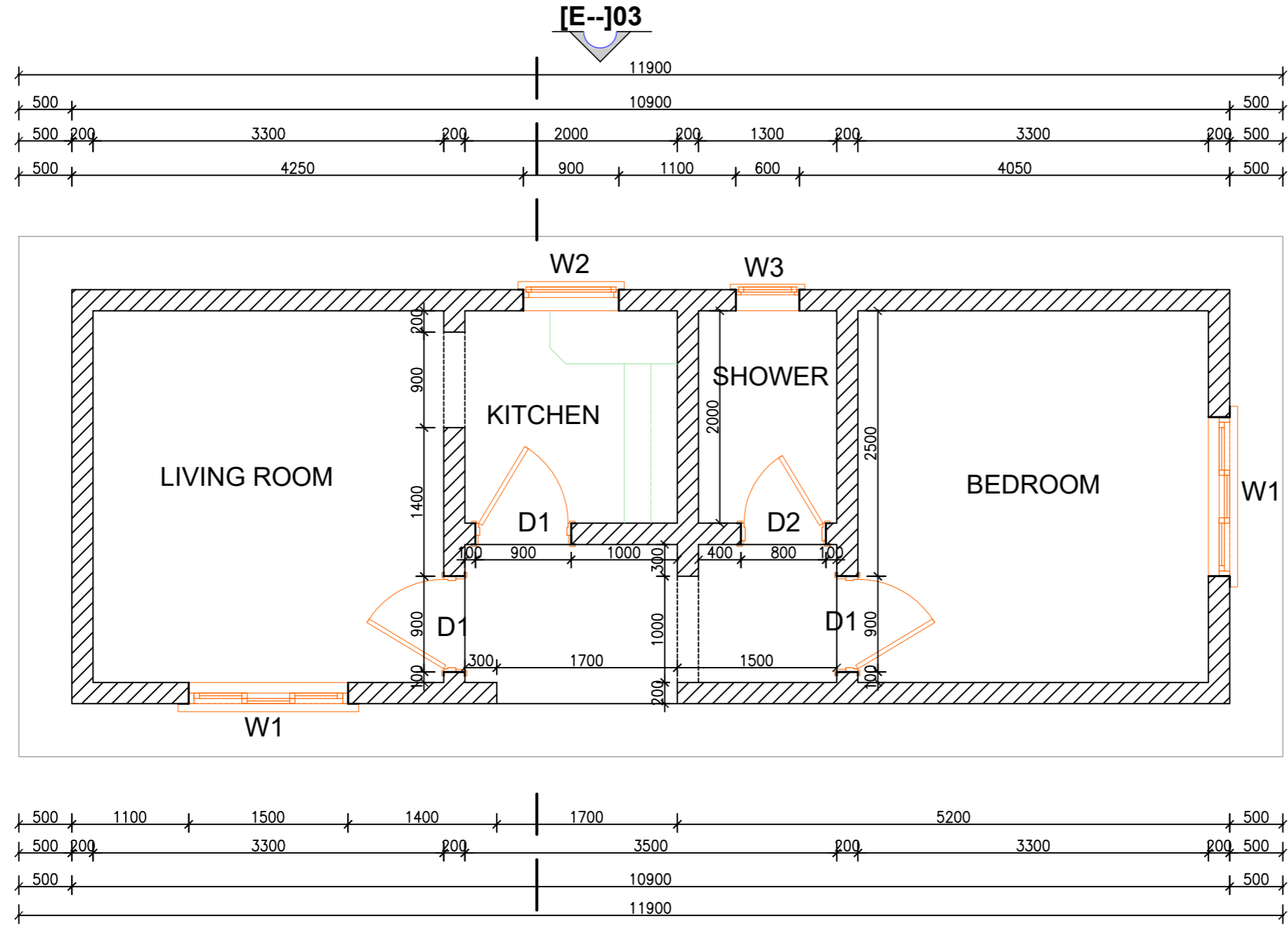
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
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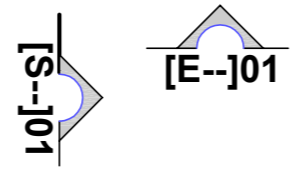
Drawing Title:  
**STAFF HOUSE**  
 Ground Floor Plan

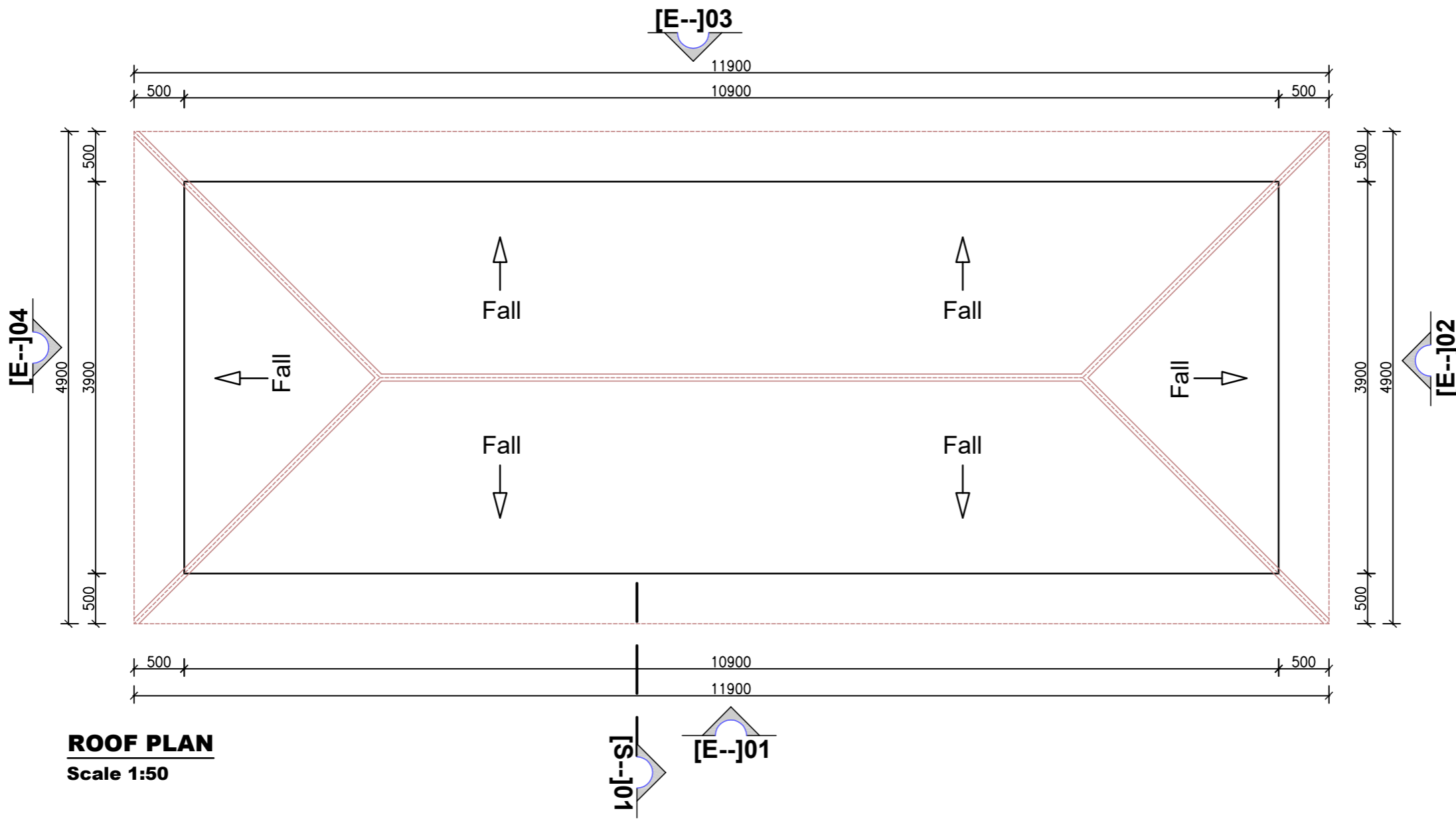
<b>Scale:</b> Dec-2022	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/1.6.1 | Cad file No WSS<22\_11>



**GROUND FLOOR PLAN**  
 Scale 1:50





**ROOF PLAN**  
Scale 1:50

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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**LEGEND**



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**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
 STAFF HOUSE  
 Roof Plan

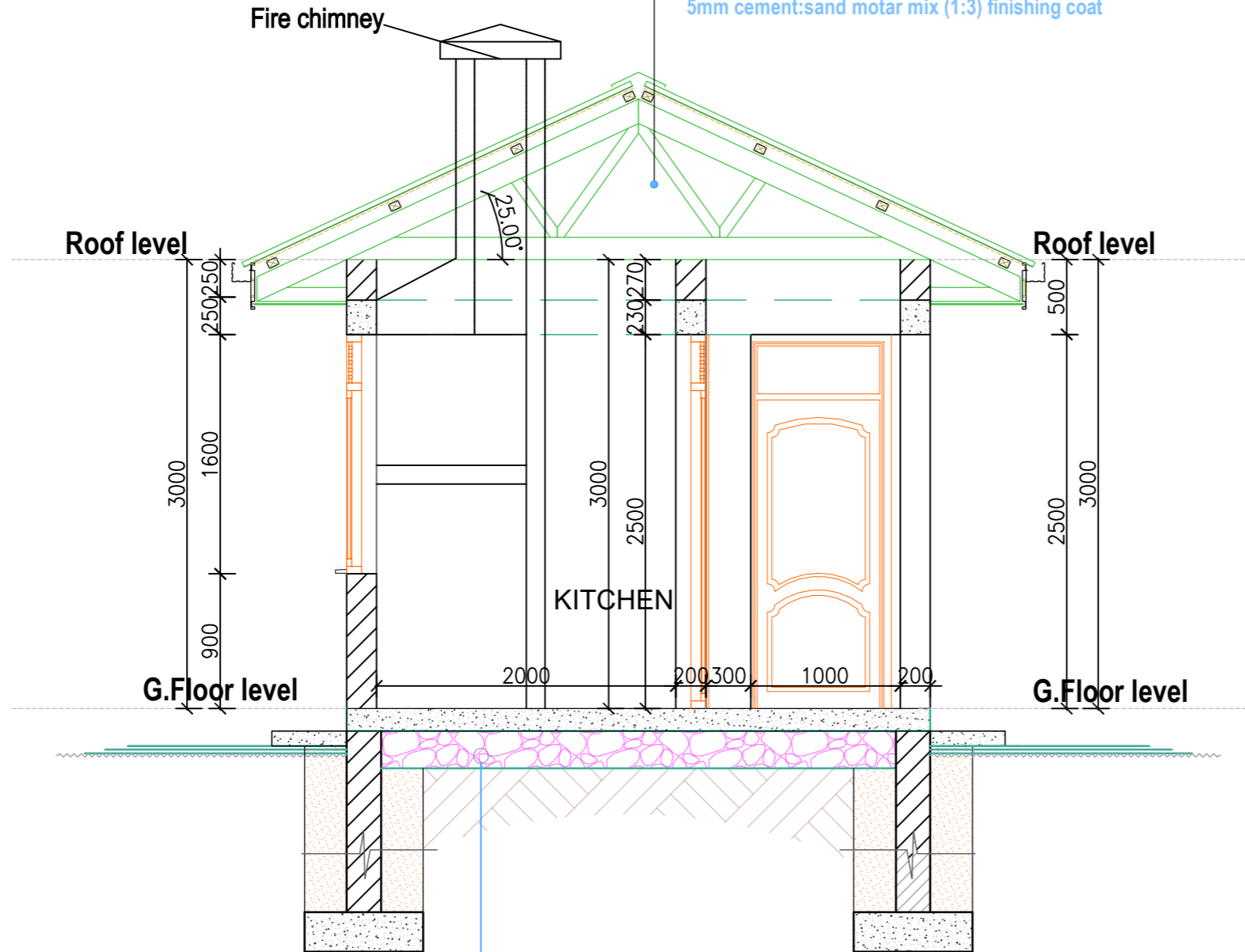
<b>Scale:</b> Dec-2022	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

**ROOF NOTES**

Roof pitch 25°  
 Pre-painted roofing Sheets on  
 75 x 50mm purlins on  
 150 x 50mm Rafters at 1800mm c/c with  
 150 x 50mm struts and ties on  
 150 x 50mm Tie Beam on  
 150 x 75mm Wall plate  
 Fascia and Barge boards are to be 225 x 25mm

**CEILING NOTES**

100 x 50mm Blanderings & ceiling joist Btn  
 tie beam At 600mm c/c  
 15mm thick cement:sand motar mix (1:3) on  
 Stretched eml  
 5mm cement:sand motar mix (1:3) finishing coat



**SECTION S[-]01**  
**Staff House**

**FOUNDATION NOTES**

100mm high skirking (mahogany) on  
 Floor finish as specified on  
 25mm thick cement screed on  
 150mm thick concrete floor slab mix(1:3:6)12mm agg on  
 200mm thick well compacted & approved hardcore filling on  
 Consolidated murrum  
 690 x230mm concrete strip foundation slab mix(1:3:6)19mm agg in  
 Well levelled and rammed trenches whose depths are to be determinrd on site  
 Levels are to be checked before ground breaking

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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LEGEND

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**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

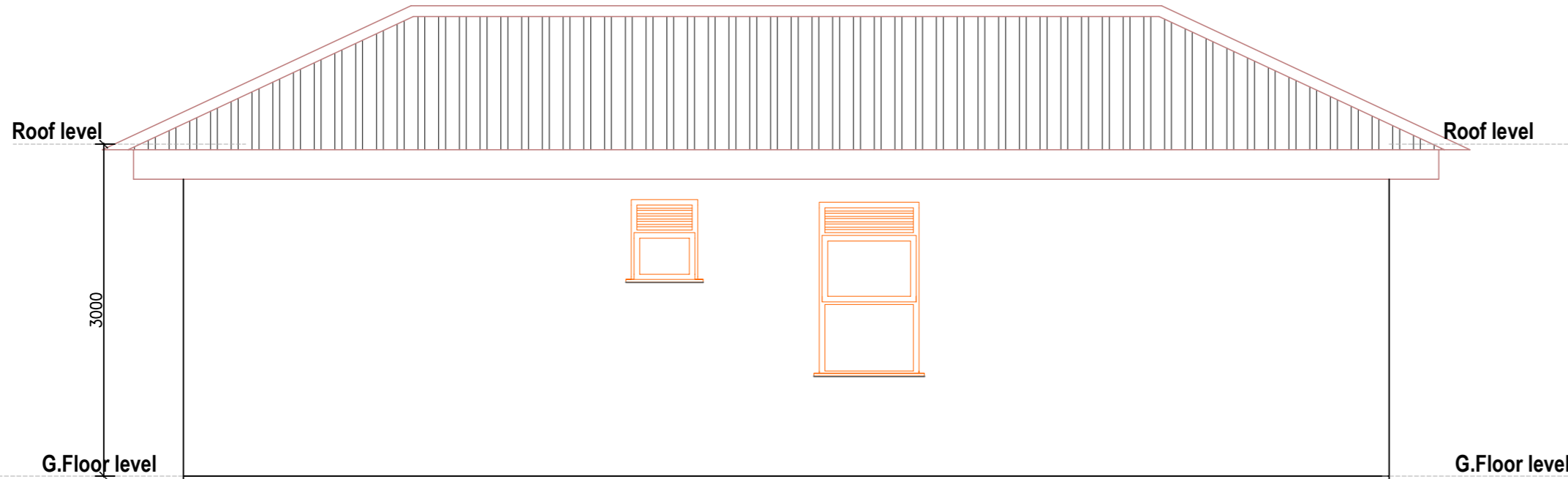
Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
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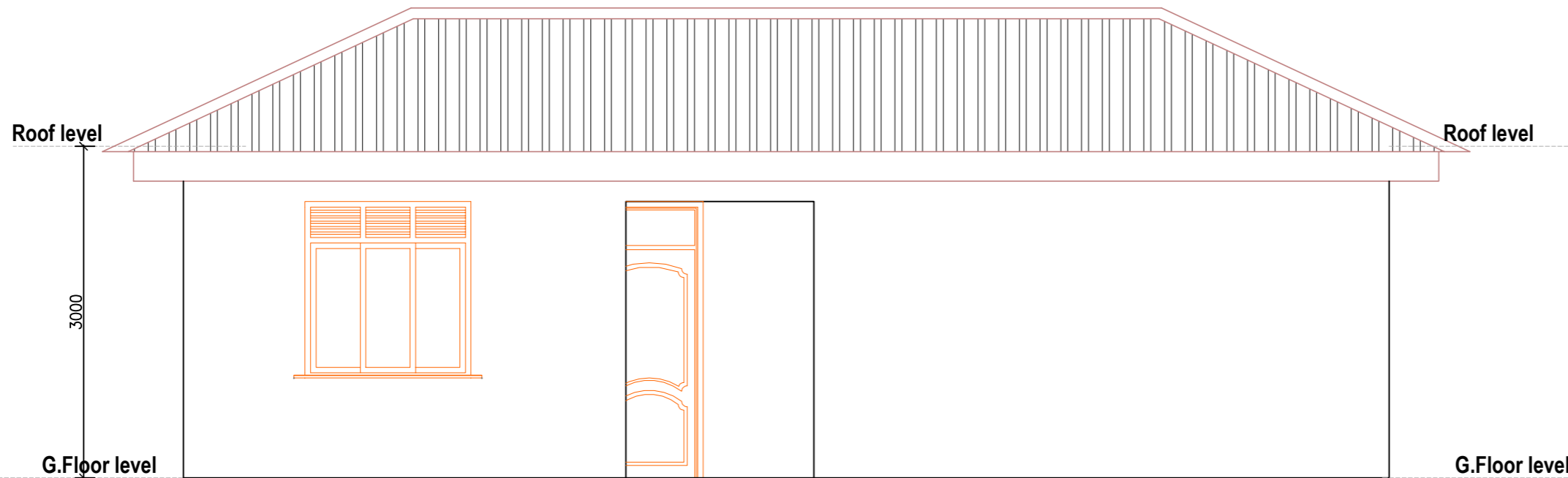
Drawing Title:

STAFF HOUSE  
 Section S[01]

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel



**ELEVATION E[--]03**  
Staff House



**ELEVATION E[--]01**  
Staff House

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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**LEGEND**



CLIENT  
**MINISTRY OF WATER AND ENVIRONMENT**  
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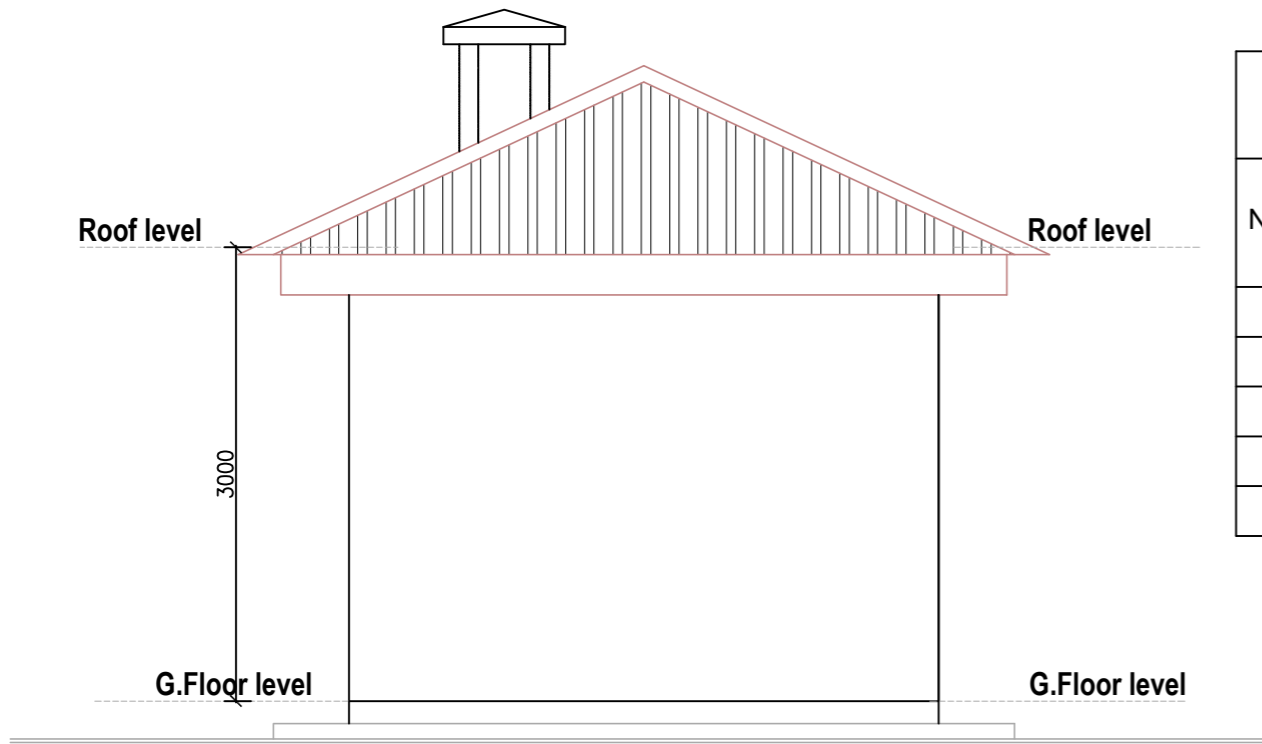
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
 STAFF HOUSE  
 Elevation\_[L01] and Elevation L[02]

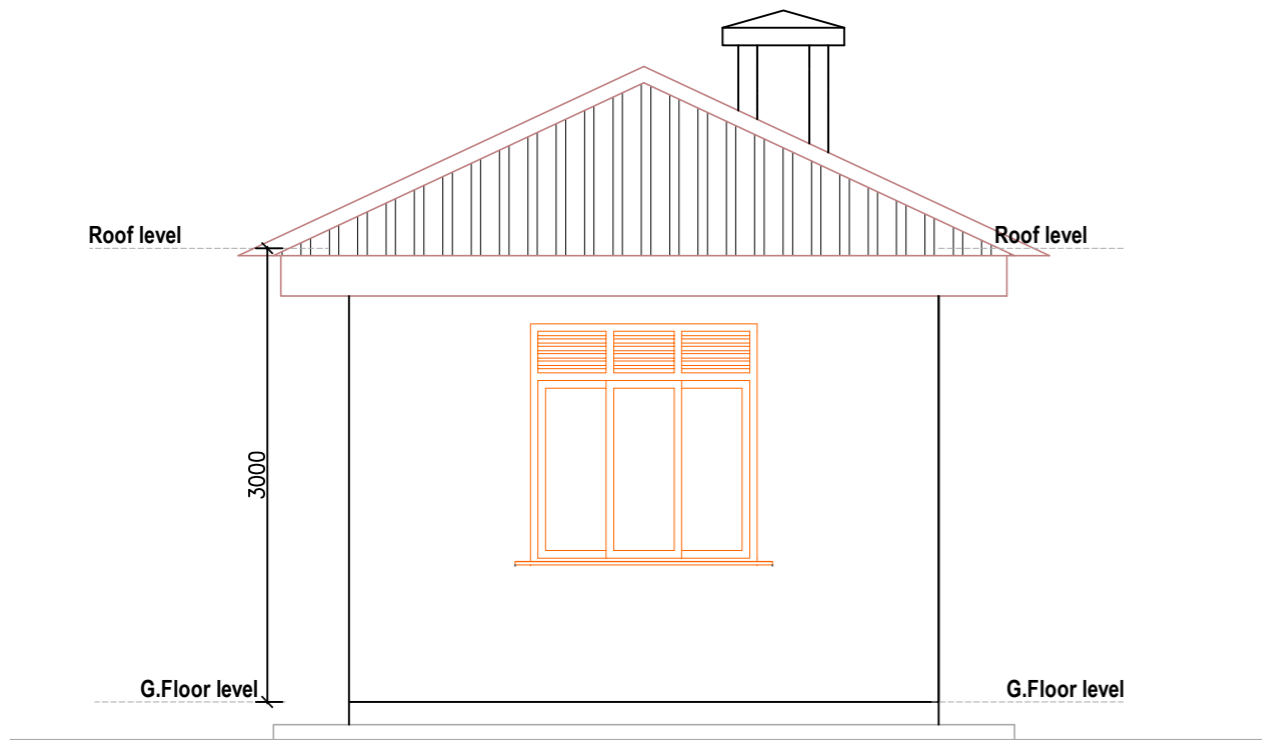
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	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/1.6.4 | Cad file No WSS<22\_11>



**ELEVATION E[-]J04**  
Staff House

DOORS AND WINDOWS SCHEDULE				
NOTATION	NO	DIMENSIONS		REMARKS
		HEIGHT (mm)	WIDTH (mm)	
D1	3	900	2500	Framed Ledge batten doors with PVO
D2	1	800	2500	Solid flush door with PVO
W1	2	1500	1600	Steel casement window with PVO
W2	1	600	900	Steel casement window with PVO
W3	1	900	1600	Steel casement window with PVO



**ELEVATION E[-]J02**  
Staff House

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**



CLIENT  
 MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

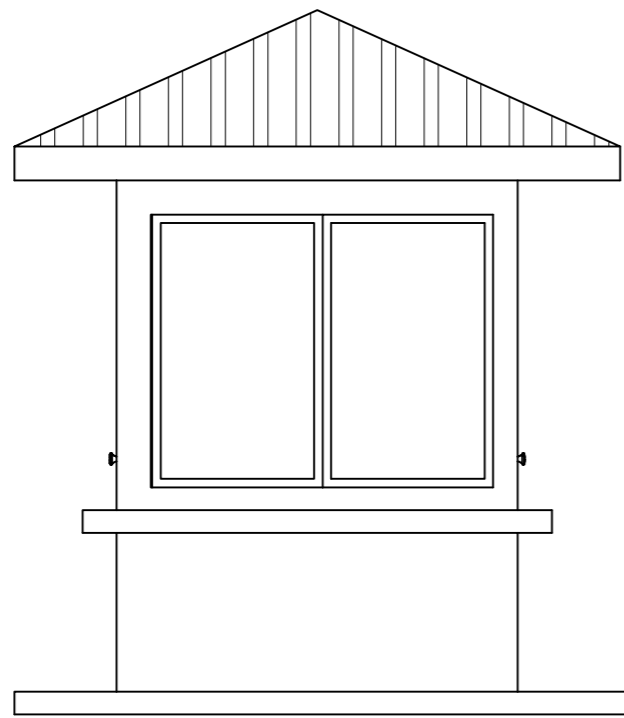
PROJECT  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

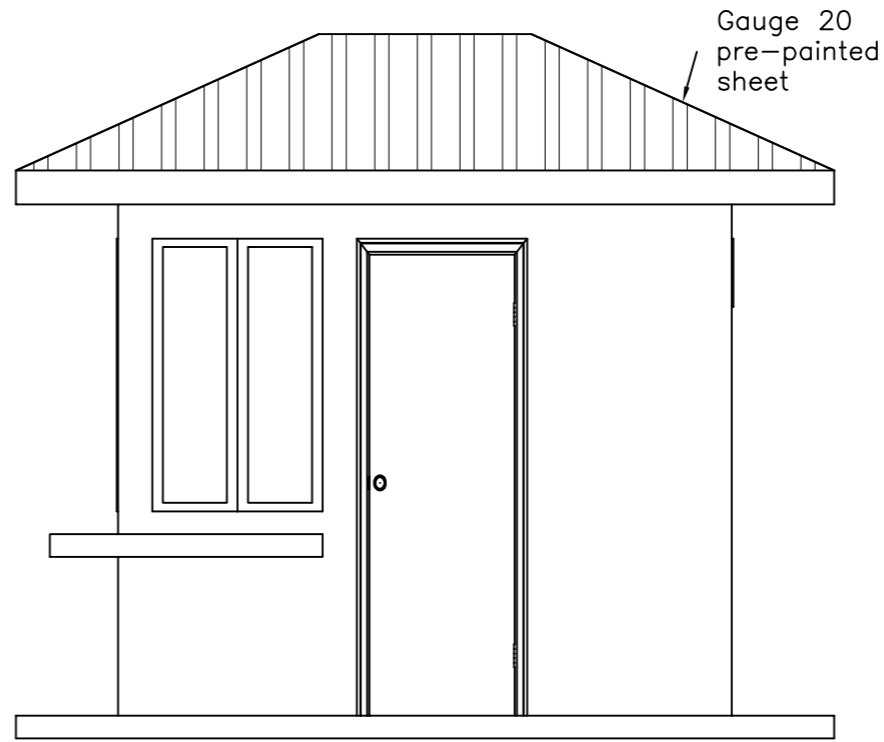
Consultant:  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
 STAFF HOUSE  
 Elevation\_[L03] and Elevation L[04]

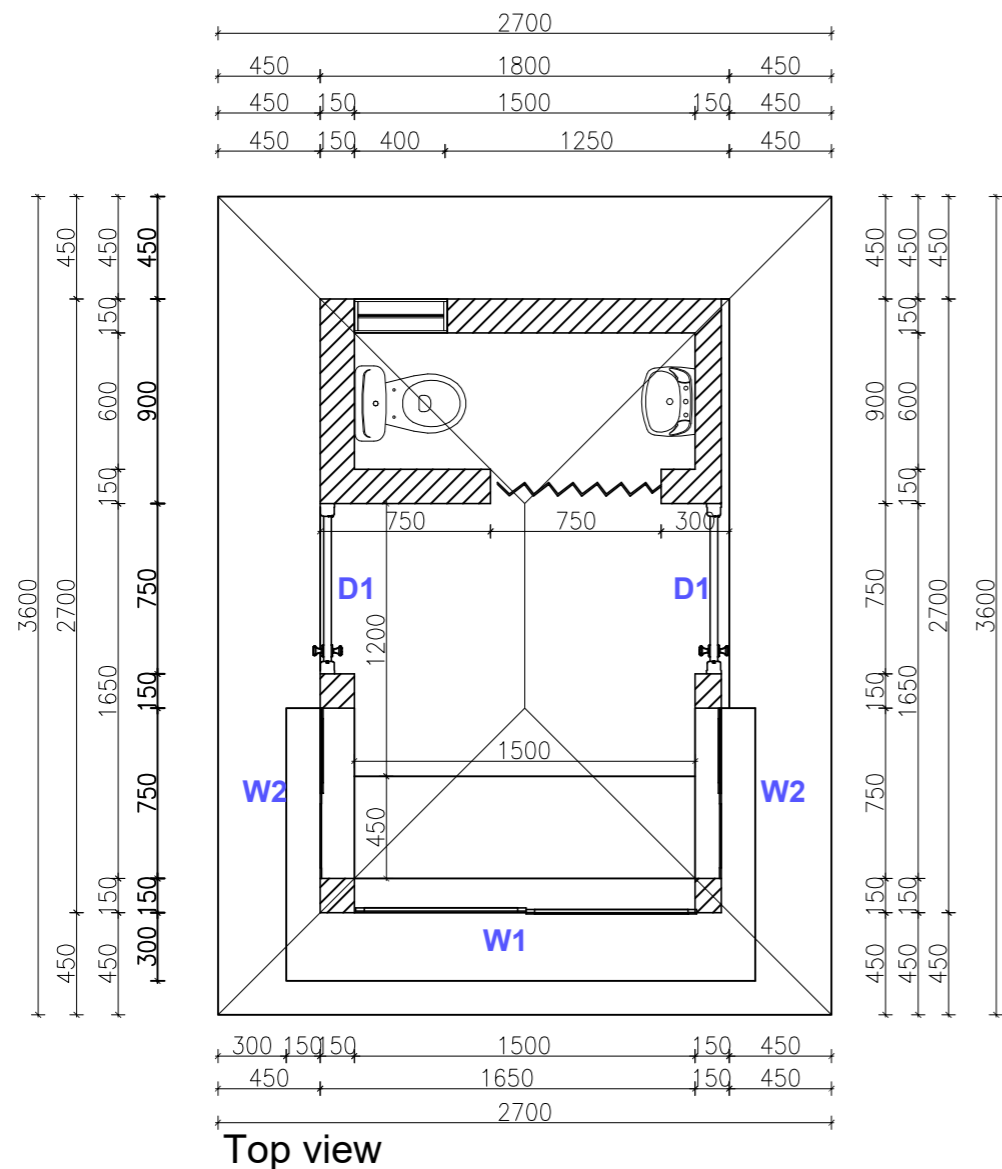
Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel
ENGINEERING DESIGN DRAWING		
Drg No: MWE/GWE/1.6.5	Cad file No WSS<22_11>	



Front view

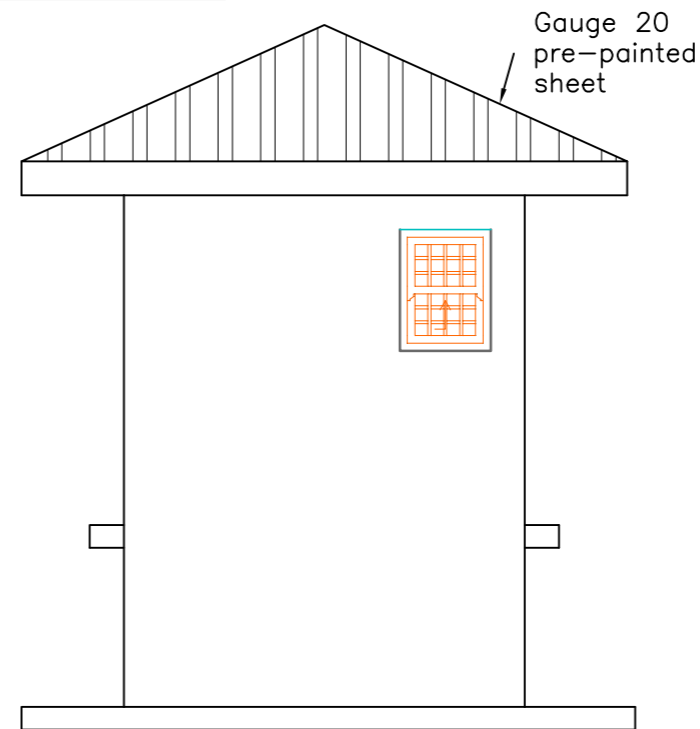


Side view



Top view

DOORS AND WINDOWS SCHEDULE			
NOTATION	NO	DIMENSIONS	
		WIDTH (mm)	HEIGHT (mm)
D1	2	750	2100
W1	1	1500	1200
W2	2	750	1200
W3	1	400	600



Rear view

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**



CLIENT  
**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

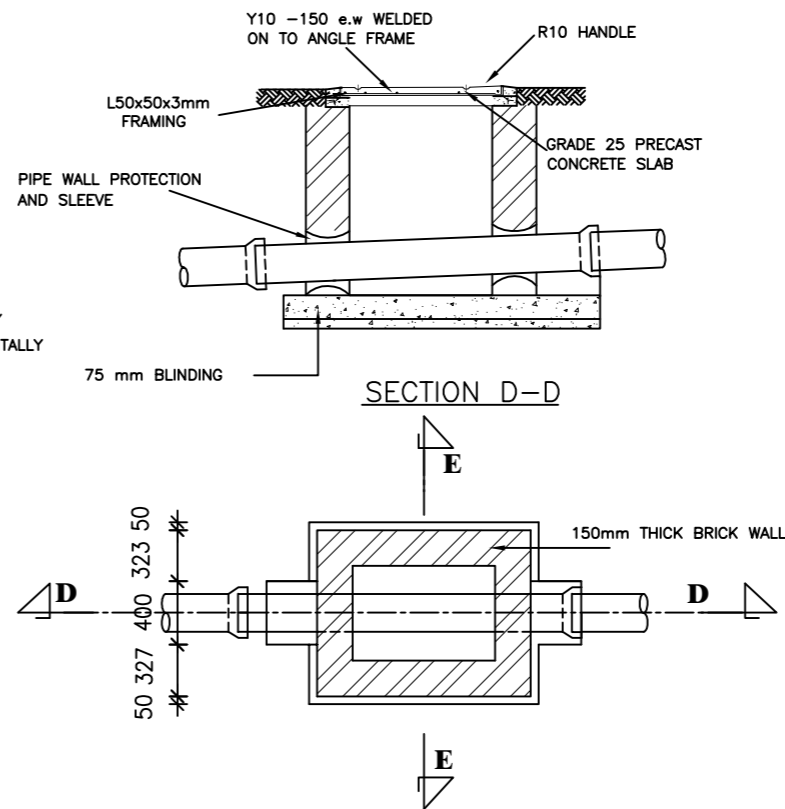
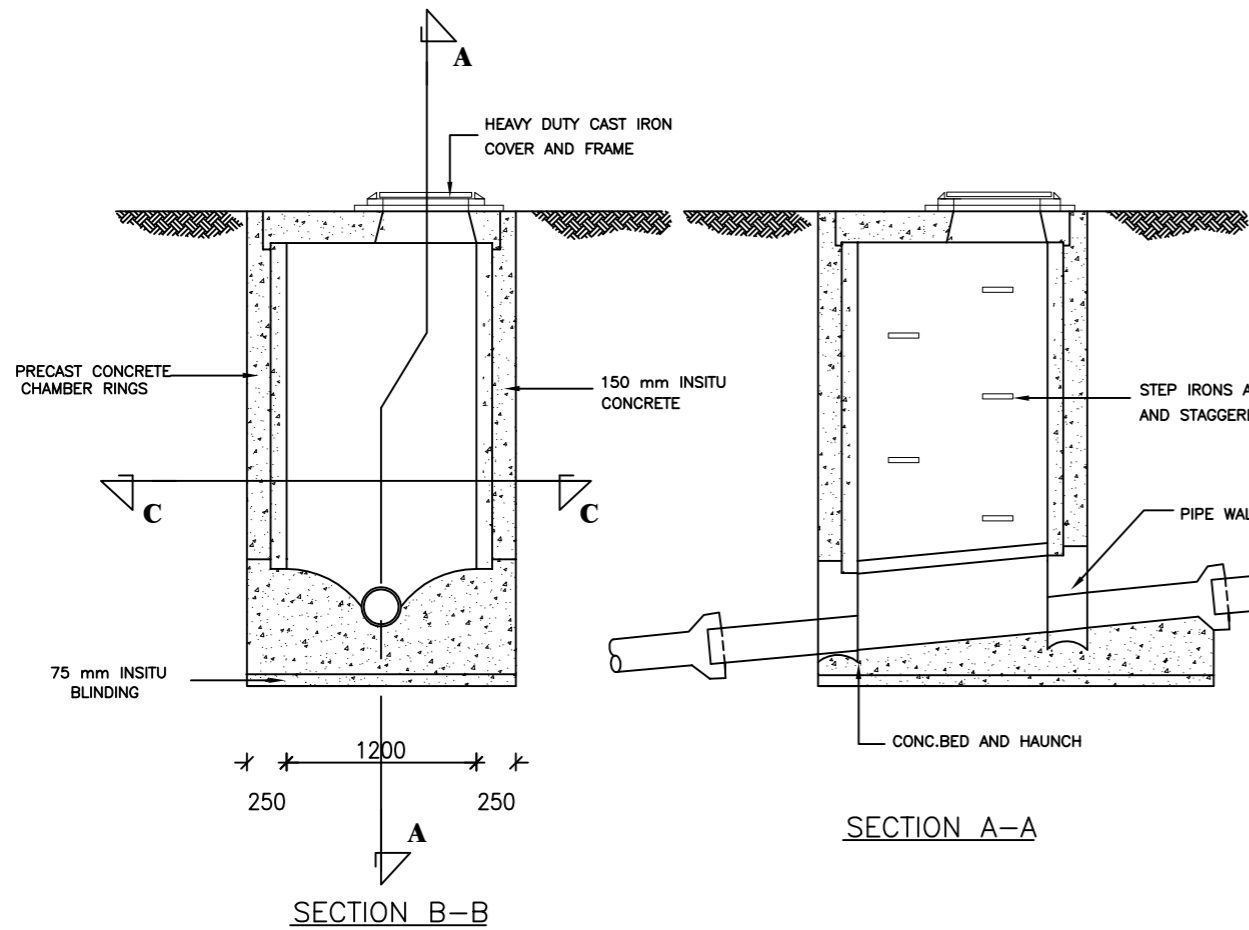
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

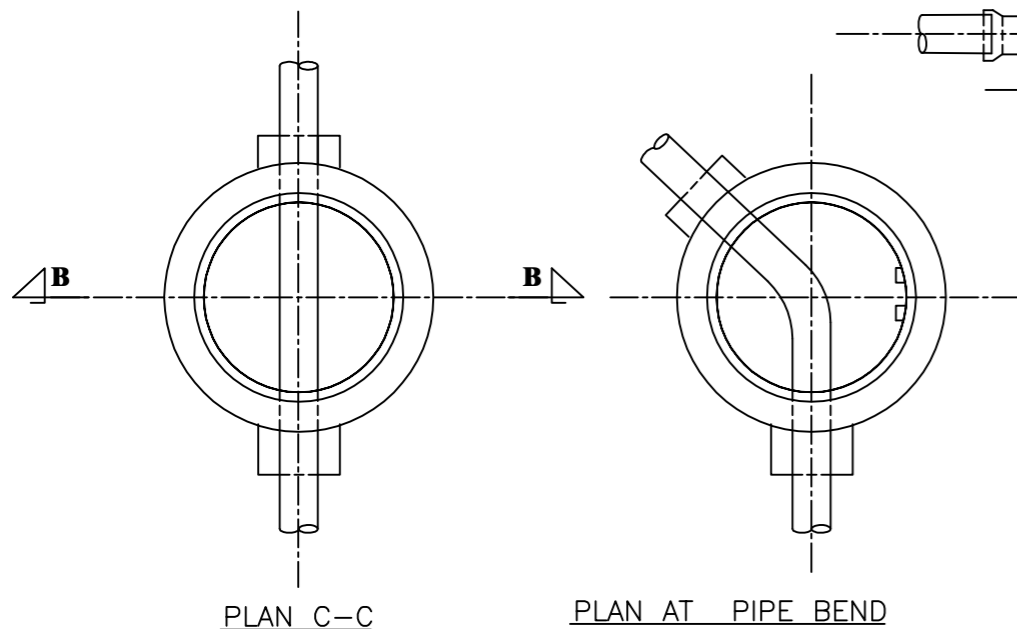
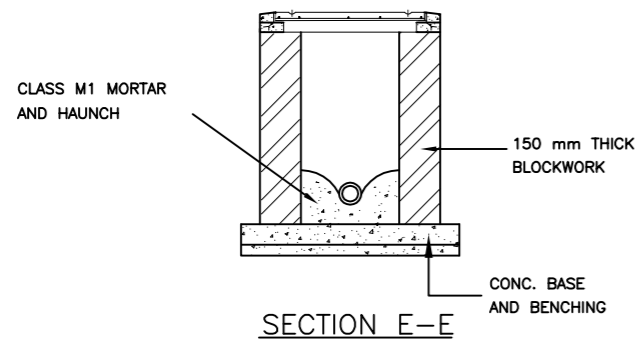
Drawing Title:  
**GUARD HOUSE**  
 Plan and Sections

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel
ENGINEERING DESIGN DRAWING		
<b>Drg No:</b> MWE/GWE/1.7.1	<b>Cad file No:</b> WSS<22_11>	

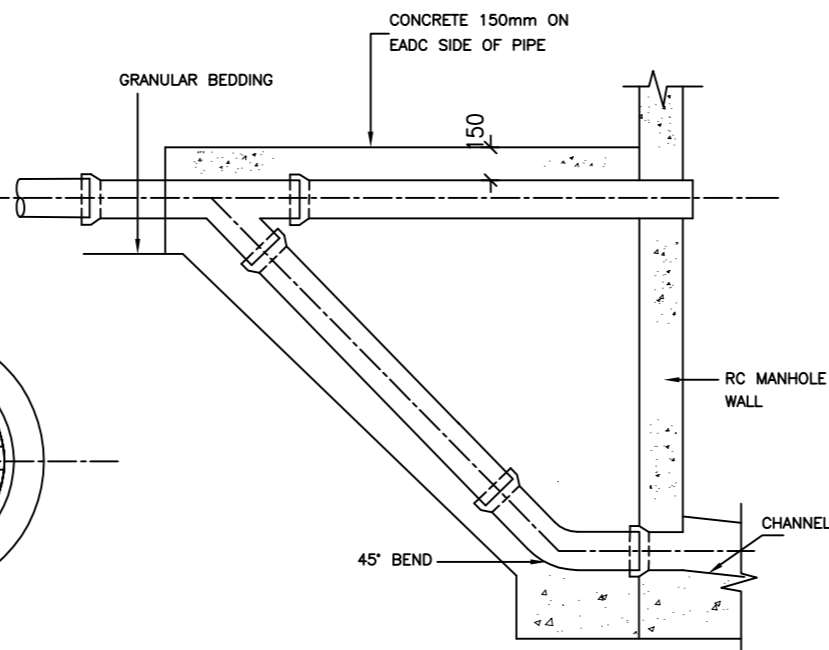




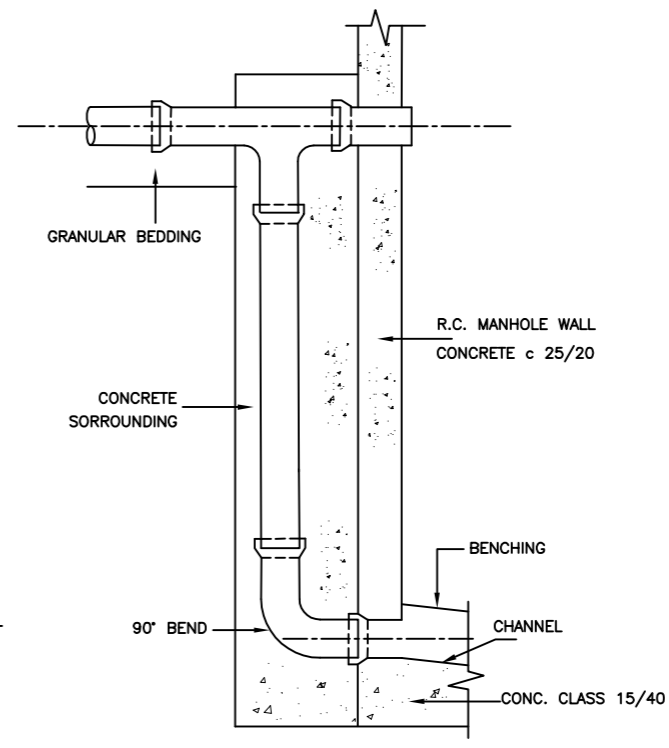
SHALLOW MANHOLLE (Depth <1000mm)



STANDARD MANHOLE (DEPTH : 1000-5000mm)



TYPE A  
Difference in levels <1800mm



TYPE B  
Difference in levels >1800mm

TYPICAL BACKDROP MANHOLE

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**


CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

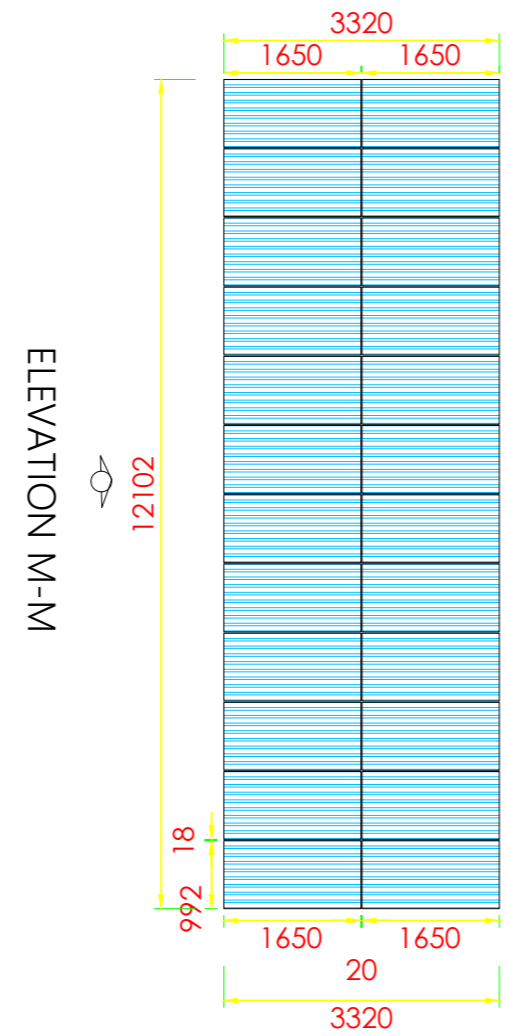
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:  
**MANHOLE DETAILS**  
Plan and Sections

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

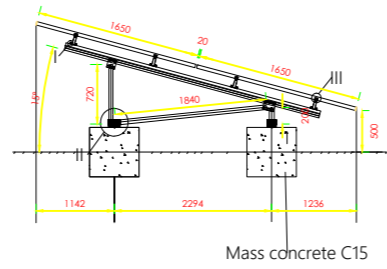


**24 Solar Panels**

ELEVATION M-M

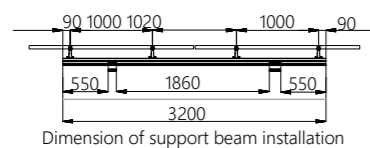
ELEVATION Y-Y

**SOLAR PANELS LAYOUT**

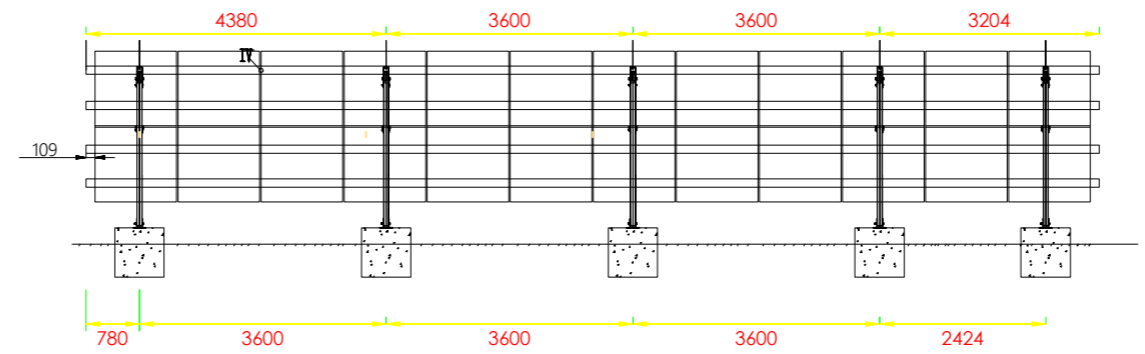
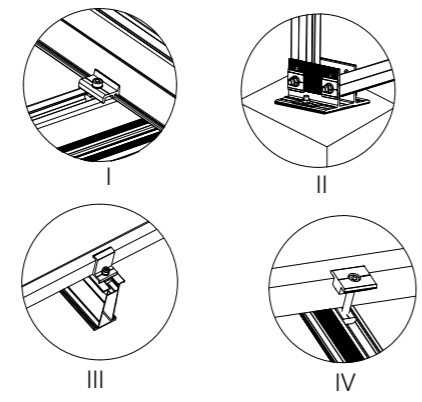


Mass concrete C15

ELEVATION Y-Y



Dimension of support beam installation



ELEVATION M-M

AMENDMENTS		
No	Date	Revision
1	10.4.2023	Draft Design

**NOTES**

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- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/1.0.1

**LEGEND**

CO-FINANCE BY:

CLIENT  
**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

In Joint Venture with

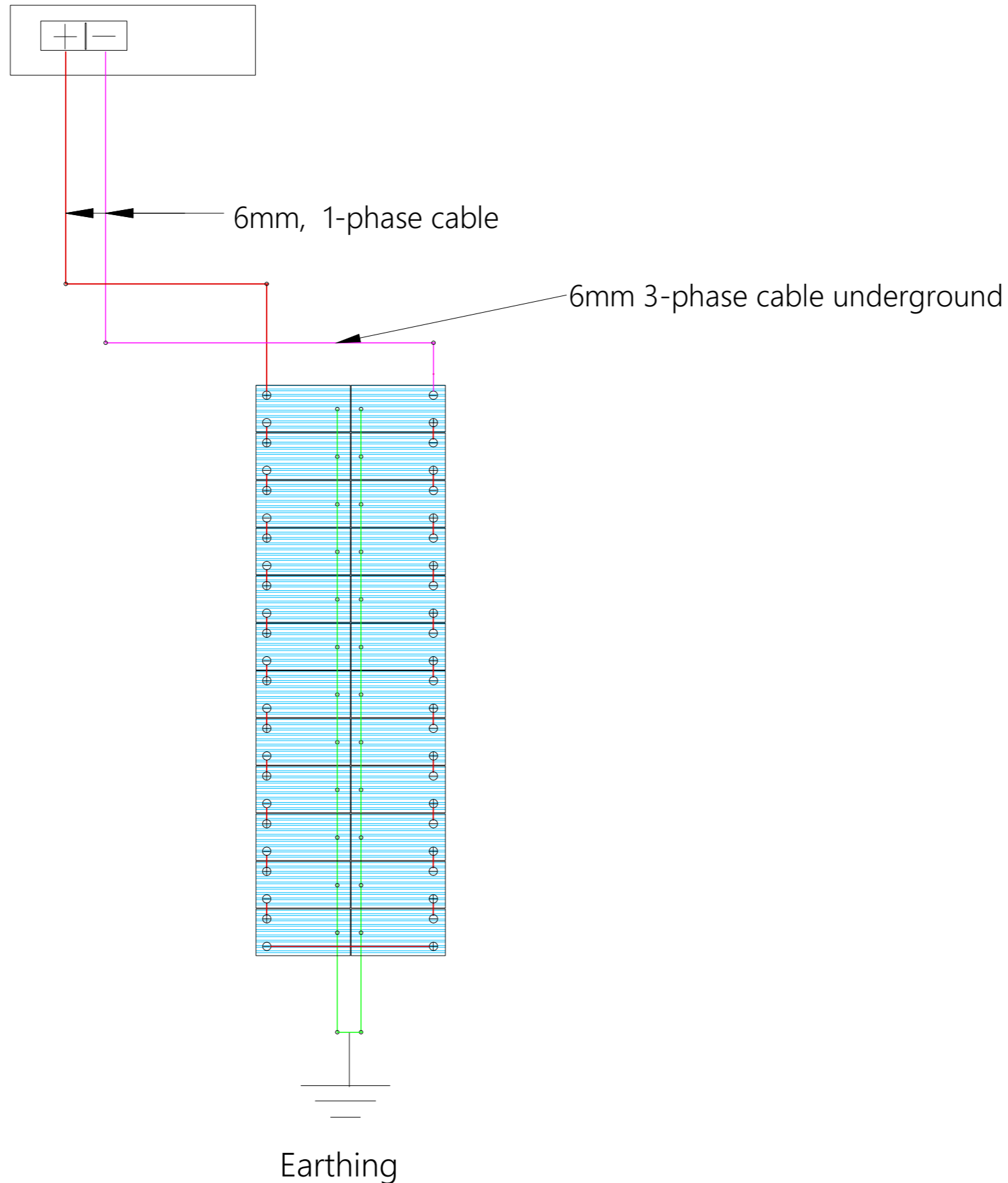
Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**DWD- BH 2 SOLAR PANEL ARRAY LAYOUT, ELEVATION AND DETAILS**

Scale:	Designed:	O.R.D
Date:	Drawn:	P.S.E
Sep-2023	Checked:	O.R.D
	Approved:	O.R.D
ENGINEERING DESIGN DRAWING		
Drg No: MWE/GWE/1.9.1   Cad file No: #####		

### Controller

1 set 1-phase cable Well Probe V2, 2x PV Disconnect  
 1000-40-5, PV Combiner 1000-125-4, PV Protect 1000-125,  
 SmartPSUk2-40, SmartStart, Surge Protector2



SOLAR ARRAY ELECTRICAL LAYOUT

AMENDMENTS		
No	Date	Revision
1	10.4.2023	Draft Design

**NOTES**

1. All dimensions are in metres unless stated otherwise.
2. All levels are in metres above sea level.
3. For Site location see Dwg. MWE/GWE/1.0.1

**LEGEND**

CO-FINANCE BY:

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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 Website: www.mwe.go.ug

**PROJECT**

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

In Joint Venture with

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**

DWD- BH 2 SOLAR PANEL ARRAY  
 ELECTRICAL LAYOUT

<b>Scale:</b>	<b>Designed:</b>	O.R.D
	<b>Drawn:</b>	P.S.E
<b>Date:</b> Sep-2023	<b>Checked:</b>	O.R.D
	<b>Approved:</b>	O.R.D

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/1.9.2 | Cad file No: #####


AMENDMENTS		
No	Date	Revision
1	10.4.2023	Draft Design

**NOTES**

- All dimensions are in metres unless stated otherwise.
- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/1.0.1

**LEGEND**

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE WATER SUPPLY AND SANITATION SYSTEM**

Consultant:



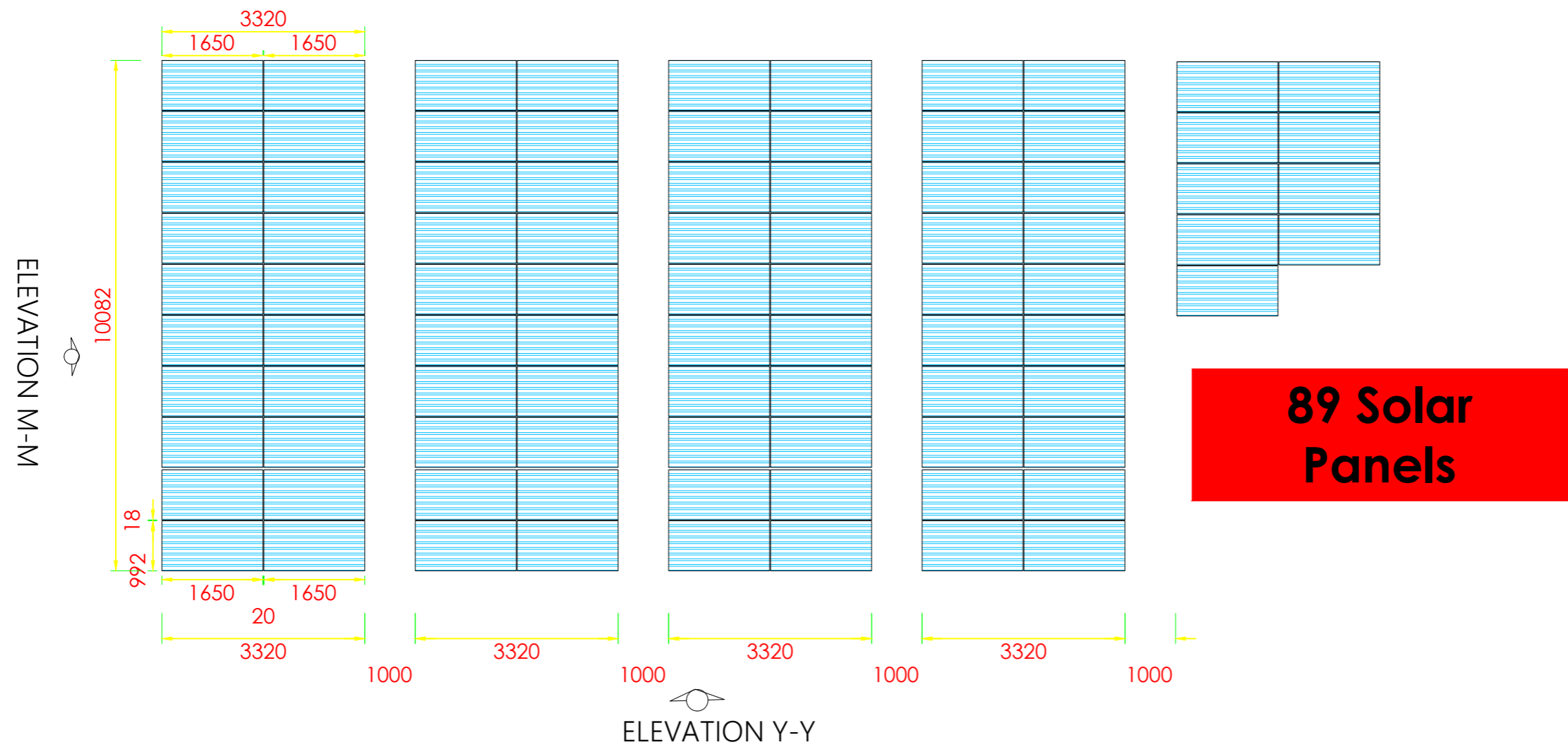
**SARI CONSULTING LTD** In Joint Venture with **SGAPI**

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

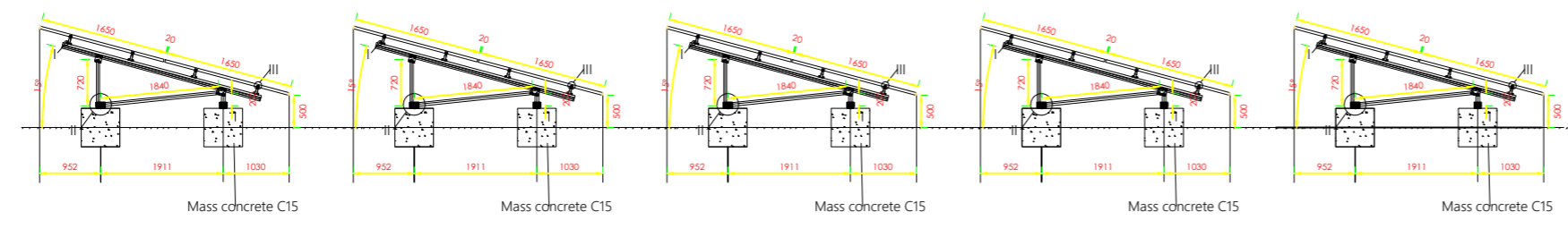
Drawing Title:

**DWD-89709 SOLAR PANEL ARRAY LAYOUT, ELEVATION AND DETAILS**

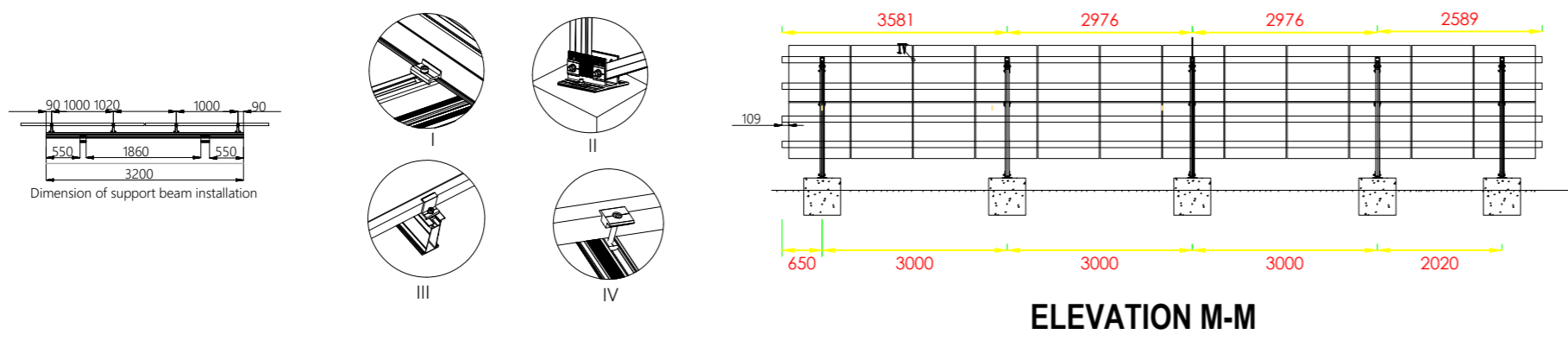
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Date:	Drawn:	P.S.E
Sep-2023	Checked:	O.R.D
	Approved:	O.R.D
ENGINEERING DESIGN DRAWING		
Drg No: MWE/GWE/1.9.3	Cad file No: #####	



**SOLAR PANELS LAYOUT**

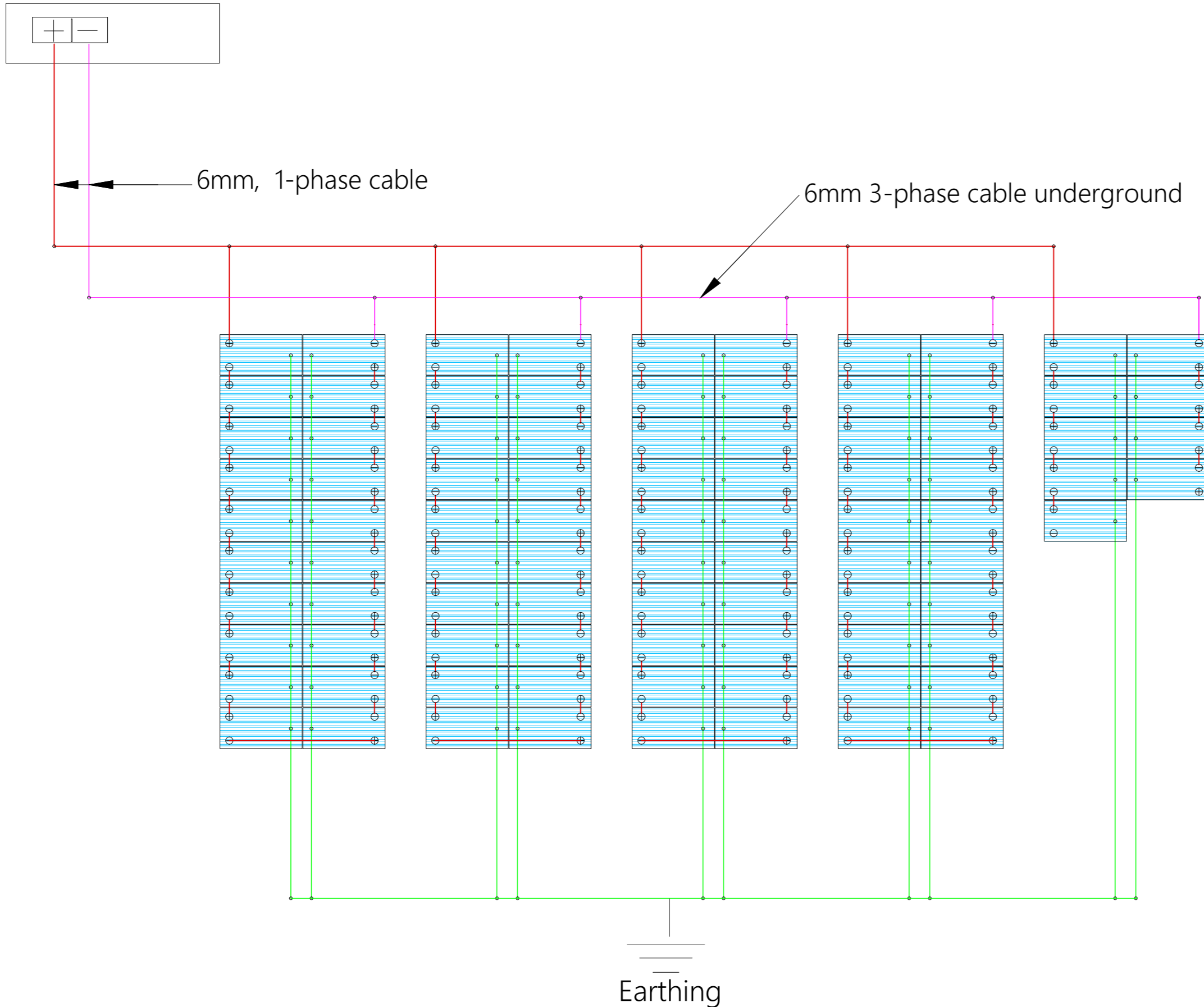


**ELEVATION Y-Y**



# Controller

1 set 1-phase cable Well Probe V2, 2x PV Disconnect  
 1000-40-5, PV Combiner 1000-125-4, PV Protect 1000-125,  
 SmartPSUk2-40, SmartStart, Surge Protector2



SOLAR ARRAY ELECTRICAL LAYOUT

AMENDMENTS		
No	Date	Revision
1	10.4.2023	Draft Design

**NOTES**

1. All dimensions are in metres unless stated otherwise.
2. All levels are in metres above sea level.
3. For Site location see Dwg. MWE/GWE/1.0.1

**LEGEND**

CO-FINANCE BY:

CLIENT  
**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

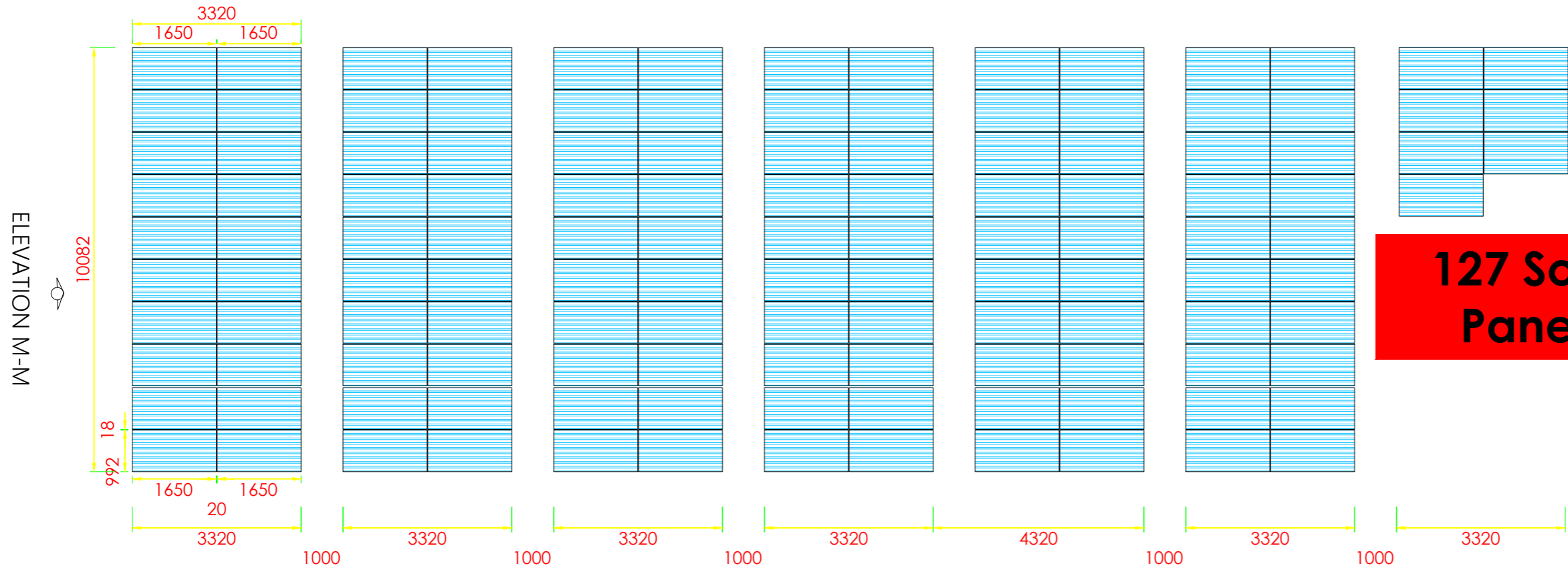
**CONSTRUCTION OF GWERE WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD** In Joint Venture with **SGAPI**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
 DWD- 89709 SOLAR PANEL ARRAY  
 ELECTRICAL LAYOUT

Scale:	Designed:	O.R.D
	Drawn:	P.S.E
Date: Sep-2023	Checked:	O.R.D
	Approved:	O.R.D
ENGINEERING DESIGN DRAWING		
Drg No: MWE/GWE/1.9.4		Cad file No: #####

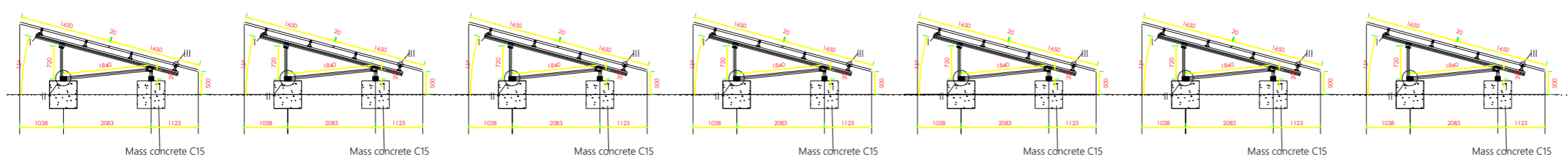


ELEVATION M-M

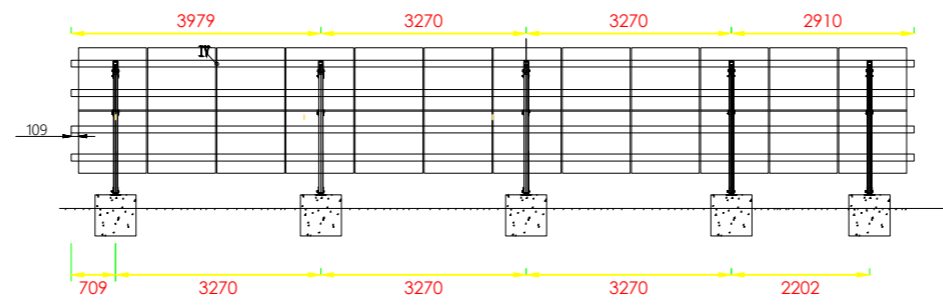
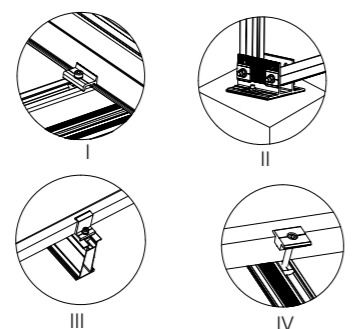
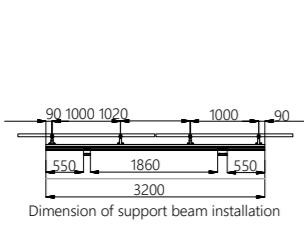
**127 Solar Panels**

ELEVATION Y-Y

**SOLAR PANELS LAYOUT**



ELEVATION Y-Y



ELEVATION M-M

AMENDMENTS		
No	Date	Revision
1	10.4.2023	Draft Design

**NOTES**

- All dimensions are in metres unless stated otherwise.
- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/1.0.1

**LEGEND**

CO-FINANCE BY:

CLIENT  
**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
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 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD** In Joint Venture with **SGAPI**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**WTP SOLAR PANEL ARRAY LAYOUT, ELEVATION AND DETAILS**

Scale:	Designed:	O.R.D
Date:	Drawn:	P.S.E
Sep-2023	Checked:	O.R.D
	Approved:	O.R.D
ENGINEERING DESIGN DRAWING		
Drg No: MWE/GWE/1.9.5	Cad file No: #####	

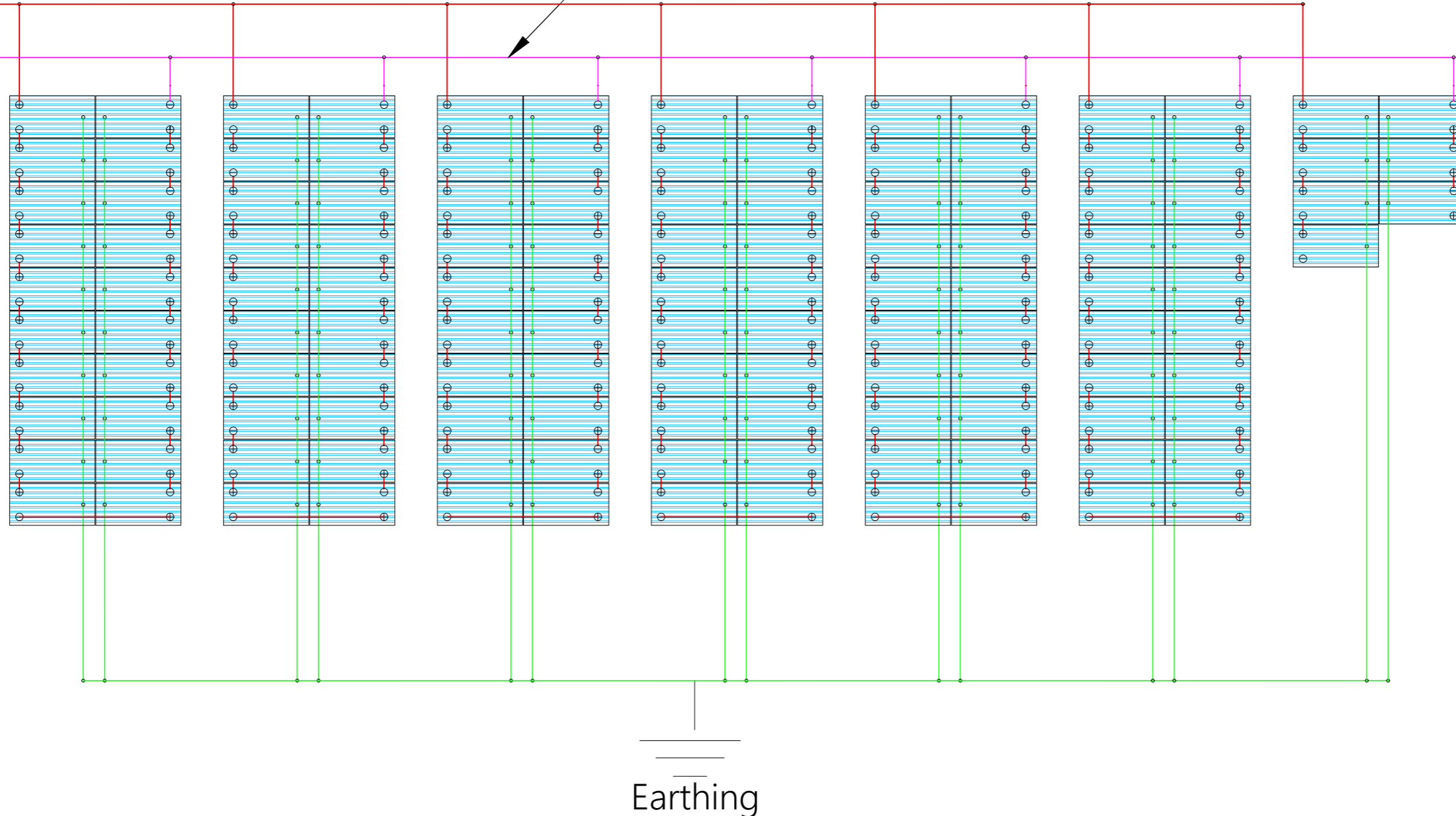
**Controller**

1 set 1-phase cable Well Probe V2, 2x PV Disconnect  
 1000-40-5, PV Combiner 1000-125-4, PV Protect 1000-125,  
 SmartPSUk2-40, SmartStart, Surge Protector2



6mm, 1-phase cable

6mm 3-phase cable underground



**SOLAR ARRAY ELECTRICAL LAYOUT**

AMENDMENTS		
No	Date	Revision
1	10.4.2023	Draft Design

**NOTES**

1. All dimensions are in metres unless stated otherwise.
2. All levels are in metres above sea level.
3. For Site location see Dwg. MWE/GWE/1.0.1

**LEGEND**

CO-FINANCE BY:

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD** In Joint Venture with **SGAPI**

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

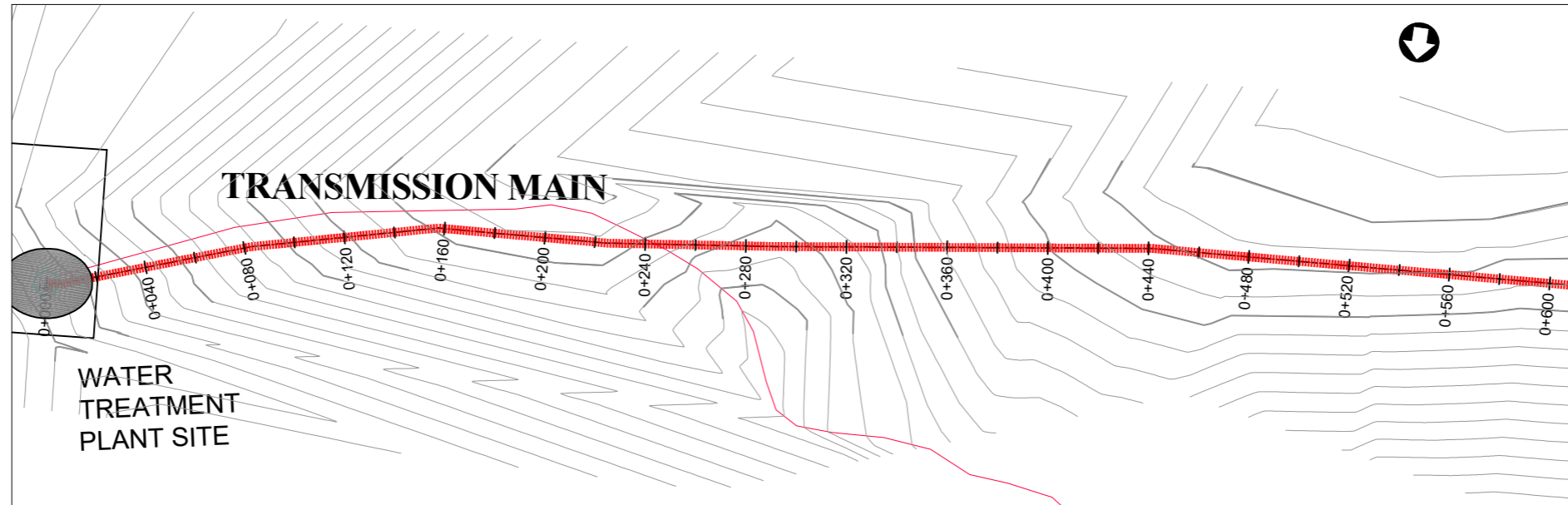
**WTP SOLAR PANEL ARRAY ELECTRICAL LAYOUT**

Scale:	Designed:	O.R.D
	Drawn:	P.S.E
Date: Sep-2023	Checked:	O.R.D
	Approved:	O.R.D
ENGINEERING DESIGN DRAWING		
Drg No: MWE/GWE/1.9.6	Cad file No: #####	

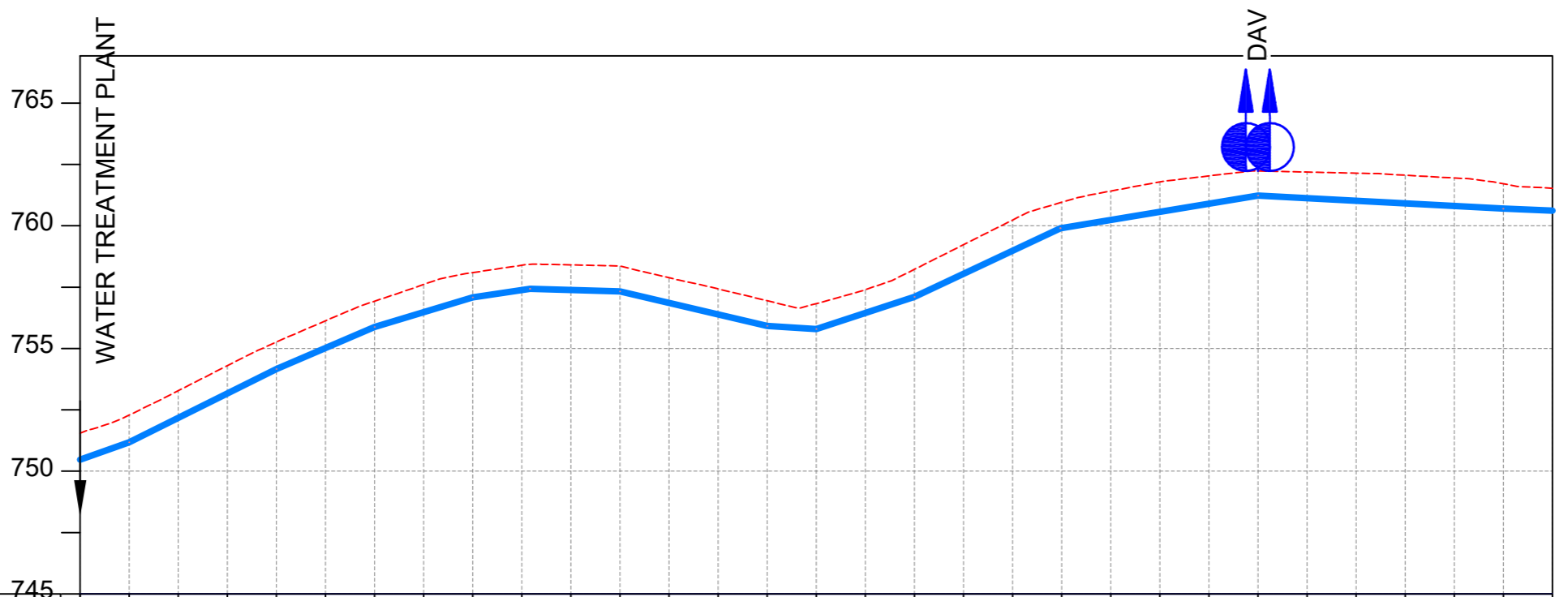
# **TRANSMISSION MAIN**

## **(Plan and Profile)**





**PLAN LAYOUT**



CHAINAGE	0+000	0+040	0+080	0+120	0+160	0+200	0+240	0+280	0+320	0+360	0+400	0+440	0+480	0+520	0+560	0+600																
GROUND LEVEL	751.548	752.288	753.283	754.301	755.265	756.129	756.930	757.610	758.095	758.393	758.409	758.359	757.884	757.431	756.946	756.831	757.399	758.227	759.231	760.236	760.959	761.417	761.791	762.034	762.236	762.192	762.148	762.065	761.952	761.717	761.534	761.534
PIPE DETAILS	<b>DN150 STEEL PN10</b>																															
INVERT LEVEL (m)	750.468	751.178	752.174	753.170	754.167	755.021	755.876	756.480	757.084	757.382	757.386	757.331	756.860	756.388	755.917	755.793	756.450	757.107	758.047	758.986	759.911	760.242	760.573	760.904	761.235	761.128	761.021	760.914	760.807	760.699	760.619	760.619

**LONGITUDINAL PROFILE**

**AMENDMENTS**

No	Date	Revision
1	7.29.2023	Draft Design

**NOTES**

- All dimensions are in metres unless stated otherwise.
- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/0.0.0
- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washouts are identified by marker post in positions.
- For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:

**THE WORLD BANK** AND

GOVERNMENT OF UGANDA

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI**  
CONSULTING LTD

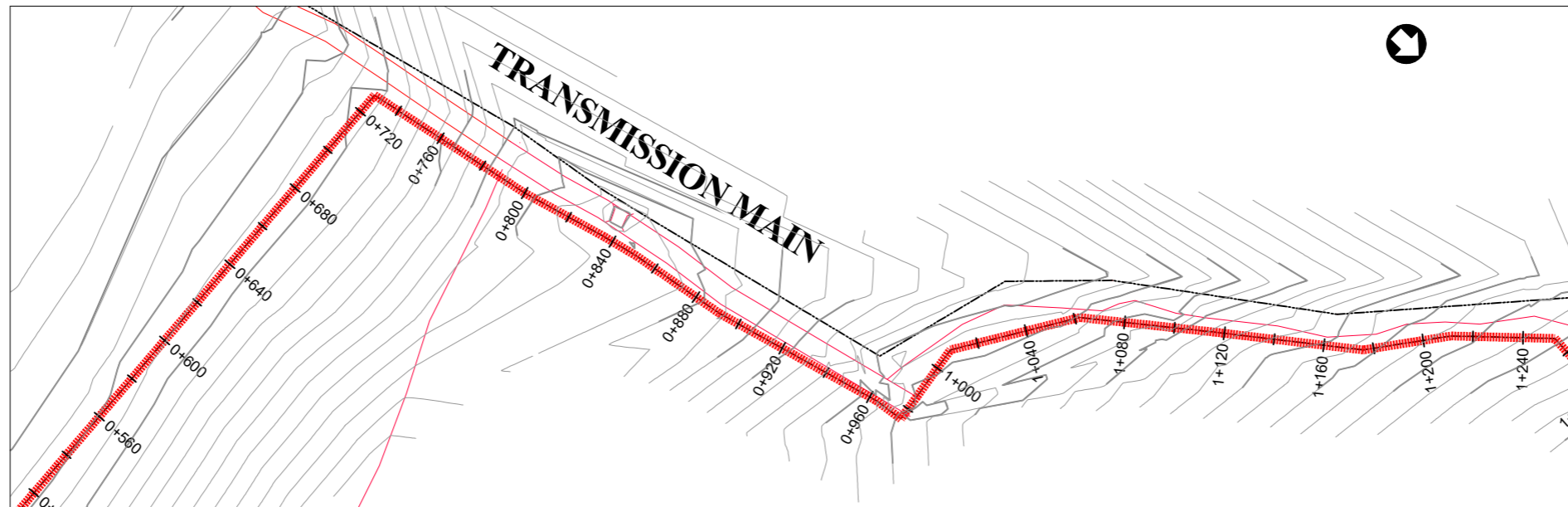
Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

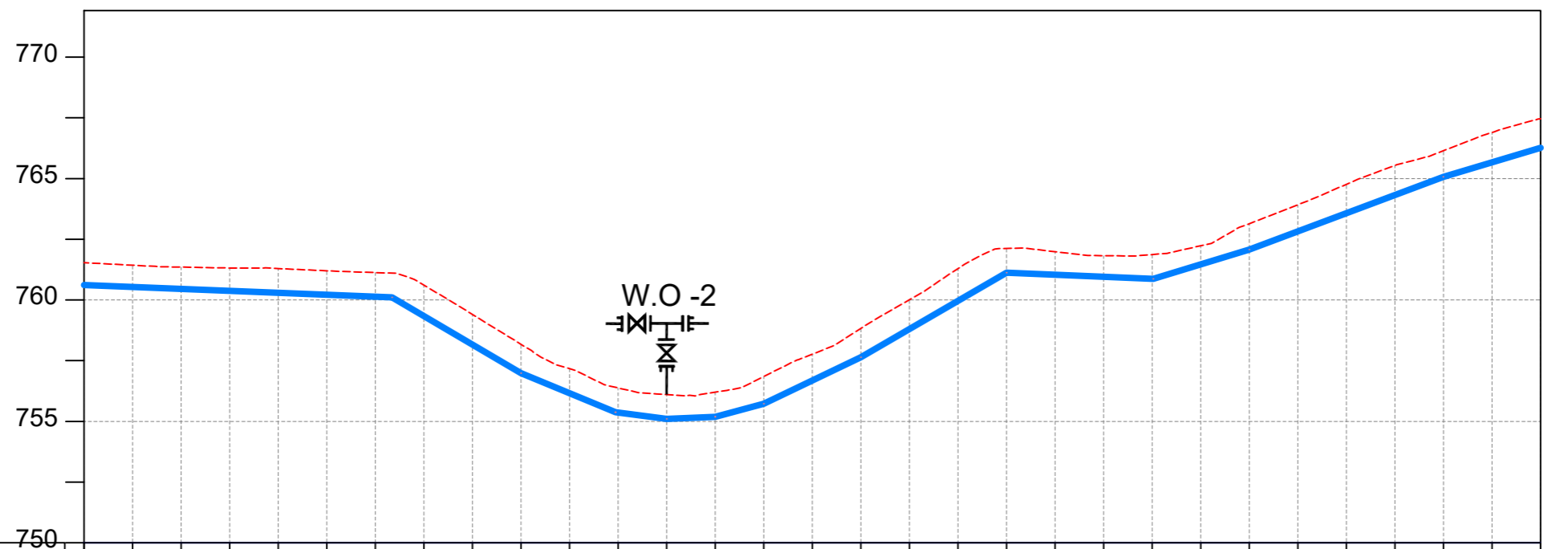
**TRANSMISSION MAIN**  
 Transmission Mains (CH 0+000.00 - 0+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920		0+960		1+000		1+040		1+080		1+120		1+160		1+200	
GROUND LEVEL	761.534	761.431	761.354	761.317	761.294	761.201	761.129	760.611	759.404	758.174	757.171	756.377	756.102	756.202	756.847	757.767	758.826	760.008	761.290	762.123	761.988	761.825	761.870	762.233	763.136	763.920	764.763	765.541	766.145	766.895		
PIPE DETAILS	←————— DN150 STEEL PN10 —————→																															
INVERT LEVEL (m)	760.619	760.538	760.457	760.377	760.296	760.215	760.134	759.335	758.162	756.988	756.159	755.362	755.101	755.190	755.729	756.685	757.642	758.802	759.962	761.122	761.039	760.956	760.872	761.465	762.073	762.823	763.572	764.322	765.072	765.671		

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.29.2023	Draft Design

NOTES

- All dimensions are in metres unless stated otherwise.
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- For Site location see Dwg. MWE/GWE/0.0.0
- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washouts locations are identified by marker post in positions.
- For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

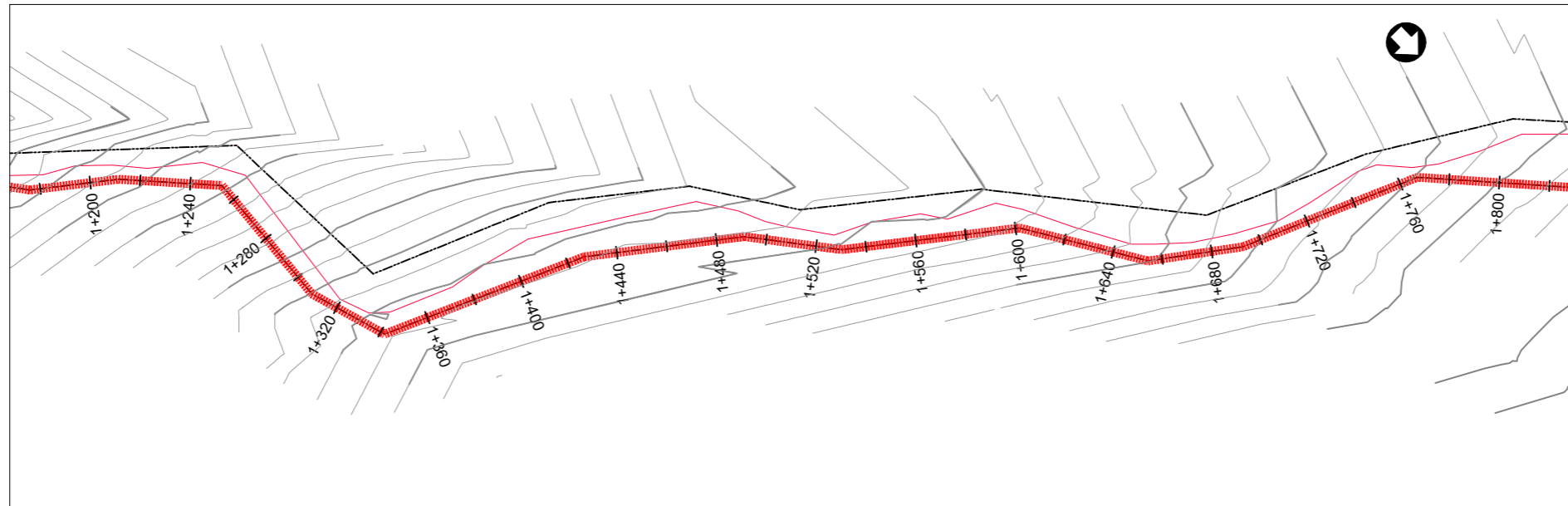
Drawing Title:

**TRANSMISSION MAIN**  
 Transmission Mains (CH 0+600.00 - 1+200.00)

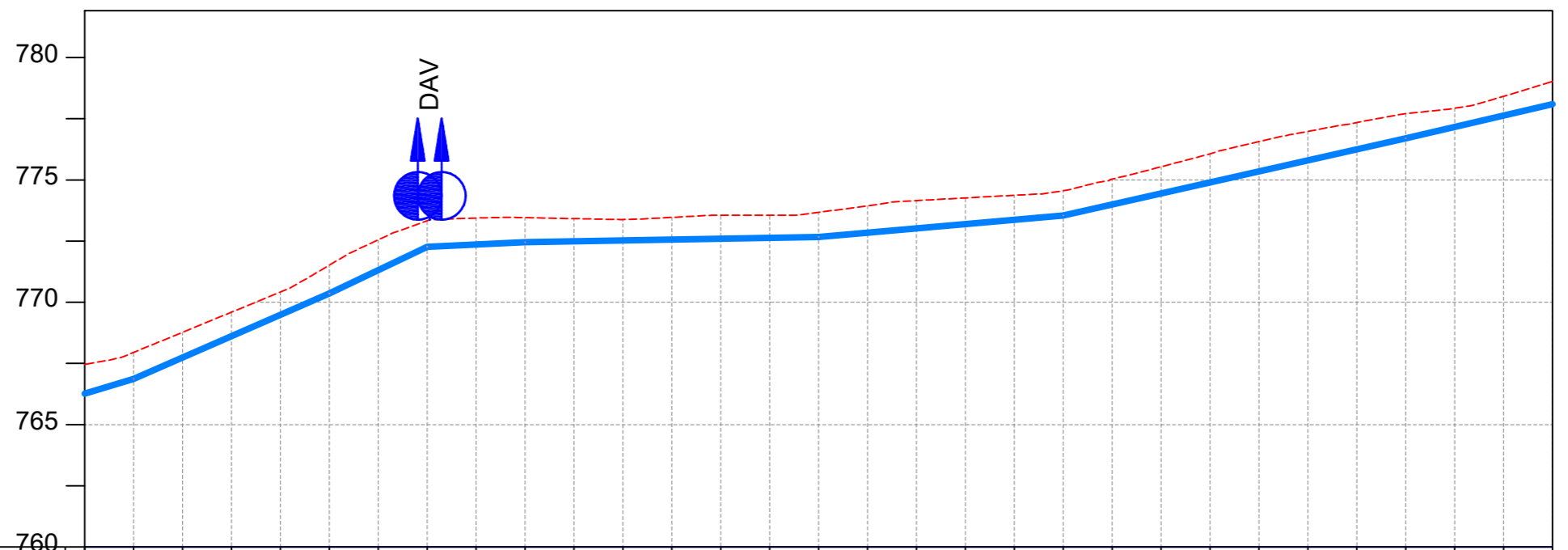
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/2.1.2 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	1+200		1+240		1+280		1+320		1+360		1+400		1+440		1+480		1+520		1+560		1+600		1+640		1+680		1+720		1+760		1+800	
GROUND LEVEL	767.466	767.950	768.773	769.596	770.419	771.517	772.554	773.333	773.443	773.460	773.420	773.383	773.470	773.558	773.559	773.674	773.944	774.155	774.265	774.373	774.558	775.036	775.538	776.066	776.569	776.984	777.344	777.712	777.932	778.416	779.029	
PIPE DETAILS	←————— DN150 STEEL PN10 —————→																															
INVERT LEVEL (m)	766.270	766.868	767.741	768.613	769.485	770.357	771.314	772.271	772.365	772.460	772.494	772.528	772.562	772.597	772.631	772.665	772.841	773.018	773.194	773.370	773.547	773.997	774.447	774.897	775.348	775.798	776.248	776.698	777.166	777.633	778.100	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.29.2023	Draft Design

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LEGEND

- Transmission Mains
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- Building/House
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- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

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Consultant:

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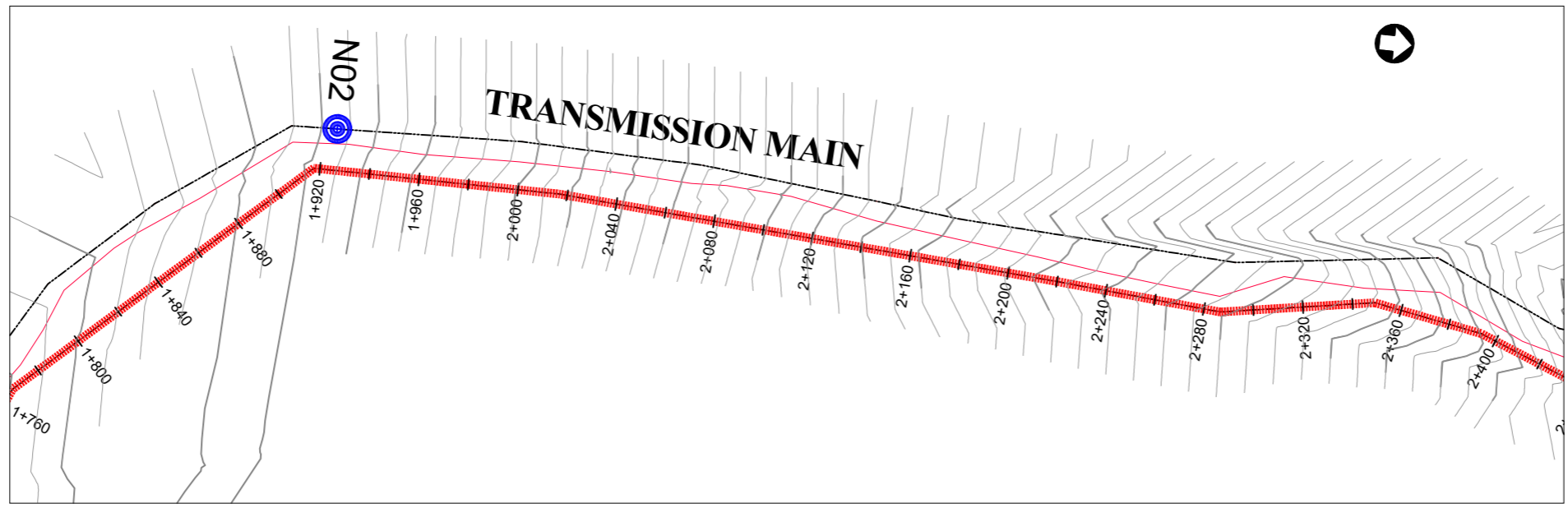
Drawing Title:

**TRANSMISSION MAIN**  
 Transmission Mains (CH 1+200.00 - 1+800.00)

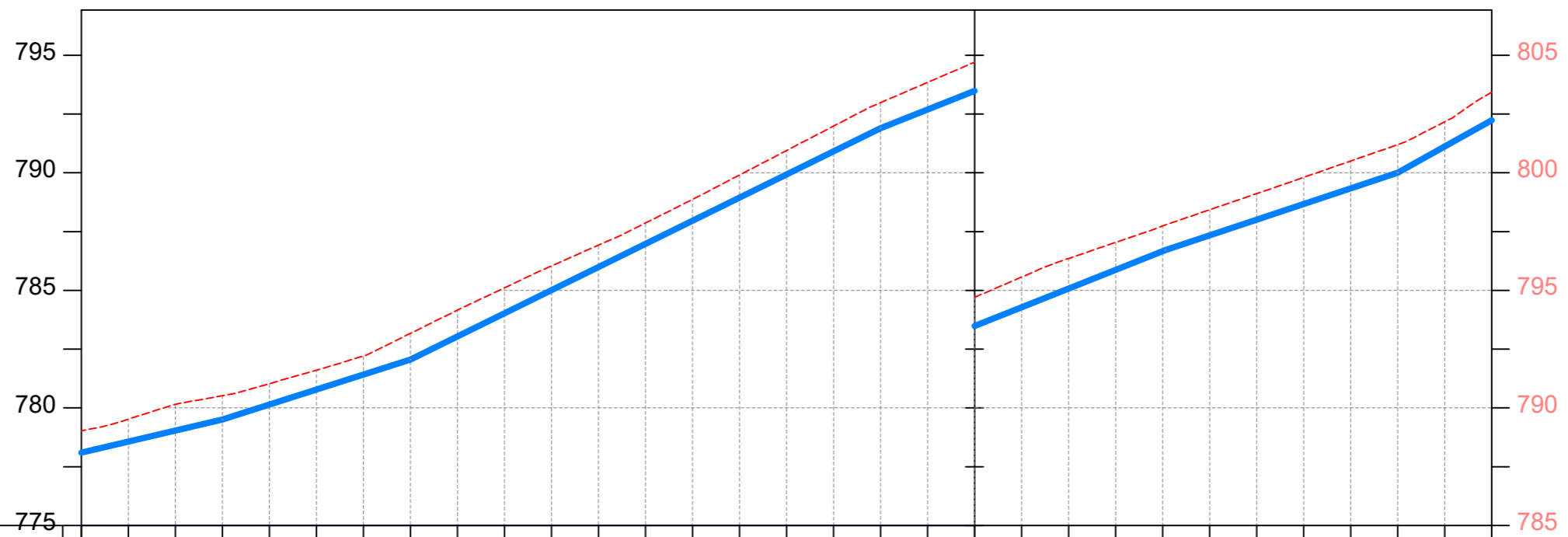
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/2.1.3 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	1+800		1+840		1+880		1+920		1+960		2+000		2+040		2+080		2+120		2+160		2+180		2+200		2+240		2+280		2+320		2+360		2+400
GROUND LEVEL	779.029	779.522	780.155	780.519	781.033	781.607	782.198	783.172	784.159	785.108	786.038	786.923	787.867	788.866	789.907	790.947	791.988	792.985	793.845	794.705	795.565	796.354	797.039	797.739	798.428	799.114	799.806	800.501	801.196	802.169	803.429	2+400	
PIPE DETAILS	← DN150 STEEL PN10 →																																
INVERT LEVEL (m)	778.100	778.568	779.035	779.503	780.141	780.779	781.417	782.055	783.039	784.023	785.007	785.992	786.976	787.960	788.944	789.928	790.912	791.897	792.692	793.487	794.282	795.078	795.873	796.668	797.341	798.006	798.670	799.335	800.000	801.118	802.236	2+400	

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
1	7.29.2023	Draft Design

- NOTES**
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**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:

**THE WORLD BANK** AND

GOVERNMENT OF UGANDA

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

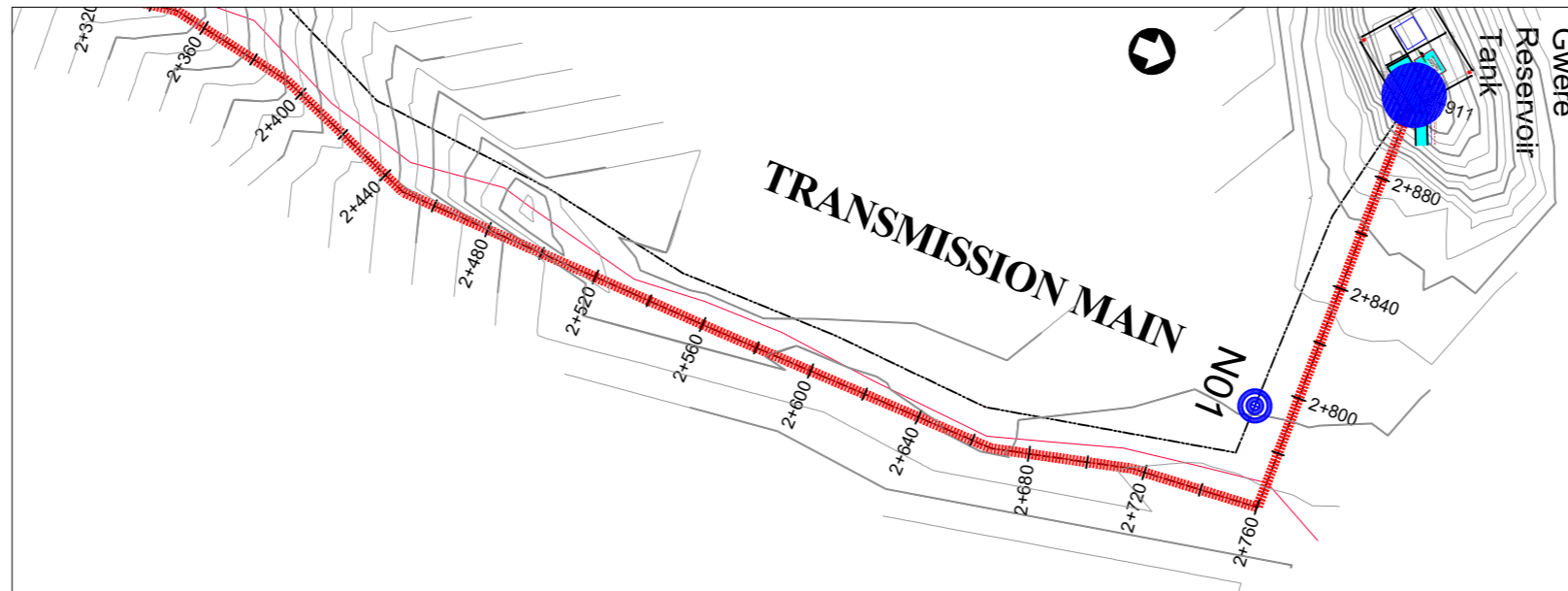
**SARI**  
CONSULTING LTD

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

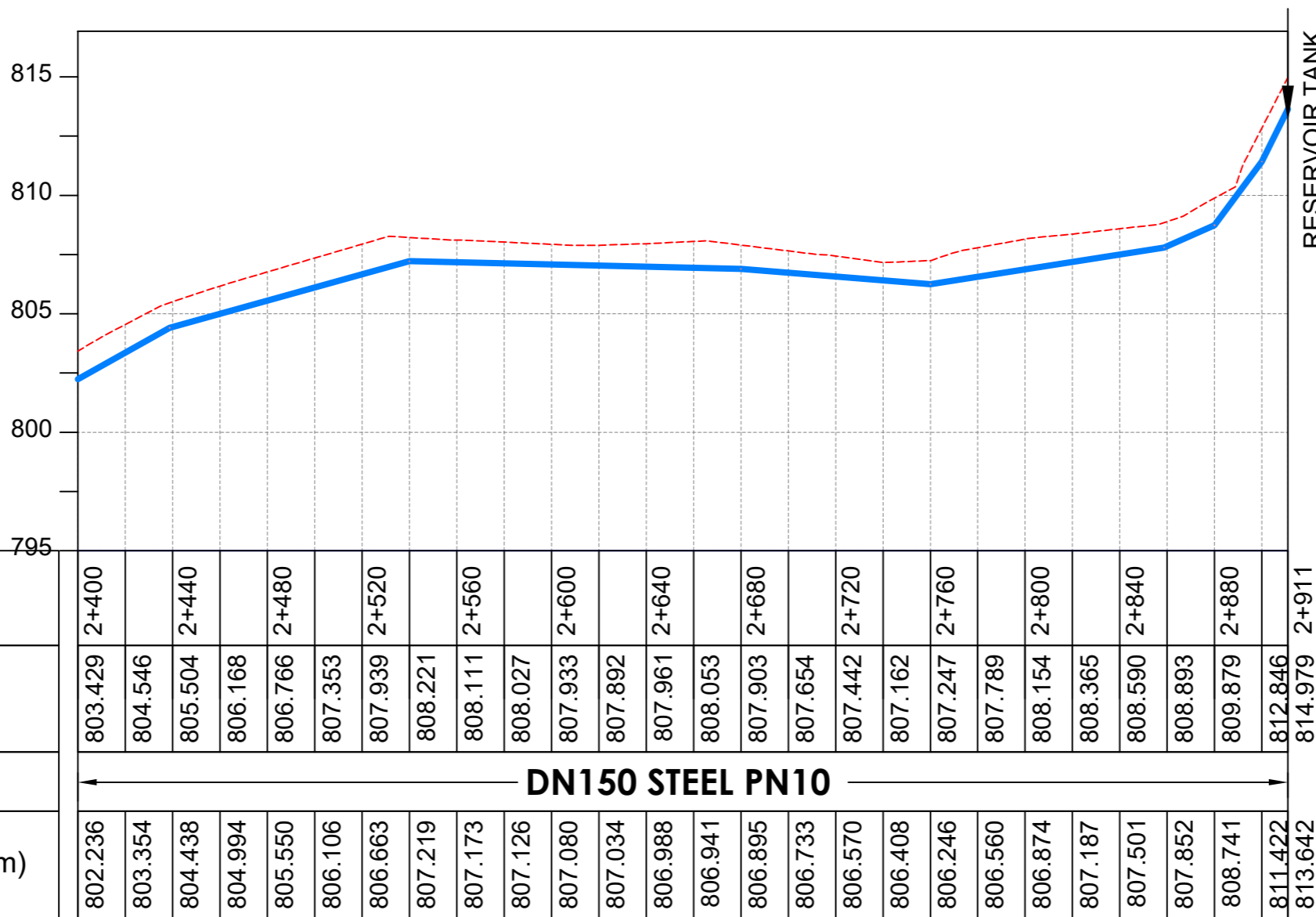
Drawing Title:

**TRANSMISSION MAIN**  
 Transmission Mains (CH 1+800.00 - 2+400.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



PLAN LAYOUT



LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.29.2023	Draft Design

NOTES

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LEGEND

- Transmission Mains
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- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:

CLIENT

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PROJECT

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

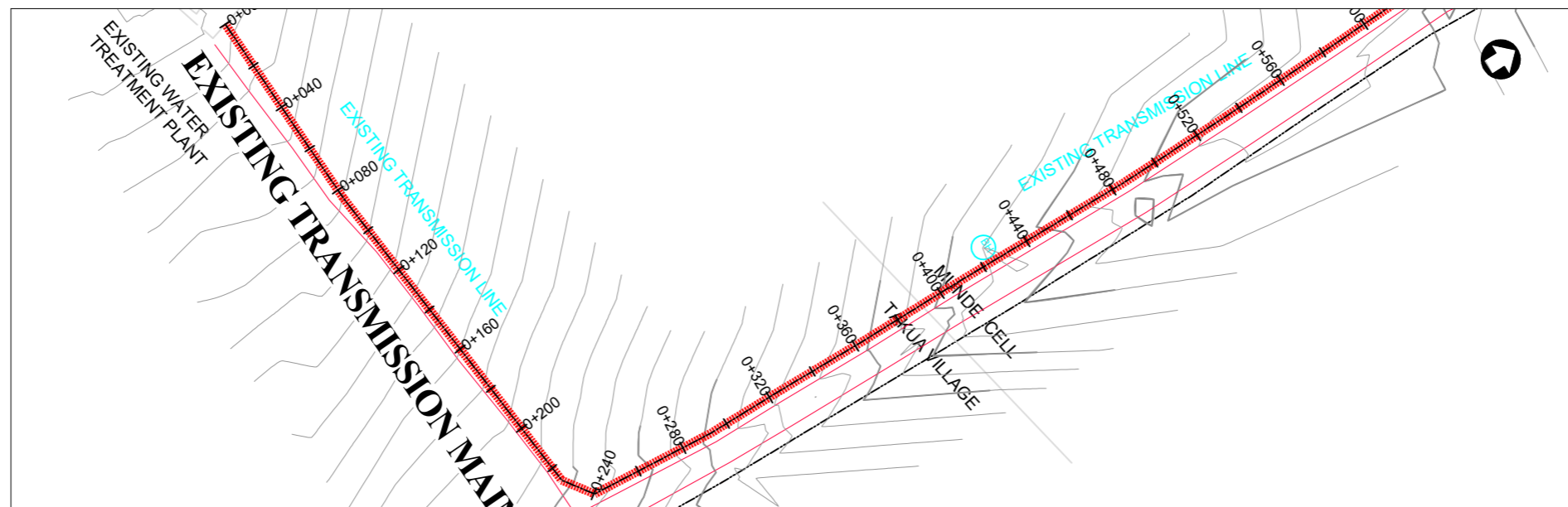
Drawing Title:

**TRANSMISSION MAIN**  
 Transmission Mains (CH 2+400.00 - 2+910.96)

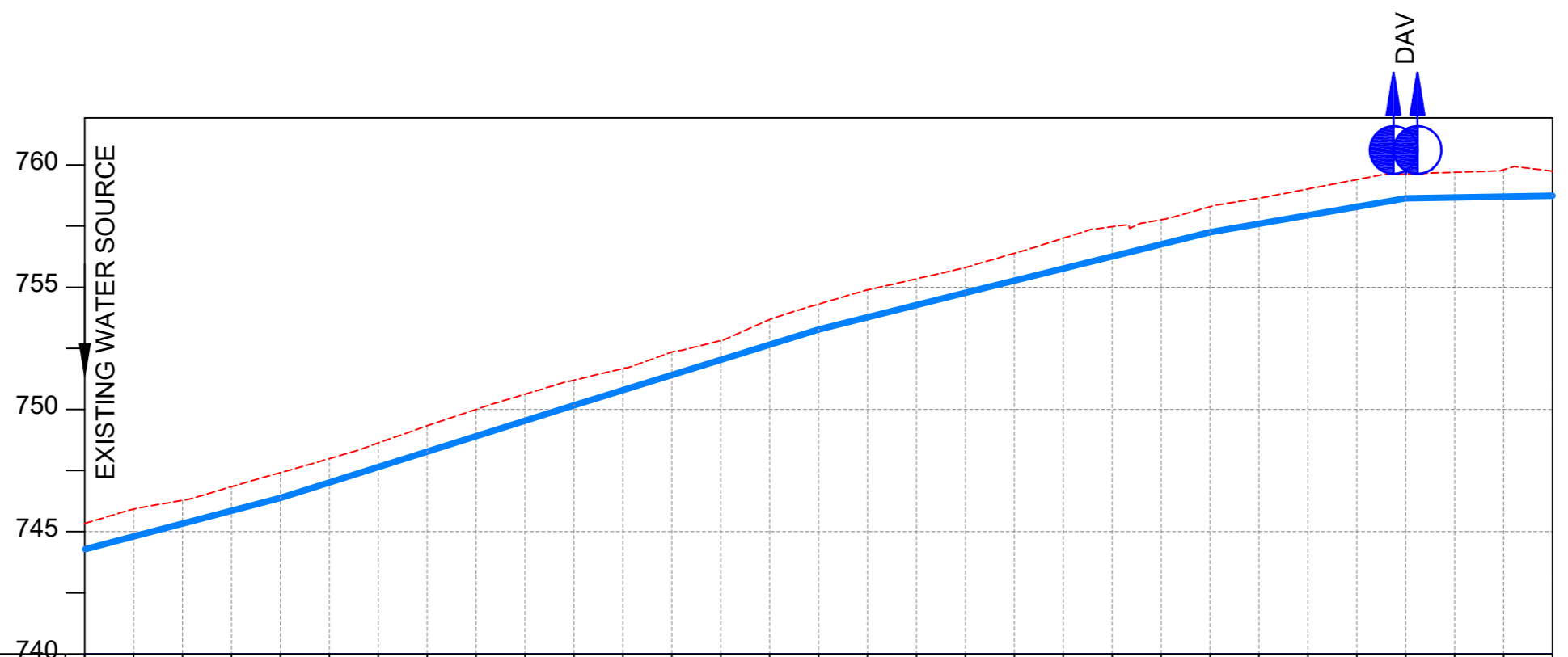
Scale:	Designed:	O.R Daniel
Vertical Scale: 1:250	Drawn:	P.S Eyamu
Horizontal Scale: 1:2500	Checked:	O.R Daniel
Date:	Approved:	O.R Daniel
Nov-2022		

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/2.1.5 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	745.334	745.923	746.283	746.839	747.414	747.987	748.626	749.331	750.002	750.624	751.198	751.677	752.351	752.814	753.678	754.308	754.885	755.343	755.804	756.388	757.003	757.475	757.757	758.289	758.641	759.020	759.403	759.636	759.701	759.807	759.752	0+600
PIPE DETAILS	← OD90 HDPE PN10 →																															
INVERT LEVEL (m)	744.805	745.329	745.853	746.377	747.009	747.640	748.272	748.904	749.537	750.170	750.789	751.408	752.027	752.647	753.266	753.769	754.272	754.775	755.271	755.766	756.261	756.756	757.252	757.597	757.943	758.289	758.635	758.672	758.708	758.745	0+600	

LONGITUDINAL PROFILE

AMENDMENTS

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1	7.29.2023	Draft Design

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LEGEND

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- Building/House
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- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:

**THE WORLD BANK** AND

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CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

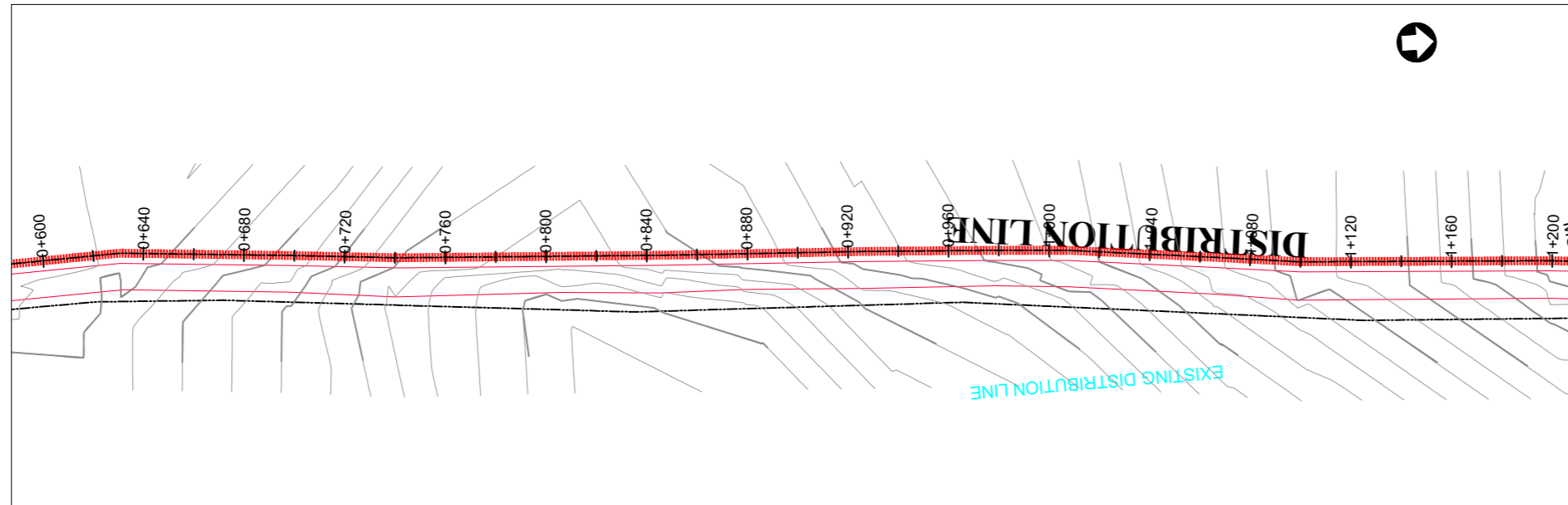
**SARI**  
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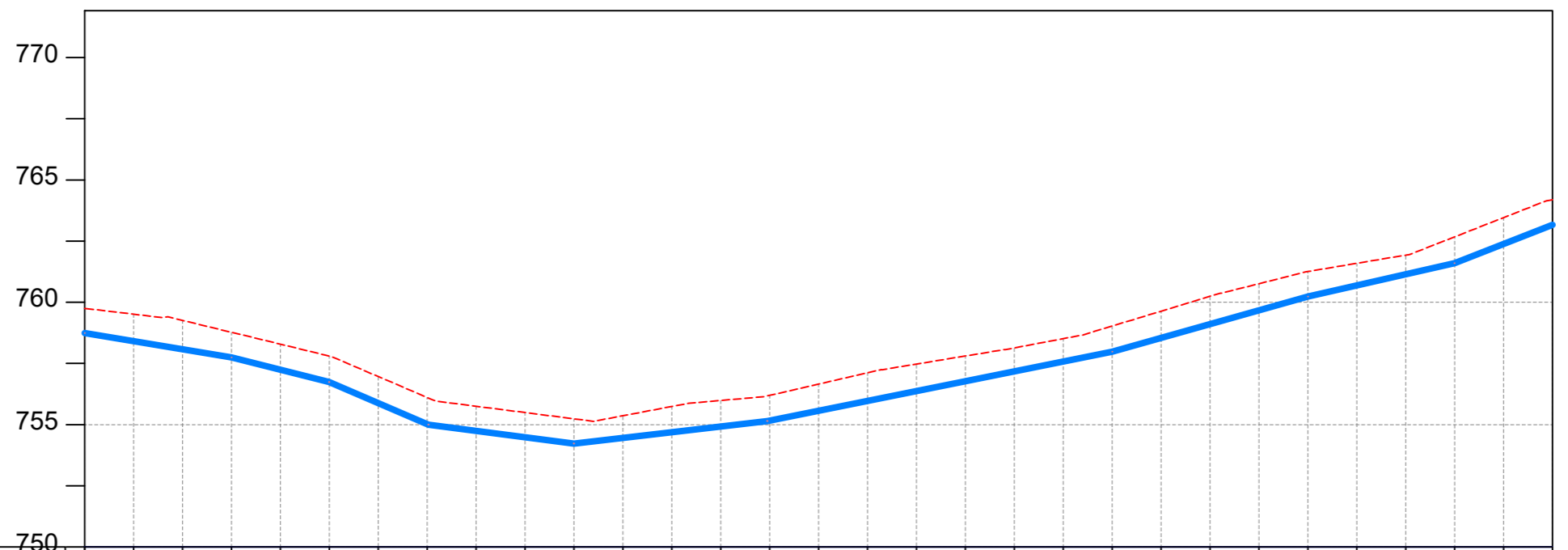
Drawing Title:

**TRANSMISSION MAIN 01**  
 Transmssion Main 01 (CH 0+000.00 - 0+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



PLAN LAYOUT



CHAINAGE	0+600	0+640	0+680	0+720	0+760	0+800	0+840	0+880	0+920	0+960	1+000	1+040	1+080	1+120	1+160	1+200														
GROUND LEVEL	759.752	759.513	759.258	758.773	758.287	757.802	756.964	756.109	755.750	755.493	755.236	755.363	755.740	755.986	756.196	756.657	757.118	757.474	757.804	758.133	758.512	759.028	759.635	760.243	760.758	761.256	761.592	761.928	762.673	763.458
PIPE DETAILS	← OD90 HDPE PN10 →																													
INVERT LEVEL (m)	758.745	758.411	758.078	757.744	757.239	756.732	755.878	755.024	754.747	754.488	754.228	754.460	754.693	754.926	755.167	755.569	755.971	756.374	756.776	757.178	757.581	757.983	758.545	759.108	759.670	760.233	760.688	761.143	761.598	762.384

LONGITUDINAL PROFILE

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CO-FINANCE BY:



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Consultant:

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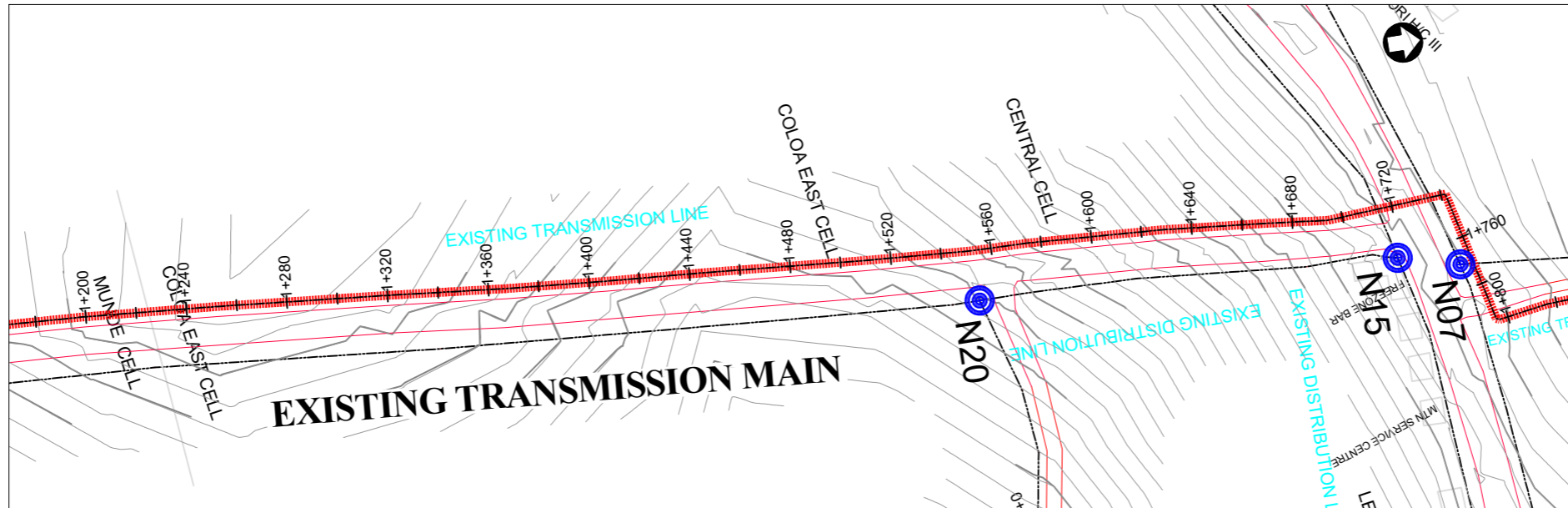
Drawing Title:

**TRANSMISSION MAIN 01**  
 Transmssion Main 01 (CH 0+600.00 - 1+200.00)

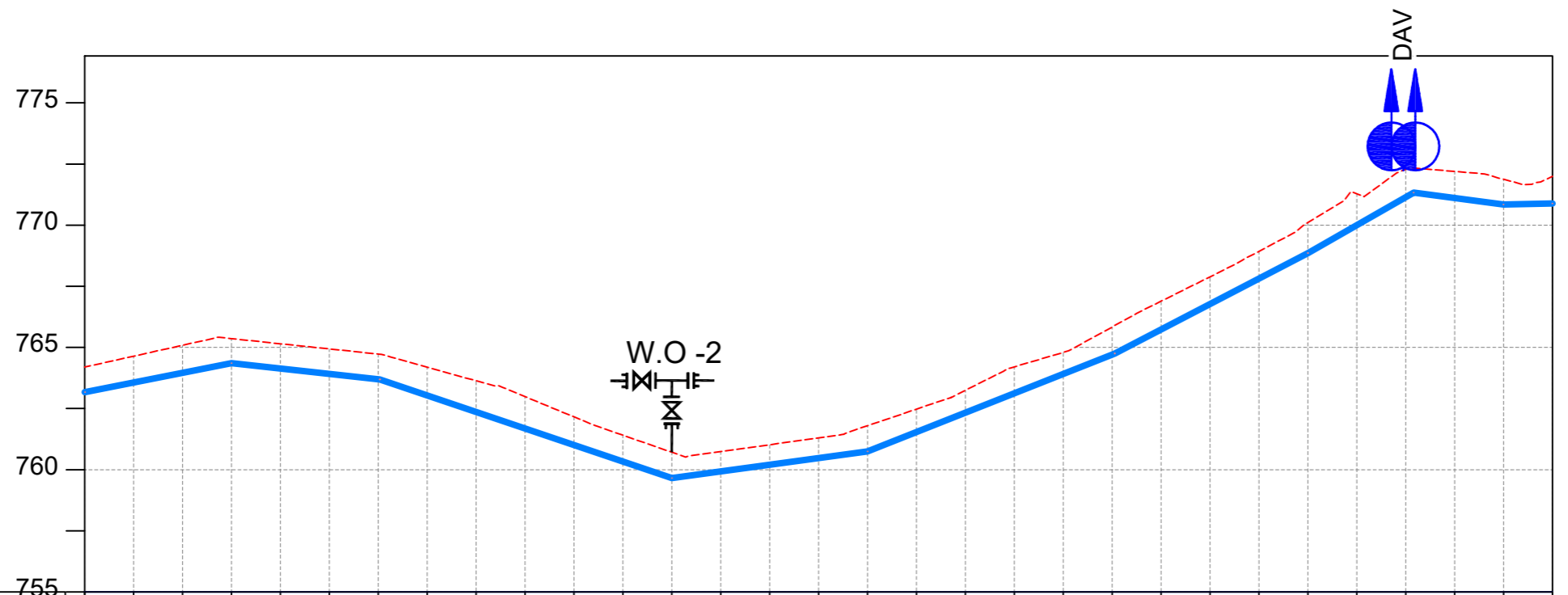
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
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	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/2.2.2 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	1+200		1+240		1+280		1+320		1+360		1+400		1+440		1+480		1+520		1+560		1+600		1+640		1+680		1+720		1+760		1+800	
GROUND LEVEL	764.196	764.643	765.089	765.361	765.150	764.940	764.729	764.194	763.636	762.988	762.163	761.410	760.713	760.742	761.021	761.300	761.800	762.475	763.245	764.206	764.794	765.835	766.888	767.886	768.929	770.101	771.290	772.278	772.198	771.877	772.000	
PIPE DETAILS	OD90 HDPE PN10																															
INVERT LEVEL (m)	763.170	763.566	763.961	764.355	764.137	763.920	763.702	763.040	762.363	761.686	761.009	760.332	759.654	759.927	760.200	760.472	760.745	761.538	762.331	763.124	763.917	764.710	765.738	766.779	767.819	768.860	770.003	771.146	771.110	770.844	770.890	

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- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

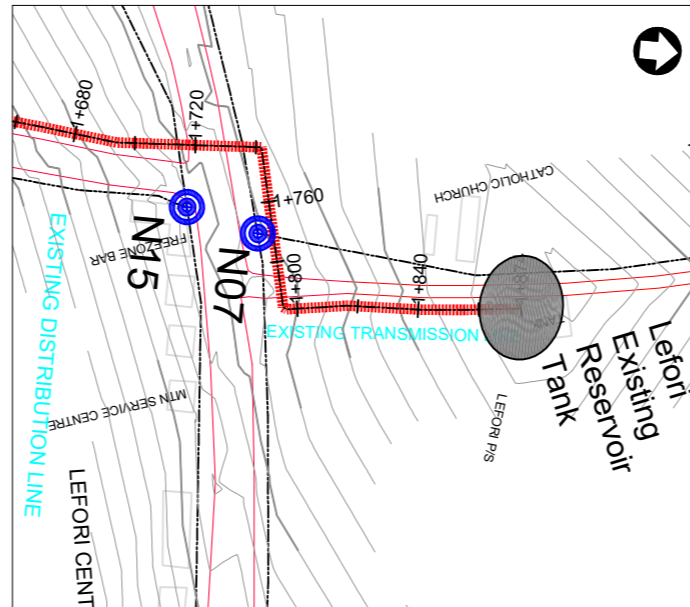
**TRANSMISSION MAIN 01**  
 Transmssion Main 01 (CH 1+200.00 - 1+800.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

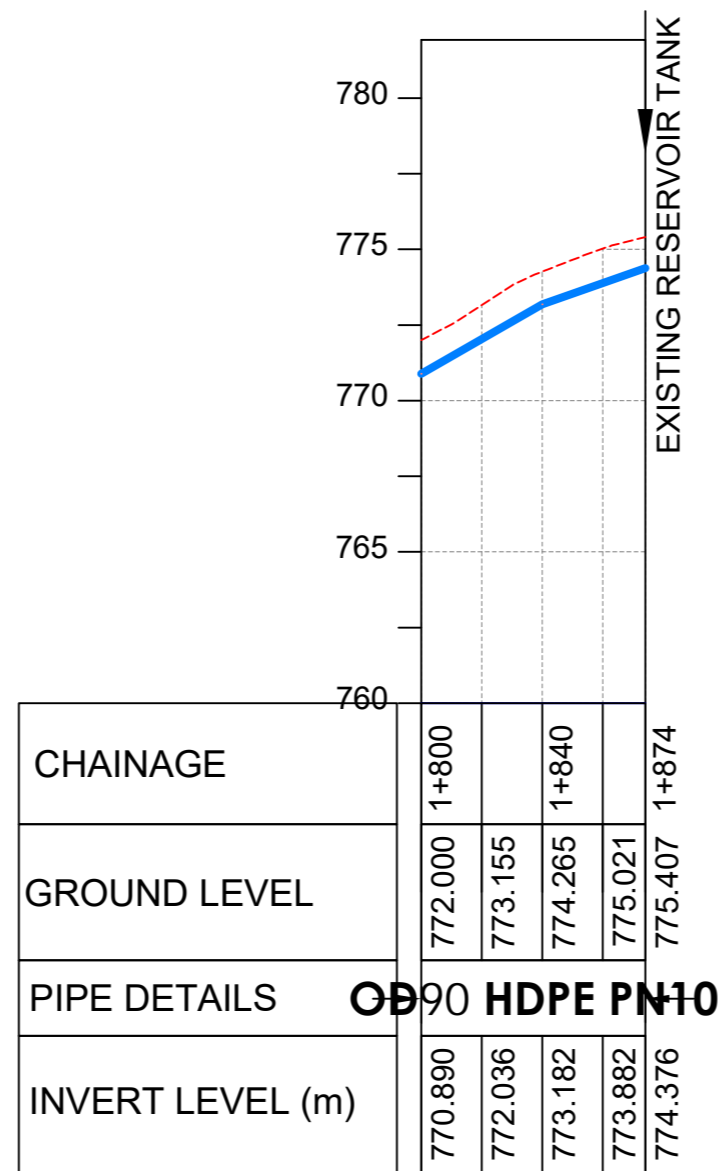
ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/2.2.3 Cad file No WSS<22\_11>





**PLAN LAYOUT**



**LONGITUDINAL PROFILE**

**AMENDMENTS**

No	Date	Revision
1	7.29.2023	Draft Design

**NOTES**

- All dimensions are in metres unless stated otherwise.
- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/0.0.0
- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washout locations are identified by marker post in positions.
- For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

**CO-FINANCE BY:**



**CLIENT**

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

**PROJECT**

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREKO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

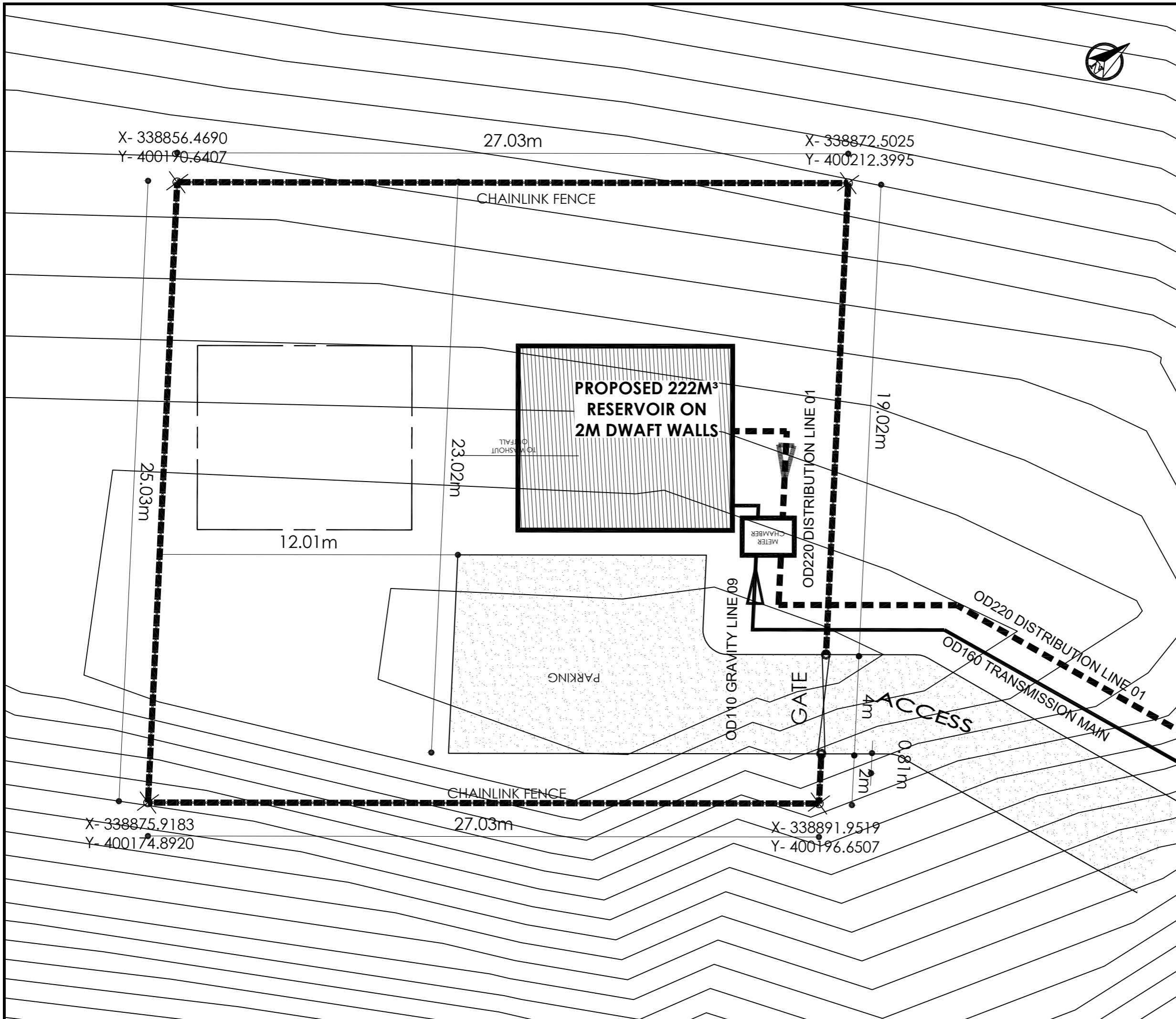
**Drawing Title:**

**TRANSMISSION MAIN 01**  
 Transmssion Main 01 (CH 1+800.00 - 1+874.10)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/2.2.4 | Cad file No WSS<22\_11>



AMENDMENTS		
No	Date	Revision
1	7.29.2023	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
  2. All levels are in metres above sea level.
  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

CO-FINANCE BY:

**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

**PROJECT**

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**

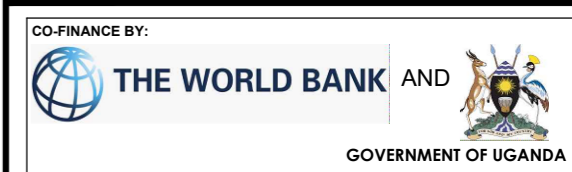
LEFORI RESERVOIR TANK\_222M3  
 Site Layout

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Nov-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/3.1.1 | Cad file No WSS<22\_11>

AMENDMENTS		
No	Date	Revision
1	4.8.2024	Draft Design

PIPE SCHEDULE
1. 1No.DN150 Vicking Johnson or Similar Coupling.
2. 1No.DN150 Pipe not exceeding 2.0m.
3. 1No.DN150 Flanged Adaptor, Maxi type or similar..
4. 1No.DN150 Flanged Gate Valve.
5. 1No.DN150 All Flanged Duck foot 90° bend..
6. 1No.DN150 Double Flanged Pipe not exceeding 6.0m.
7. 1No.DN150 All Flanged 90° bend.
8. 2No.DN150 Double Flanged Pipe not exceeding 0.5m.
9. 1No.DN150 Float Ball valve.
10. 1No.DN200 Flanged Outlet Pipe Strainer.
11. 2No.DN200 Double Flanged Pipe not exceeding 0.6m.
12. 1No.DN200 All Flanged 90° bend.
13. 1No.DN200 Double Flanged Pipe not exceeding 3.0m.
14. 1No.DN200 All Flanged Duck foot 90° bend.
15. 1No.DN200 Flanged Gate Valve.
16. 1No.DN200 Flanged Adaptor, Maxi type or similar.
17. 1No.DN200 Pipe not exceeding 2.0m.
18. 1No.DN200 Vicking Johnson or Similar Coupling..
19. 1No.DN200 Flanged Bell Mouth.
20. 1No.DN200 Double Flanged Pipe not exceeding 2.8m
21. 1No.DN200 Double Flanged Pipe not exceeding 2.0m.
22. 1No.DN200/100 All Flanged Tee.
23. 1No.DN200 Double Flanged Pipe not exceeding 1.0m.
24. 1No.DN200 All Flanged Duck foot 90° bend.
25. 1No.DN100 All Flanged Pipe with puddle flange n.e 2.0m.
26. 1No.DN100 All Flanged 90° bend.
27. 2No.DN100 Double Flanged Pipe not exceeding 0.4m.
28. 1No.DN100 Flanged Gate Valve.
29. 1No.DN200 Flanged Adaptor, Maxi type or similar.



**CLIENT**  
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 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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 Website: www.mwe.go.ug

**PROJECT**  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

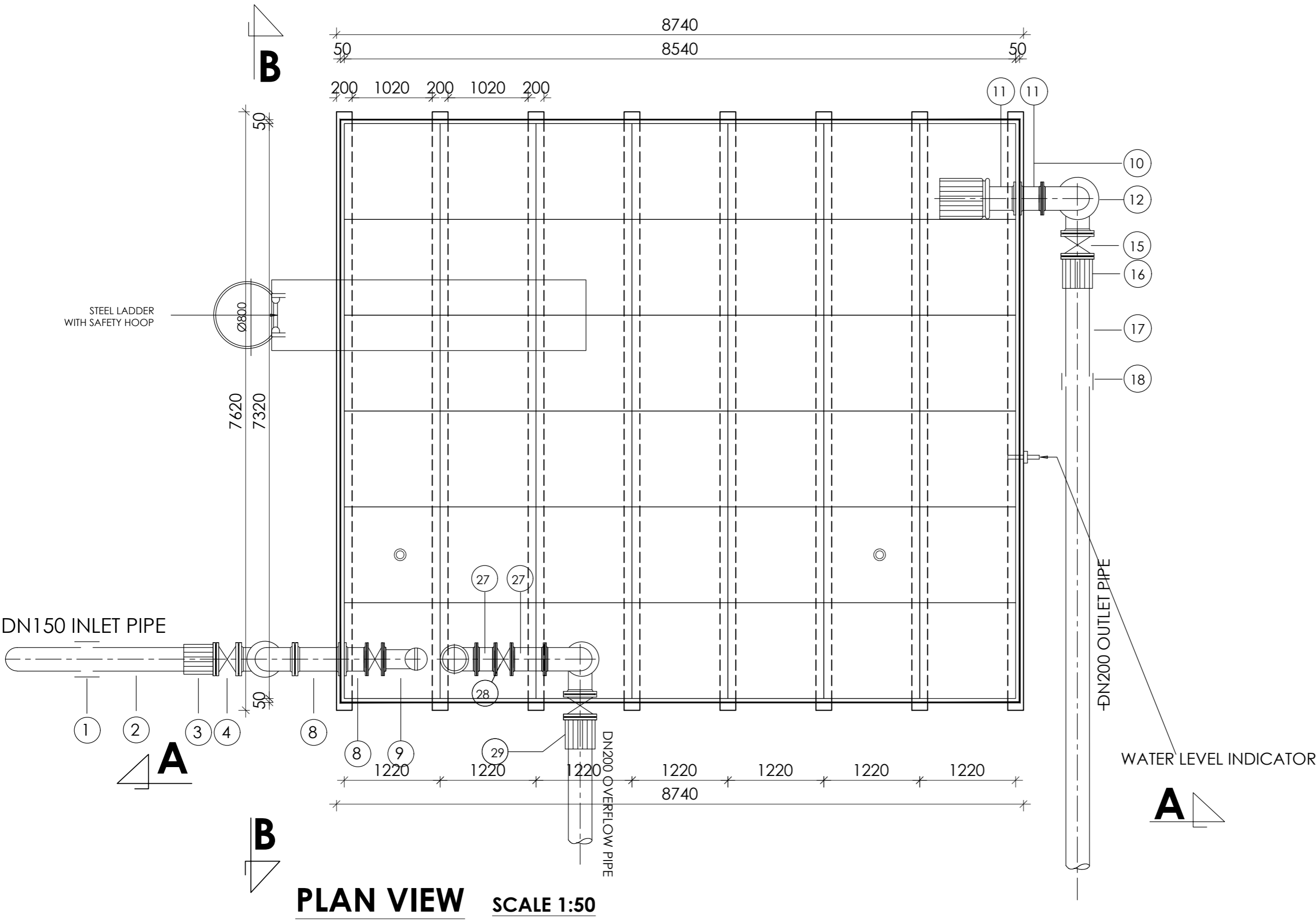
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

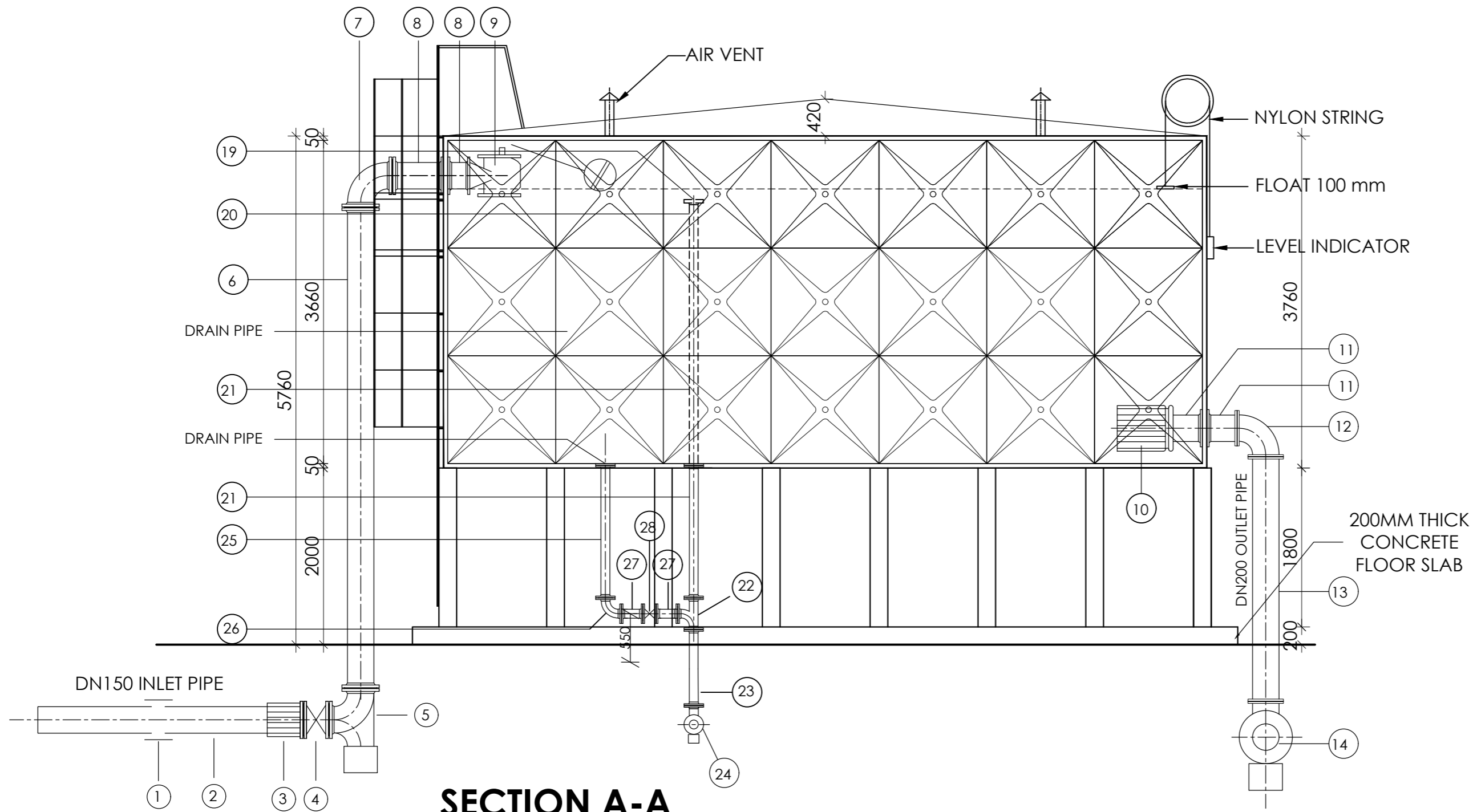
**Drawing Title:**  
 LEFORI RESERVOIR TANK\_222m<sup>3</sup>  
 Top Plan

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Nov-2022	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/3.1.2 | Cad file No WSS<22\_11>



**PLAN VIEW** SCALE 1:50



**SECTION A-A**  
Scale 1:100

AMENDMENTS		
No	Date	Revision
1	4.8.2024	Draft Design

PIPE SCHEDULE		
1.	1No.DN150 Vicking Johnson or Similar Coupling.	
2.	1No.DN150 Pipe not exceeding 2.0m.	
3.	1No.DN150 Flanged Adaptor, Maxi type or similar..	
4.	1No.DN150 Flanged Gate Valve.	
5.	1No.DN150 All Flanged Duck foot 90° bend..	
6.	1No.DN150 Double Flanged Pipe not exceeding 6.0m.	
7.	1No.DN150 All Flanged 90° bend.	
8.	2No.DN150 Double Flanged Pipe not exceeding 0.5m.	
9.	1No.DN150 Float Ball valve.	
10.	1No.DN200 Flanged Outlet Pipe Strainer.	
11.	2No.DN200 Double Flanged Pipe not exceeding 0.6m.	
12.	1No.DN200 All Flanged 90° bend.	
13.	1No.DN200 Double Flanged Pipe not exceeding 3.0m.	
14.	1No.DN200 All Flanged Duck foot 90° bend.	
15.	1No.DN200 Flanged Gate Valve.	
16.	1No.DN200 Flanged Adaptor, Maxi type or similar.	
17.	1No.DN200 Pipe not exceeding 2.0m.	
18.	1No.DN200 Vicking Johnson or Similar Coupling..	
19.	1No.DN200 Flanged Bell Mouth.	
20.	1No.DN200 Double Flanged Pipe not exceeding 2.8m	
21.	1No.DN200 Double Flanged Pipe not exceeding 2.0m.	
22.	1No.DN200/100 All Flanged Tee.	
23.	1No.DN200 Double Flanged Pipe not exceeding 1.0m.	
24.	1No.DN200 All Flanged Duck foot 90° bend.	
25.	1No.DN100 All Flanged Pipe with puddle flange n.e 2.0m.	
26.	1No.DN100 All Flanged 90° bend.	
27.	2No.DN100 Double Flanged Pipe not exceeding 0.4m.	
28.	1No.DN100 Flanged Gate Valve.	
29.	1No.DN200 Flanged Adaptor, Maxi type or similar.	



**CLIENT**  
 MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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 Website: www.mwe.go.ug

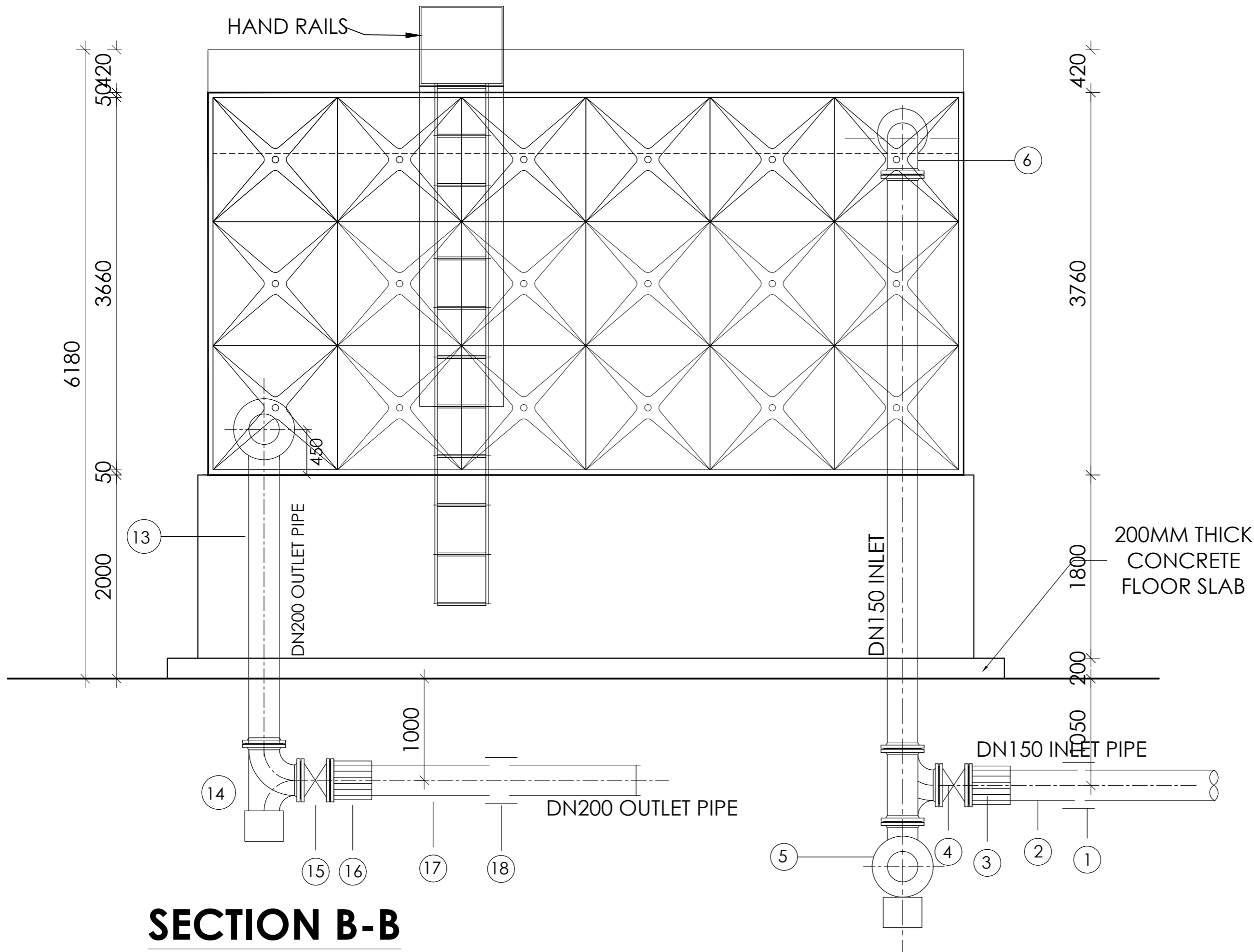
**PROJECT**  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
 LEFORI RESERVOIR TANK\_222m<sup>3</sup>  
 Section A-A

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Nov-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel



**SECTION B-B**  
**Scale 1:100**

AMENDMENTS		
No	Date	Revision
1	4.8.2024	Draft Design

PIPE SCHEDULE
1. 1No.DN150 Vicking Johnson or Similar Coupling.
2. 1No.DN150 Pipe not exceeding 2.0m.
3. 1No.DN150 Flanged Adaptor,Maxi type or similar..
4. 1No.DN150 Flanged Gate Valve.
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7. 1No.DN150 All Flanged 90° bend.
8. 2No.DN150 Double Flanged Pipe not exceeding 0.5m.
9. 1No.DN150 Float Ball valve.
10. 1No.DN200 Flanged Outlet Pipe Strainer.
11. 2No.DN200 Double Flanged Pipe not exceeding 0.6m.
12. 1No.DN200 All Flanged 90° bend.
13. 1No.DN200 Double Flanged Pipe not exceeding 3.0m.
14. 1No.DN200 All Flanged Duck foot 90° bend.
15. 1No.DN200 Flanged Gate Valve.
16. 1No.DN200 Flanged Adaptor,Maxi type or similar.
17. 1No.DN200 Pipe not exceeding 2.0m.
18. 1No.DN200 Vicking Johnson or Similar Coupling..
19. 1No.DN200 Flanged Bell Mouth.
20. 1No.DN200 Double Flanged Pipe not exceeding 2.8m
21. 1No.DN200 Double Flanged Pipe not exceeding 2.0m.
22. 1No.DN200/100 All Flanged Tee.
23. 1No.DN200 Double Flanged Pipe not exceeding 1.0m.
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26. 1No.DN100 All Flanged 90° bend.
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28. 1No.DN100 Flanged Gate Valve.
29. 1No.DN200 Flanged Adaptor,Maxi type or similar.



**CLIENT**  
 MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

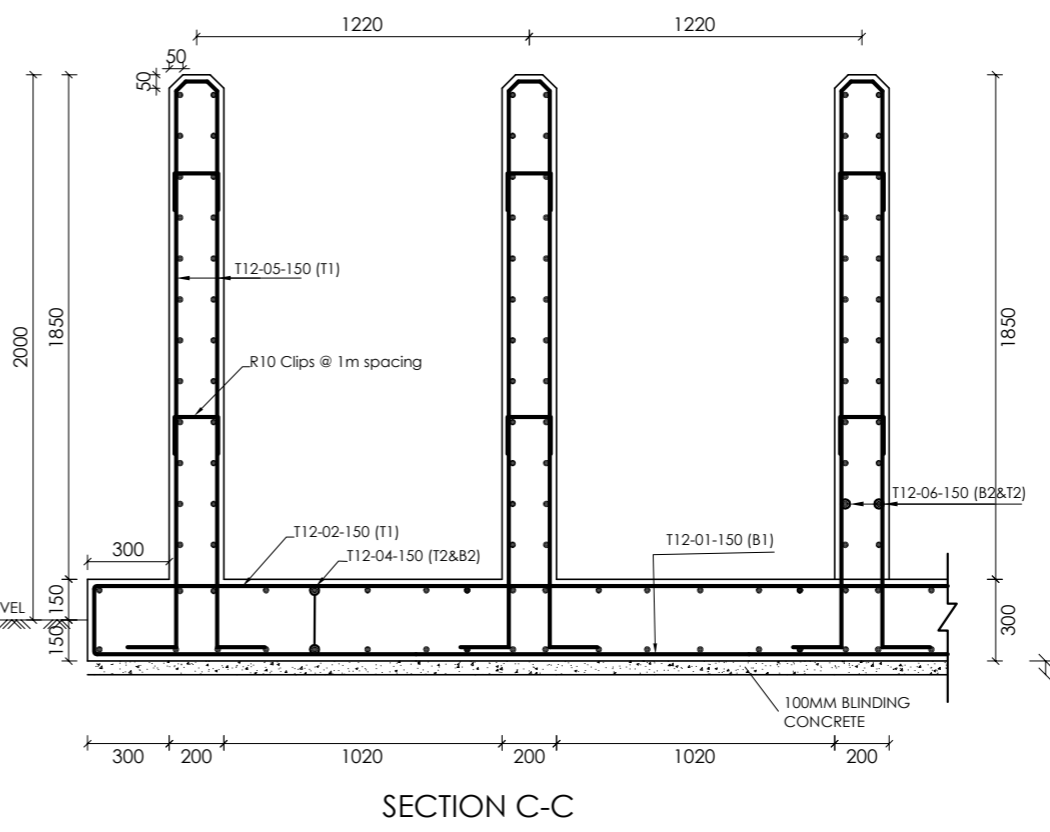
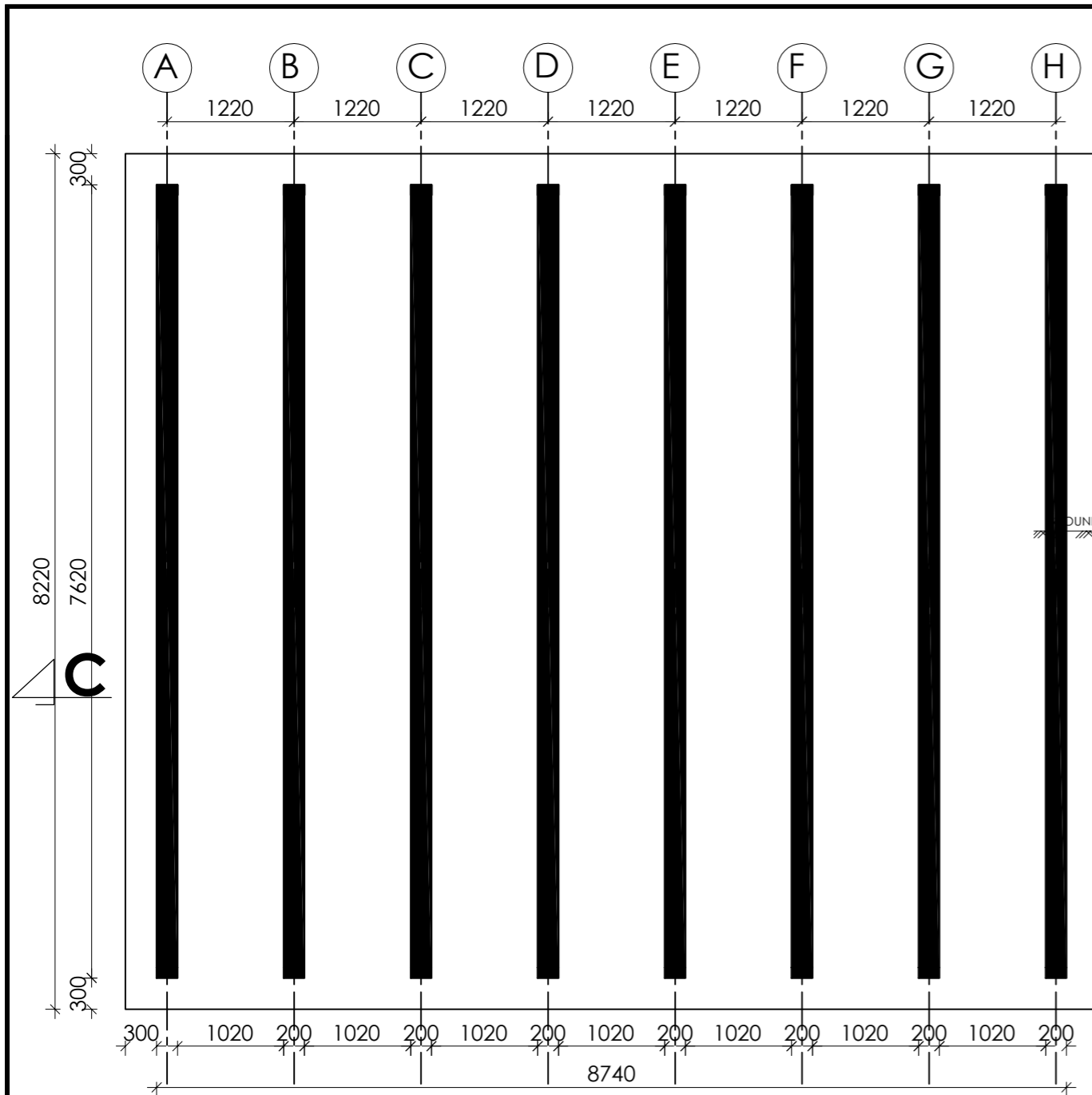
**PROJECT**  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

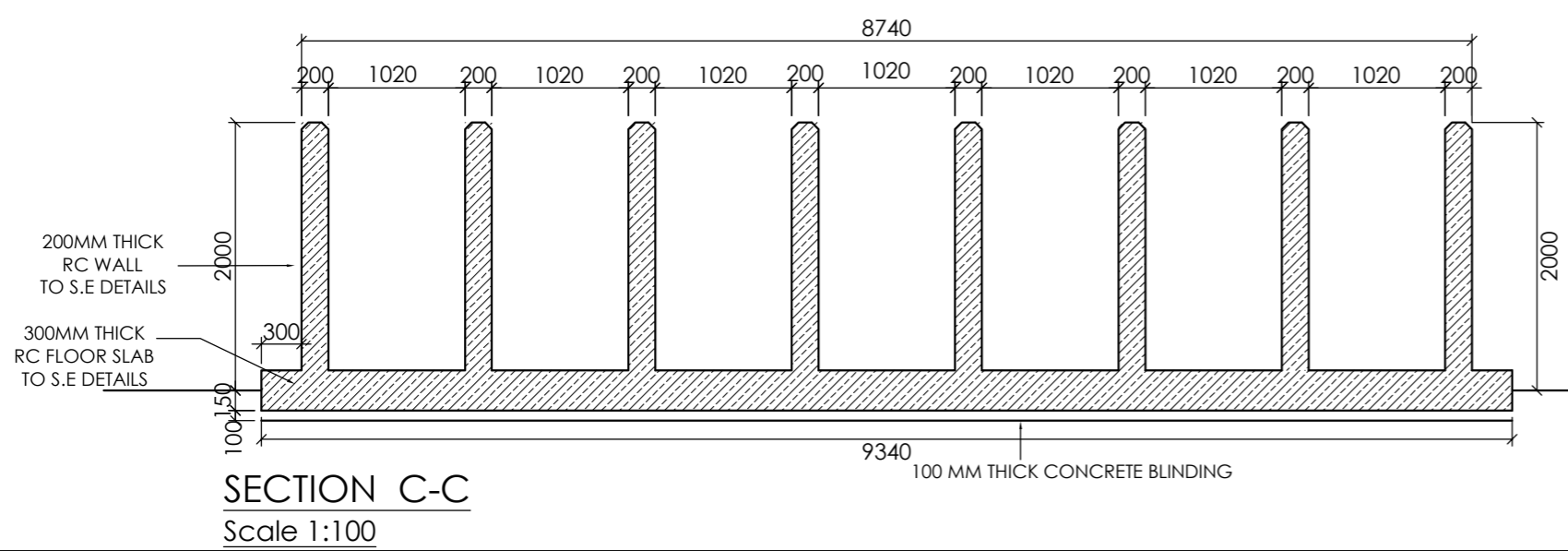
**Consultant:**  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
 LEFORI RESERVOIR TANK\_222m<sup>3</sup>  
 Section B-B

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Nov-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel



LAYOUT OF FOUNDATIONS  
SCALE 1:50



SECTION C-C  
Scale 1:100

AMENDMENTS		
No	Date	Revision
1	7.29.2023	Draft Design

- NOTES**
1. All dimensions are in metres unless stated otherwise.
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  3. For Site location see Dwg. MWE/GWE/0.0.0
  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**


CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

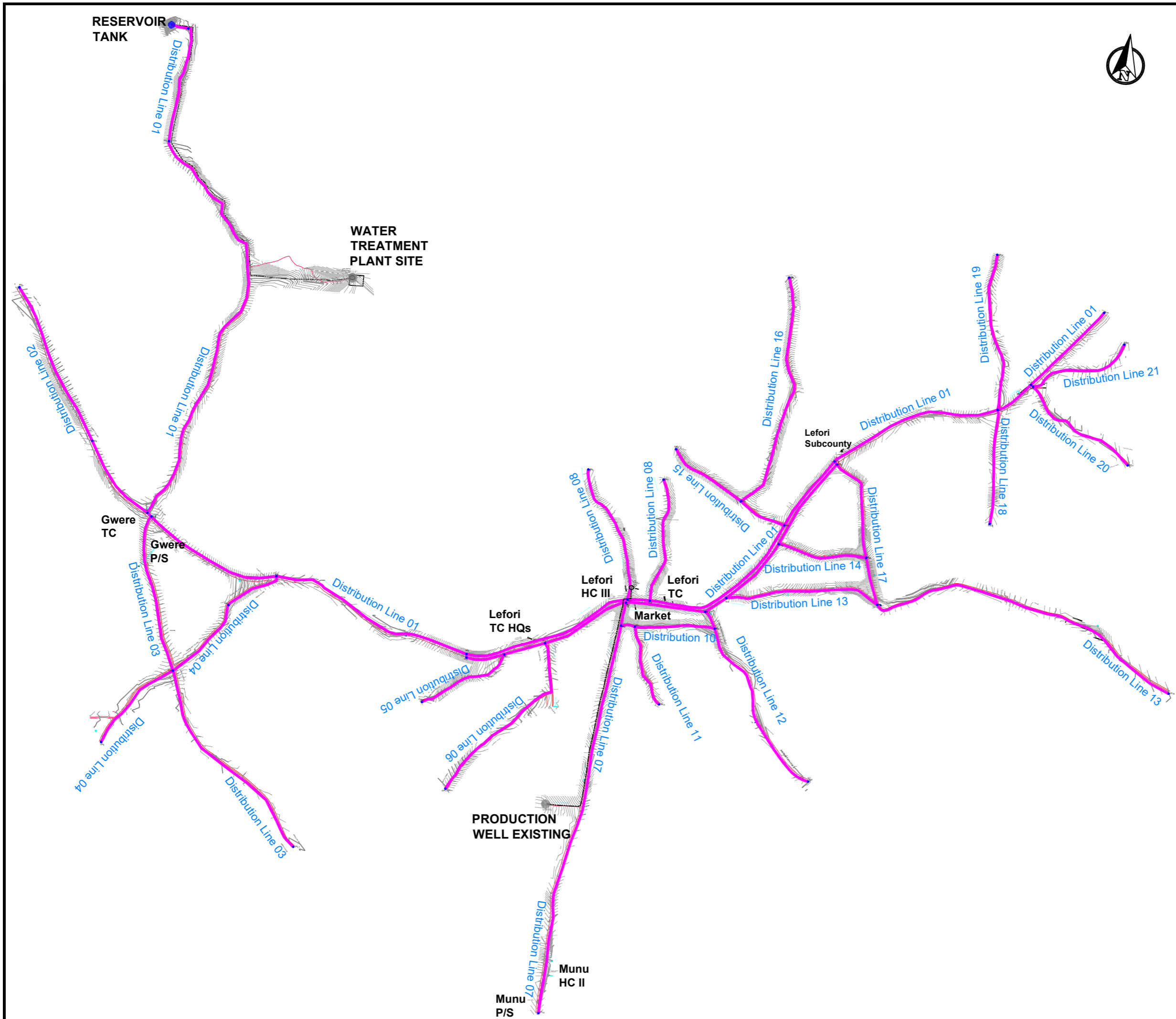
Drawing Title:

LEFORI RESERVOIR TANK\_222m<sup>3</sup>  
Foundation Details

Scale:	Designed:	O.R Daniel
Date:	Drawn:	P.S Eyamu
Nov-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

# **DISTRIBUTION MAINS**

## **(Plan and Profile)**



AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washout locations are identified by marker post in positions.
  - For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
DAV	Double Orifice Air Valve
WO_2	Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

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- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

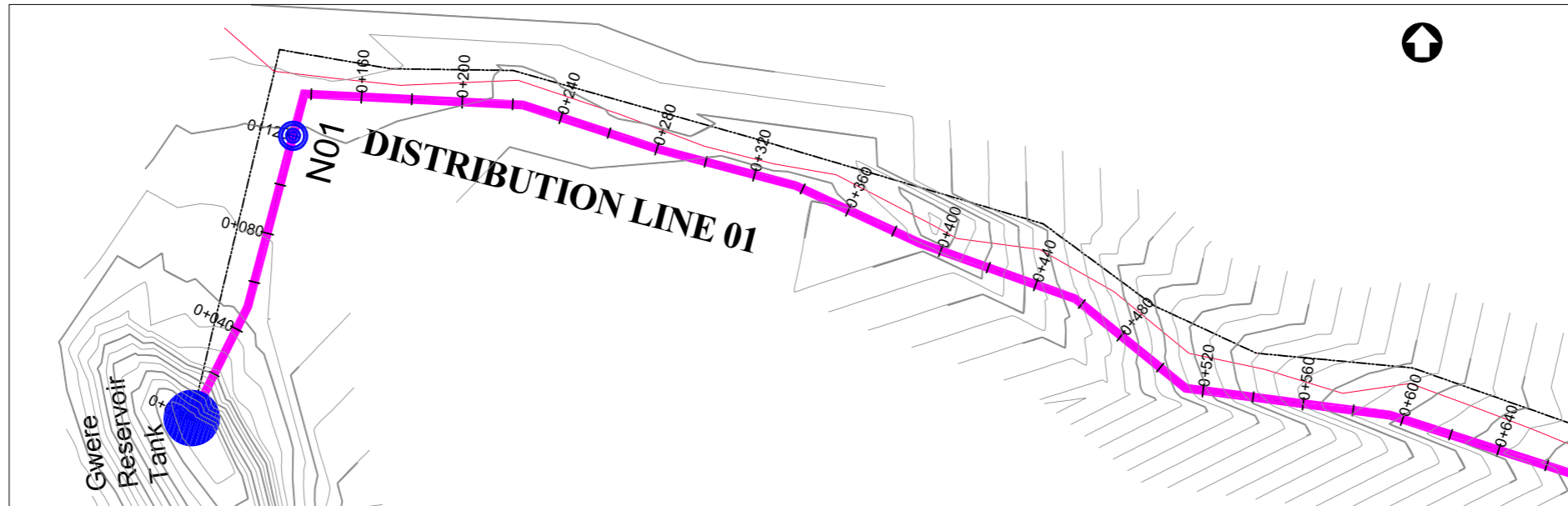
GENERAL LAYOUT - DISTRIBUTION MAINS  
 General Overview

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

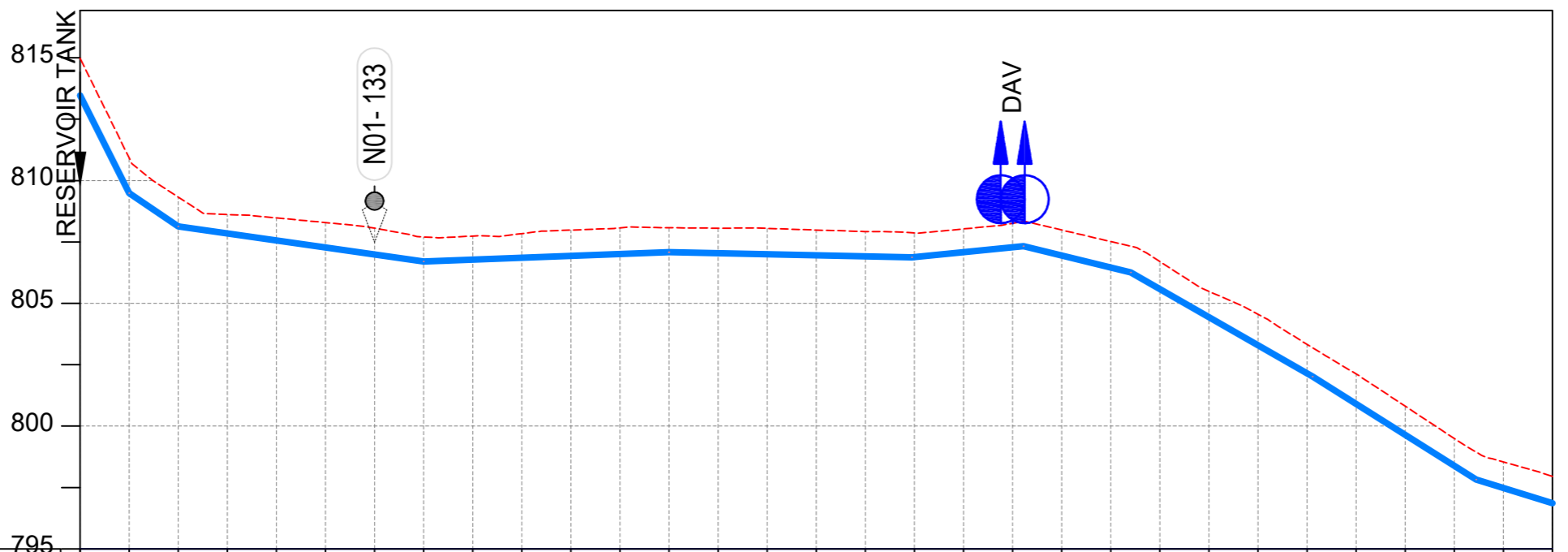
ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.0.0 | Cad file No WSS<22\_11>





PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	814.979	810.921	809.327	808.617	808.480	808.290	808.060	807.703	807.738	807.839	807.983	808.072	808.080	808.059	808.052	807.987	807.923	807.867	808.031	808.261	807.988	807.518	806.704	805.488	804.560	803.333	802.127	800.817	799.500	798.544	797.952	
PIPE DETAILS	← OD225 uPVC PN10 →																															
INVERT LEVEL (m)	813.469	809.489	808.136	807.849	807.562	807.275	806.988	806.701	806.777	806.852	806.928	807.004	807.080	807.038	806.996	806.953	806.911	806.882	807.081	807.281	806.948	806.461	805.585	804.439	803.293	802.147	800.902	799.644	798.386	797.481	796.861	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

- All dimensions are in metres unless stated otherwise.
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- For Site location see Dwg. MWE/GWE/0.0.0
- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washout locations are identified by marker post in positions.
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
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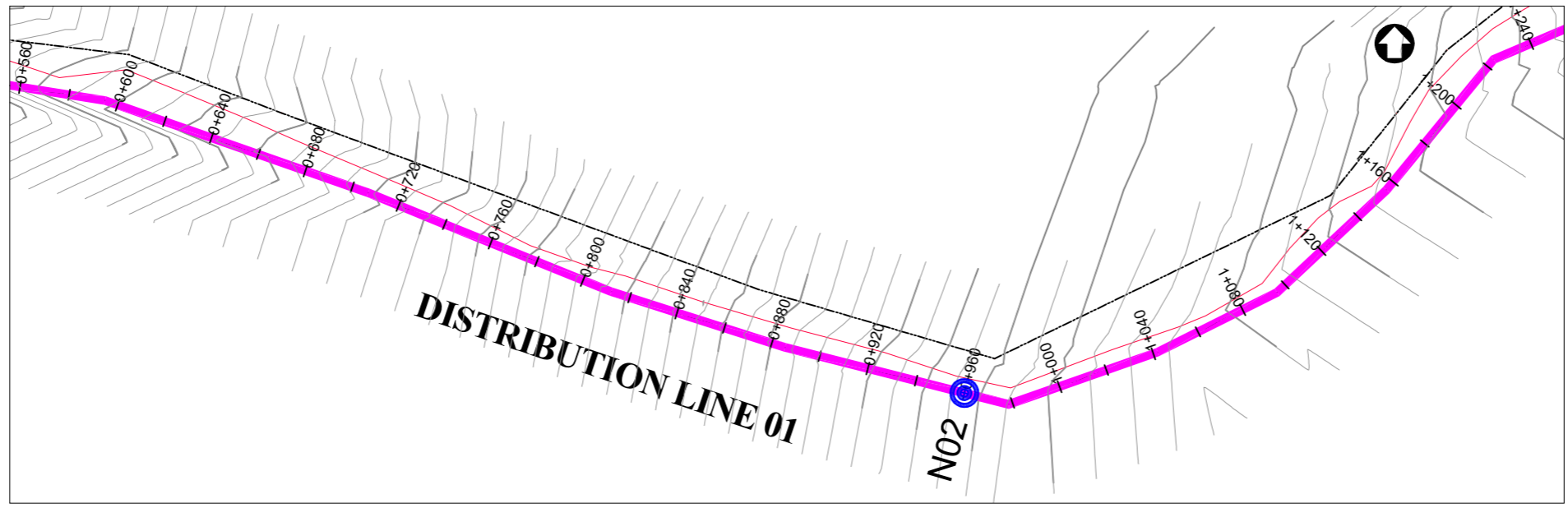
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 0+000.00 - 0+600.00)

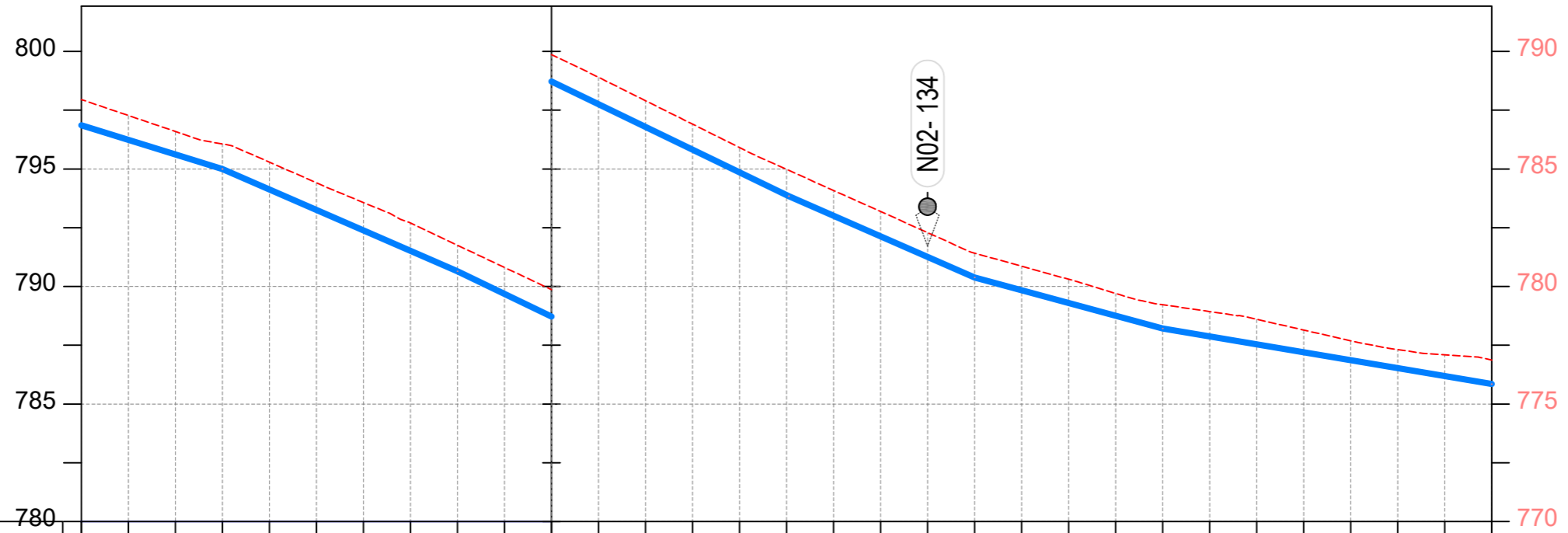
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.1 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920		0+960		1+000		1+040		1+080		1+120		1+160		1+200	
GROUND LEVEL	797.952	797.272	796.593	796.063	795.289	794.414	793.573	792.699	791.754	790.809	789.865	788.900	787.904	786.908	785.912	784.985	784.084	783.194	782.290	781.418	780.863	780.308	779.704	779.226	778.932	778.605	778.147	777.688	777.315	777.090	776.871	
PIPE DETAILS	← OD225 uPVC PN10 →																															
INVERT LEVEL (m)	796.861	796.241	795.620	795.000	794.130	793.259	792.389	791.518	790.648	789.683	788.718	787.752	786.787	785.822	784.857	783.891	783.010	782.134	781.257	780.380	779.839	779.298	778.756	778.215	777.877	777.538	777.200	776.862	776.524	776.185	775.847	

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:

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**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

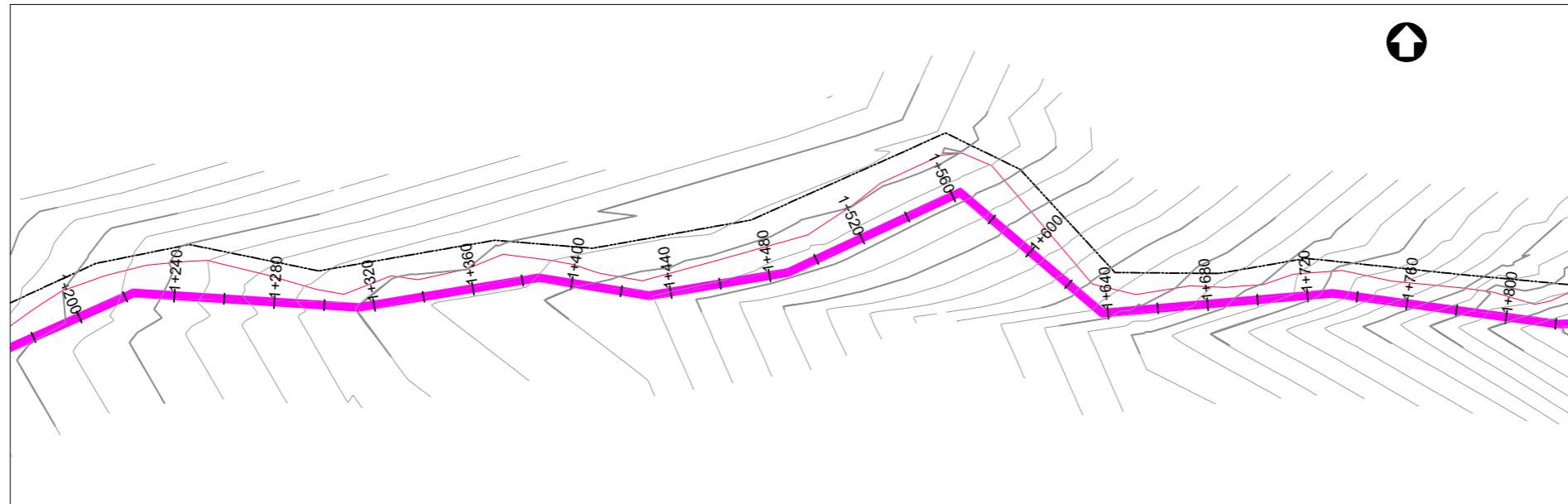
Consultant:

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

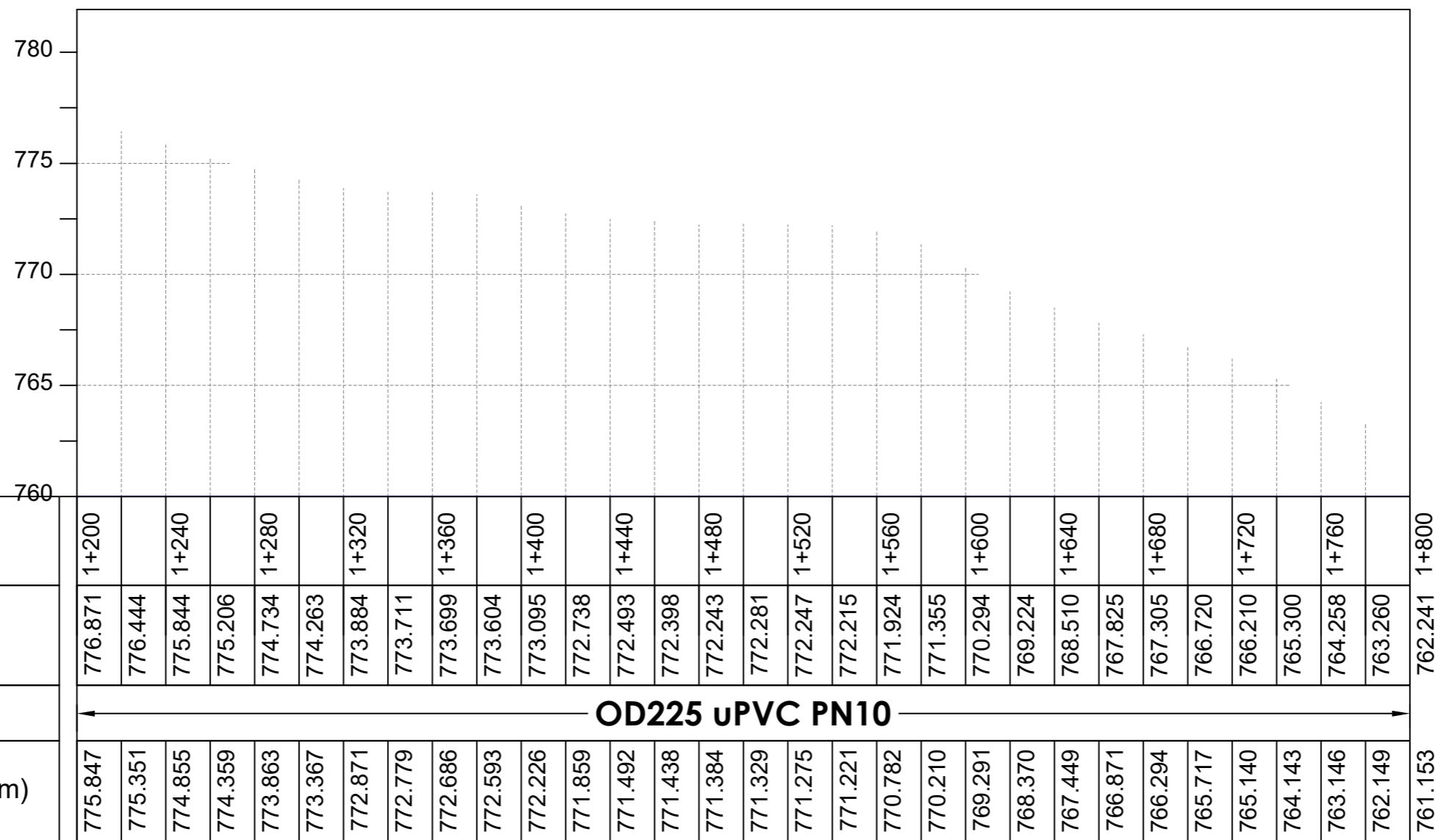
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 0+600.00 - 1+200.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



**PLAN LAYOUT**



**LONGITUDINAL PROFILE**

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

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**LEGEND**

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**Consultant:**

**SARI CONSULTING LTD**  
 Corporate Headquarter  
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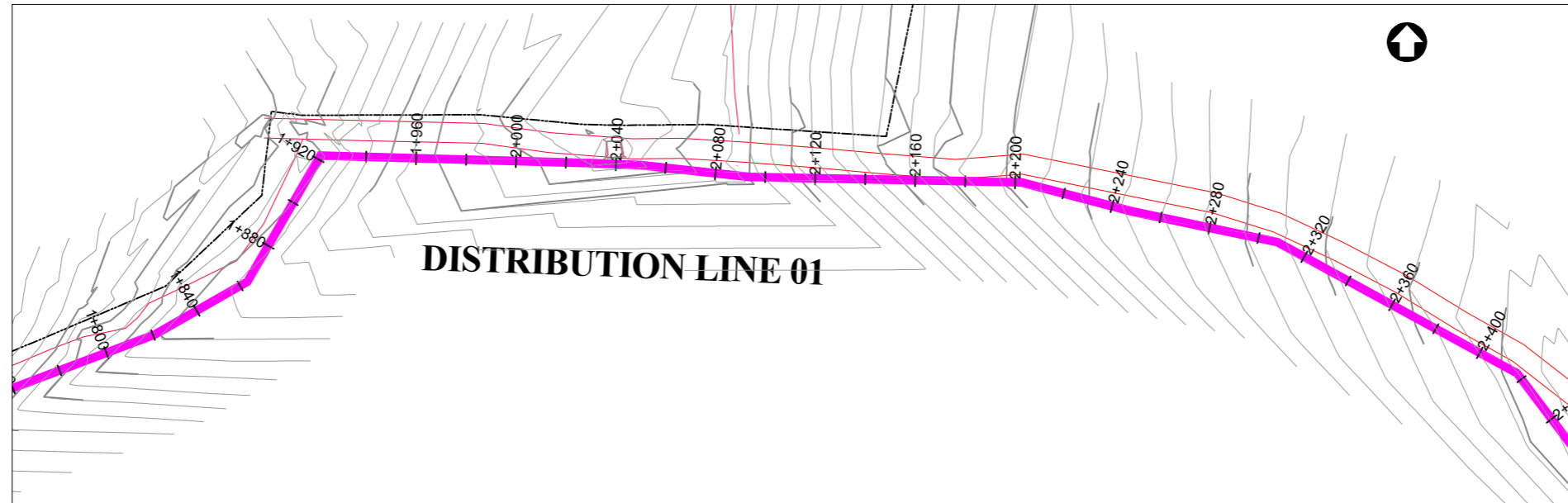
**Drawing Title:**

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 1+200.00 - 1+800.00)

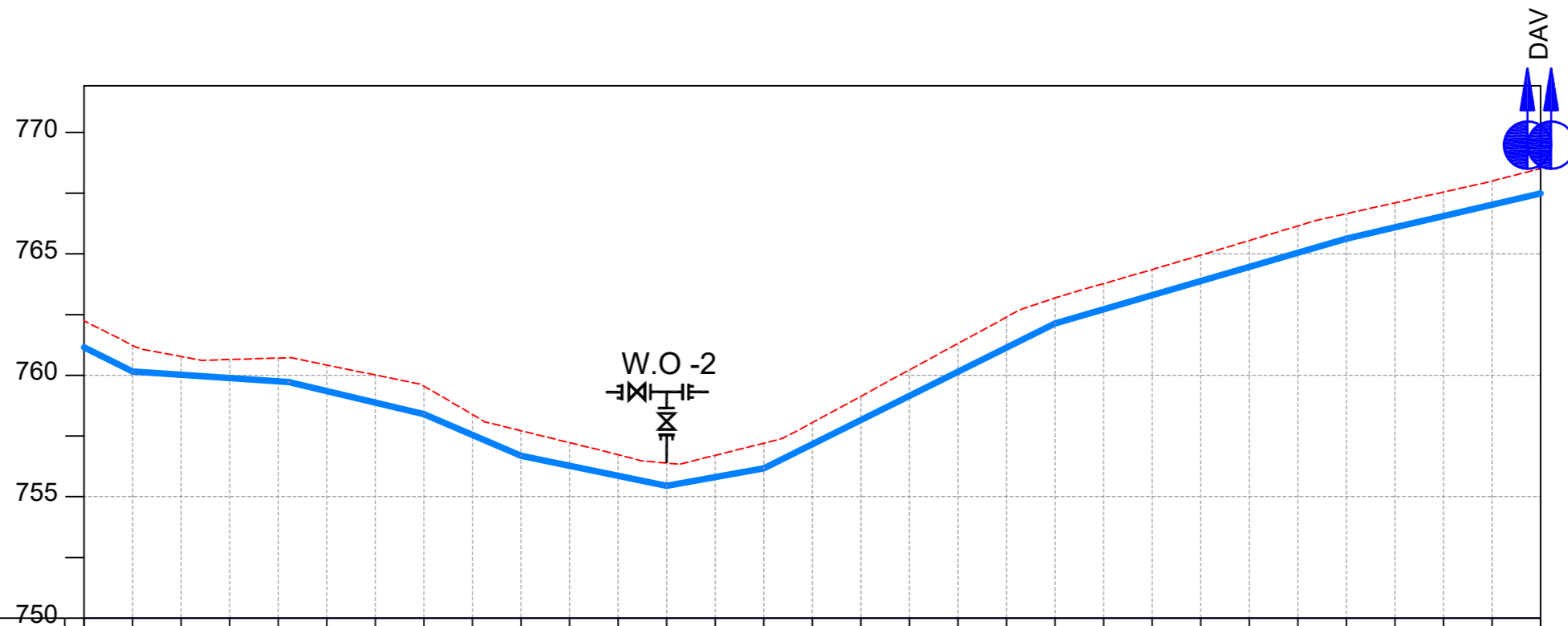
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

**ENGINEERING DESIGN DRAWING**

Drg No: MWE/GWE/4.1.3 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	1+800	1+840	1+880	1+920	1+960	2+000	2+040	2+080	2+120	2+160	2+200	2+240	2+280	2+320	2+360	2+400														
GROUND LEVEL	762.241	761.228	760.774	760.651	760.710	760.421	760.012	759.553	758.386	757.717	757.226	756.728	756.385	756.705	757.202	758.048	759.135	760.222	761.309	762.396	763.187	763.777	764.356	764.947	765.548	766.149	766.655	767.101	767.547	768.001
PIPE DETAILS	OD225 uPVC PN10																													
INVERT LEVEL (m)	761.153	760.156	760.021	759.886	759.751	759.348	758.873	758.398	757.543	756.687	756.273	755.860	755.446	755.809	756.172	757.165	758.158	759.152	760.145	761.138	762.131	762.715	763.298	763.881	764.464	765.047	765.630	766.096	766.561	767.027

LONGITUDINAL PROFILE

AMENDMENTS

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1	7.28.2023	Draft Design

NOTES

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Marker Post	SD 117
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LEGEND

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Consultant:

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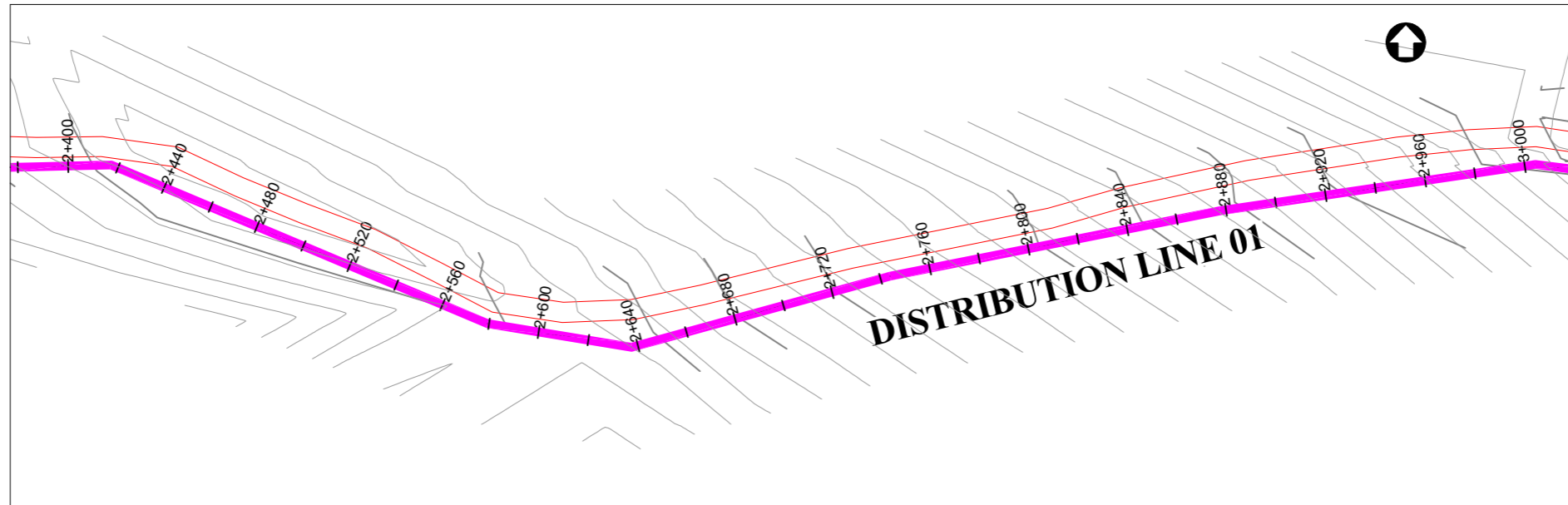
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 1+800.00 - 2+400.00)

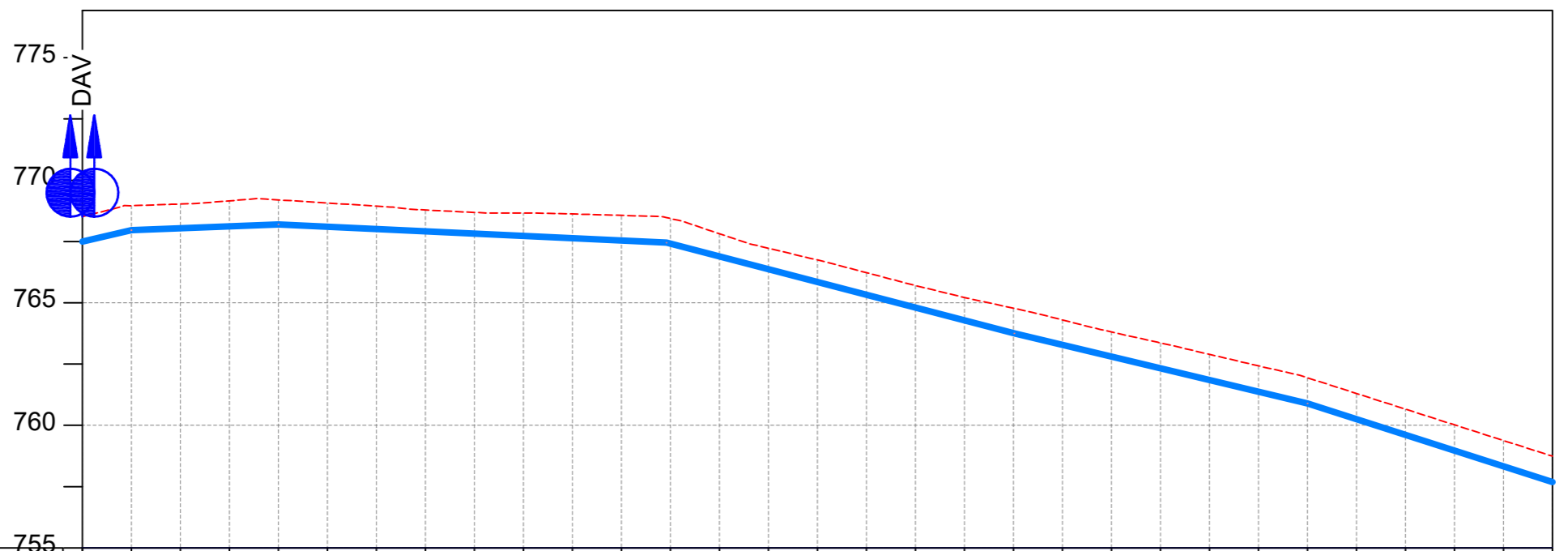
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.4 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	2+400		2+440		2+480		2+520		2+560		2+600		2+640		2+680		2+720		2+760		2+800		2+840		2+880		2+920		2+960		3+000	
GROUND LEVEL	768.514	768.959	769.031	769.160	769.198	769.071	768.944	768.786	768.686	768.658	768.624	768.566	768.440	767.819	767.225	766.745	766.229	765.707	765.219	764.780	764.301	763.810	763.363	762.897	762.426	761.945	761.304	760.663	760.022	759.381	758.740	758.690
PIPE DETAILS	← OD225 uPVC PN10 →																															
INVERT LEVEL (m)	767.493	767.958	768.037	768.117	768.196	768.102	768.008	767.914	767.819	767.725	767.631	767.537	767.408	766.887	766.365	765.844	765.322	764.801	764.279	763.758	763.280	762.803	762.326	761.849	761.372	760.895	760.254	759.613	758.972	758.331	757.690	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
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- Contours
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- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:



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Consultant:

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 Corporate Headquarter  
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 United Kingdom

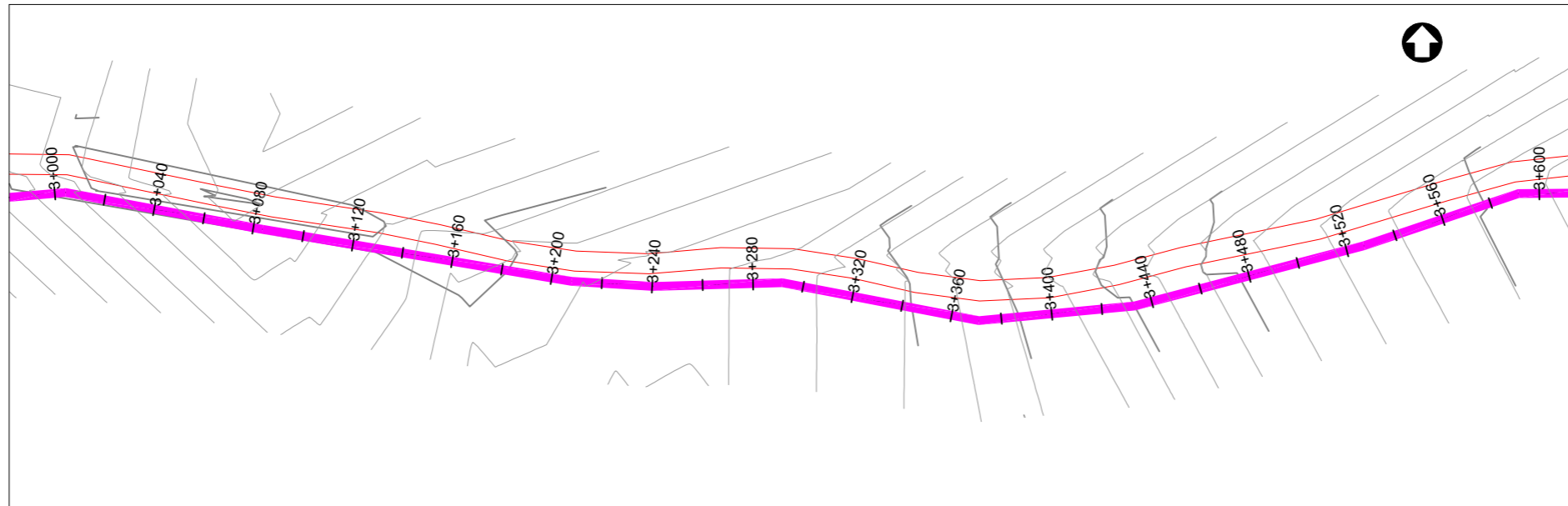
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 2+400.00 - 3+000.00)

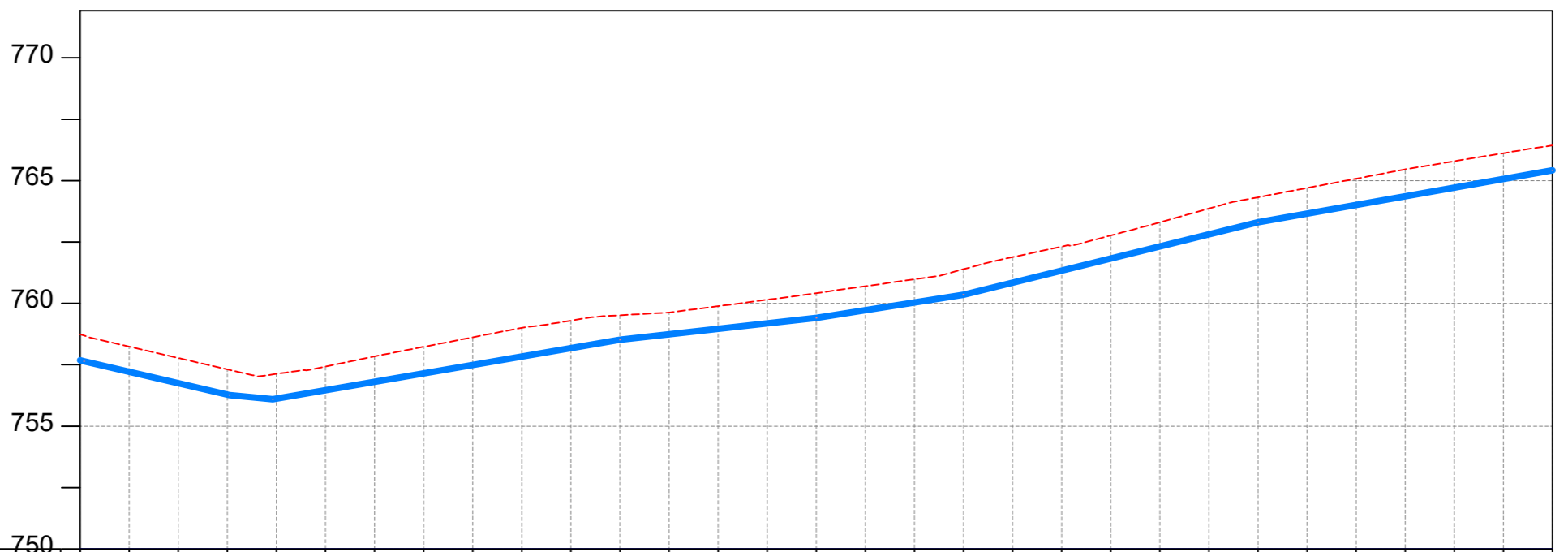
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.5 Cad file No WSS<22\_11>



**PLAN LAYOUT**



CHAINAGE	3+000	3+040	3+080	3+120	3+160	3+200	3+240	3+280	3+320	3+360	3+400	3+440	3+480	3+520	3+560	3+600															
GROUND LEVEL	758.740	758.240	757.778	757.316	757.129	757.432	757.840	758.233	758.620	759.007	759.300	759.519	759.631	759.888	760.148	760.418	760.701	760.983	761.392	761.885	762.314	762.767	763.305	763.863	764.325	764.702	765.080	765.461	765.791	766.119	766.434
PIPE DETAILS	←————— OD225 uPVC PN10 —————→																														
INVERT LEVEL (m)	757.690	757.214	756.752	756.290	756.124	756.466	756.808	757.150	757.491	757.833	758.175	758.517	758.740	758.963	759.185	759.408	759.724	760.040	760.356	760.848	761.340	761.831	762.323	762.815	763.307	763.660	764.012	764.365	764.718	765.070	765.423

**LONGITUDINAL PROFILE**

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

**NOTES**

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Outfall Chamber	SD 116
Marker Post	SD 117
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**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
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- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

**CO-FINANCE BY:**



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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**



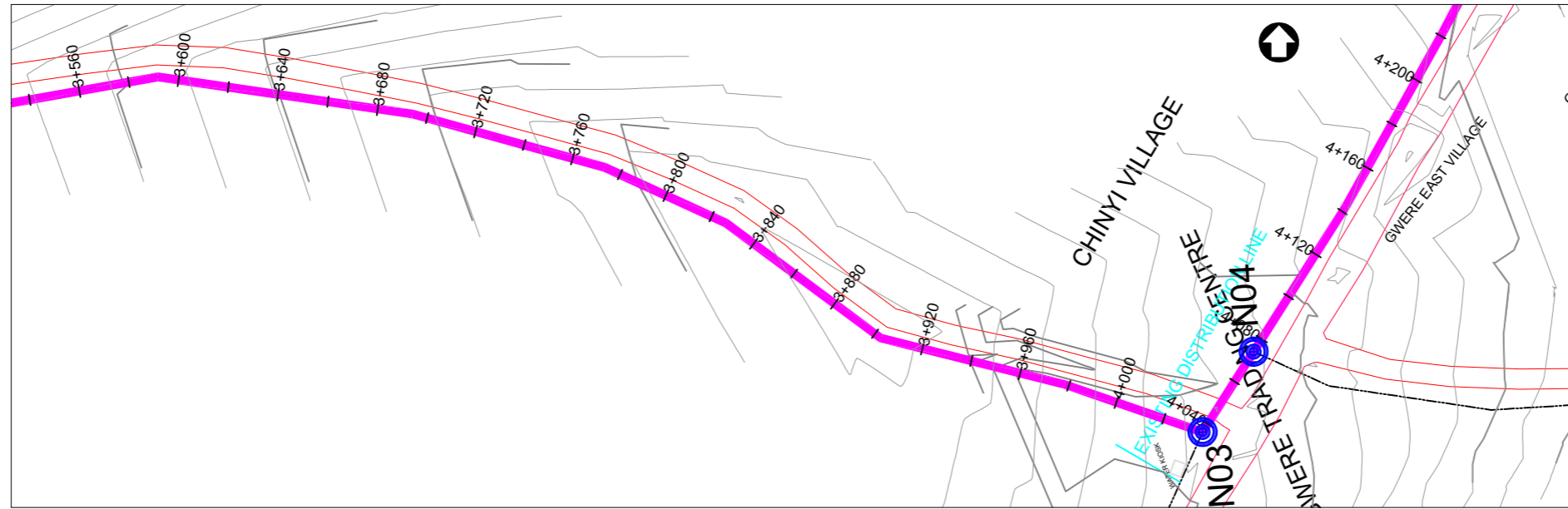
**Drawing Title:**

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 3+000.00 - 3+600.00)

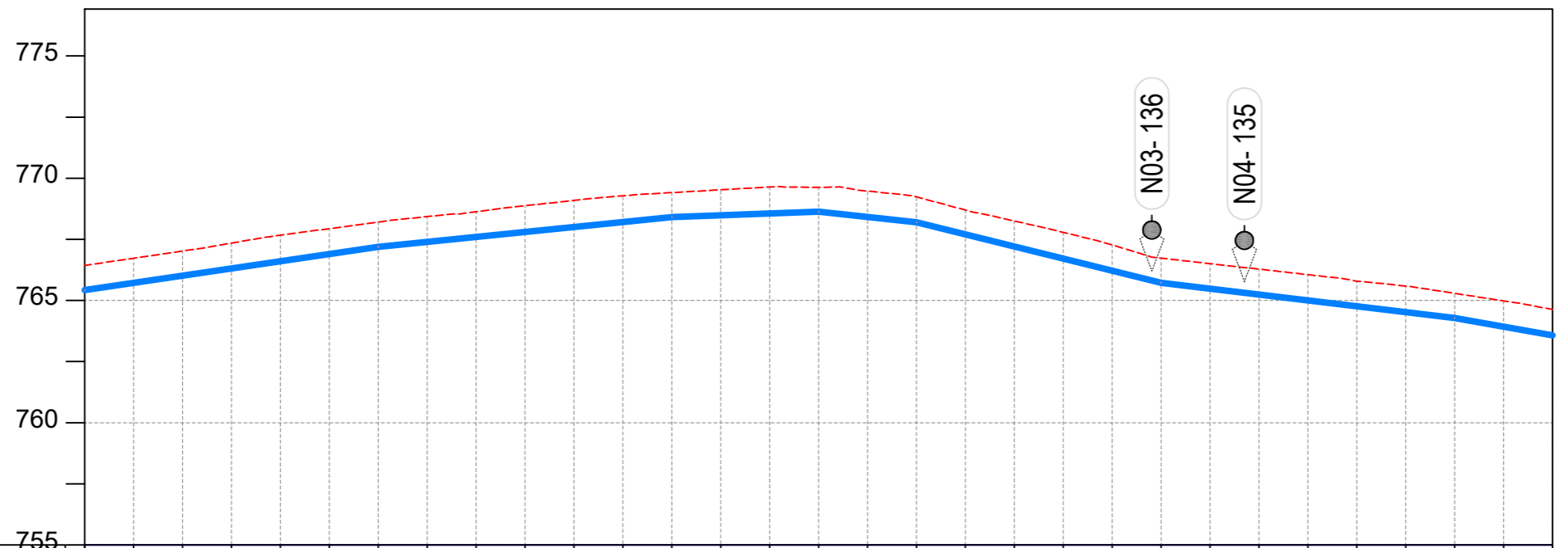
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

**ENGINEERING DESIGN DRAWING**

Drg No: MWE/GWE/4.1.6 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	3+600		3+640		3+680		3+720		3+760		3+800		3+840		3+880		3+920		3+960		4+000		4+040		4+080		4+120		4+160		4+200	
GROUND LEVEL	766.434	766.729	767.024	767.346	767.670	767.935	768.206	768.431	768.630	768.877	769.094	769.283	769.414	769.527	769.641	769.629	769.477	769.238	768.700	768.251	767.789	767.271	766.733	766.508	766.283	766.058	765.789	765.590	765.292	764.984		
PIPE DETAILS	←————— OD225 uPVC PN10 —————→																															
INVERT LEVEL (m)	765.423	765.719	766.014	766.310	766.606	766.902	767.197	767.400	767.602	767.805	768.007	768.210	768.412	768.484	768.557	768.629	768.416	768.202	767.707	767.212	766.717	766.222	765.727	765.486	765.245	765.004	764.762	764.521	764.280	763.927		

LONGITUDINAL PROFILE

AMENDMENTS

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CO-FINANCE BY:



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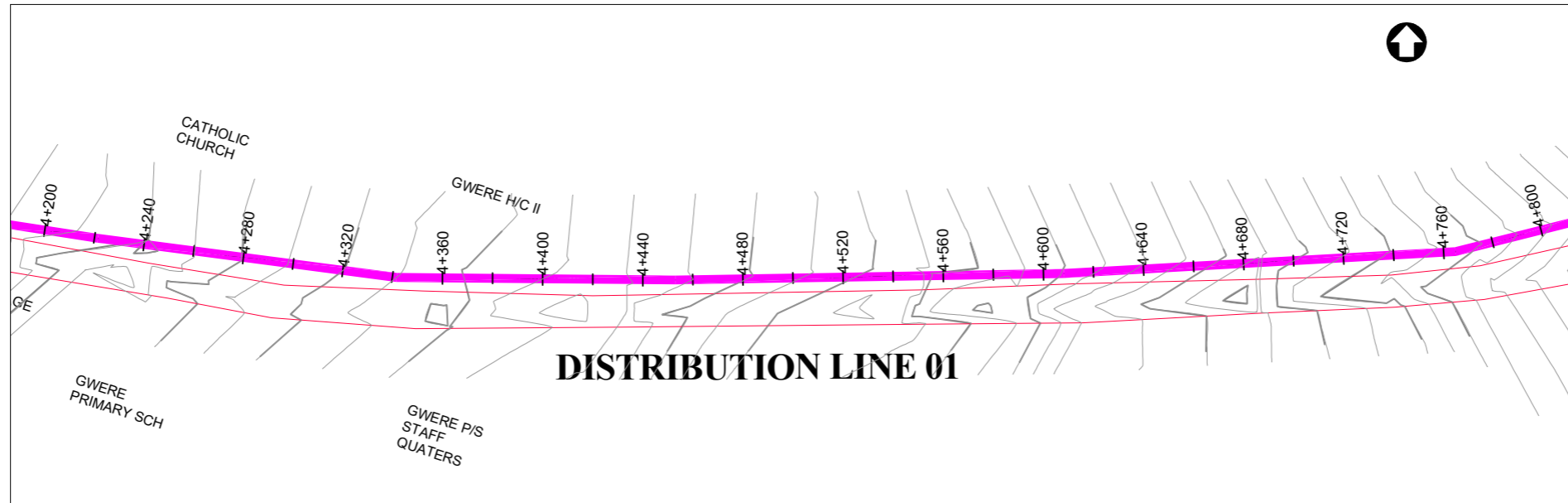
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 3+600.00 - 4+200.00)

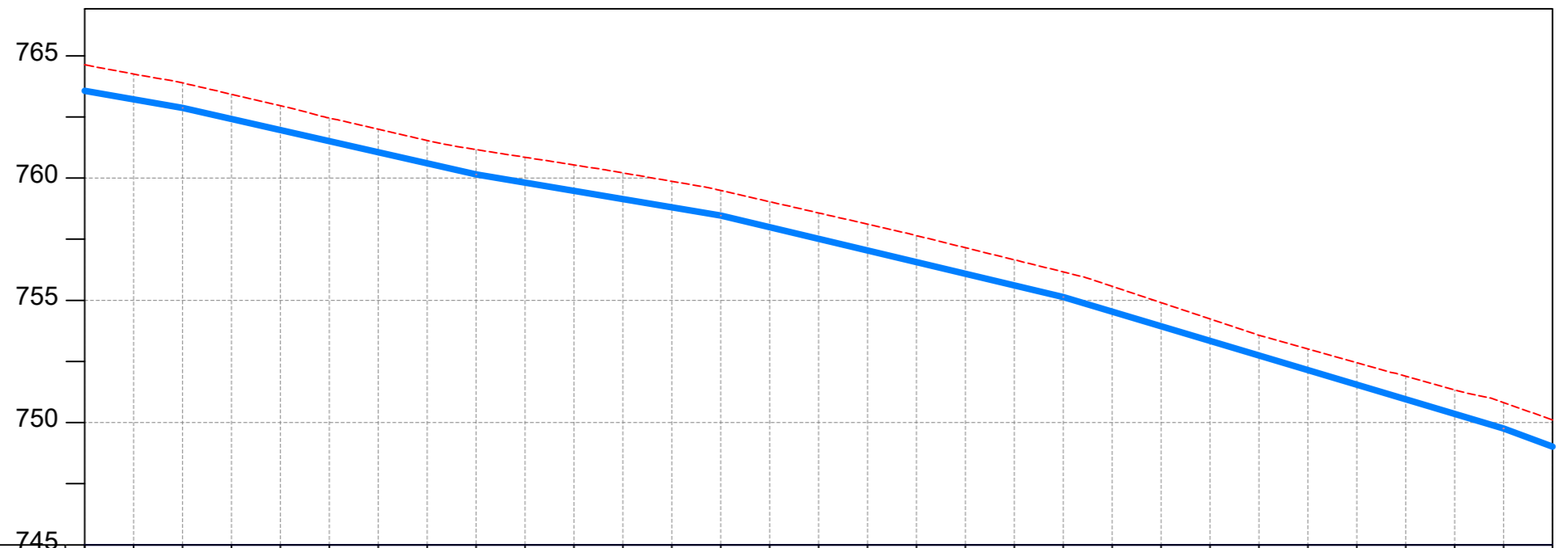
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
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	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.7 Cad file No WSS<22\_11>



**PLAN LAYOUT**



CHAINAGE	4+200		4+240		4+280		4+320		4+360		4+400		4+440		4+480		4+520		4+560		4+600		4+640		4+680		4+720		4+760		4+800	
GROUND LEVEL	764.633	764.255	763.894	763.426	762.958	762.456	762.002	761.538	761.165	760.852	760.539	760.214	759.868	759.496	759.036	758.576	758.115	757.648	757.153	756.659	756.164	755.571	754.906	754.241	753.577	753.011	752.448	751.903	751.341	750.818		
PIPE DETAILS	←————— OD225 uPVC PN10 —————→																															
INVERT LEVEL (m)	763.574	763.220	762.867	762.415	761.963	761.510	761.058	760.606	760.153	759.817	759.480	759.143	758.807	758.470	757.994	757.517	757.040	756.564	756.087	755.610	755.134	754.536	753.939	753.342	752.744	752.147	751.550	750.952	750.355	749.758		

**LONGITUDINAL PROFILE**

**AMENDMENTS**

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI**  
CONSULTING LTD

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

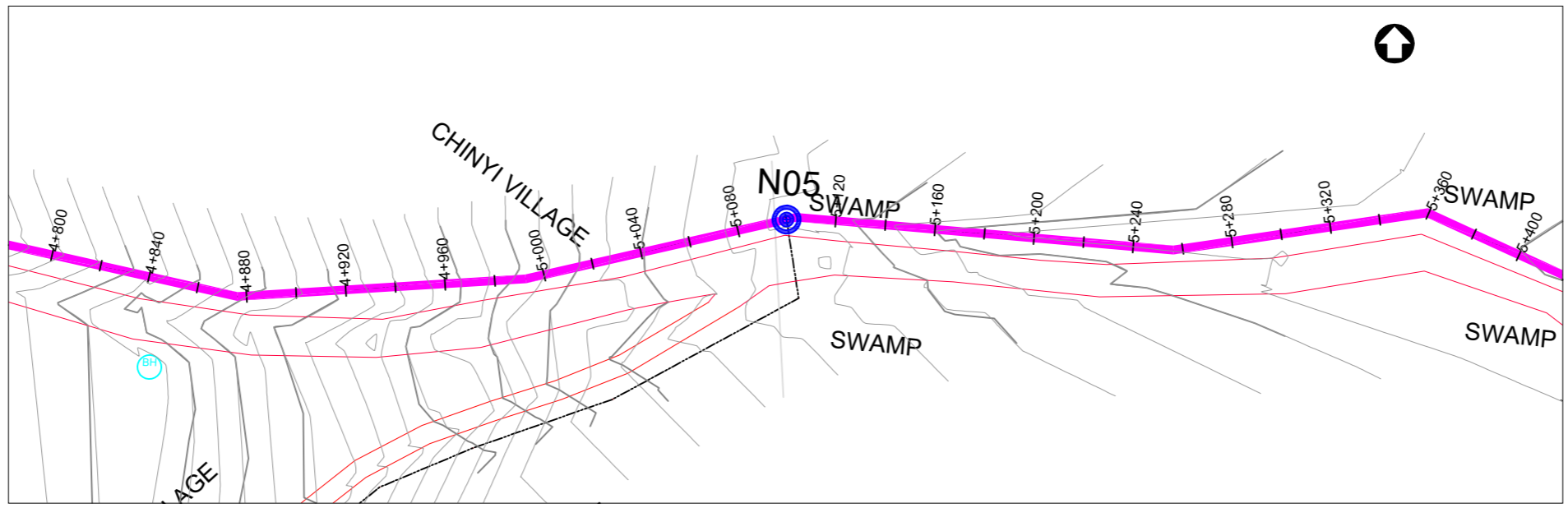
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**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 4+200.00 - 4+800.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

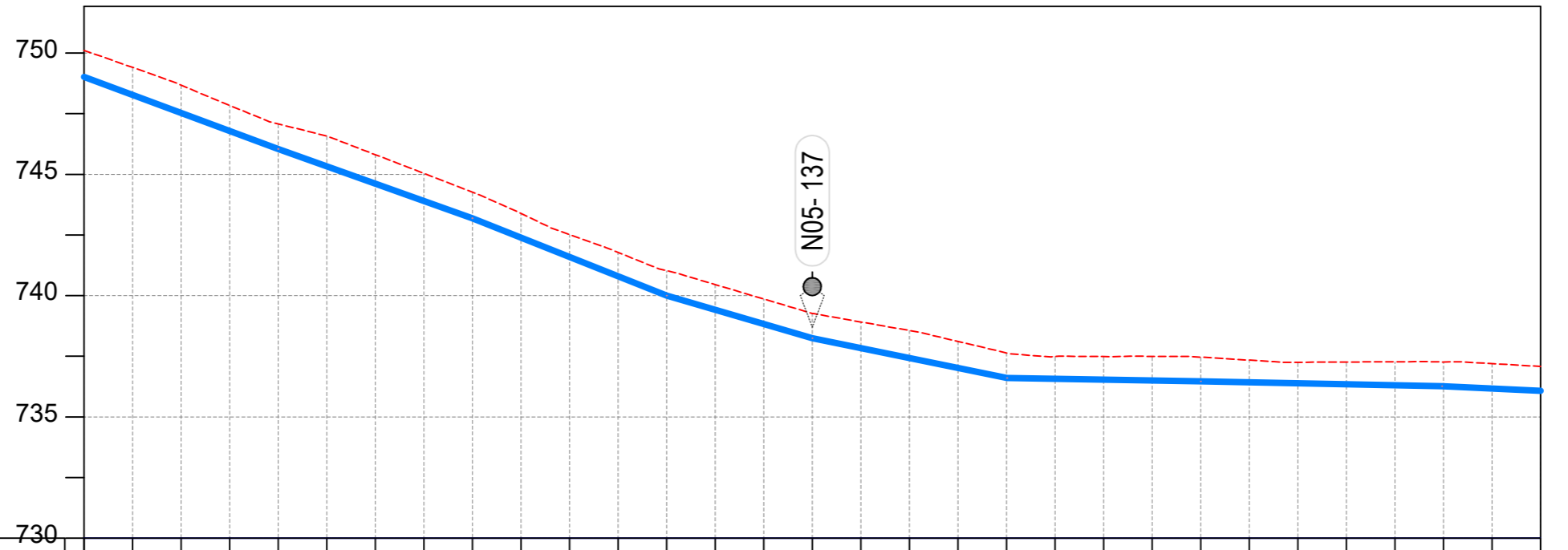
ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.8 Cad file No WSS<22\_11>





**PLAN LAYOUT**



CHAINAGE	4+800		4+840		4+880		4+920		4+960		5+000		5+040		5+080		5+120		5+160		5+200		5+240		5+280		5+320		5+360		5+400	
GROUND LEVEL	750.113	749.409	748.679	747.840	747.079	746.580	745.811	745.038	744.266	743.389	742.519	741.780	741.031	740.456	739.860	739.265	738.914	738.561	738.112	737.639	737.489	737.488	737.497	737.465	737.340	737.253	737.263	737.272	737.266	737.196		
PIPE DETAILS	←————— OD225 uPVC PN10 —————→																															
INVERT LEVEL (m)	749.016	748.274	747.532	746.791	746.049	745.335	744.620	743.906	743.192	742.395	741.598	740.800	740.003	739.417	738.830	738.244	737.836	737.427	737.019	736.610	736.570	736.534	736.498	736.463	736.423	736.383	736.343	736.303	736.262	736.169		

**LONGITUDINAL PROFILE**

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
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  - For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:

**THE WORLD BANK** AND

GOVERNMENT OF UGANDA

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
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PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

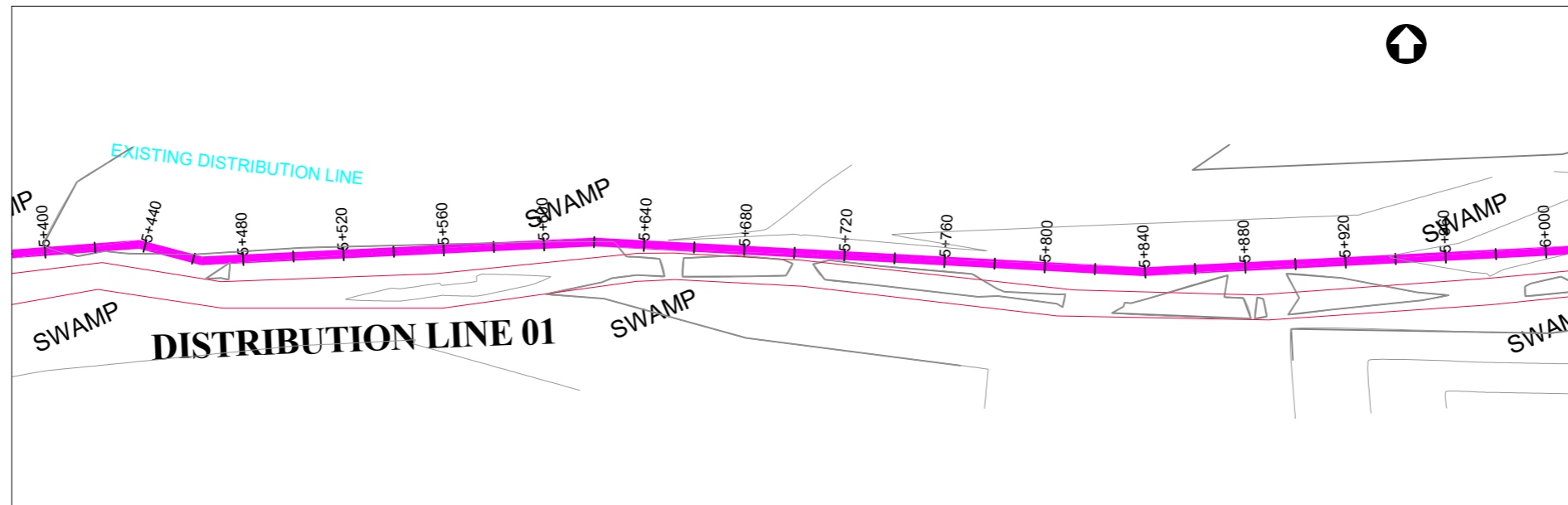
**SARI**  
CONSULTING LTD

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
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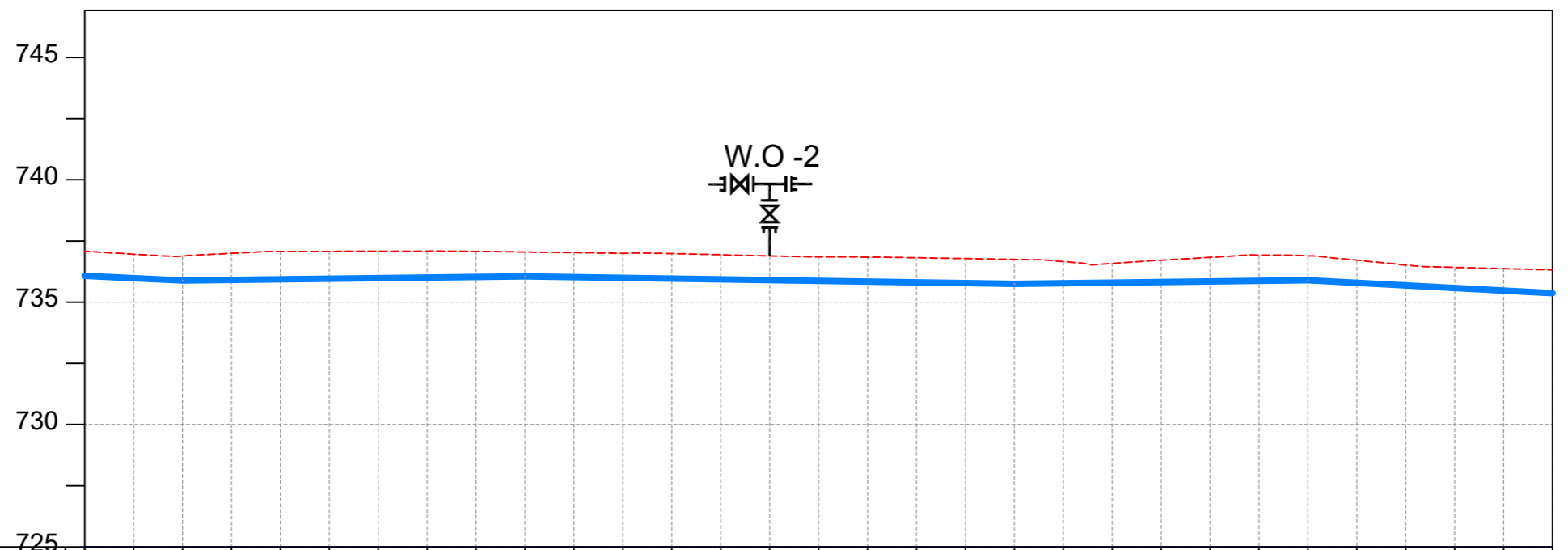
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 4+800.00 - 5+400.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



PLAN LAYOUT



CHAINAGE	5+400		5+440		5+480		5+520		5+560		5+600		5+640		5+680		5+720		5+760		5+800		5+840		5+880		5+920		5+960		6+000	
GROUND LEVEL	737.080	736.964	736.891	736.998	737.072	737.078	737.084	737.090	737.076	737.053	737.026	737.000	736.987	736.941	736.894	736.854	736.845	736.818	736.783	736.749	736.660	736.583	736.717	736.831	736.930	736.898	736.717	736.520	736.424	736.372		
PIPE DETAILS	←————— OD225 uPVC PN10 —————→																															
INVERT LEVEL (m)	736.075	735.982	735.888	735.912	735.935	735.959	735.982	736.006	736.029	736.053	736.022	735.992	735.962	735.931	735.901	735.870	735.840	735.810	735.779	735.749	735.774	735.799	735.823	735.848	735.873	735.898	735.793	735.687	735.582	735.477		

LONGITUDINAL PROFILE

AMENDMENTS

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LEGEND

- Transmission Mains
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- Road
- Tree
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- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



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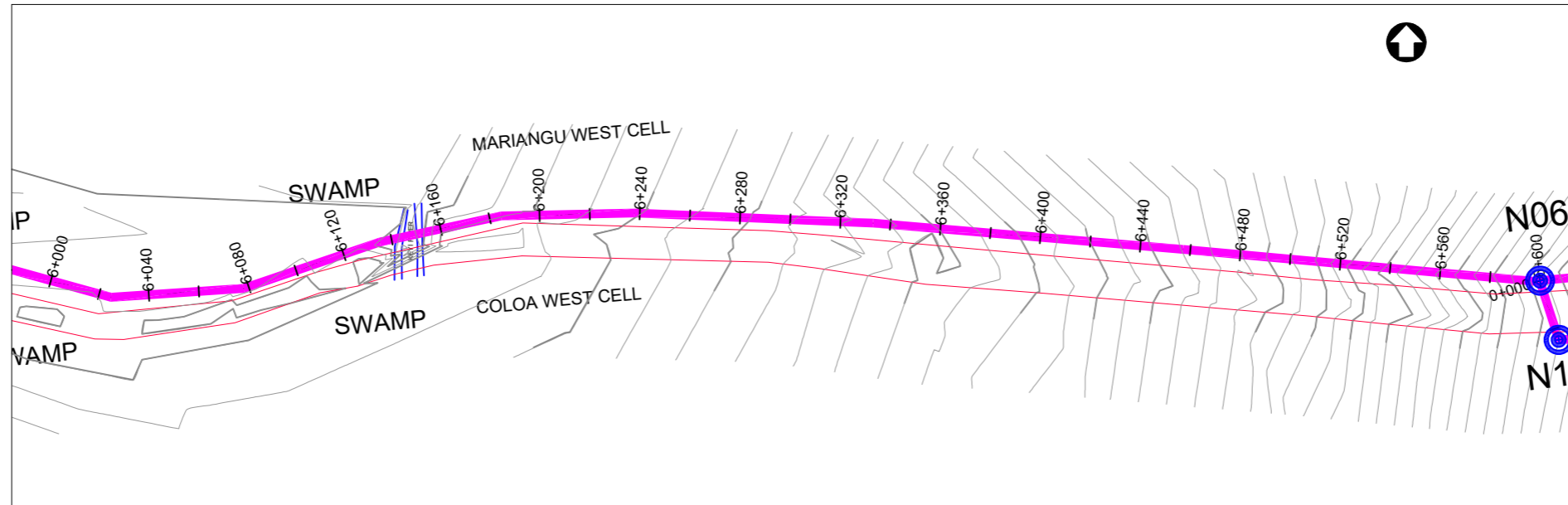
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 5+400.00 - 6+000.00)

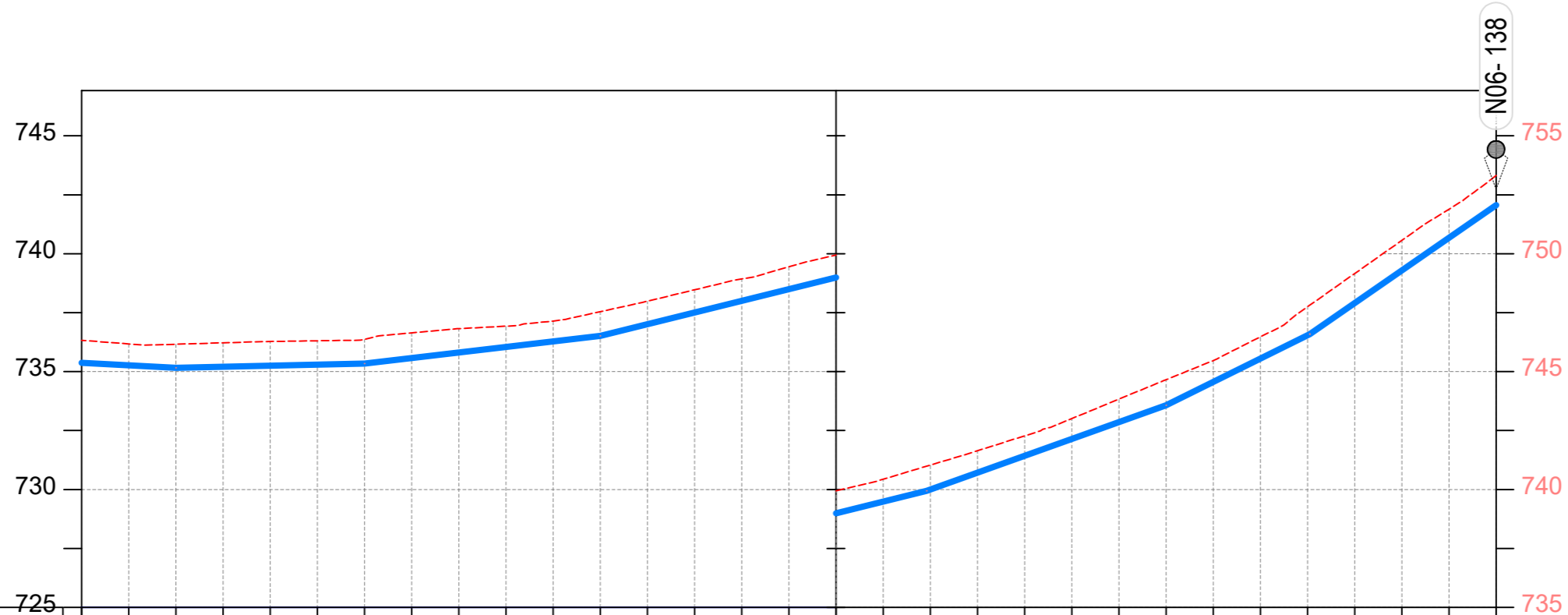
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
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	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.10 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	6+000		6+040		6+080		6+120		6+160		6+200		6+240		6+280		6+320		6+360		6+400		6+440		6+480		6+520		6+560		6+600	
GROUND LEVEL	736.321	736.174	736.162	736.222	736.279	736.308	736.372	736.646	736.824	736.927	737.144	737.542	737.987	738.470	738.929	739.443	739.948	740.437	741.036	741.644	742.274	743.009	743.833	744.656	745.468	746.475	747.750	749.157	750.565	751.888	753.317	
PIPE DETAILS	←————— OD225 uPVC PN10 —————→																															
INVERT LEVEL (m)	735.372	735.267	735.162	735.207	735.252	735.297	735.343	735.578	735.813	736.048	736.283	736.518	737.014	737.509	738.004	738.499	738.994	739.489	740.001	740.716	741.431	742.145	742.860	743.575	744.566	745.557	746.547	747.911	749.293	750.676	752.059	

LONGITUDINAL PROFILE

AMENDMENTS

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CO-FINANCE BY:



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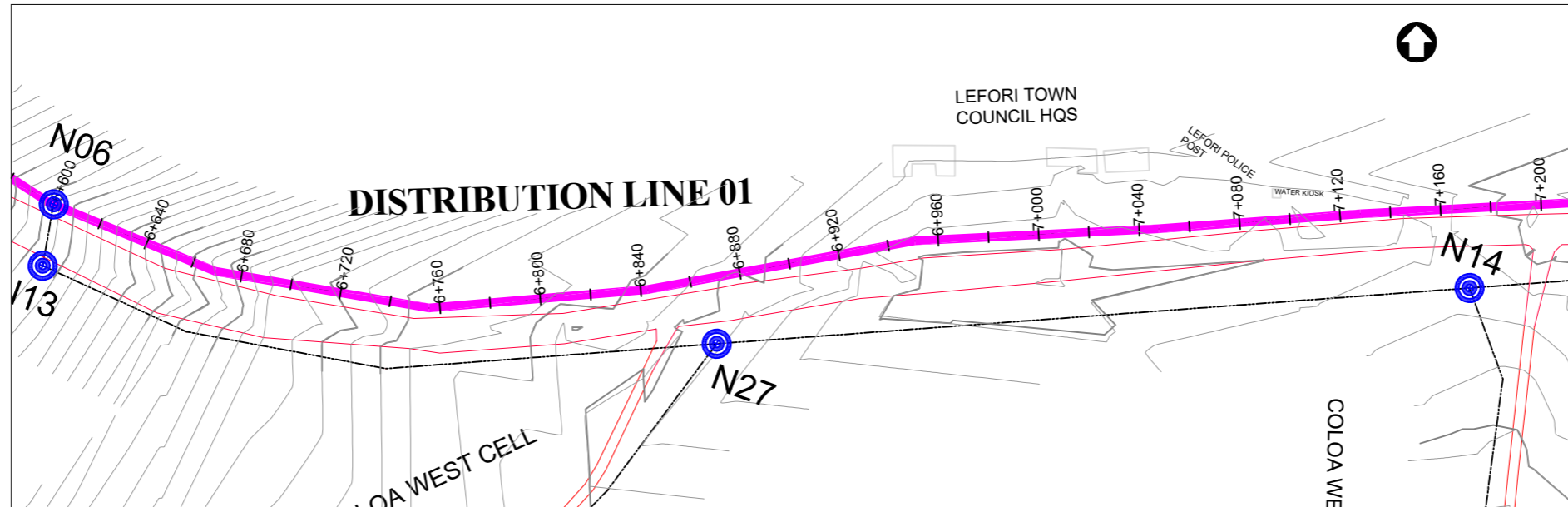
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**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 6+000.00 - 6+600.00)

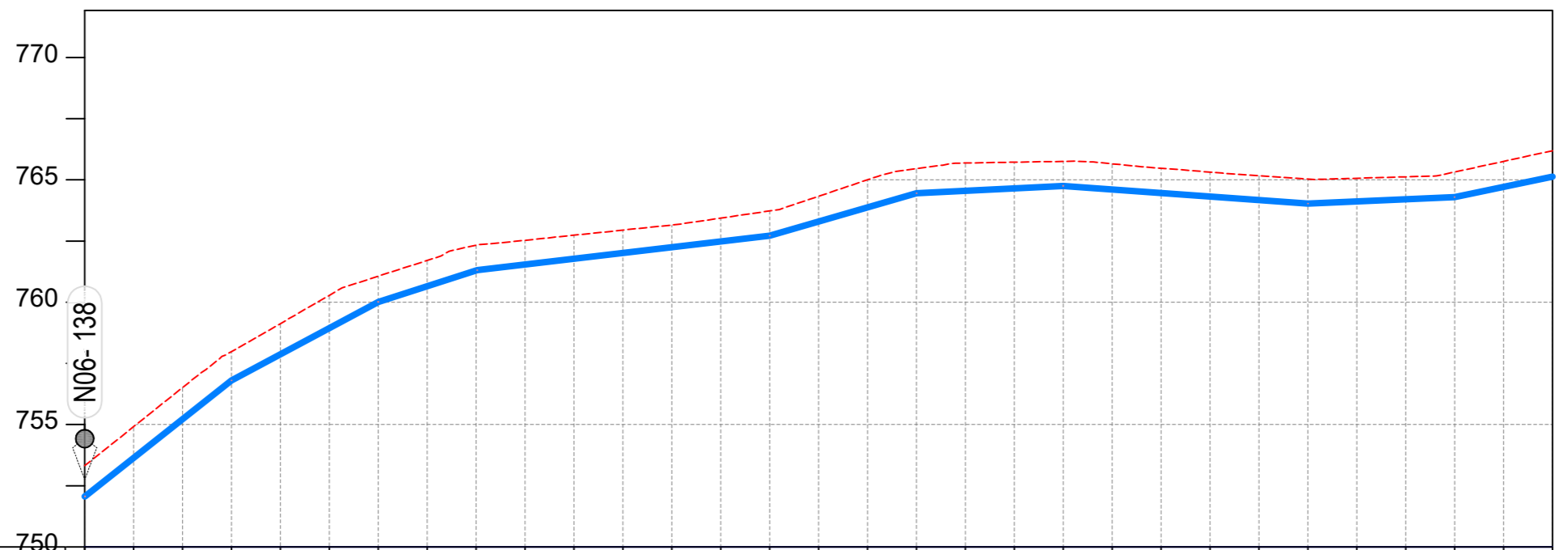
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.11 | Cad file No: WSS<22\_11>



**PLAN LAYOUT**



CHAINAGE	6+600		6+640		6+680		6+720		6+760		6+800		6+840		6+880		6+920		6+960		7+000		7+040		7+080		7+120		7+160		7+200	
GROUND LEVEL	753.317	754.915	756.513	757.982	759.125	760.285	761.065	761.707	762.326	762.531	762.739	762.947	763.155	763.437	763.731	764.329	765.003	765.459	765.690	765.723	765.756	765.657	765.476	765.317	765.173	765.035	765.067	765.125	765.321	765.756		
PIPE DETAILS	← OD160 uPVC PN10 →																															
INVERT LEVEL (m)	752.059	753.638	755.219	756.800	757.872	758.943	760.014	760.657	761.300	761.543	761.779	762.014	762.249	762.485	762.720	763.297	763.874	764.450	764.552	764.654	764.755	764.611	764.466	764.322	764.177	764.033	764.121	764.209	764.297	764.717		

**LONGITUDINAL PROFILE**

**AMENDMENTS**

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**CO-FINANCE BY:**



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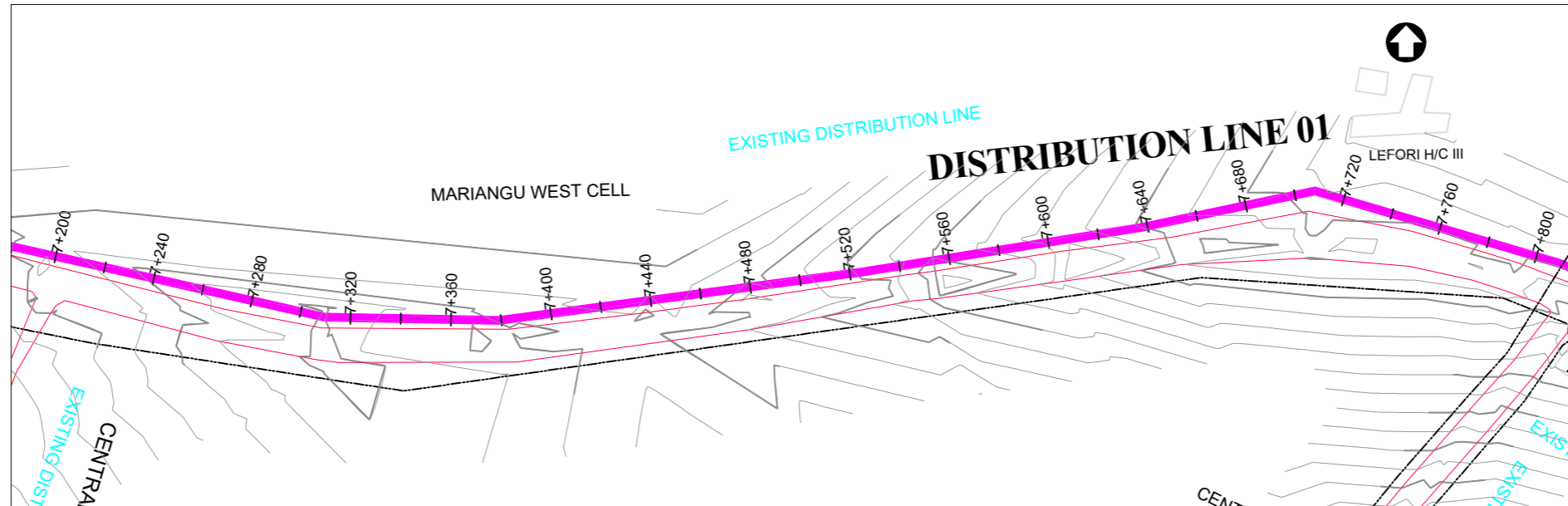
**Drawing Title:**

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 6+600.00 - 7+200.00)

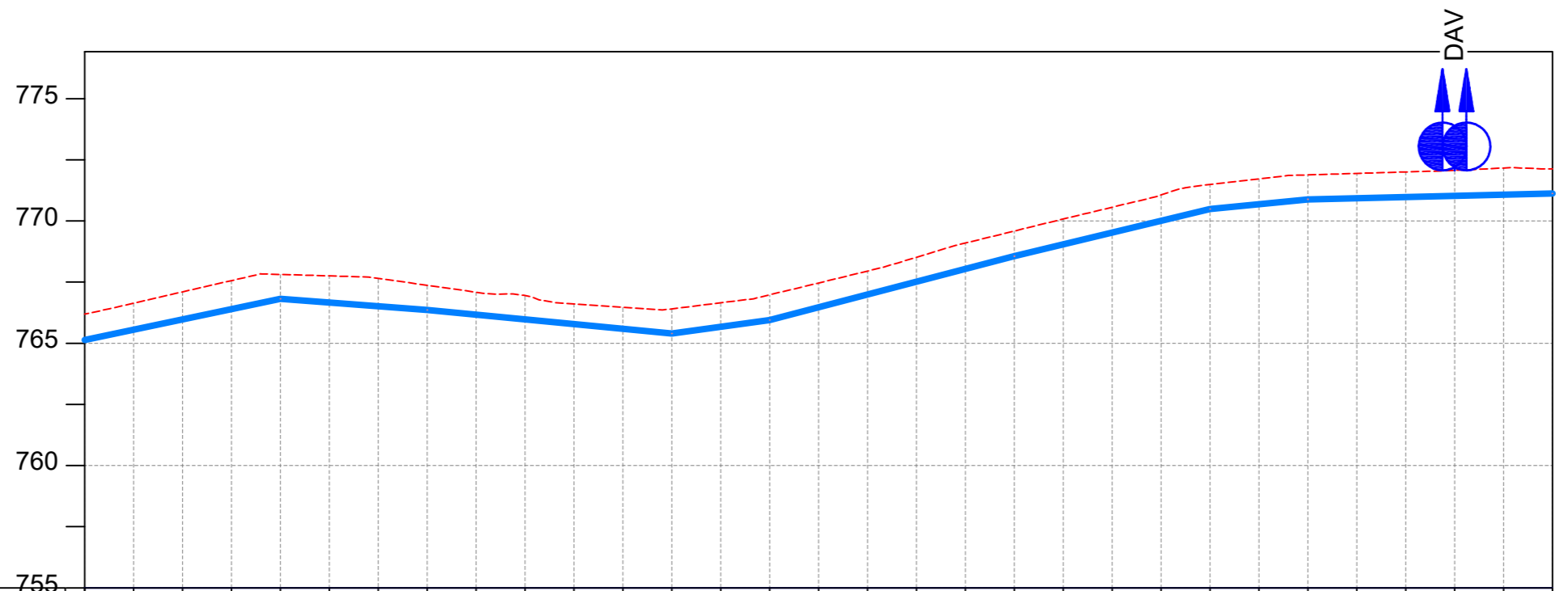
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

**ENGINEERING DESIGN DRAWING**

Drg No: MWE/GWE/4.1.12 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	7+200		7+240		7+280		7+320		7+360		7+400		7+440		7+480		7+520		7+560		7+600		7+640		7+680		7+720		7+760		7+800	
GROUND LEVEL	766.191	766.639	767.102	767.562	767.815	767.756	767.654	767.371	767.088	766.951	766.608	766.471	766.408	766.655	766.980	767.466	767.952	768.516	769.096	769.588	770.080	770.561	771.061	771.492	771.722	771.884	771.945	772.005	772.068	772.166		
PIPE DETAILS	← OD160 uPVC PN10 →																															
INVERT LEVEL (m)	765.136	765.556	765.976	766.395	766.815	766.663	766.512	766.361	766.169	765.977	765.784	765.592	765.400	765.676	765.951	766.473	766.994	767.515	768.037	768.558	769.040	769.522	770.004	770.486	770.685	770.884	770.932	770.980	771.028	771.077		

LONGITUDINAL PROFILE

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CO-FINANCE BY:



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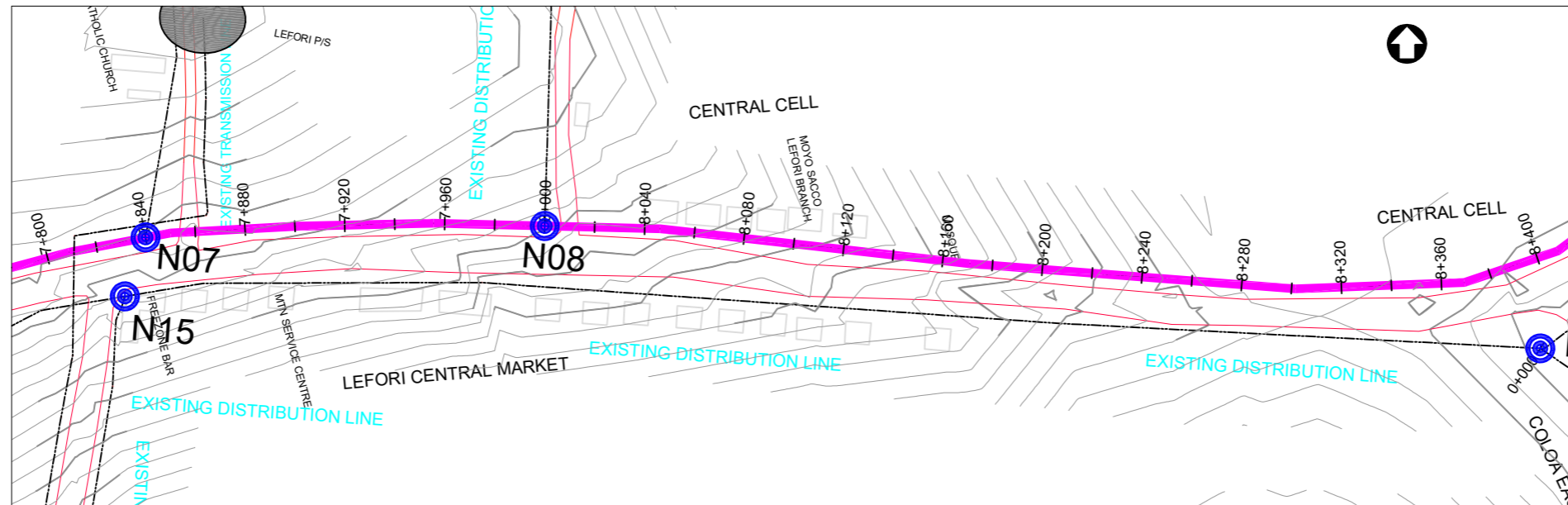
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**DISTRIBUTION LINE 01**  
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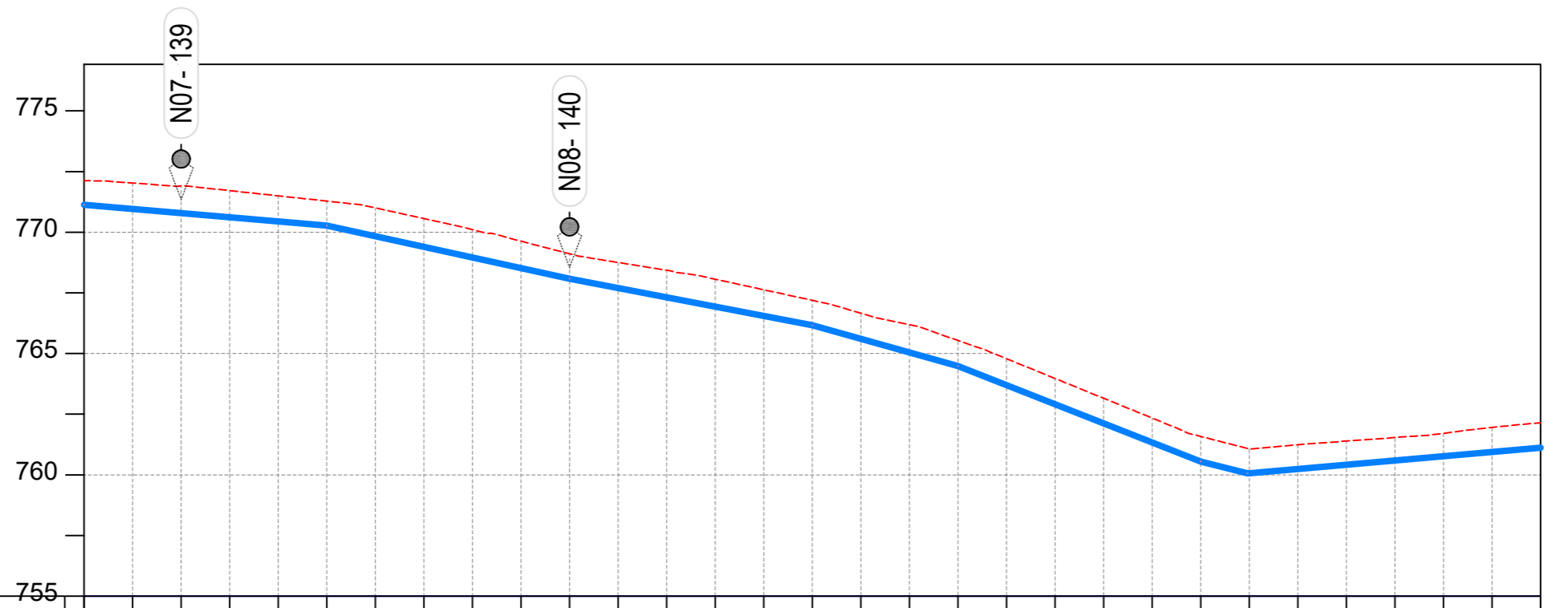
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ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.13 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	7+800		7+840		7+880		7+920		7+960		8+000		8+040		8+080		8+120		8+160		8+200		8+240		8+280		8+320		8+360		8+400
GROUND LEVEL	772.125	772.027	771.911	771.713	771.498	771.282	771.000	770.564	770.104	769.629	769.113	768.754	768.430	768.063	767.627	767.191	766.660	766.187	765.539	764.786	763.971	763.156	762.341	761.582	761.072	761.242	761.390	761.536	761.711	761.952	762.145
PIPE DETAILS	← OD160 uPVC PN10 →											← OD110 uPVC PN10 →																			
INVERT LEVEL (m)	771.125	770.955	770.786	770.616	770.446	770.277	769.837	769.398	768.959	768.519	768.080	767.698	767.315	766.933	766.550	766.168	765.605	765.042	764.479	763.693	762.908	762.122	761.336	760.550	760.061	760.238	760.414	760.591	760.767	760.944	761.120

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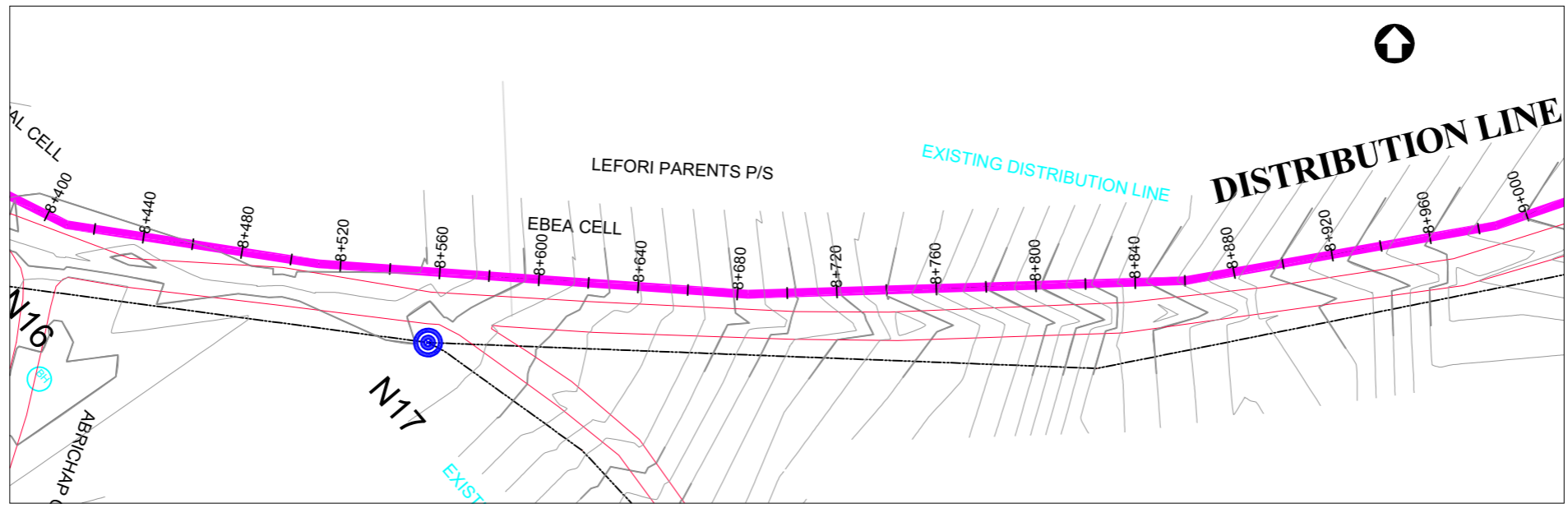
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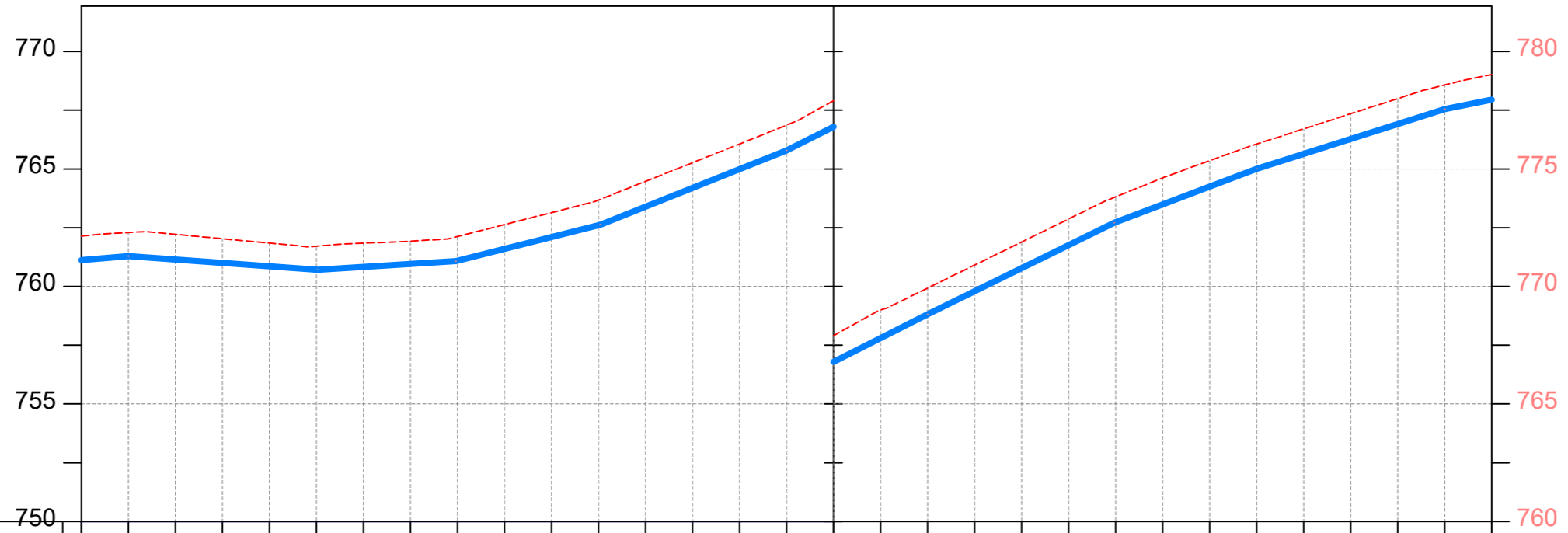
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ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.14 | Cad file No WSS<22\_11>



**PLAN LAYOUT**



CHAINAGE	8+400		8+440		8+480		8+520		8+560		8+600		8+640		8+680		8+720		8+760		8+800		8+840		8+880		8+920		8+960		9+000	
GROUND LEVEL	762.145	762.299	762.217	762.031	761.845	761.710	761.842	761.926	762.124	762.633	763.143	763.675	764.471	765.266	766.062	766.865	767.907	768.994	769.931	770.911	771.890	772.870	773.811	774.616	775.349	776.059	776.704	777.348	777.993	778.571	779.017	
PIPE DETAILS	←————— OD110 uPVC PN10 —————→																															
INVERT LEVEL (m)	761.120	761.296	761.151	761.005	760.860	760.714	760.831	760.955	761.091	761.598	762.104	762.610	763.396	764.193	764.990	765.787	766.797	767.807	768.817	769.797	770.777	771.757	772.730	773.489	774.249	775.008	775.641	776.274	776.908	777.541	777.950	

**LONGITUDINAL PROFILE**

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washout locations are identified by marker post in positions.
  - For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
DAV	Double Orifice Air Valve
WO_2	Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities in Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

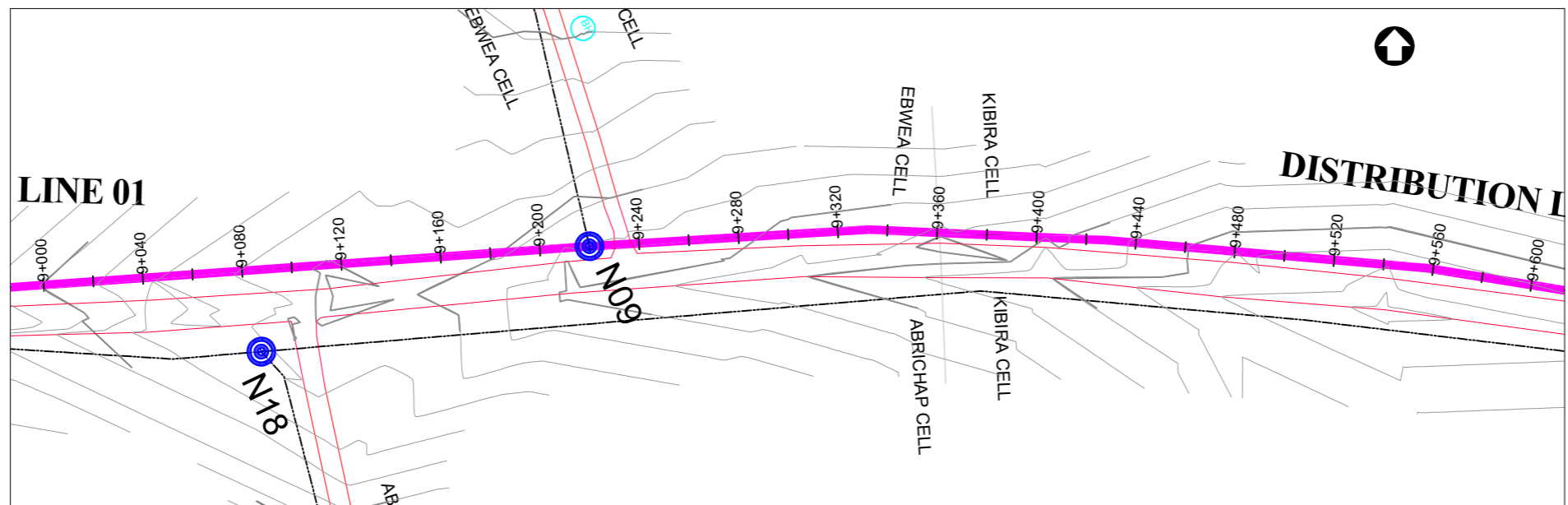
Consultant:

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

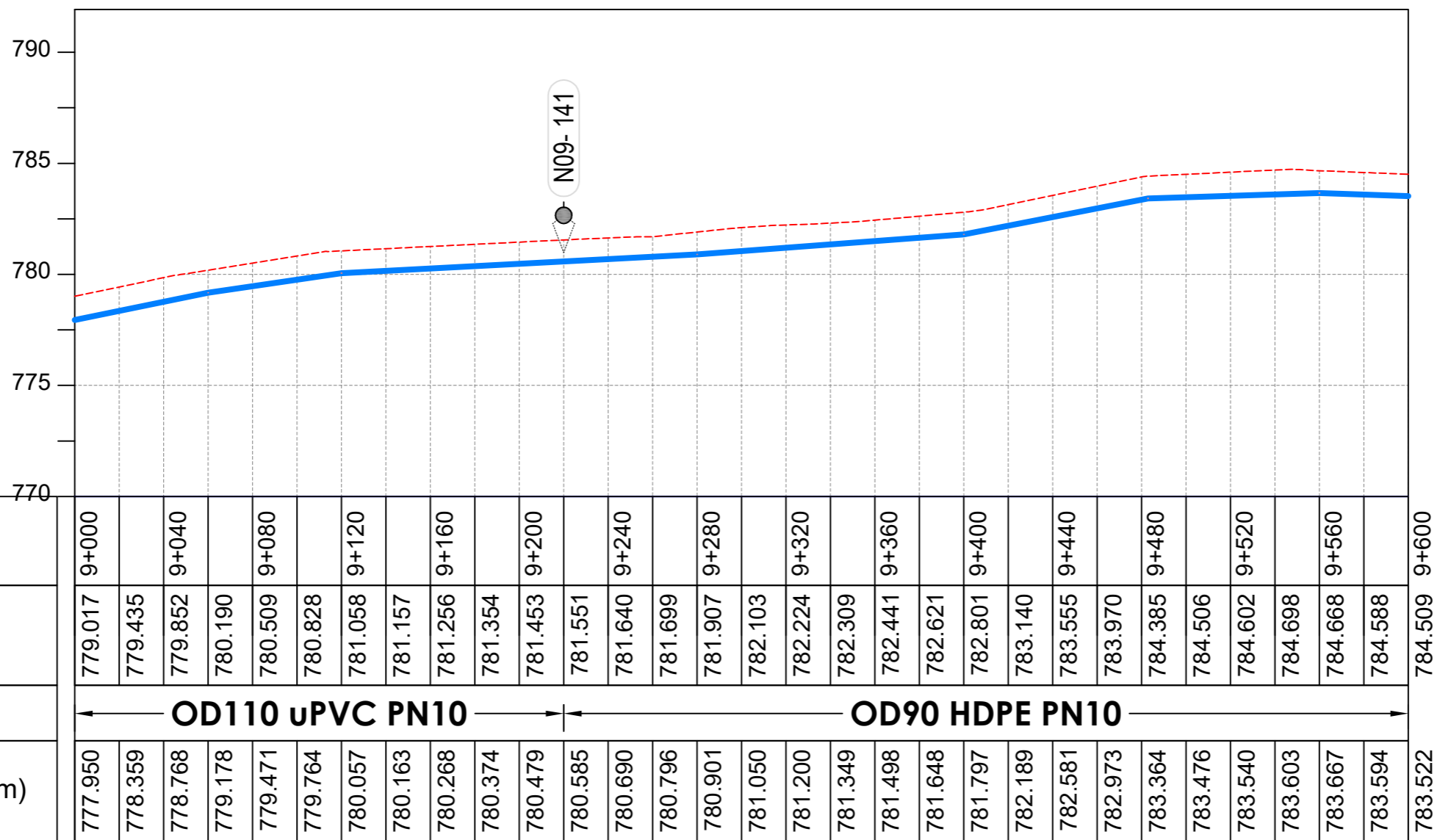
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 8+400.00 - 9+000.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



PLAN LAYOUT



LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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Outfall Chamber	SD 116
Marker Post	SD 117
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Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:



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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

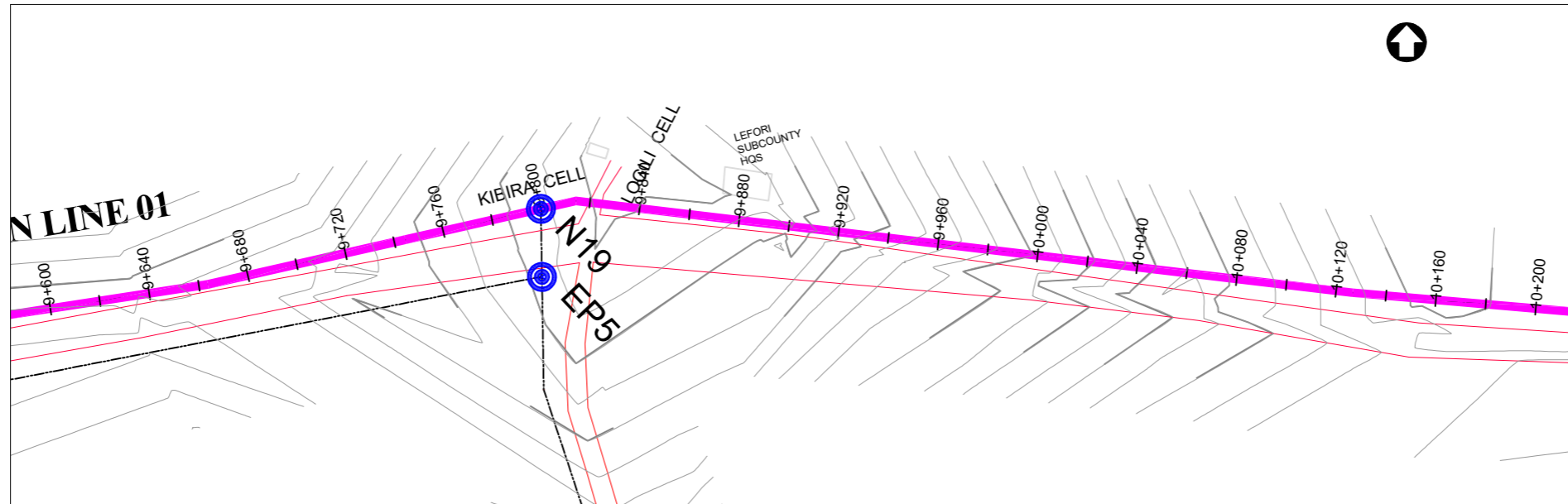
**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 9+000.00 - 9+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

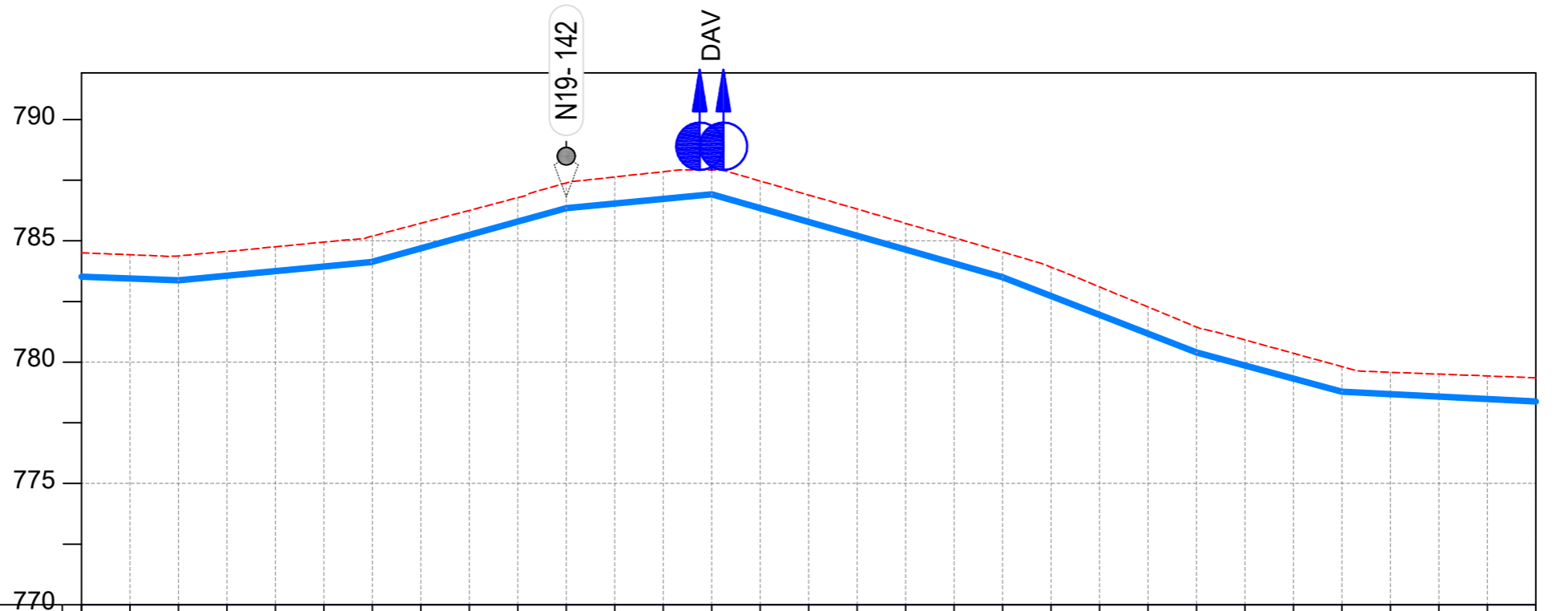
ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.16 | Cad file No WSS<22\_11>





PLAN LAYOUT



CHAINAGE	9+600		9+640		9+680		9+720		9+760		9+800		9+840		9+880		9+920		9+960		10+000		10+040		10+080		10+120		10+160		10+200	
GROUND LEVEL	784.509	784.430	784.380	784.564	784.756	784.951	785.199	785.727	786.255	786.782	787.387	787.635	787.853	787.924	787.468	786.891	786.315	785.724	785.134	784.544	783.921	783.105	782.277	781.449	780.917	780.368	779.819	779.584	779.508	779.432	779.357	
PIPE DETAILS	←————— OD90 HDPE PN10 —————→																															
INVERT LEVEL (m)	783.522	783.449	783.376	783.566	783.756	783.946	784.146	784.696	785.246	785.797	786.347	786.539	786.732	786.924	786.354	785.783	785.213	784.642	784.072	783.502	782.727	781.952	781.177	780.402	779.862	779.322	778.782	778.681	778.581	778.481	778.380	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:

**THE WORLD BANK** AND

GOVERNMENT OF UGANDA

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI**  
CONSULTING LTD  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

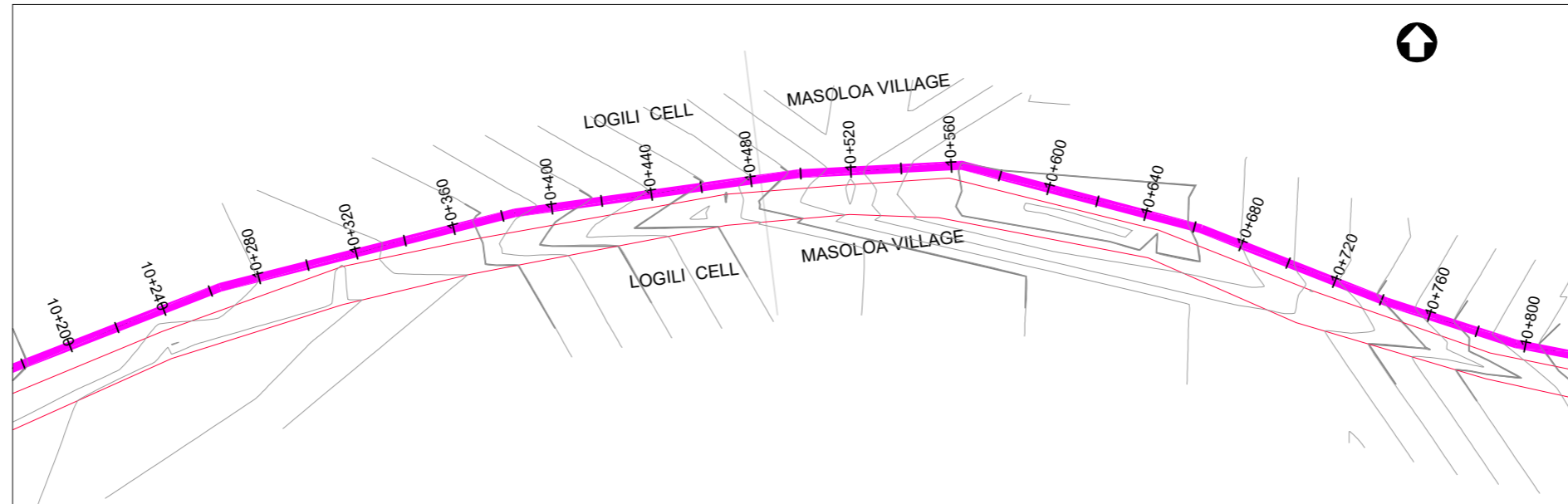
Drawing Title:

**DISTRIBUTION LINE 01**  
Distribution Line 01 (CH 9+600.00 - 10+200.00)

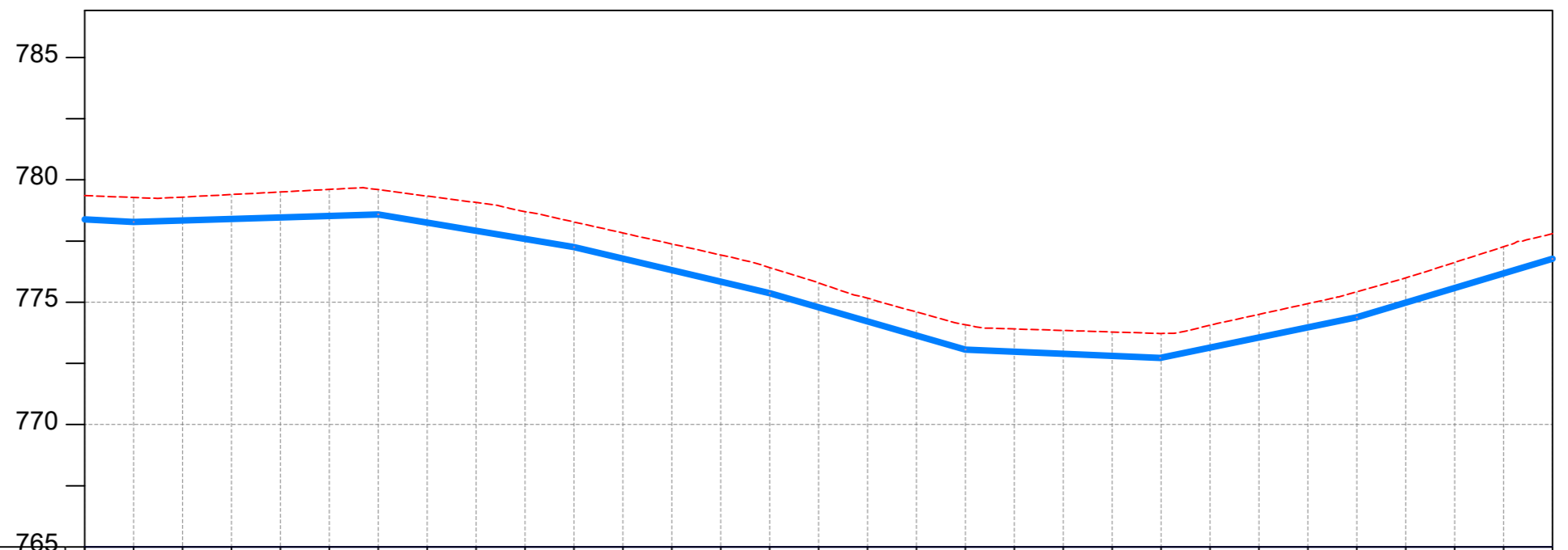
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.17 | Cad file No WSS<22\_11>



**PLAN LAYOUT**



CHAINAGE	10+200		10+240		10+280		10+320		10+360		10+400		10+440		10+480		10+520		10+560		10+600		10+640		10+680		10+720		10+760		10+800	
GROUND LEVEL	779.357	779.281	779.296	779.401	779.505	779.609	779.599	779.337	779.075	778.702	778.279	777.830	777.381	776.931	776.417	775.792	775.166	774.601	774.079	773.908	773.846	773.784	773.723	774.057	774.503	774.941	775.423	775.995	776.627	777.266		
PIPE DETAILS	← <b>OD90 HDPE PN10</b> →																															
INVERT LEVEL (m)	778.380	778.280	778.342	778.404	778.466	778.528	778.590	778.256	777.922	777.588	777.254	776.783	776.312	775.841	775.369	774.792	774.214	773.637	773.059	772.975	772.890	772.805	772.730	773.143	773.557	773.970	774.383	774.981	775.578	776.175		

**LONGITUDINAL PROFILE**

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
	DAV Double Orifice Air Valve
	WO_2 Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

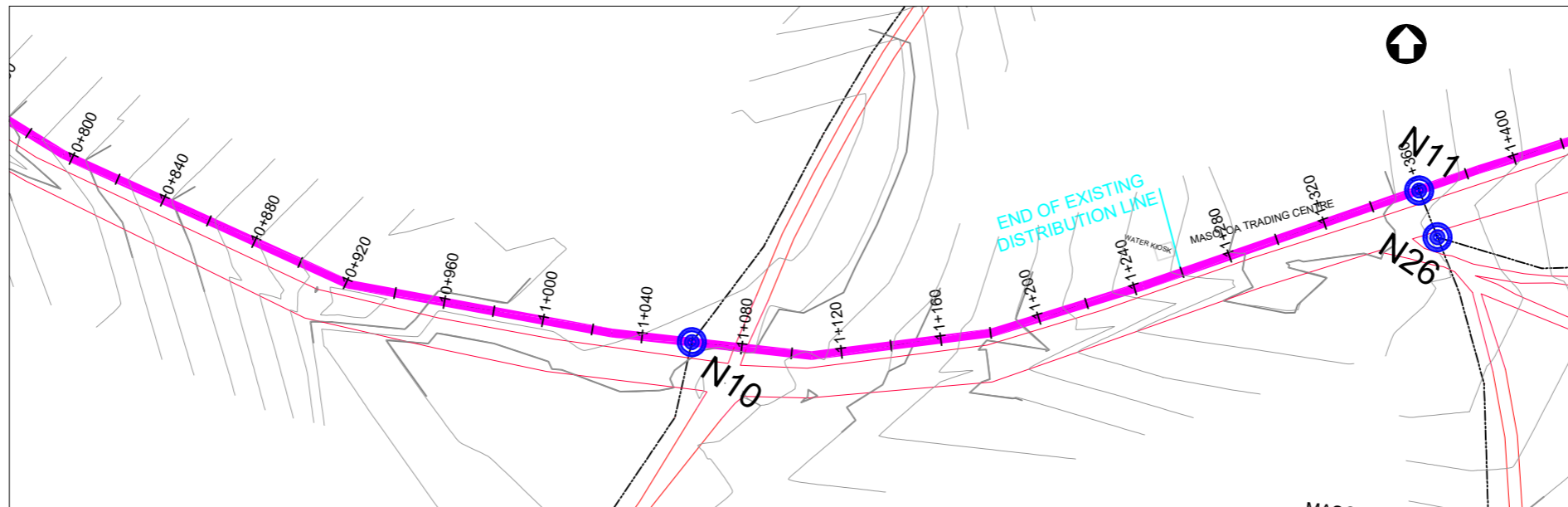
Consultant:

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

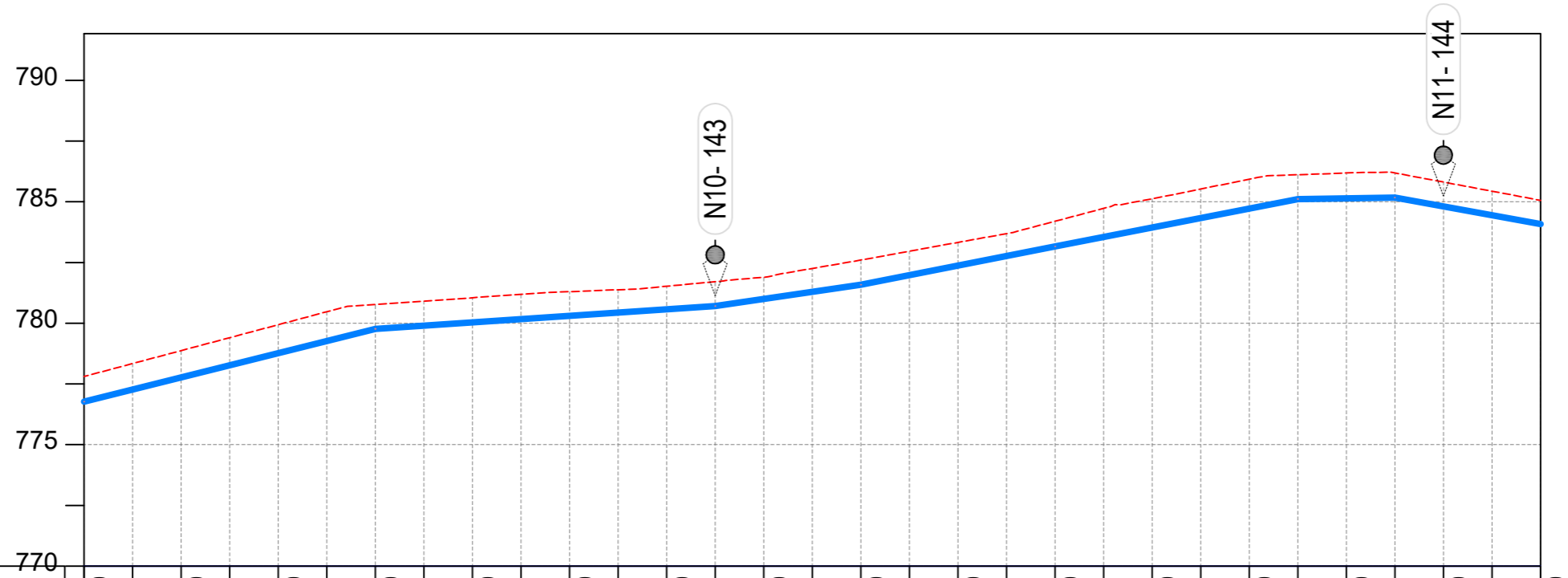
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 10+200.00 - 10+800.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



PLAN LAYOUT



CHAINAGE	10+800		10+840		10+880		10+920		10+960		11+000		11+040		11+080		11+120		11+160		11+200		11+240		11+280		11+320		11+360		11+400
GROUND LEVEL	777.807	778.340	778.873	779.407	779.940	780.473	780.773	780.911	781.050	781.188	781.300	781.379	781.524	781.711	781.895	782.255	782.603	782.966	783.328	783.691	784.199	784.729	785.126	785.526	785.930	786.115	786.186	786.190	785.814	785.438	785.060
PIPE DETAILS	OD90 HDPE PN10												OD63 HDPE PN10										OD50 HDPE PN10								
INVERT LEVEL (m)	776.772	777.272	777.772	778.271	778.771	779.271	779.771	779.904	780.038	780.172	780.305	780.439	780.572	780.706	781.000	781.293	781.586	781.981	782.375	782.770	783.164	783.554	783.944	784.335	784.725	785.115	785.143	785.172	784.808	784.444	784.080

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:

**THE WORLD BANK** AND

GOVERNMENT OF UGANDA

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

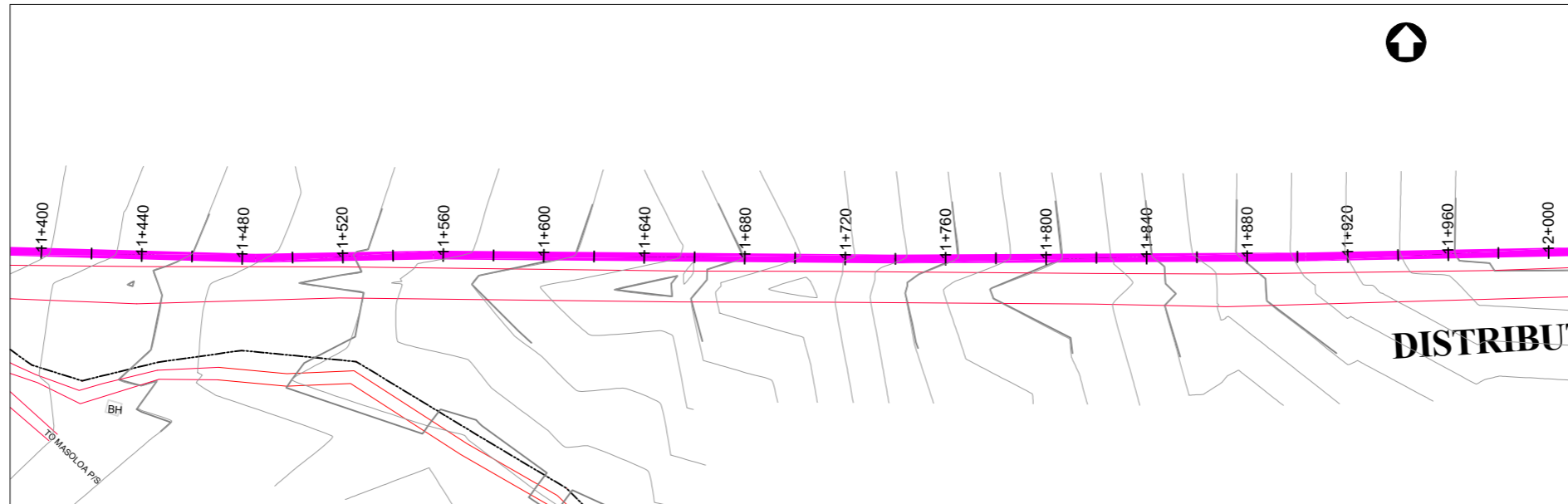
**SARI**  
CONSULTING LTD

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

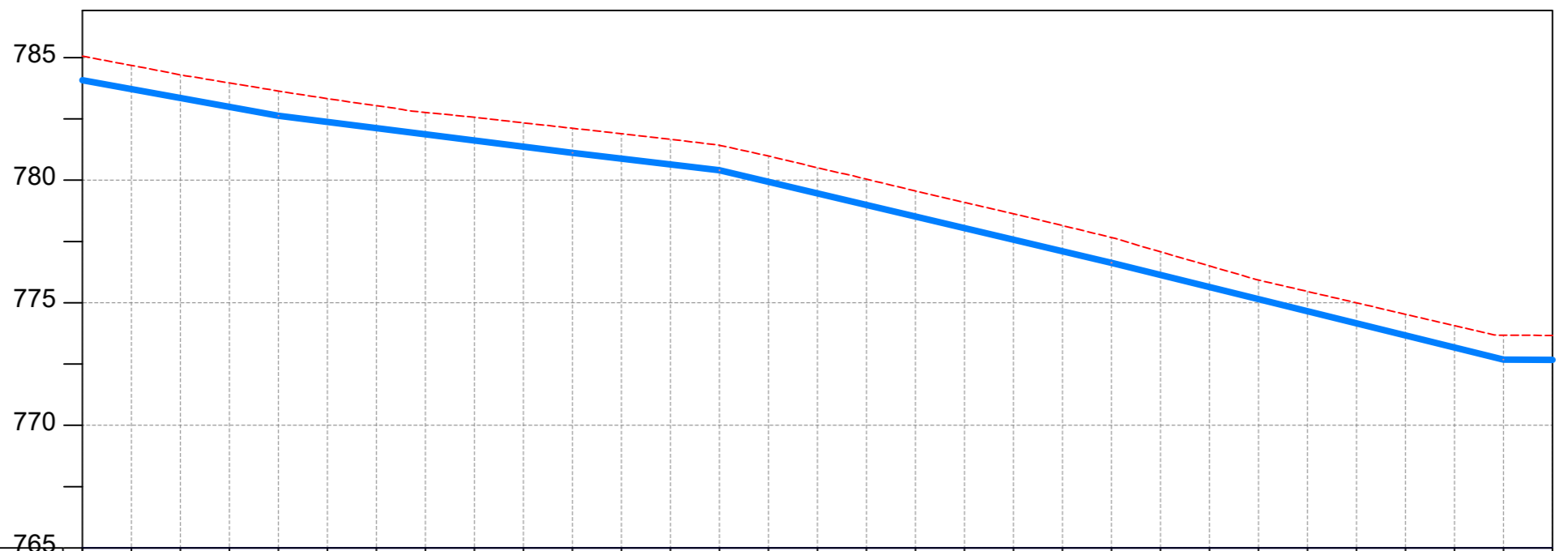
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 10+800.00 - 11+400.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



PLAN LAYOUT



CHAINAGE	11+400		11+440		11+480		11+520		11+560		11+600		11+640		11+680		11+720		11+760		11+800		11+840		11+880		11+920		11+960		12+000	
GROUND LEVEL	785.060	784.682	784.298	783.967	783.638	783.328	783.040	782.765	782.564	782.341	782.118	781.895	781.668	781.427	780.987	780.508	780.041	779.560	779.094	778.629	778.151	777.665	777.079	776.503	775.924	775.462	774.997	774.532	774.067	773.677	773.667	
PIPE DETAILS	←————— OD63 HDPE PN10 —————→																															
INVERT LEVEL (m)	784.080	783.716	783.352	782.988	782.624	782.372	782.120	781.868	781.616	781.364	781.112	780.875	780.638	780.401	779.930	779.459	778.988	778.516	778.045	777.574	777.103	776.631	776.137	775.643	775.148	774.654	774.160	773.666	773.171	772.677	772.666	

LONGITUDINAL PROFILE

AMENDMENTS

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1	7.28.2023	Draft Design

NOTES

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Outfall Chamber	SD 116
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LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

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 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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Consultant:

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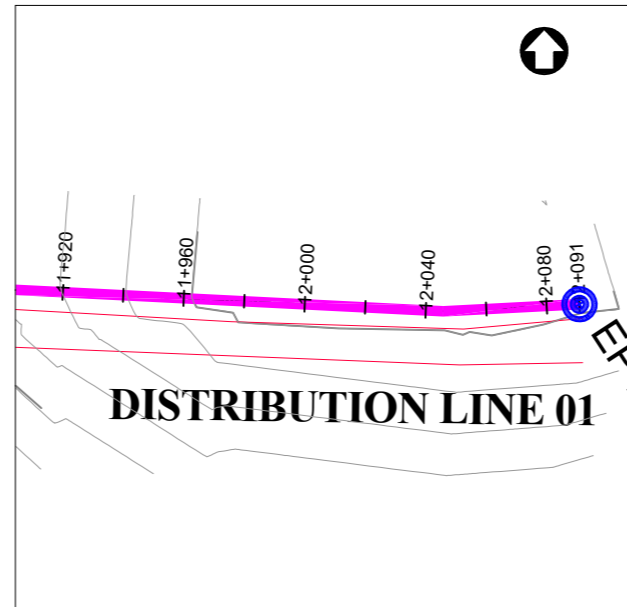
Drawing Title:

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 11+400.00 - 12+000.00)

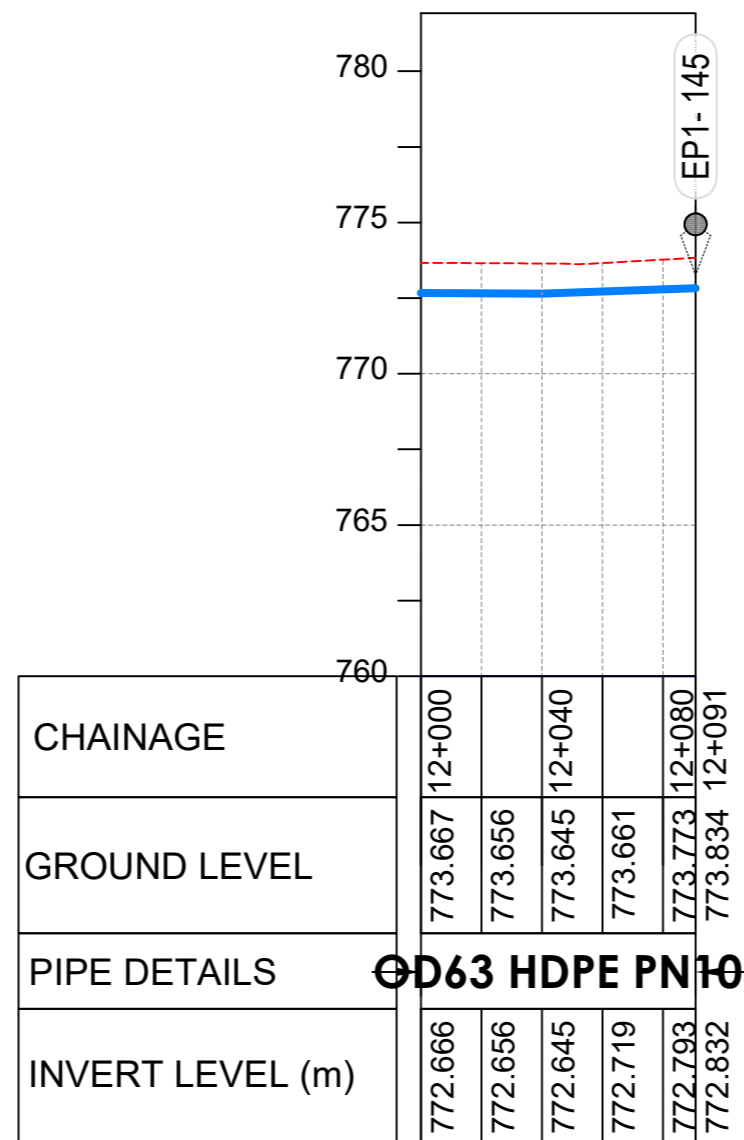
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.20 | Cad file No WSS<22\_11>



PLAN LAYOUT



LONGITUDINAL PROFILE

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

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**CO-FINANCE BY:**



**CLIENT**

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**- LOT 1 - MADI OKOLLO, TEREKO AND MOYO DISTRICTS -**

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**Consultant:**

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 Corporate Headquarter  
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 London EC3M 8AA,  
 United Kingdom

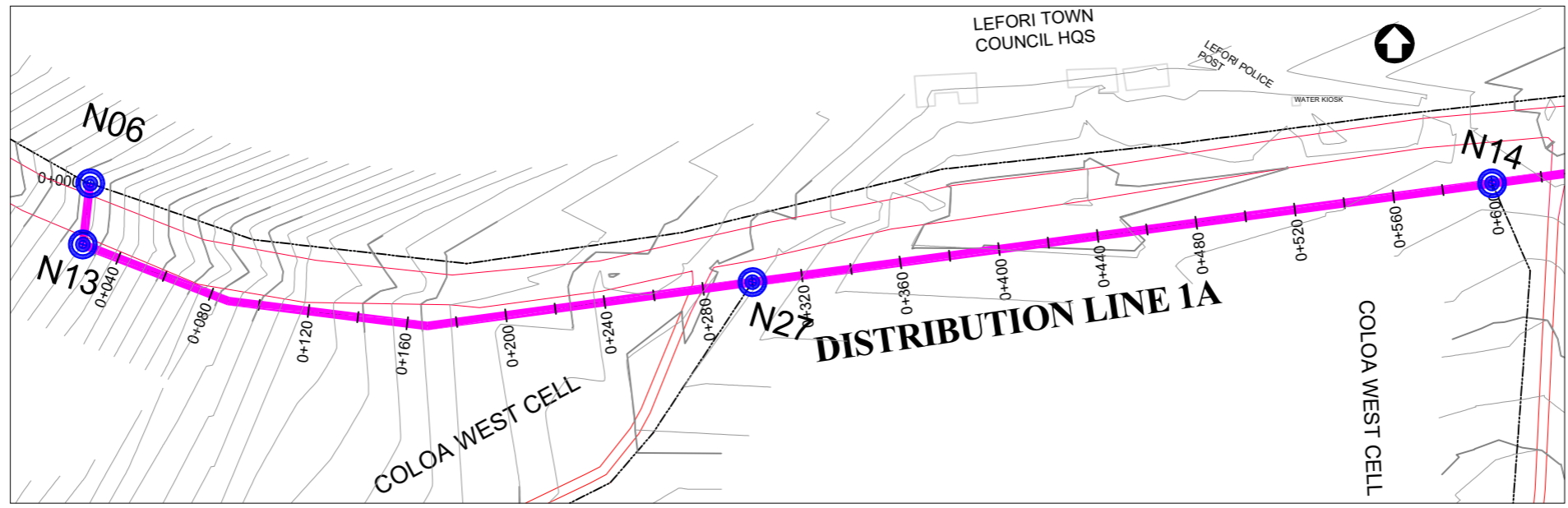
**Drawing Title:**

**DISTRIBUTION LINE 01**  
 Distribution Line 01 (CH 12+000.00 - 12+090.84)

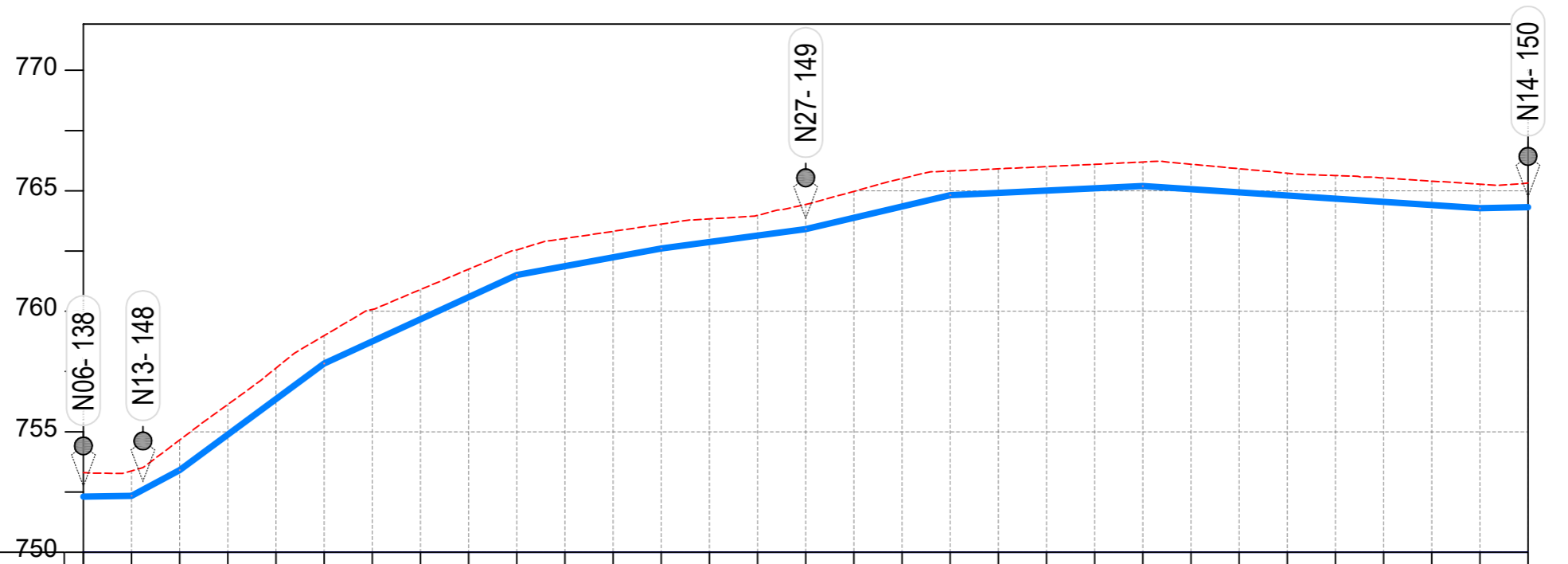
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1.21 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	753.306	753.376	754.659	756.135	757.641	758.989	760.078	760.901	761.746	762.548	763.019	763.317	763.615	763.834	763.978	764.432	764.978	765.510	765.820	765.911	766.004	766.099	766.195	766.101	765.917	765.732	765.632	765.533	765.404	765.275	765.320	
PIPE DETAILS	OD160 uPVC PN10																															
INVERT LEVEL (m)	752.303	752.335	753.408	754.881	756.355	757.828	758.748	759.669	760.589	761.509	761.874	762.239	762.604	762.872	763.140	763.409	763.879	764.349	764.819	764.913	765.006	765.100	765.194	765.063	764.931	764.799	764.668	764.536	764.404	764.273	764.315	

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

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  - For Node details, see Dwg. MWE/GWE/5.0.0
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:

THE WORLD BANK AND GOVERNMENT OF UGANDA

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

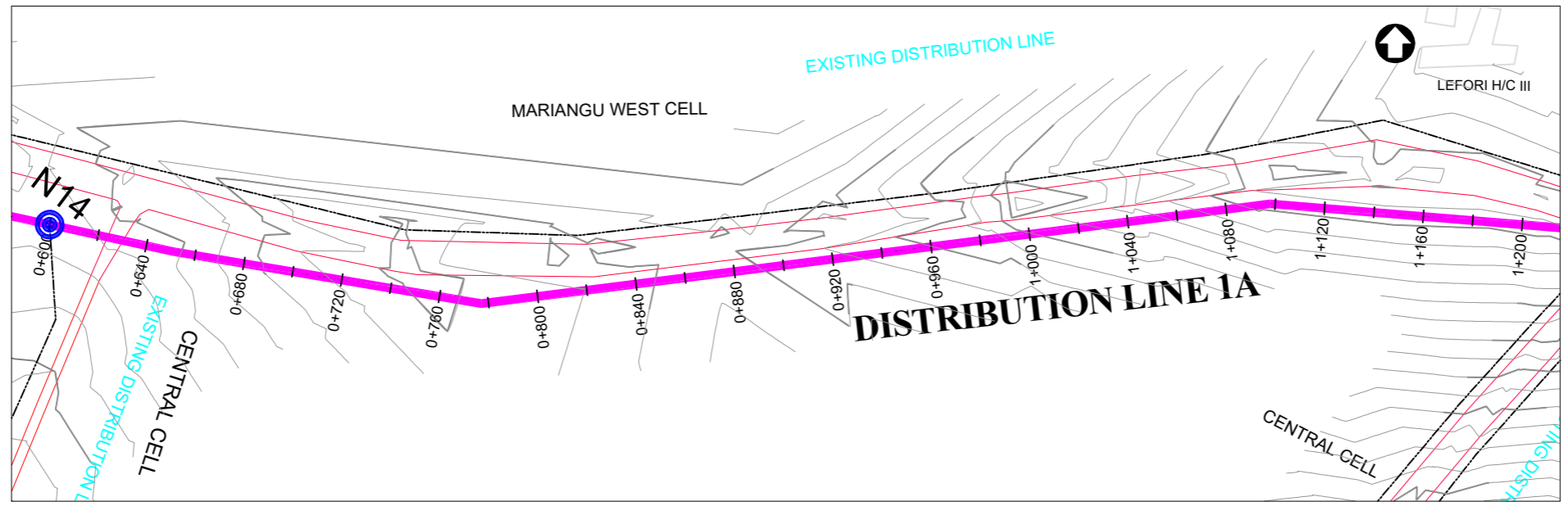
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**DISTRIBUTION LINE 1A**  
 Distribution Line 1A (CH 0+000.00 - 0+600.00)

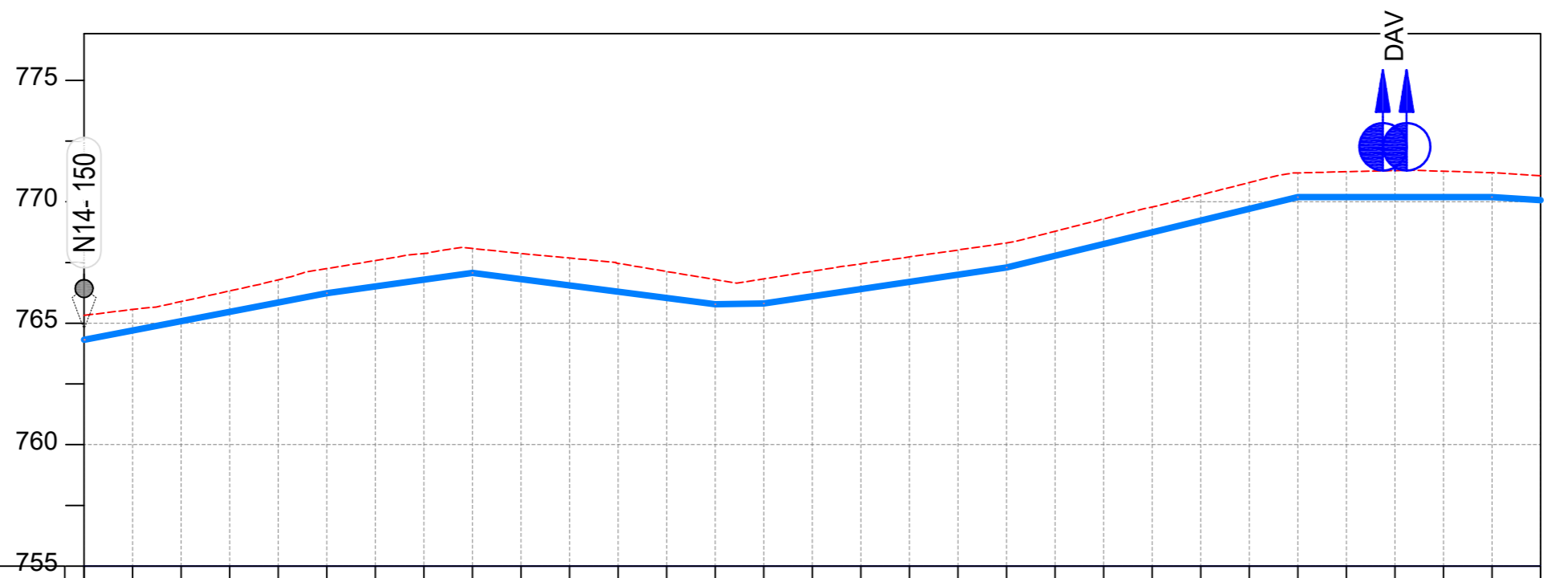
Scale: Vertical Scale: 1:250 Horizontal Scale: 1:2500	Designed: O.R Daniel
Date: Nov-2022	Drawn: P.S Eyamu
	Checked: O.R Daniel
	Approved: O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1A.1 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920		0+960		1+000		1+040		1+080		1+120		1+160		1+200	
GROUND LEVEL	765.320	765.568	765.892	766.329	766.786	767.250	767.578	767.868	768.076	767.872	767.682	767.465	767.130	766.796	766.825	767.141	767.445	767.729	768.013	768.305	768.784	769.292	769.783	770.284	770.792	771.189	771.237	771.285	771.257	771.196		
PIPE DETAILS	← OD160 uPVC PN10 →																															
INVERT LEVEL (m)	764.315	764.696	765.081	765.466	765.851	766.236	766.514	766.792	767.070	766.813	766.555	766.297	766.039	765.782	765.813	766.109	766.405	766.701	766.997	767.293	767.775	768.258	768.741	769.223	769.706	770.189	770.190	770.192	770.194	770.196		

LONGITUDINAL PROFILE

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**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
	DAV Double Orifice Air Valve
	WO_2 Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

THE WORLD BANK AND GOVERNMENT OF UGANDA

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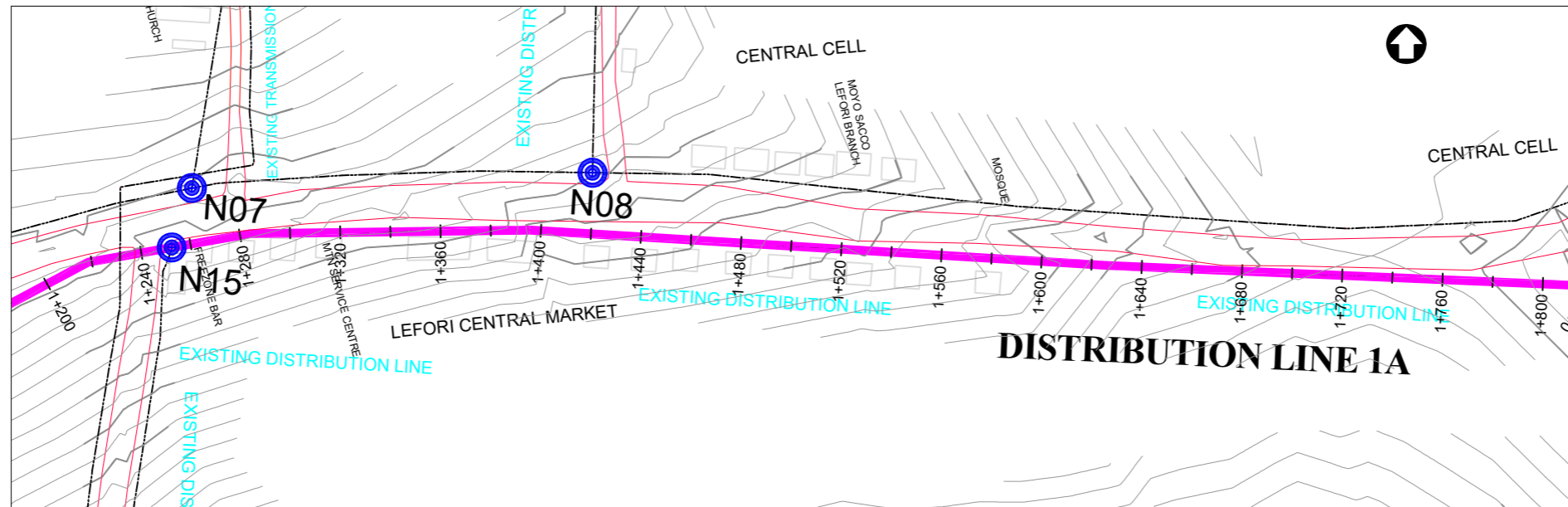
Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
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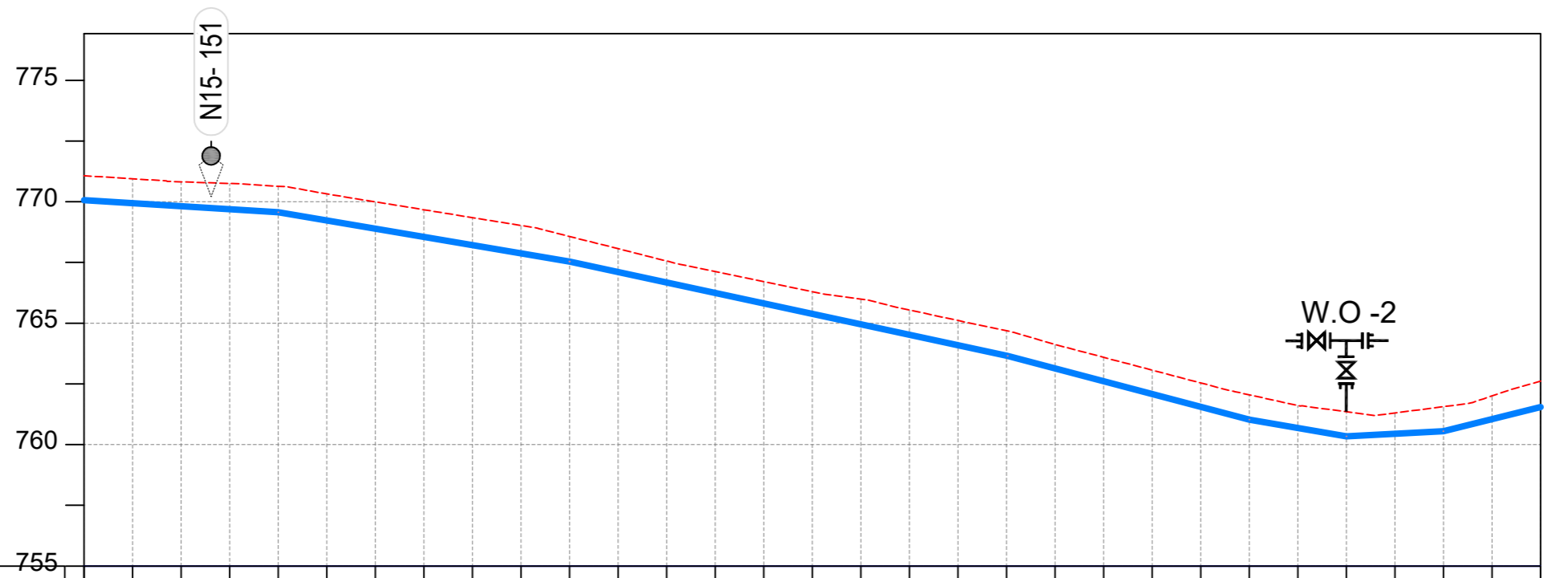
Drawing Title:

**DISTRIBUTION LINE 1A**  
 Distribution Line 1A (CH 0+600.00 - 1+200.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



PLAN LAYOUT



CHAINAGE	1+200	1+240	1+280	1+320	1+360	1+400	1+440	1+480	1+520	1+560	1+600	1+640	1+680	1+720	1+760	1+800														
GROUND LEVEL	771.072	770.946	770.823	770.754	770.638	770.321	769.996	769.671	769.347	769.022	768.573	768.067	767.561	767.125	766.713	766.300	765.995	765.543	765.113	764.687	764.123	763.596	763.068	762.541	762.051	761.611	761.352	761.304	761.562	762.003
PIPE DETAILS	OD160 uPVC PN10										OD110 uPVC PN10																			
INVERT LEVEL (m)	770.070	769.945	769.819	769.693	769.567	769.230	768.892	768.554	768.217	767.879	767.541	767.111	766.680	766.249	765.818	765.387	764.957	764.526	764.095	763.664	763.139	762.611	762.083	761.555	761.027	760.685	760.343	760.449	760.554	761.049

LONGITUDINAL PROFILE

AMENDMENTS

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LEGEND

- Transmission Mains
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- Building/House
- Contours
- Road
- Tree
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- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:



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Consultant:

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 Corporate Headquarter  
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Drawing Title:

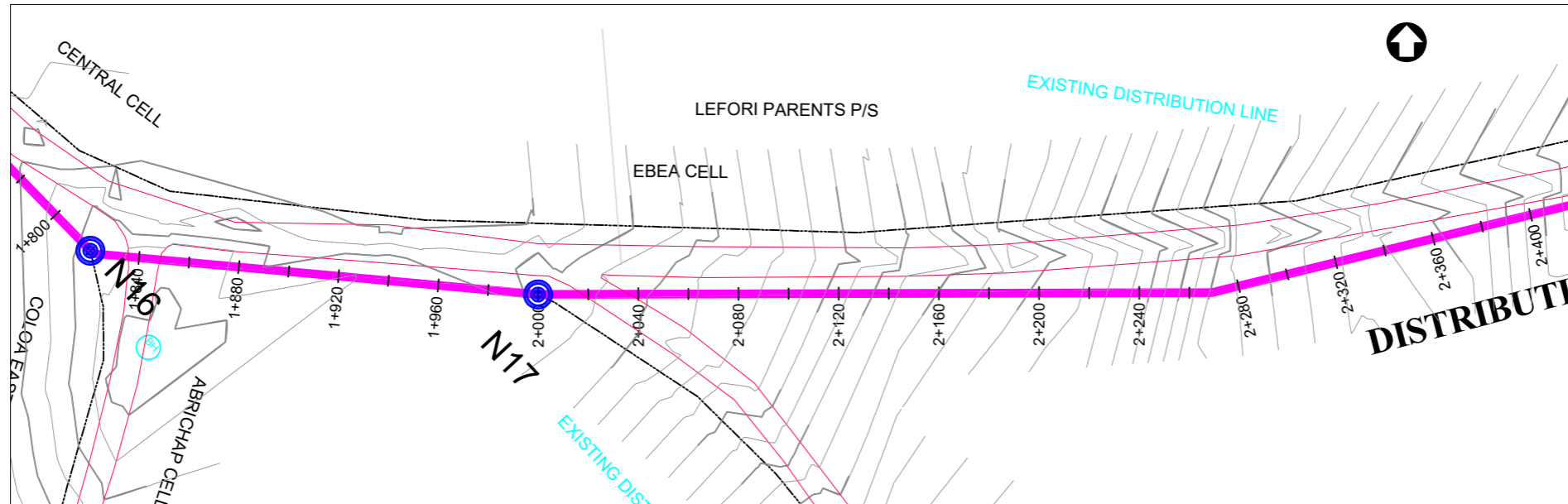
**DISTRIBUTION LINE 1A**  
 Distribution Line 1A (CH 1+200.00 - 1+800.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

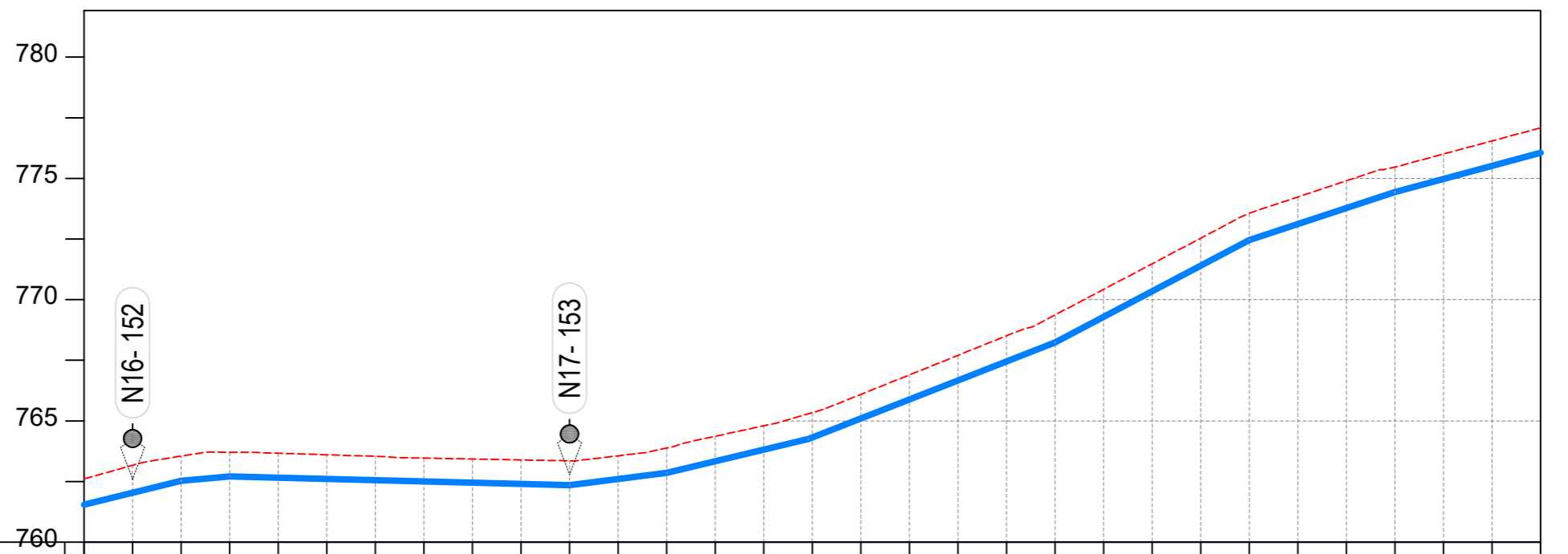
ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1A.3 Cad file No WSS<22\_11>





PLAN LAYOUT



CHAINAGE	1+800		1+840		1+880		1+920		1+960		2+000		2+040		2+080		2+120		2+160		2+200		2+240		2+280		2+320		2+360		2+400	
GROUND LEVEL	762.611	763.167	763.548	763.709	763.668	763.603	763.539	763.467	763.429	763.391	763.353	763.561	763.878	764.366	764.798	765.343	766.093	766.898	767.702	768.507	769.369	770.424	771.479	772.534	773.565	774.233	774.901	775.465	776.004	776.545	777.085	777.545
PIPE DETAILS	OD90 HDPE PN10											OD63 HDPE PN10																				
INVERT LEVEL (m)	761.544	762.039	762.534	762.709	762.658	762.607	762.556	762.506	762.455	762.404	762.353	762.606	762.860	763.337	763.814	764.316	765.100	765.885	766.669	767.454	768.239	769.294	770.348	771.403	772.458	773.119	773.780	774.441	774.979	775.516	776.054	776.545

LONGITUDINAL PROFILE

AMENDMENTS

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LEGEND

- Transmission Mains
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- Contours
- Road
- Tree
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- 10 Node detail No. 101

CO-FINANCE BY:



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Consultant:

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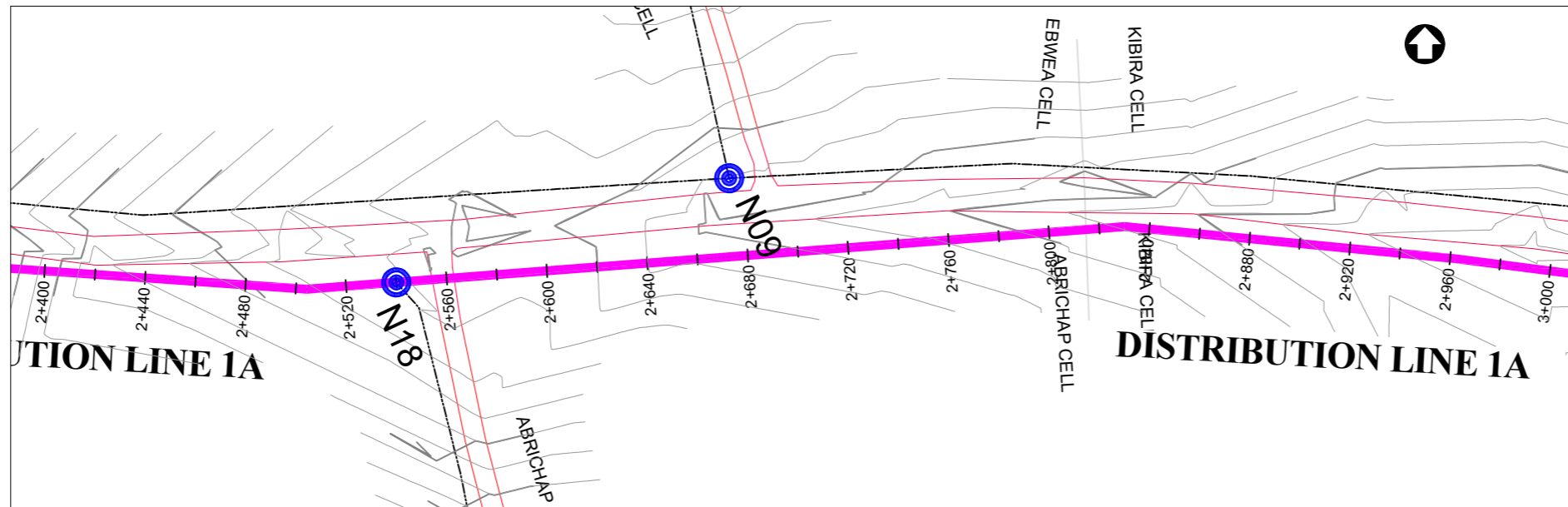
Drawing Title:

**DISTRIBUTION LINE 1A**  
 Distribution Line 1A (CH 1+800.00 - 2+400.00)

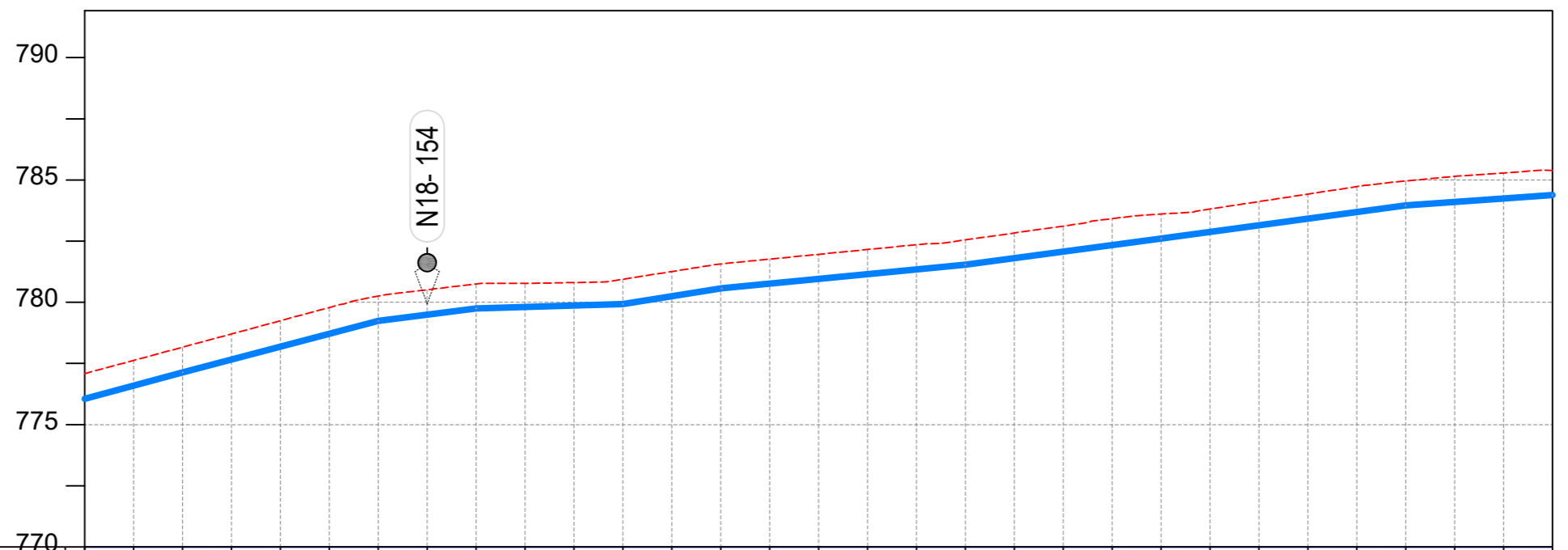
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1A.4 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	2+400		2+440		2+480		2+520		2+560		2+600		2+640		2+680		2+720		2+760		2+800		2+840		2+880		2+920		2+960		3+000	
GROUND LEVEL	777.085	777.626	778.166	778.707	779.247	779.788	780.258	780.513	780.751	780.770	780.809	780.940	781.258	781.570	781.766	781.962	782.158	782.353	782.551	782.834	783.116	783.420	783.606	783.812	784.118	784.423	784.728	784.962	785.147	785.290	785.388	
PIPE DETAILS	← OD63 HDPE PN10 →																															
INVERT LEVEL (m)	776.054	776.592	777.130	777.657	778.184	778.711	779.238	779.491	779.744	779.805	779.866	779.927	780.245	780.563	780.760	780.956	781.151	781.346	781.541	781.807	782.072	782.338	782.604	782.874	783.145	783.416	783.687	783.957	784.101	784.244	784.387	

LONGITUDINAL PROFILE

AMENDMENTS

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LEGEND

- Transmission Mains
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- 10 Node detail No. 101

CO-FINANCE BY:



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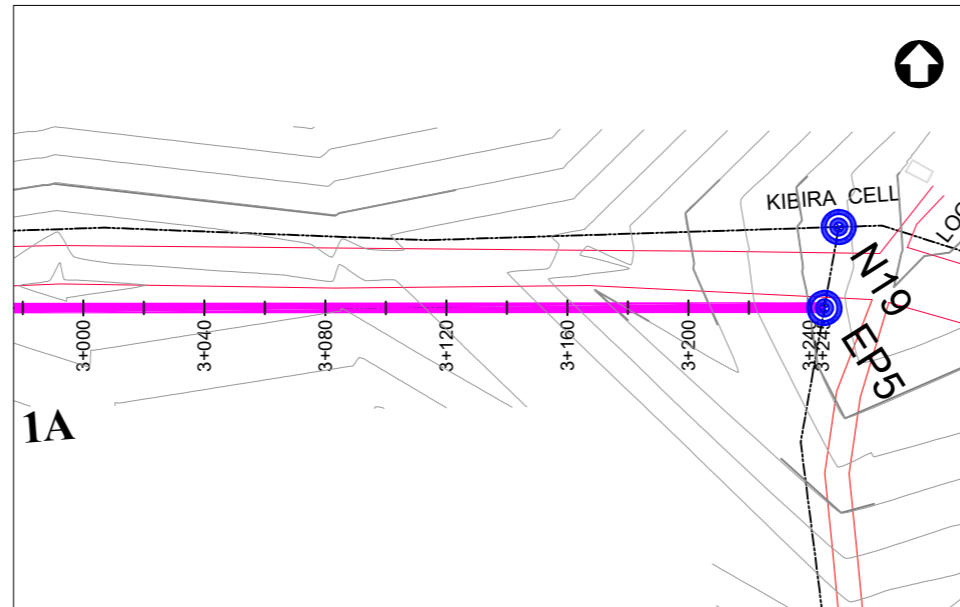
Drawing Title:

**DISTRIBUTION LINE 1A**  
 Distribution Line 1A (CH 2+400.00 - 3+000.00)

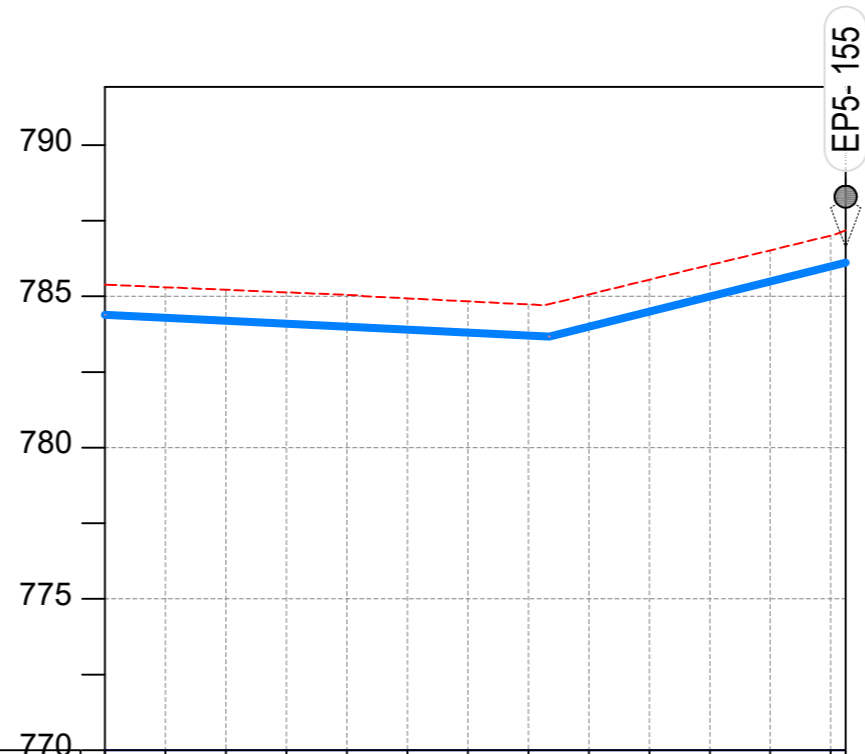
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
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	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1A.5 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	3+000		3+040		3+080		3+120		3+160		3+200		3+249.3
GROUND LEVEL	785.388	785.303	785.219	785.134	785.049	784.936	784.836	784.736	785.065	785.551	786.037	786.523	787.988
PIPE DETAILS	← OD63 HDPE PN10 →												
INVERT LEVEL (m)	785.388	785.303	785.219	785.134	785.049	784.936	784.836	784.736	785.065	785.551	786.037	786.523	787.988

LONGITUDINAL PROFILE

AMENDMENTS

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LEGEND

- Transmission Mains
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- Road
- Tree
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CO-FINANCE BY:



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**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
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 United Kingdom

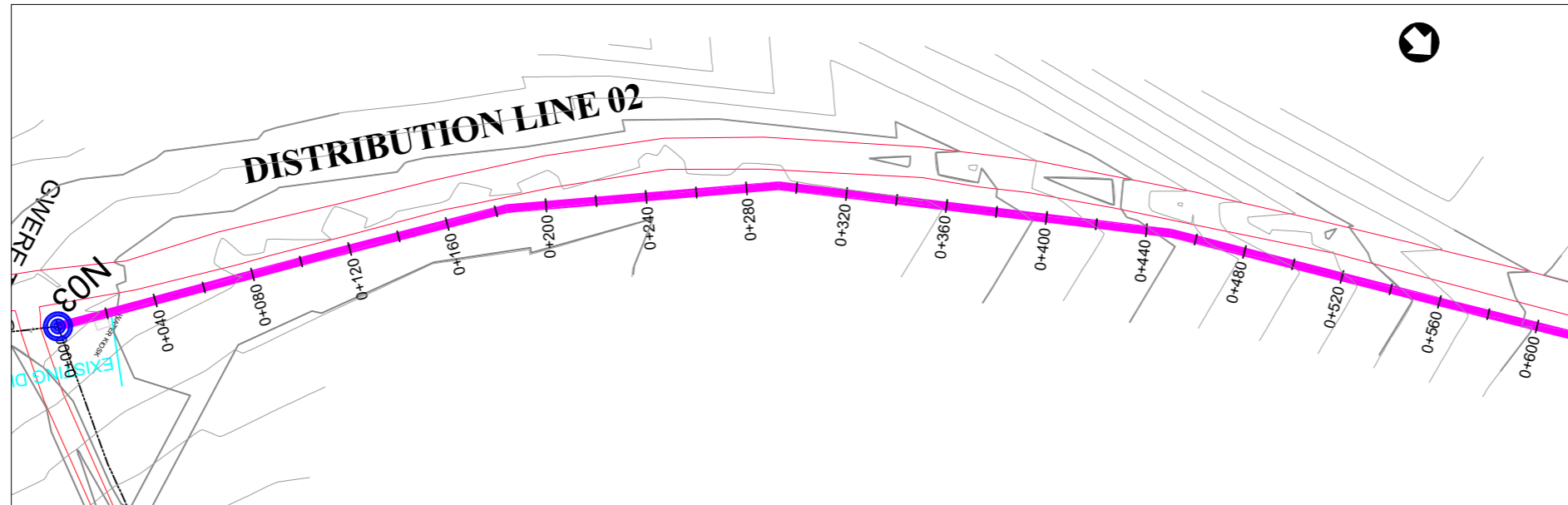
Drawing Title:

**DISTRIBUTION LINE 1A**  
 Distribution Line 1A (CH 3+000.00 - 3+244.93)

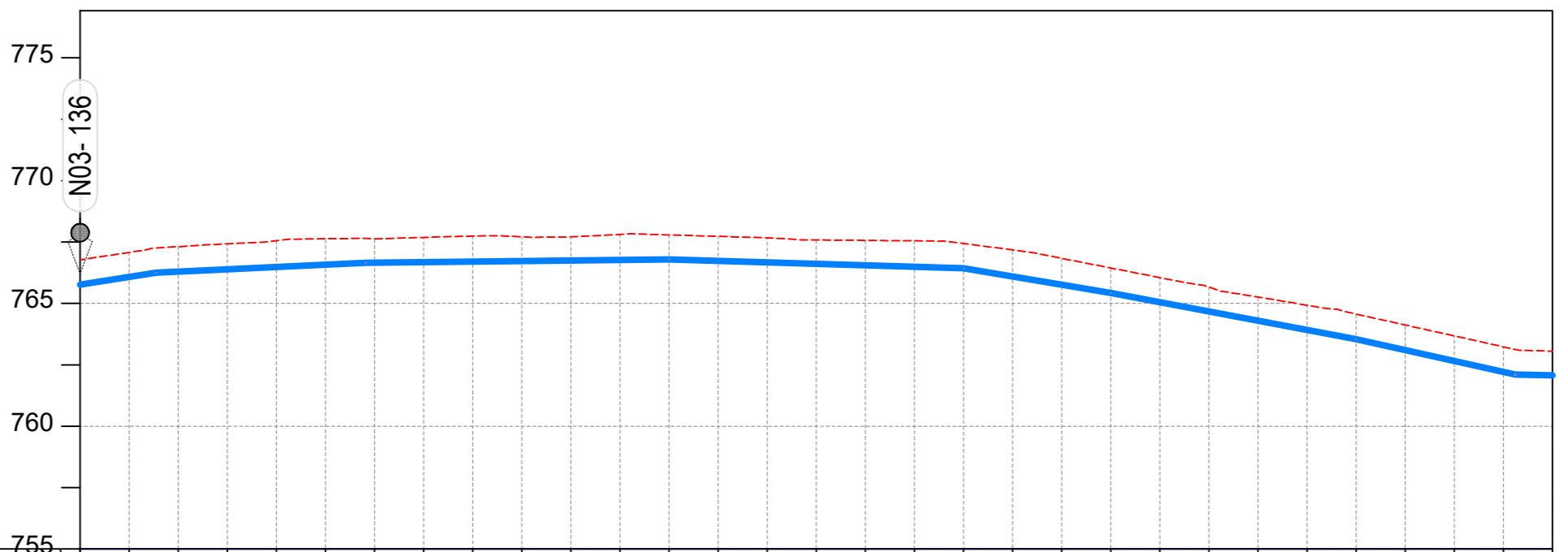
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.1A.6 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	766.776	767.077	767.313	767.428	767.555	767.634	767.636	767.690	767.741	767.713	767.708	767.809	767.790	767.731	767.672	767.585	767.567	767.550	767.440	767.180	766.837	766.444	766.052	765.667	765.260	764.925	764.566	764.123	763.679	763.232		
PIPE DETAILS	OD63 HDPE PN10																															
INVERT LEVEL (m)	765.764	766.080	766.295	766.388	766.481	766.575	766.655	766.677	766.700	766.722	766.745	766.767	766.790	766.730	766.670	766.611	766.551	766.492	766.432	766.096	765.760	765.425	765.048	764.672	764.295	763.919	763.542	763.097	762.652	762.207		

LONGITUDINAL PROFILE

AMENDMENTS

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

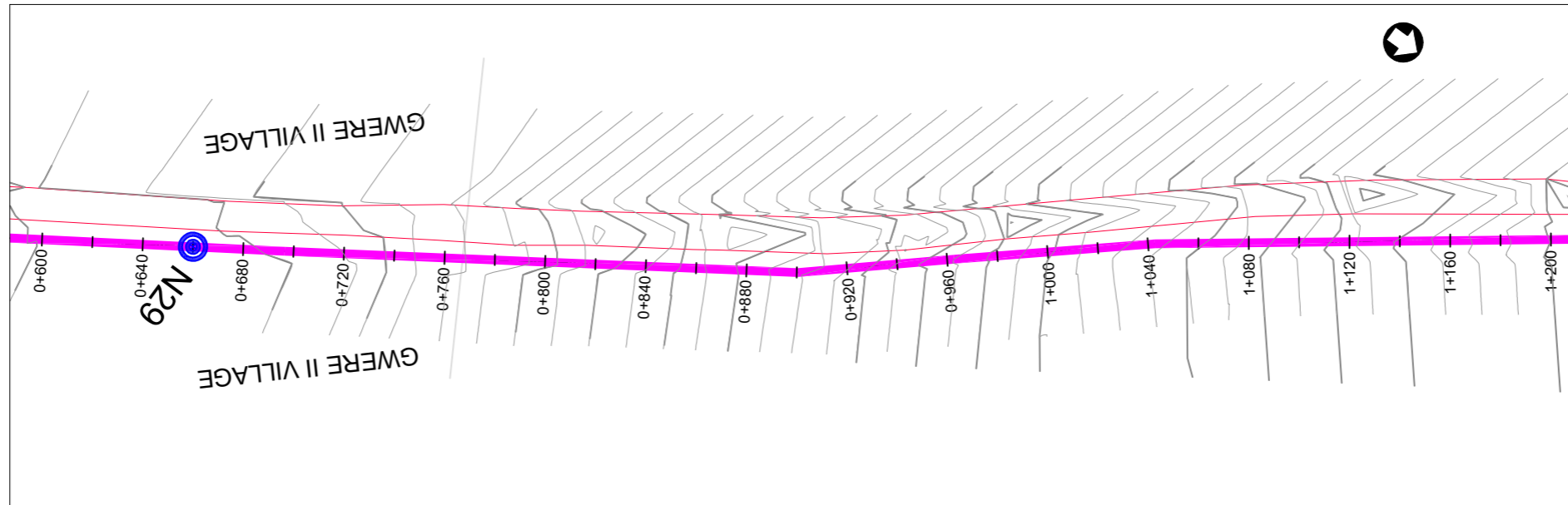
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**DISTRIBUTION LINE 02**  
 Distribution Line 02 (CH 0+000.00 - 0+600.00)

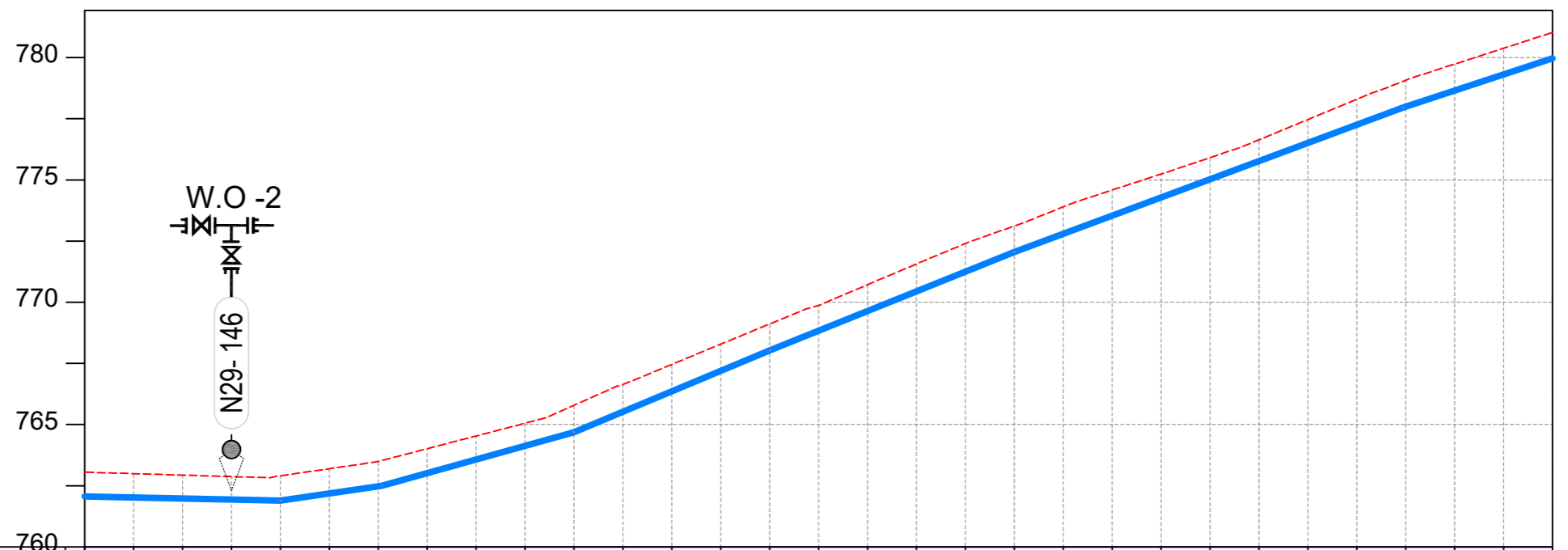
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.2.1 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920		0+960		1+000		1+040		1+080		1+120		1+160		1+200	
GROUND LEVEL	763.054	762.994	762.934	762.874	762.908	763.199	763.494	764.014	764.534	765.054	765.787	766.633	767.459	768.286	769.113	769.873	770.716	771.565	772.396	773.116	773.899	774.584	775.237	775.910	776.635	777.465	778.296	779.068	779.732	780.379	781.026	
PIPE DETAILS	← OD63 HDPE PN10 →																															
INVERT LEVEL (m)	762.067	762.024	761.982	761.940	761.897	762.187	762.477	763.017	763.575	764.133	764.691	765.526	766.361	767.196	768.030	768.835	769.640	770.445	771.250	772.055	772.797	773.539	774.281	775.024	775.766	776.508	777.250	777.988	778.647	779.306	779.965	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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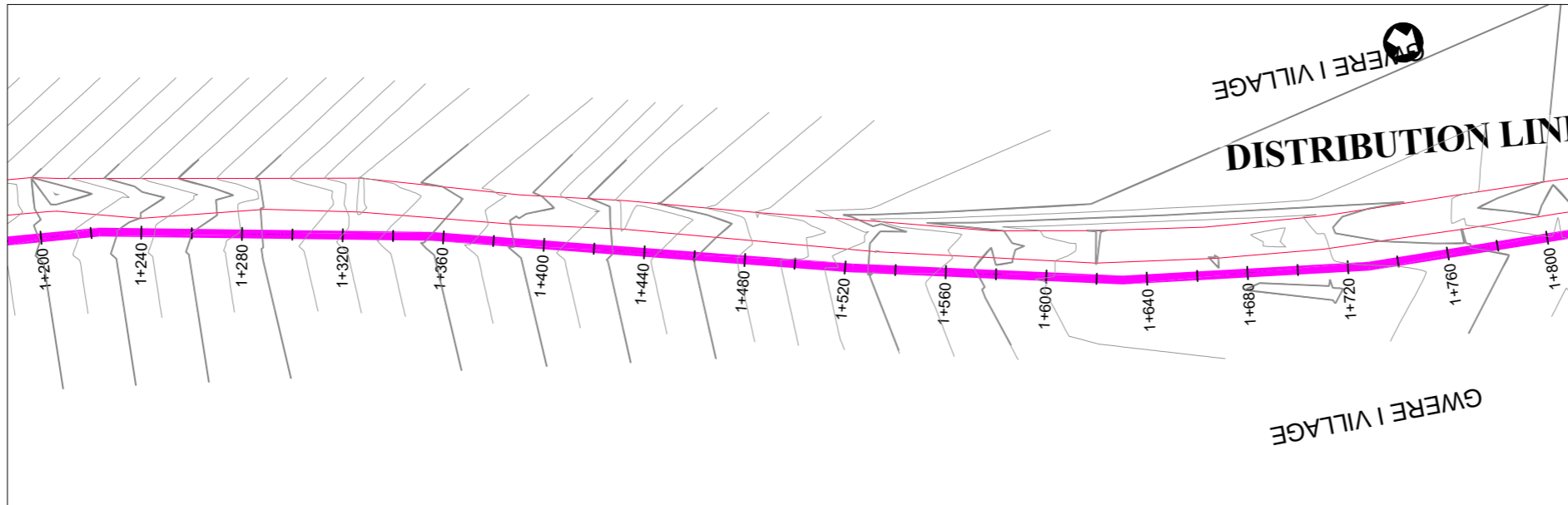
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 Distribution Line 02 (CH 0+600.00 - 1+200.00)

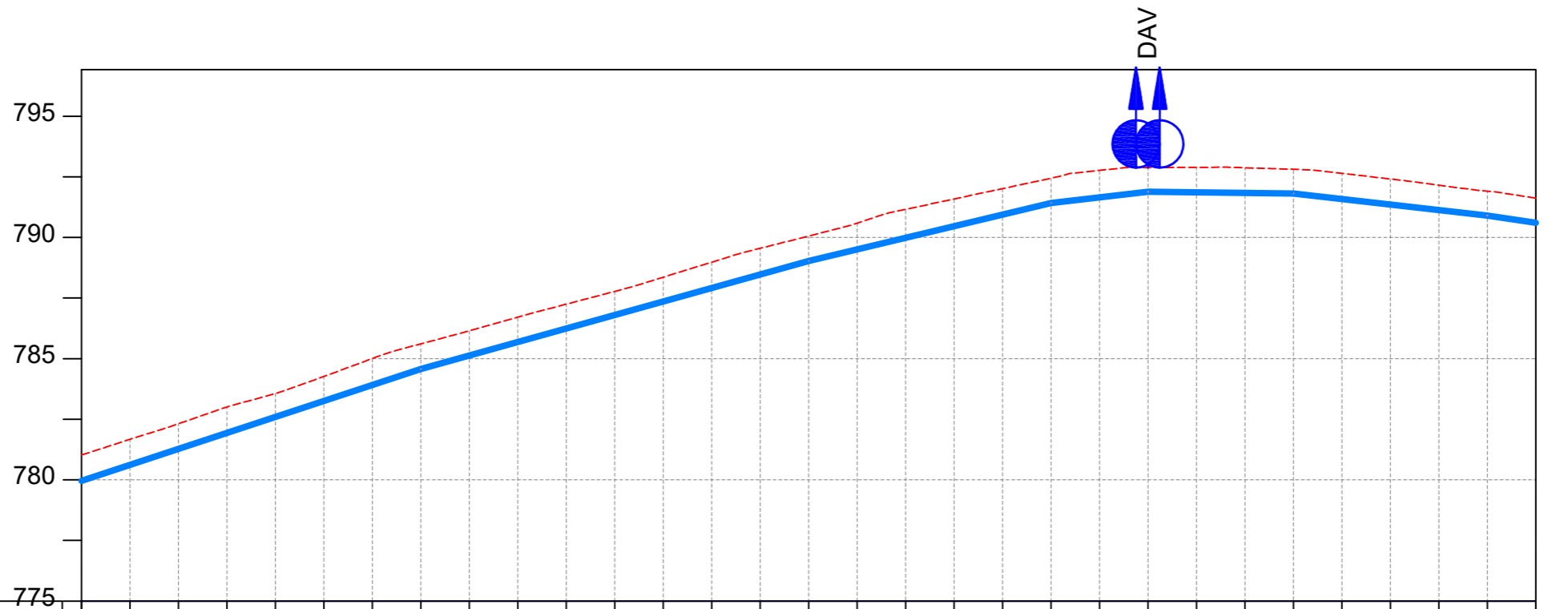
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ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.2.2 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	1+200		1+240		1+280		1+320		1+360		1+400		1+440		1+480		1+520		1+560		1+600		1+640		1+680		1+720		1+760		1+800	
GROUND LEVEL	781.026	781.673	782.317	783.009	783.560	784.265	785.008	785.611	786.152	786.713	787.248	787.773	788.360	788.980	789.551	790.058	790.591	791.158	791.586	792.014	792.443	792.765	792.881	792.892	792.875	792.811	792.643	792.412	792.157	791.909		
PIPE DETAILS	OD63 HDPE PN10																															
INVERT LEVEL (m)	779.965	780.623	781.282	781.941	782.600	783.259	783.918	784.576	785.133	785.689	786.245	786.801	787.357	787.914	788.470	789.026	789.505	789.984	790.462	790.941	791.420	791.651	791.881	791.858	791.834	791.811	791.584	791.358	791.132	790.906		

LONGITUDINAL PROFILE

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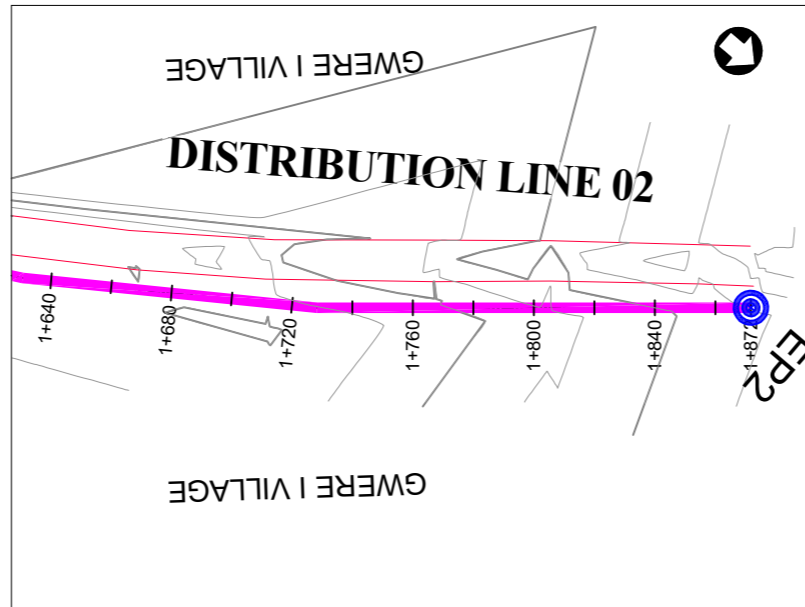
Drawing Title:

**DISTRIBUTION LINE 02**  
 Distribution Line 02 (CH 1+200.00 - 1+800.00)

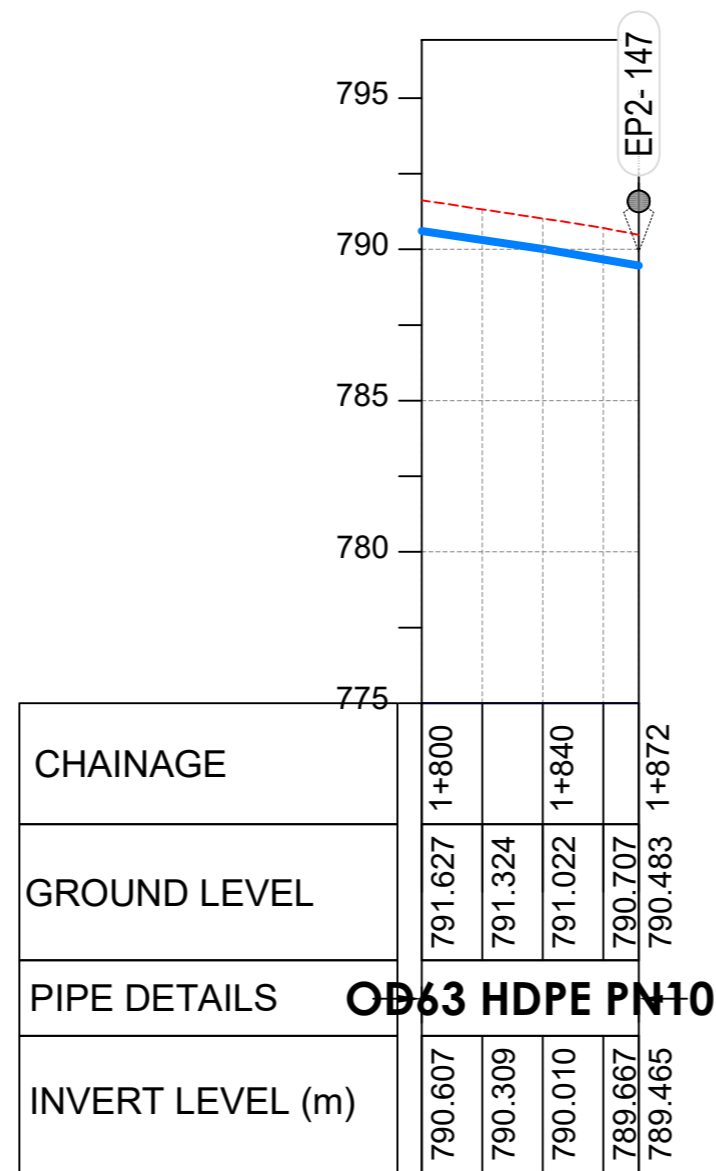
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
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ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.2.3 Cad file No WSS<22\_11>



PLAN LAYOUT



LONGITUDINAL PROFILE

AMENDMENTS

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LEGEND

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- Road
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- Node detail No. 101

CO-FINANCE BY:



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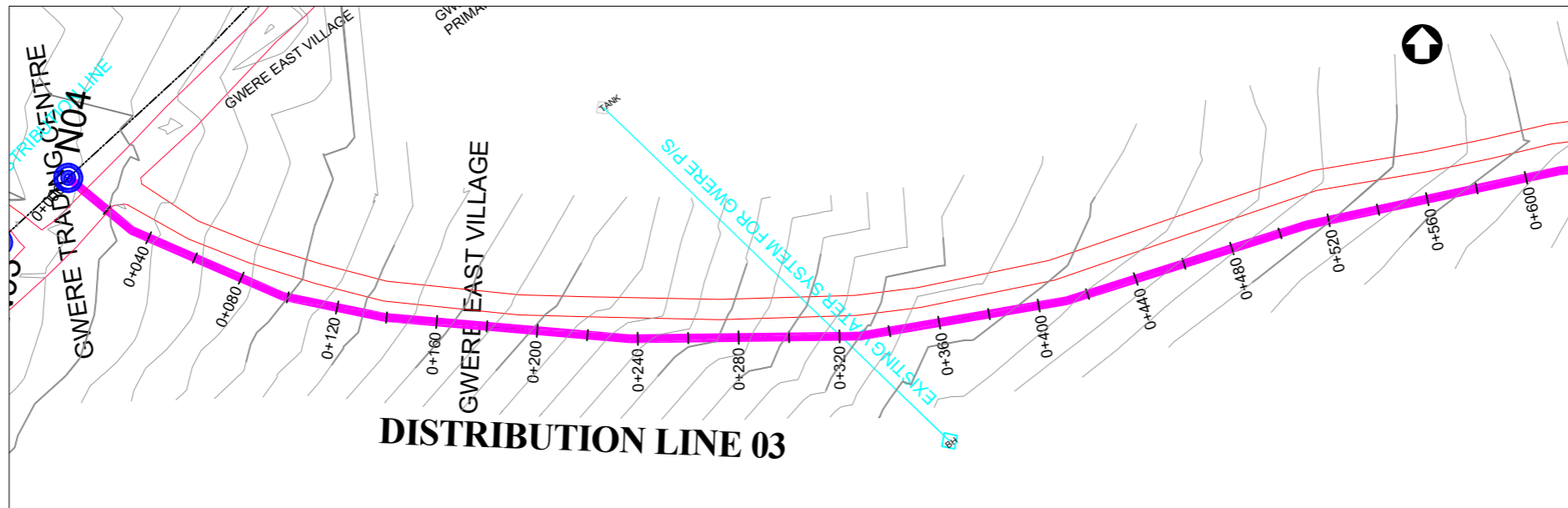
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**DISTRIBUTION LINE 02**  
 Distribution Line 02 (CH 1+800.00 - 1+871.76)

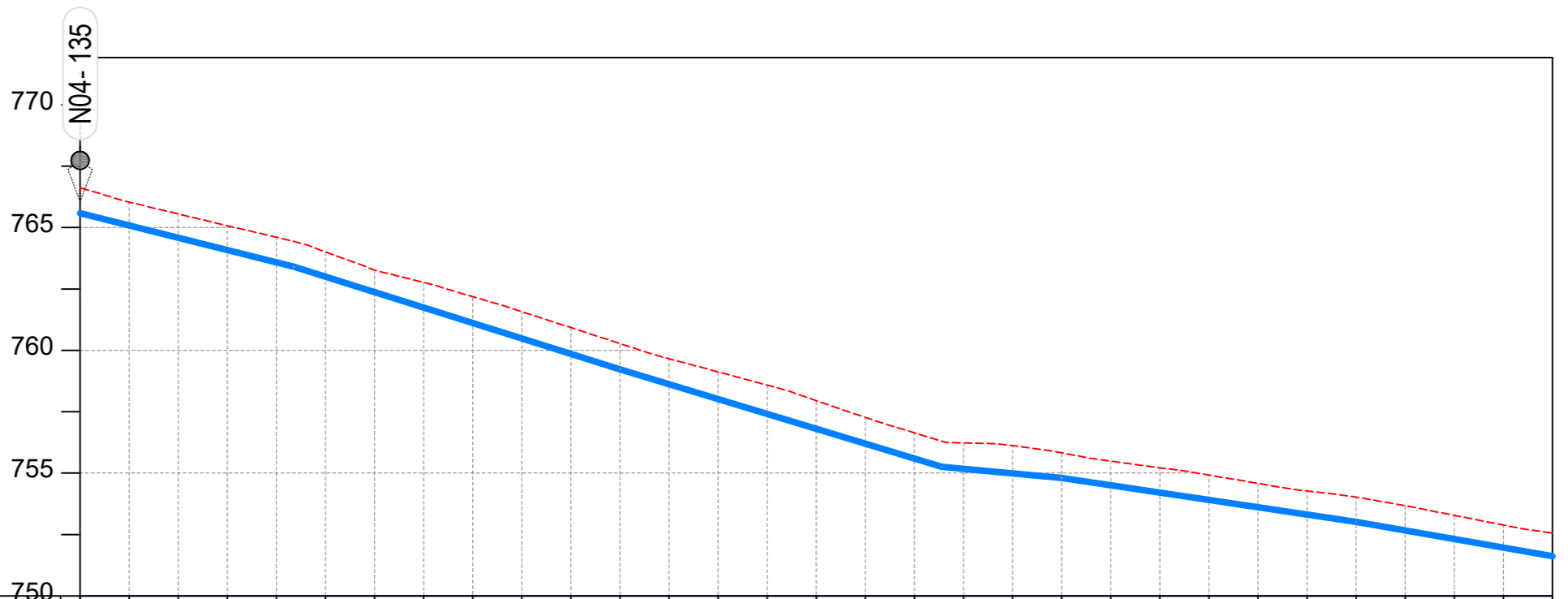
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ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.2.4 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000	0+040	0+080	0+120	0+160	0+200	0+240	0+280	0+320	0+360	0+400	0+440	0+480	0+520	0+560	0+600														
GROUND LEVEL	766.628	766.039	765.556	765.077	764.606	764.005	763.272	762.767	762.186	761.576	760.926	760.277	759.658	759.124	758.586	757.954	757.271	756.643	756.231	756.117	755.826	755.490	755.220	754.923	754.581	754.273	754.025	753.671	753.281	752.888
PIPE DETAILS	OD50 HDPE PN10																													
INVERT LEVEL (m)	765.583	765.082	764.581	764.080	763.578	762.995	762.367	761.738	761.110	760.482	759.854	759.225	758.620	758.014	757.408	756.802	756.196	755.590	755.172	754.990	754.808	754.509	754.210	753.911	753.612	753.312	753.013	752.664	752.315	751.967

LONGITUDINAL PROFILE

AMENDMENTS

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LEGEND

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CO-FINANCE BY:



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Drawing Title:

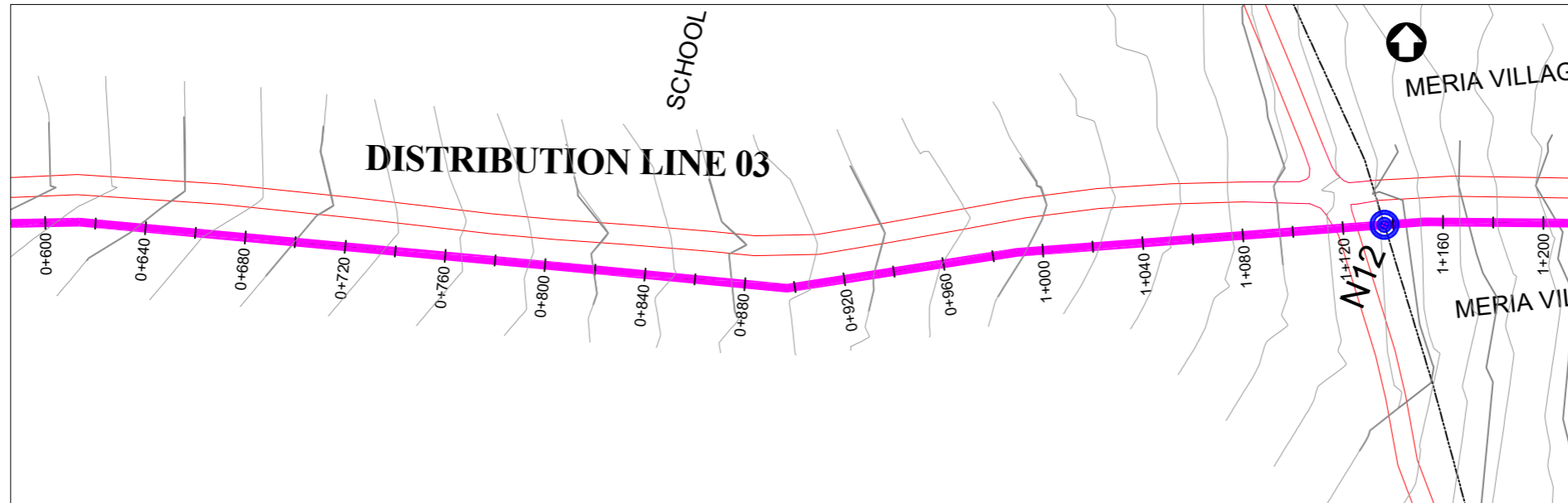
**DISTRIBUTION LINE 03**  
 Distribution Line 03 (CH 0+000.00 - 0+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
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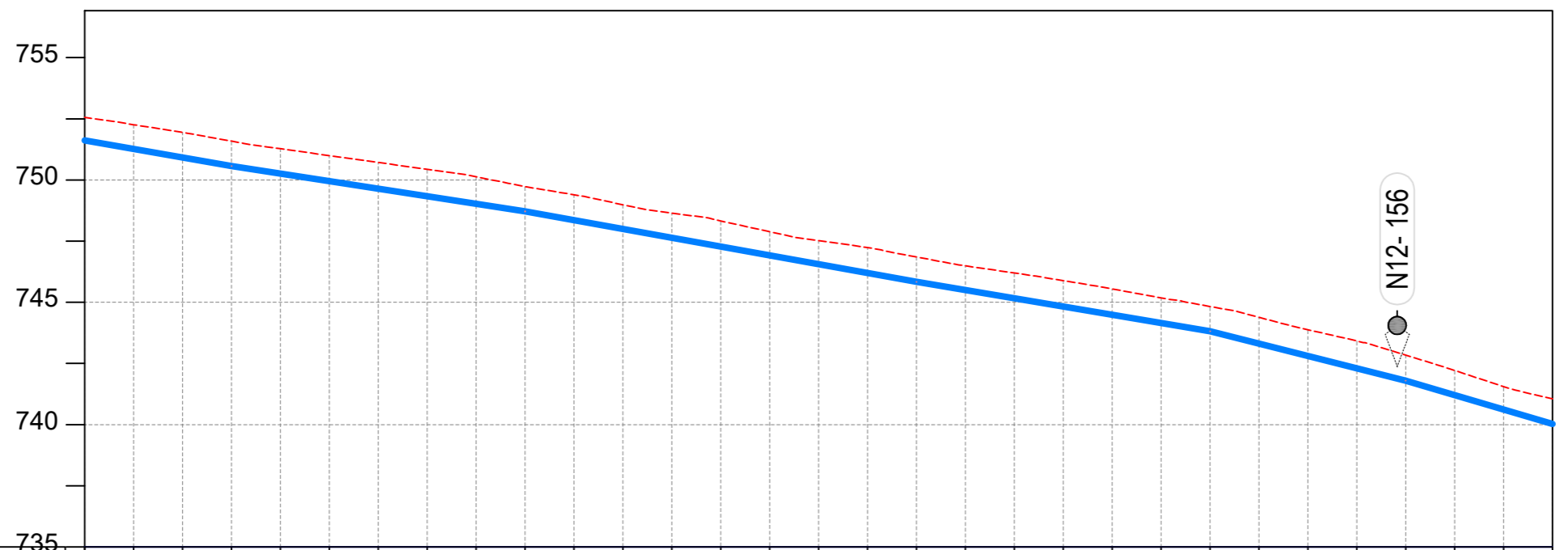
ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.3.1 Cad file No WSS<22\_11>





PLAN LAYOUT



CHAINAGE	0+600	0+640	0+680	0+720	0+760	0+800	0+840	0+880	0+920	0+960	1+000	1+040	1+080	1+120	1+160	1+200														
GROUND LEVEL	752.559	752.259	751.945	751.587	751.276	750.996	750.716	750.436	750.133	749.727	749.396	748.988	748.648	748.326	747.885	747.519	747.239	746.850	746.491	746.199	745.886	745.549	745.178	744.829	744.387	743.880	743.425	742.841	742.218	741.554
PIPE DETAILS	← OD50 HDPE PN10 →																													
INVERT LEVEL (m)	751.618	751.269	750.920	750.571	750.261	749.951	749.642	749.332	749.022	748.712	748.352	747.992	747.633	747.273	746.913	746.553	746.193	745.833	745.496	745.160	744.823	744.486	744.150	743.813	743.308	742.804	742.299	741.794	741.207	740.619

LONGITUDINAL PROFILE

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CO-FINANCE BY:



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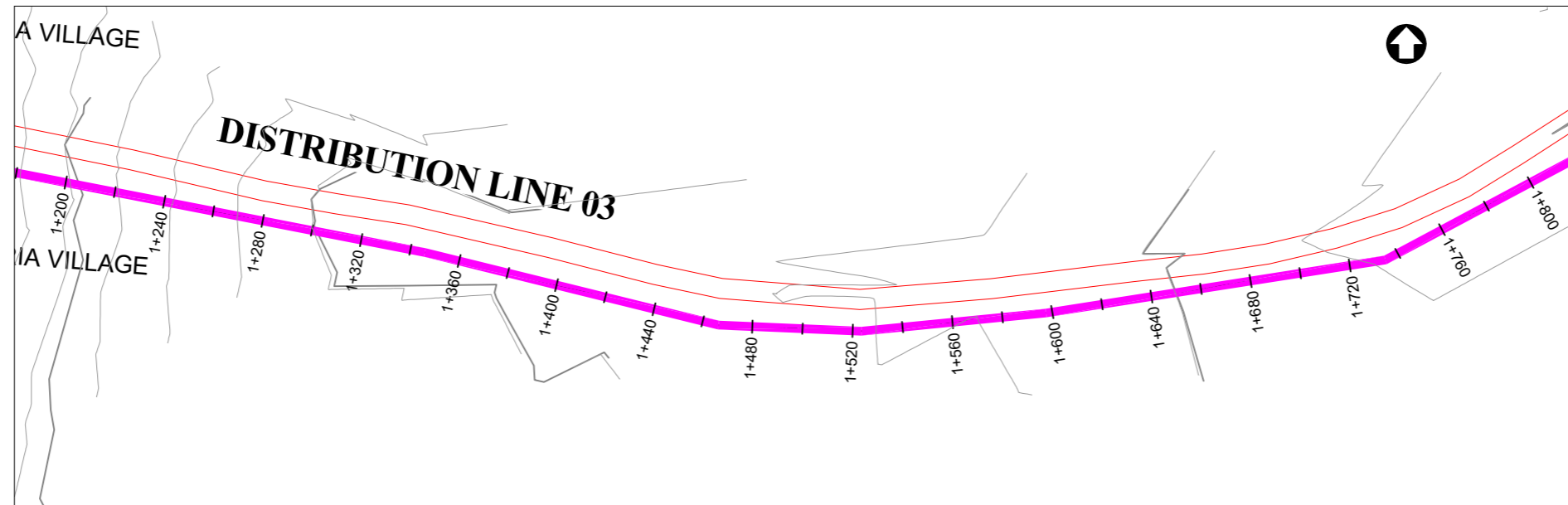
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**DISTRIBUTION LINE 03**  
 Distribution Line 03 (CH 0+600.00 - 1+200.00)

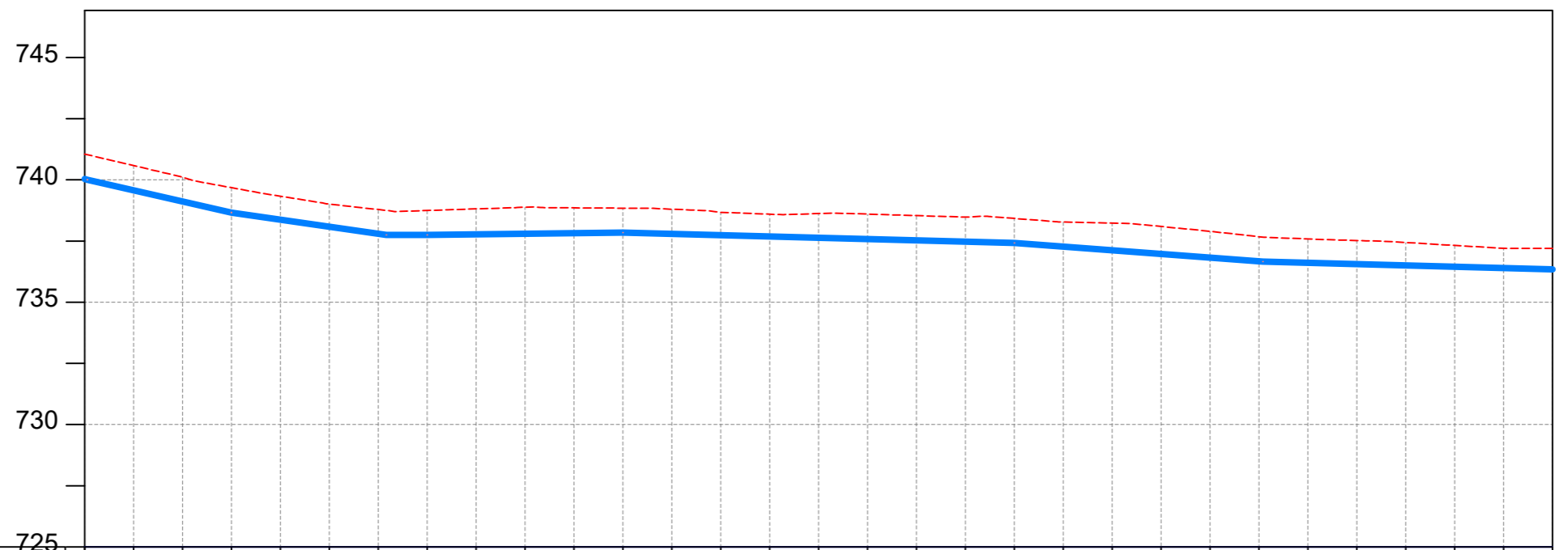
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ENGINEERING DESIGN DRAWING

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PLAN LAYOUT



CHAINAGE	1+200		1+240		1+280		1+320		1+360		1+400		1+440		1+480		1+520		1+560		1+600		1+640		1+680		1+720		1+760		1+800	
GROUND LEVEL	741.053	740.582	740.106	739.680	739.333	739.007	738.788	738.745	738.813	738.881	738.855	738.843	738.801	738.670	738.597	738.621	738.600	738.539	738.477	738.423	738.275	738.231	738.094	737.895	737.676	737.585	737.521	737.440	737.320	737.201		
PIPE DETAILS	← OD50 HDPE PN10 →																															
INVERT LEVEL (m)	740.032	739.571	739.117	738.664	738.374	738.084	737.794	737.745	737.769	737.794	737.818	737.843	737.790	737.737	737.684	737.631	737.578	737.525	737.472	737.420	737.269	737.119	736.968	736.818	736.667	736.605	736.552	736.498	736.444	736.390		

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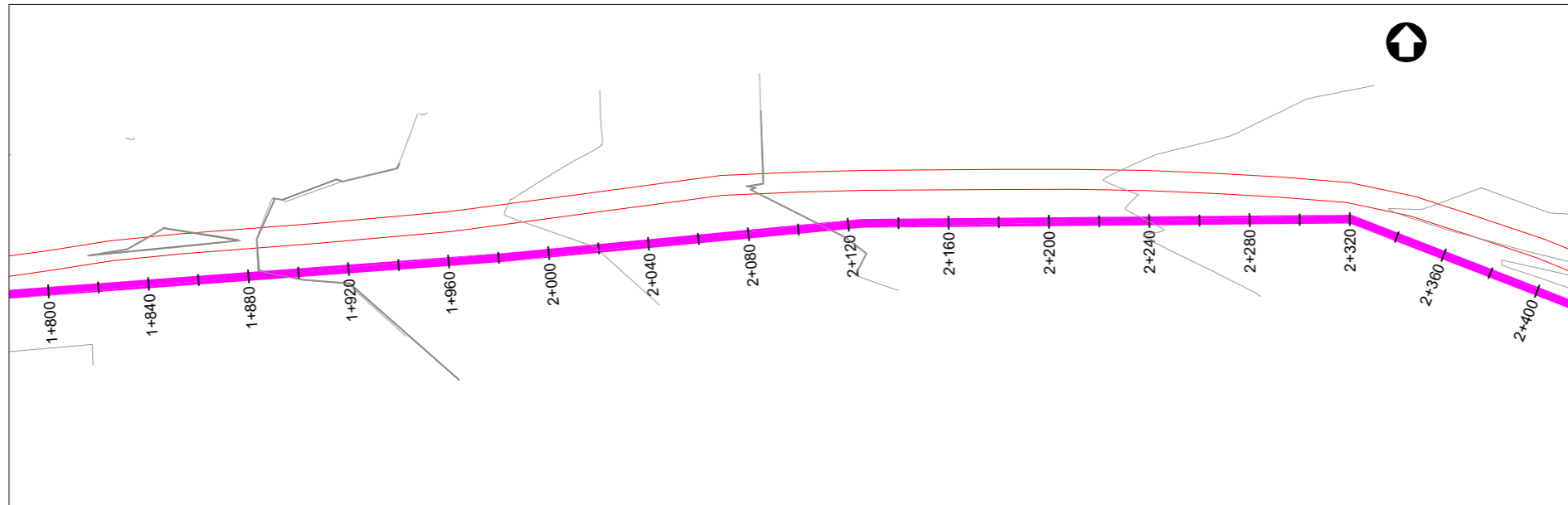
Drawing Title:

**DISTRIBUTION LINE 03**  
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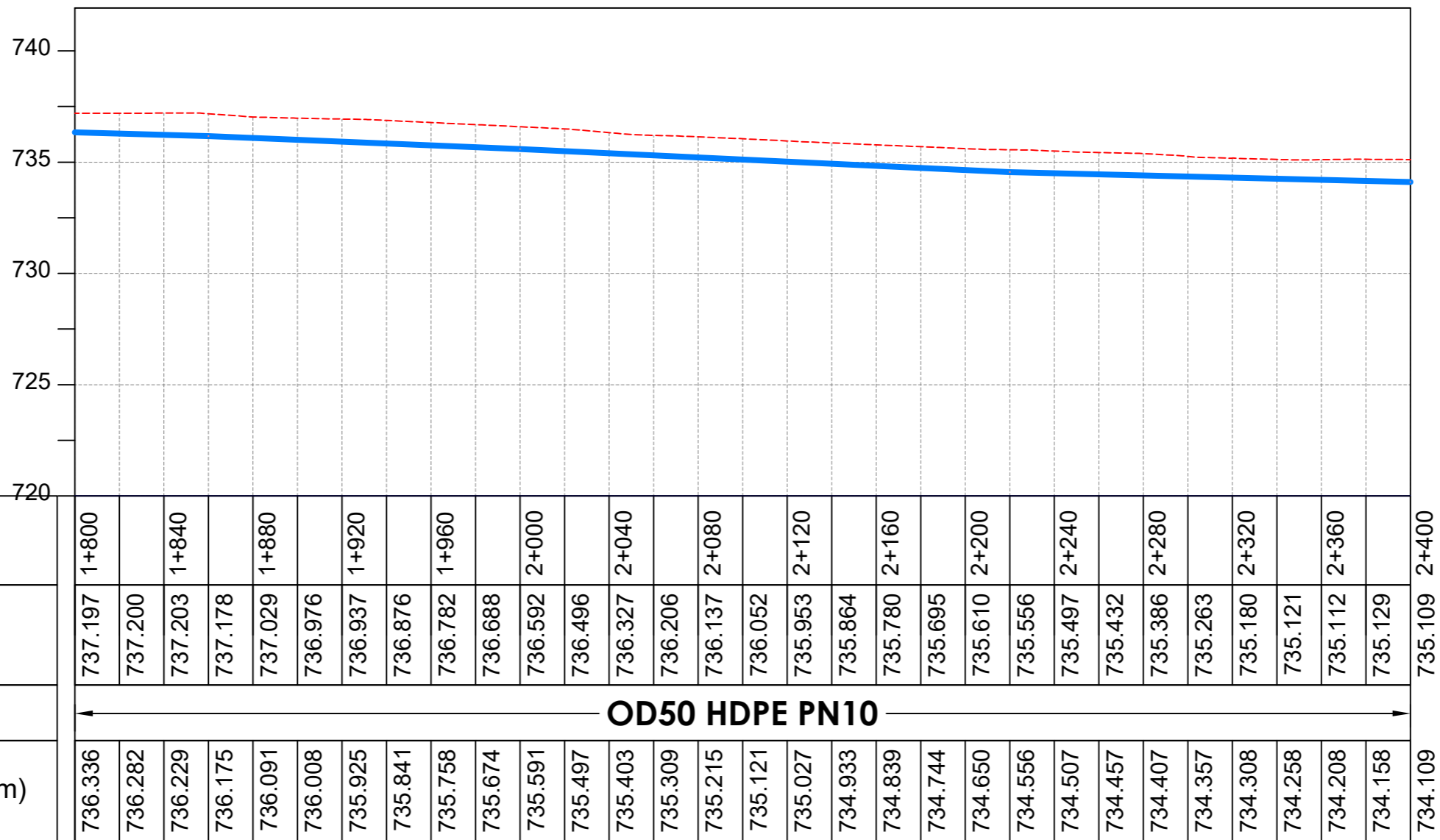
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**PLAN LAYOUT**



**LONGITUDINAL PROFILE**

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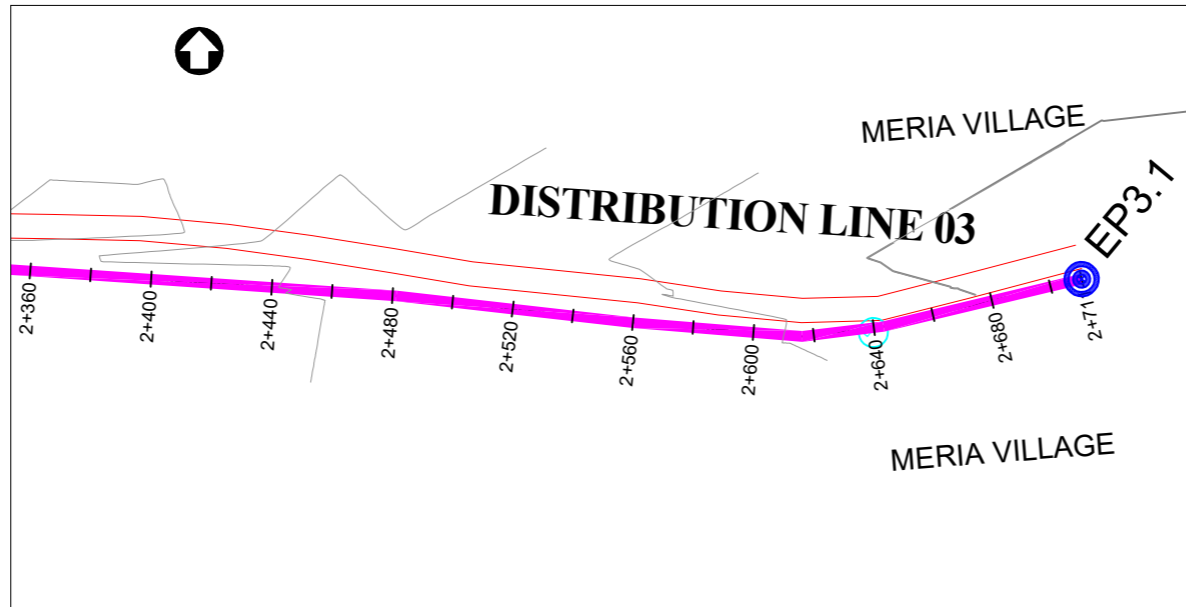
**Drawing Title:**

**DISTRIBUTION LINE 03**  
 Distribution Line 03 (CH 1+800.00 - 2+400.00)

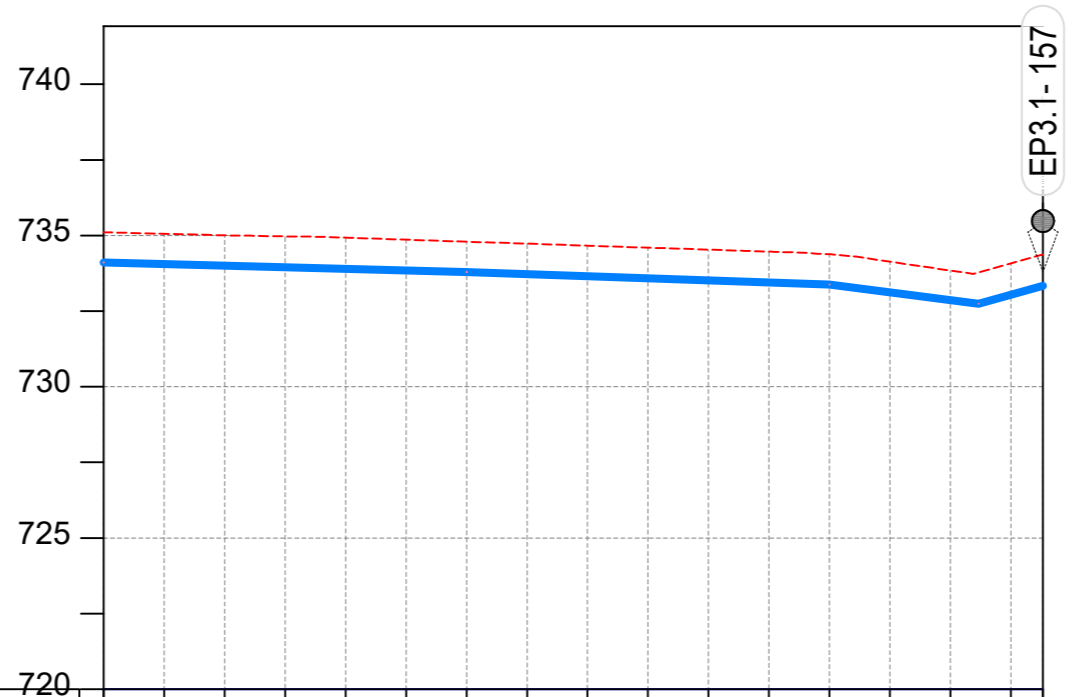
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

**ENGINEERING DESIGN DRAWING**

Drg No: MWE/GWE/4.3.4 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	2+400		2+440		2+480		2+520		2+560		2+600		2+640		2+680		2+711
GROUND LEVEL	735.109	735.057	735.006	734.972	734.928	734.862	734.796	734.730	734.665	734.599	734.533	734.468	734.385	734.135	733.842	734.078	734.372
PIPE DETAILS	← OD50 HDPE PN10 →																
INVERT LEVEL (m)	734.109	734.057	734.004	733.952	733.900	733.848	733.796	733.727	733.658	733.588	733.519	733.450	733.381	733.121	732.862	733.039	733.334

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washouts locations are identified by marker post in positions.
  - For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
DAV	Double Orifice Air Valve
WO_2	Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

**THE WORLD BANK** AND

GOVERNMENT OF UGANDA

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

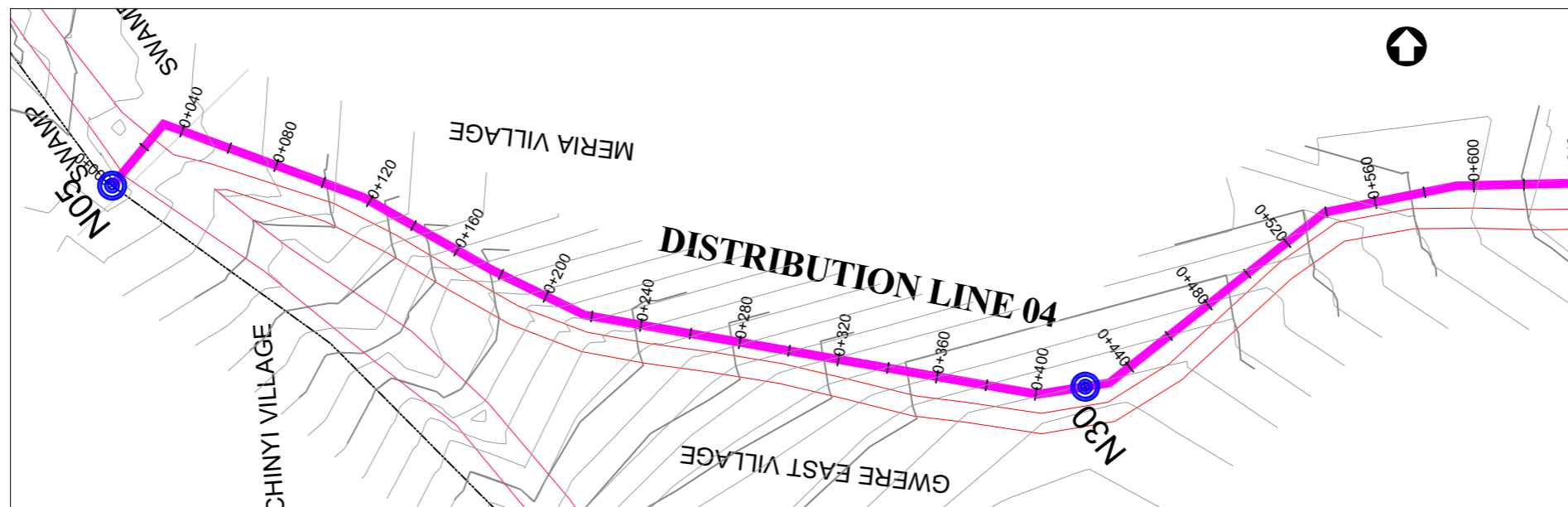
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

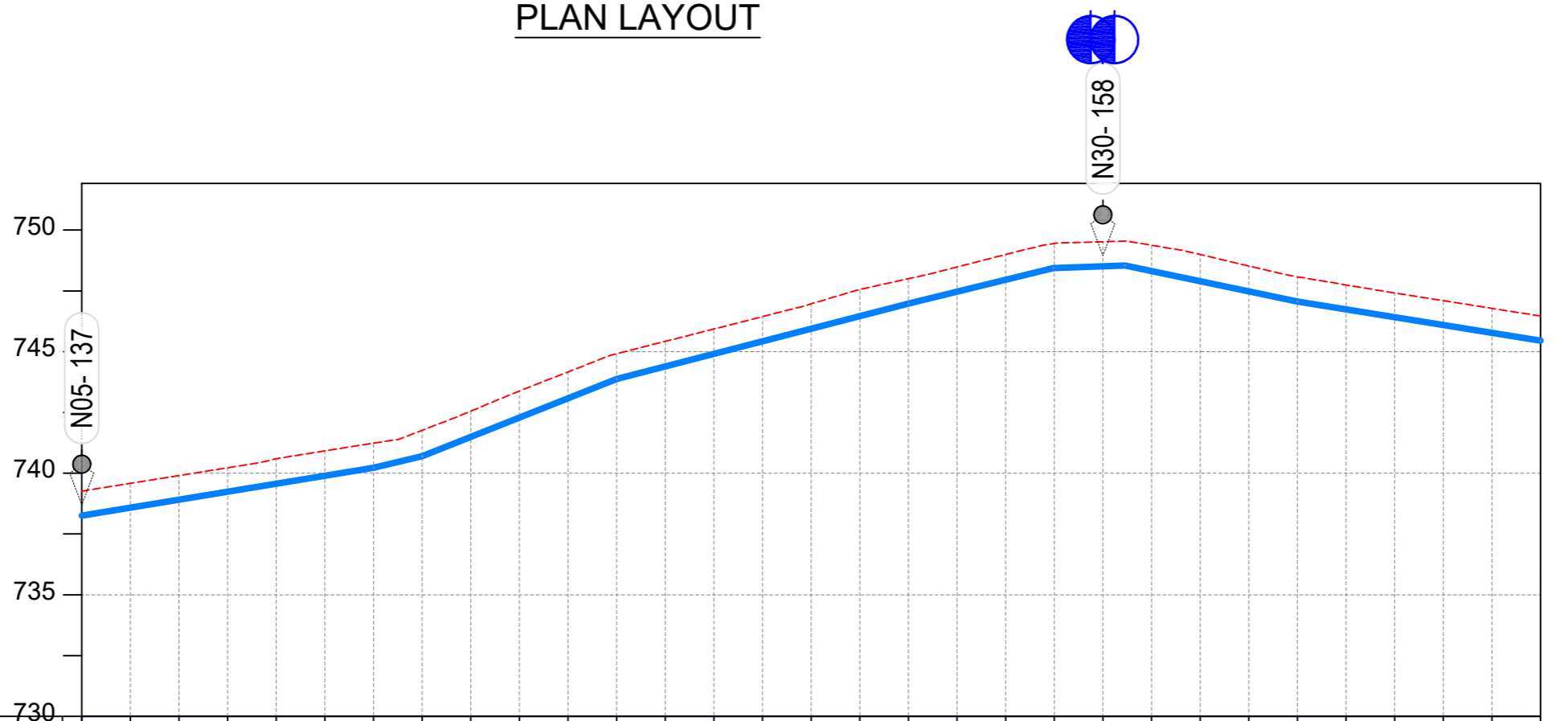
**SARI**  
CONSULTING LTD  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:  
**DISTRIBUTION LINE 03**  
Distribution Line 03 (CH 2+400.00 - 2+710.55)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel
ENGINEERING DESIGN DRAWING	
Drg No: MWE/GWE/4.3.5   Cad file No WSS<22_11>	



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	739.265	739.585	739.905	740.225	740.597	740.918	741.237	741.766	742.551	743.381	744.167	744.915	745.424	745.933	746.442	746.968	747.558	747.999	748.481	748.997	749.452	749.522	749.379	748.997	748.525	748.078	747.746	747.414	747.098	746.782	746.467	
PIPE DETAILS	OD50 HDPE PN10																															
INVERT LEVEL (m)	738.253	738.582	738.910	739.239	739.568	739.897	740.226	740.695	741.491	742.286	743.082	743.877	744.394	744.910	745.426	745.943	746.459	746.975	747.465	747.954	748.436	748.513	748.320	747.901	747.483	747.065	746.743	746.421	746.099	745.776	745.454	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:



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**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
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PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

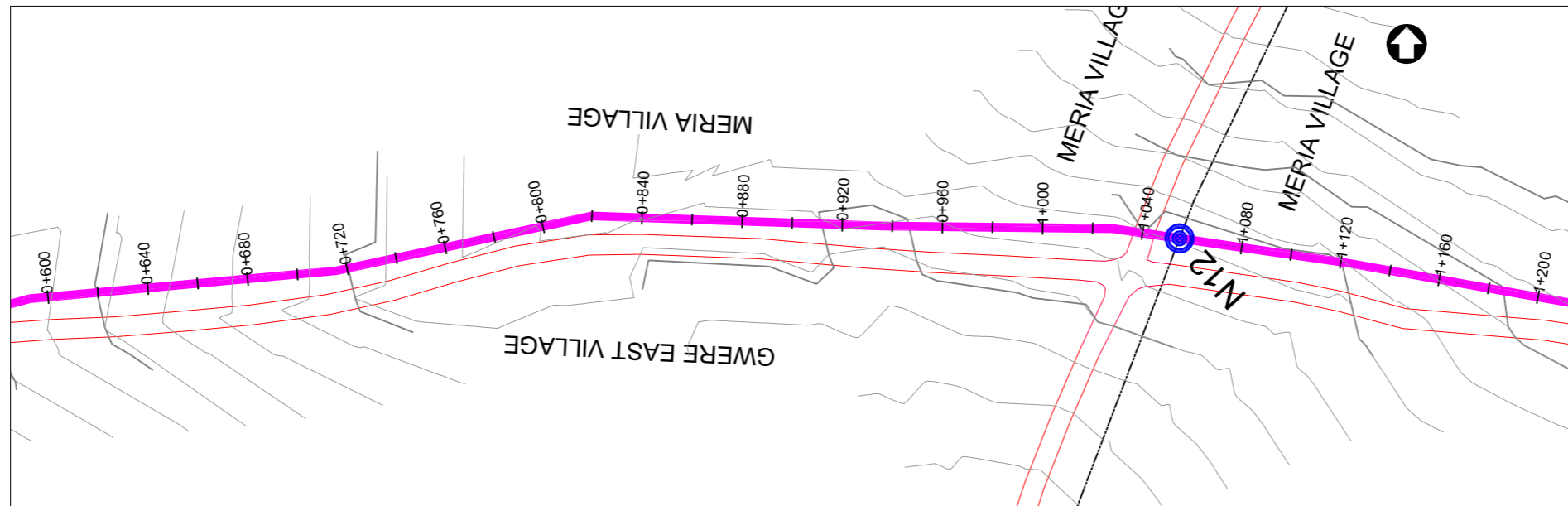
Drawing Title:

DISTRIBUTION LINE 04  
 Distribution Line 04 (CH 0+000.00 - 0+600.00)

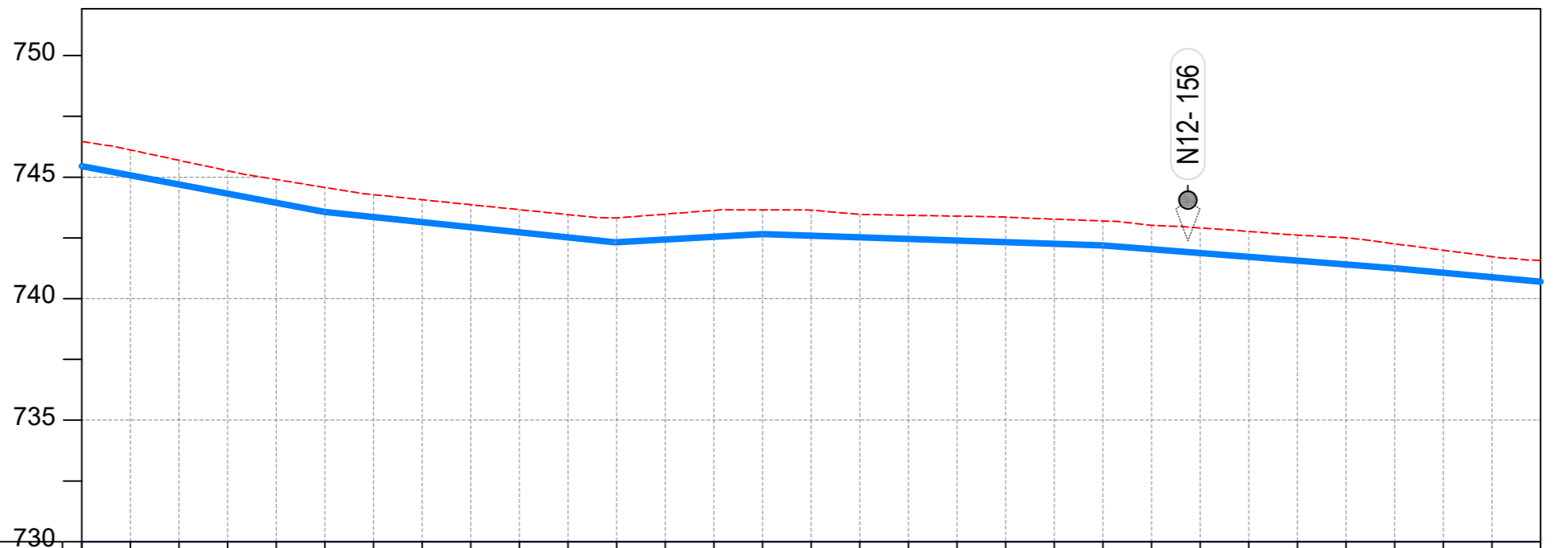
Scale:	Designed:	O.R Daniel
Vertical Scale: 1:250	Drawn:	P.S Eyamu
Horizontal Scale: 1:2500	Checked:	O.R Daniel
Date:	Approved:	O.R Daniel
Nov-2022		

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.4.1 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+600	0+640	0+680	0+720	0+760	0+800	0+840	0+880	0+920	0+960	1+000	1+040	1+080	1+120	1+160	1+200														
GROUND LEVEL	746.467	746.119	745.690	745.262	744.901	744.576	744.276	744.072	743.867	743.662	743.458	743.322	743.477	743.632	743.652	743.645	743.467	743.430	743.395	743.352	743.271	743.195	743.017	742.911	742.766	742.615	742.502	742.256	741.994	741.732
PIPE DETAILS	← OD50 HDPE PN10 →																													
INVERT LEVEL (m)	745.454	745.076	744.698	744.319	743.941	743.562	743.354	743.146	742.938	742.730	742.522	742.325	742.434	742.543	742.652	742.586	742.521	742.456	742.390	742.325	742.260	742.195	742.037	741.879	741.721	741.563	741.406	741.248	741.066	740.884

LONGITUDINAL PROFILE

AMENDMENTS

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1	7.28.2023	Draft Design

NOTES

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:



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Consultant:

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 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
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 United Kingdom

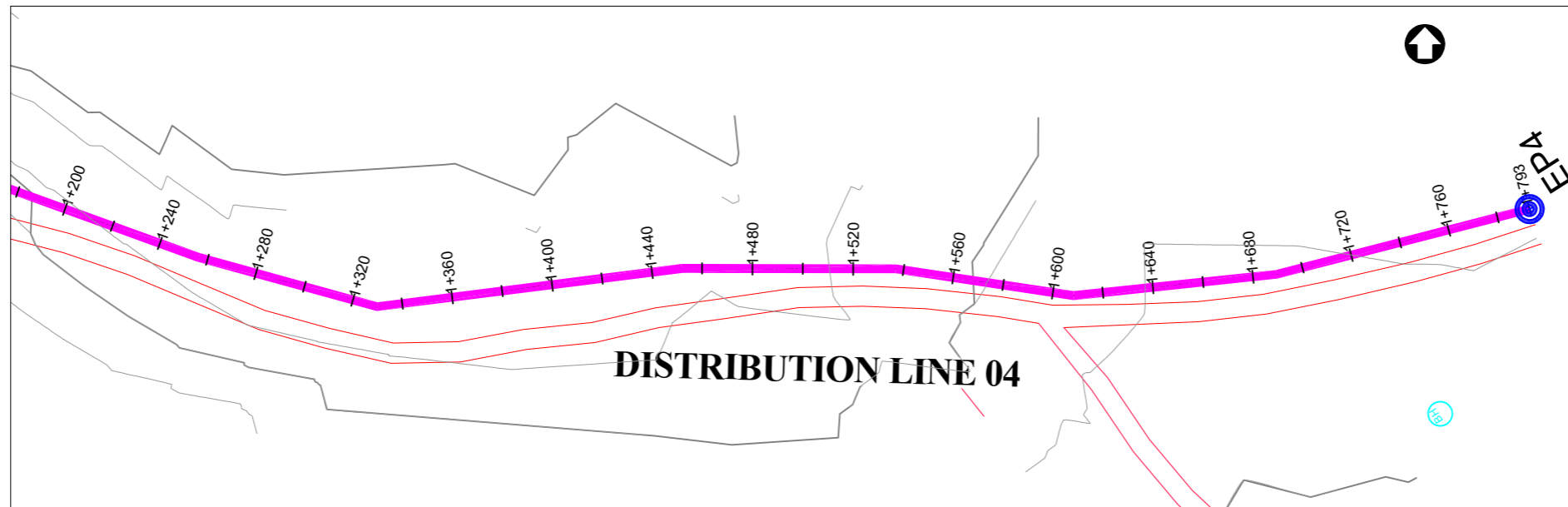
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**DISTRIBUTION LINE 04**  
 Distribution Line 04 (CH 0+600.00 - 1+200.00)

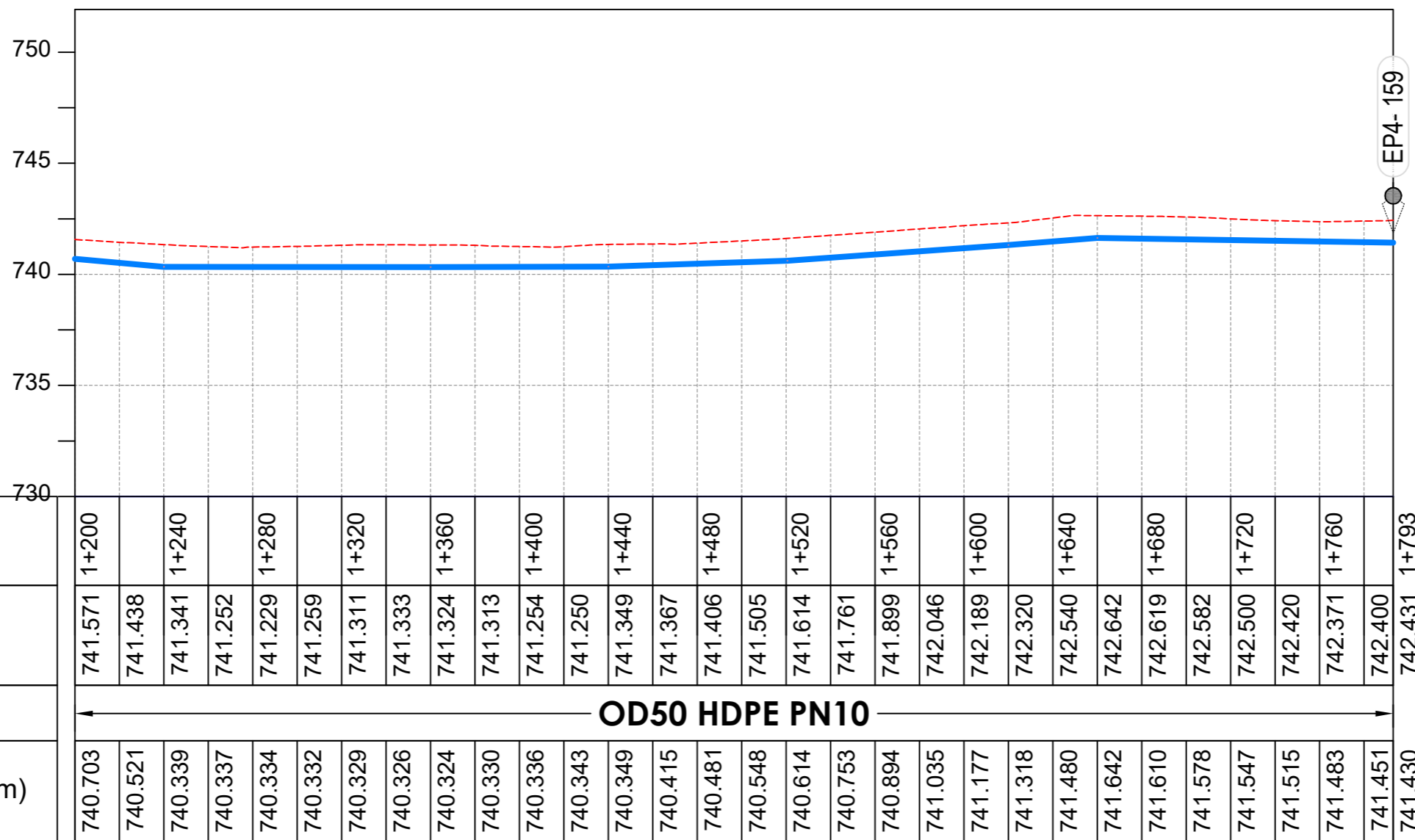
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.4.2 Cad file No WSS<22\_11>



PLAN LAYOUT



LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

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PROJECT

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

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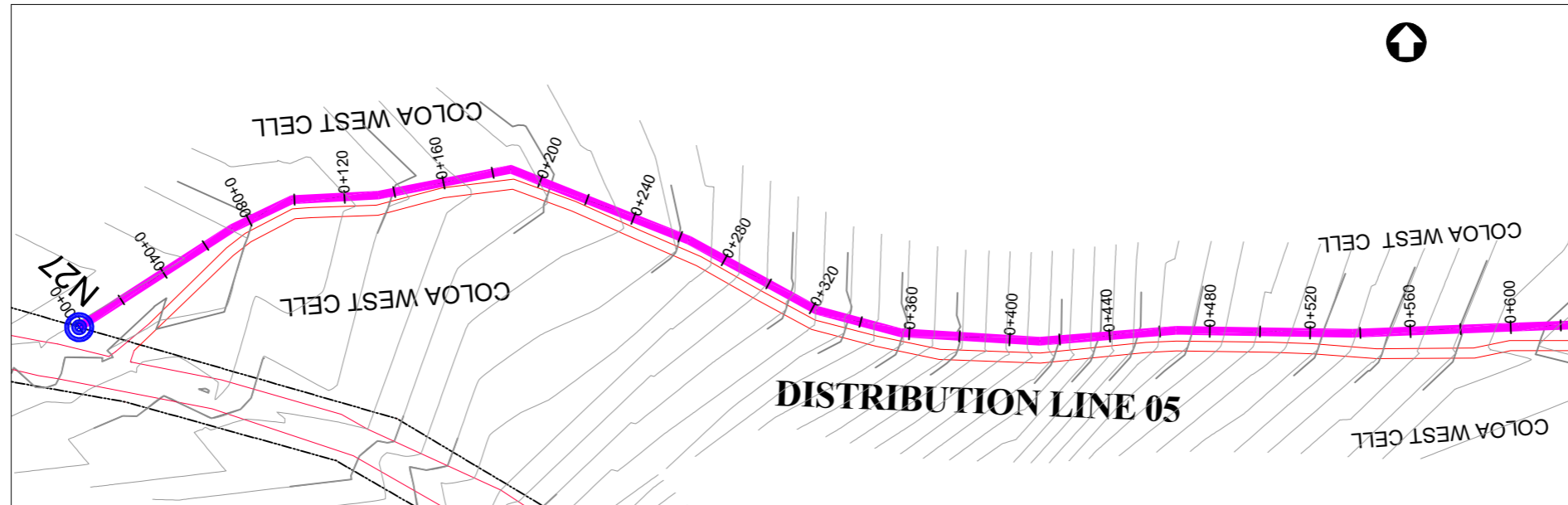
Drawing Title:

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 Distribution Line 04 (CH 1+200.00 - 1+793.17)

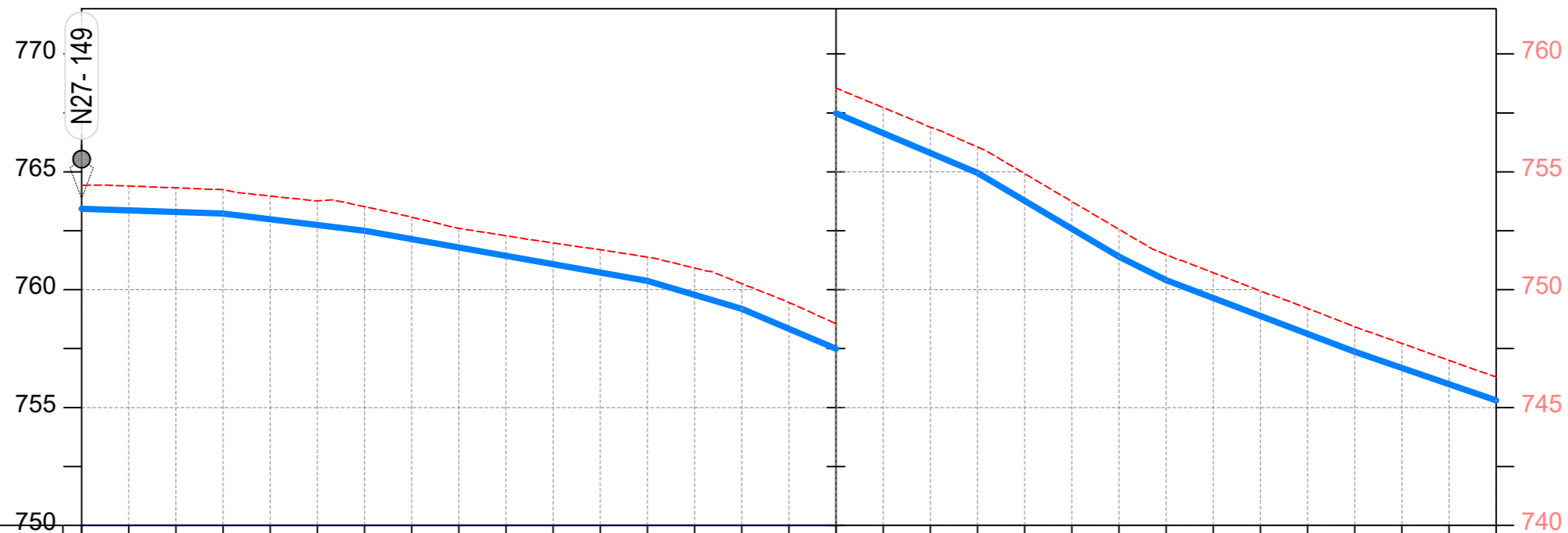
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.4.3 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560	0+600		
GROUND LEVEL	764.432	764.400	764.321	764.243	763.975	763.773	763.523	763.076	762.608	762.287	761.986	761.697	761.383	760.921	760.259	759.463	758.558	757.727	756.898	756.052	754.927	753.742	752.563	751.488	750.719	749.944	749.206	748.433	747.719	747.006	746.315	
PIPE DETAILS	OD50 HDPE PN10																															
INVERT LEVEL (m)	763.432	763.364	763.296	763.228	762.985	762.743	762.500	762.145	761.790	761.435	761.081	760.726	760.371	759.777	759.183	758.337	757.491	756.644	755.798	754.952	753.769	752.585	751.402	750.404	749.644	748.884	748.123	747.363	746.676	745.989	745.303	

LONGITUDINAL PROFILE

AMENDMENTS

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1	7.28.2023	Draft Design

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

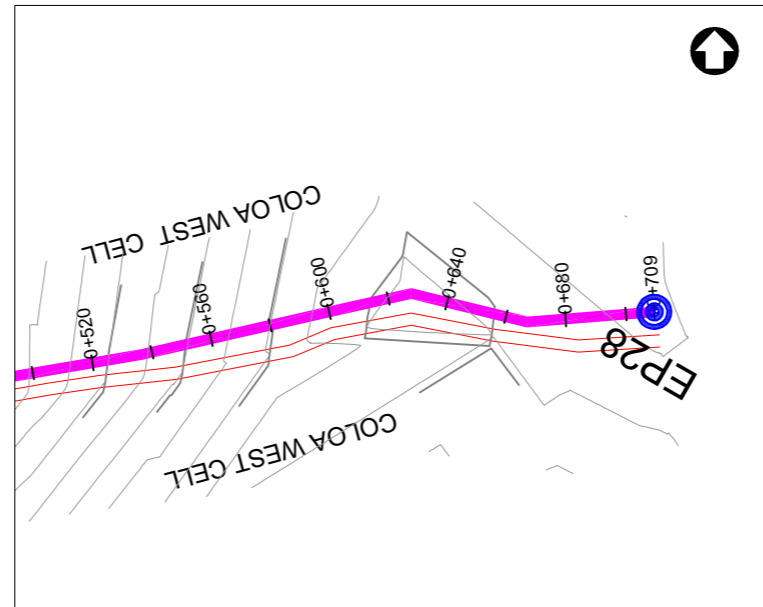
**DISTRIBUTION LINE 05**  
 Distribution Line 05 (CH 0+000.00 - 0+600.00)

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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

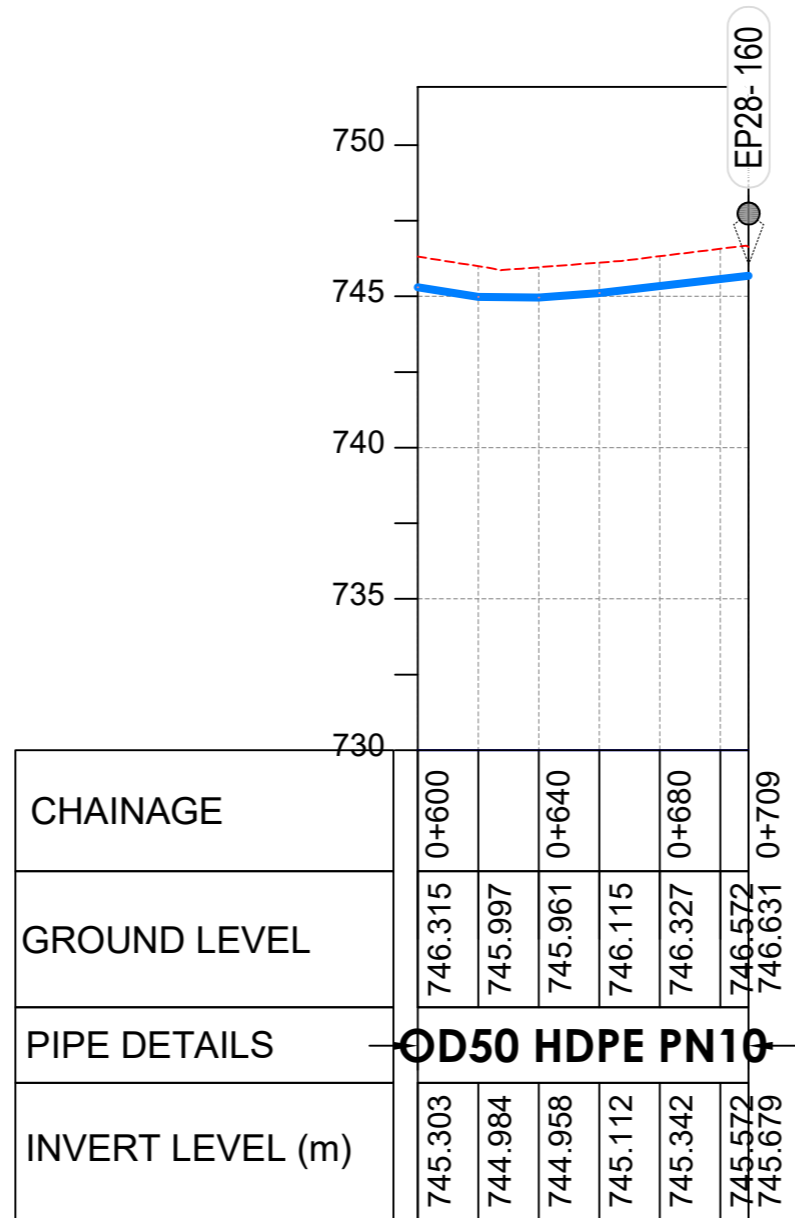
ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.5.1 | Cad file No WSS<22\_11>





PLAN LAYOUT



LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



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**MINISTRY OF WATER AND ENVIRONMENT**  
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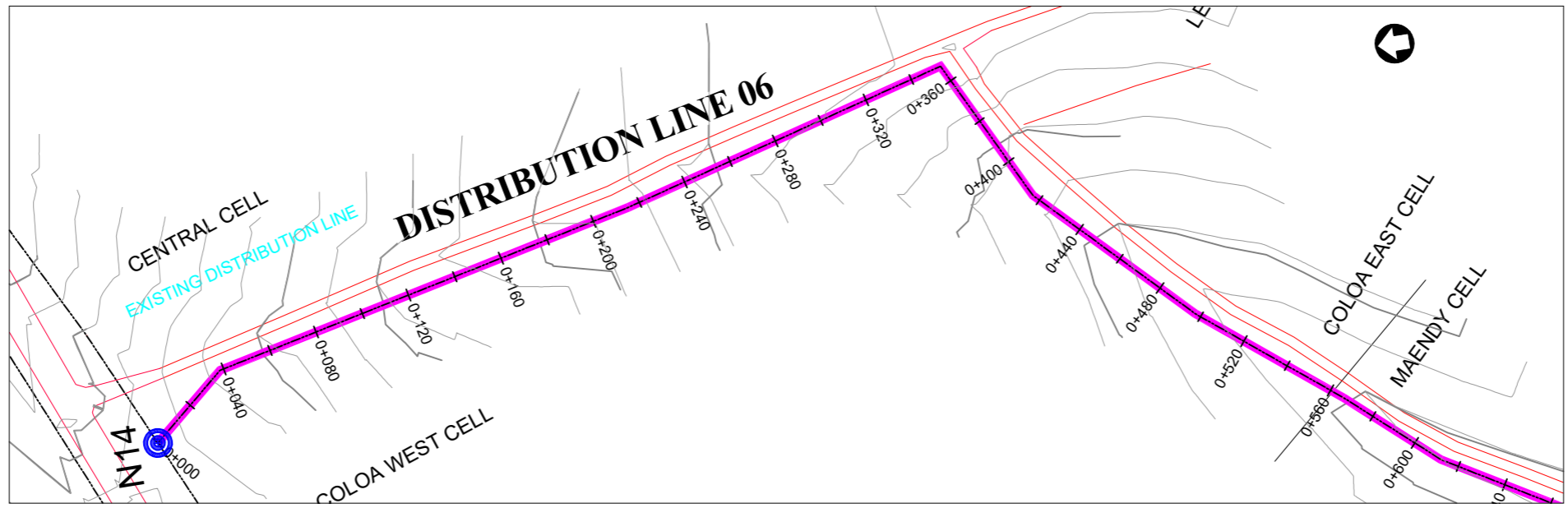
Drawing Title:

**DISTRIBUTION LINE 05**  
 Distribution Line 05 (CH 0+600.00 - 0+709.38)

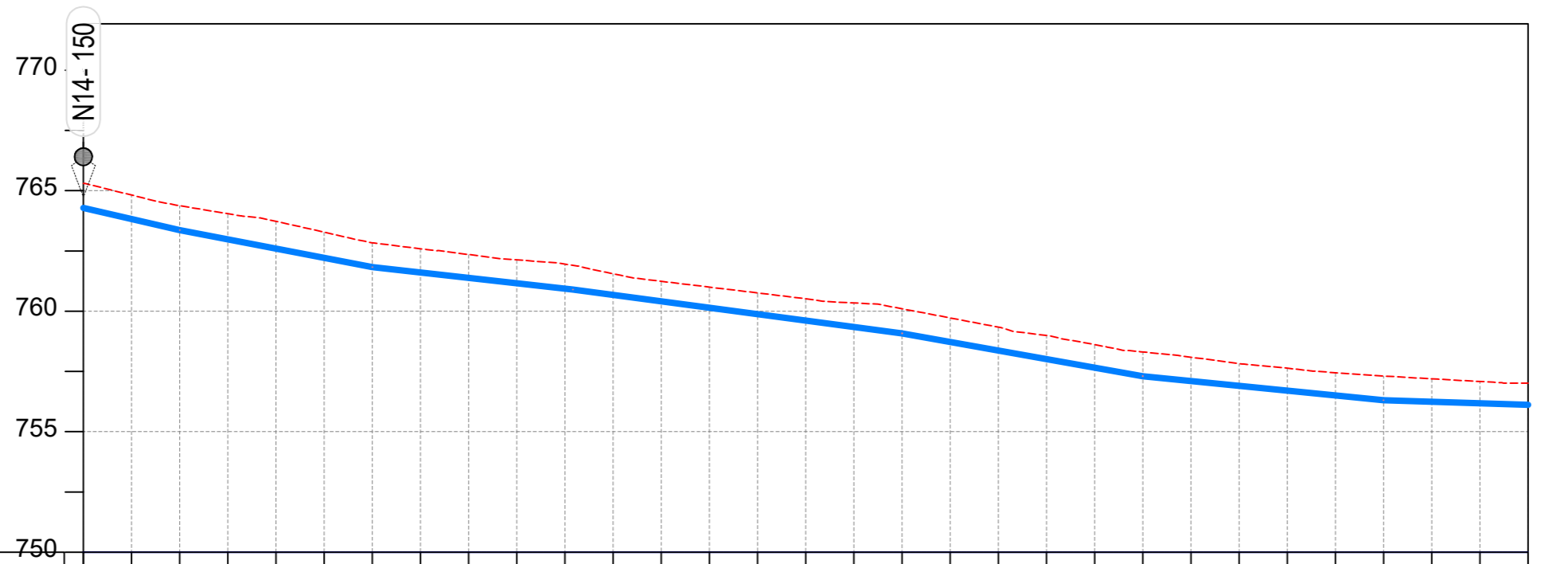
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.5.2 | Cad file No WSS<22\_11>



**PLAN LAYOUT**



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	765.304	764.820	764.379	764.045	763.729	763.279	762.838	762.593	762.353	762.129	761.957	761.556	761.241	761.000	760.759	760.518	760.343	760.102	759.721	759.339	758.993	758.614	758.310	758.092	757.825	757.635	757.449	757.311	757.195	757.084	757.011	
PIPE DETAILS	← <b>OD50 HDPE PN10</b> →																															
INVERT LEVEL (m)	764.286	763.826	763.365	762.981	762.598	762.214	761.831	761.606	761.382	761.158	760.933	760.675	760.410	760.144	759.879	759.614	759.349	759.084	758.728	758.372	758.016	757.660	757.305	757.106	756.906	756.707	756.508	756.309	756.245	756.182	756.118	

**LONGITUDINAL PROFILE**

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

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  - For Node details, see Dwg. MWE/GWE/5.0.0
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:

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**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

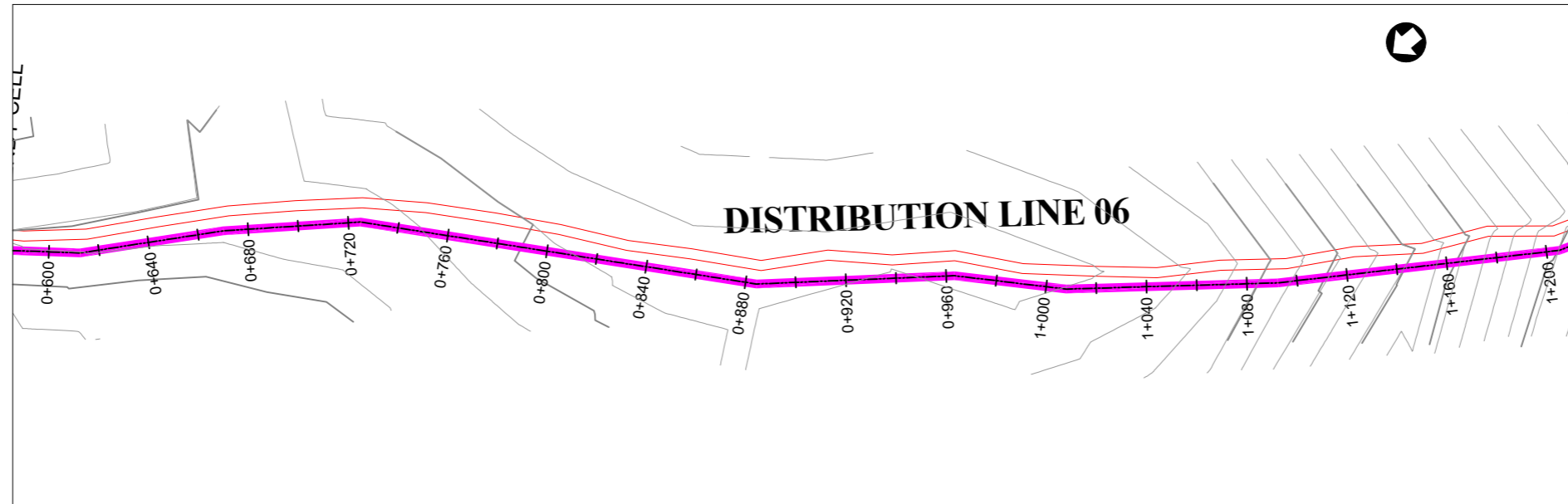
Consultant:

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
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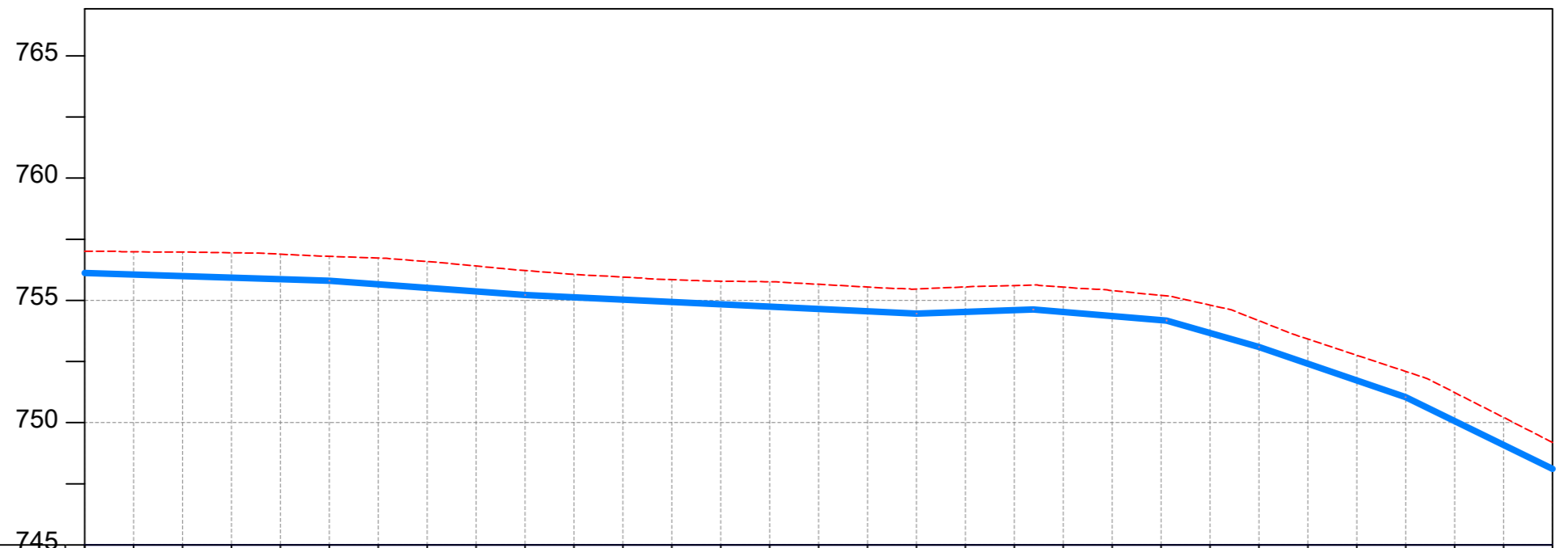
Drawing Title:

**DISTRIBUTION LINE 06**  
 Distribution Line 06 (CH 0+000.00 - 0+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



**PLAN LAYOUT**



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920		0+960		1+000		1+040		1+080		1+120		1+160		1+200	
GROUND LEVEL	757.011	756.986	756.975	756.948	756.890	756.800	756.732	756.589	756.406	756.222	756.064	755.956	755.849	755.786	755.762	755.658	755.546	755.463	755.552	755.609	755.542	755.400	755.206	754.809	754.169	753.420	752.757	752.095	751.233	750.216	749.186	
PIPE DETAILS	←————— OD50 HDPE PN10 —————→																															
INVERT LEVEL (m)	756.118	756.054	755.991	755.927	755.863	755.800	755.654	755.509	755.364	755.219	755.124	755.030	754.935	754.841	754.746	754.652	754.557	754.462	754.532	754.601	754.527	754.362	754.197	753.669	753.094	752.410	751.726	751.041	750.065	749.088	748.111	

**LONGITUDINAL PROFILE**

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

**NOTES**

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- For Node details, see Dwg. MWE/GWE/5.0.0
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

**CO-FINANCE BY:**



**CLIENT**

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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**PROJECT**

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

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**Consultant:**

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

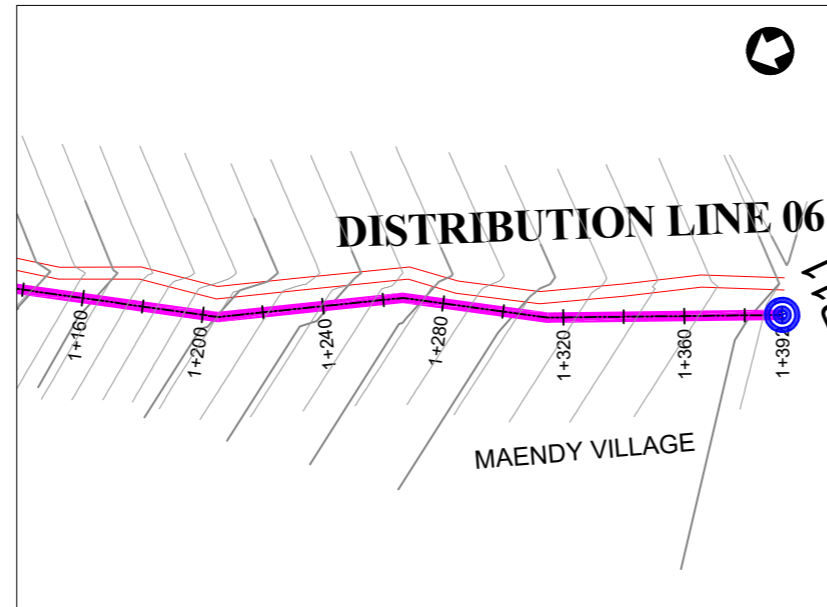
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 Distribution Line 06 (CH 0+600.00 - 1+200.00)

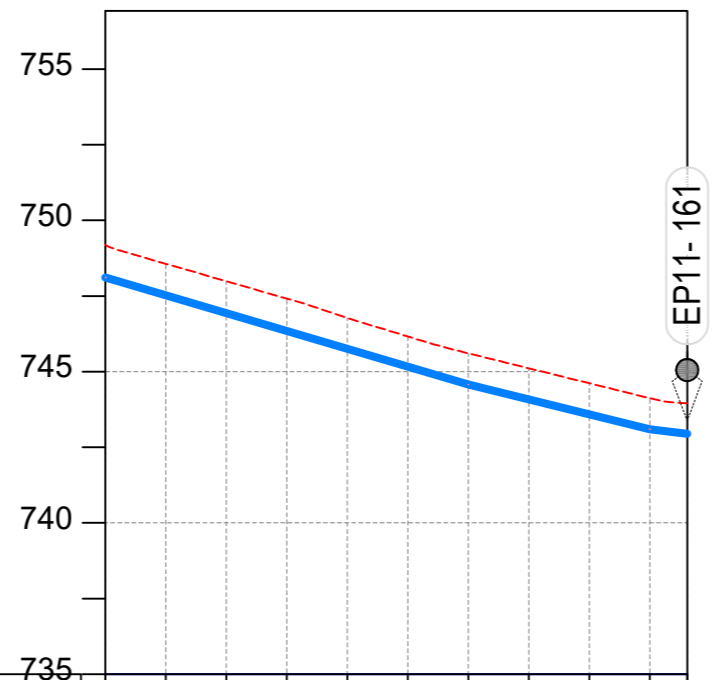
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

**ENGINEERING DESIGN DRAWING**

Drg No: MWE/GWE/4.6.2 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	1+200		1+240		1+280		1+320		1+360		1+392
GROUND LEVEL	749.186	748.565	747.989	747.413	746.775	746.163	745.606	745.110	744.616	744.122	743.947
PIPE DETAILS	← OD50 HDPE PN10 →										
INVERT LEVEL (m)	748.111	747.520	746.931	746.342	745.754	745.165	744.576	744.081	743.587	743.092	742.943

LONGITUDINAL PROFILE

AMENDMENTS

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Marker Post	SD 117
Thrust Blocks	SD 118
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LEGEND

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- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

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Consultant:

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 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

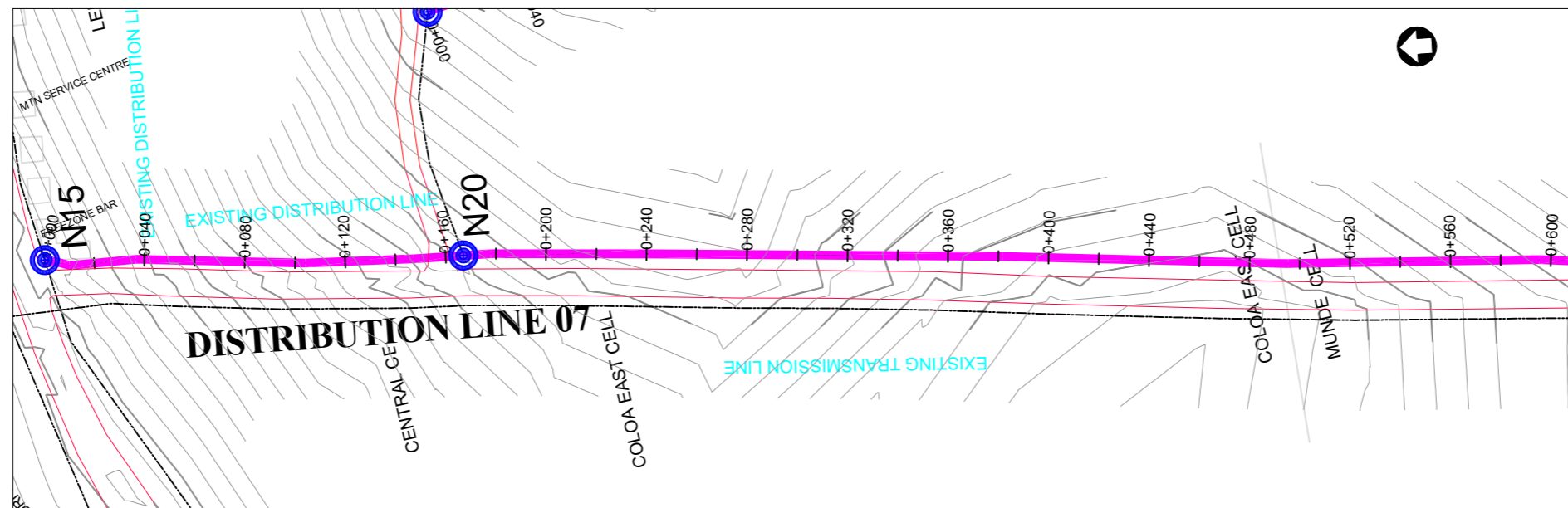
Drawing Title:

**DISTRIBUTION LINE 06**  
 Distribution Line 06 (CH 1+200.00 - 1+392.35)

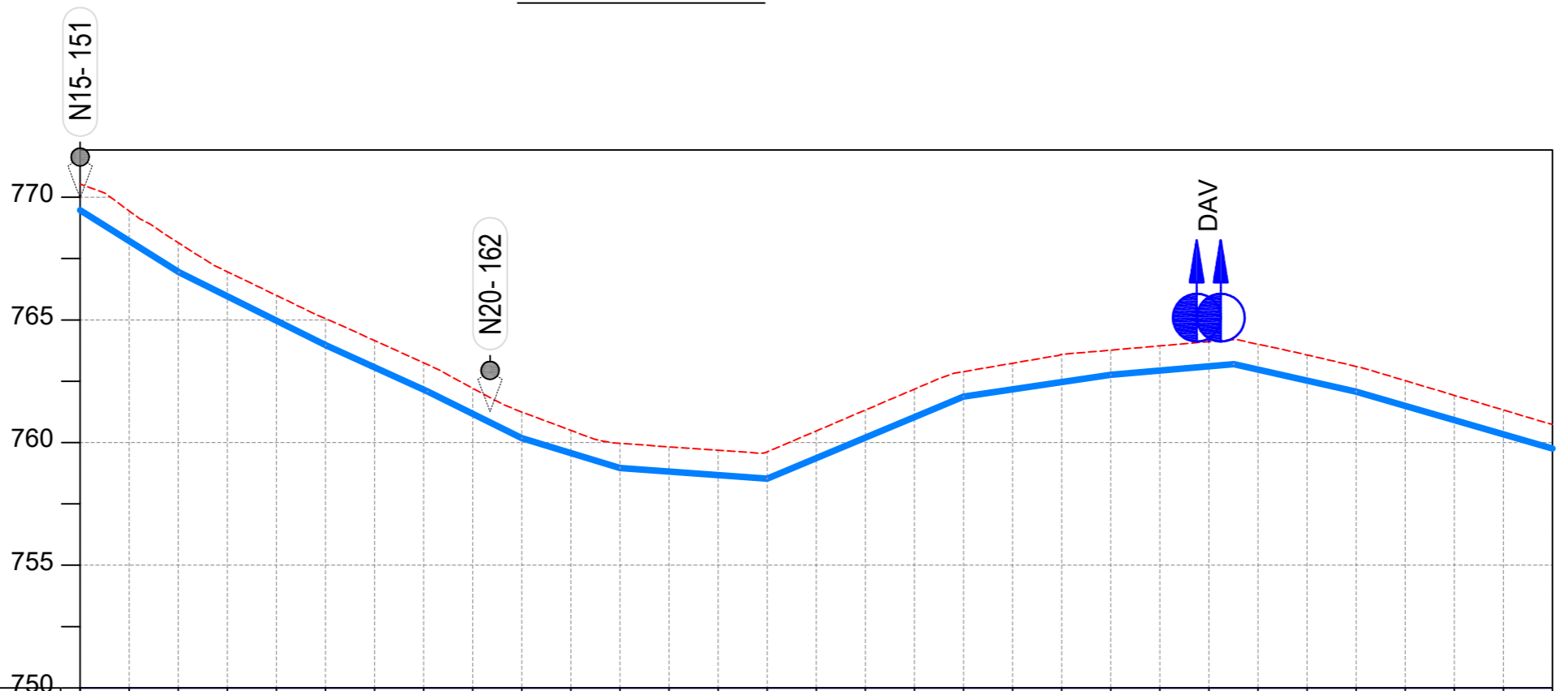
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.6.3 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	770.532	769.440	768.145	766.963	765.997	765.053	764.158	763.250	762.209	761.245	760.496	759.969	759.825	759.685	759.621	760.473	761.325	762.177	762.888	763.234	763.597	763.767	763.940	764.113	764.010	763.573	763.106	762.524	761.926	761.329	760.742	759.754
PIPE DETAILS	← OD90 HDPE PN10 →										← OD63 HDPE PN10 →																					
INVERT LEVEL (m)	769.474	768.217	766.960	765.961	764.965	763.969	763.060	762.152	761.168	760.178	759.572	758.966	758.822	758.678	758.534	759.369	760.203	761.038	761.873	762.170	762.467	762.763	762.934	763.105	762.972	762.525	762.078	761.497	760.916	760.335		

LONGITUDINAL PROFILE

AMENDMENTS

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1	7.28.2023	Draft Design

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LEGEND

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- Contours
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- Type 2 Washout
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CO-FINANCE BY:



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 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM

Consultant:



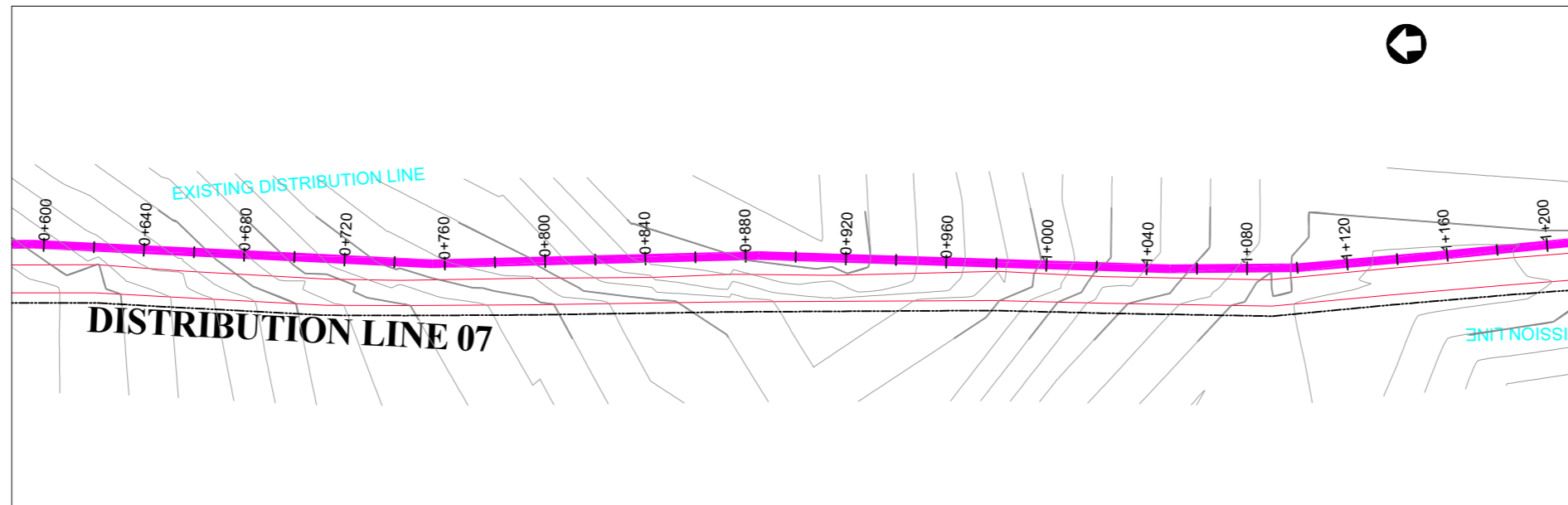
Drawing Title:

DISTRIBUTION LINE 07  
 Distribution Line 07 (CH 0+000.00 - 0+600.00)

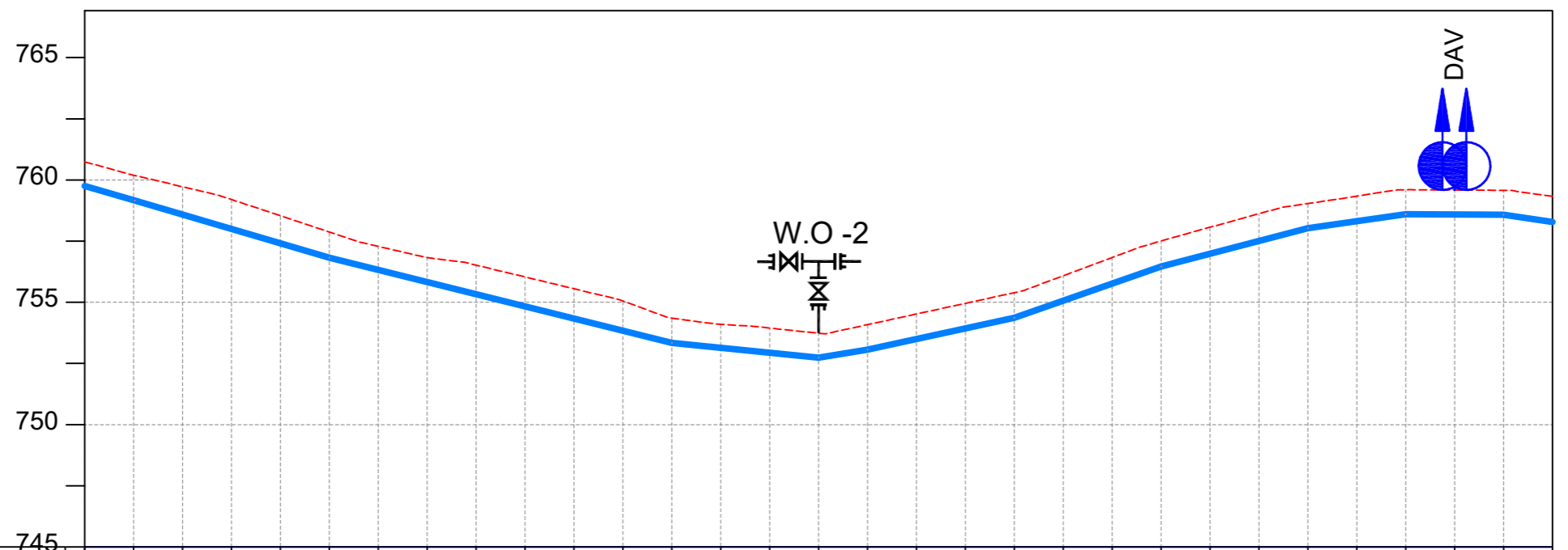
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Vertical Scale: 1:250	Drawn:	P.S Eyamu
Horizontal Scale: 1:2500	Checked:	O.R Daniel
Date:	Approved:	O.R Daniel
Nov-2022		

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.7.1 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+600	0+640	0+680	0+720	0+760	0+800	0+840	0+880	0+920	0+960	1+000	1+040	1+080	1+120	1+160	1+200														
GROUND LEVEL	760.742	760.191	759.723	759.201	758.537	757.873	757.286	756.831	756.520	756.037	755.555	755.053	754.352	754.102	753.947	753.739	754.086	754.522	754.957	755.393	756.084	756.830	757.504	758.067	758.620	759.038	759.339	759.600	759.592	759.577
PIPE DETAILS	OD63 HDPE PN10																													
INVERT LEVEL (m)	759.754	759.173	758.585	757.996	757.408	756.820	756.323	755.826	755.330	754.833	754.337	753.840	753.343	753.140	752.937	752.734	753.062	753.498	753.934	754.370	755.068	755.766	756.464	756.985	757.506	758.027	758.313	758.599	758.588	758.577

LONGITUDINAL PROFILE

AMENDMENTS

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CO-FINANCE BY:



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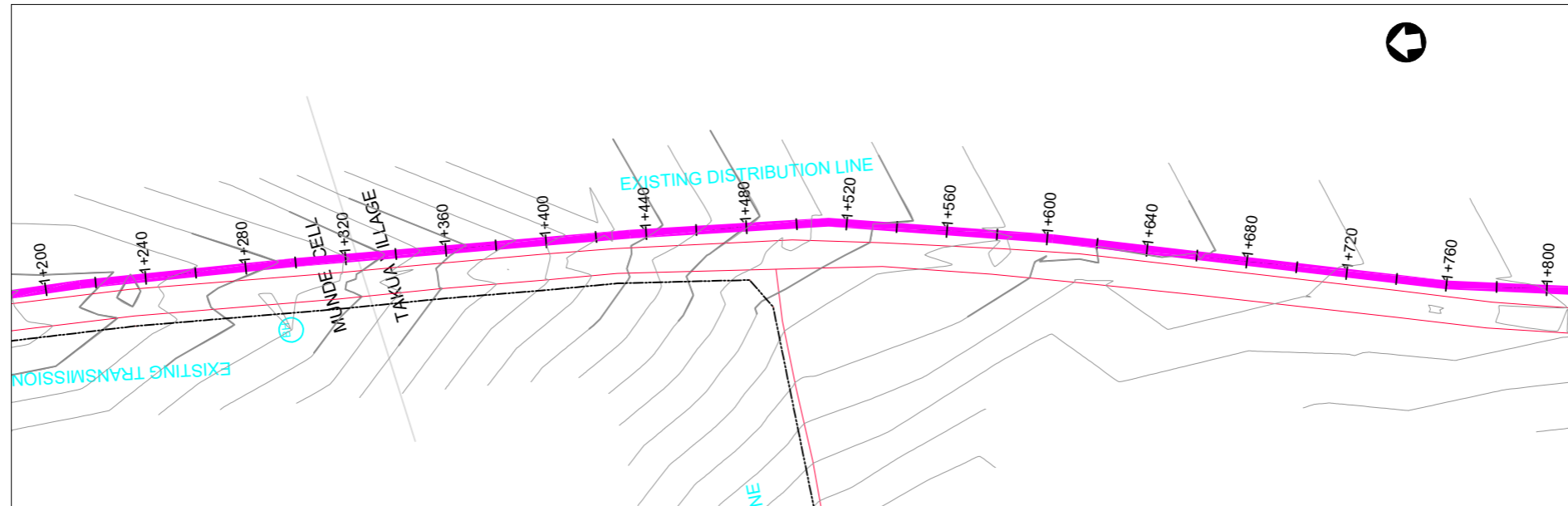
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**DISTRIBUTION LINE 07**  
 Distribution Line 07 (CH 0+600.00 - 1+200.00)

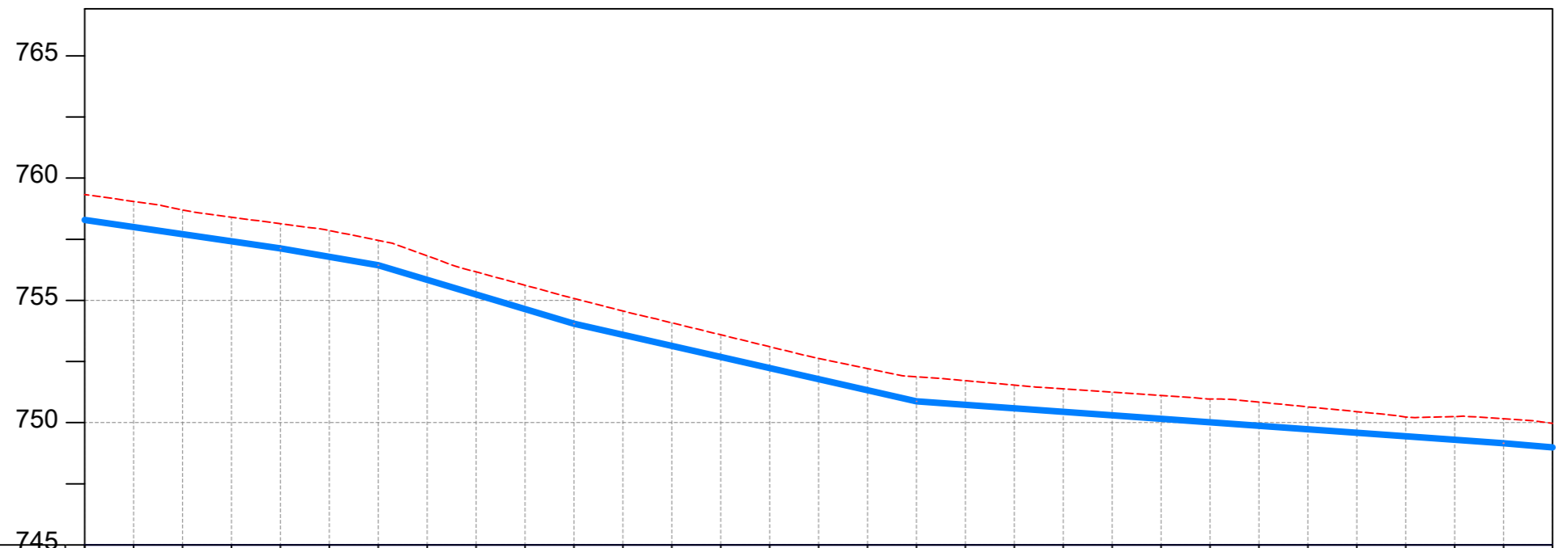
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.7.2 Cad file No WSS<22\_11>



**PLAN LAYOUT**



CHAINAGE	1+200		1+240		1+280		1+320		1+360		1+400		1+440		1+480		1+520		1+560		1+600		1+640		1+680		1+720		1+760		1+800	
GROUND LEVEL	759.327	759.046	758.691	758.402	758.138	757.860	757.456	756.821	756.165	755.620	755.079	754.567	754.085	753.595	753.106	752.622	752.214	751.875	751.716	751.536	751.381	751.246	751.110	750.968	750.842	750.646	750.451	750.233	750.249	750.160		
PIPE DETAILS	<b>OD63 HDPE PN10</b>																															
INVERT LEVEL (m)	758.288	757.998	757.709	757.419	757.129	756.783	756.436	755.838	755.241	754.644	754.046	753.593	753.140	752.686	752.233	751.780	751.326	750.873	750.730	750.587	750.444	750.301	750.158	750.015	749.873	749.730	749.587	749.444	749.301	749.158		

**LONGITUDINAL PROFILE**

**AMENDMENTS**

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CO-FINANCE BY:

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**SARI**  
CONSULTING LTD

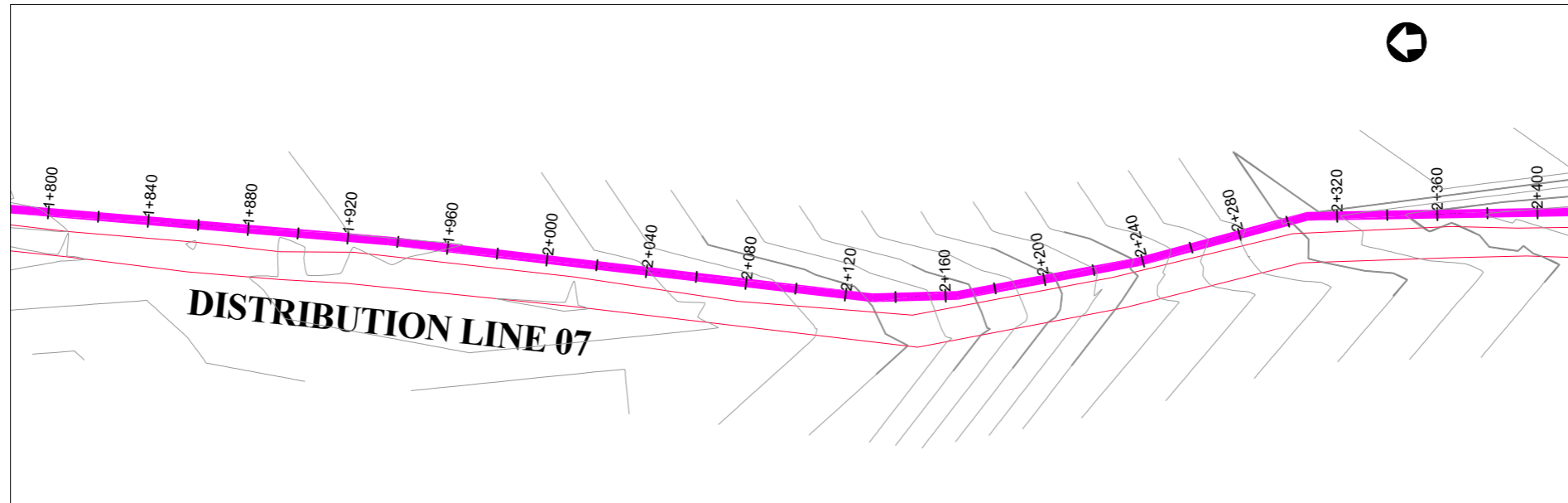
Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**DISTRIBUTION LINE 07**  
 Distribution Line 07 (CH 1+200.00 - 1+800.00)

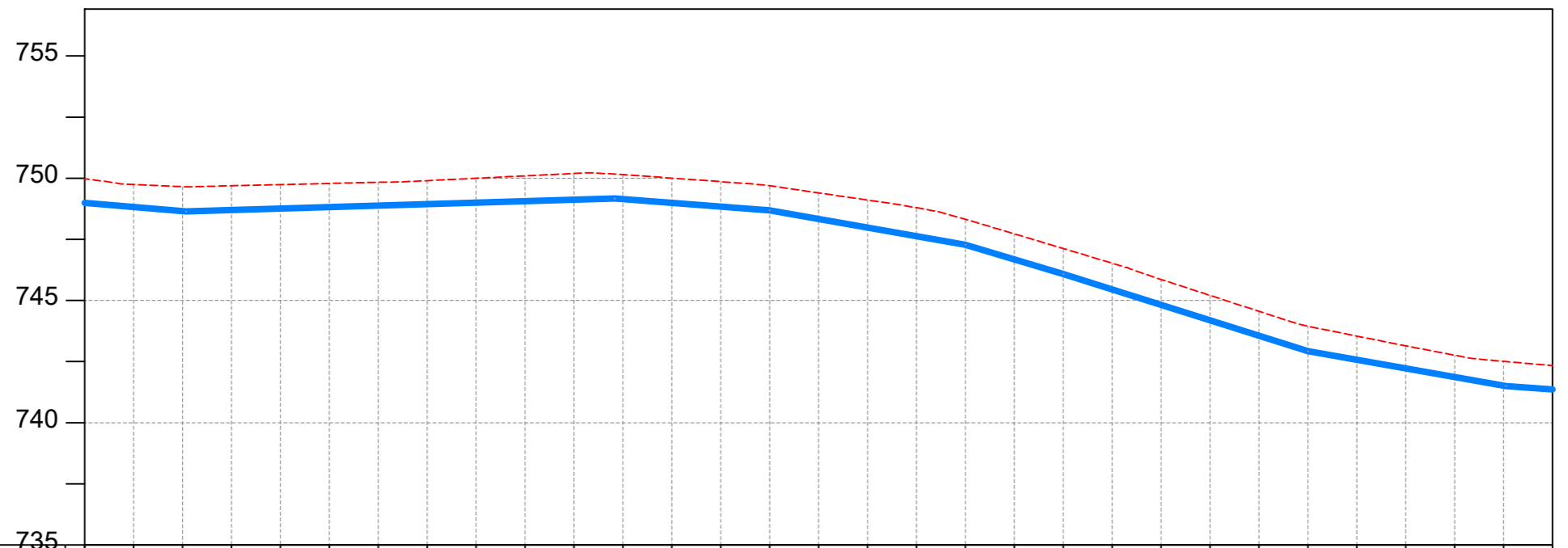
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.7.3 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	1+800		1+840		1+880		1+920		1+960		2+000		2+040		2+080		2+120		2+160		2+200		2+240		2+280		2+320		2+360		2+400	
GROUND LEVEL	749.976	749.746	749.653	749.691	749.739	749.788	749.835	749.900	749.998	750.096	750.194	750.149	750.005	749.860	749.694	749.401	749.108	748.794	748.318	747.725	747.125	746.525	745.859	745.209	744.558	743.947	743.544	743.144	742.760	742.510		
PIPE DETAILS	←————— OD63 HDPE PN10 —————→																															
INVERT LEVEL (m)	748.991	748.824	748.657	748.701	748.760	748.820	748.879	748.939	748.998	749.058	749.118	749.141	748.988	748.836	748.683	748.332	747.981	747.629	747.278	746.680	746.081	745.450	744.820	744.189	743.558	742.927	742.574	742.220	741.867	741.514		

LONGITUDINAL PROFILE

AMENDMENTS

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CO-FINANCE BY:



CLIENT

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 United Kingdom

Drawing Title:

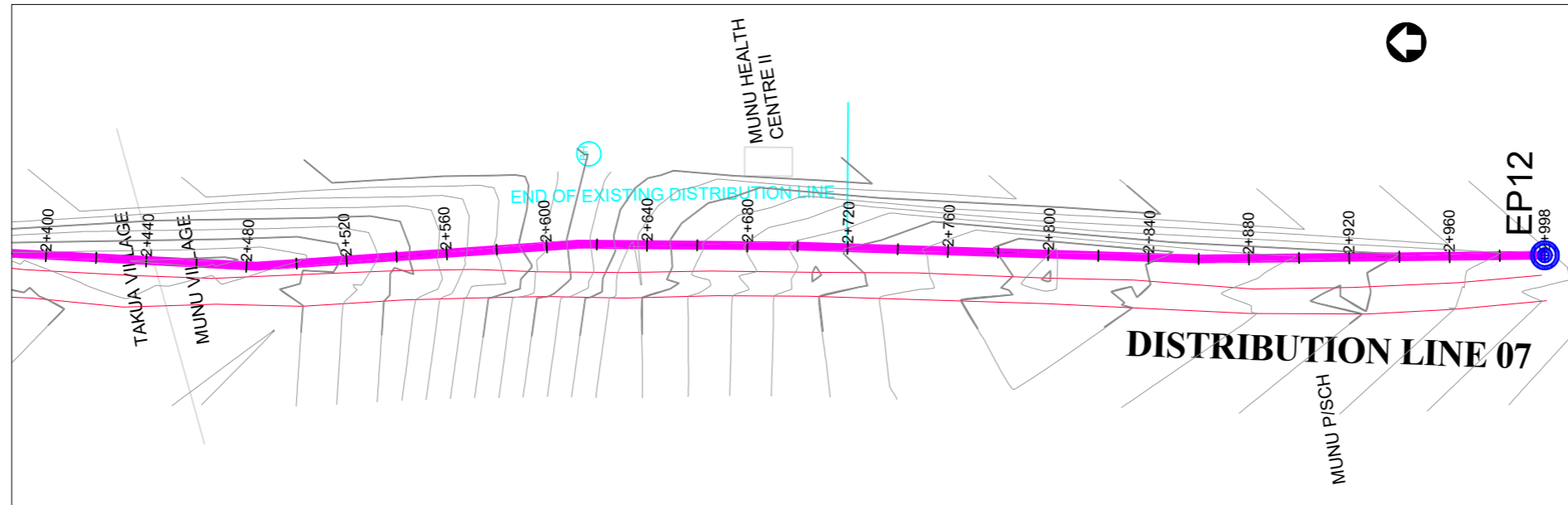
**DISTRIBUTION LINE 07**  
 Distribution Line 07 (CH 1+800.00 - 2+400.00)

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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

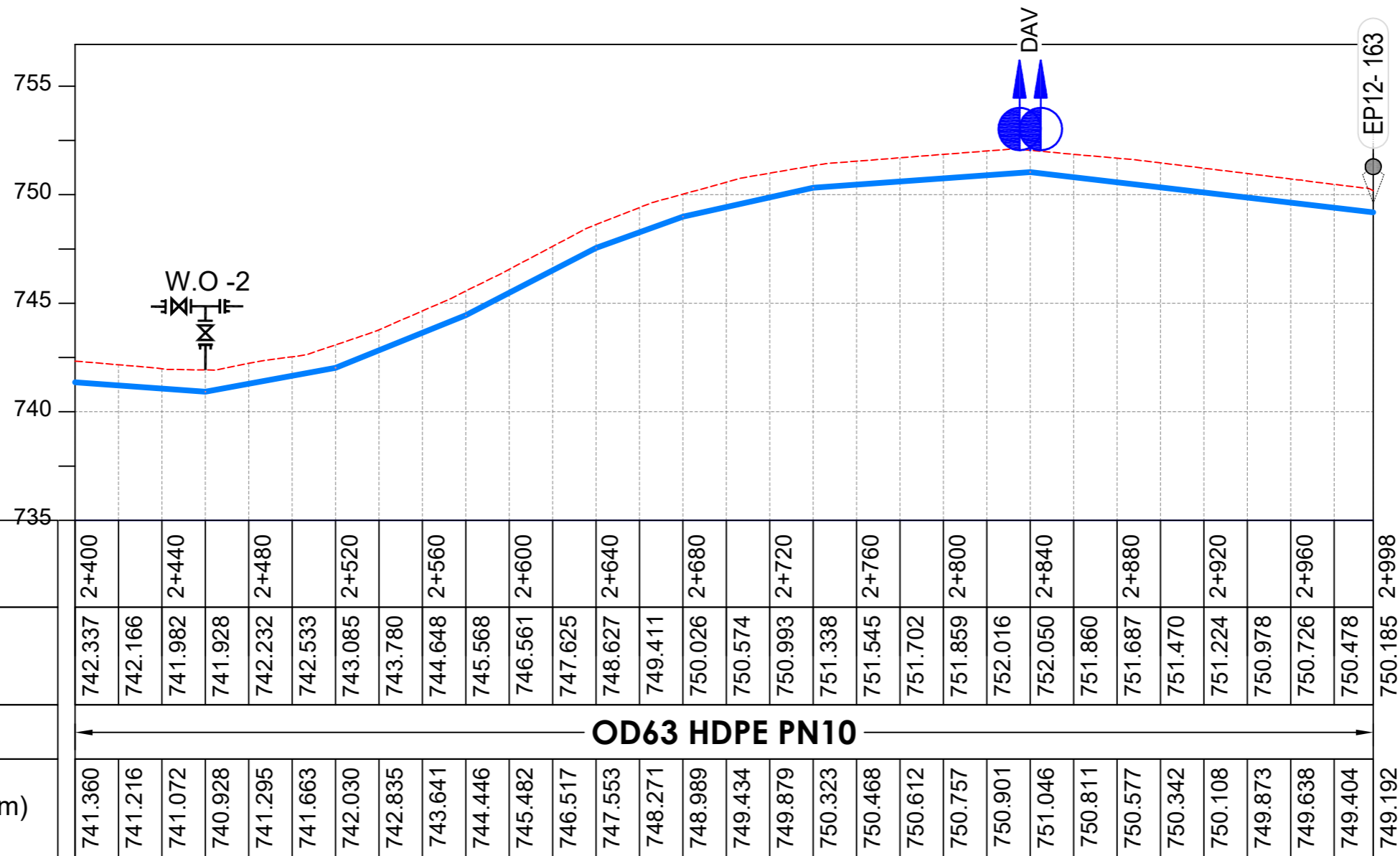
ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.7.4 Cad file No WSS<22\_11>





PLAN LAYOUT



LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
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CO-FINANCE BY:

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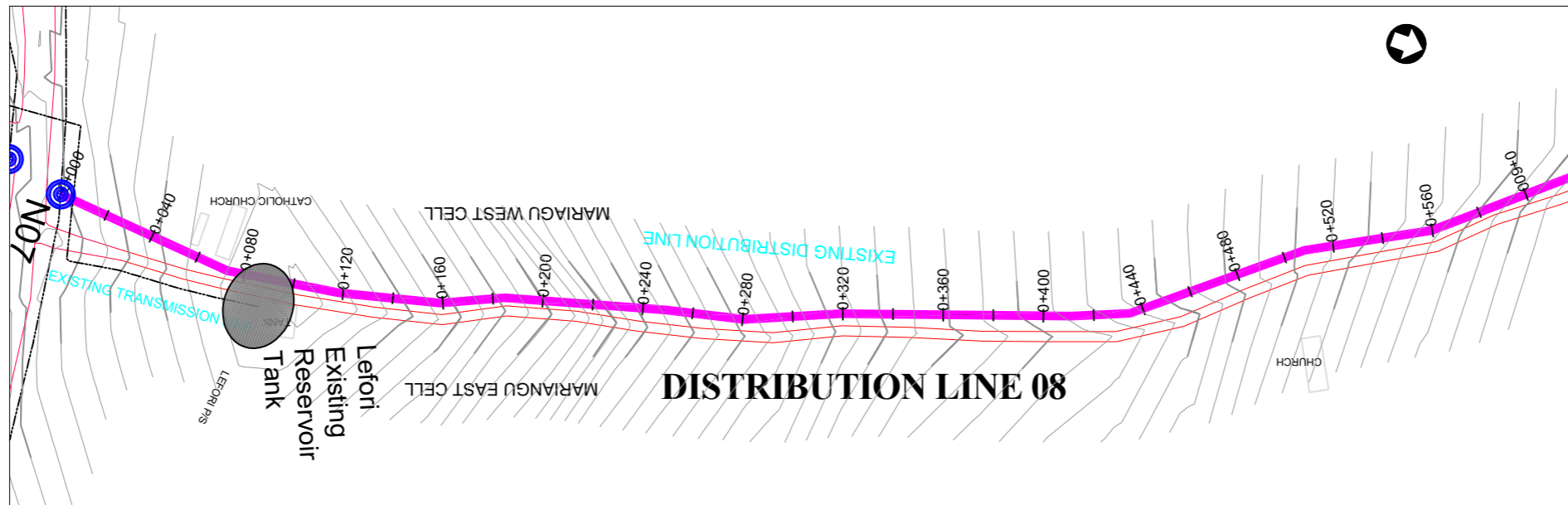
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

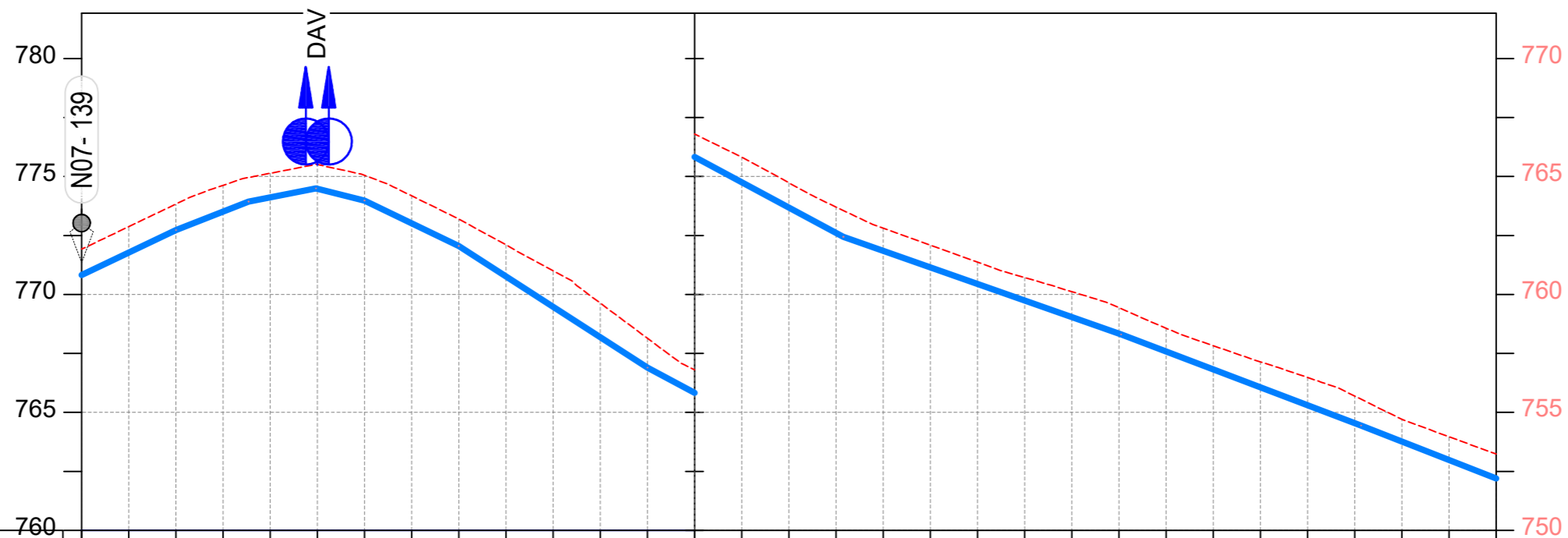
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**DISTRIBUTION LINE 07**  
 Distribution Line 07 (CH 2+400.00 - 2+998.02)

Scale: Vertical Scale: 1:250 Horizontal Scale: 1:2500	Designed: O.R Daniel
Date: Nov-2022	Drawn: P.S Eyamu
	Checked: O.R Daniel
	Approved: O.R Daniel



**PLAN LAYOUT**



CHAINAGE	0+000	0+040	0+080	0+120	0+160	0+200	0+240	0+260	0+280	0+320	0+360	0+400	0+440	0+480	0+520	0+560	0+600														
GROUND LEVEL	771.919	772.876	773.833	774.626	775.137	775.506	775.050	774.178	773.194	772.103	771.004	769.633	768.143	766.801	765.818	764.735	763.702	762.807	762.087	761.367	760.717	760.117	759.437	758.569	757.827	757.142	756.480	755.695	754.704	753.969	753.233
PIPE DETAILS	<b>OD50 HDPE PN10</b>																														
INVERT LEVEL (m)	770.826	771.775	772.725	773.513	774.117	774.481	773.982	773.018	772.055	770.765	769.475	768.185	766.896	765.825	764.755	763.685	762.615	761.854	761.151	760.447	759.744	759.041	758.337	757.581	756.823	756.064	755.306	754.547	753.767	752.982	752.198

**LONGITUDINAL PROFILE**

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

**NOTES**

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- For Site location see Dwg. MWE/GWE/0.0.0
- For Node details, see Dwg. MWE/GWE/5.0.0
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- For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

**CO-FINANCE BY:**



**CLIENT**

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

**PROJECT**

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

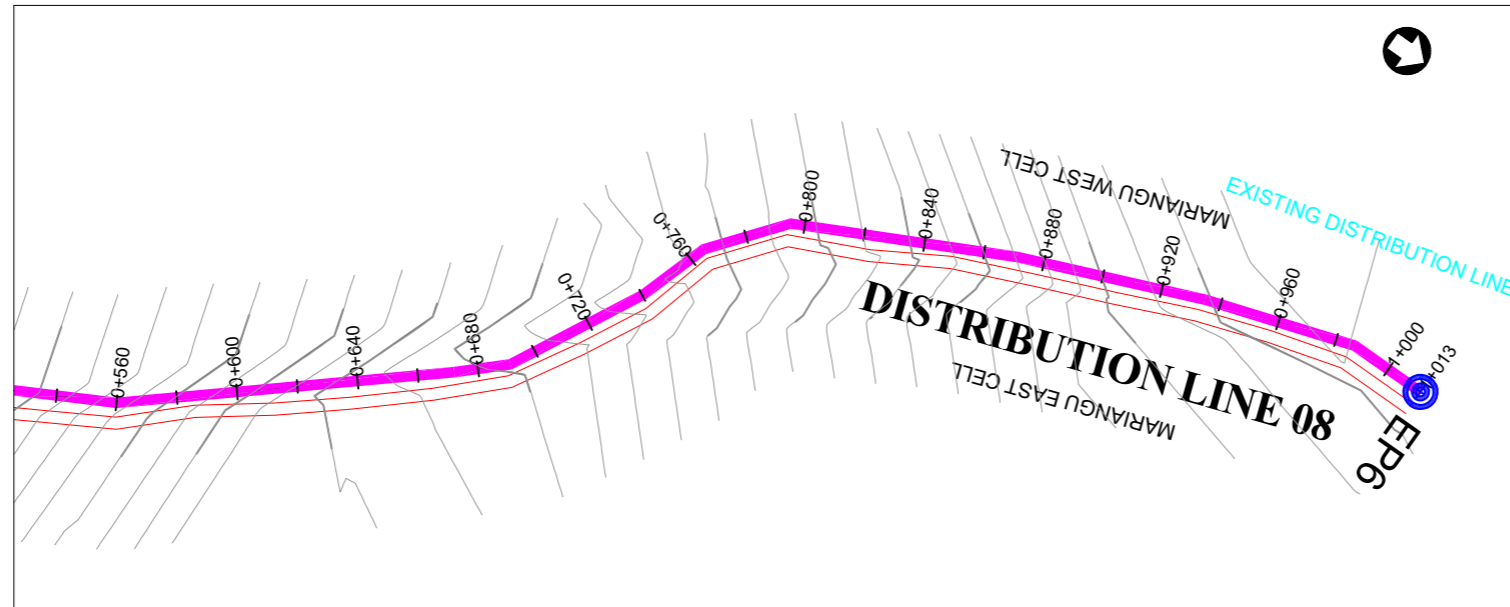
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**DISTRIBUTION LINE 08**  
 Distribution Line 08 (CH 0+000.00 - 0+600.00) (1)

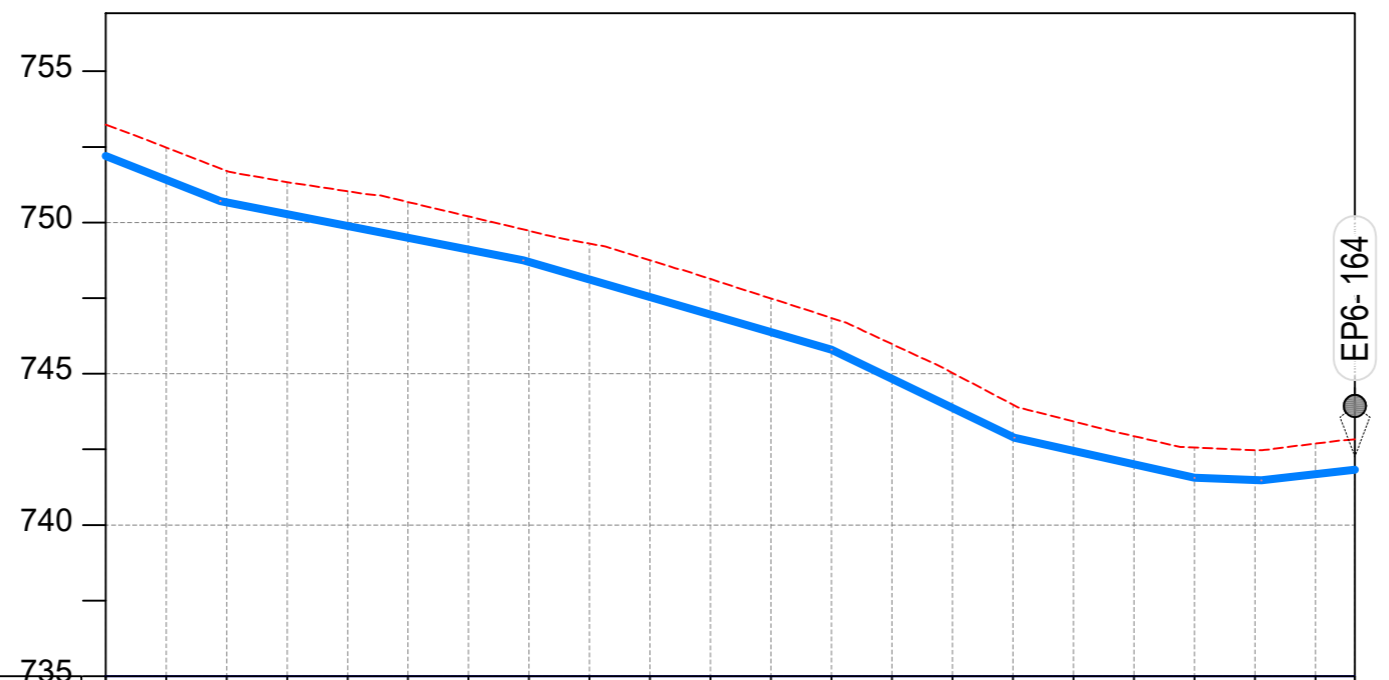
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

**ENGINEERING DESIGN DRAWING**

Drg No: MWE/GWE/4.8.1 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920		0+960		1+000	1+013
GROUND LEVEL	753.233	752.481	751.703	751.336	751.032	750.675	750.200	749.728	749.302	748.749	748.131	747.487	746.844	745.979	745.026	743.976	743.423	742.934	742.558	742.468	742.691	742.829
PIPE DETAILS	OD50 HDPE PN10																					
INVERT LEVEL (m)	752.198	751.414	750.670	750.277	749.885	749.493	749.100	748.690	748.111	747.531	746.952	746.373	745.793	744.831	743.869	742.907	742.450	742.003	741.557	741.480	741.677	741.826

LONGITUDINAL PROFILE

AMENDMENTS

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Marker Post	SD 117
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LEGEND

- Transmission Mains
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CO-FINANCE BY:



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 United Kingdom

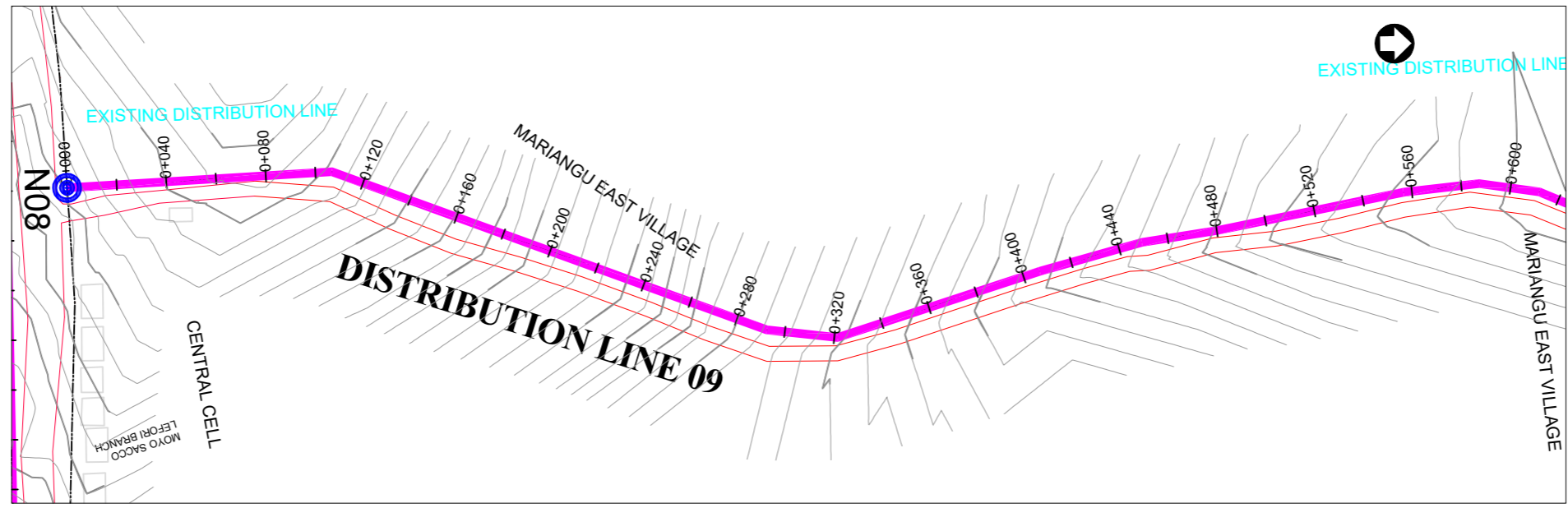
Drawing Title:

**DISTRIBUTION LINE 08**  
 Distribution Line 08 (CH 0+600.00 - 1+013.01)

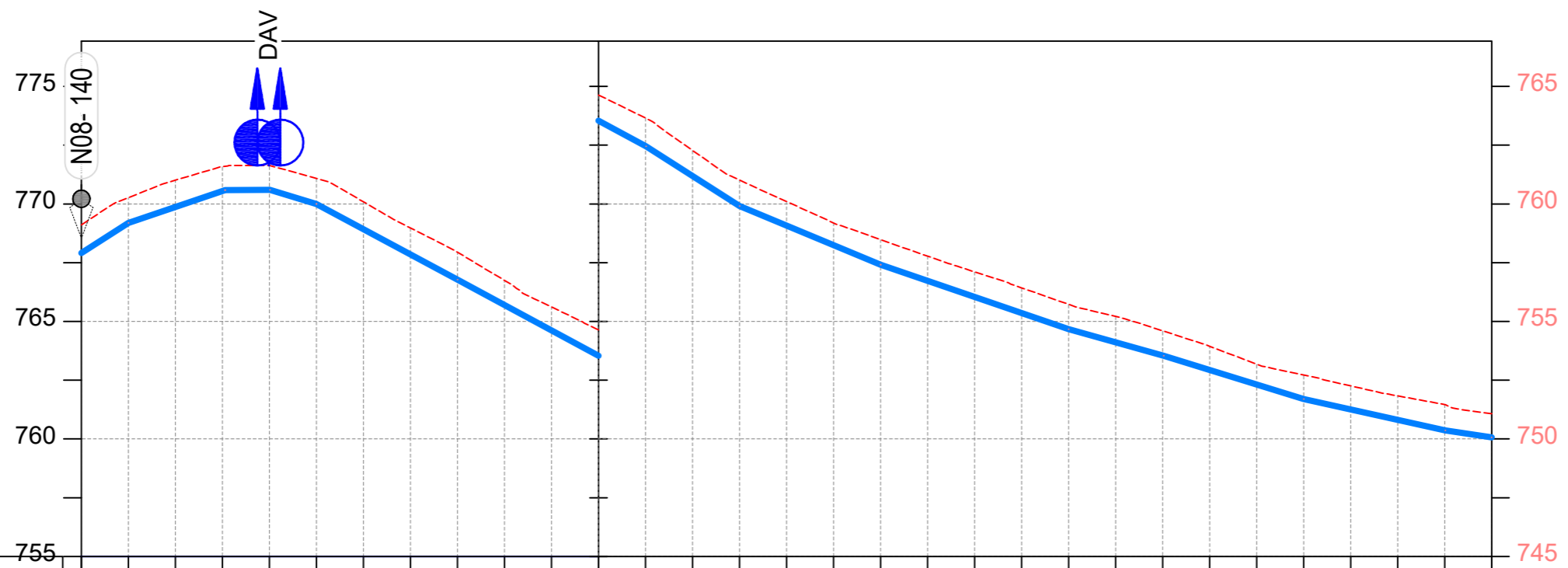
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.8.2 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+220		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600
GROUND LEVEL	769.110	770.267	771.010	771.583	771.631	771.079	770.090	768.978	767.943	766.745	765.614	764.635	763.652	762.278	761.014	760.099	759.191	758.479	757.778	757.110	756.427	755.727	755.215	754.602	753.941	753.184	752.723	752.258	751.834	751.465	751.078	750.609	
PIPE DETAILS	← OD50 HDPE PN10 →																																
INVERT LEVEL (m)	767.912	769.190	769.871	770.551	770.595	770.000	768.926	767.852	766.778	765.699	764.620	763.542	762.463	761.189	759.912	759.080	758.249	757.417	756.729	756.042	755.354	754.667	754.108	753.549	752.934	752.317	751.700	751.257	750.814	750.370	750.069		

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

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Marker Post	SD 117
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**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
	Double Orifice Air Valve
	Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

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- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

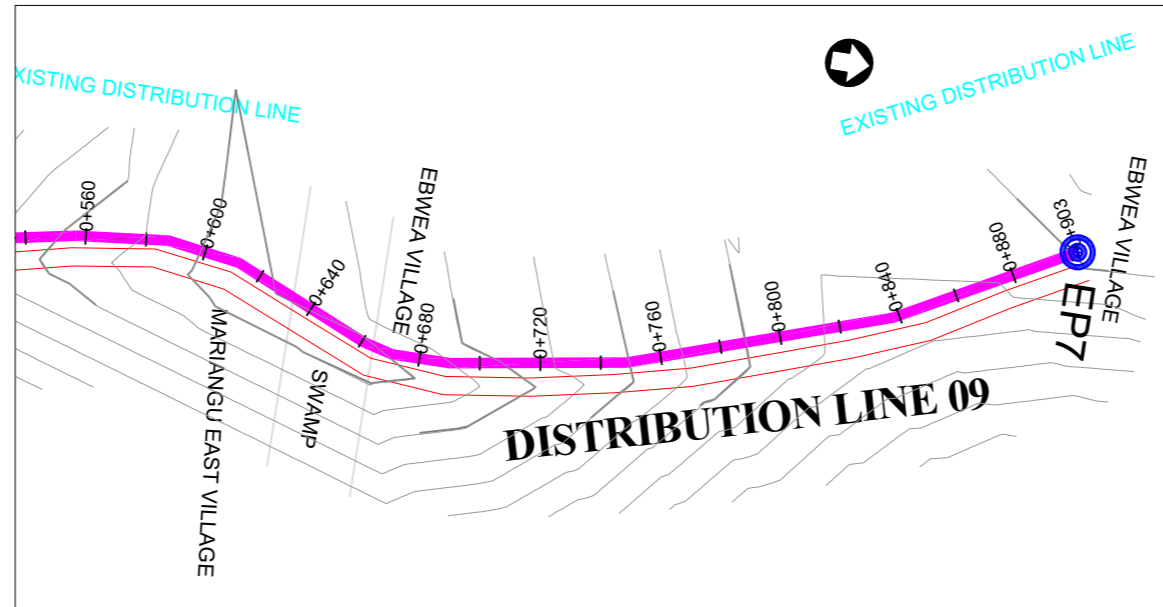
Consultant:

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

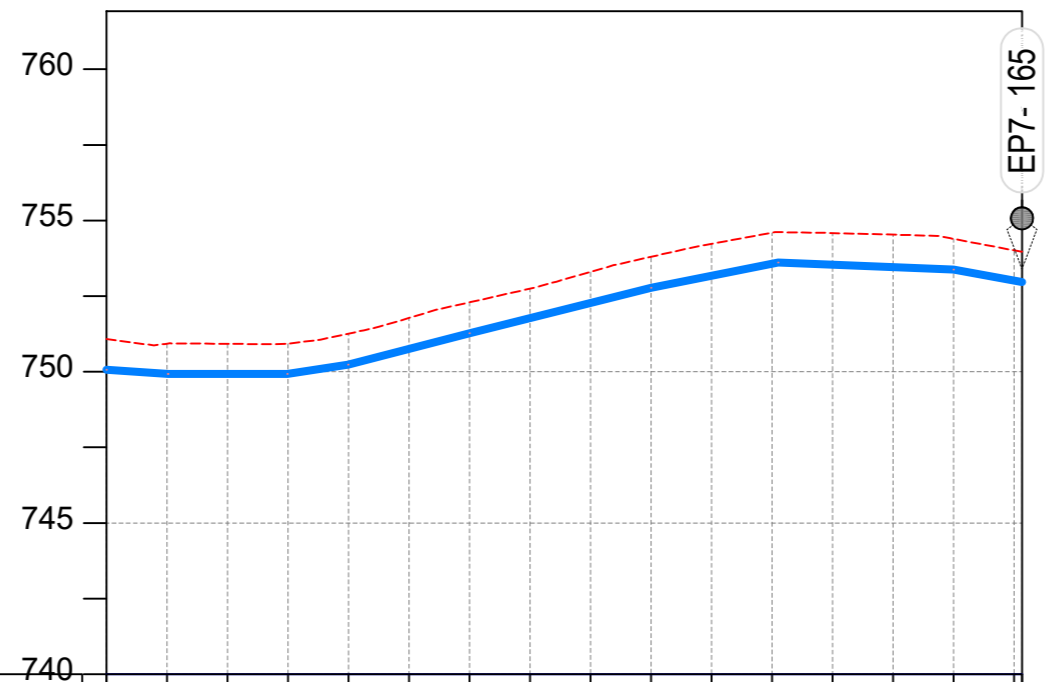
Drawing Title:

**DISTRIBUTION LINE 09**  
 Distribution Line 09 (CH 0+000.00 - 0+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880	0+903
GROUND LEVEL	751.078	750.929	750.924	750.930	751.261	751.780	752.297	752.749	753.303	753.802	754.233	754.600	754.586	754.534	754.393	753.966
PIPE DETAILS	← OD50 HDPE PN10 →															
INVERT LEVEL (m)	750.069	749.928	749.926	749.930	750.238	750.755	751.272	751.774	752.275	752.777	753.176	753.574	753.541	753.458	753.376	752.966

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



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PROJECT

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 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

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Consultant:

**SARI CONSULTING LTD**  
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 United Kingdom

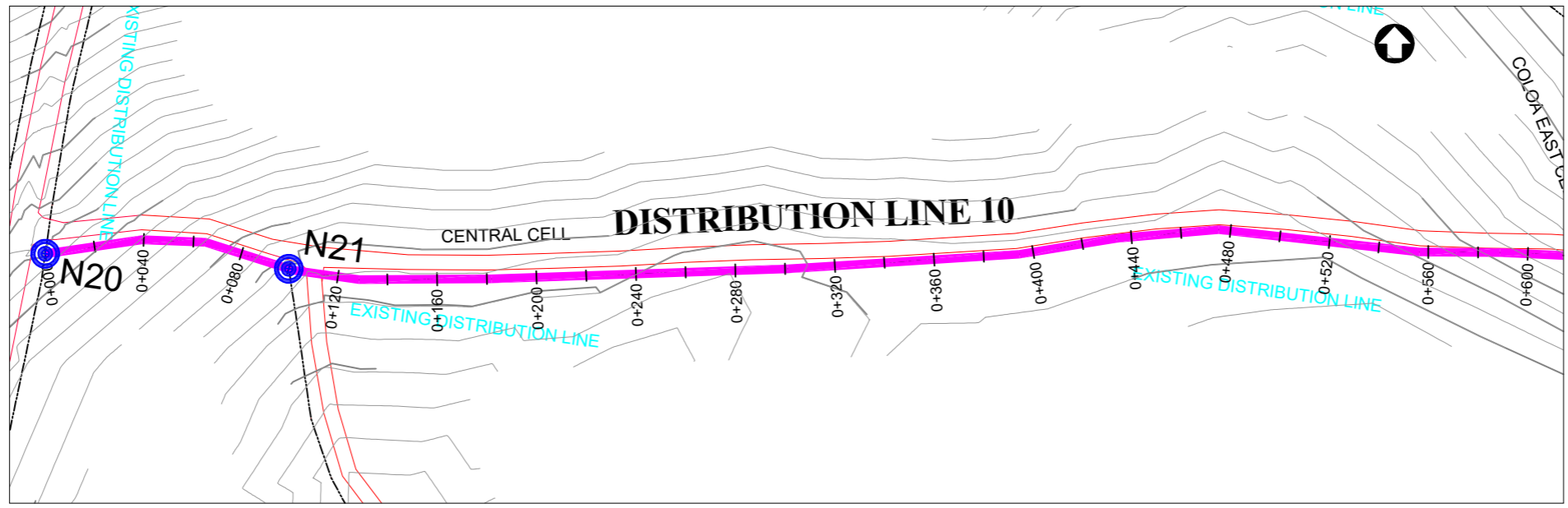
Drawing Title:

**DISTRIBUTION LINE 09**  
 Distribution Line 09 (CH 0+600.00 - 0+902.63)

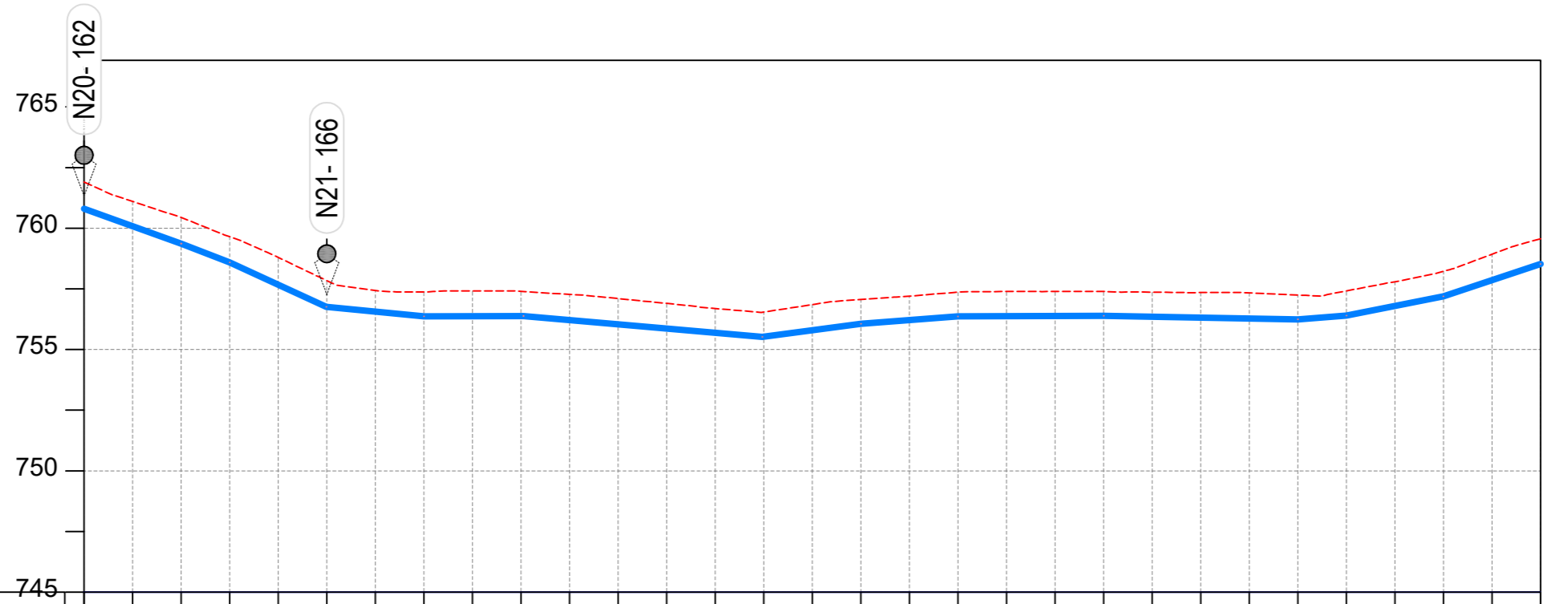
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.9.2 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	761.901	761.100	760.445	759.649	758.792	757.841	757.434	757.368	757.413	757.397	757.273	757.100	756.902	756.691	756.543	756.852	757.060	757.200	757.365	757.391	757.391	757.392	757.364	757.347	757.334	757.245	757.415	757.792	758.225	758.927		
PIPE DETAILS	← OD50 HDPE PN10 →																															
INVERT LEVEL (m)	760.803	760.085	759.366	758.588	757.666	756.753	756.561	756.368	756.375	756.382	756.217	756.041	755.866	755.691	755.529	755.794	756.058	756.210	756.362	756.372	756.381	756.391	756.354	756.317	756.281	756.244	756.396	756.793	757.190	757.859		

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

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**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
	Double Orifice Air Valve
	Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

CLIENT

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 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

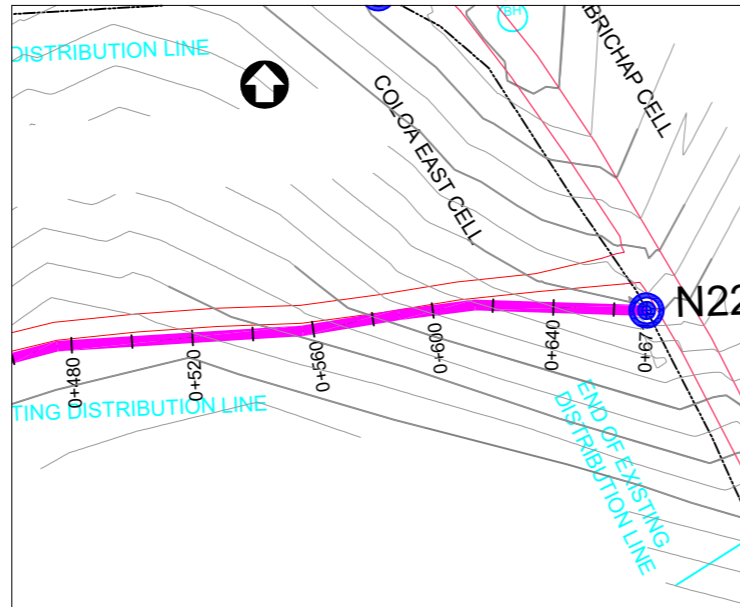
Consultant:

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

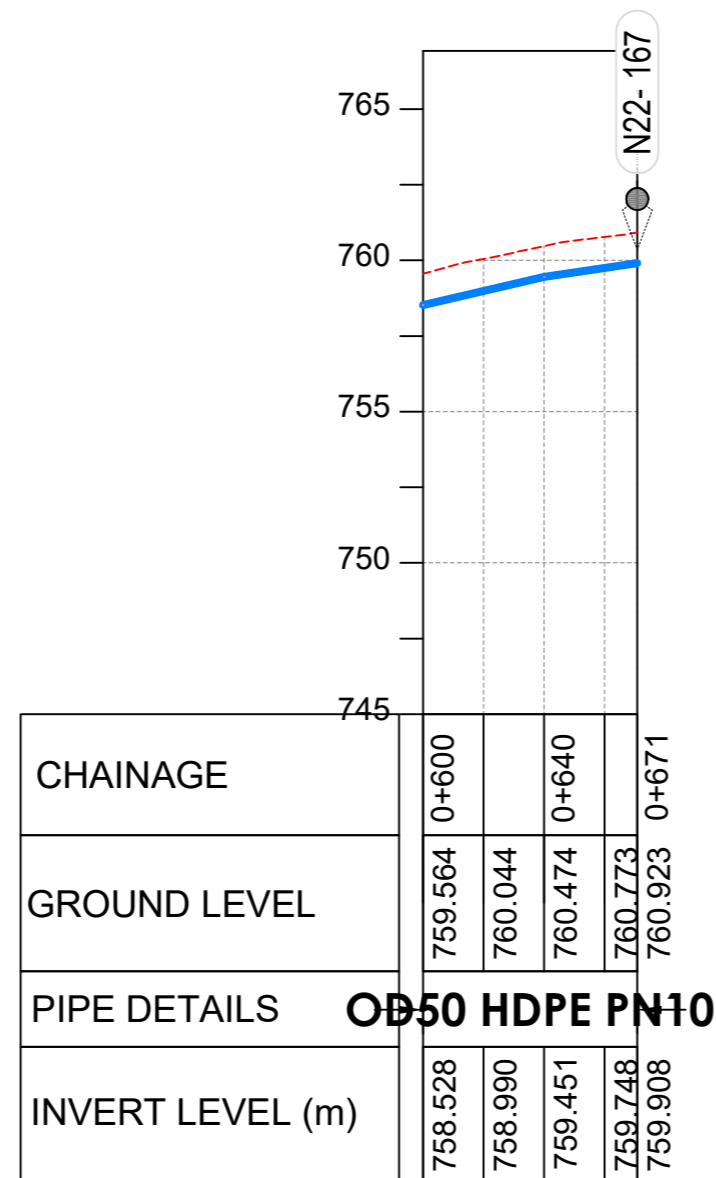
Drawing Title:

**DISTRIBUTION LINE 10**  
 Distribution Line 10 (CH 0+000.00 - 0+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



**PLAN LAYOUT**



**LONGITUDINAL PROFILE**

**AMENDMENTS**

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**CO-FINANCE BY:**



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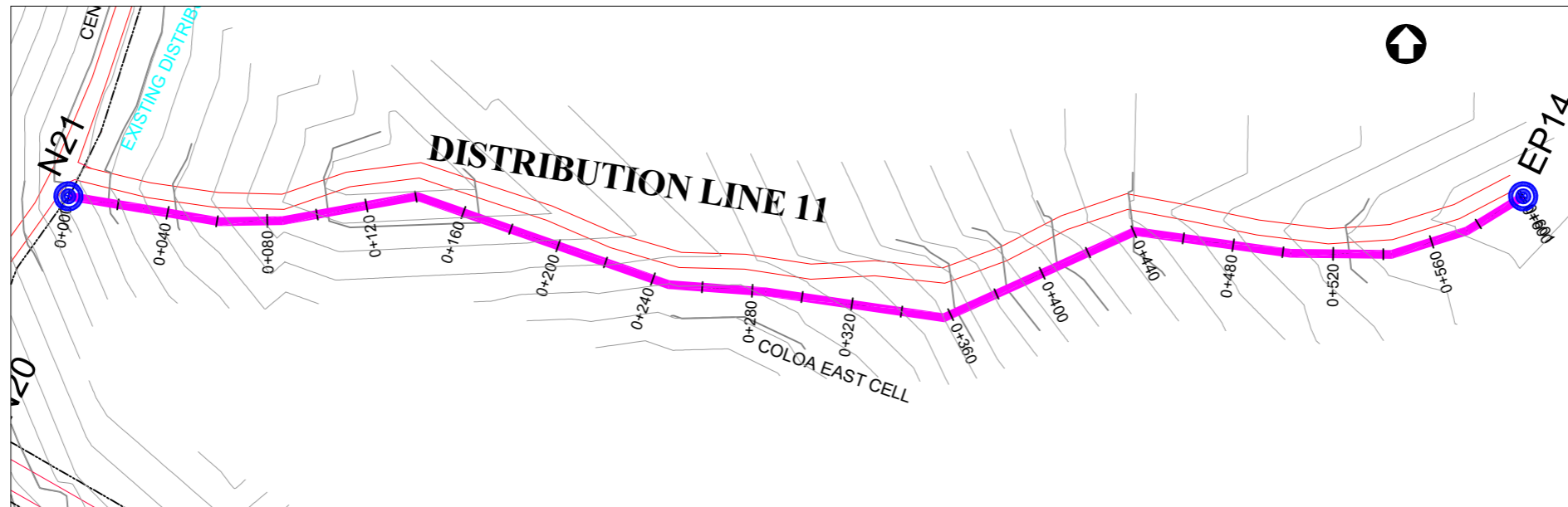
**Drawing Title:**

**DISTRIBUTION LINE 10**  
 Distribution Line 10 (CH 0+600.00 - 0+670.80)

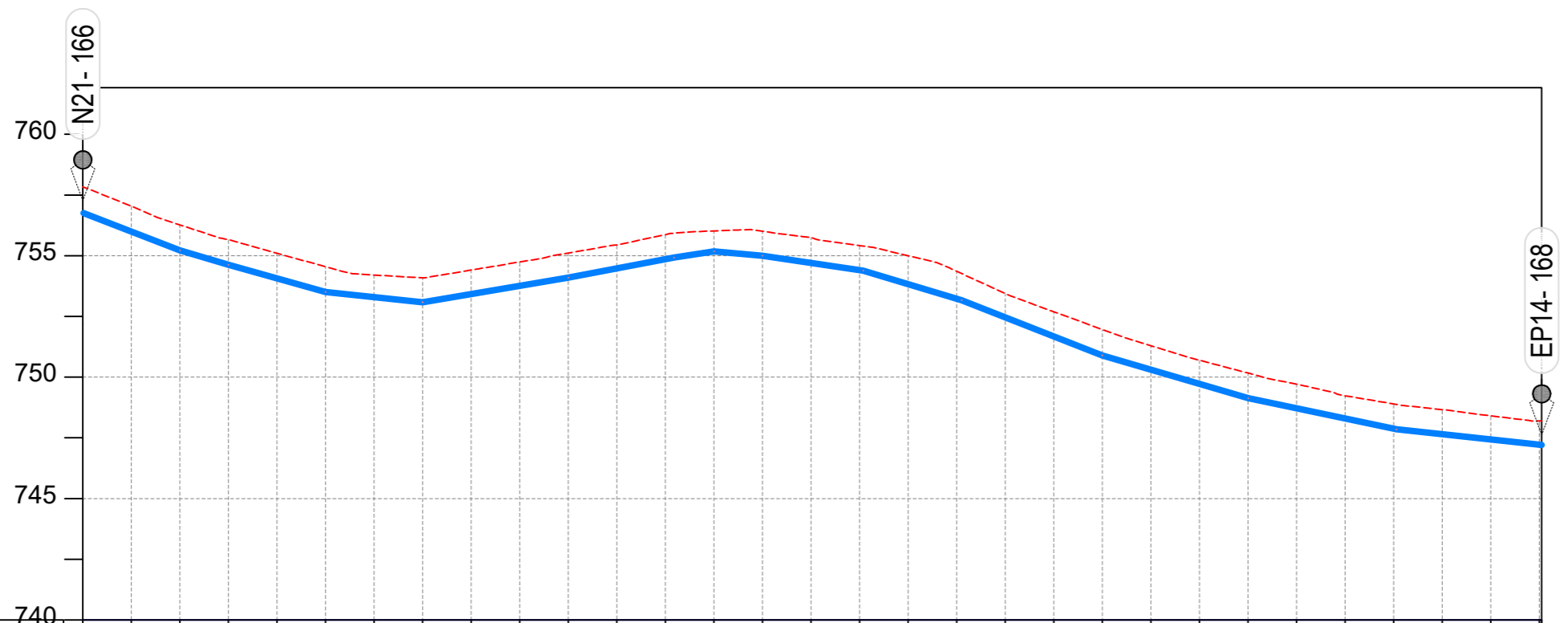
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.10.2 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560	0+600		
GROUND LEVEL	757.841	757.043	756.270	755.660	755.104	754.545	754.206	754.088	754.411	754.743	755.111	755.448	755.872	756.022	756.007	755.750	755.417	755.001	754.357	753.444	752.693	751.962	751.292	750.697	750.168	749.710	749.235	748.898	748.663	748.407		
PIPE DETAILS	OD50 HDPE PN10																															
INVERT LEVEL (m)	755.990	755.218	754.624	754.066	753.507	753.297	753.086	753.423	753.759	754.096	754.477	754.858	755.178	755.000	754.704	754.408	753.829	753.227	752.462	751.680	750.897	750.310	749.722	749.134	748.713	748.293	747.873	747.647	747.432			

LONGITUDINAL PROFILE

AMENDMENTS

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 Corporate Headquarter  
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 United Kingdom

Drawing Title:

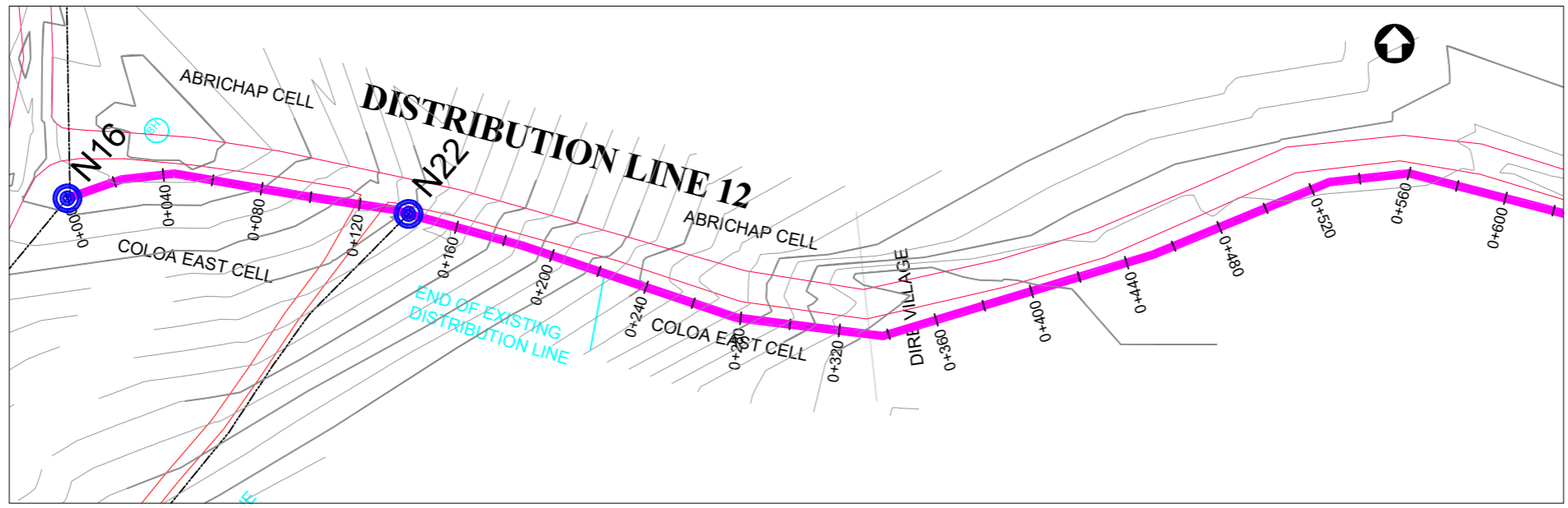
**DISTRIBUTION LINE 11**  
 Distribution Line 11 (CH 0+000.00 - 0+601.01)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

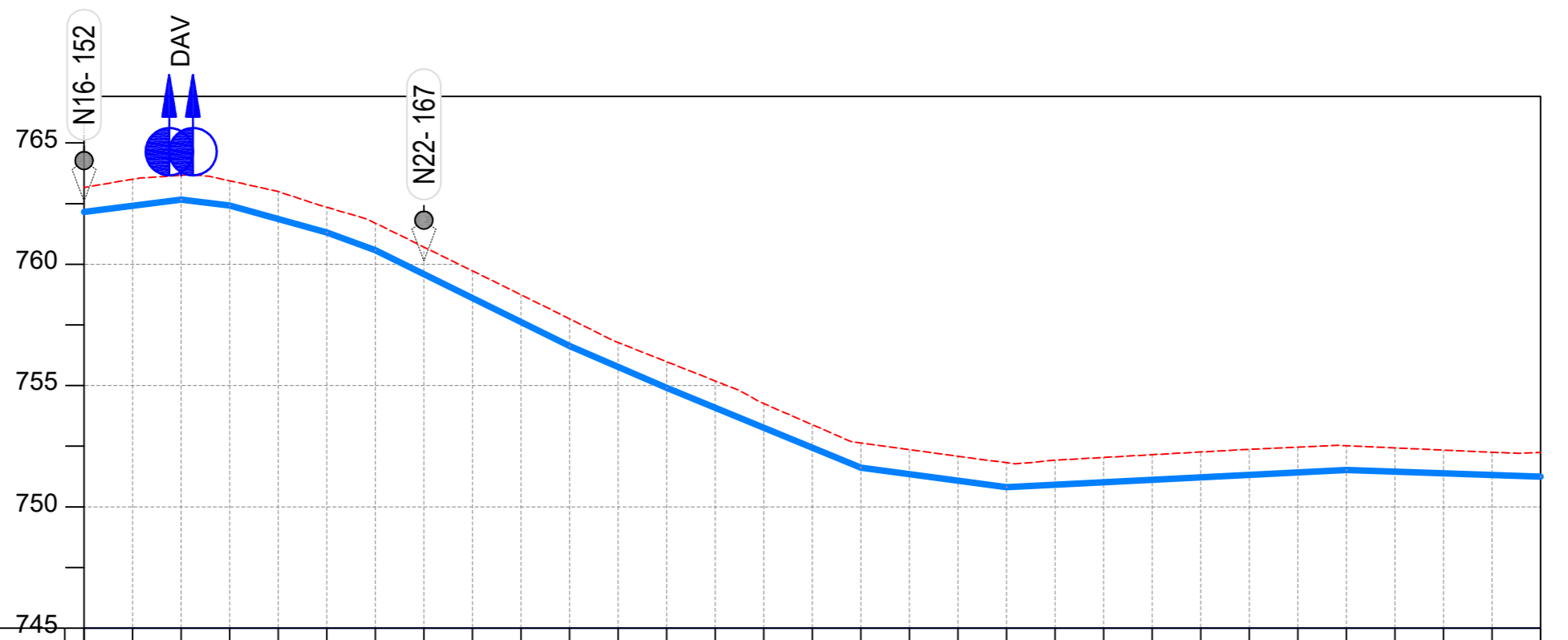
ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.11.1 | Cad file No WSS<22\_11>





PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	763.167	763.506	763.662	763.441	763.000	762.348	761.693	760.711	759.728	758.742	757.751	756.775	755.983	755.191	754.258	753.387	752.629	752.359	752.089	751.819	751.924	752.037	752.149	752.262	752.368	752.462	752.518	752.430	752.341	752.252	752.242	
PIPE DETAILS	← OD50 HDPE PN10 →																															
INVERT LEVEL (m)	762.153	762.406	762.660	762.418	761.862	761.307	760.579	759.593	758.606	757.620	756.634	755.771	754.907	754.085	753.264	752.442	751.620	751.350	751.080	750.810	750.911	751.012	751.113	751.214	751.315	751.416	751.517	751.448	751.379	751.310	751.241	

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
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  - For Site location see Dwg. MWE/GWE/0.0.0
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:

**THE WORLD BANK** AND

GOVERNMENT OF UGANDA

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

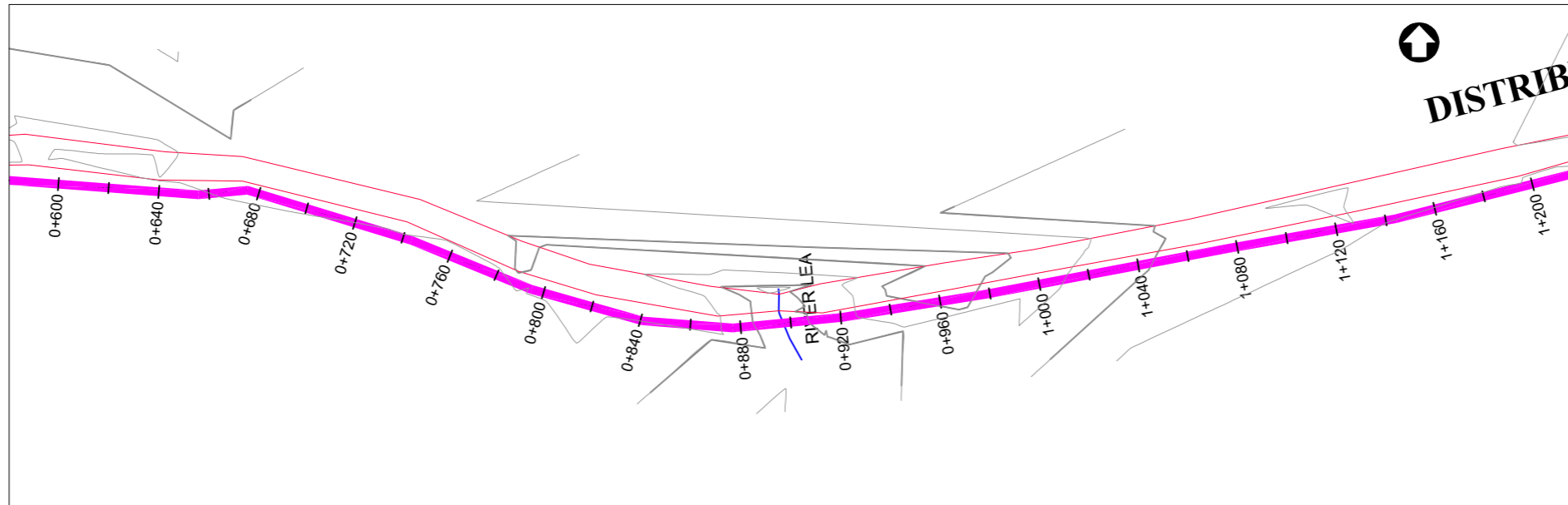
Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

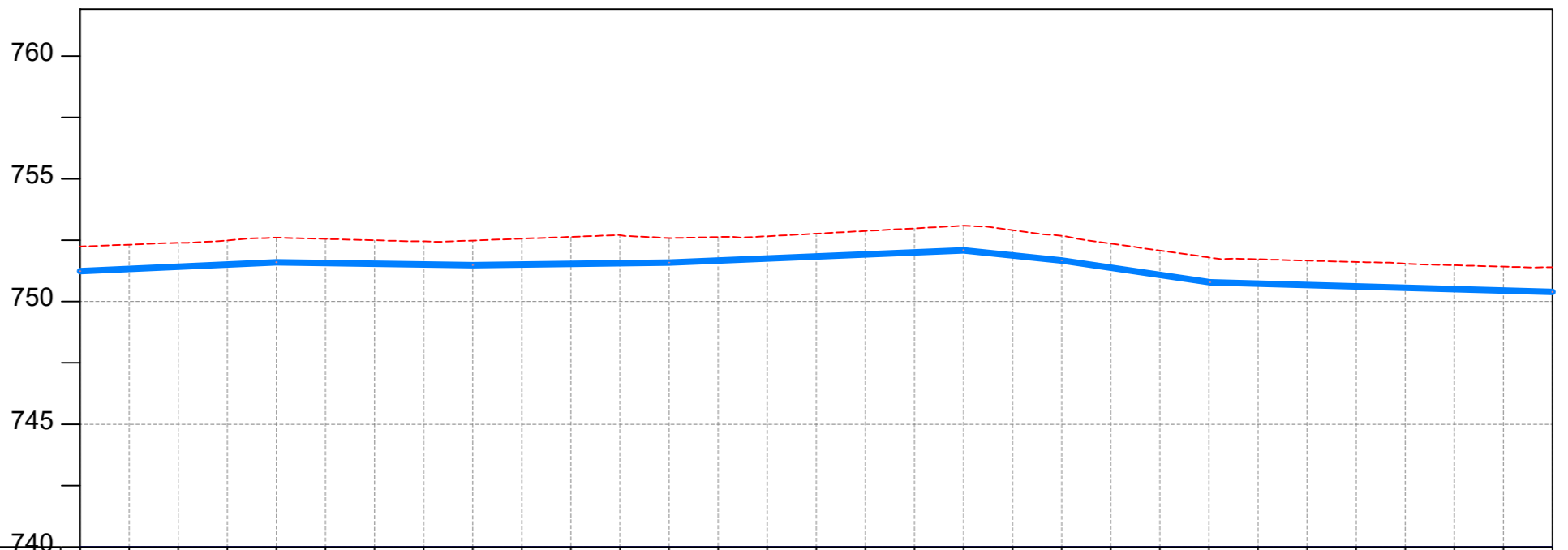
Drawing Title:

**DISTRIBUTION LINE 12**  
 Distribution Line 12 (CH 0+000.00 - 0+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920		0+960		1+000		1+040		1+080		1+120		1+160		1+200	
GROUND LEVEL	752.242	752.320	752.395	752.493	752.604	752.551	752.497	752.458	752.487	752.562	752.636	752.705	752.590	752.630	752.661	752.768	752.876	752.984	753.091	752.913	752.683	752.363	752.081	751.799	751.723	751.669	751.614	751.550	751.480	751.424		
PIPE DETAILS	←————— OD50 HDPE PN10 —————→																															
INVERT LEVEL (m)	751.241	751.332	751.423	751.513	751.604	751.575	751.545	751.516	751.486	751.512	751.537	751.563	751.589	751.672	751.756	751.839	751.923	752.006	752.090	751.881	751.673	751.378	751.084	750.789	750.728	750.673	750.618	750.563	750.508	750.452		

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

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CO-FINANCE BY:



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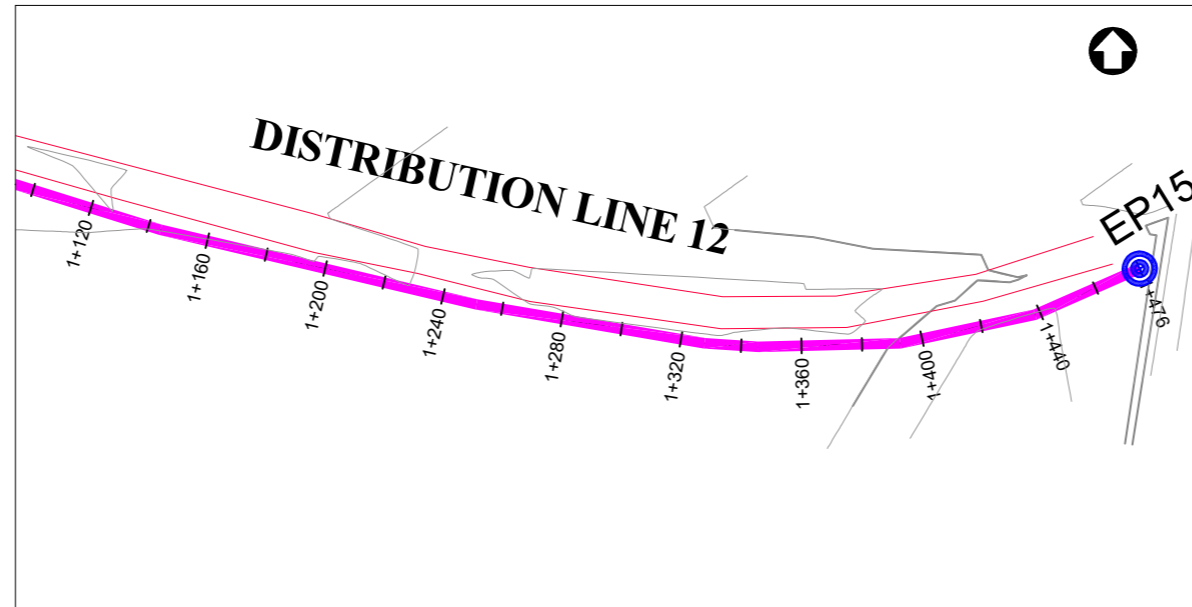
Drawing Title:

**DISTRIBUTION LINE 12**  
 Distribution Line 12 (CH 0+600.00 - 1+200.00)

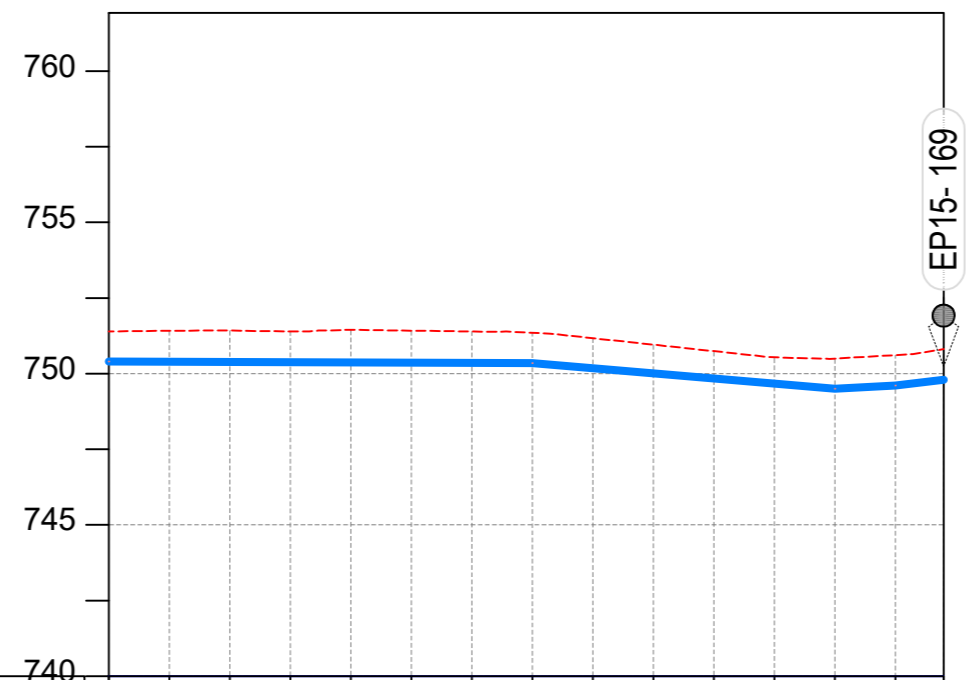
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.12.2 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	1+200		1+240		1+280		1+320		1+360		1+400		1+440		1+476
GROUND LEVEL	751.397	751.415	751.423	751.399	751.449	751.421	751.393	751.351	751.172	750.958	750.743	750.546	750.500	750.611	750.812
PIPE DETAILS	OD50 HDPE PN10														
INVERT LEVEL (m)	750.397	750.391	750.384	750.377	750.370	750.363	750.357	750.350	750.179	750.009	749.839	749.669	749.498	749.610	749.799

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

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LEGEND

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- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:



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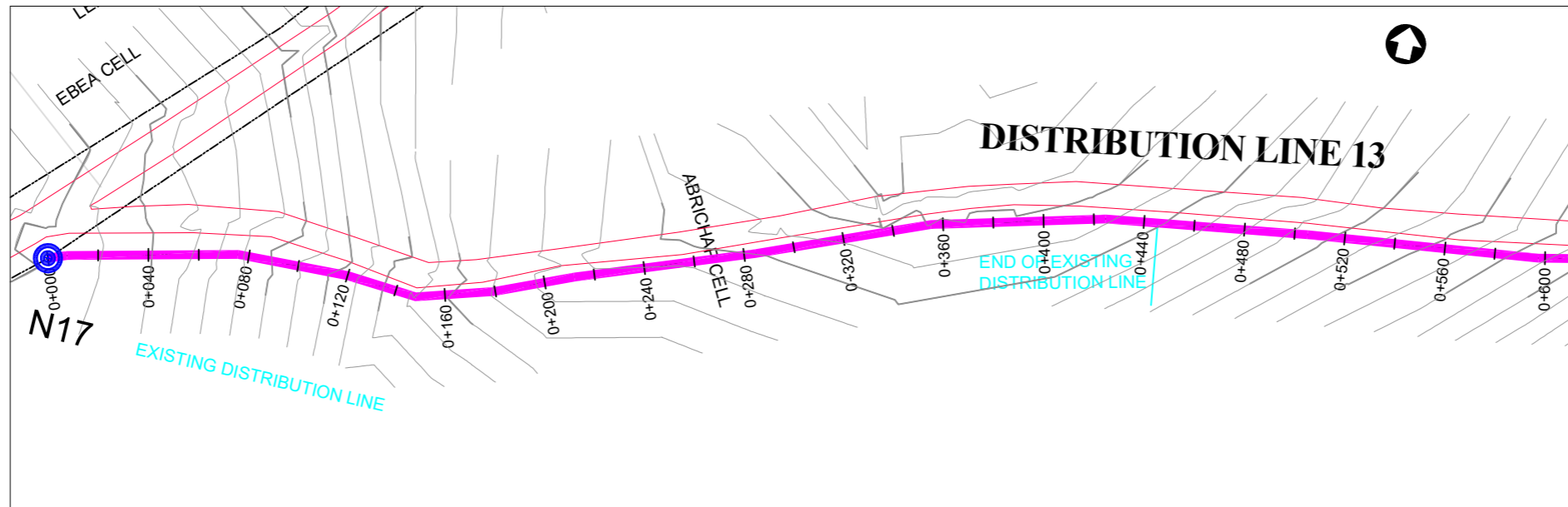
Drawing Title:

**DISTRIBUTION LINE 12**  
 Distribution Line 12 (CH 1+200.00 - 1+475.96)

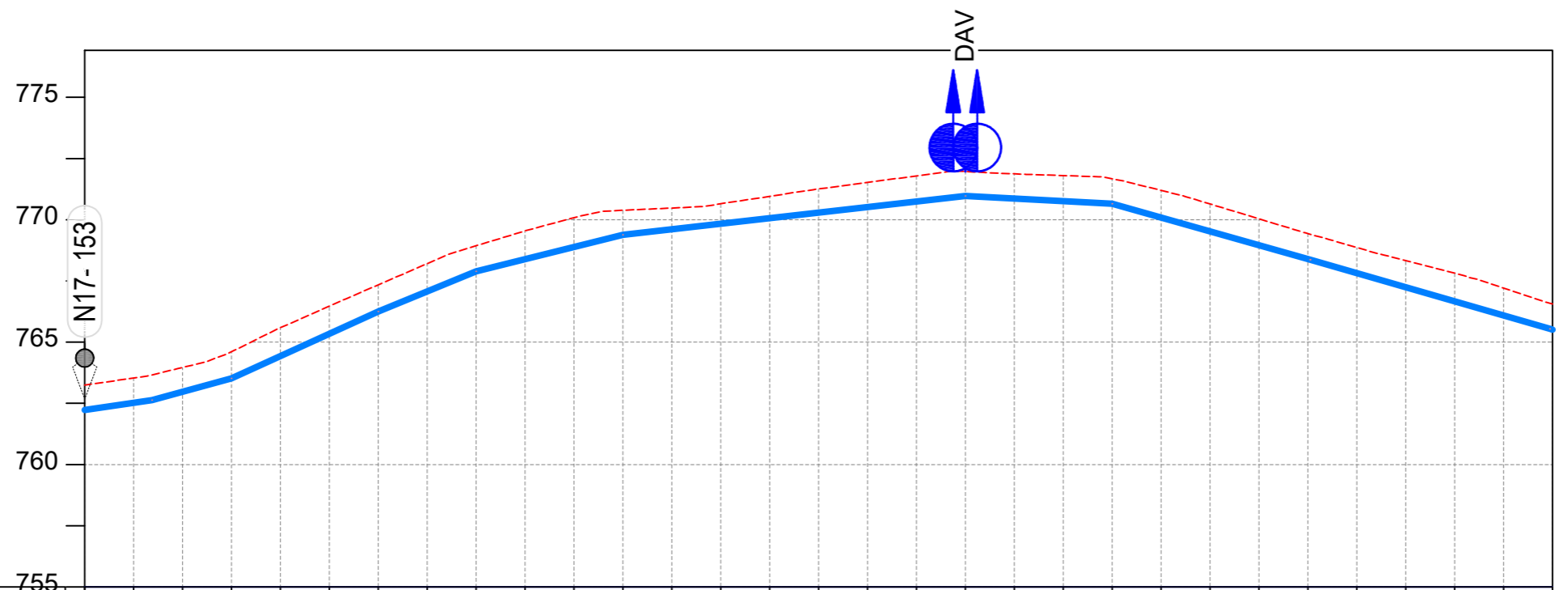
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.12.3 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	763.244	763.535	763.965	764.610	765.591	766.472	767.342	768.208	768.935	769.546	770.084	770.386	770.479	770.655	770.953	771.258	771.524	771.791	771.972	771.875	771.803	771.673	771.202	770.645	770.039	769.436	768.867	768.332	767.819	767.210		
PIPE DETAILS	OD63 HDPE PN10																															
INVERT LEVEL (m)	762.234	762.525	762.976	763.524	764.433	765.343	766.253	767.071	767.889	768.388	768.886	769.385	769.611	769.838	770.064	770.291	770.517	770.744	770.970	770.865	770.760	770.655	770.091	769.526	768.962	768.398	767.822	767.245	766.668	766.092		

LONGITUDINAL PROFILE

AMENDMENTS

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- Road
- Tree
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- 10 Node detail No. 101

CO-FINANCE BY:



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 United Kingdom

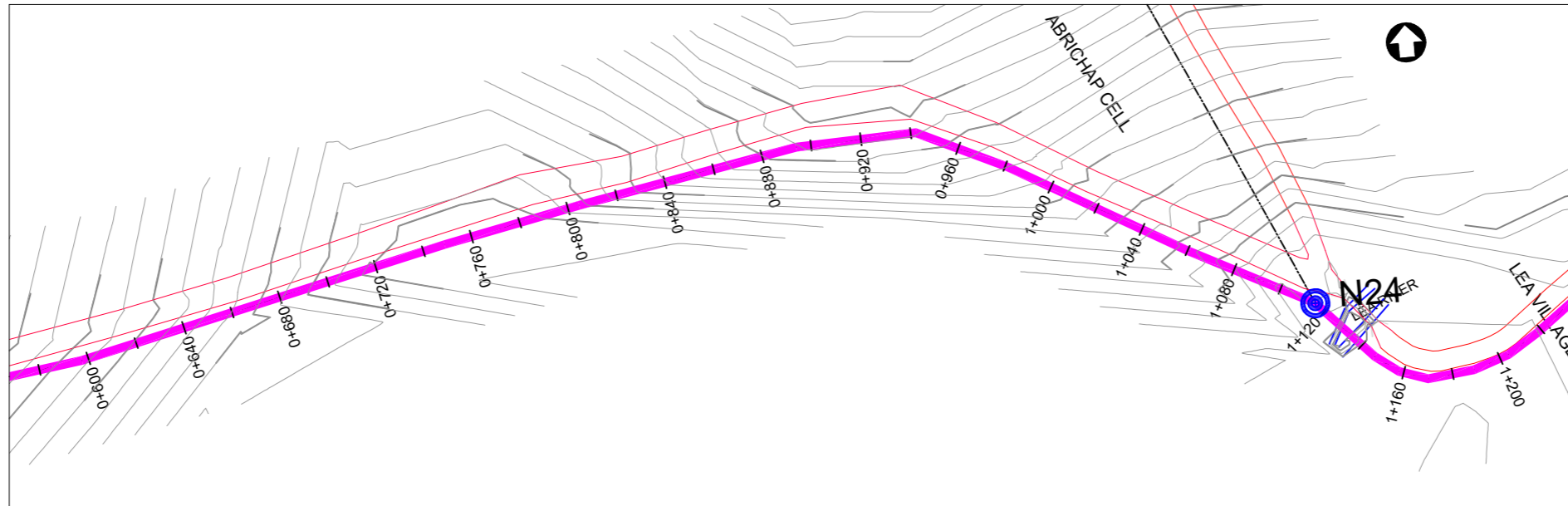
Drawing Title:

**DISTRIBUTION LINE 13**  
 Distribution Line 13 (CH 0+000.00 - 0+600.00)

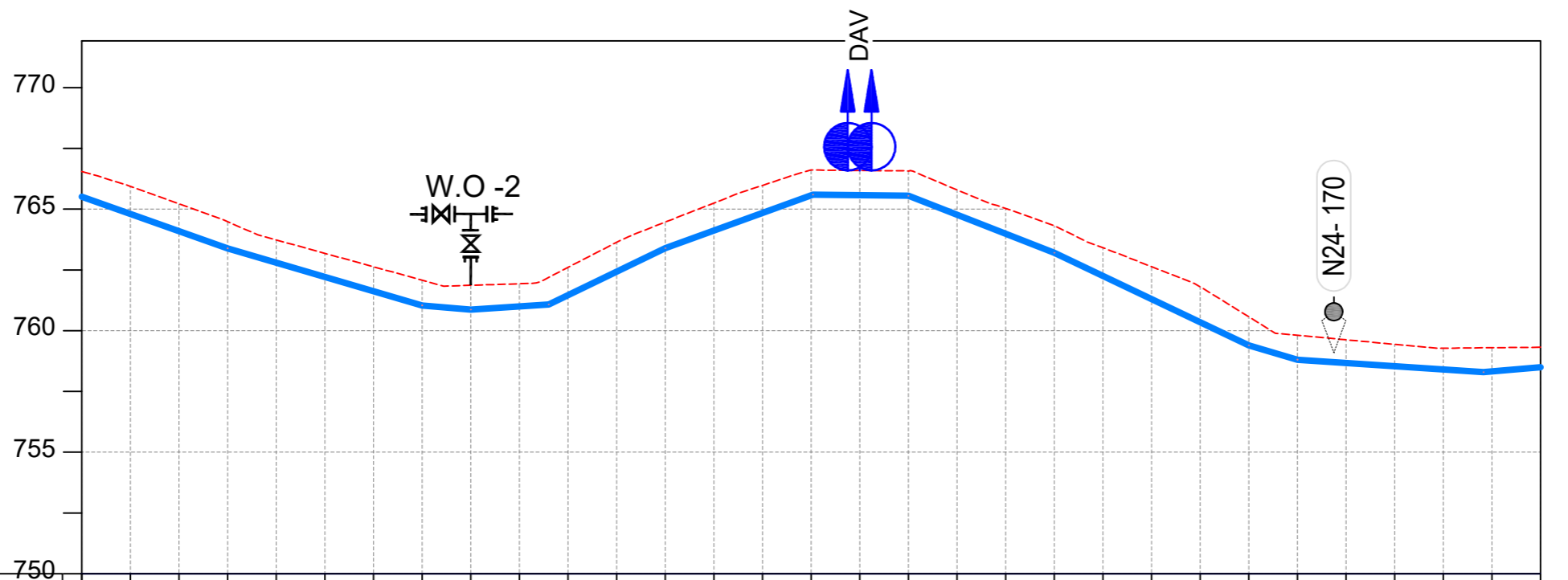
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.13.1 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920		0+960		1+000		1+040		1+080		1+120		1+160		1+200	
GROUND LEVEL	766.555	765.941	765.222	764.485	763.736	763.184	762.631	762.079	761.869	761.931	762.607	763.637	764.470	765.252	765.980	766.618	766.594	766.576	765.797	765.034	764.320	763.414	762.637	761.809	760.574	759.812	759.626	759.441	759.276	759.300	759.320	758.498
PIPE DETAILS	← OD63 HDPE PN10 →																← OD50 HDPE PN10 →															
INVERT LEVEL (m)	765.509	764.803	764.097	763.391	762.803	762.216	761.629	761.042	760.869	761.001	761.464	762.430	763.396	764.120	764.845	765.569	765.574	765.551	764.770	763.989	763.208	762.256	761.303	760.351	759.398	758.807	758.674	758.541	758.407	758.326		

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
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**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
	Double Orifice Air Valve
	Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

CLIENT

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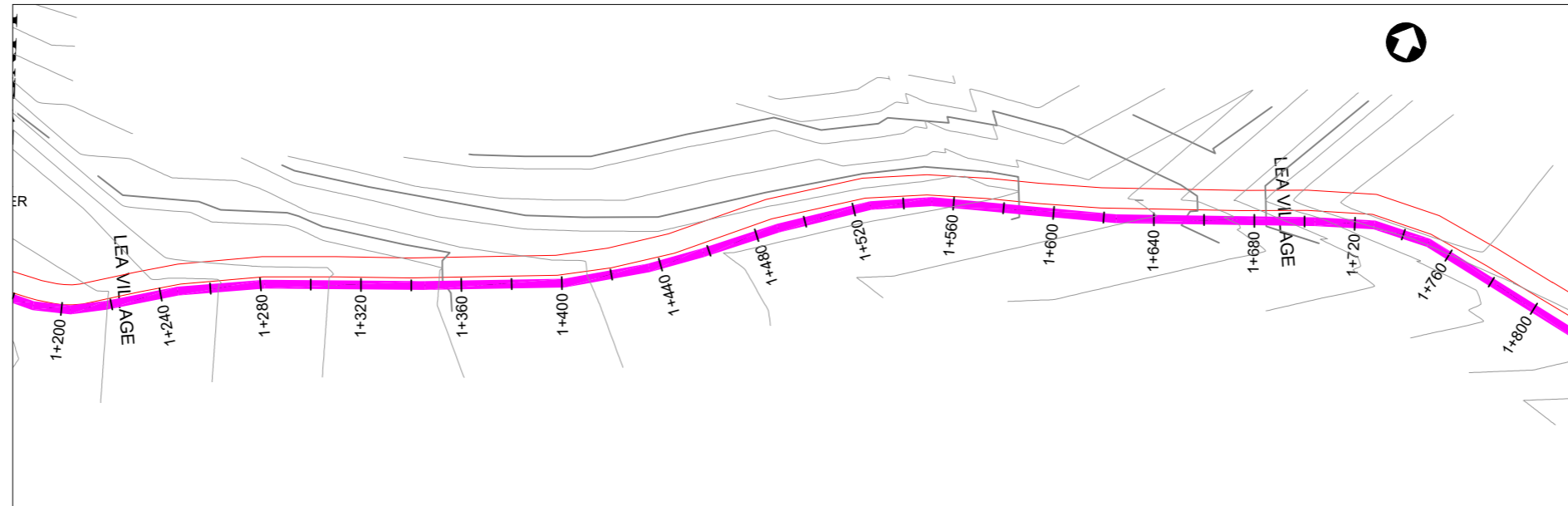
Consultant:

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
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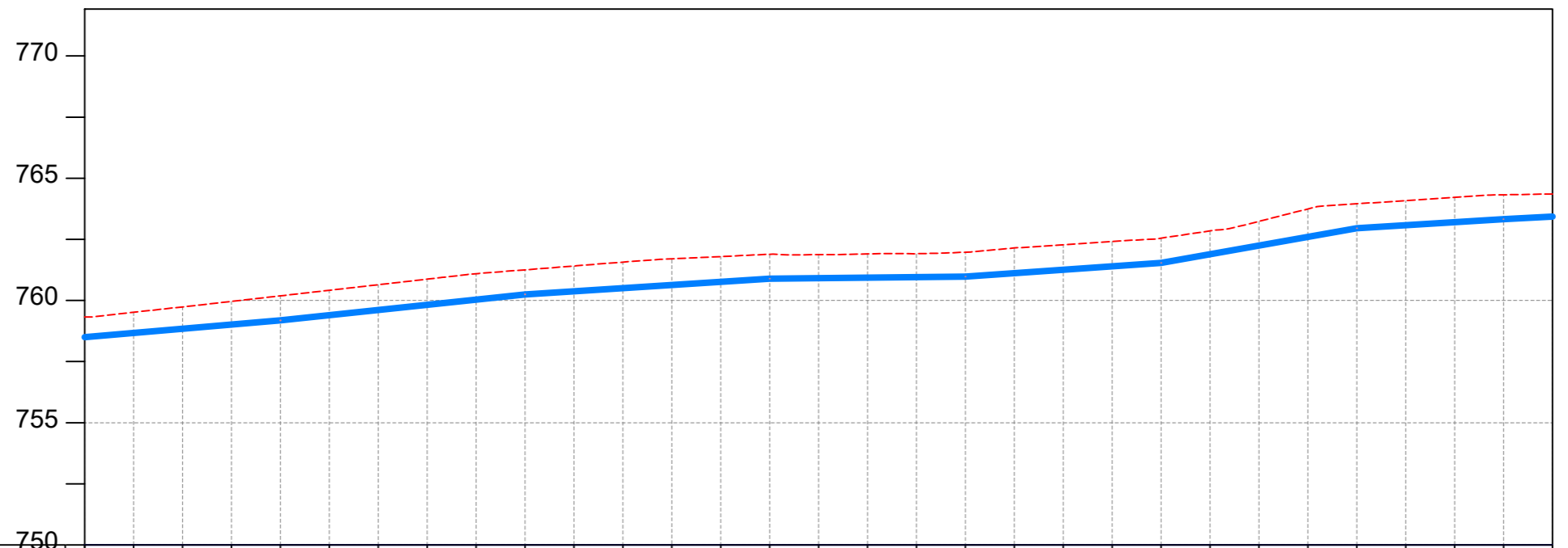
Drawing Title:

**DISTRIBUTION LINE 13**  
 Distribution Line 13 (CH 0+600.00 - 1+200.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
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PLAN LAYOUT



CHAINAGE	1+200		1+240		1+280		1+320		1+360		1+400		1+440		1+480		1+520		1+560		1+600		1+640		1+680		1+720		1+760		1+800	
GROUND LEVEL	759.320	759.517	759.738	759.962	760.189	760.417	760.646	760.874	761.097	761.253	761.410	761.569	761.705	761.797	761.890	761.872	761.904	761.912	761.974	762.147	762.281	762.415	762.550	762.848	763.236	763.743	763.953	764.086	764.219	764.324		
PIPE DETAILS	←————— OD50 HDPE PN10 —————→																															
INVERT LEVEL (m)	758.498	758.669	758.840	759.011	759.183	759.396	759.609	759.823	760.036	760.250	760.377	760.505	760.633	760.761	760.888	760.910	760.931	760.952	760.973	761.115	761.256	761.398	761.539	761.892	762.245	762.598	762.951	763.075	763.199	763.323		

LONGITUDINAL PROFILE

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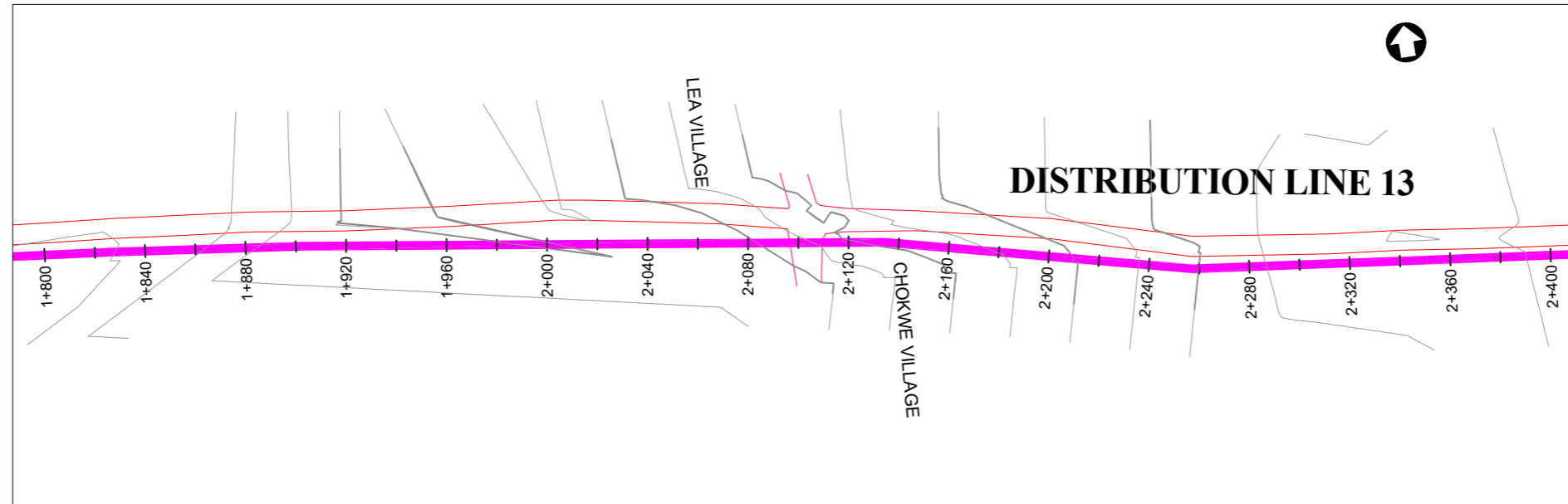
Drawing Title:

**DISTRIBUTION LINE 13**  
Distribution Line 13 (CH 1+200.00 - 1+800.00)

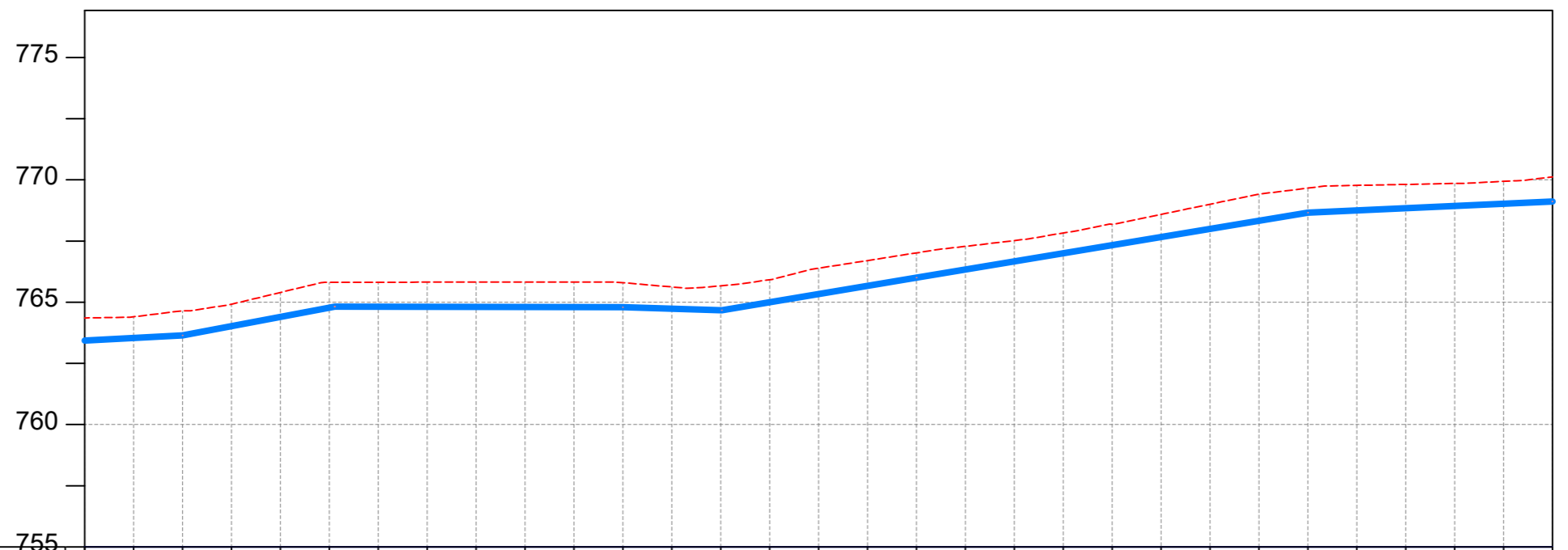
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ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.13.3 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	1+800		1+840		1+880		1+920		1+960		2+000		2+040		2+080		2+120		2+160		2+200		2+240		2+280		2+320		2+360		2+400	
GROUND LEVEL	764.356	764.403	764.644	764.917	765.399	765.812	765.817	765.818	765.820	765.822	765.823	765.796	765.623	765.670	765.917	766.387	766.701	767.015	767.281	767.517	767.827	768.188	768.587	769.004	769.416	769.663	769.774	769.813	769.852	769.937		
PIPE DETAILS	← OD50 HDPE PN10 →																															
INVERT LEVEL (m)	763.429	763.535	763.641	764.019	764.397	764.774	764.812	764.808	764.804	764.800	764.796	764.792	764.732	764.671	764.998	765.333	765.668	766.003	766.334	766.666	766.997	767.329	767.661	767.992	768.324	768.655	768.747	768.838	768.930	769.021		

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 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

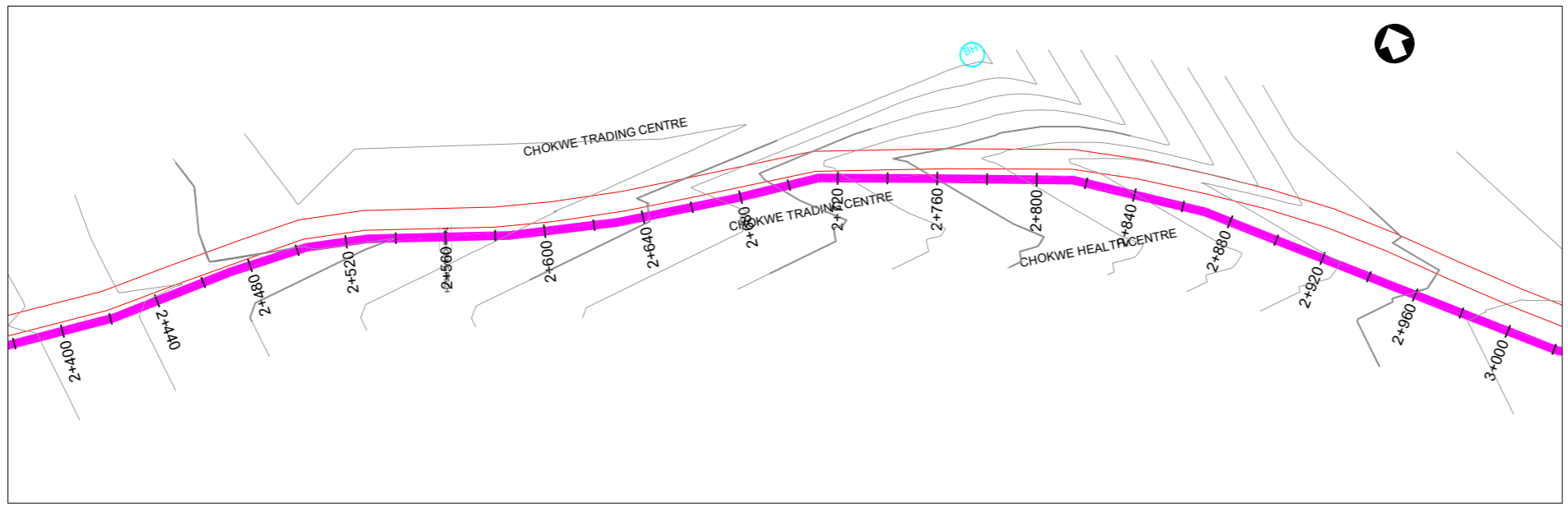
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**DISTRIBUTION LINE 13**  
 Distribution Line 13 (CH 1+800.00 - 2+400.00)

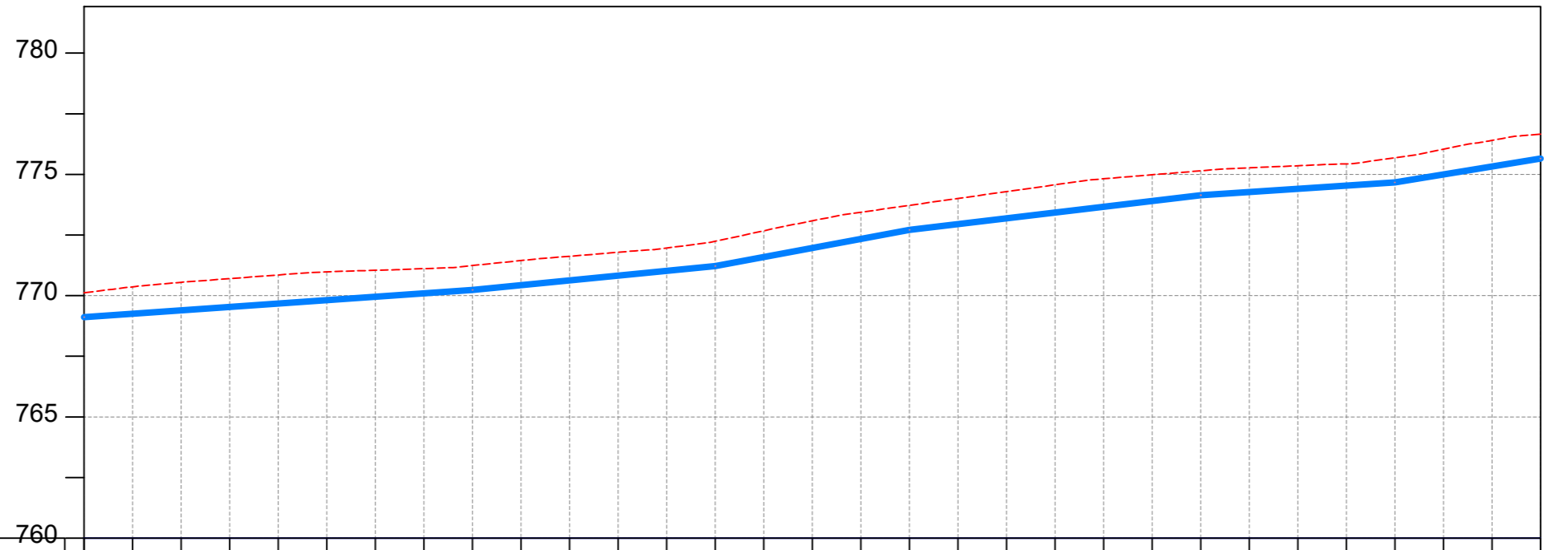
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.13.4 | Cad file No WSS<22\_11>



**PLAN LAYOUT**



CHAINAGE	2+400		2+440		2+480		2+520		2+560		2+600		2+640		2+680		2+720		2+760		2+800		2+840		2+880		2+920		2+960		3+000	
GROUND LEVEL	770.120	770.366	770.552	770.703	770.854	770.983	771.046	771.114	771.241	771.448	771.625	771.788	771.963	772.243	772.674	773.086	773.439	773.724	774.009	774.290	774.571	774.820	774.984	775.149	775.270	775.357	775.437	775.683	776.038	776.403		
PIPE DETAILS	← <b>OD50 HDPE PN10</b> →																															
INVERT LEVEL (m)	769.113	769.253	769.394	769.534	769.674	769.814	769.955	770.095	770.235	770.432	770.629	770.826	771.023	771.220	771.593	771.967	772.340	772.714	772.952	773.191	773.430	773.668	773.907	774.145	774.277	774.409	774.541	774.673	775.001	775.328		

**LONGITUDINAL PROFILE**

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washouts are identified by marker post in positions.
  - For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
DAV	Double Orifice Air Valve
WO_2	Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

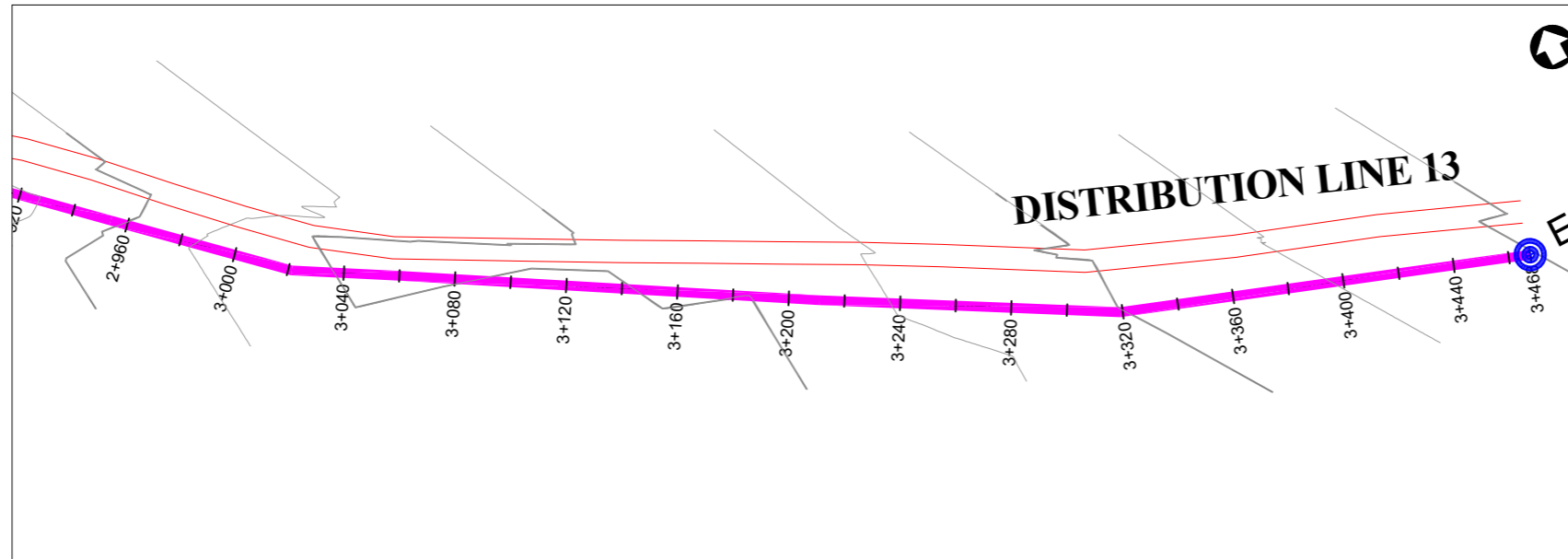
**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

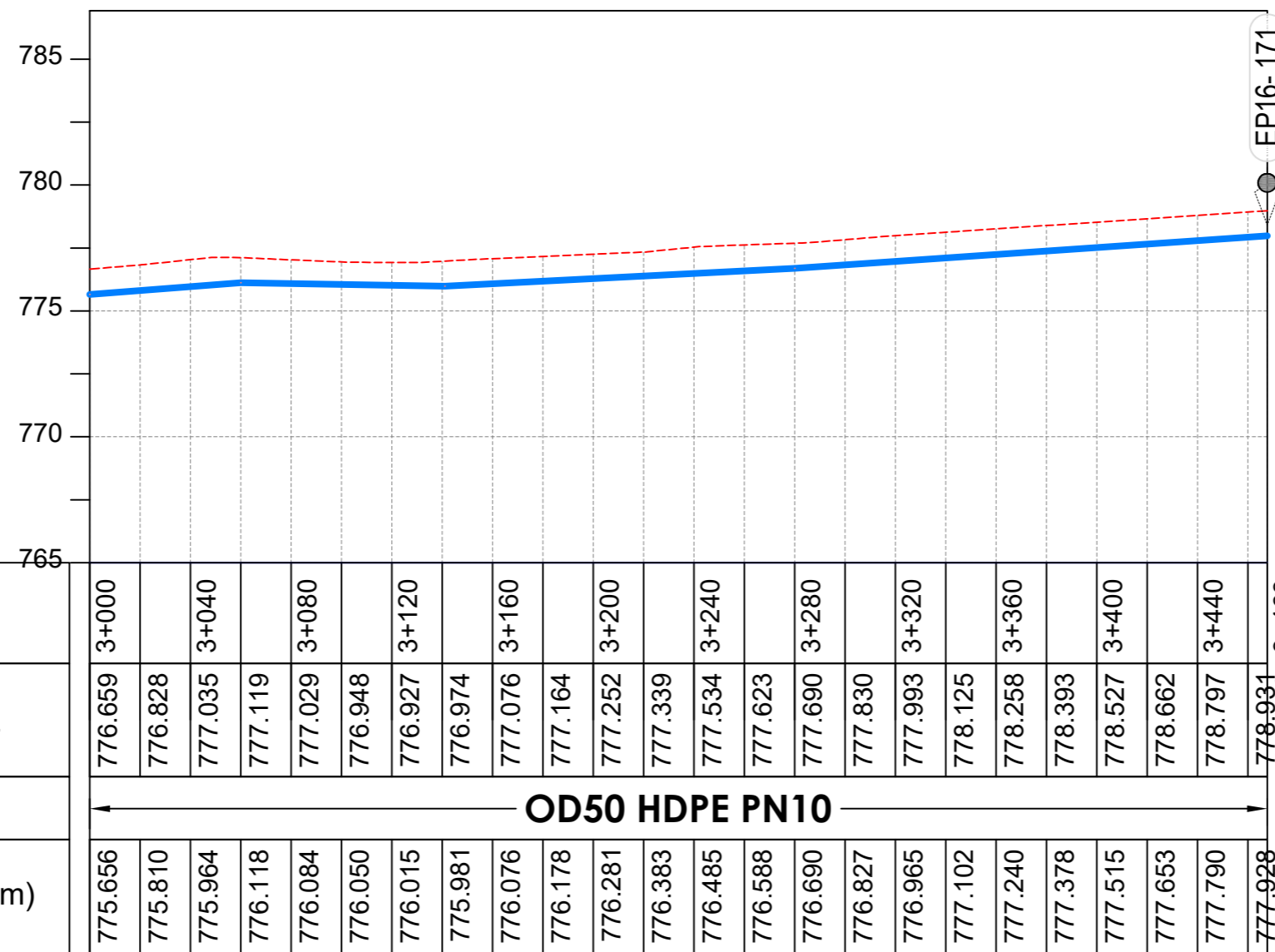
**DISTRIBUTION LINE 13**  
 Distribution Line 13 (CH 2+400.00 - 3+000.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel





PLAN LAYOUT



LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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- For Site location see Dwg. MWE/GWE/0.0.0
- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washout locations are identified by marker post in positions.
- For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

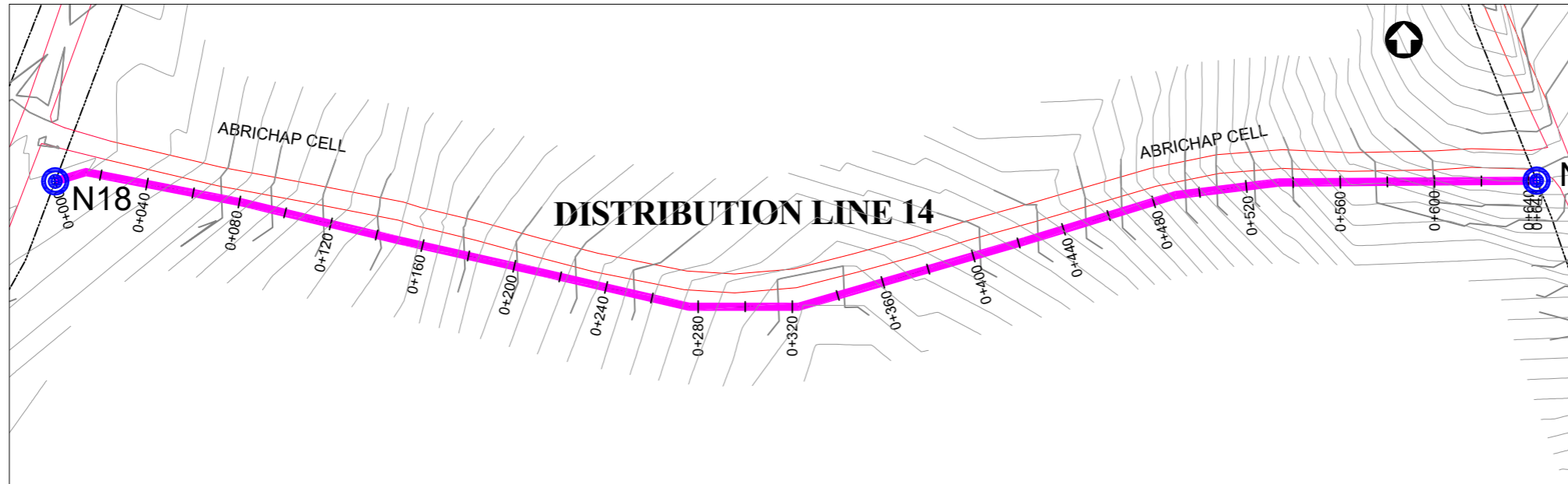
Drawing Title:

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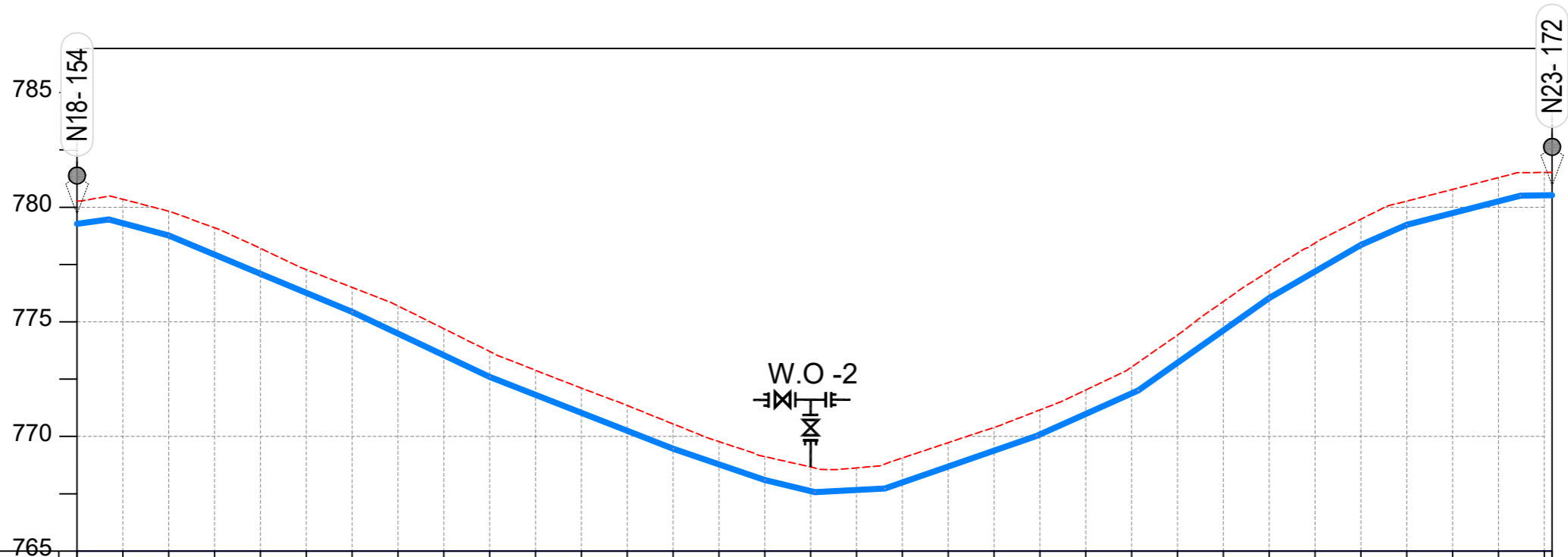
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.13.6 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600		
GROUND LEVEL	780.274	780.343	779.828	779.103	778.204	777.280	776.502	775.695	774.701	773.708	772.888	772.111	771.353	770.546	769.774	769.122	768.670	768.629	769.062	769.727	770.392	771.155	772.028	773.028	774.423	775.882	777.215	778.433	779.474	780.267	780.779	781.291	
PIPE DETAILS	OD50 HDPE PN10																																
INVERT LEVEL (m)	779.274	779.304	778.769	777.933	777.097	776.263	775.429	774.485	773.541	772.596	771.814	771.032	770.250	769.468	768.782	768.097	767.619	767.666	767.994	768.689	769.383	770.091	770.986	771.881	773.215	774.623	776.031	777.193	778.355	779.235	779.747	780.258	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

- All dimensions are in metres unless stated otherwise.
- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/0.0.0
- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washout locations are identified by marker post in positions.
- For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



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**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities in Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

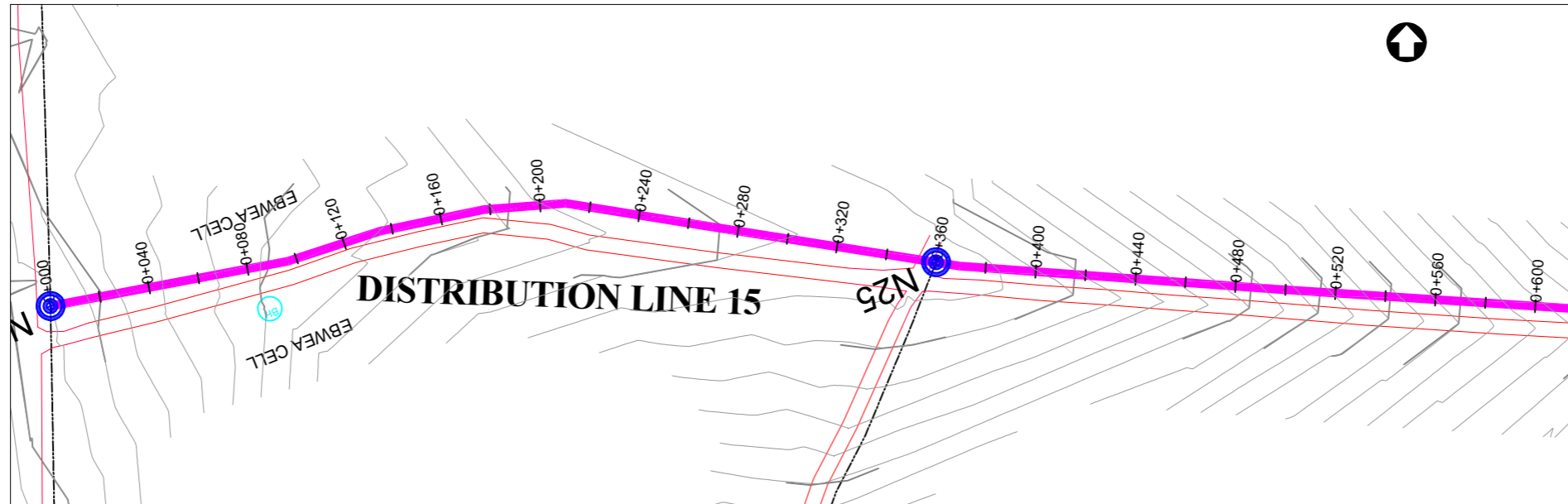
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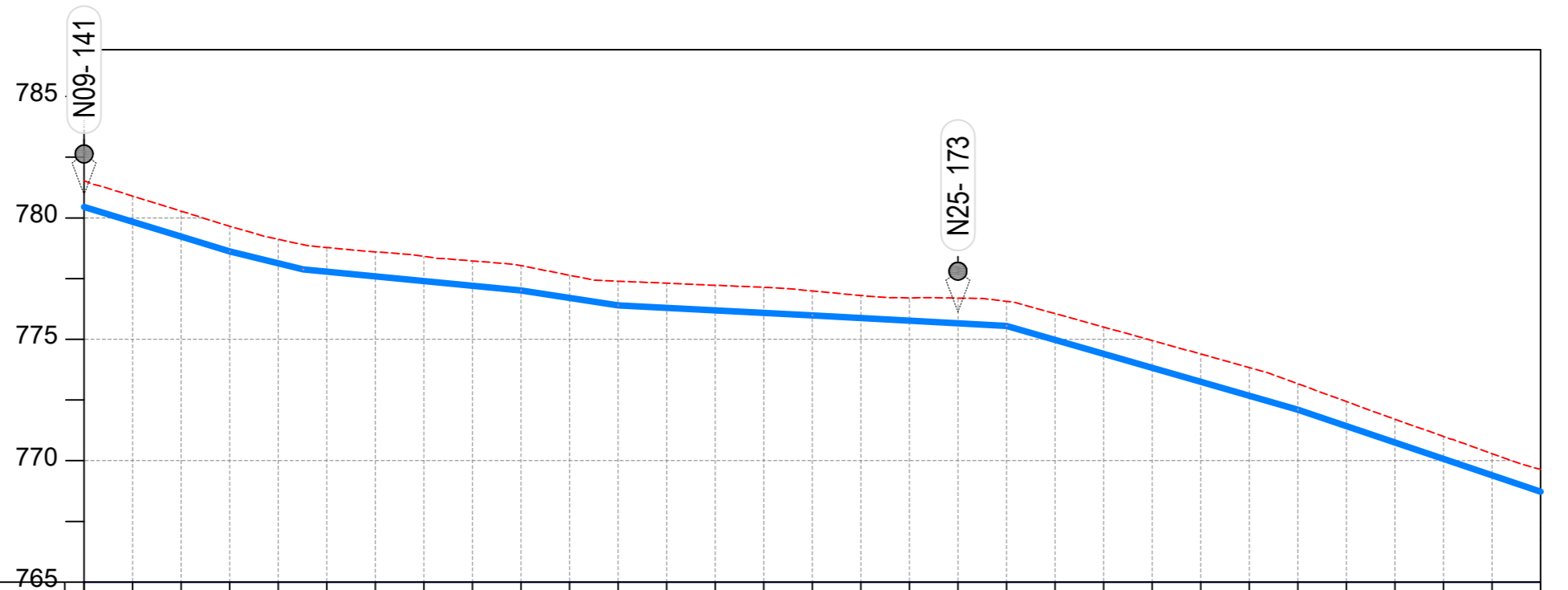
Scale:	Designed:	O.R Daniel
Vertical Scale: 1:250	Drawn:	P.S Eyamu
Horizontal Scale: 1:2500	Checked:	O.R Daniel
Date:	Approved:	O.R Daniel
Nov-2022		

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.14.1 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600
GROUND LEVEL	781.526	780.898	780.276	779.658	779.118	778.779	778.599	778.416	778.227	778.034	777.637	777.394	777.310	777.225	777.140	776.992	776.802	776.707	776.698	776.562	776.059	775.504	774.950	774.395	773.837	773.170	772.436	771.707	771.000	770.294	
PIPE DETAILS	OD63 HDPE PN10														OD50 HDPE PN10																
INVERT LEVEL (m)	780.452	779.840	779.228	778.616	778.125	777.780	777.589	777.397	777.206	777.014	776.704	776.393	776.292	776.191	776.089	775.988	775.879	775.771	775.663	775.555	774.980	774.405	773.830	773.255	772.680	772.105	771.428	770.751	770.075	769.398	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washouts are identified by marker post in positions.
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:

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**MINISTRY OF WATER AND ENVIRONMENT**  
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PROJECT

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

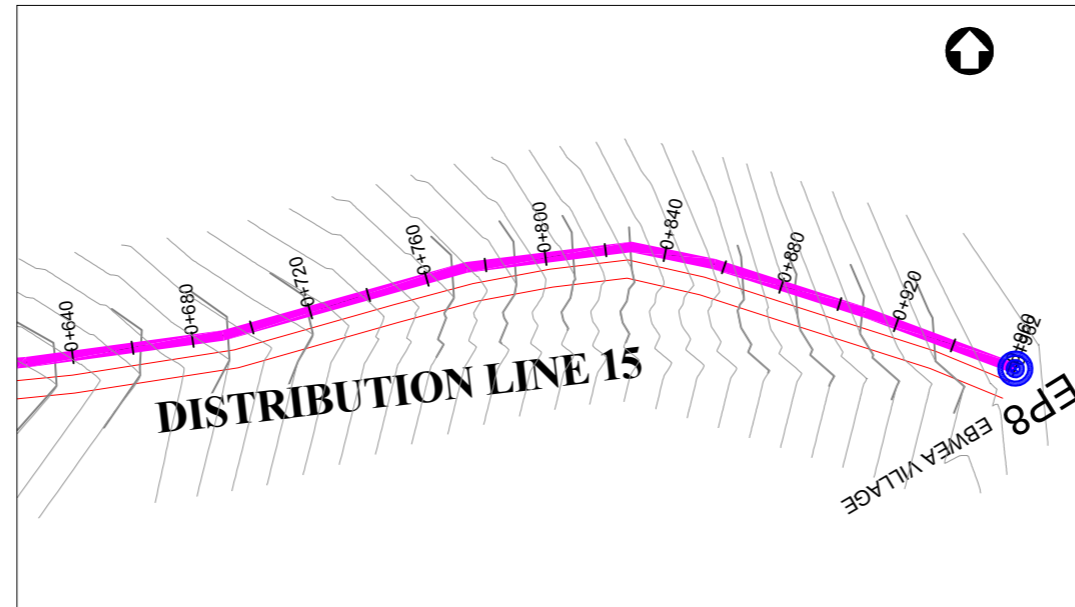
**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
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 Distribution Line 15 (CH 0+000.00 - 0+600.00)

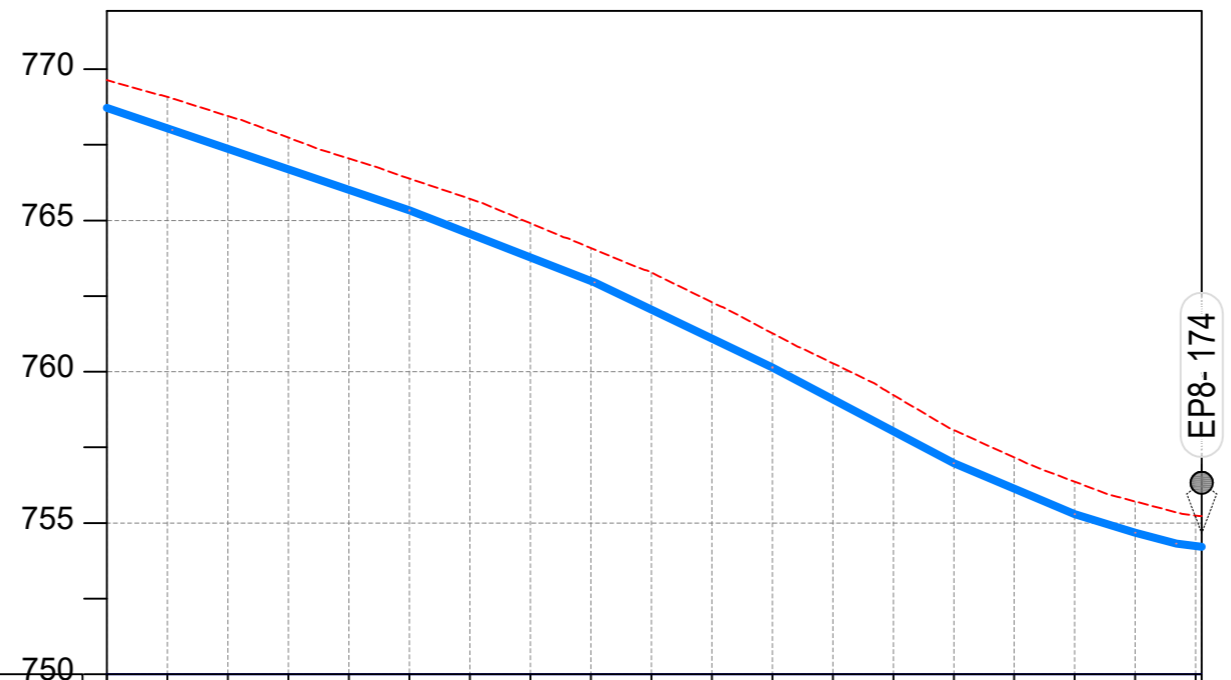
Scale: Vertical Scale: 1:250 Horizontal Scale: 1:2500	Designed: O.R Daniel
Date: Nov-2022	Drawn: P.S Eyamu
	Checked: O.R Daniel
	Approved: O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.15.1 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920		0+960
GROUND LEVEL	769.642	769.083	768.451	767.741	767.051	766.386	765.715	764.911	764.092	763.281	762.299	761.274	760.281	759.231	758.073	757.164	756.363	755.709	755.244
PIPE DETAILS	OD50 HDPE PN10																		
INVERT LEVEL (m)	768.721	768.044	767.366	766.688	766.009	765.330	764.555	763.780	763.004	762.058	761.100	760.143	759.087	758.031	756.974	756.134	755.293	754.675	754.240

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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- For Node details, see Dwg. MWE/GWE/5.0.0
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

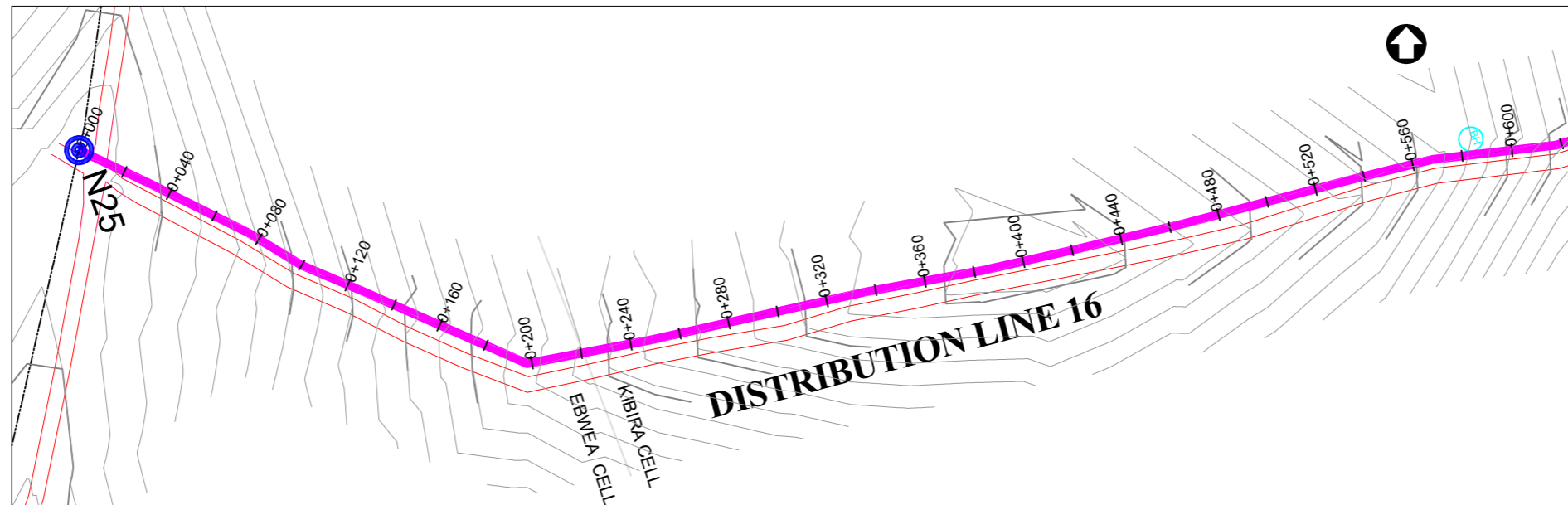
Drawing Title:

**DISTRIBUTION LINE 15**  
 Distribution Line 15 (CH 0+600.00 - 0+961.96)

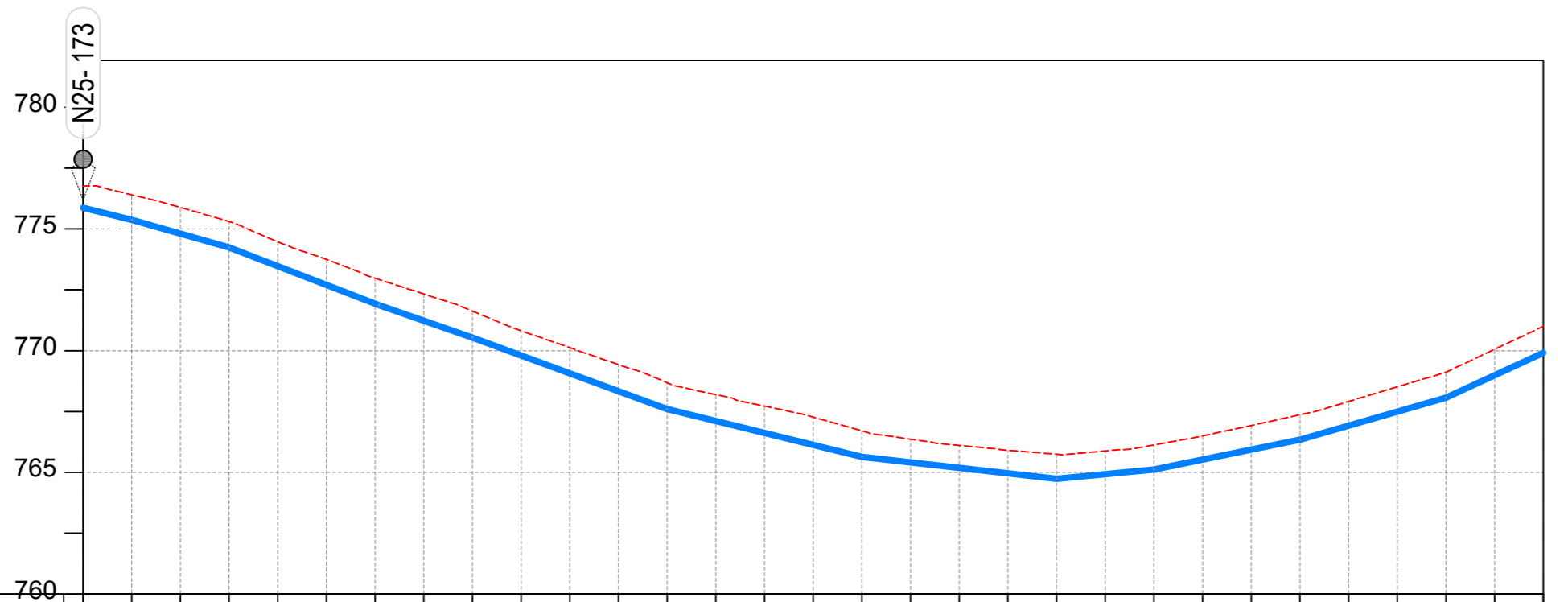
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.15.2 Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	776.761	776.403	775.880	775.301	774.474	773.753	772.976	772.329	771.623	770.820	770.123	769.427	768.684	768.196	767.722	767.268	766.704	766.365	766.108	765.910	765.744	765.883	766.129	766.502	766.927	767.368	767.915	768.516	769.115	770.058		
PIPE DETAILS	OD50 HDPE PN10																															
INVERT LEVEL (m)	775.867	775.375	774.808	774.242	773.472	772.702	771.933	771.234	770.540	769.805	769.070	768.334	767.600	767.109	766.618	766.127	765.636	765.411	765.188	764.964	764.741	764.927	765.113	765.523	765.933	766.344	766.919	767.494	768.069	768.992		

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.30.2023	Draft Design

NOTES

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- For Node details, see Dwg. MWE/GWE/5.0.0
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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PROJECT

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 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

**DISTRIBUTION LINE 16**  
 Distribution Line 16 (CH 0+000.00 - 0+600.00)

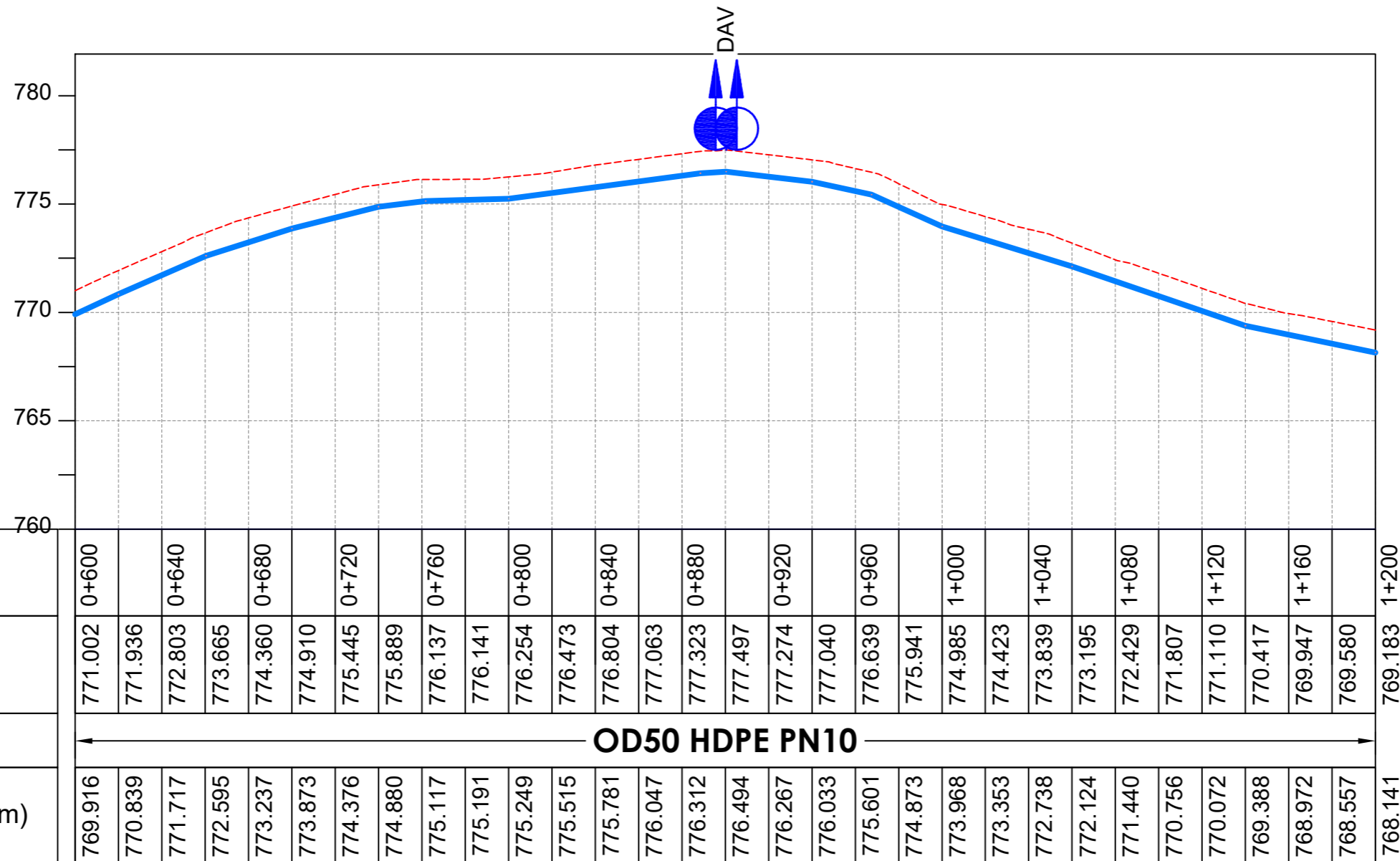
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.16.1 | Cad file No WSS<22\_11>



**PLAN LAYOUT**



**LONGITUDINAL PROFILE**

**AMENDMENTS**

No	Date	Revision
1	7.30.2023	Draft Design

**NOTES**

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

**CO-FINANCE BY:**



**CLIENT**

**MINISTRY OF WATER AND ENVIRONMENT**  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**



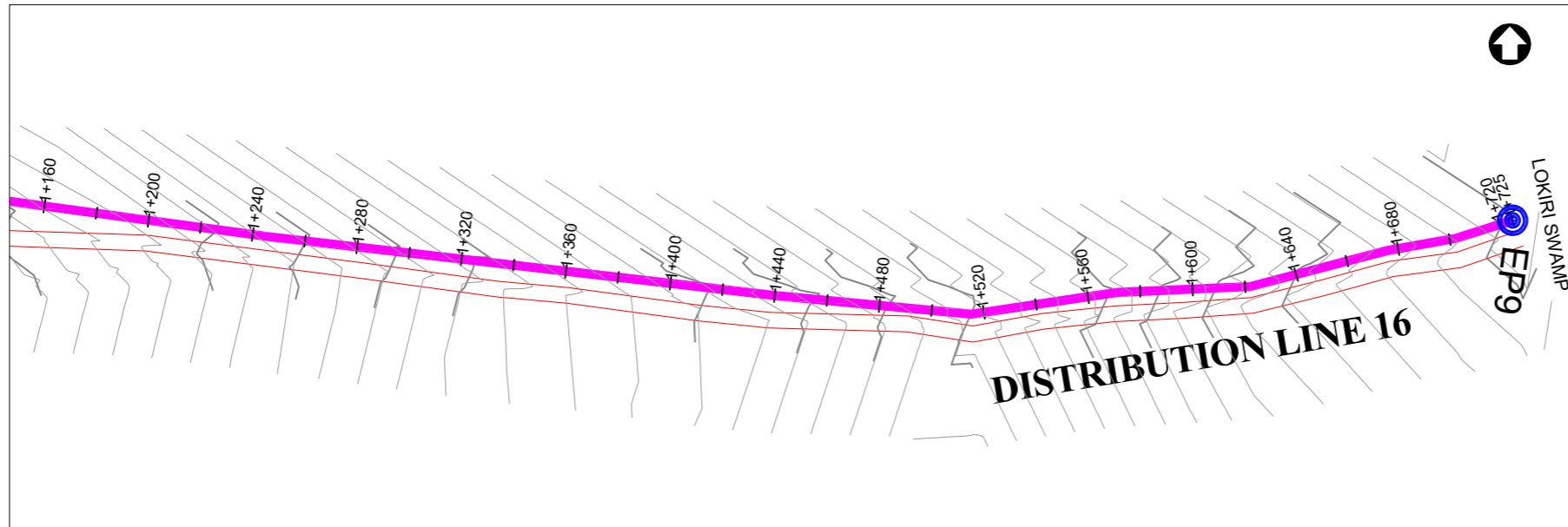
**Drawing Title:**

**DISTRIBUTION LINE 16**  
 Distribution Line 16 (CH 0+600.00 - 1+200.00)

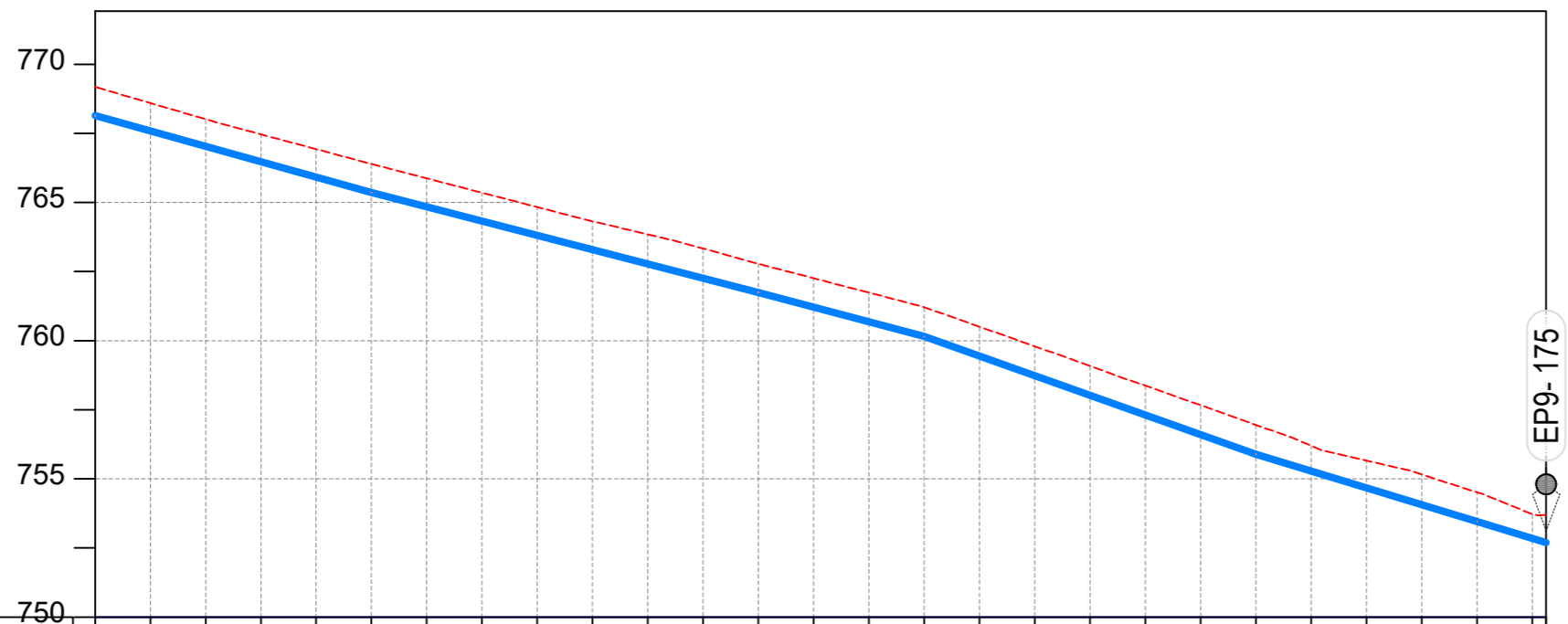
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

**ENGINEERING DESIGN DRAWING**

Drg No: MWE/GWE/4.16.2 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	1+200		1+240		1+280		1+320		1+360		1+400		1+440		1+480		1+520		1+560		1+600		1+640		1+680		1+725	
GROUND LEVEL	769.183	768.600	768.017	767.468	766.931	766.395	765.875	765.354	764.834	764.320	763.846	763.334	762.783	762.260	761.738	761.211	760.504	759.796	759.088	758.376	757.665	756.952	756.198	755.662	755.158	754.514	753.668	
PIPE DETAILS	← OD50 HDPE PN10 →																											
INVERT LEVEL (m)	768.141	767.585	767.029	766.474	765.918	765.362	764.846	764.329	763.813	763.296	762.780	762.264	761.747	761.215	760.683	760.151	759.441	758.731	758.021	757.311	756.601	755.891	755.283	754.674	754.066	753.457	752.668	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.30.2023	Draft Design

NOTES

- All dimensions are in metres unless stated otherwise.
- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/0.0.0
- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washout locations are identified by marker post in positions.
- For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:



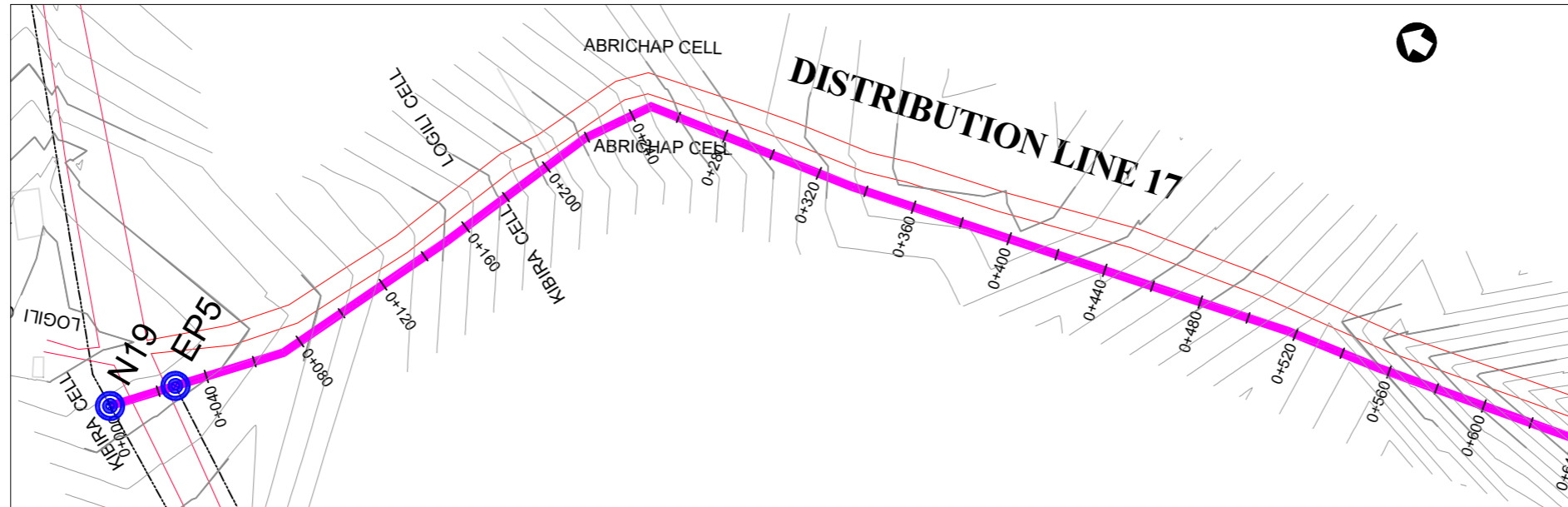
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**DISTRIBUTION LINE 16**  
 Distribution Line 16 (CH 1+200.00 - 1+725.00)

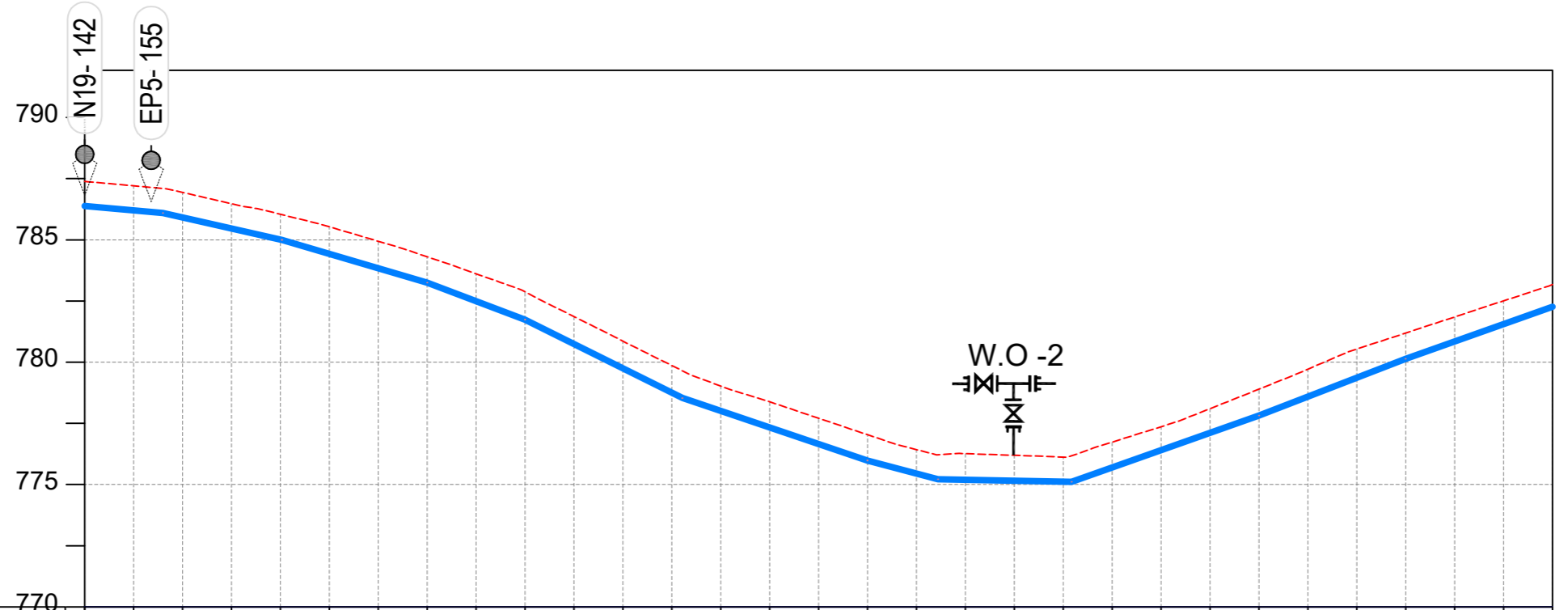
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.16.3 | Cad file No WSS<22\_11>



**PLAN LAYOUT**



CHAINAGE	0+000	0+040	0+080	0+120	0+160	0+200	0+240	0+280	0+320	0+360	0+400	0+440	0+480	0+520	0+560	0+600														
GROUND LEVEL	787.387	787.207	786.935	786.472	786.045	785.533	784.941	784.307	783.614	782.876	781.863	780.858	779.865	779.026	778.382	777.710	777.037	776.428	776.265	776.195	776.125	776.734	777.363	778.100	778.898	779.713	780.535	781.192	781.848	782.505
PIPE DETAILS	<b>OD50 HDPE PN10</b>																													
INVERT LEVEL (m)	786.203	785.914	785.464	785.013	784.429	783.840	783.252	782.496	781.741	780.744	779.747	778.750	778.006	777.331	776.657	775.982	775.449	775.193	775.156	775.118	775.698	776.406	777.113	777.820	778.593	779.366	780.139	780.847	781.555	

**LONGITUDINAL PROFILE**

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

**NOTES**

- All dimensions are in metres unless stated otherwise.
- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/0.0.0
- For Node details, see Dwg. MWE/GWE/5.0.0
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**LEGEND**

- Transmission Mains
- Distribution Mains
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- Road
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- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:

**THE WORLD BANK** AND

GOVERNMENT OF UGANDA

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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Consultant:

**SARI**  
CONSULTING LTD

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**DISTRIBUTION LINE 17**  
 Distribution Line 17 (CH 0+000.00 - 0+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

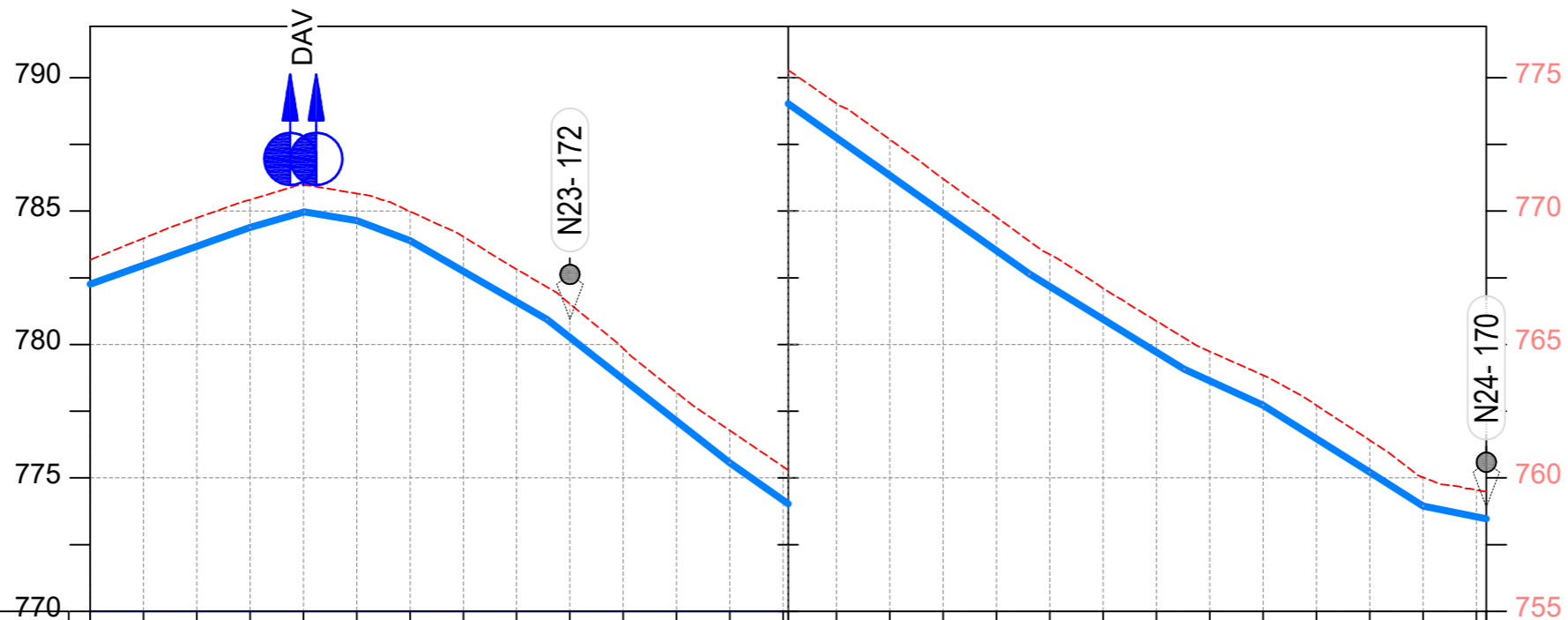
ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.17.1 | Cad file No WSS<22\_11>





PLAN LAYOUT



CHAINAGE	0+600	0+640	0+680	0+720	0+760	0+800	0+840	0+862	0+880	0+920	0+960	1+000	1+040	1+080	1+124												
GROUND LEVEL	783.173	783.981	784.746	785.425	785.981	785.662	784.993	784.043	782.822	781.523	779.850	778.203	776.776	775.417	774.029	772.685	771.209	769.766	768.374	767.111	765.877	764.743	763.853	762.718	761.414	760.220	758.950
PIPE DETAILS	OD50 HDPE PN10																										
INVERT LEVEL (m)	782.263	782.971	783.679	784.387	784.960	784.648	783.892	782.744	781.596	780.268	778.701	777.135	775.569	774.157	772.745	771.333	769.922	768.510	767.169	765.942	764.714	763.639	762.728	761.474	760.220	758.950	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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- For Node details, see Dwg. MWE/GWE/5.0.0
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LEGEND

- Transmission Mains
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- Contours
- Road
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- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:



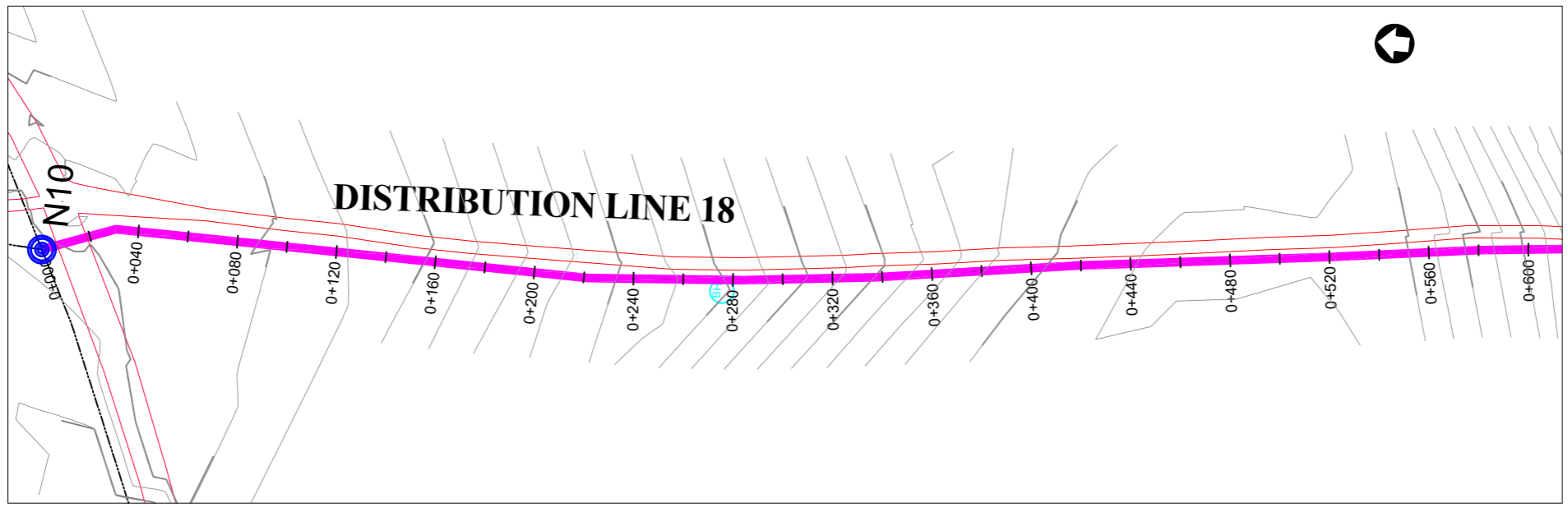
Drawing Title:

**DISTRIBUTION LINE 17**  
 Distribution Line 17 (CH 0+600.00 - 1+123.70)

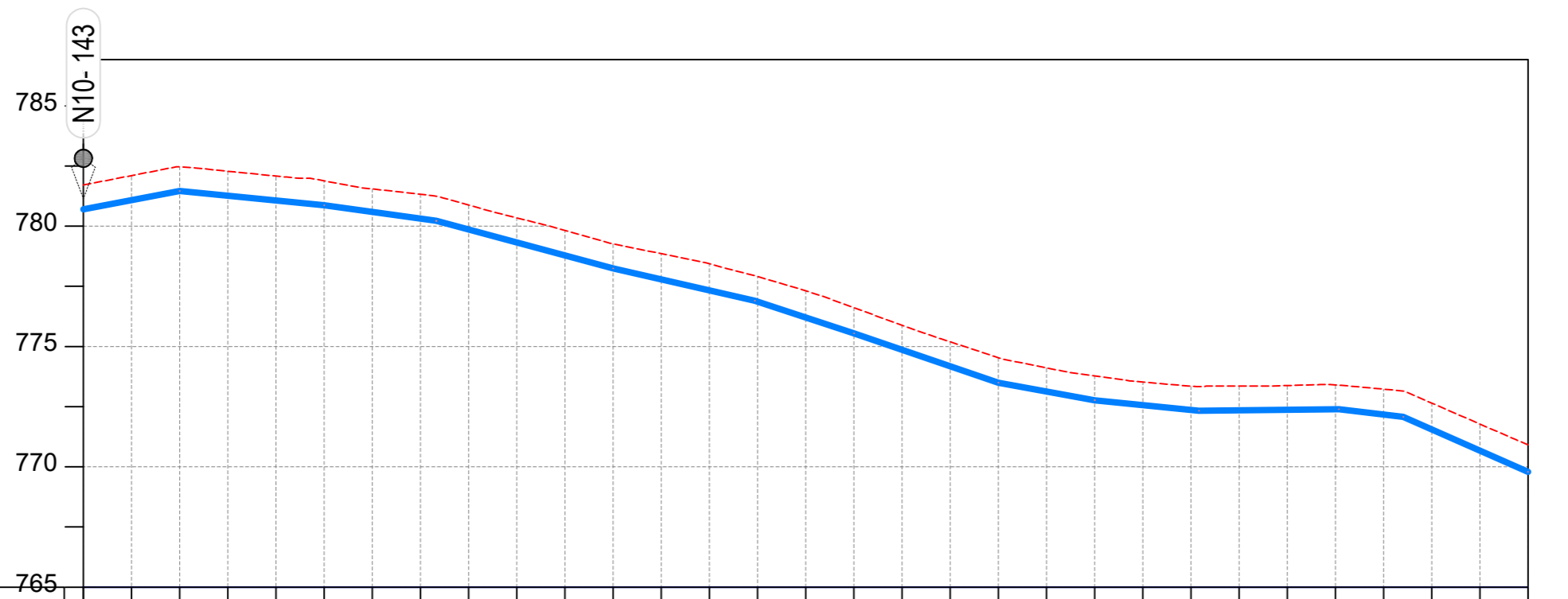
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.17.2 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	781.711	782.101	782.464	782.282	782.083	781.884	781.547	781.327	780.876	780.344	779.821	779.268	778.858	778.438	777.907	777.314	776.614	775.884	775.195	774.536	774.113	773.779	773.524	773.351	773.352	773.377	773.407	773.227	772.649	771.778	770.912	769.790
PIPE DETAILS	← OD50 HDPE PN10 →																															
INVERT LEVEL (m)	780.699	781.080	781.462	781.263	781.065	780.867	780.589	780.310	779.858	779.321	778.784	778.247	777.789	777.331	776.861	776.205	775.549	774.864	774.180	773.496	773.132	772.769	772.567	772.365	772.349	772.370	772.391	772.171	771.552	770.671		

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
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**LEGEND**

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CO-FINANCE BY:

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

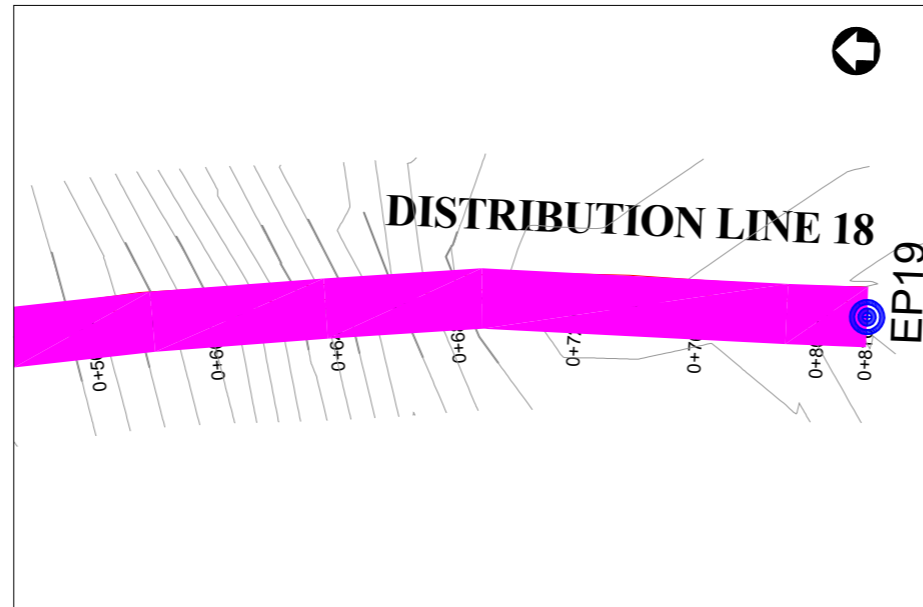
**SARI**  
CONSULTING LTD

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

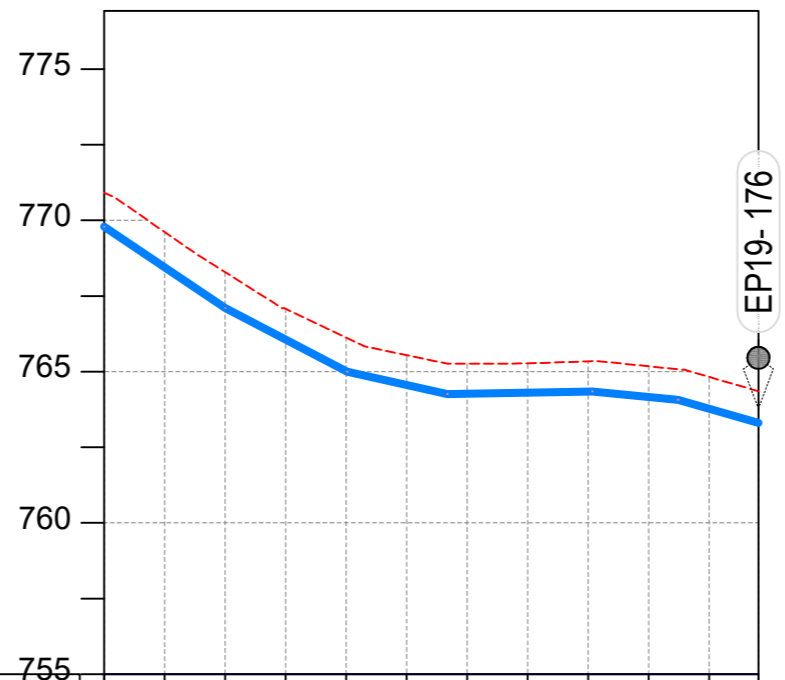
Drawing Title:

**DISTRIBUTION LINE 18**  
 Distribution Line 18 (CH 0+000.00 - 0+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800	0+816
GROUND LEVEL	770.912	769.616	768.290	767.076	766.125	765.544	765.264	765.275	765.343	765.179	764.826	764.351
PIPE DETAILS	← OD50 HDPE PN10 →											
INVERT LEVEL (m)	769.790	768.449	767.107	766.063	765.019	764.562	764.274	764.309	764.345	764.167	763.778	763.310

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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- For Node details, see Dwg. MWE/GWE/5.0.0
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

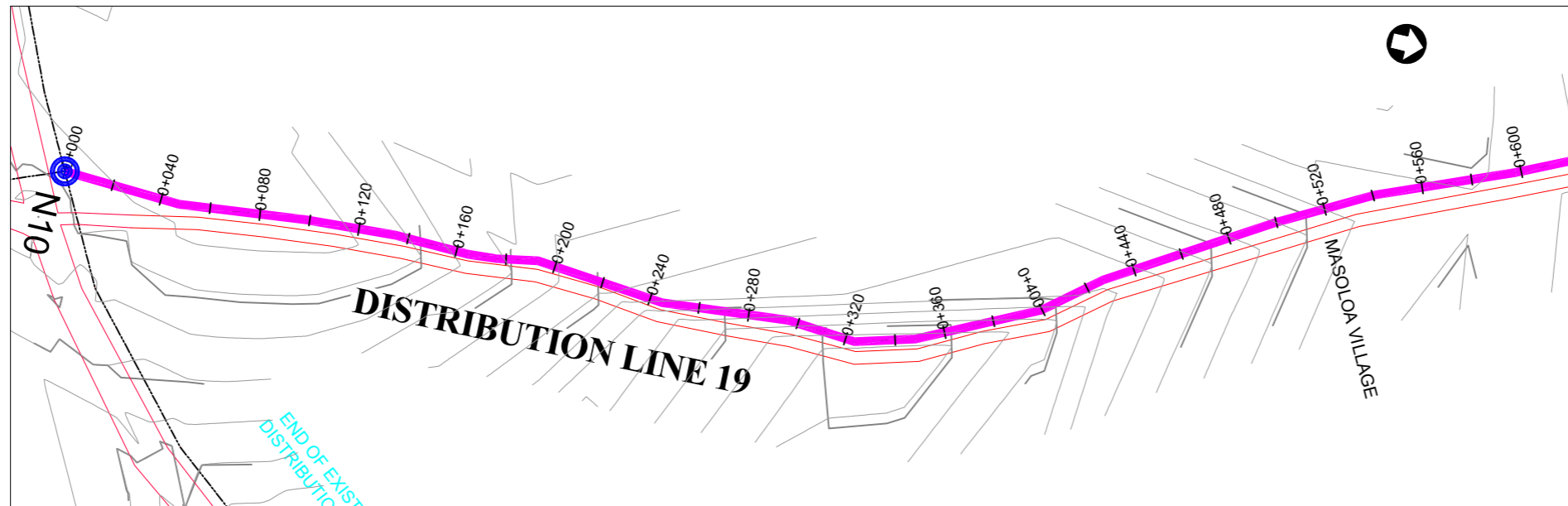
Drawing Title:

**DISTRIBUTION LINE 18**  
 Distribution Line 18 (CH 0+600.00 - 0+816.29)

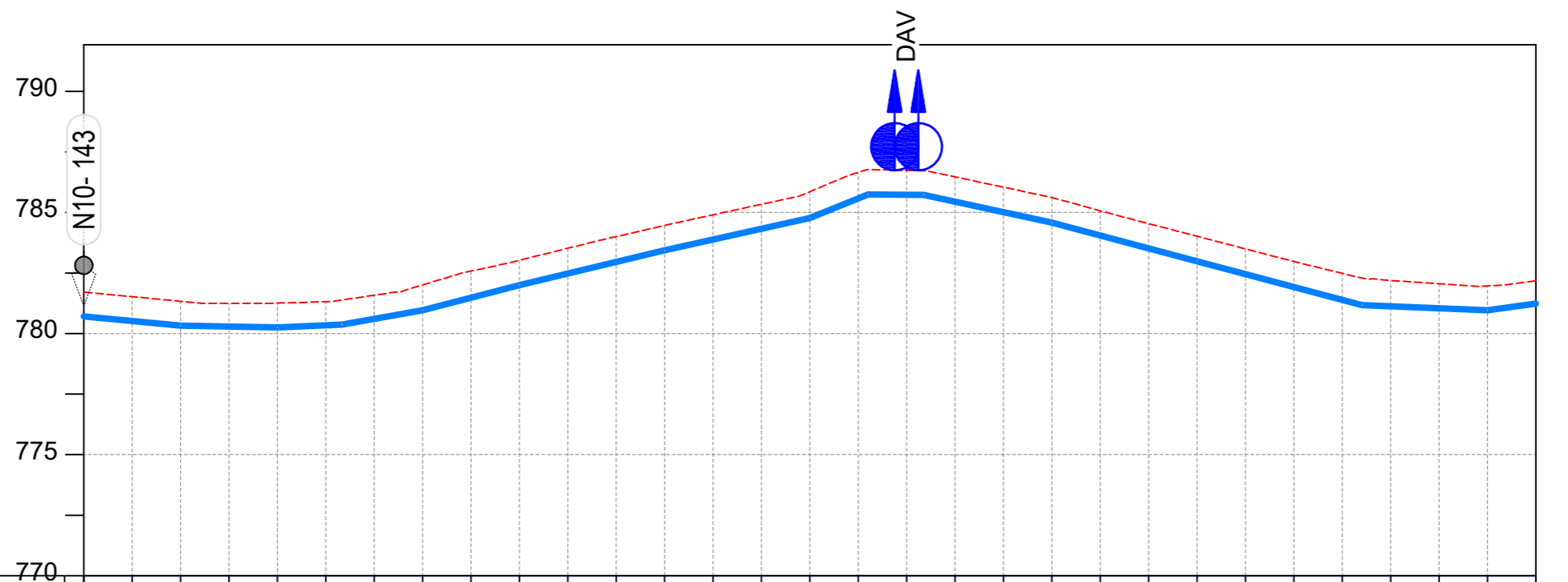
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.18.2 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	781.711	781.522	781.333	781.251	781.257	781.317	781.583	782.009	782.581	783.027	783.523	784.005	784.465	784.905	785.338	785.858	786.657	786.738	786.471	786.045	785.618	785.071	784.541	784.019	783.497	782.977	782.488	782.193	782.057	781.967	782.177	
PIPE DETAILS	← OD50 HDPE PN10 →																															
INVERT LEVEL (m)	780.706	780.517	780.328	780.292	780.256	780.345	780.611	780.965	781.481	781.997	782.477	782.958	783.439	783.884	784.328	784.773	785.575	785.729	785.445	785.013	784.582	784.050	783.518	782.986	782.454	781.922	781.390	781.124	781.045	780.965	781.242	

LONGITUDINAL PROFILE

AMENDMENTS

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1	7.28.2023	Draft Design

NOTES

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CO-FINANCE BY:



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Consultant:

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 Corporate Headquarter  
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 London EC3M 8AA,  
 United Kingdom

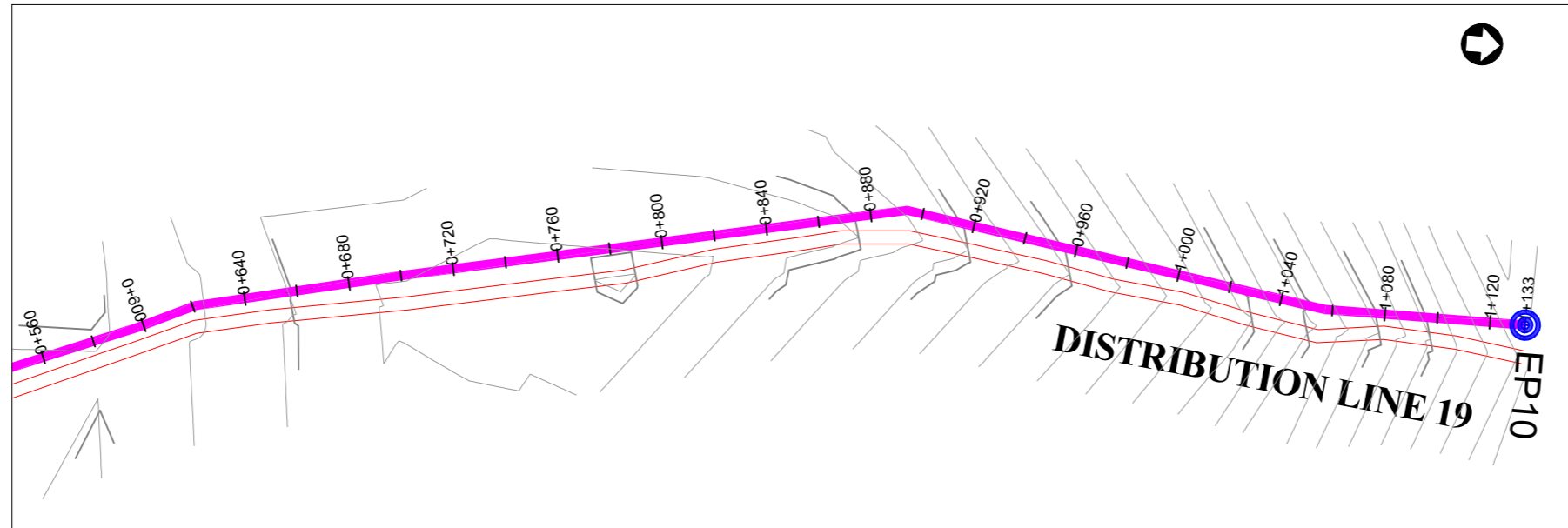
Drawing Title:

**DISTRIBUTION LINE 19**  
 Distribution Line 19 (CH 0+000.00 - 0+600.00)

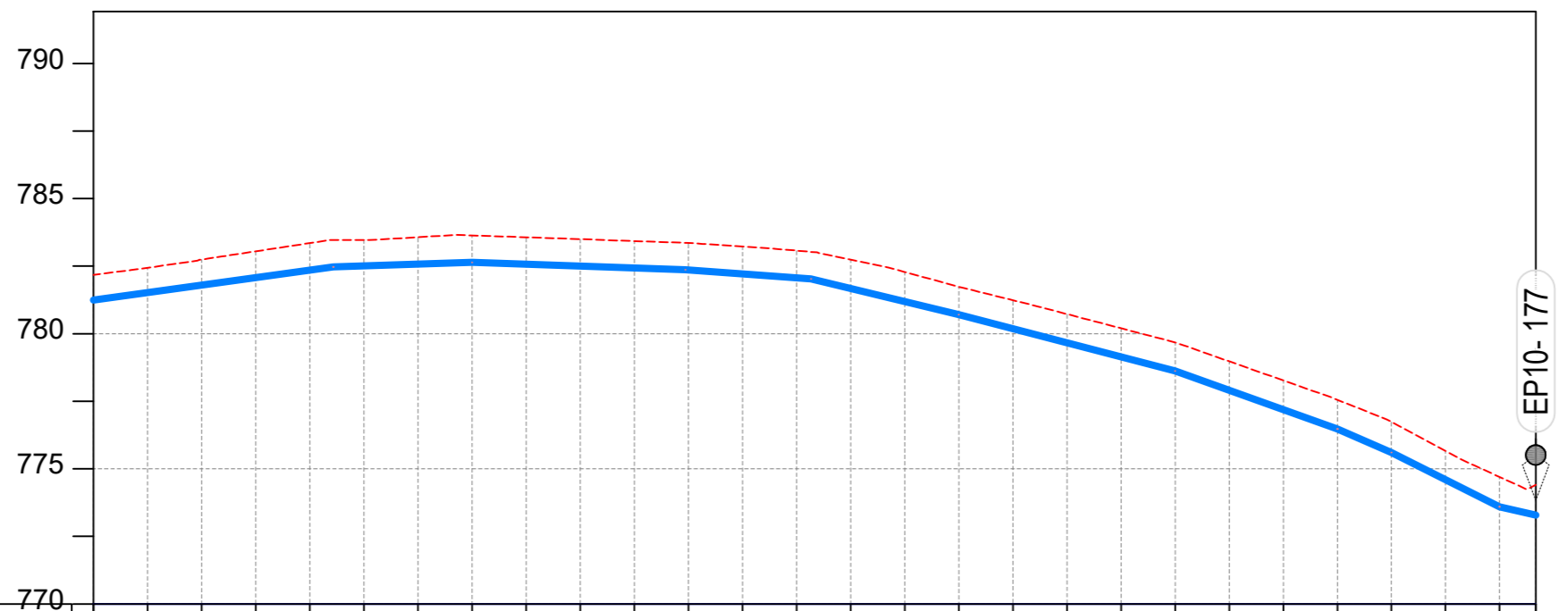
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<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.19.1 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920		0+960		1+000		1+040		1+080		1+120	1+133.7	
GROUND LEVEL	782.177	782.441	782.746	783.050	783.354	783.464	783.571	783.638	783.568	783.499	783.429	783.358	783.224	783.075	782.740	782.285	781.736	781.240	780.727	780.203	779.678	778.976	778.271	777.554	776.738	775.658	774.699	774.406	773.285
PIPE DETAILS	← OD50 HDPE PN10 →																												
INVERT LEVEL (m)	781.242	781.518	781.795	782.071	782.348	782.505	782.571	782.637	782.568	782.498	782.429	782.355	782.209	782.064	781.671	781.188	780.706	780.184	779.663	779.142	778.621	777.907	777.193	776.478	775.602	774.601	773.599		

LONGITUDINAL PROFILE

AMENDMENTS

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1	7.28.2023	Draft Design

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CO-FINANCE BY:

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

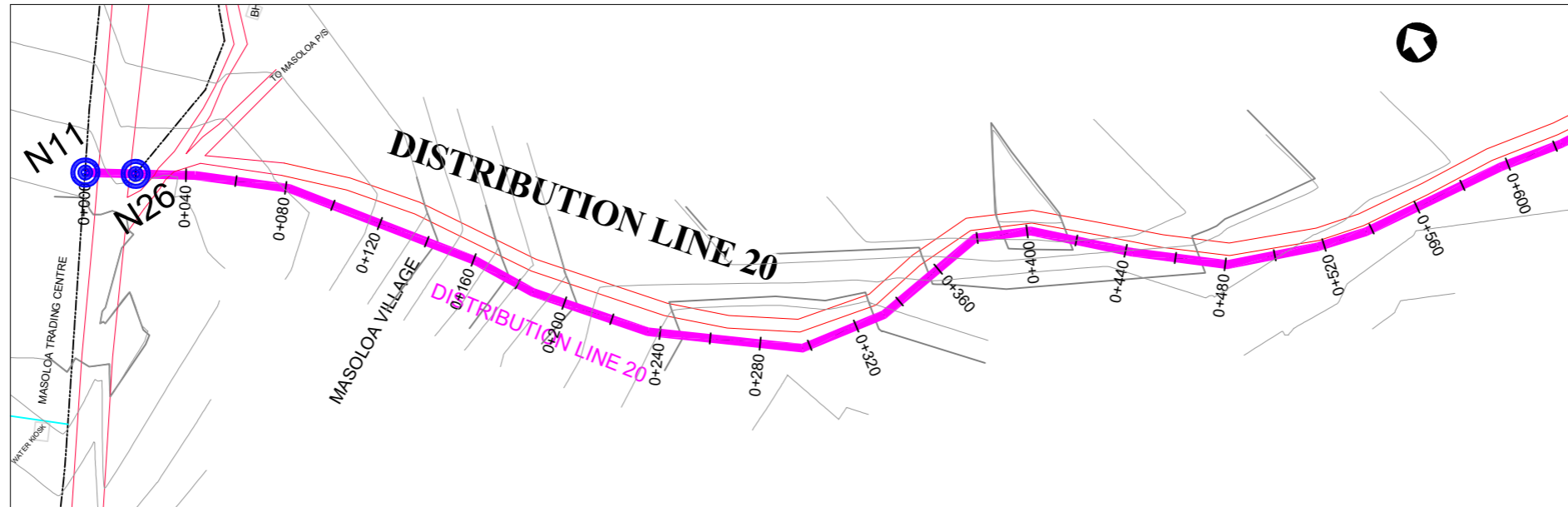
**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

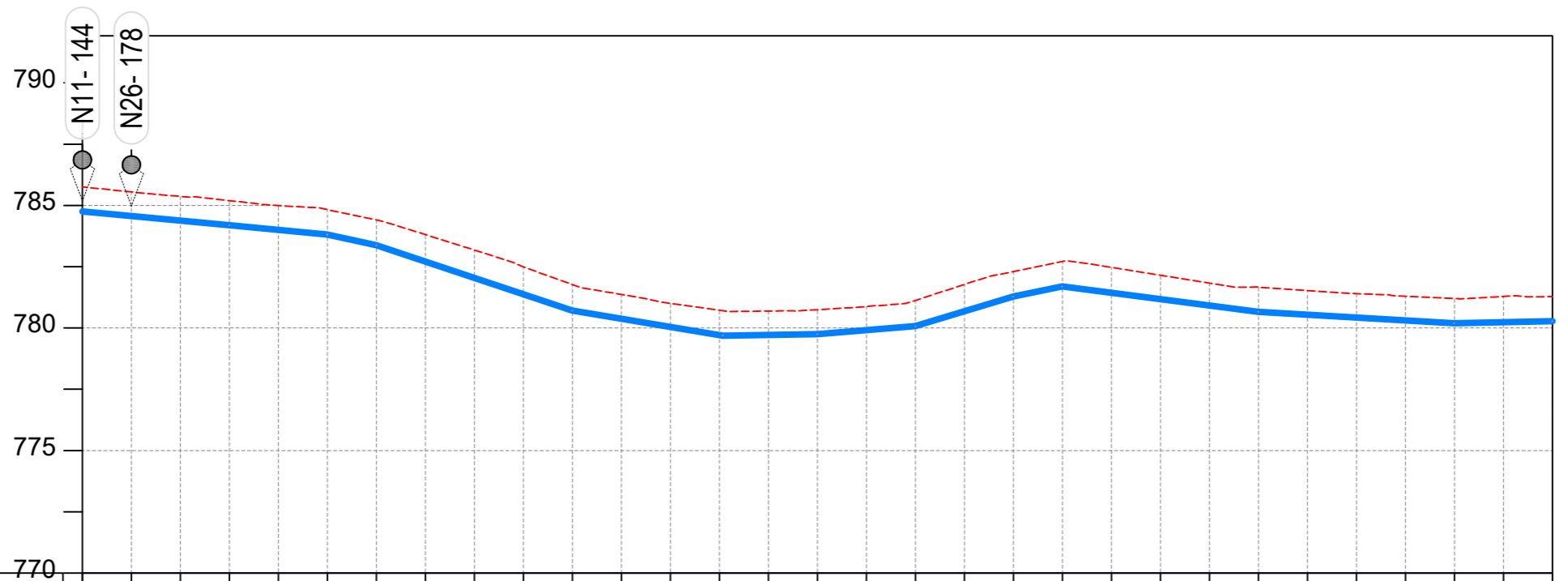
**DISTRIBUTION LINE 19**  
 Distribution Line 19 (CH 0+600.00 - 1+133.37)

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
Vertical Scale: 1:250	<b>Drawn:</b>	P.S Eyamu
Horizontal Scale: 1:2500	<b>Checked:</b>	O.R Daniel
<b>Date:</b>	<b>Approved:</b>	O.R Daniel
Nov-2022		

ENGINEERING DESIGN DRAWING



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	785.752	785.552	785.369	785.198	784.993	784.831	784.406	783.809	783.180	782.498	781.771	781.368	781.003	780.724	780.691	780.747	780.876	781.129	781.777	782.304	782.713	782.475	782.155	781.834	781.670	781.526	781.401	781.292	781.203	781.288		
PIPE DETAILS	OD50 HDPE PN10																															
INVERT LEVEL (m)	784.752	784.565	784.378	784.191	783.999	783.806	783.374	782.706	782.039	781.372	780.707	780.374	780.041	779.707	779.714	779.746	779.912	780.081	780.684	781.286	781.691	781.433	781.176	780.918	780.662	780.544	780.426	780.308	780.191	780.235		

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

- All dimensions are in metres unless stated otherwise.
- All levels are in metres above sea level.
- For Site location see Dwg. MWE/GWE/0.0.0
- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washouts locations are identified by marker post in positions.
- For Standard details see sheets as follows
 

Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

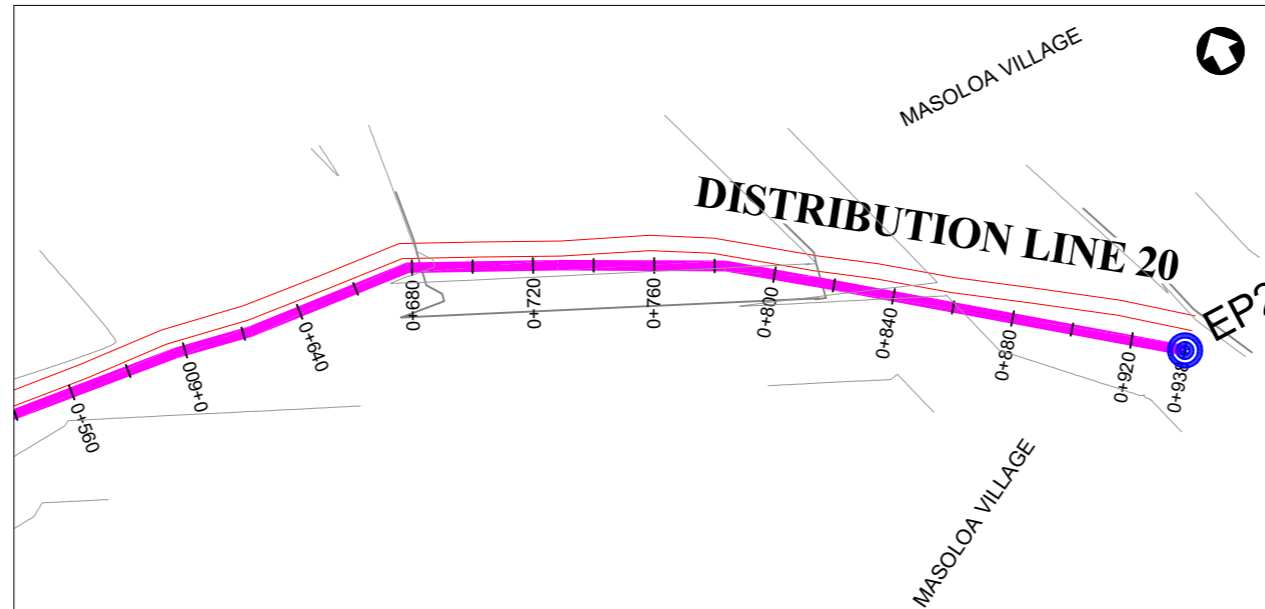
Drawing Title:

DISTRIBUTION LINE 20  
 Distribution Line 20 (CH 0+000.00 - 0+600.00)

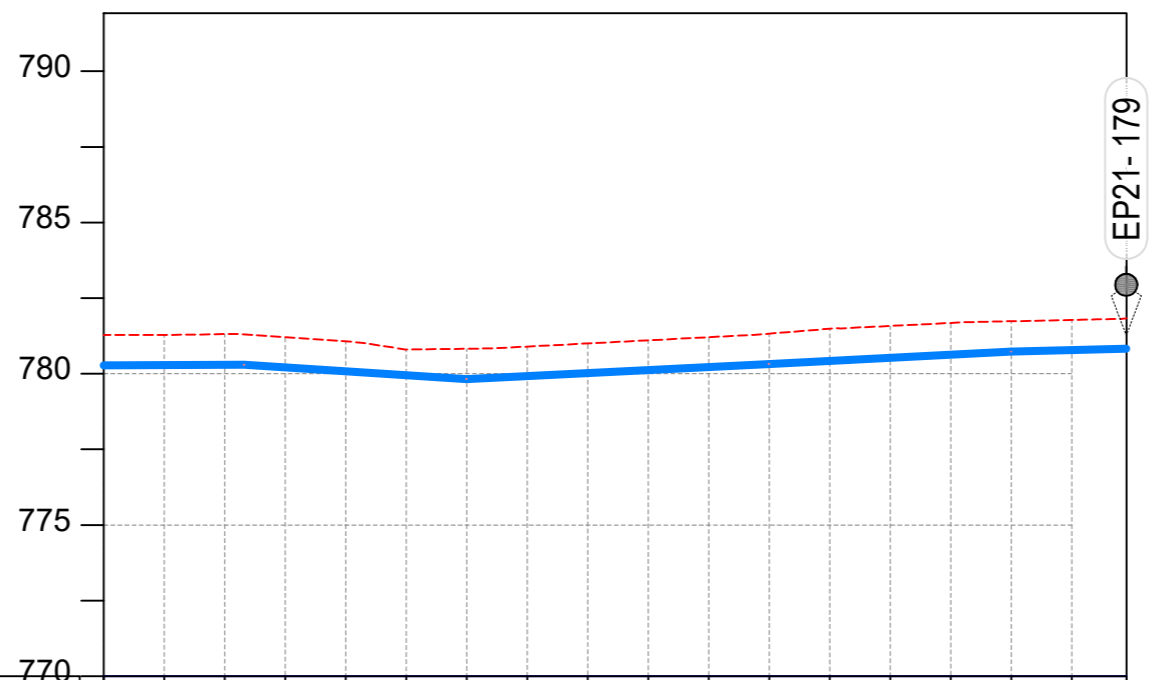
Scale:	Designed:	O.R Daniel
Vertical Scale: 1:250	Drawn:	P.S Eyamu
Horizontal Scale: 1:2500	Checked:	O.R Daniel
Date:	Approved:	O.R Daniel
Nov-2022		

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.20.1 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+600		0+640		0+680		0+720		0+760		0+800		0+840		0+880		0+920	0+938
GROUND LEVEL	781.280	781.285	781.310	781.210	781.073	780.801	780.827	780.899	781.002	781.105	781.209	781.327	781.488	781.581	781.678	781.736	781.779	781.835
PIPE DETAILS	← OD50 HDPE PN10 →																	
INVERT LEVEL (m)	780.280	780.287	780.295	780.210	780.082	779.954	779.828	779.927	780.027	780.126	780.225	780.325	780.427	780.530	780.633	780.736	780.786	

LONGITUDINAL PROFILE

AMENDMENTS

No	Date	Revision
1	7.28.2023	Draft Design

NOTES

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- For Node details, see Dwg. MWE/GWE/5.0.0
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

LEGEND

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
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PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

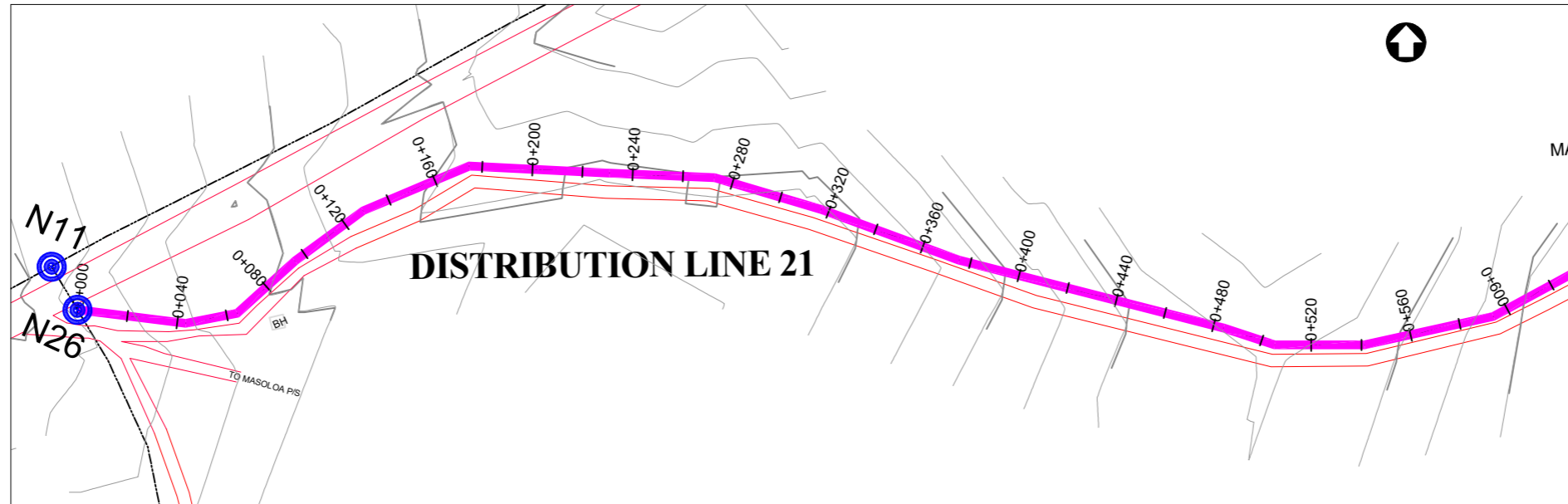
Drawing Title:

**DISTRIBUTION LINE 20**  
 Distribution Line 20 (CH 0+600.00 - 0+938.11)

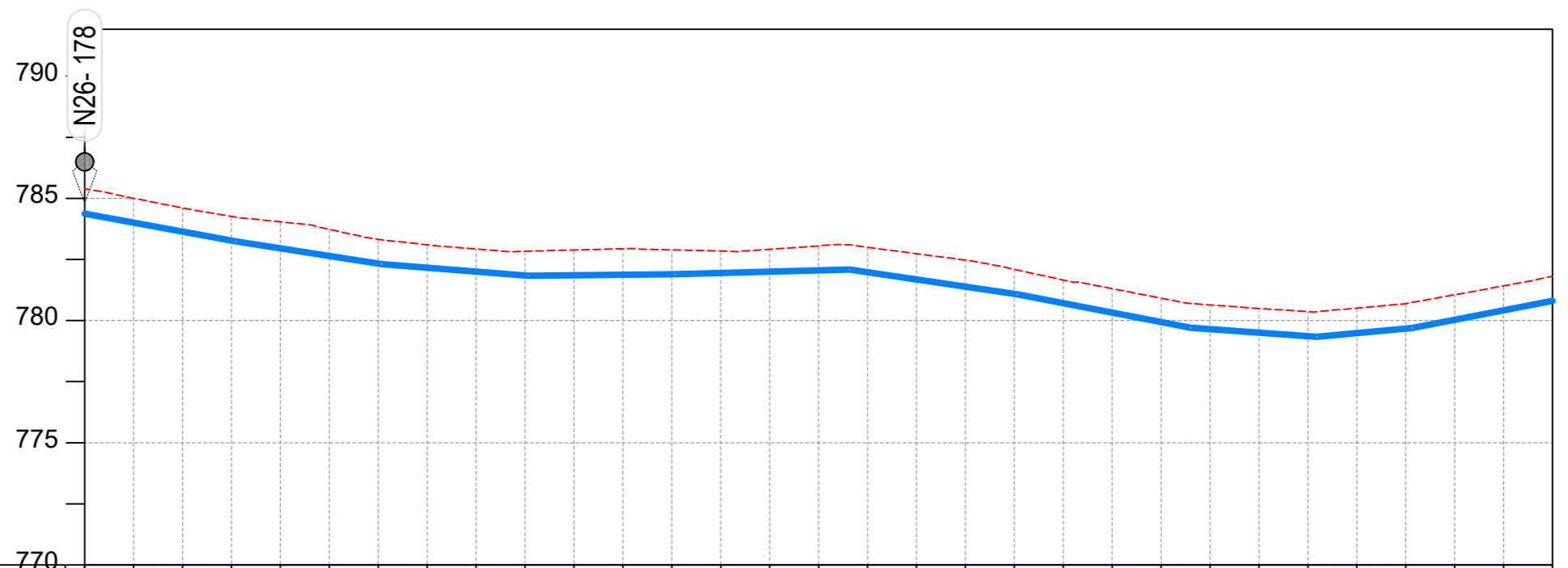
<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.20.2 | Cad file No WSS<22\_11>



PLAN LAYOUT



CHAINAGE	0+000		0+040		0+080		0+120		0+160		0+200		0+240		0+280		0+320		0+360		0+400		0+440		0+480		0+520		0+560		0+600	
GROUND LEVEL	785.387	785.003	784.607	784.263	784.040	783.730	783.323	783.099	782.927	782.834	782.886	782.938	782.892	782.843	782.916	783.056	782.997	782.736	782.474	782.095	781.659	781.306	780.915	780.641	780.494	780.367	780.509	780.692	781.054	781.417		
PIPE DETAILS	← OD50 HDPE PN10 →																															
INVERT LEVEL (m)	784.375	784.008	783.640	783.273	782.957	782.646	782.336	782.165	782.005	781.845	781.852	781.871	781.891	781.943	781.998	782.053	781.979	781.683	781.387	781.091	780.712	780.326	779.940	779.650	779.506	779.362	779.488	779.674	780.032	780.418		

LONGITUDINAL PROFILE

AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
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  - For Node details, see Dwg. MWE/GWE/5.0.0
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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

	Transmission Mains
	Distribution Mains
	Building/House
	Contours
	Road
	Tree
	DAV Double Orifice Air Valve
	WO_2 Type 2 Washout
	Node detail No. 101

CO-FINANCE BY:

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

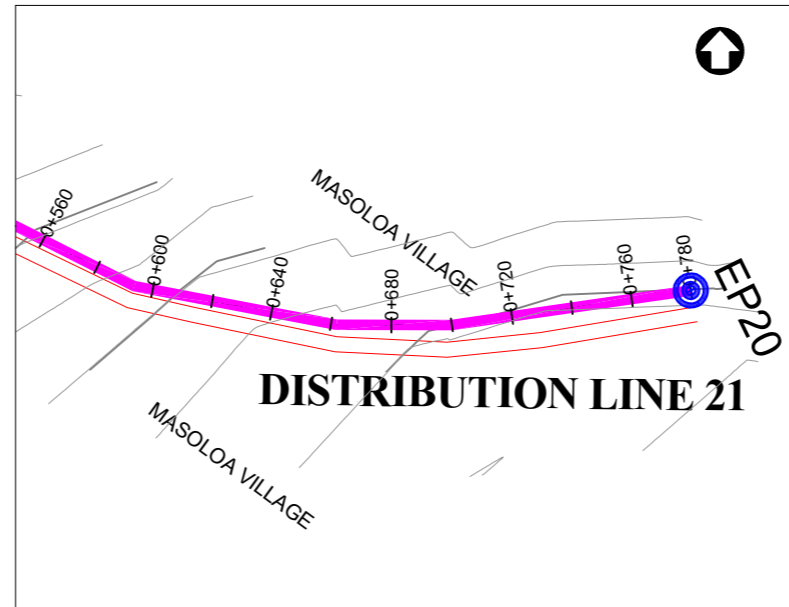
**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

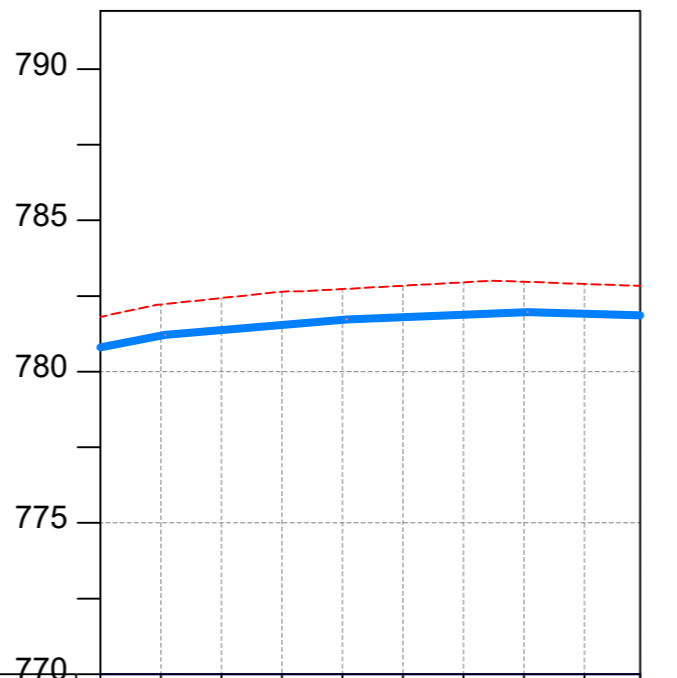
**DISTRIBUTION LINE 21**  
 Distribution Line 21 (CH 0+000.00 - 0+600.00)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel





PLAN LAYOUT



CHAINAGE	0+600							0+640	0+680	0+720	0+760	0+778
GROUND LEVEL	781.812	782.222	782.433	782.645	782.730	782.840	782.953	782.970	782.899	782.834	782.856	
PIPE DETAILS	← OD50 HDPE PN10 →											
INVERT LEVEL (m)	780.803	781.189	781.374	781.545	781.717	781.804	781.885	781.966	781.912	781.856		

LONGITUDINAL PROFILE

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

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Level Indicator	SD 220
Outfall Chamber	SD 116
Marker Post	SD 117
Thrust Blocks	SD 118
Pipe beddings	SD 121

**LEGEND**

- Transmission Mains
- Distribution Mains
- Building/House
- Contours
- Road
- Tree
- DAV Double Orifice Air Valve
- WO\_2 Type 2 Washout
- 10 Node detail No. 101

CO-FINANCE BY:



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

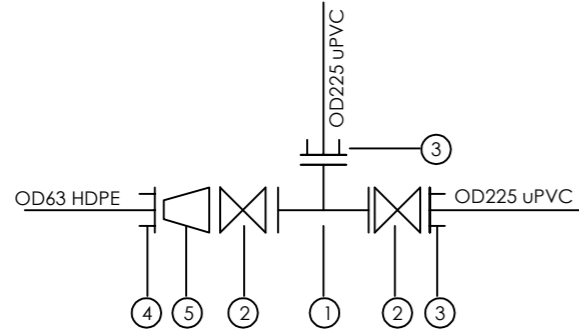
**DISTRIBUTION LINE 21**  
 Distribution Line 21 (CH 0+600.00 - 0+778.39)

<b>Scale:</b> Vertical Scale: 1:250 Horizontal Scale: 1:2500	<b>Designed:</b> O.R Daniel
<b>Date:</b> Nov-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/4.21.2 | Cad file No WSS<22\_11>

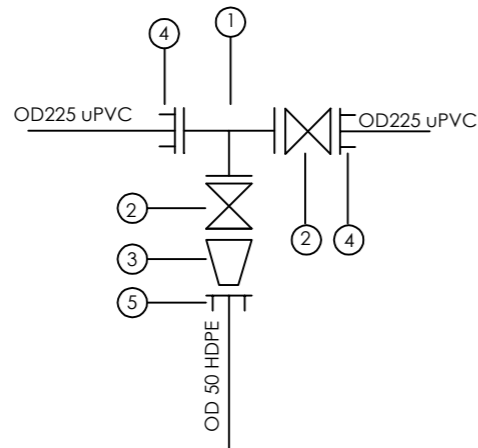
**NODE N03**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	200/200	1	10
2.	CI FLANGED GATE VALVE	200	2	10
3.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	200	2	10
4.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	50	1	10
5.	CI FLANGED TAPER	200/50	1	10

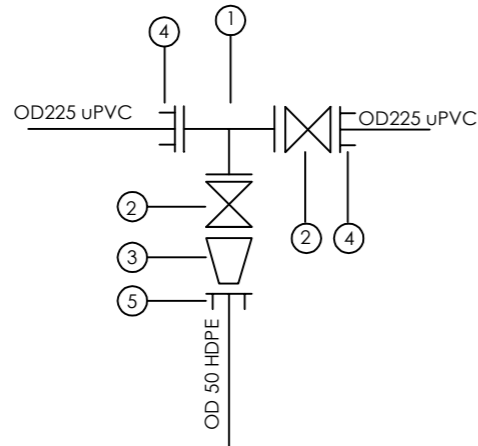
**NODE N04**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	200/200	1	10
2.	CI FLANGED GATE VALVE	200	2	10
3.	CI FLANGED TAPER	200/40	1	10
4.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	200	2	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	1	10

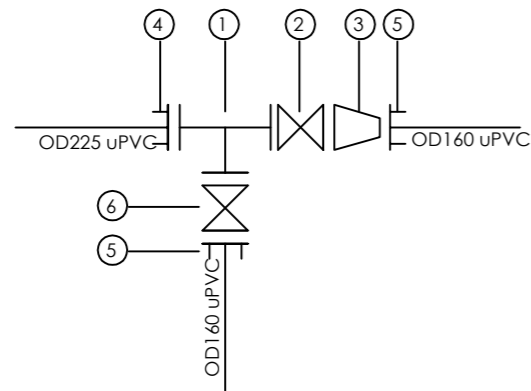
**NODE N05**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	200/200	1	10
2.	CI FLANGED GATE VALVE	200	2	10
3.	CI FLANGED TAPER	200/40	1	10
4.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	200	2	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	1	10

**NODE N06**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	200/150	1	10
2.	CI FLANGED GATE VALVE	200	2	10
3.	CI FLANGED TAPER	200/150	1	10
4.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	200	1	10
5.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	150	2	10
6.	CI FLANGED GATE VALVE	150	1	10

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

**NOTES**

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- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

**CO-FINANCE BY:**



**CUENT**



**PROJECT**

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**



**Drawing Title:**

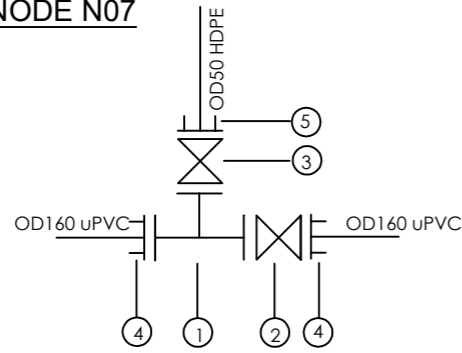
**DISTRIBUTION MAINS - NODE DETAILS**  
Node Details A

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Feb-2023	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/5.0.1 | Cad file No WSS<22\_11>

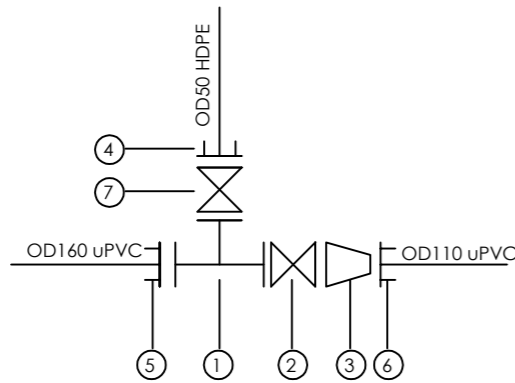
**NODE N07**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	150/40	1	10
2.	CI FLANGED GATE VALVE	150	1	10
3.	CI FLANGED GATE VALVE	40	1	10
4.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	150	2	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	1	10

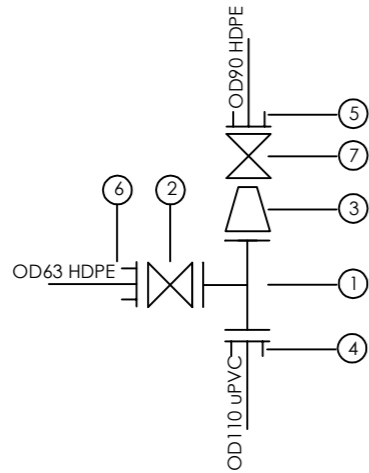
**NODE N08**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	150/40	1	10
2.	CI FLANGED GATE VALVE	150	1	10
3.	CI FLANGED TAPER	150/100	1	10
4.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	1	10
5.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	150	1	10
6.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	100	1	10
7.	CI FLANGED GATE VALVE	40	1	10

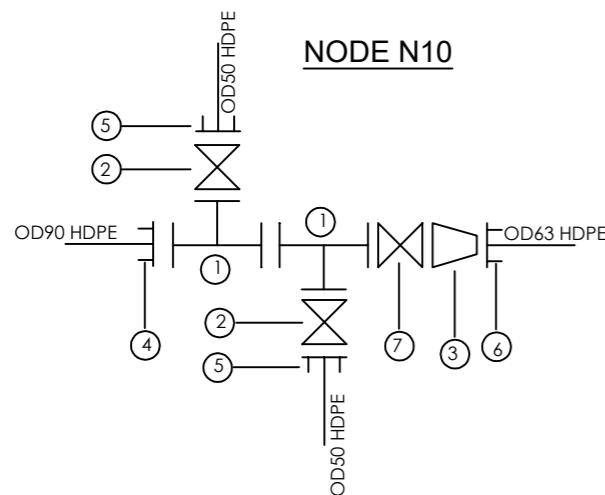
**NODE N09**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	100/50	1	10
2.	CI FLANGED GATE VALVE	50	1	10
3.	CI FLANGED TAPER	100/80	1	10
4.	CI ADAPTOR (MAXI TYPE OR SIMILAR)	100	1	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	80	1	10
6.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	50	1	10
7.	CI FLANGED GATE VALVE	80	1	10

**NODE N10**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	80/40	2	10
2.	CI FLANGED GATE VALVE	40	2	10
3.	CI FLANGED TAPER	80/50	1	10
4.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	80	1	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	2	10
6.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	50	1	10
7.	CI FLANGED GATE VALVE	80	1	10

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

**NOTES**

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4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**



**CO-FINANCE BY:**



**CUENT**



**PROJECT**

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**



**Drawing Title:**

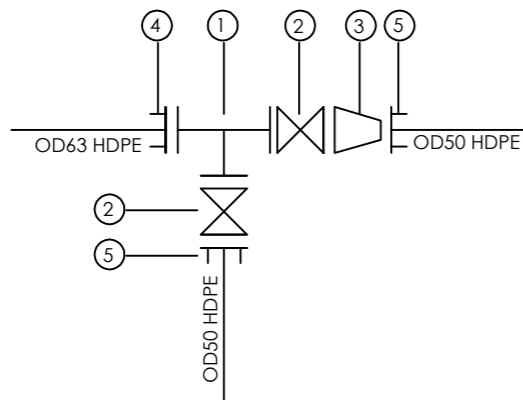
**DISTRIBUTION MAINS - NODE DETAILS**  
 Node Details B

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Feb-2023	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/5.0.2 | Cad file No WSS<22\_11>

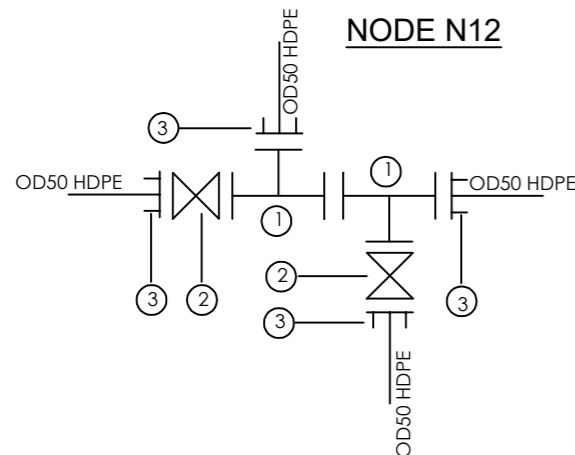
**NODE N11**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	50/40	1	10
2.	CI FLANGED GATE VALVE	40	1	10
3.	CI FLANGED TAPER	50/40	1	10
4.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	50	1	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	2	10

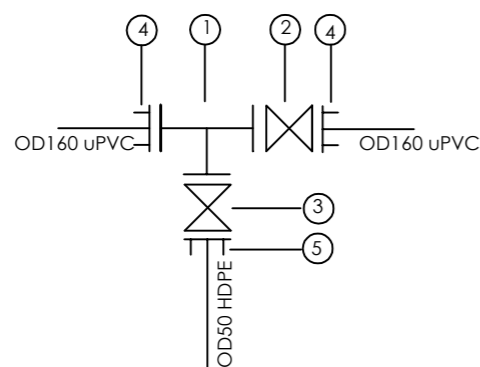
**NODE N12**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	40/40	2	10
2.	CI FLANGED GATE VALVE	40	2	10
3.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	4	10

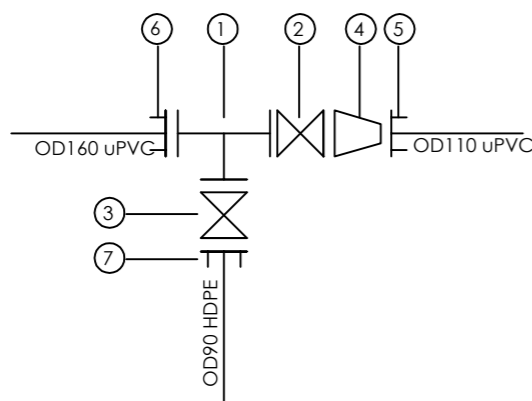
**NODE N14**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	150/40	1	10
2.	CI FLANGED GATE VALVE	150	1	10
3.	CI FLANGED GATE VALVE	40	1	10
4.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	150	2	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	1	10

**NODE N15**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	150/80	1	10
2.	CI FLANGED GATE VALVE	150	1	10
3.	CI FLANGED GATE VALVE	80	1	10
4.	CI FLANGED TAPER	150/100	1	10
5.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	100	1	10
6.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	150	1	10
7.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	80	1	10

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

**NOTES**

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- For Node details, see Dwg. MWE/GWE/5.0.0
- All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

**CO-FINANCE BY:**



**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

**PROJECT**

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

**SARI CONSULTING LTD**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

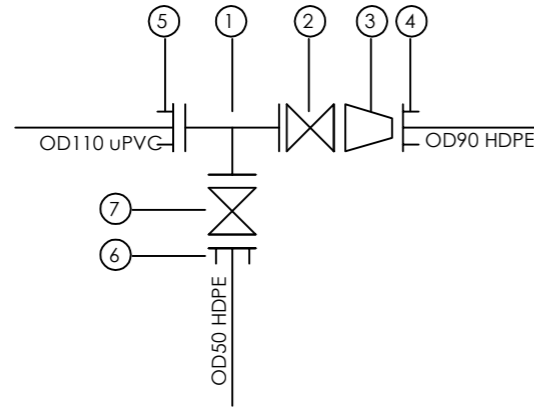
**Drawing Title:**

**DISTRIBUTION MAINS - NODE DETAILS**  
Node Details C

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Feb-2023	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
Drg No: MWE/GWE/5.0.3 | Cad file No WSS<22\_11>

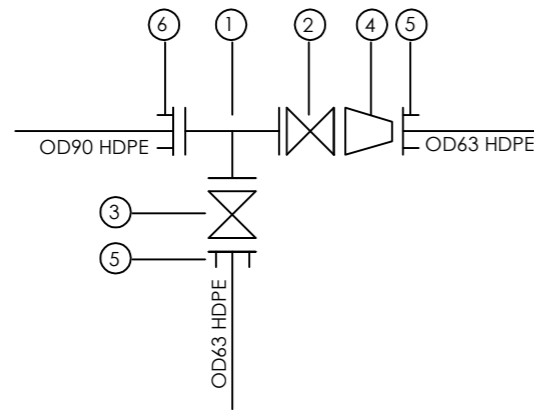
**NODE N16**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	100/40	1	10
2.	CI FLANGED GATE VALVE	100	2	10
3.	CI FLANGED TAPER	100/80	1	10
4.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	80	1	10
5.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	100	1	10
6.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	1	10
7.	CI FLANGED GATE VALVE	40	1	10

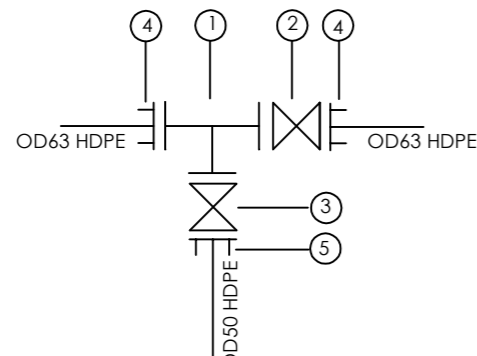
**NODE N17**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	80/50	1	10
2.	CI FLANGED GATE VALVE	80	1	10
3.	CI FLANGED GATE VALVE	50	1	10
4.	CI FLANGED TAPER	80/50	1	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	50	2	10
6.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	80	1	10

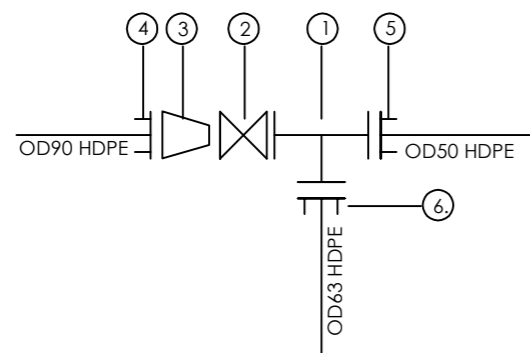
**NODE N18**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	50/40	1	10
2.	CI FLANGED GATE VALVE	50	1	10
3.	CI FLANGED GATE VALVE	40	1	10
4.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	50	2	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	1	10

**NODE N19**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	40/50	1	10
2.	CI FLANGED GATE VALVE	80	1	10
3.	CI FLANGED TAPER	80/40	1	10
4.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	80	1	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	1	10
6.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	50	1	10

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

**NOTES**

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4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

**CO-FINANCE BY:**



**CUENT**

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

**SARI CONSULTING LTD**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

**Drawing Title:**

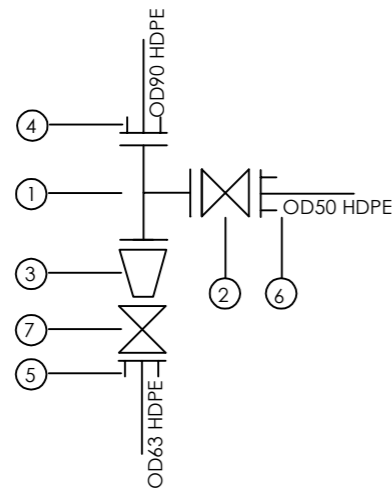
**DISTRIBUTION MAINS - NODE DETAILS**  
Node Details D

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Feb-2023	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/5.0.4 | Cad file No WSS<22\_11>

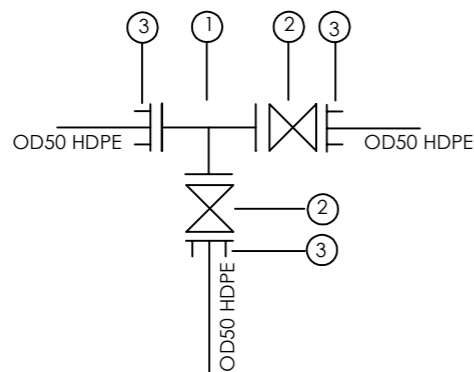
**NODE N20**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	80/40	1	10
2.	CI FLANGED GATE VALVE	40	1	10
3.	CI FLANGED TAPER	80/50	1	10
4.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	80	1	10
5.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	50	1	10
6.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	1	10
7.	CI FLANGED GATE VALVE	50	1	10

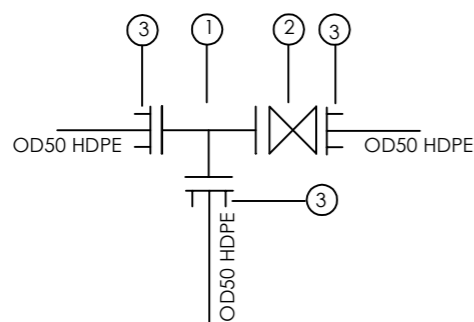
**NODE N21**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	40/40	1	10
2.	CI FLANGED GATE VALVE	40	2	10
3.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	3	10

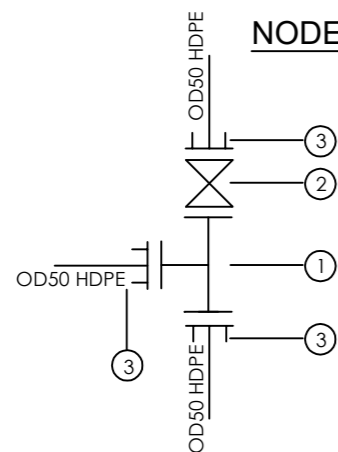
**NODE N22**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	40/40	1	10
2.	CI FLANGED GATE VALVE	40	1	10
3.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	3	10

**NODE N23**



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	40/40	1	10
2.	CI FLANGED GATE VALVE	40	1	10
3.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	3	10

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

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- For Node details, see Dwg. MWE/GWE/5.0.0
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**LEGEND**

**CO-FINANCE BY:**



**CUENT**

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

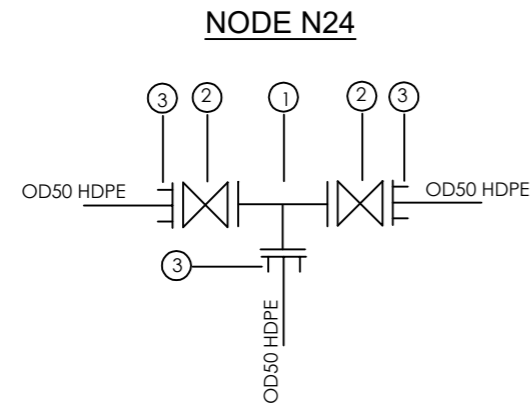
**SARI CONSULTING LTD**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

**Drawing Title:**

**DISTRIBUTION MAINS - NODE DETAILS**  
Node Details E

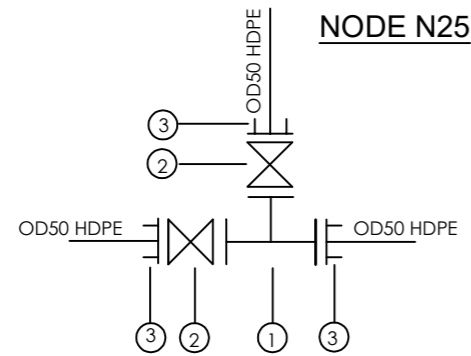
<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Feb-2023	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
Drg No: MWE/GWE/5.0.5 | Cad file No WSS<22\_11>



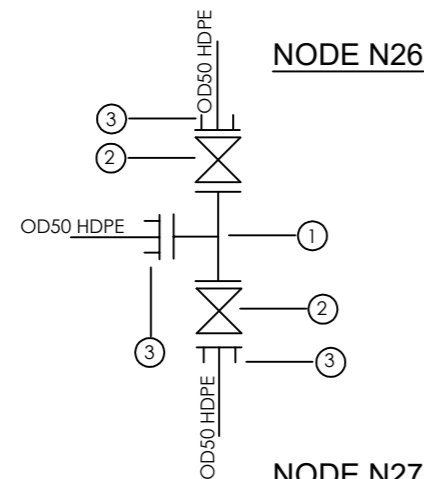
**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	40/40	1	10
2.	CI FLANGED GATE VALVE	40	2	10
3.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	3	10



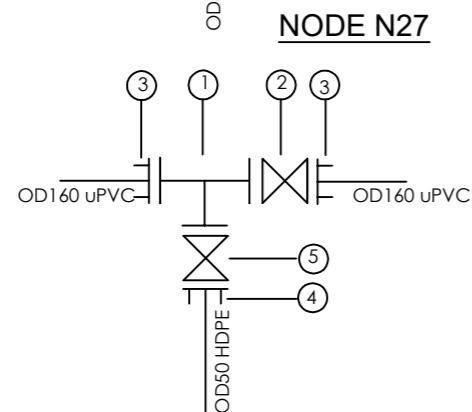
**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	40/40	1	10
2.	CI FLANGED GATE VALVE	40	2	10
3.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	3	10



**SCHEDULE OF PIPEWORK & FITTINGS**

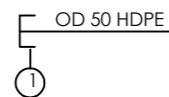
ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	40/40	1	10
2.	CI FLANGED GATE VALVE	40	2	10
3.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	3	10



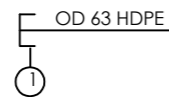
**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	CI ALL FLANGED TEE	150/40	1	10
2.	CI FLANGED GATE VALVE	150	1	10
3.	CI FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	150	2	10
4.	COMPRESSION FLANGED ADAPTOR (MAXI TYPE OR SIMILAR)	40	1	10
5.	CI FLANGED GATE VALVE	40	1	10

NODE EP4,EP28,EP11,EP14, EP6,EP7,EP8,EP9,EP10,EP1, EP20,EP21,EP19,EP16,EP3.1



NODE EP2&EP12



**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	END CAP	40	15	10

**SCHEDULE OF PIPEWORK & FITTINGS**

ITEM	DESCRIPTION	SIZE(DN)	QTY.	PN
1.	END CAP	50	2	10

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

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**LEGEND**

CO-FINANCE BY:



CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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PROJECT

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- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:



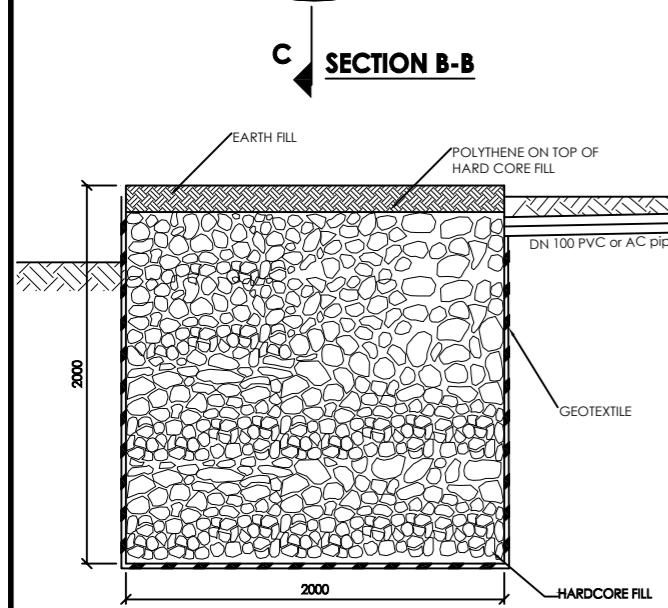
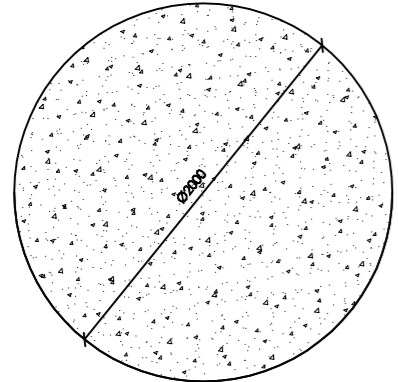
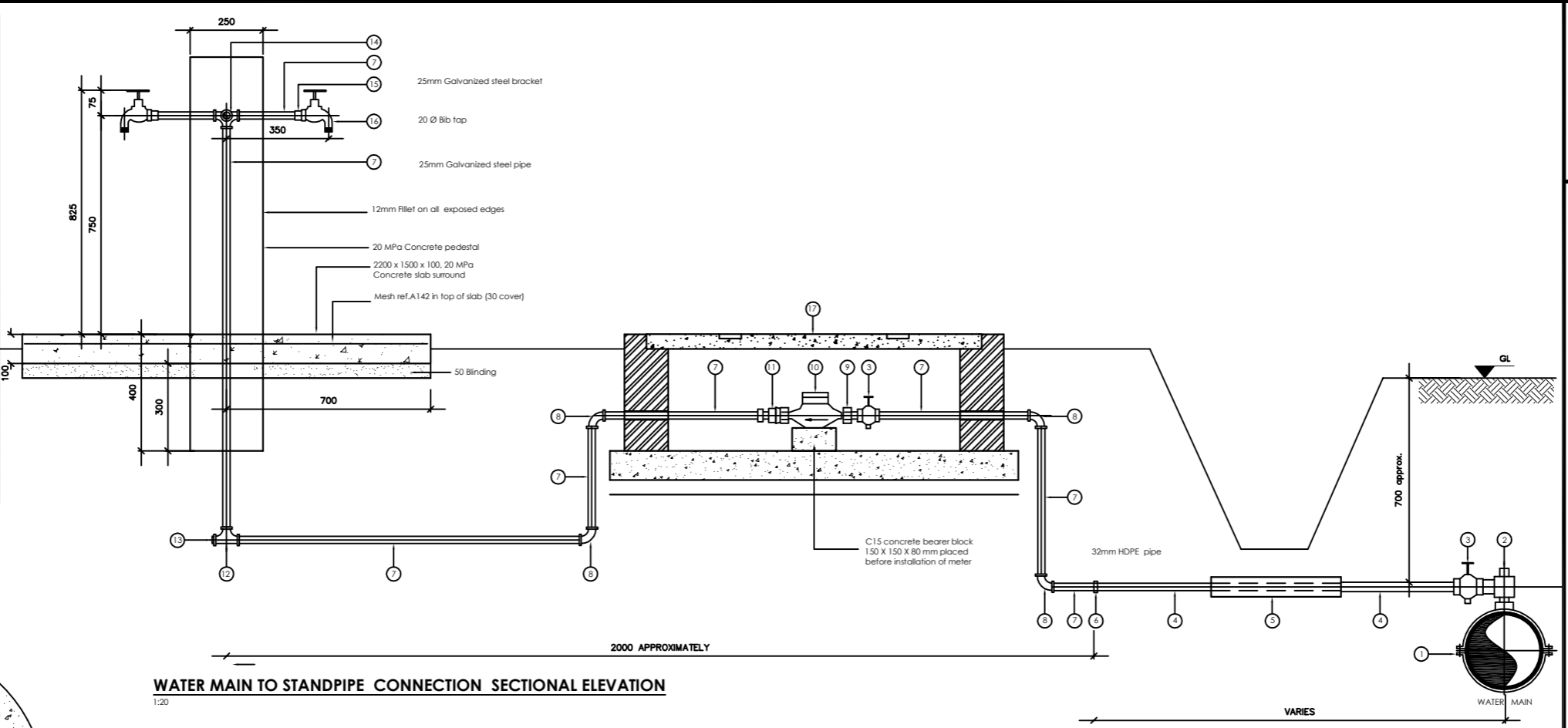
Drawing Title:

DISTRIBUTION MAINS - NODE DETAILS  
Node Details F

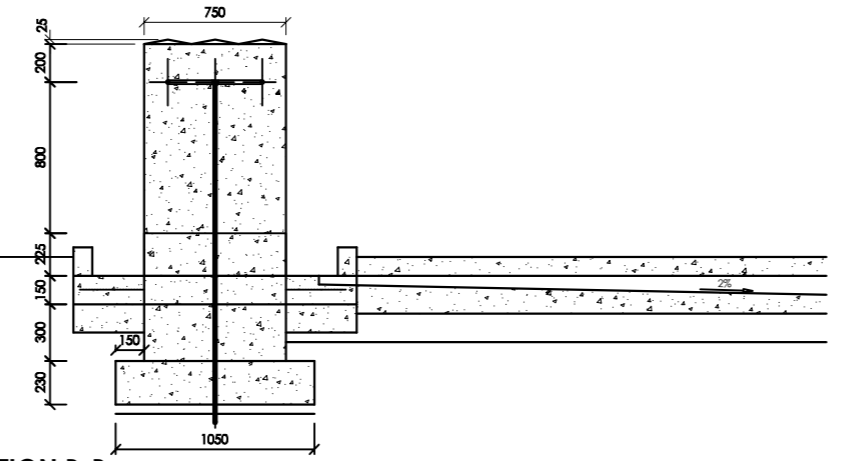
Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Feb-2023	Checked:	O.R Daniel
	Approved:	O.R Daniel

ENGINEERING DESIGN DRAWING  
Drg No: MWE/GWE/5.0.6 Cad file No WSS<22\_11>

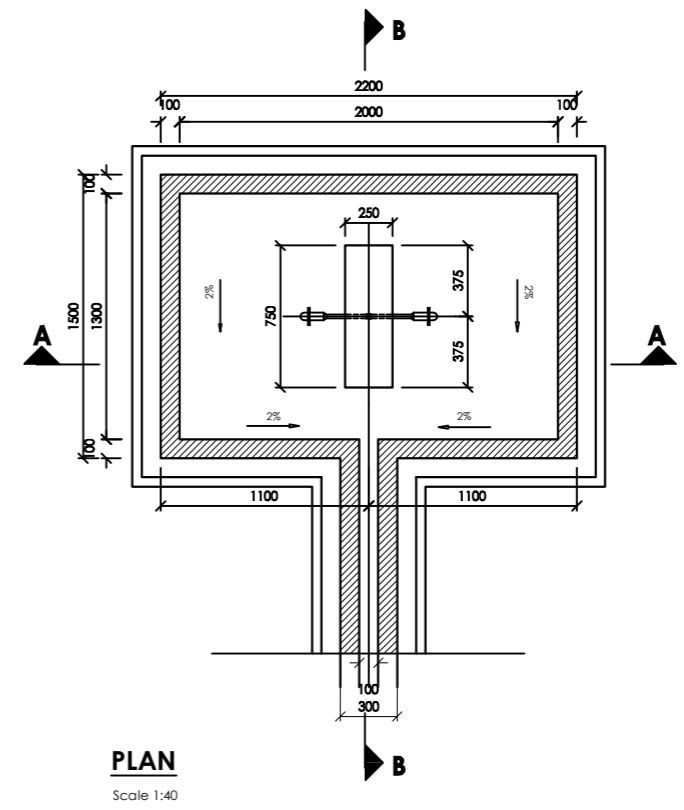
SCHEDULE OF PIPE FITTINGS		
ITEM NUMBER	DESCRIPTION	No. REQUIRED PER CONNECTION
1	PVC SADDLE CLAMP	1
2	P.E. OUTLET TYPE SWIVEL FERRULE	1
3	STOP TAP	2
4	32mm HDPE PIPE PIECE	1
5	1.0m GMS SLEEVE	1
6	32mm Ø HDPE/25mm Ø GMS COUPLING	1
7	25mm Ø GMS PIPE PIECE	15
8	25mm Ø GMS 90° BEND	4
9	MALE THREADED CONNECTOR	1
10	25mm Ø WATER METER	1
11	25mm Ø ADJUSTING COUPLING	1
12	25mm Ø GMS EQUAL TEE	3
13	25mm Ø PLUG	1
14	25mm Ø GMS TEE	1
15	25MM GALVANIZED STEEL BRACKET	6
16	BIB TAP	6
17	METER CHAMBER	1



**SOAKAWAY**  
Scale 1:40



**STANDPIPE**  
Scale 1:40



AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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**LEGEND**

CO-FINANCE BY:

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MINISTRY OF WATER AND ENVIRONMENT  
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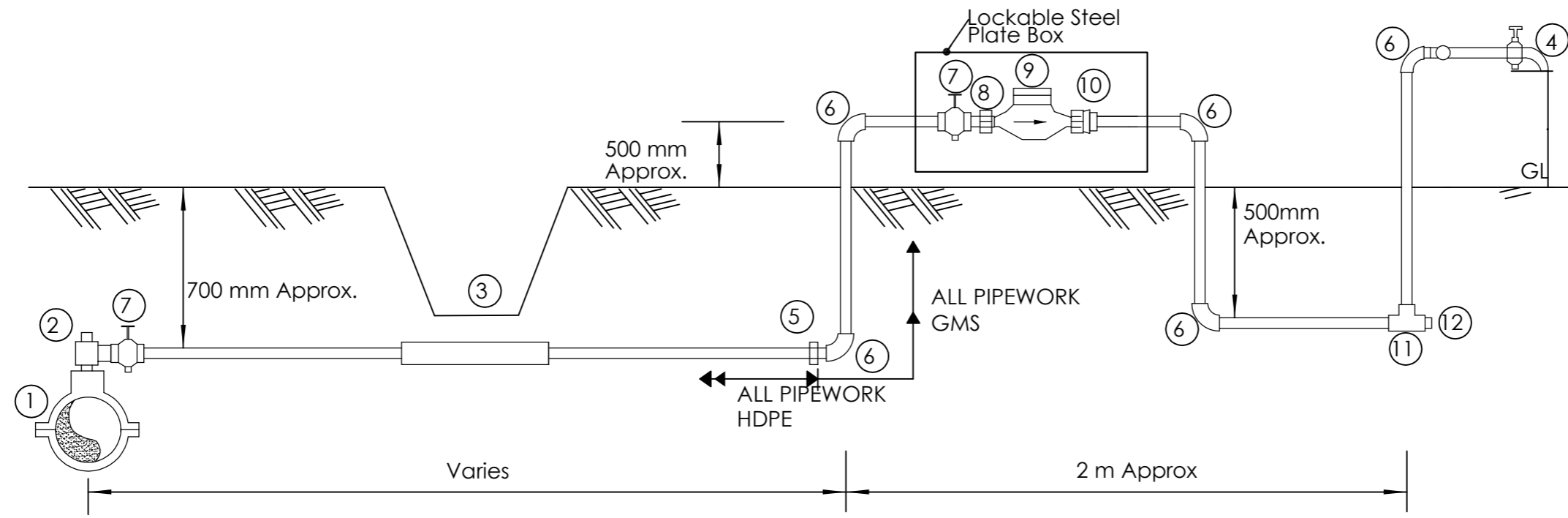
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**  
 **SARI CONSULTING LTD**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

**Drawing Title:**  
TYPICAL SAND POST  
Plan and Sections

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel





**SCHEDULE OF FITTINGS**

ITEM No	DESCRIPTION	No REQUIRED PER CONNECTION
1.	Saddle Clamp	1
2.	HDPE Outlet type swivel ferule	1
3.	1m Length GMS sleeve	1
4.	Brass Tap	1
5.	PE/GMS Adaptor	1
6.	GMS Elbow	5
7.	Brass Gate Valve	2
8.	Male threaded connector	1
9.	Water meter	1
10.	Adjusting coupling	1
11.	GMS equal tee	1
12.	Plug	1

**NOTES**

- GMS pipe ends to be screwed with tapered threads to ISO R7 and to be supplied with sealing PTFE tape
- GMS pipe fittings to be malleable cast iron to BS 143 and BS 1256 with female threaded ends
- The adjusting coupling shall be made of bronze or brass with a threaded female connection at the outlet end. It shall incorporate sufficient adjustment to permit removal at the meter
- All PE connections shall be of the compression type
- Diameter of pipe varies

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

- NOTES**
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  - All levels are in metres above sea level.
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**LEGEND**


CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

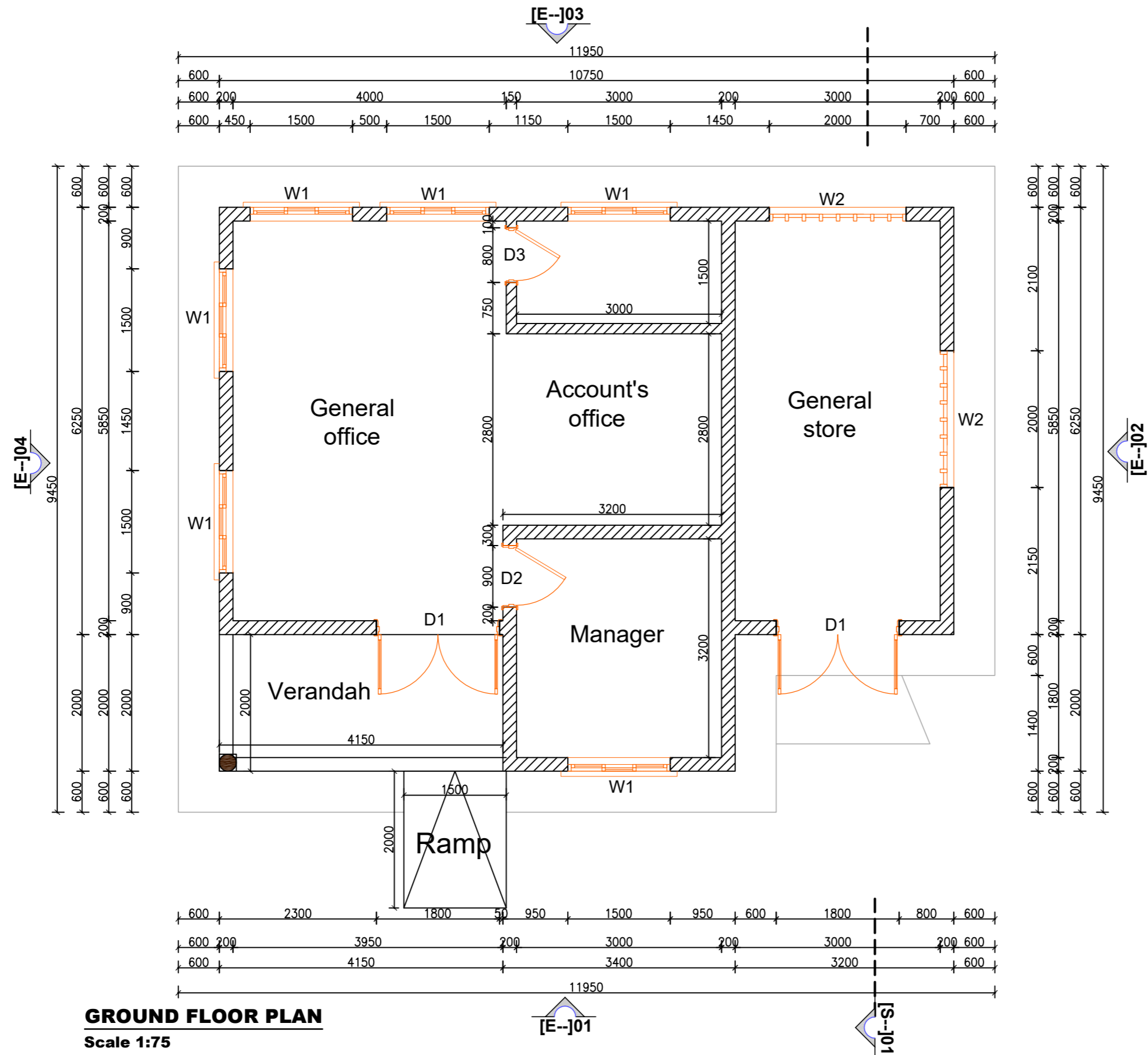
Consultant:

Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

**Drawing Title:**

TYPICAL YARD CONNECTION  
Sectional Elevation

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel
ENGINEERING DESIGN DRAWING		
<b>Drg No:</b> MWE/GWE/5.2.1	Cad file No WSS<22_11>	



**GROUND FLOOR PLAN**  
Scale 1:75

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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**LEGEND**


CO-FINANCE BY:

CLIENT  
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 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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 Website: www.mwe.go.ug

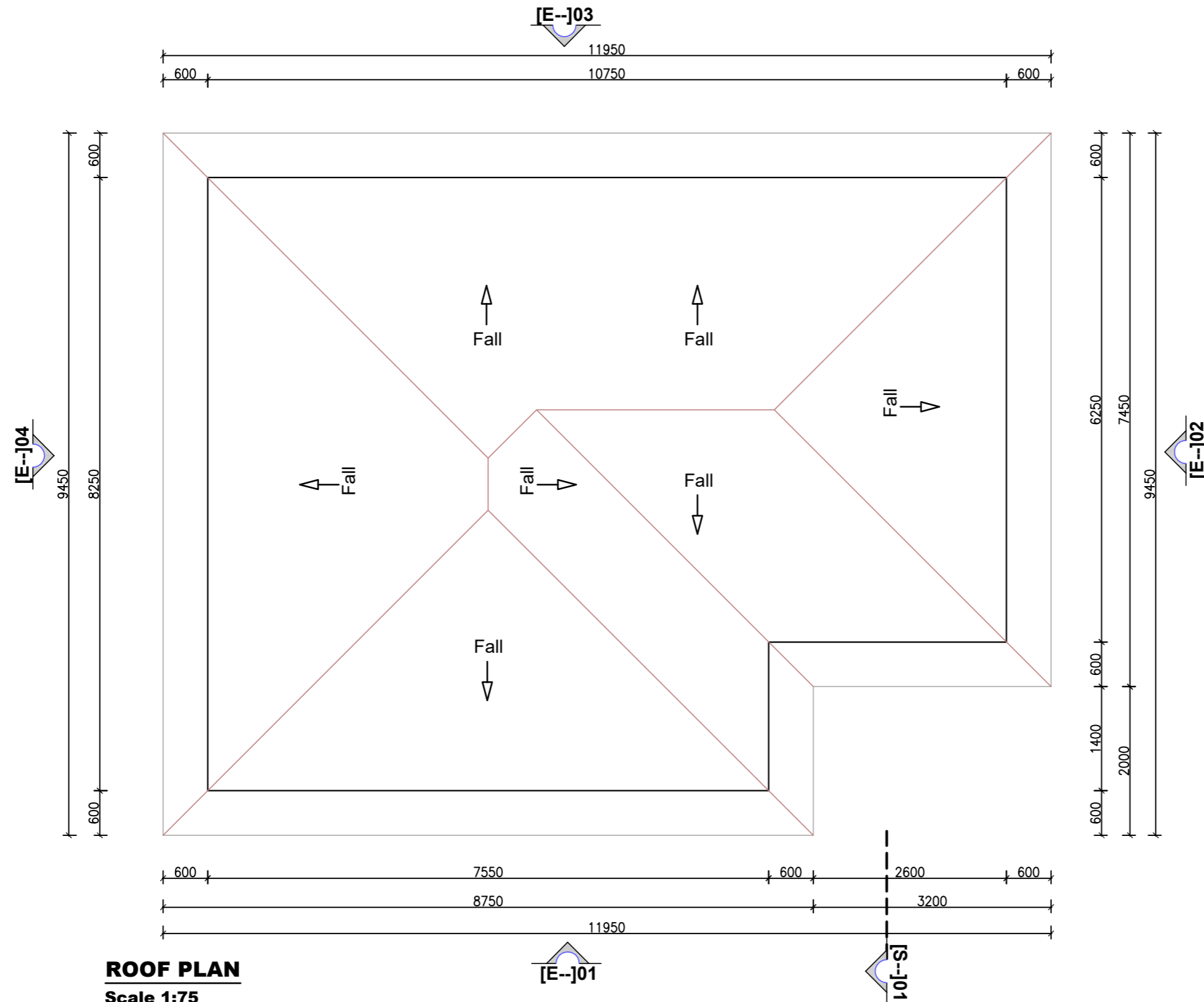
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**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**WATER OFFICE BLOCK**  
 Ground Floor Plan

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel



**ROOF PLAN**  
Scale 1:75

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

- NOTES**
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  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

--

CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

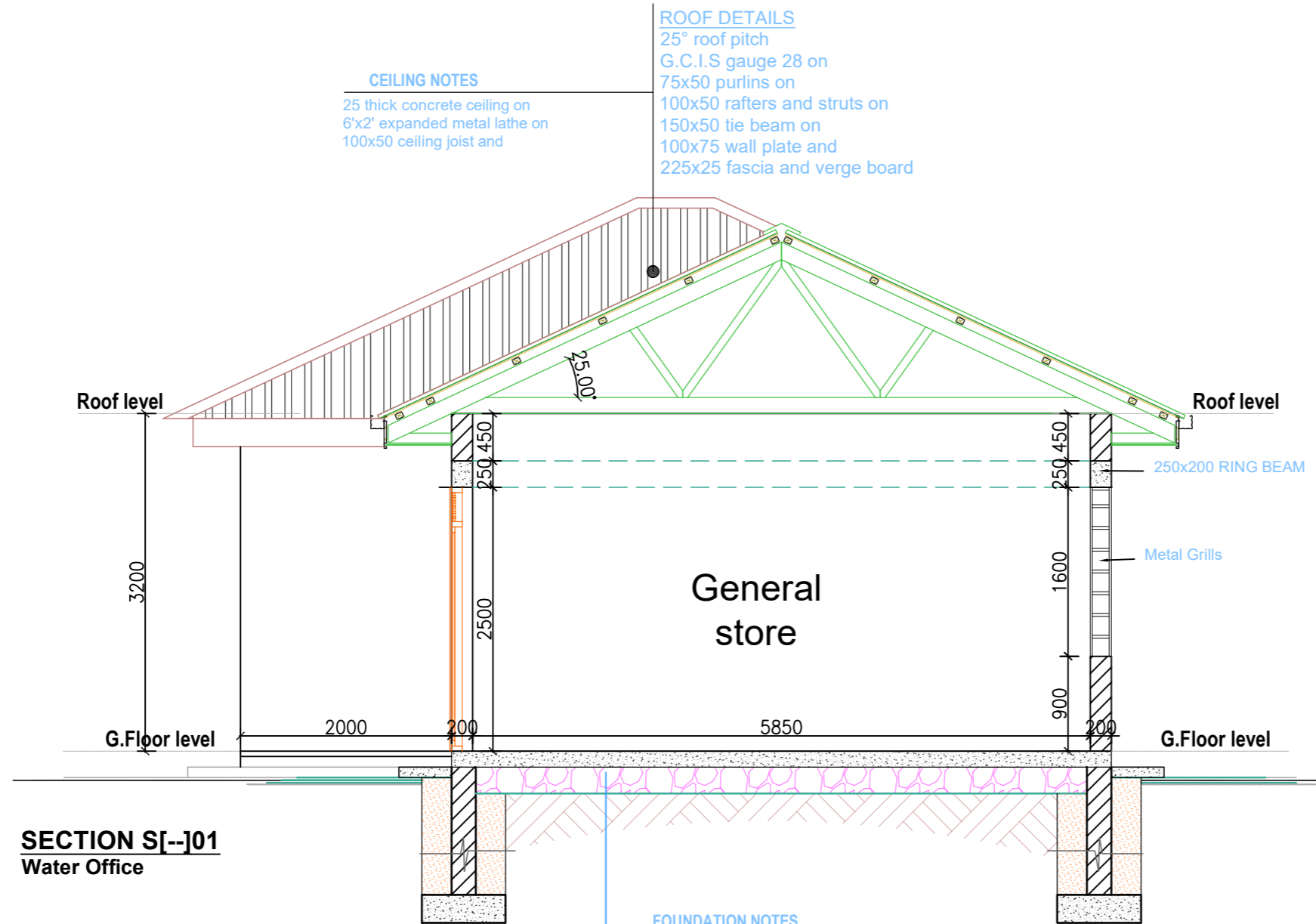
Consultant:

**SARI CONSULTING LTD**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:

**WATER OFFICE BLOCK**  
Roof Plan

<b>Scale:</b> Dec-2022	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel



**CEILING NOTES**  
 25 thick concrete ceiling on  
 6"x2" expanded metal lathe on  
 100x50 ceiling joist and

**ROOF DETAILS**  
 25° roof pitch  
 G.C.I.S gauge 28 on  
 75x50 purlins on  
 100x50 rafters and struts on  
 150x50 tie beam on  
 100x75 wall plate and  
 225x25 fascia and verge board

**FOUNDATION NOTES**  
 100mm high skirting (mahogany) on  
 Floor finish as specified on  
 25mm thick cement screed on  
 150mm thick concrete floor slab mix(1:3:6)12mm agg on  
 200mm thick well compacted & approved hardcore filling on  
 Consolidated murrum  
 690 x230mm concrete strip foundation slab mix(1:3:6)19mm agg in  
 Well levelled and rammed trenches whose depths are to be determinrd on site  
 Levels are to be checked before ground breaking

**SECTION S[01]**  
**Water Office**

**DOORS AND WINDOWS SCHEDULE**

NOTATION	NO	DIMENSIONS		REMARKS
		HEIGHT (mm)	WIDTH (mm)	
D1	2	1800	2500	Steel casement door with PVO
D2	1	900	2500	Framed Ledge batten doors with PVO
D3	1	800	2500	Framed Ledge batten doors with PVO
W1	6	1500	1600	Steel casement window with PVO
W2	2	2000	1600	Opening with Metal grills

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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**LEGEND**



CLIENT  
 MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

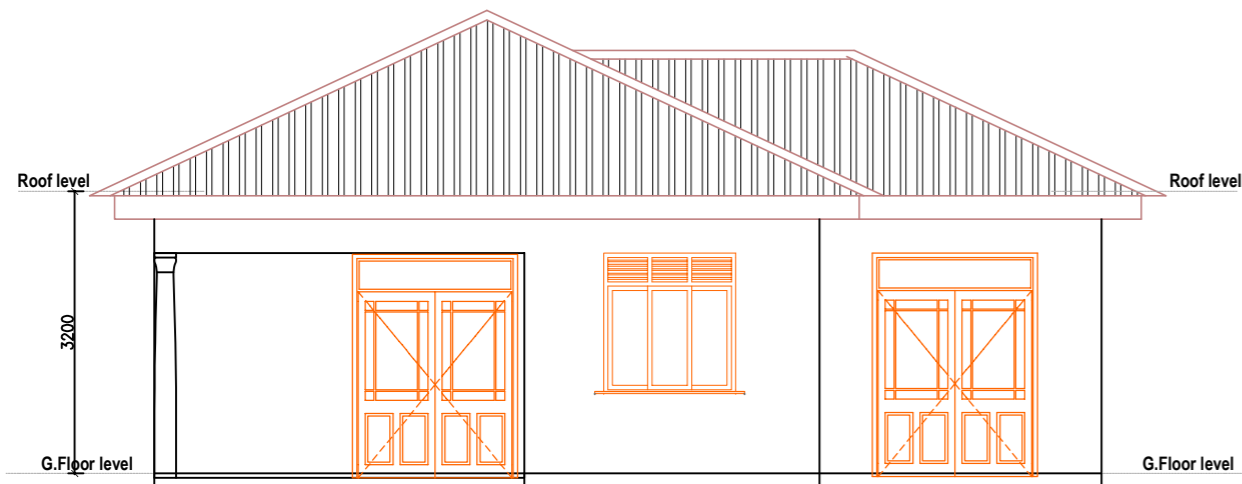
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

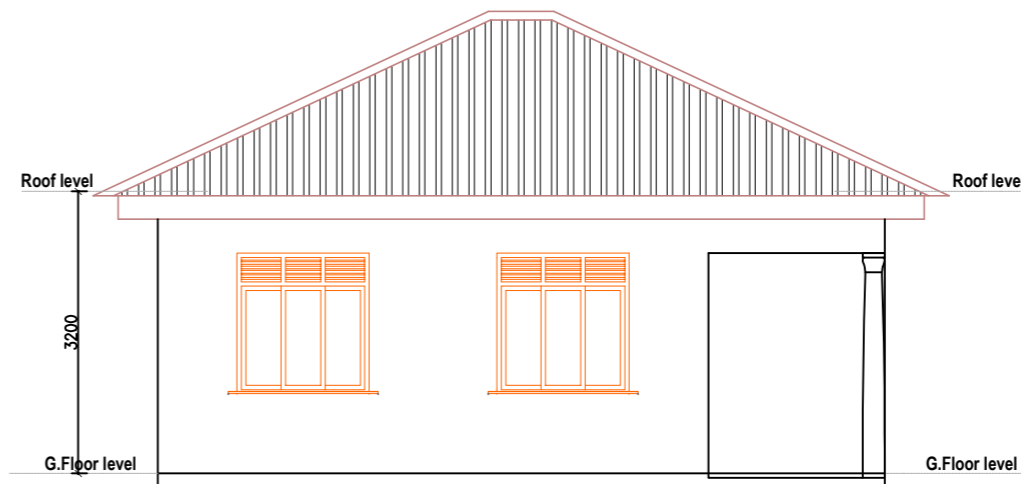
Drawing Title:  
 WATER OFFICE BLOCK  
 Section S[01]

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

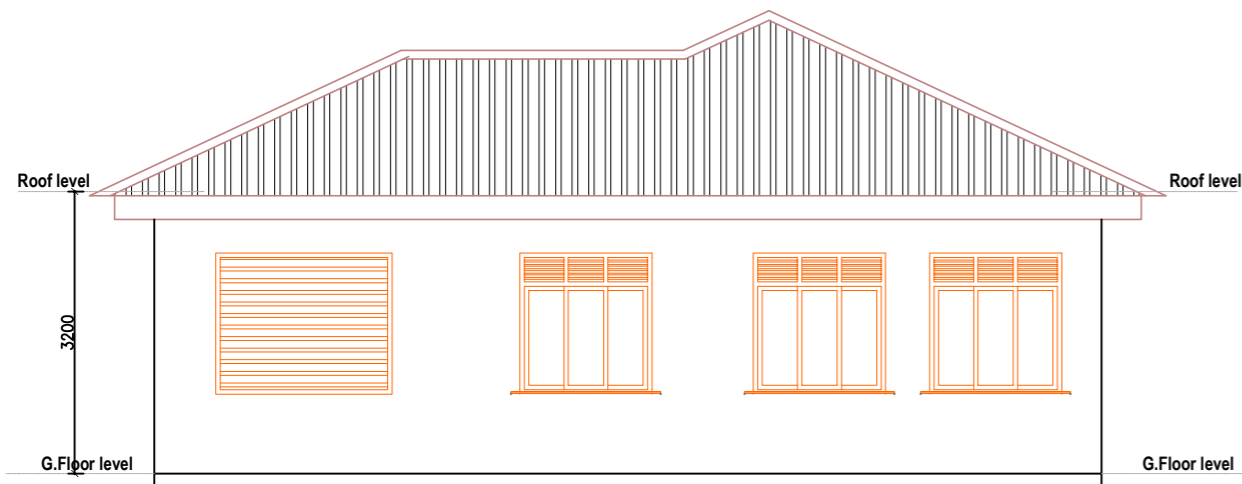
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 Drg No: MWE/GWE/6.1.3 | Cad file No WSS<22\_11>



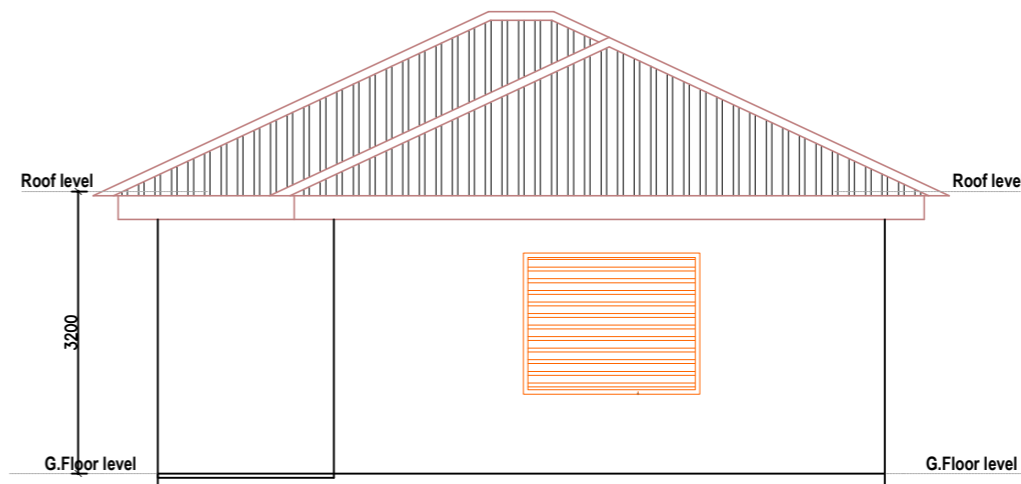
**ELEVATION E[-]J01**  
Water Office



**ELEVATION E[-]J04**  
Water Office



**ELEVATION E[-]J03**  
Water Office



**ELEVATION E[-]J02**  
Water Office

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

- NOTES**
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  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

--

CO-FINANCE BY:



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MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT  
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- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

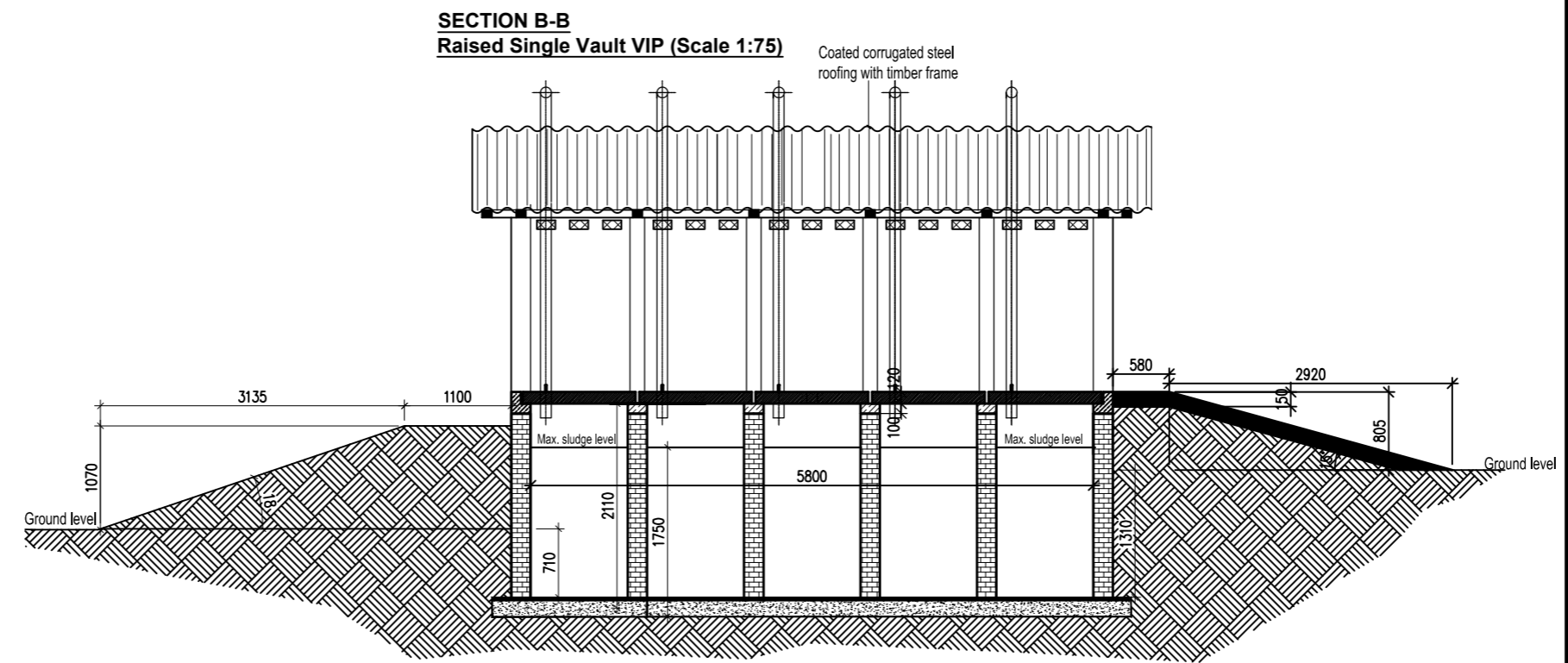
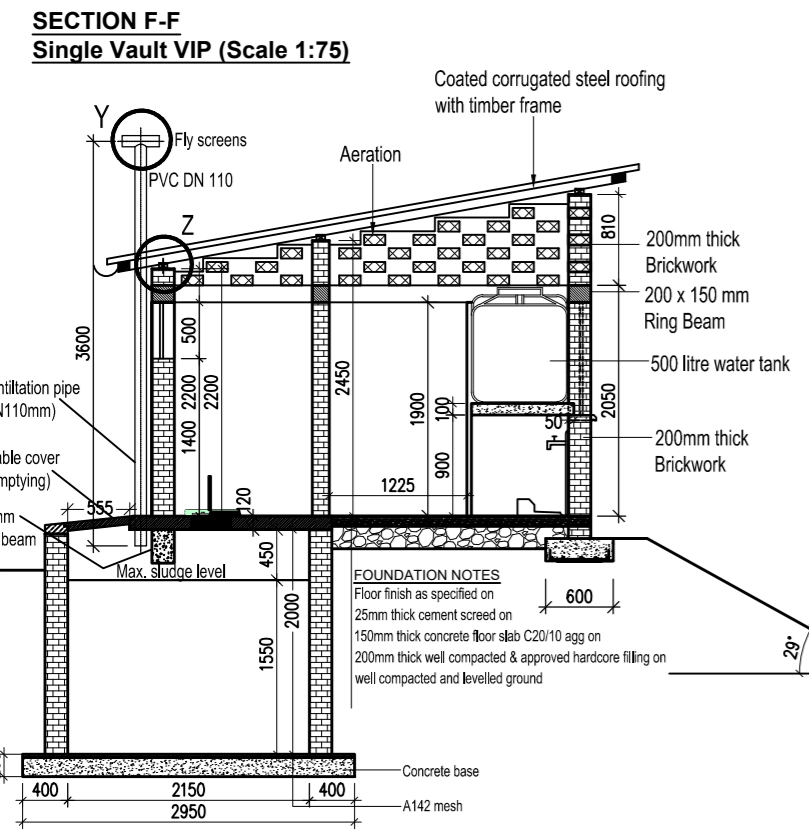
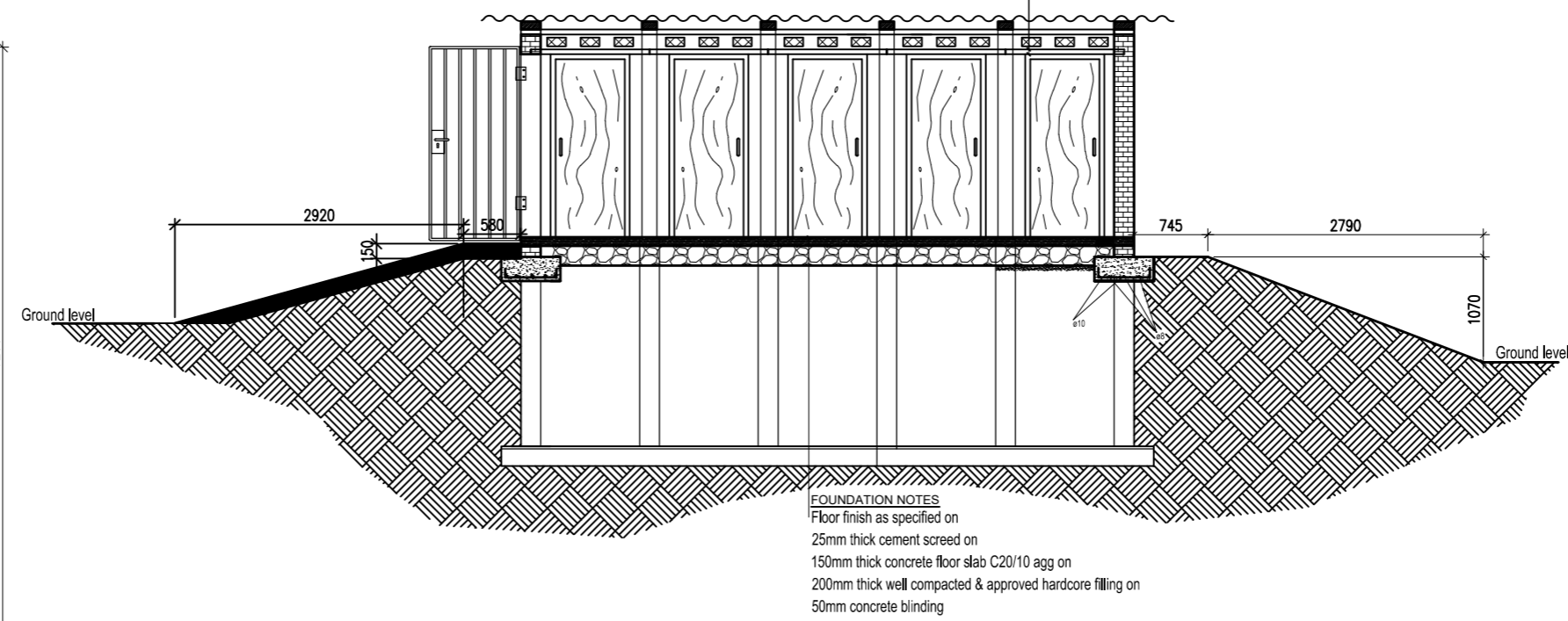
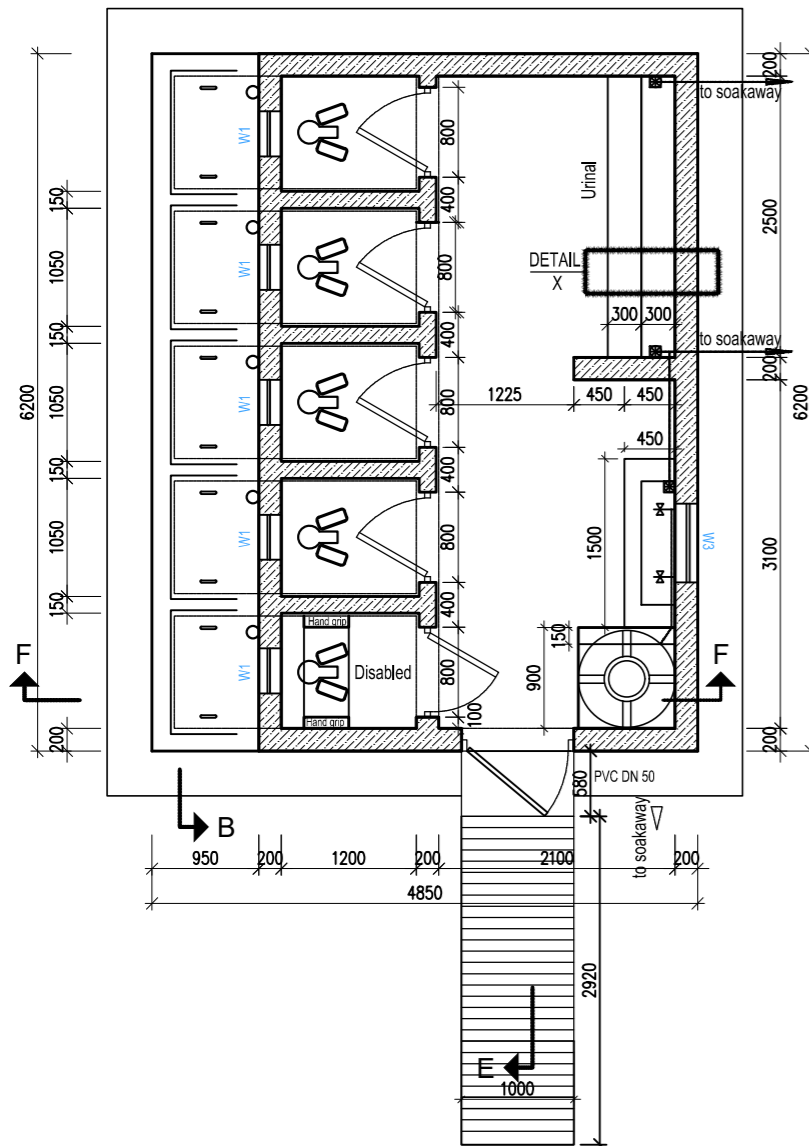


Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:  
**WATER OFFICE BLOCK Elevations**

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
Drg No: MWE/GWE/6.1.4 | Cad file No WSS<22\_11>



AMENDMENTS		
No	Date	Revision
1	9.7.2023	Draft Design

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**LEGEND**



**CLIENT**  
 MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

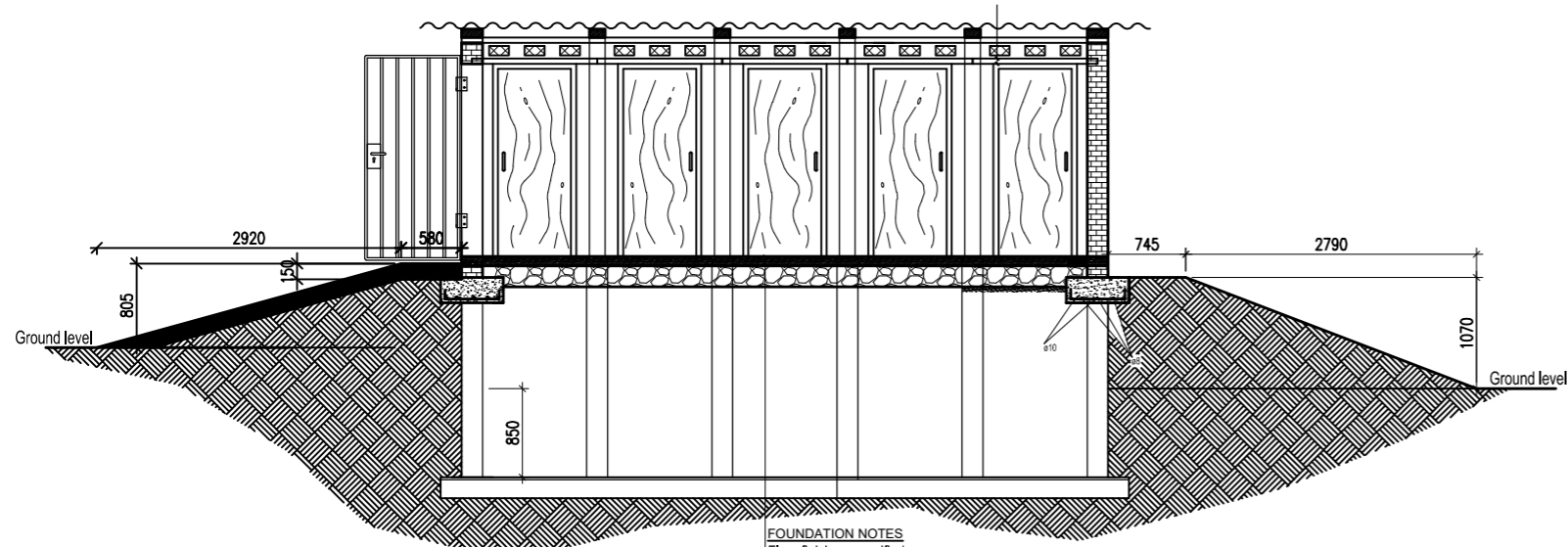
**PROJECT**  
 Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

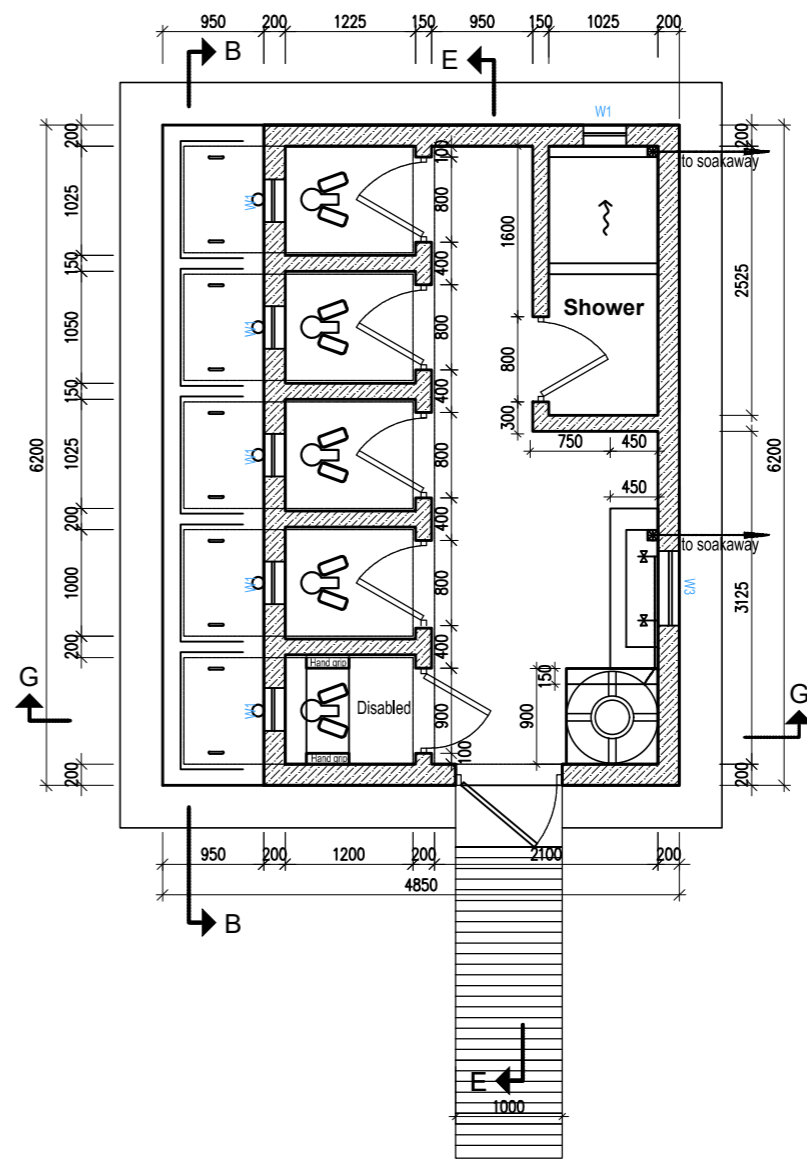
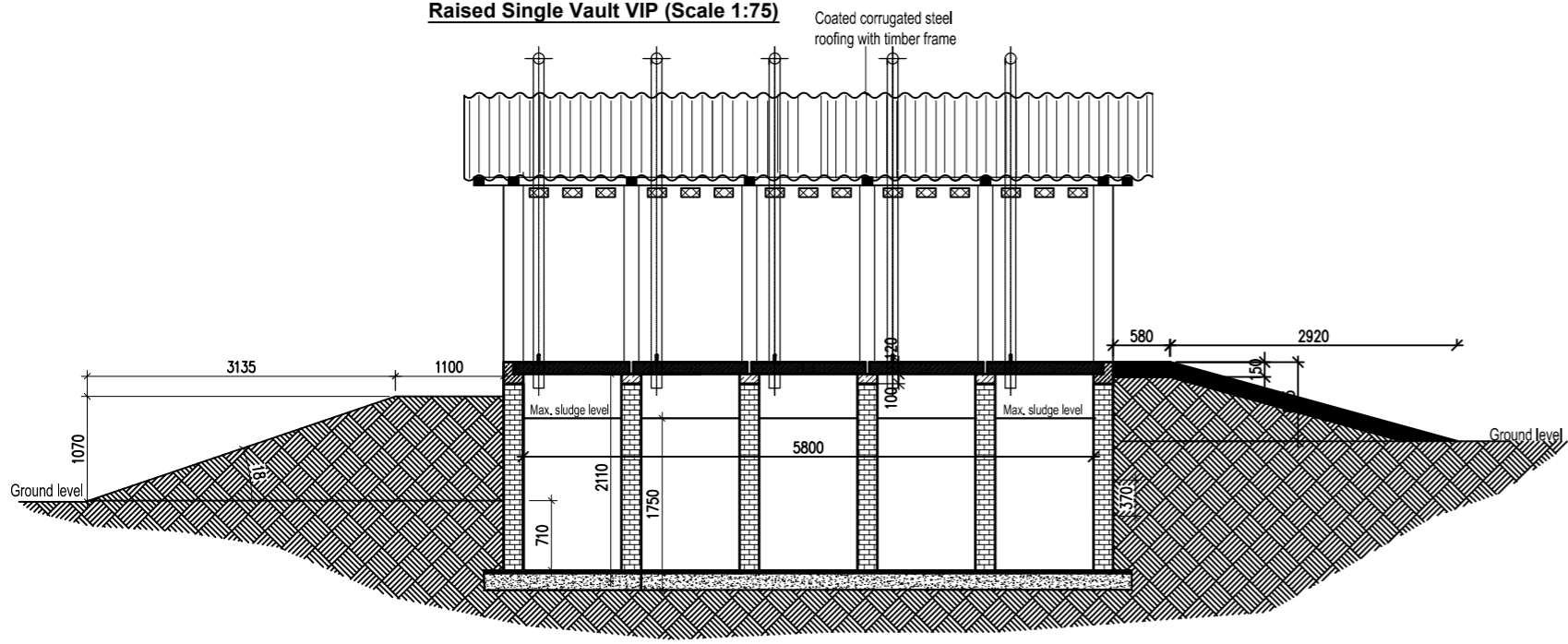
**Drawing Title:**  
 SCHOOL TOILETS - BOYS AND GIRLS  
 Boys Toilet

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel
ENGINEERING DESIGN DRAWING		
<b>Drg No:</b> MWE/GWE/7.1.1	Cad file No WSS<22_11>	

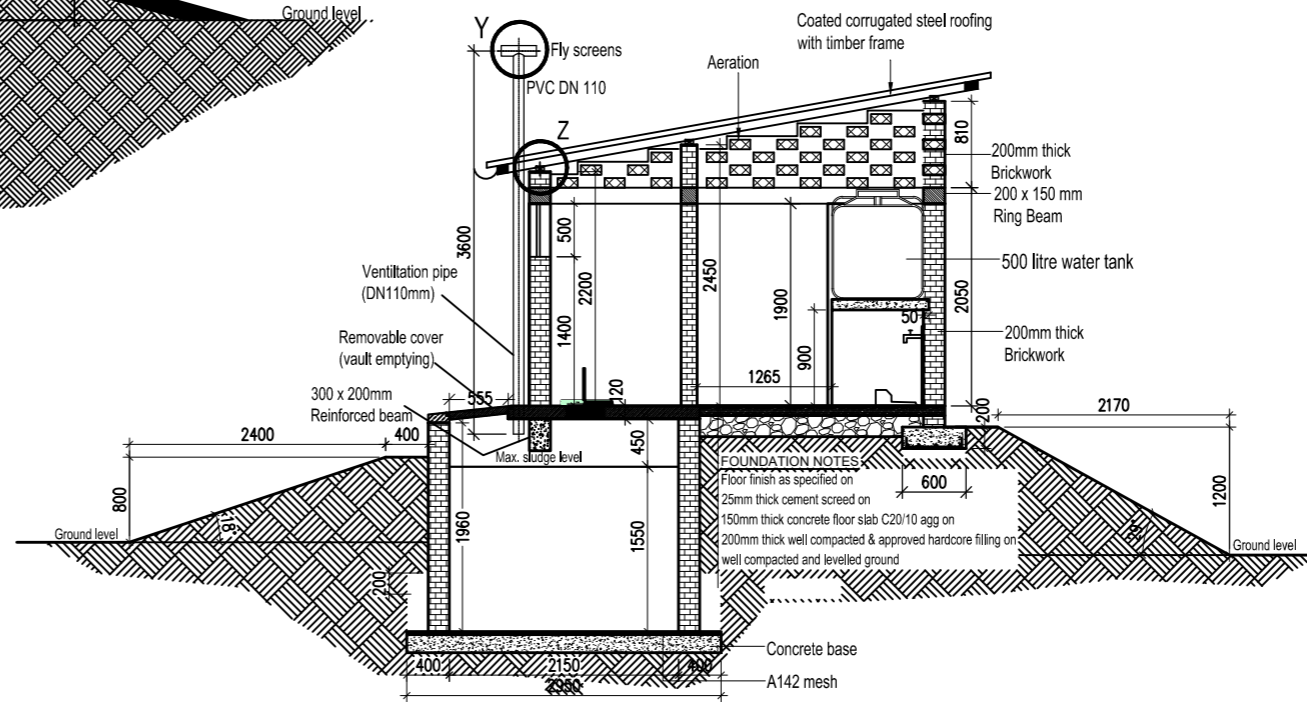


**FOUNDATION NOTES**  
 Floor finish as specified on  
 25mm thick cement screed on  
 150mm thick concrete floor slab C20/10 agg on  
 200mm thick well compacted & approved hardcore filling on  
 50mm concrete blinding

**SECTION B-B**  
 Raised Single Vault VIP (Scale 1:75)



**SECTION G-G**  
 Raised Single Vault VIP (Scale 1:75)



AMENDMENTS		
No	Date	Revision
1	9.7.2023	Draft Design

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**LEGEND**


CO-FINANCE BY:

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MINISTRY OF WATER AND ENVIRONMENT  
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 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

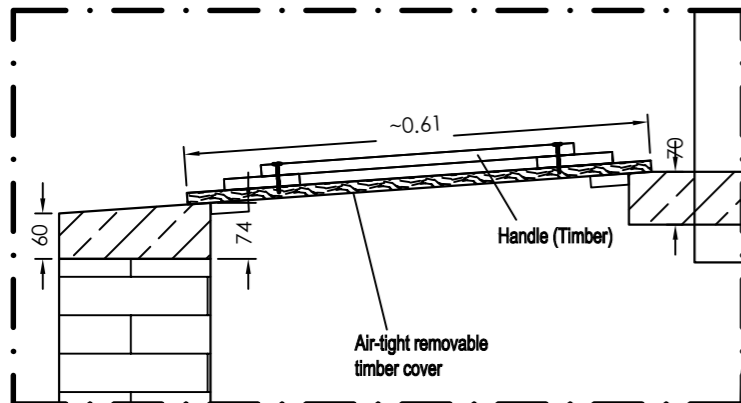
**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**

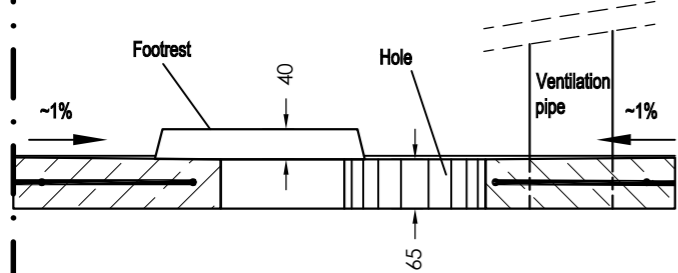
SCHOOL TOILETS - BOYS AND GIRLS  
 Girls Toilet

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

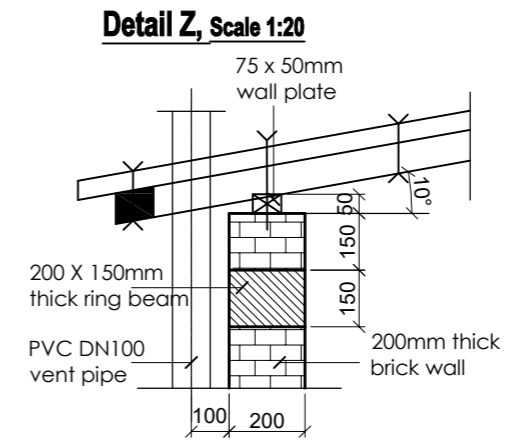
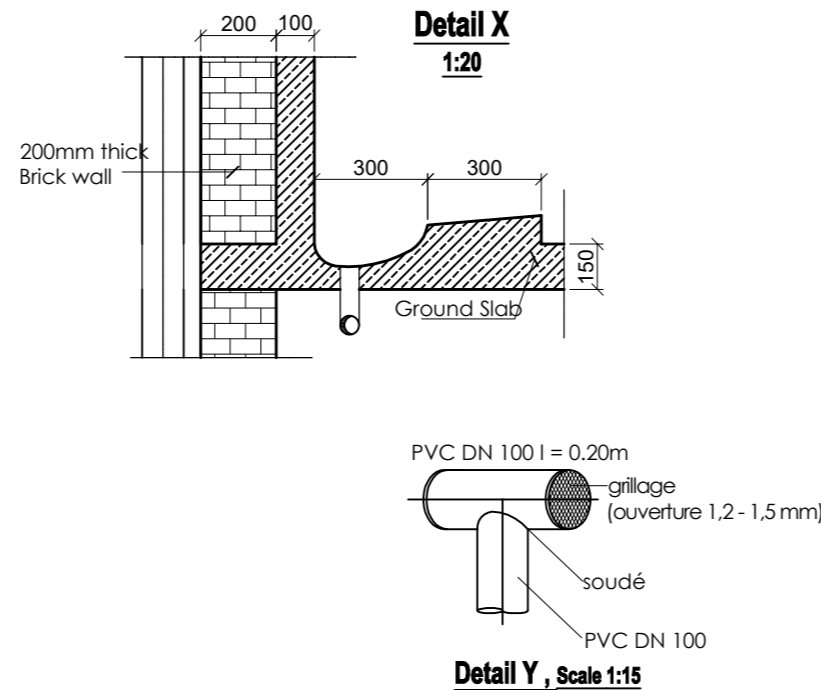
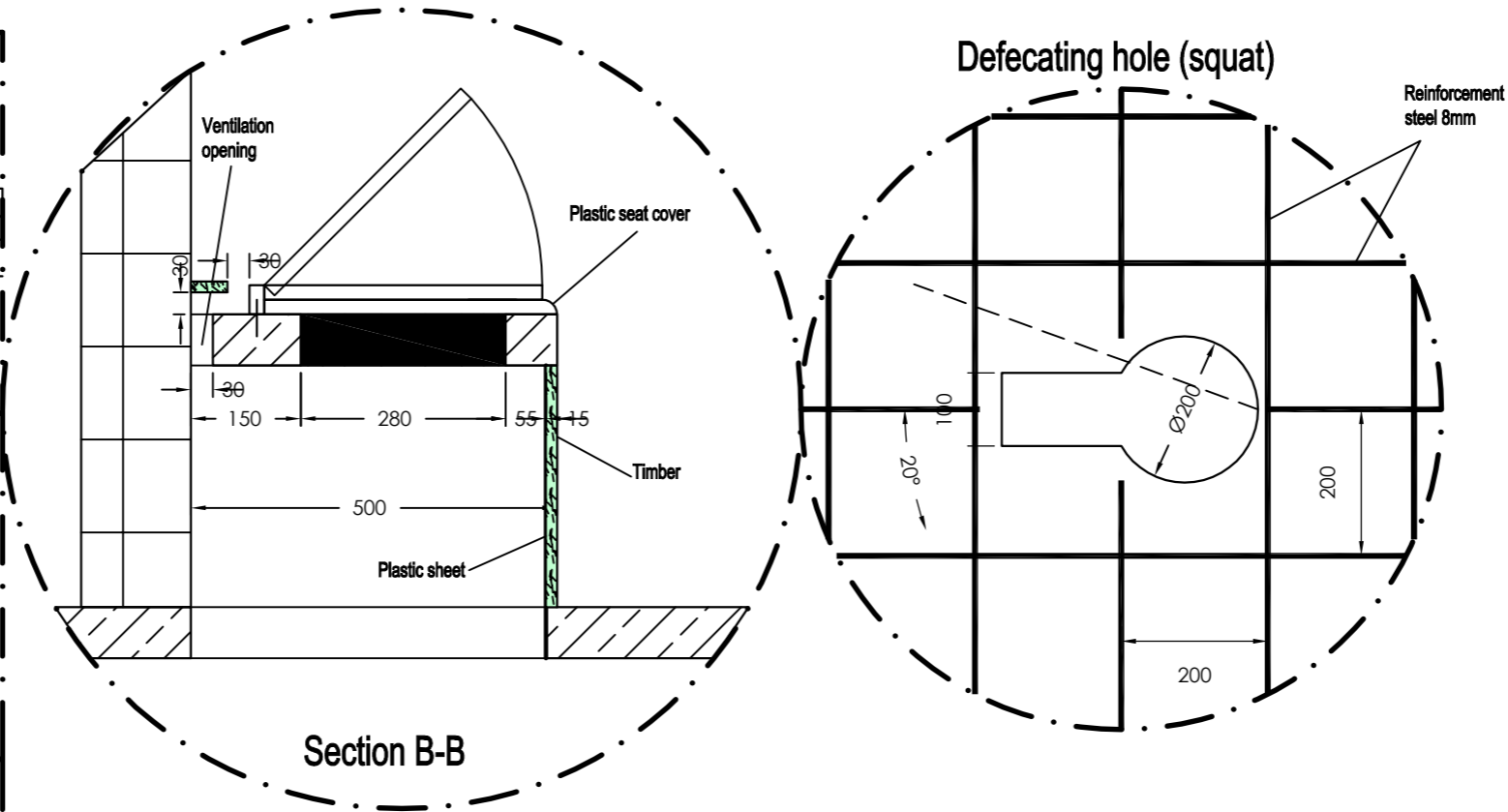
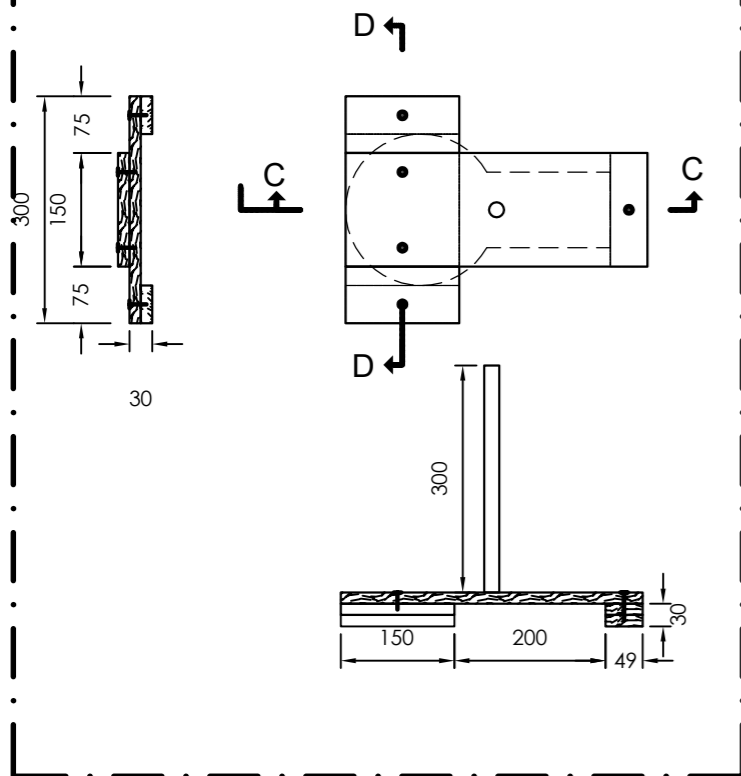
**Detail  
Removable vault cover**



**Defecating hole (squat)**



**Detail  
Removable lid cover (squat)**



AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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**LEGEND**

CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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PROJECT

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**- LOT 1 - MADI OKOLLO, TEREKO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

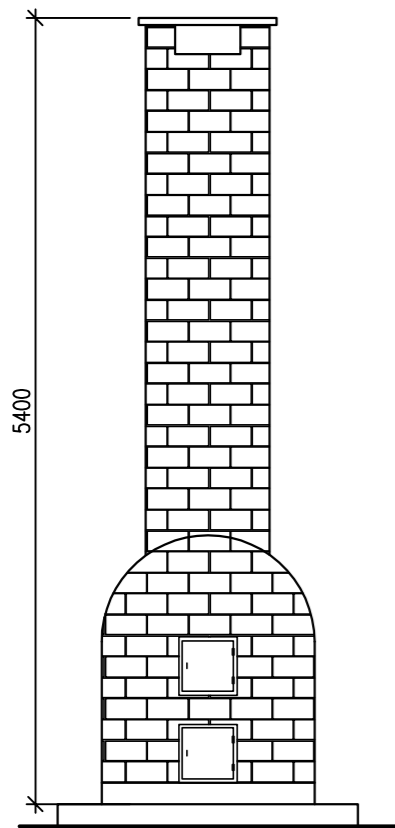
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:

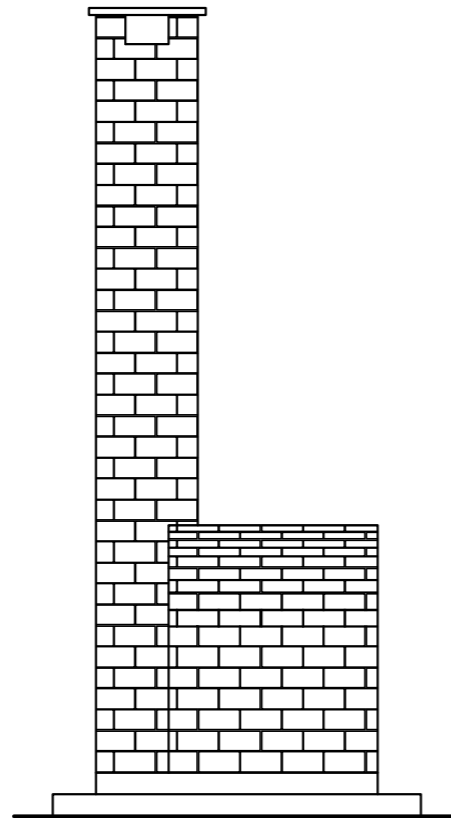
SCHOOL TOILETS - BOYS AND GIRLS  
Toilets-Details

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

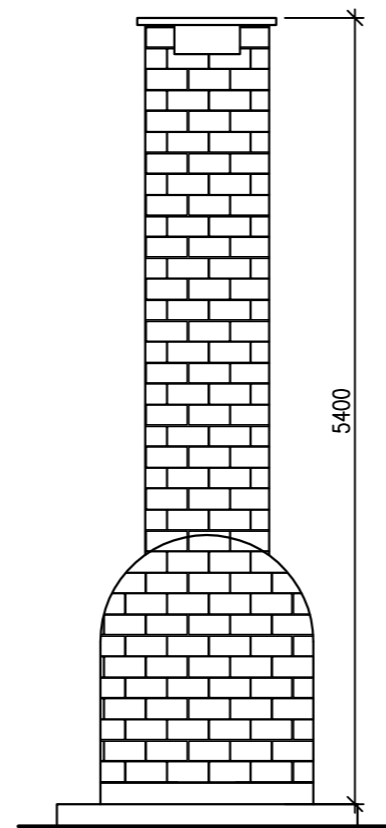




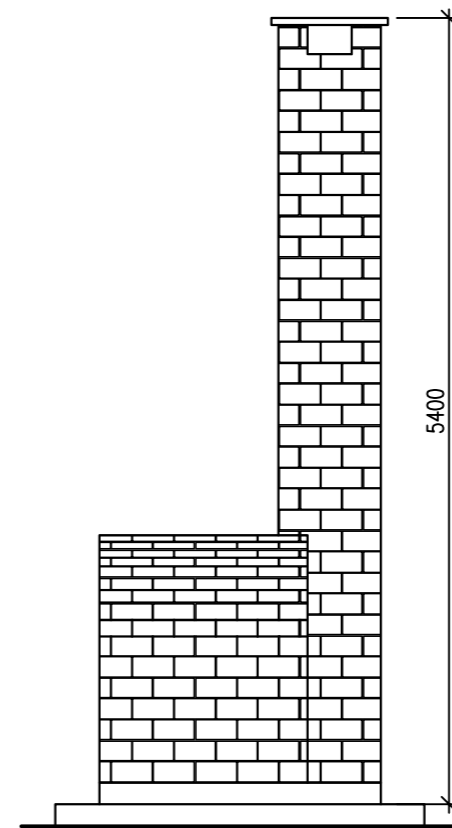
**SECTION A**



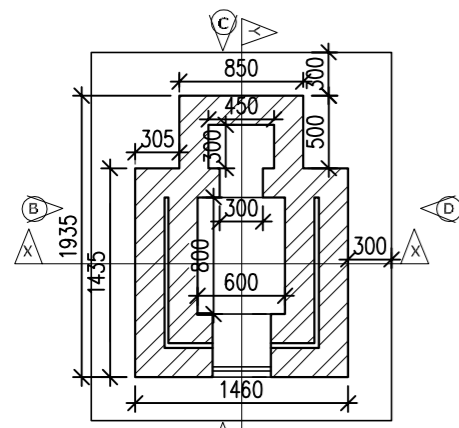
**SECTION B**



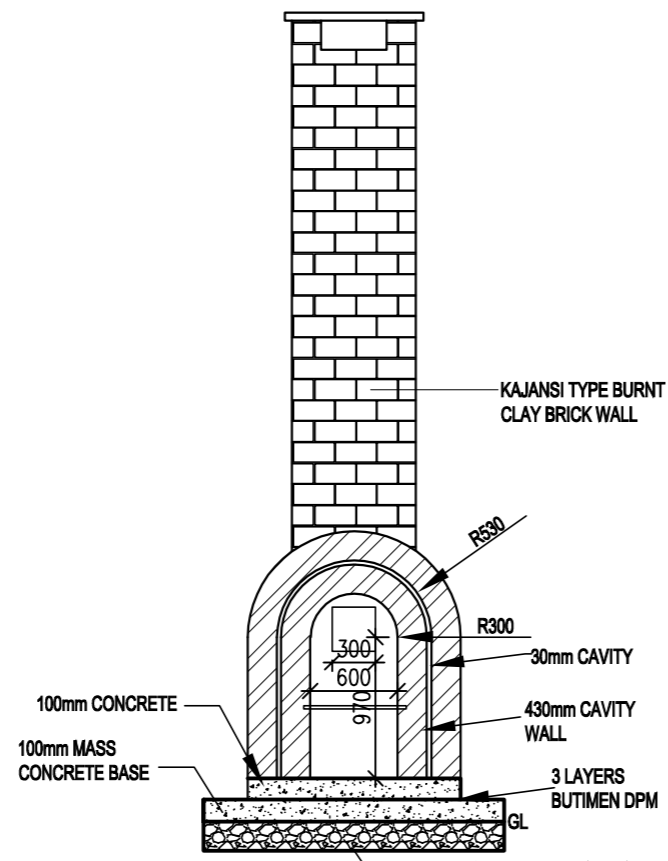
**SECTION C**



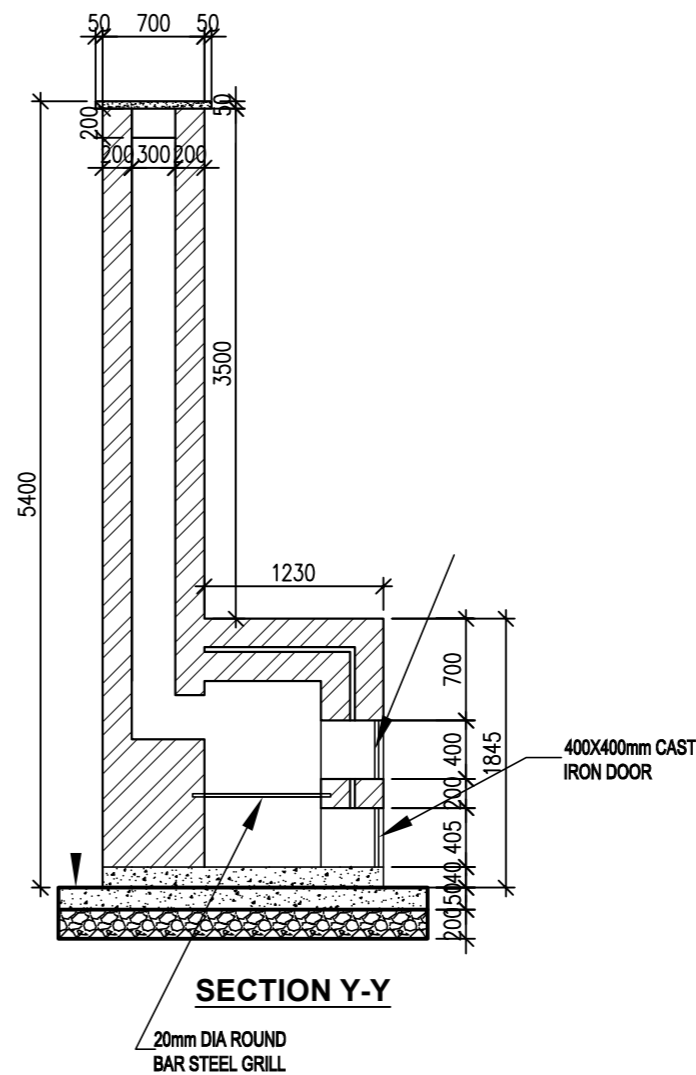
**SECTION D**



**PLAN**



**SECTION X-X**



**SECTION Y-Y**

**AMENDMENTS**

No	Date	Revision
1	7.8.2023	Draft Design

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**LEGEND**

**CO-FINANCE BY:**



**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
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**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**

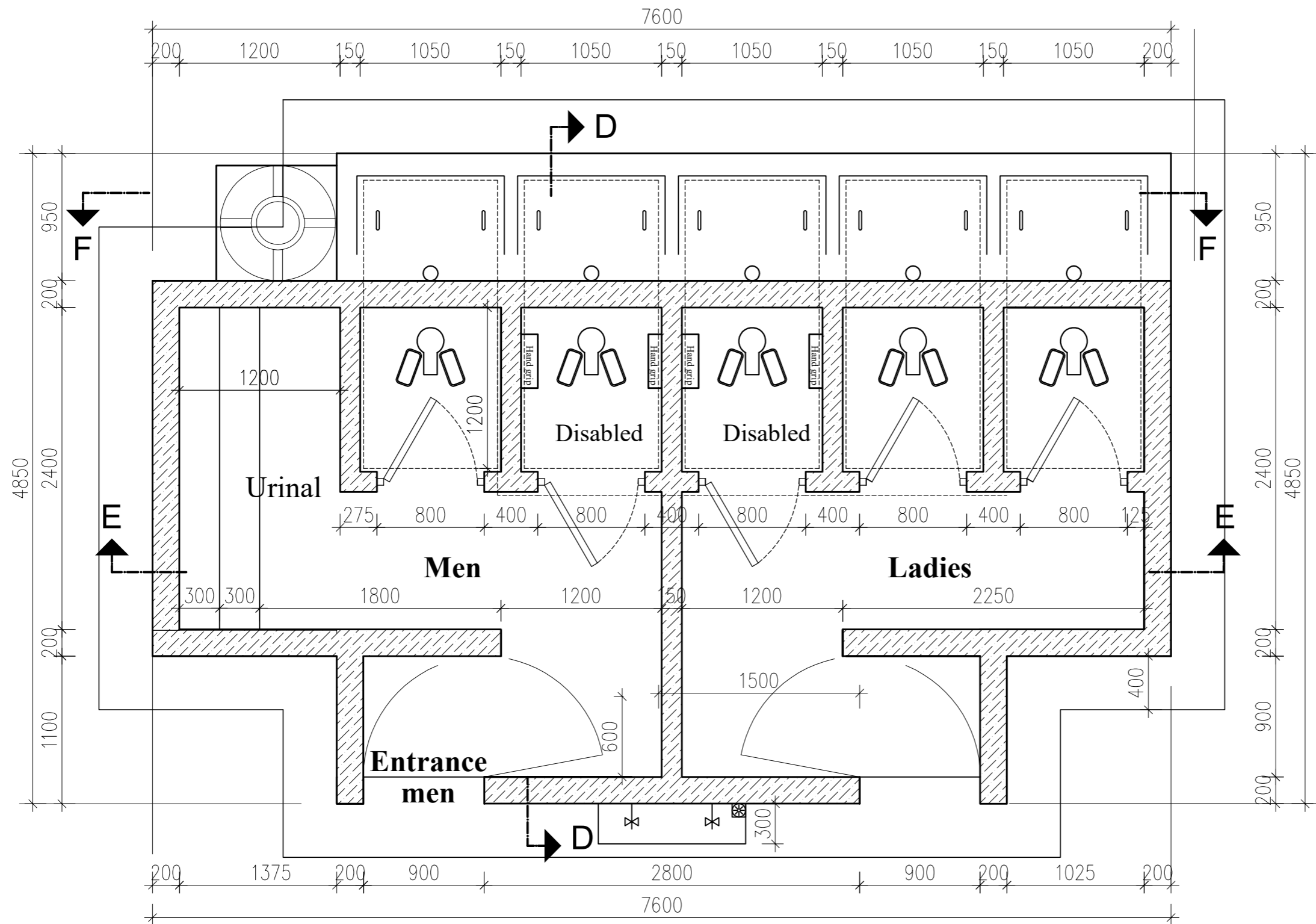
SCHOOL TOILETS - BOYS AND GIRLS  
 Incinerator

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/7.1.4 | Cad file No: WSS<22\_11>

**6 STANCE Single Vault VIP Design (Scale 1:50)**



**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

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**LEGEND**


**CO-FINANCE BY:**



**CLIENT**

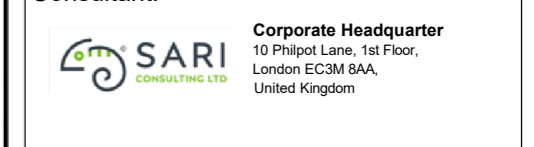
MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**



**Drawing Title:**

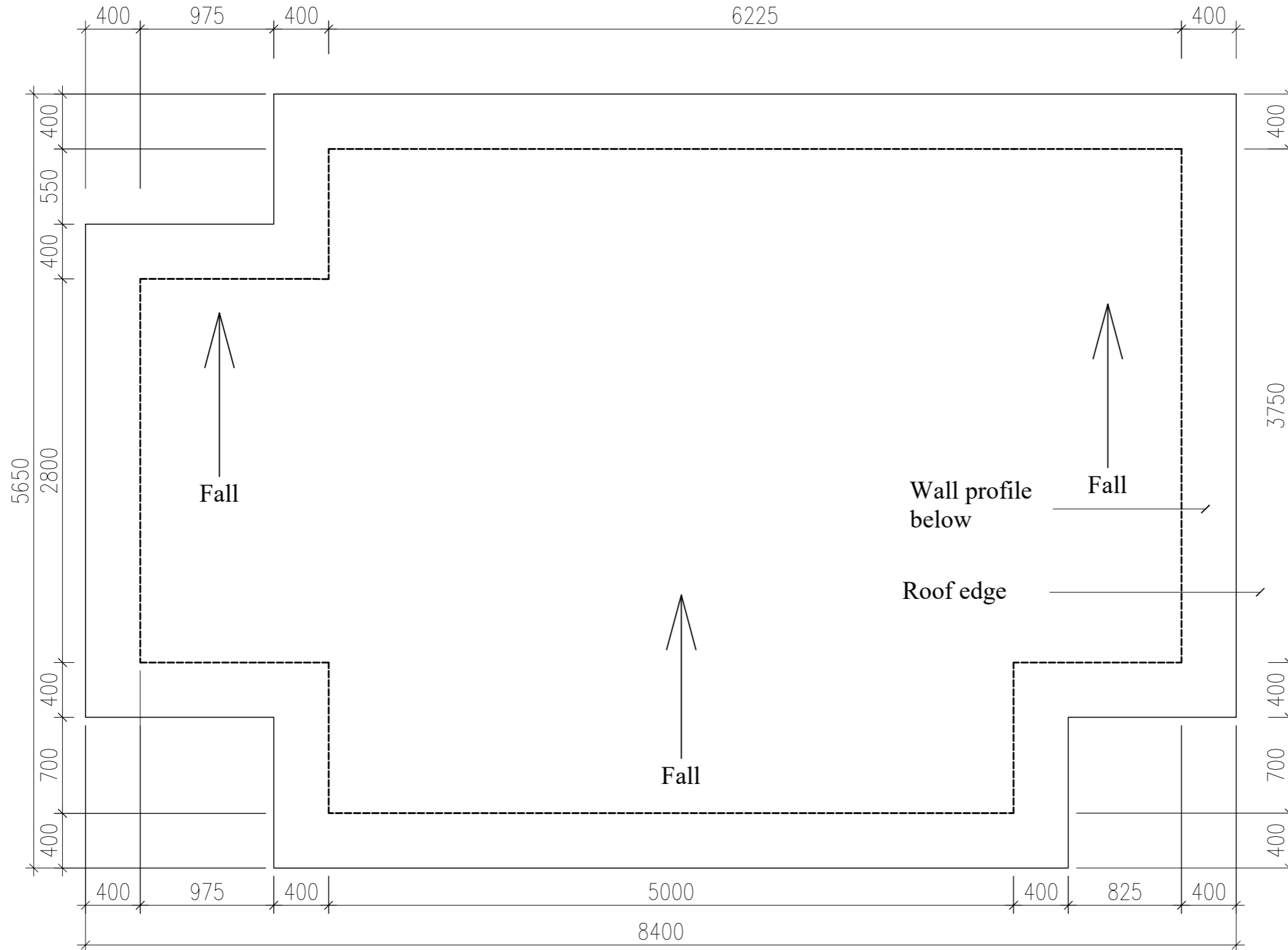
6 STANCED VIP PUBLIC TOILET  
Ground Floor Plan

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Nov-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/7.2.1 | Cad file No WSS<22\_11>

**ROOF PLAN -6 STANCE**  
**Single Vault Design (Scale 1:75)**



**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

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**LEGEND**

**CO-FINANCE BY:**



**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**

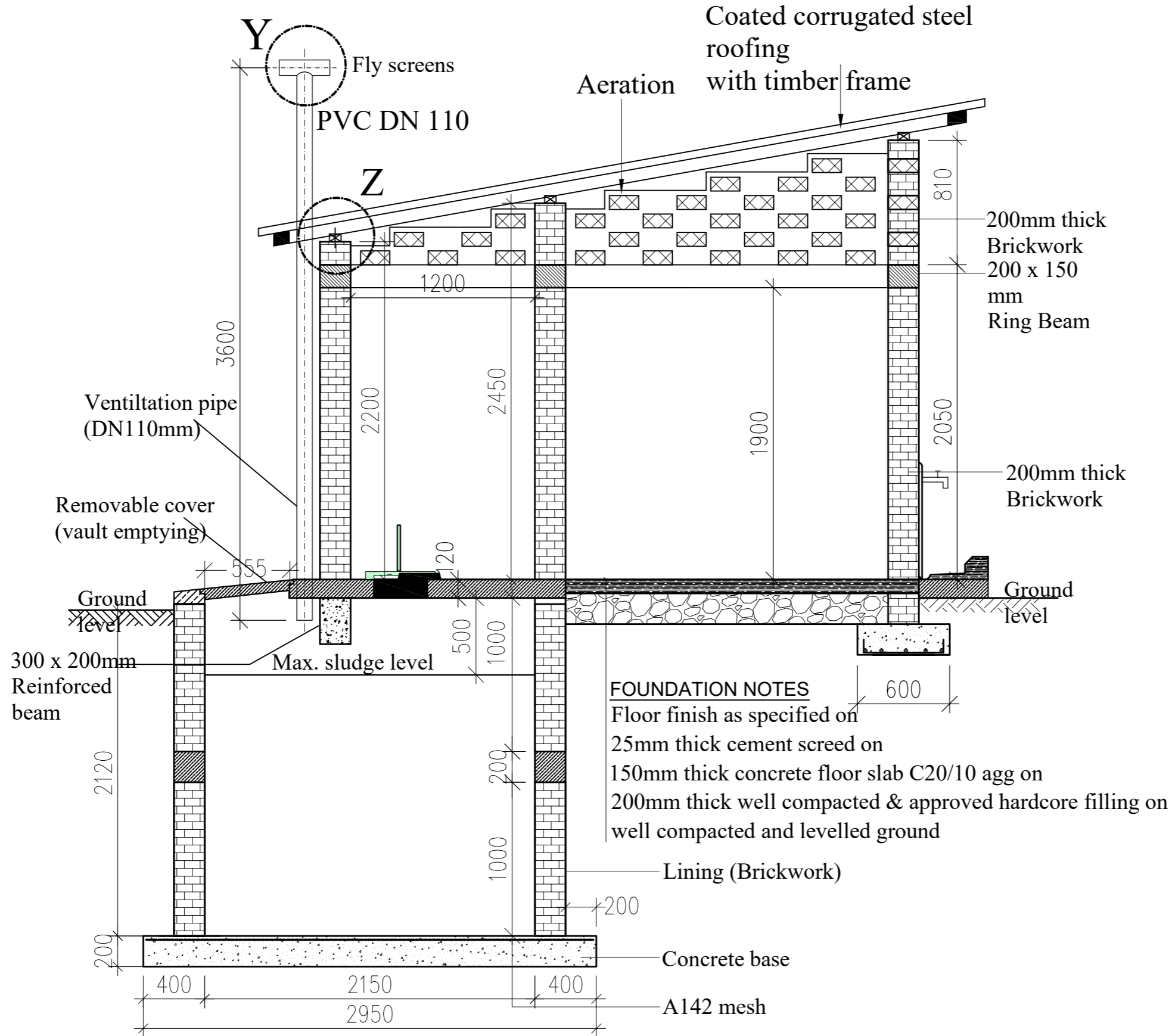
**6 STANCED VIP PUBLIC TOILET**  
 Roof Plan

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Nov-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

**Drg No:** MWE/GWE/7.2.2 | **Cad file No:** WSS<22\_11>

**SECTION D-D**  
**Single Vault VIP (Scale 1:50)**



AMENDMENTS		
No	Date	Revision
1	7.28.2023	Draft Design

- NOTES**
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  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**


CO-FINANCE BY:

**CLIENT**  
 MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400. Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

**PROJECT**  
 Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

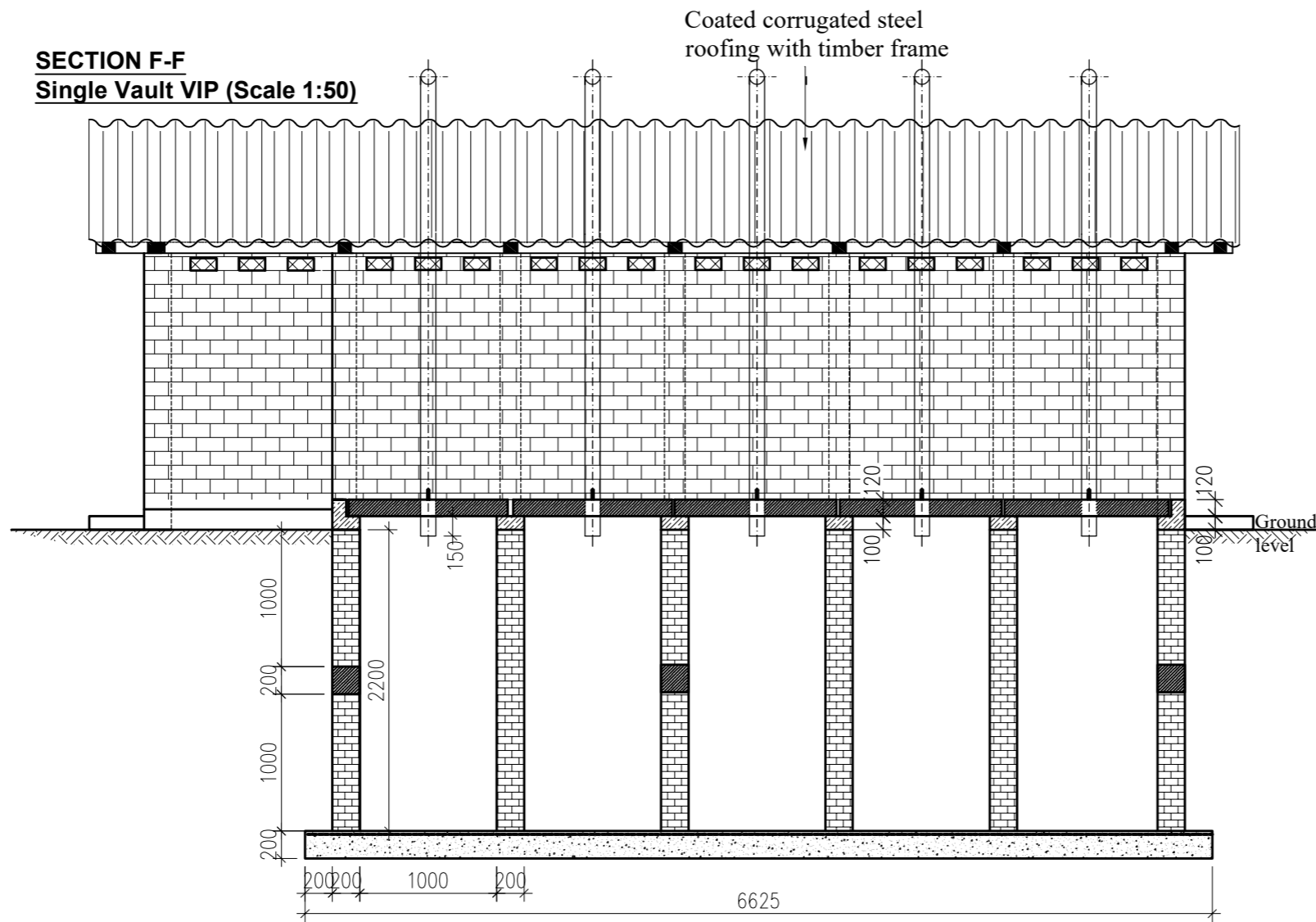
**Consultant:**

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

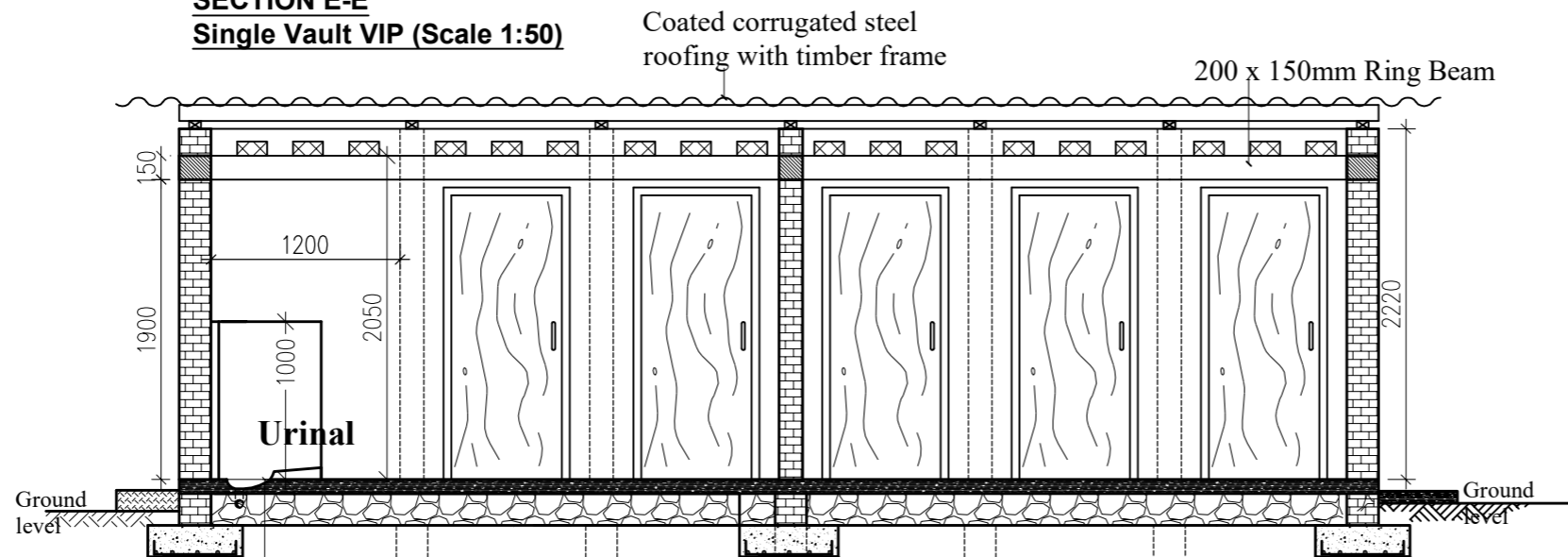
**Drawing Title:**  
 6 STANCED VIP PUBLIC TOILET  
 Section D\_D

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Nov-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

**SECTION F-F  
Single Vault VIP (Scale 1:50)**



**SECTION E-E  
Single Vault VIP (Scale 1:50)**



**FOUNDATION NOTES**

Floor finish as specified on  
 25mm thick cement screed on  
 150mm thick concrete floor slab C20/10 agg on  
 200mm thick well compacted & approved hardcore filling on  
 well compacted and levelled ground

**AMENDMENTS**

No	Date	Revision
1	7.28.2023	Draft Design

**NOTES**

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4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

**CO-FINANCE BY:**



**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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 Website: www.mwe.go.ug

**PROJECT**

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**



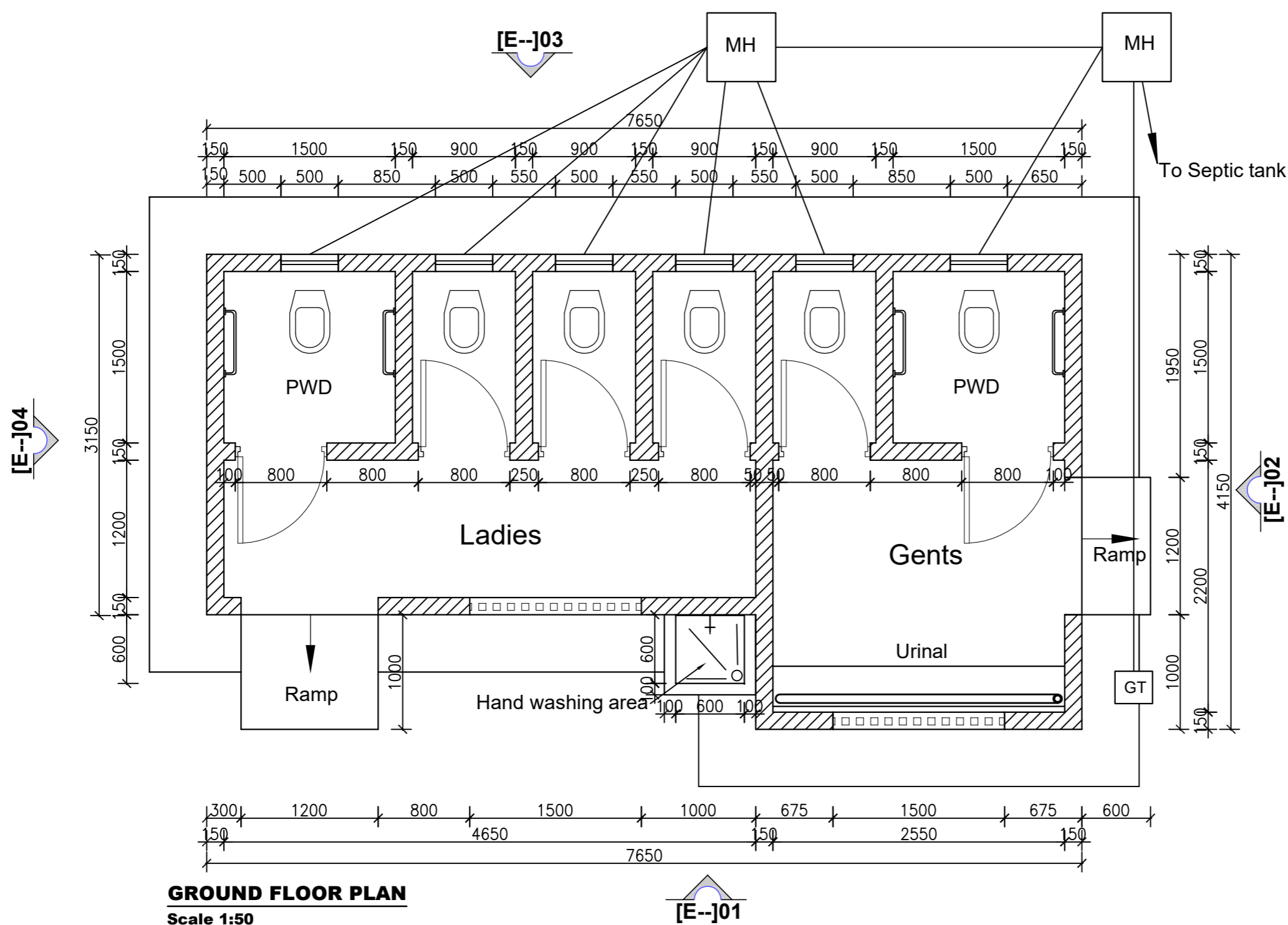
**Drawing Title:**

6 STANCED VIP PUBLIC TOILET  
 Section E\_E and Section F\_F

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Nov-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/7.2.4 | Cad file No WSS<22\_11>



**GROUND FLOOR PLAN**  
Scale 1:50

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

- NOTES**
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  4. For Node details, see Dwg. MWE/GWE/5.0.0
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**LEGEND**



CLIENT  
**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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 Website: www.mwe.go.ug

PROJECT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
**6 STANCES WATERBORNE PUBLIC TOILET**  
 Ground Floor Plan

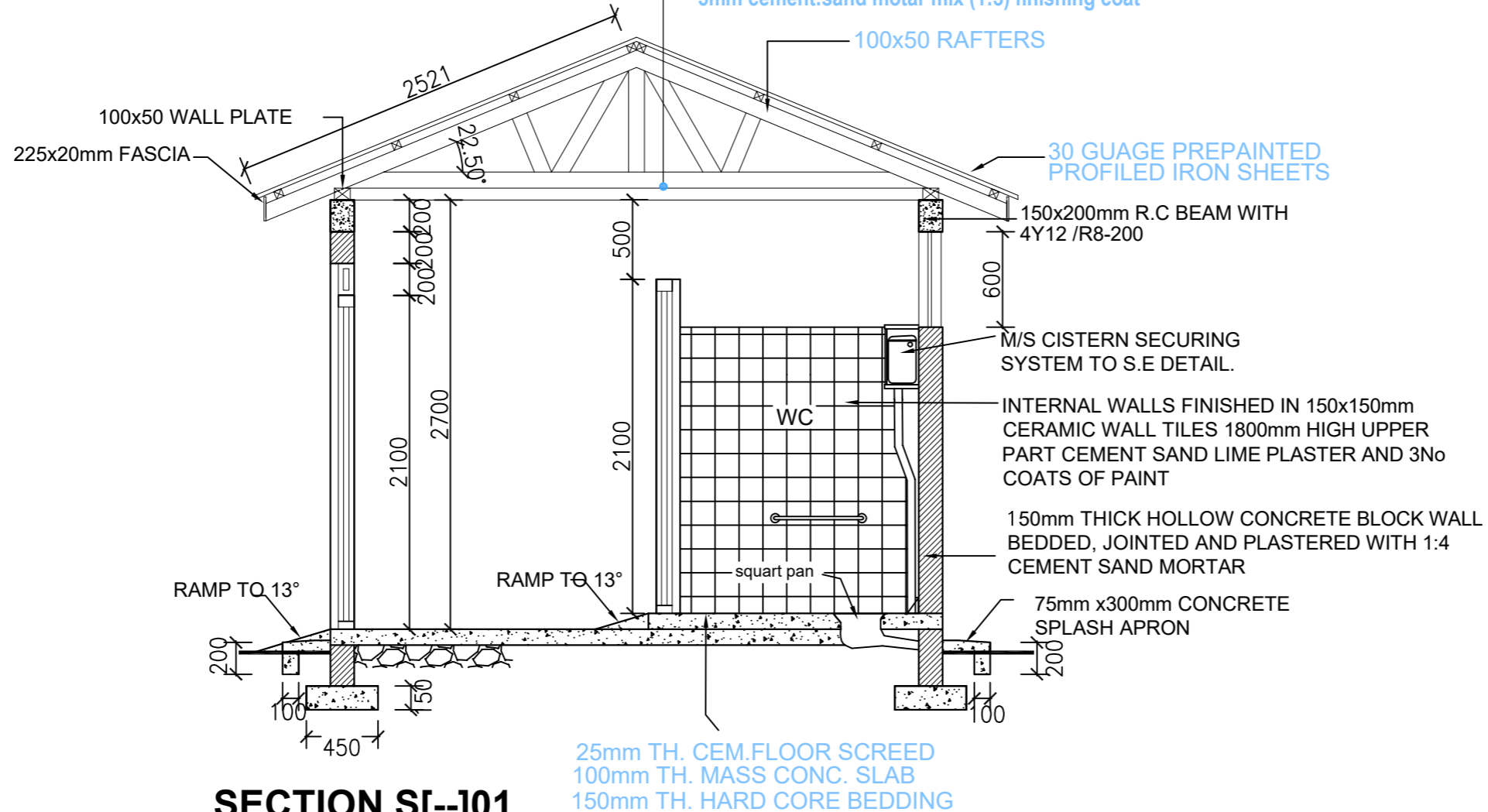
<b>Scale:</b> Dec-2022	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

**ROOF NOTES**

Roof pitch 25°  
 Pre-painted roofing Sheets on  
 75 x 50mm purlins on  
 150 x 50mm Rafters at 1800mm c/c with  
 150 x 50mm struts and ties on  
 150 x 50mm Tie Beam on  
 150 x 75mm Wall plate  
 Fascia and Barge boards are to be 225 x 25mm

**CEILING NOTES**

100 x 50mm Blanderings & ceiling joist Btn  
 tie beam At 600mm c/c  
 15mm thick cement:sand motar mix (1:3) on  
 Stretched eml  
 5mm cement:sand motar mix (1:3) finishing coat



**SECTION S[--]01**  
**Public Toilet**

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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**LEGEND**

CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

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- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

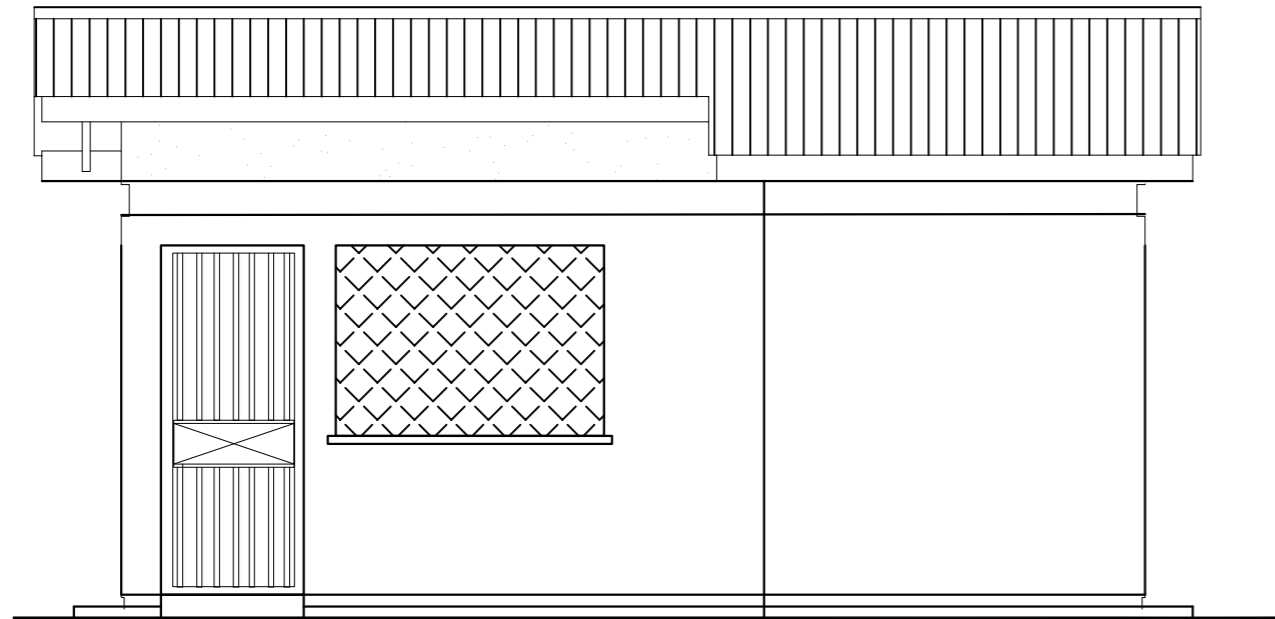
Consultant:

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

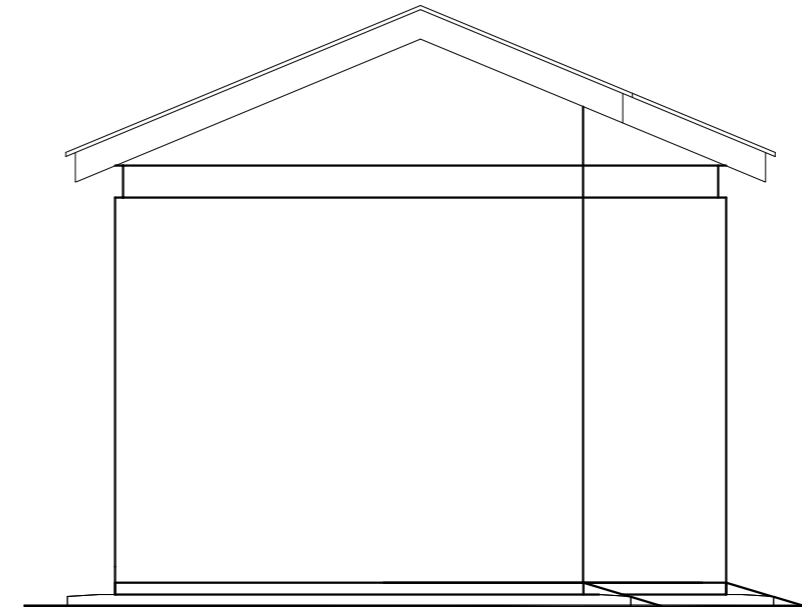
Drawing Title:

6 STANCES WATERBORNE PUBLIC TOILET  
 Section L[S-01]

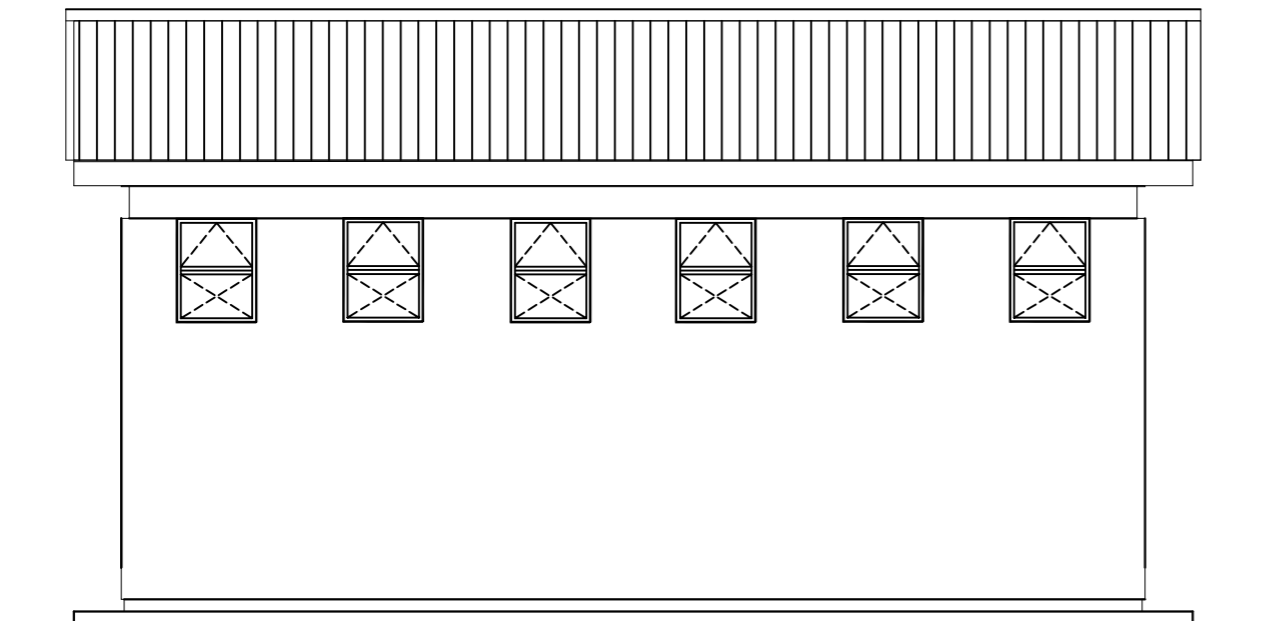
Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel
ENGINEERING DESIGN DRAWING		
Drg No: MWE/GWE/7.3.2	Cad file No WSS<22_11>	



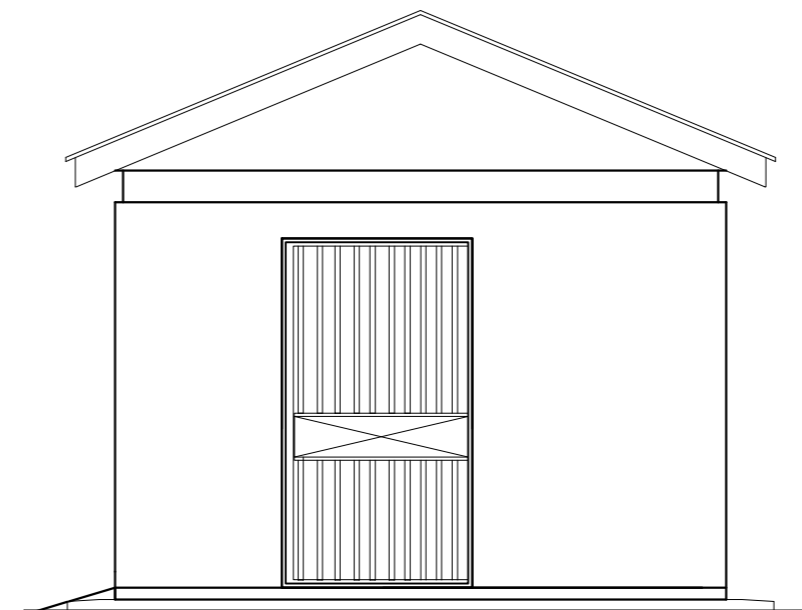
**ELEVATION E[--]01**  
Public Toilet



**ELEVATION E[--]04**  
Public Toilet



**ELEVATION E[--]03**  
Public Toilet



**ELEVATION E[--]02**  
Public Toilet

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

- NOTES**
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**LEGEND**

CO-FINANCE BY:

THE WORLD BANK AND GOVERNMENT OF UGANDA

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD.**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:

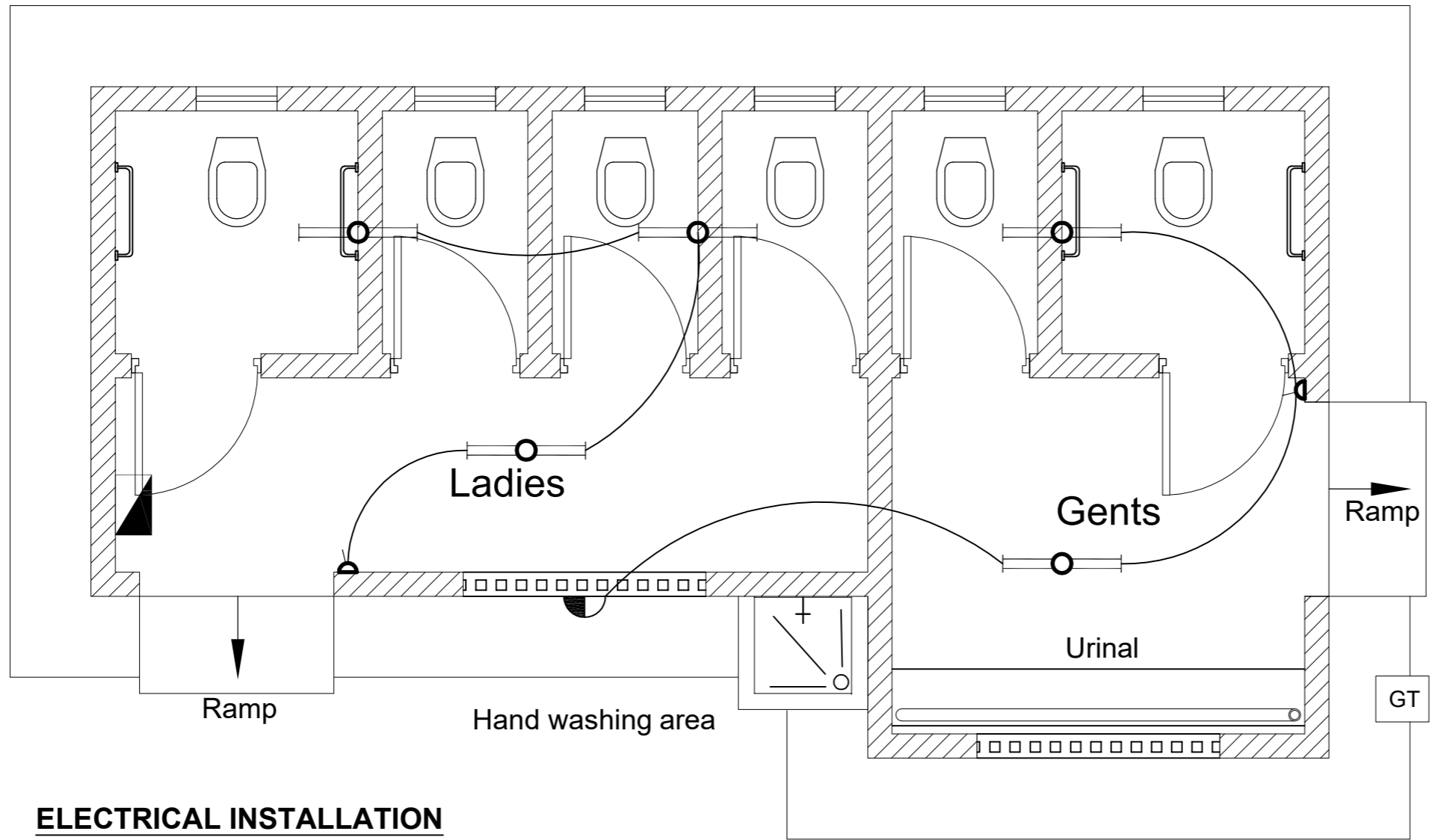
**6 STANCES WATERBORNE PUBLIC TOILET Elevations**

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/7.3.3 | Cad file No WSS<22\_11>





**ELECTRICAL INSTALLATION**  
Public Toilet

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

CO-FINANCE BY:

CLIENT  
 MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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 - LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

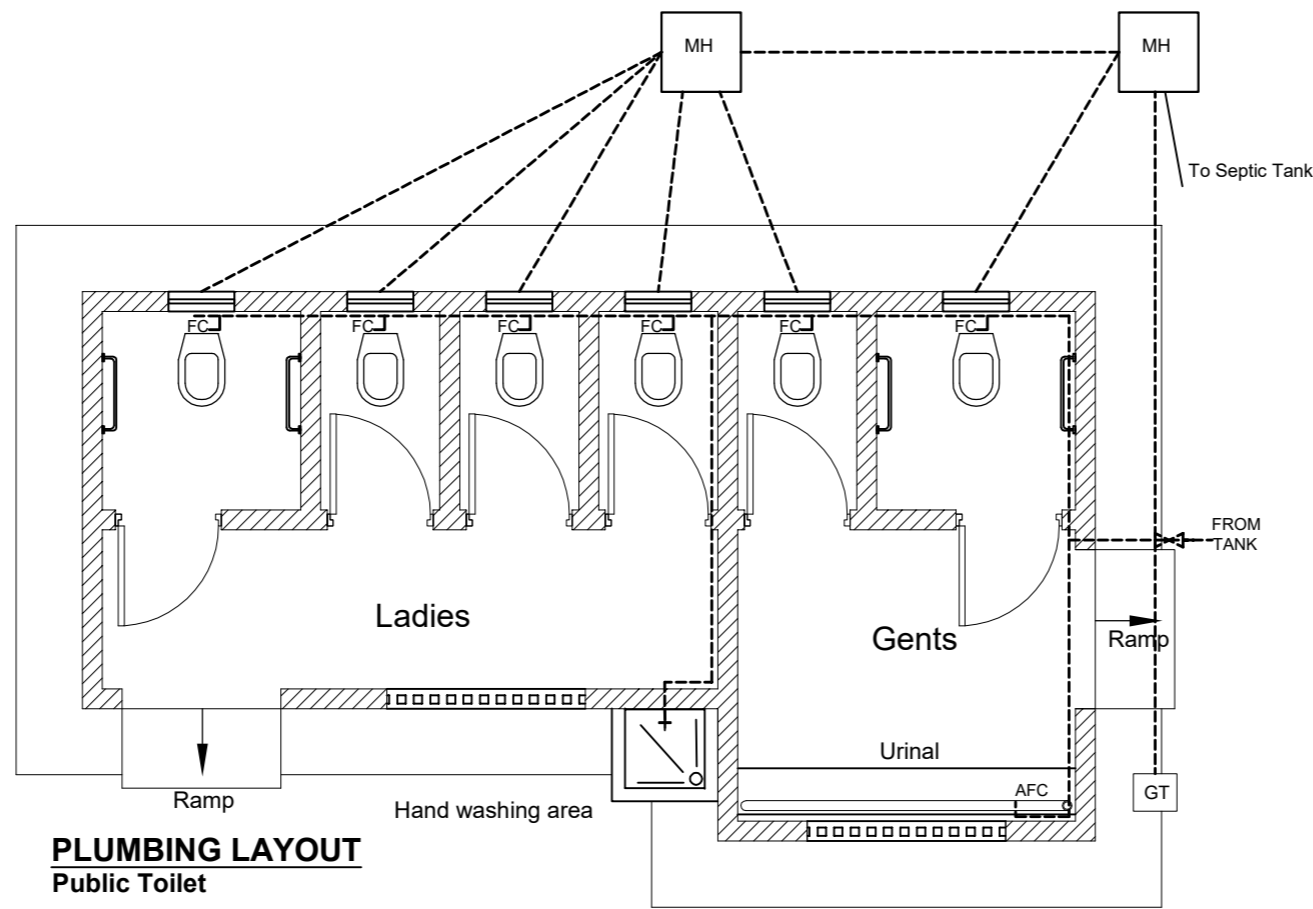
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:  
  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

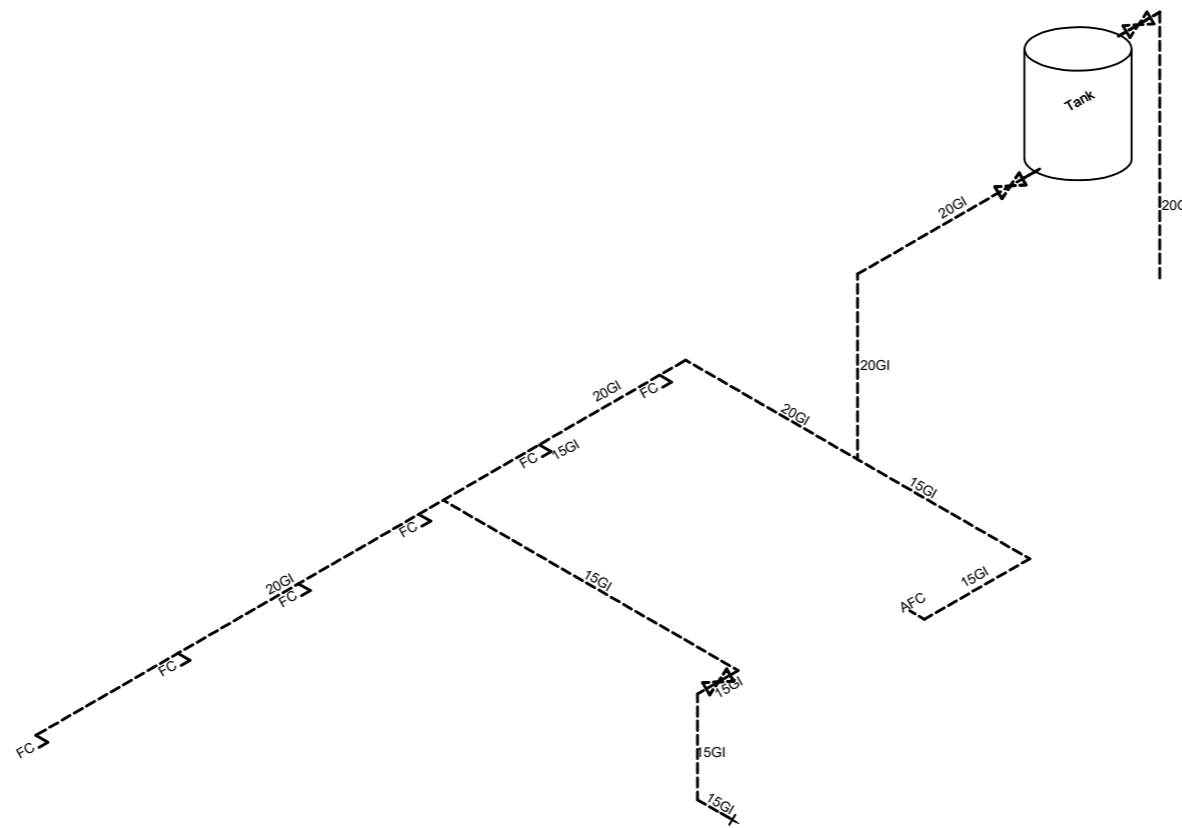
**Drawing Title:**  
 6 STANCES WATERBORNE PUBLIC TOILET  
 Electrical Installation

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/7.3.4 | Cad file No WSS<22\_11>



**PLUMBING LAYOUT**  
Public Toilet



**ISOMETRIC VIEW-WATER PIPE LAYOUT**

AMENDMENTS		
No	Date	Revision
1	7.8.2023	Draft Design

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**LEGEND**


CO-FINANCE BY:

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**MINISTRY OF WATER AND ENVIRONMENT**  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

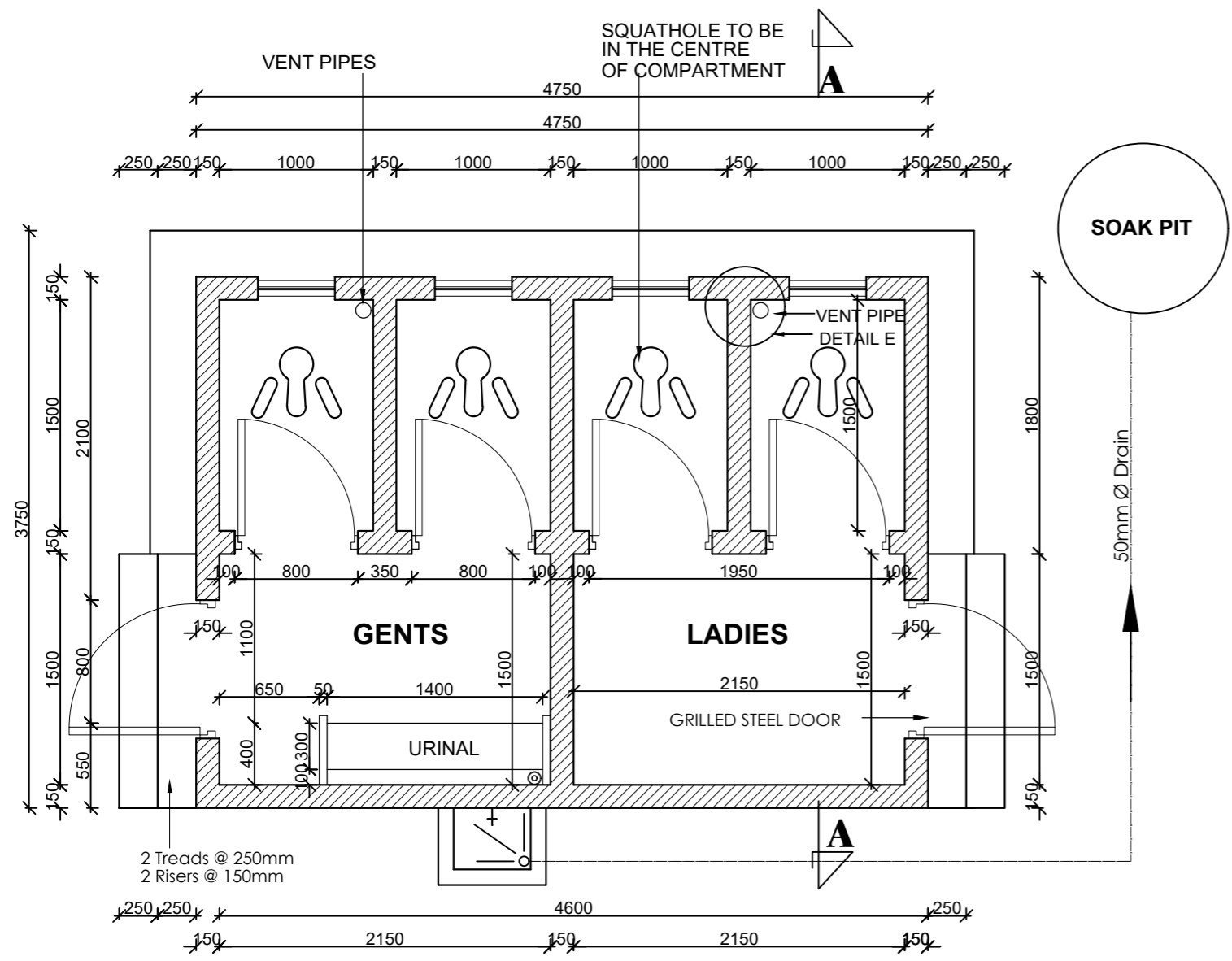
Consultant:

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
 6 STANCES WATERBORNE PUBLIC TOILET  
 Plumbing Layout

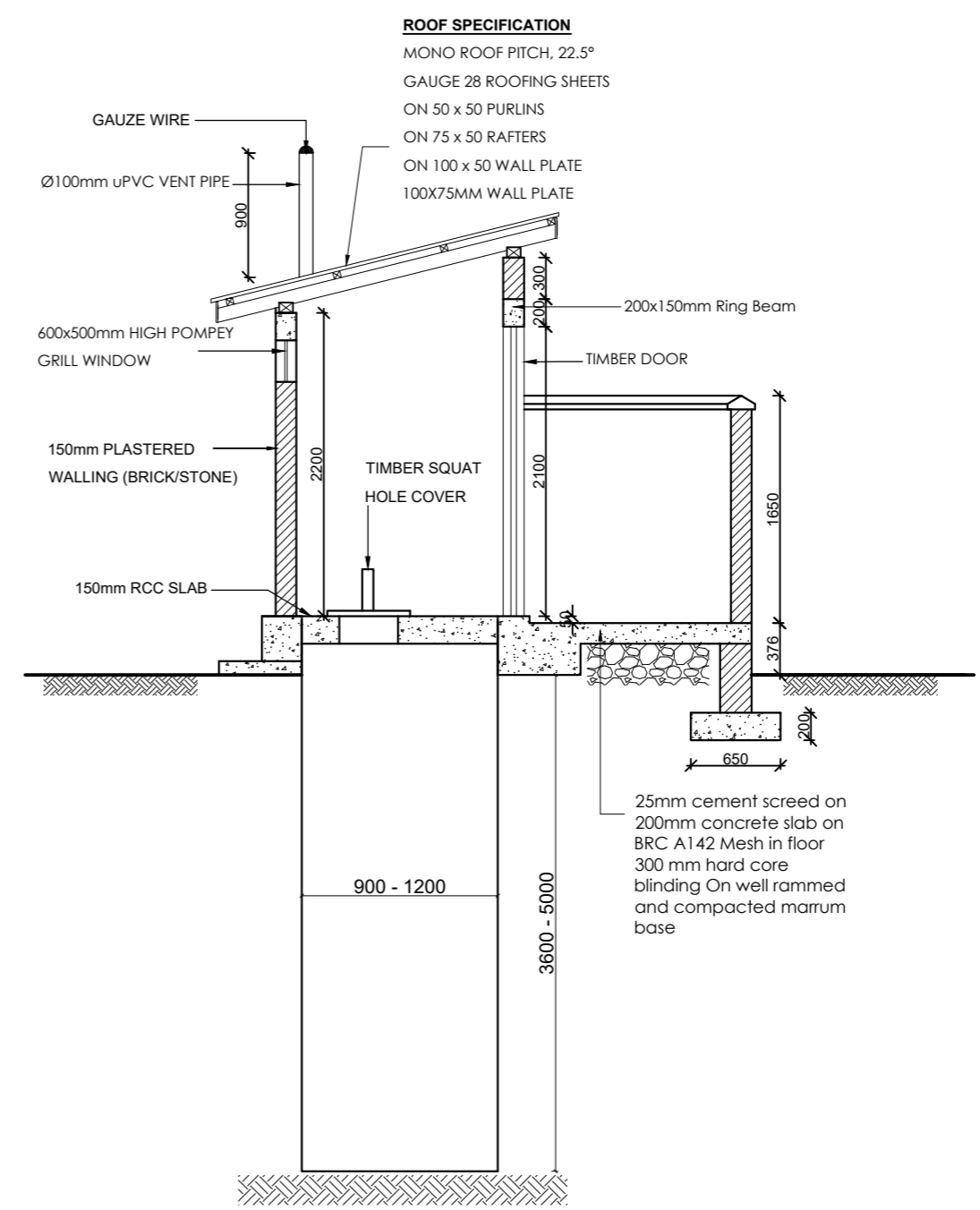
<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/7.3.5 | Cad file No WSS<22\_11>



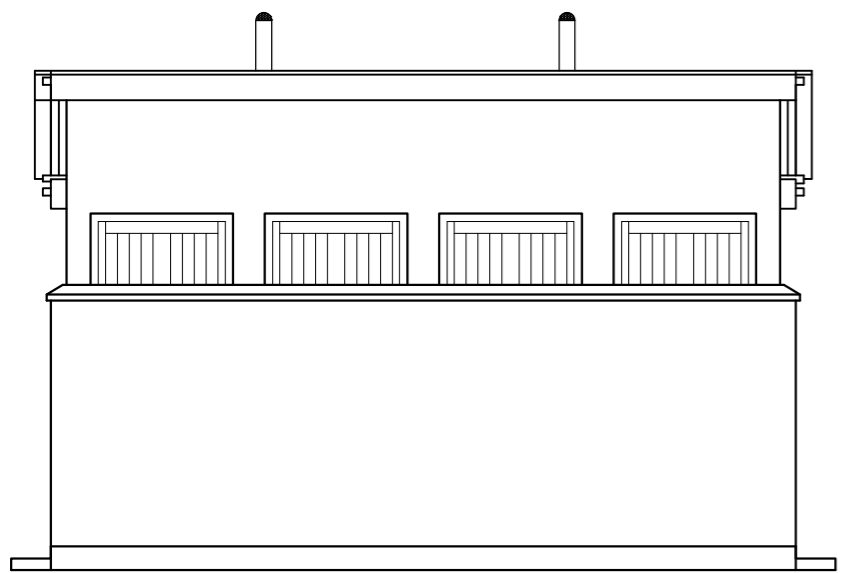
**TYPICAL LAYOUT PLAN**

Scale: 1:50

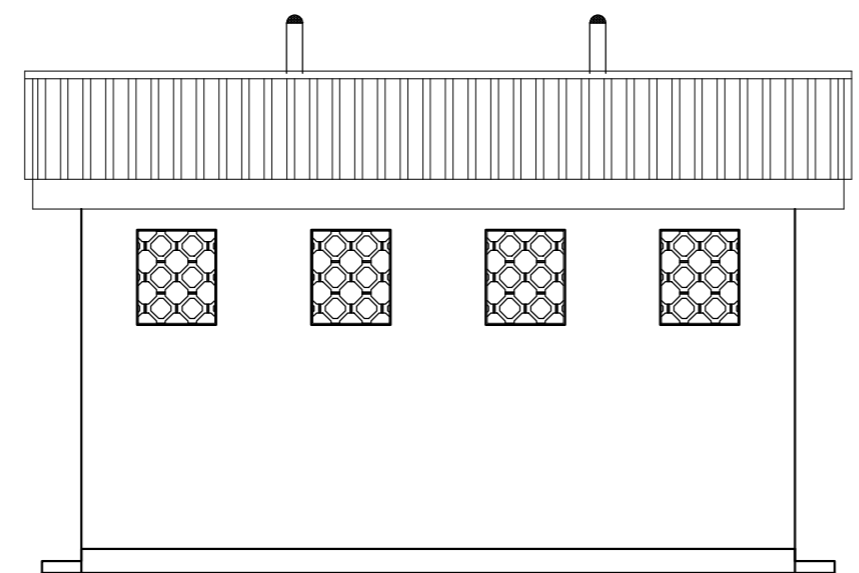


**SECTION A-A**

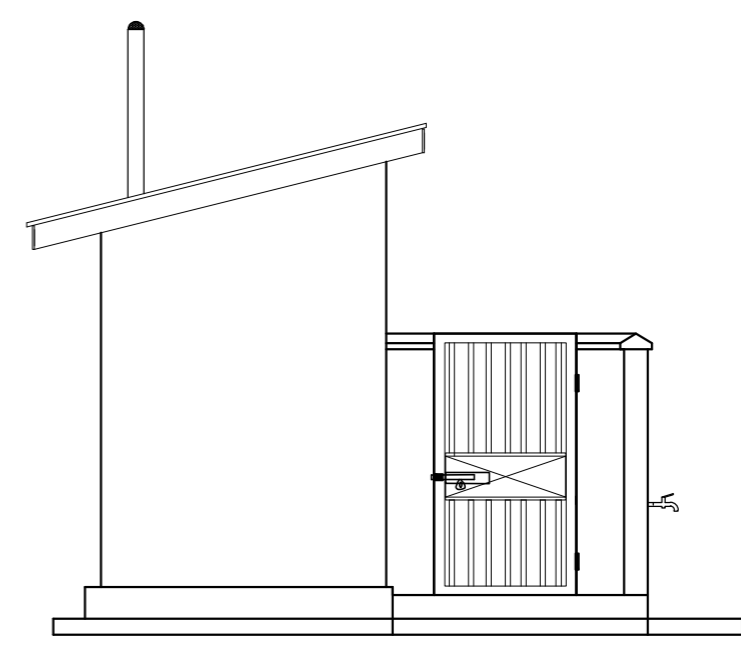
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**FRONT VIEW**



**REAR VIEW**



**END VIEW**

AMENDMENTS		
No	Date	Revision
1	4.5.2024	Draft Design

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  4. For Node details, see Dwg. MWE/GWE/5.0.0
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**LEGEND**

CO-FINANCE BY:

THE WORLD BANK AND GOVERNMENT OF UGANDA

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda

- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:

4-STANCE STAFF TOILET  
PLAN, ELEVATION AND SECTION

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date:	Checked:	O.R Daniel
	Approved:	O.R Daniel

# **STANDARD DRAWINGS**

## GENERAL NOTES FOR STANDARD DETAIL DRAWINGS

1) Unless flexibility is otherwise provided, where pipes enter or leave concrete structures, or anchor blocks, flexible joints are to be provided as shown in standard Detail Nr SD 137 .

2) Anchor block designs are based on the following ground conditions.

Dry soil density:	1800 kg/m <sup>3</sup>
Submerged soil density:	1090 kg/m <sup>3</sup>
Angle of internal friction:	30°
Passive resistance factor:	3

Where considerably better ground conditions, such as rock, are encountered, the dimensions of anchor blocks may be reduced. Supporting calculations for any reduced size anchor blocks must be submitted to the Project Manager 48 hours before construction of the particular anchor block commences and may be concreted only after his approval.

3) Bases and thrust faces of anchor blocks are to be cast against undisturbed ground, or against blinding cast against undisturbed ground.

4) Pipework joints as shown for the water supply details are diagrammatic only.

5) The following notes apply to reinforced concrete chambers.

a) Concrete in walls and base and cover slab

Characteristic strength (N/mm <sup>2</sup> ):	30
Maximum aggregate size (mm):	20
Cement type:	SR
Minimum cement content (kg/m <sup>3</sup> ):	330
Maximum cement content (kg/m <sup>3</sup> ):	400
Maximum free water/cement ratio:	0.47

b) Concrete in blinding

Characteristic strength (N/mm <sup>2</sup> ):	1030
Maximum aggregate size (mm):	40
Cement type:	SR
Minimum cement content (kg/m <sup>3</sup> ):	230

c) Cover to reinforcement 40mm unless positioned centrally

d) Minimum reinforcement lap 300 mm

e) For details of step irons see Standard Detail Nr SD 136

f) Corners of rectangular openings to have T8 bars 500 mm long set diagonally

6) All dimensions are in millimetres unless shown otherwise.

7) Do not scale dimensions from standard Detail drawings.

### AMENDMENTS

No	Date	Revision
1	7.8.2023	Draft Design

### NOTES

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4. For Node details, see Dwg. MWE/GWE/5.0.0
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### LEGEND

--	--

### CO-FINANCE BY:



### CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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### PROJECT

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

### CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM

### Consultant:

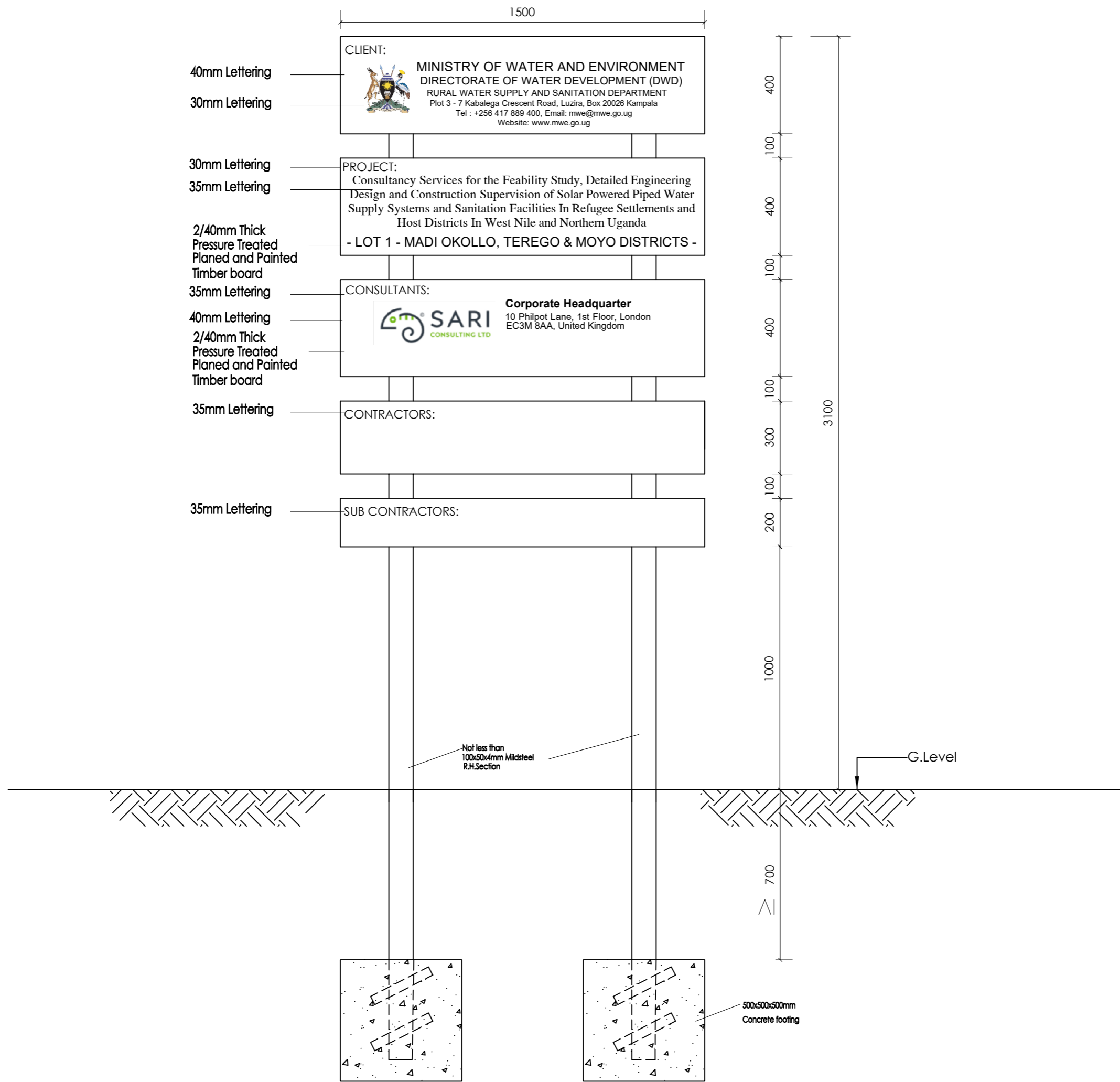


### Drawing Title:

**STANDARD DRAWINGS**  
 General Notes

<b>Scale:</b>	<b>Designed:</b> O.R Daniel	
	<b>Drawn:</b> P.S Eyamu	
<b>Date:</b> Dec-2022	<b>Checked:</b> O.R Daniel	
	<b>Approved:</b> O.R Daniel	

ENGINEERING DESIGN DRAWING  
**Drg No:** MWE/GWE/SD100 **Cad file No:** WSS<22\_11>



40mm Lettering

30mm Lettering

30mm Lettering

35mm Lettering

2/40mm Thick Pressure Treated Planed and Painted Timber board

35mm Lettering

40mm Lettering

2/40mm Thick Pressure Treated Planed and Painted Timber board

35mm Lettering

35mm Lettering

CLIENT:



**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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PROJECT:

Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREKO & MOYO DISTRICTS -**

CONSULTANTS:



**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor, London  
 EC3M 8AA, United Kingdom

CONTRACTORS:

SUB CONTRACTORS:

Not less than 100x50x4mm Mildsteel R.H.Section

G.Level

500x500x500mm Concrete footing

AMENDMENTS		
No	Date	Revision
1	7.7.2023	Draft Design

- NOTES**
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  4. For Node details, see Dwg. MWE/GWE/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

--

CO-FINANCE BY:

CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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PROJECT

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**- LOT 1 - MADI OKOLLO, TEREKO AND MOYO DISTRICTS -**

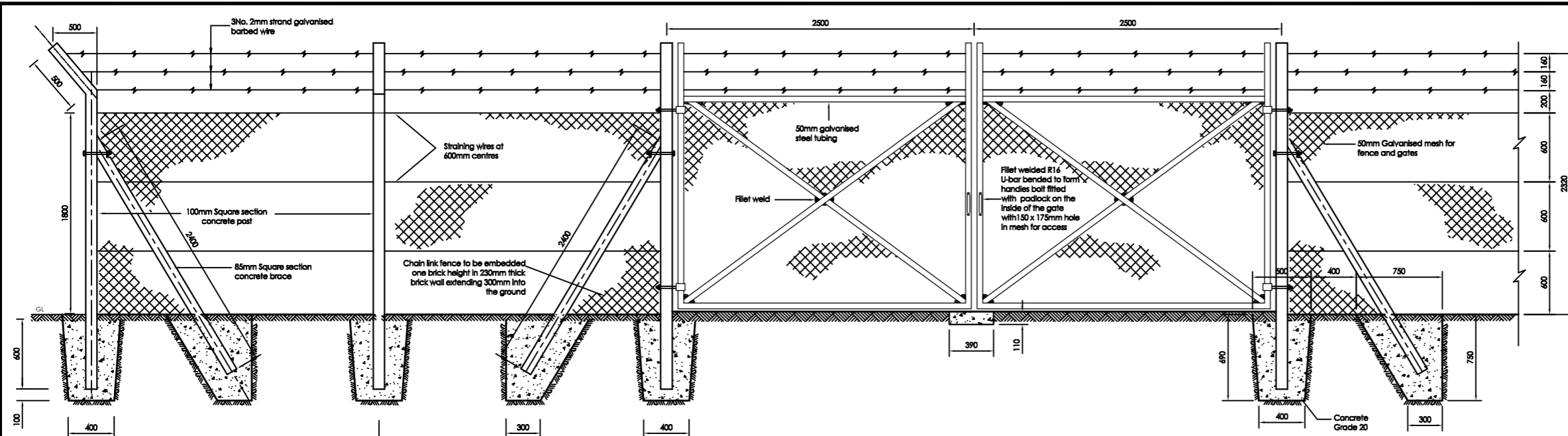
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**STANDARD DRAWINGS**  
 Sign Post

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

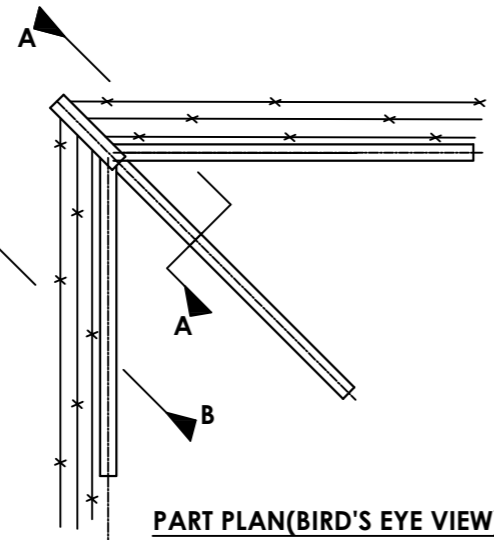


**CORNER POSTS**

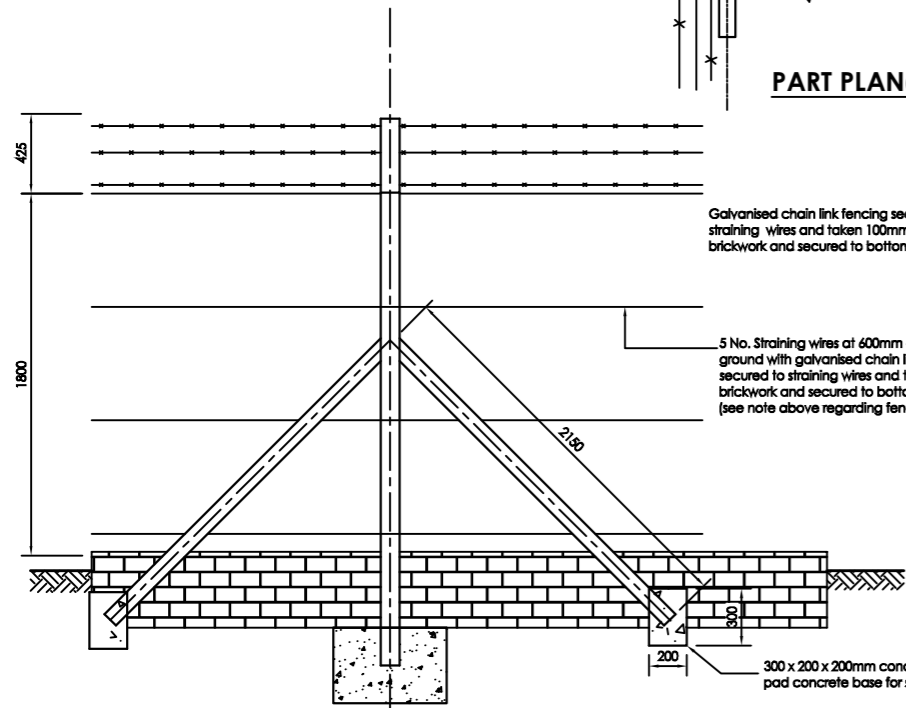
150 x 4mm wall thickness at corners end and change in direction.

**DOUBLE GATE AND FENCE DETAILS**

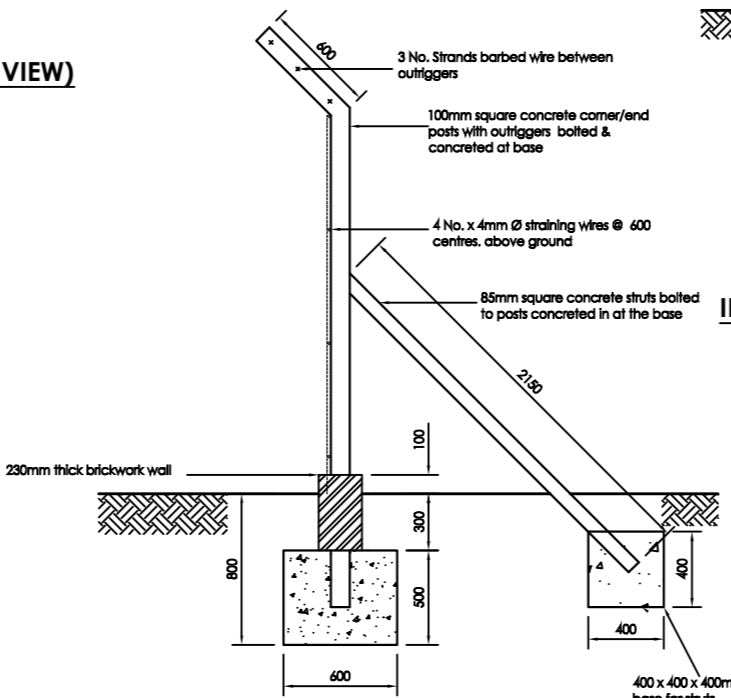
1800mm HIGH



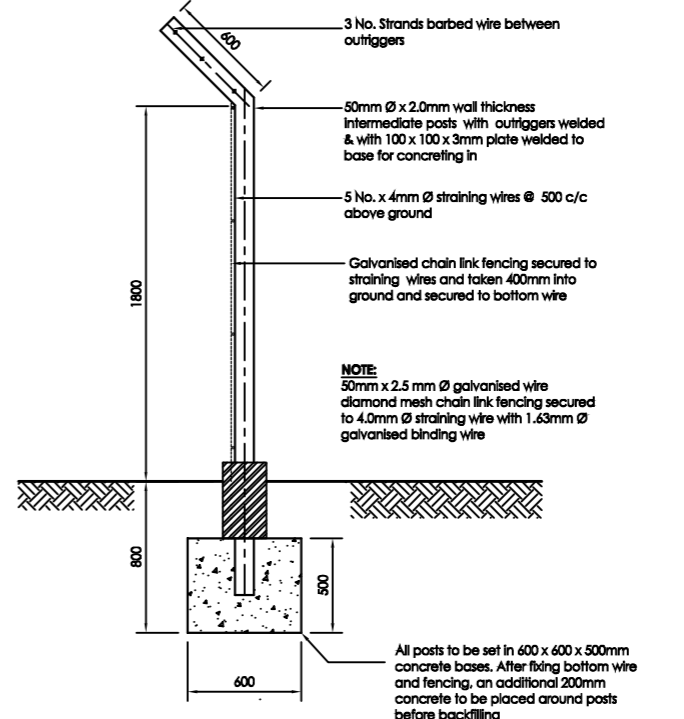
**PART PLAN (BIRD'S EYE VIEW)**



**INTERMEDIATE POST WITH STRUTS - ELEVATION (30.00m c/c)**



**CORNER/END POSTS**

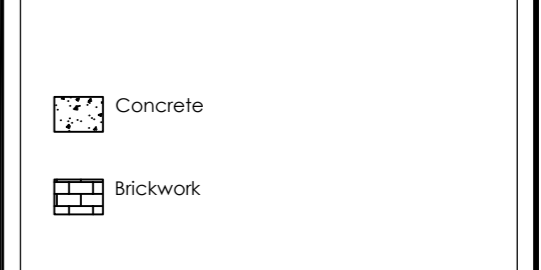


**INTERMEDIATE POSTS - SECTIONAL VIEW (3.00m c/c)**

AMENDMENTS		
No	Date	Revision
1	7.7.2023	Draft Design

- NOTES**
- All dimensions are in metres unless stated otherwise.
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  - For Site location see Dwg. MWE/GWE/0.0.0
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  - All valves, hydrants and washout locations are identified by marker post in positions.

- LEGEND**
- ABBREVIATIONS**
- G.S. GALVANISED STEEL
  - V.J.C. VIKING JOHNSON COUPLING
  - C.I. CAST IRON
  - D.I. DUCTILE IRON



CO-FINANCE BY:

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MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities in Refugee Settlements and Host Districts in West Nile and Northern Uganda

- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

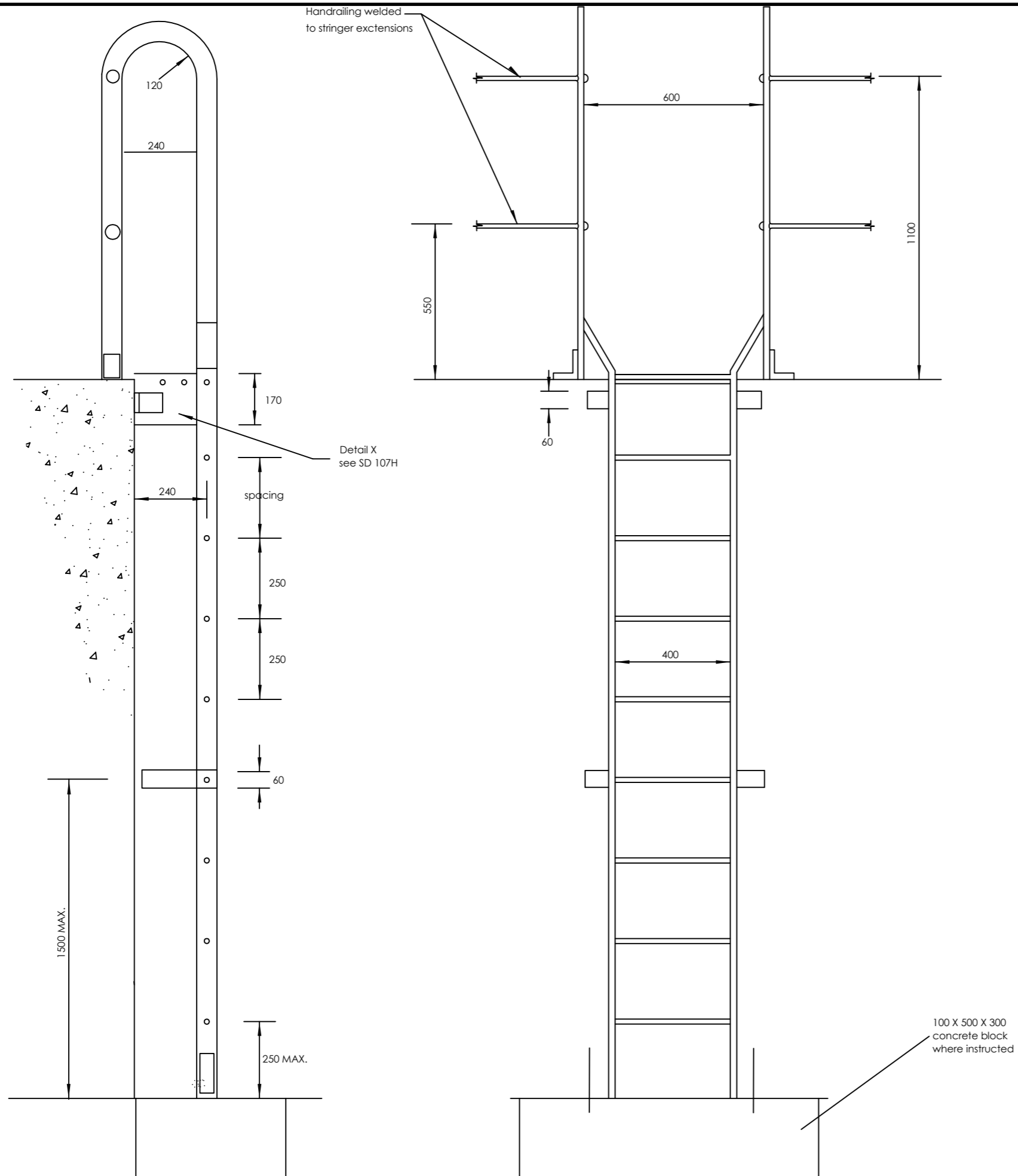
Consultant:

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:

STANDARD DRAWINGS  
 FENCE & GATE

Scale:	Designed:	O.R Daniel
Date:	Drawn:	P.S Eyamu
Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel



AMENDMENTS		
No	Date	Revision
1	7.7.2023	Draft Design

- NOTES**
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- LEGEND**
1. Stringers 65 x 10 flat
  2. Rungs 20 dia. solid bar
  3. Cleats 90 x 90 x 10 angle
  4. All welds to be 8 mm fillet welds
  5. holding down bolts 20 dia.
  6. Surface finish in accordance with the specification
  7. For details see SD 107H

CO-FINANCE BY:

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 MINISTRY OF WATER AND ENVIRONMENT  
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 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
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**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
 STANDARD DRAWINGS  
 LADDER TYPE A

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/SD107E | Cad file No: WSS<22\_11>



AMENDMENTS		
No	Date	Revision
1	7.7.2023	Draft Design

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**LEGEND**

--	--

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Consultant:



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 10 Philpot Lane, 1st Floor,  
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 United Kingdom

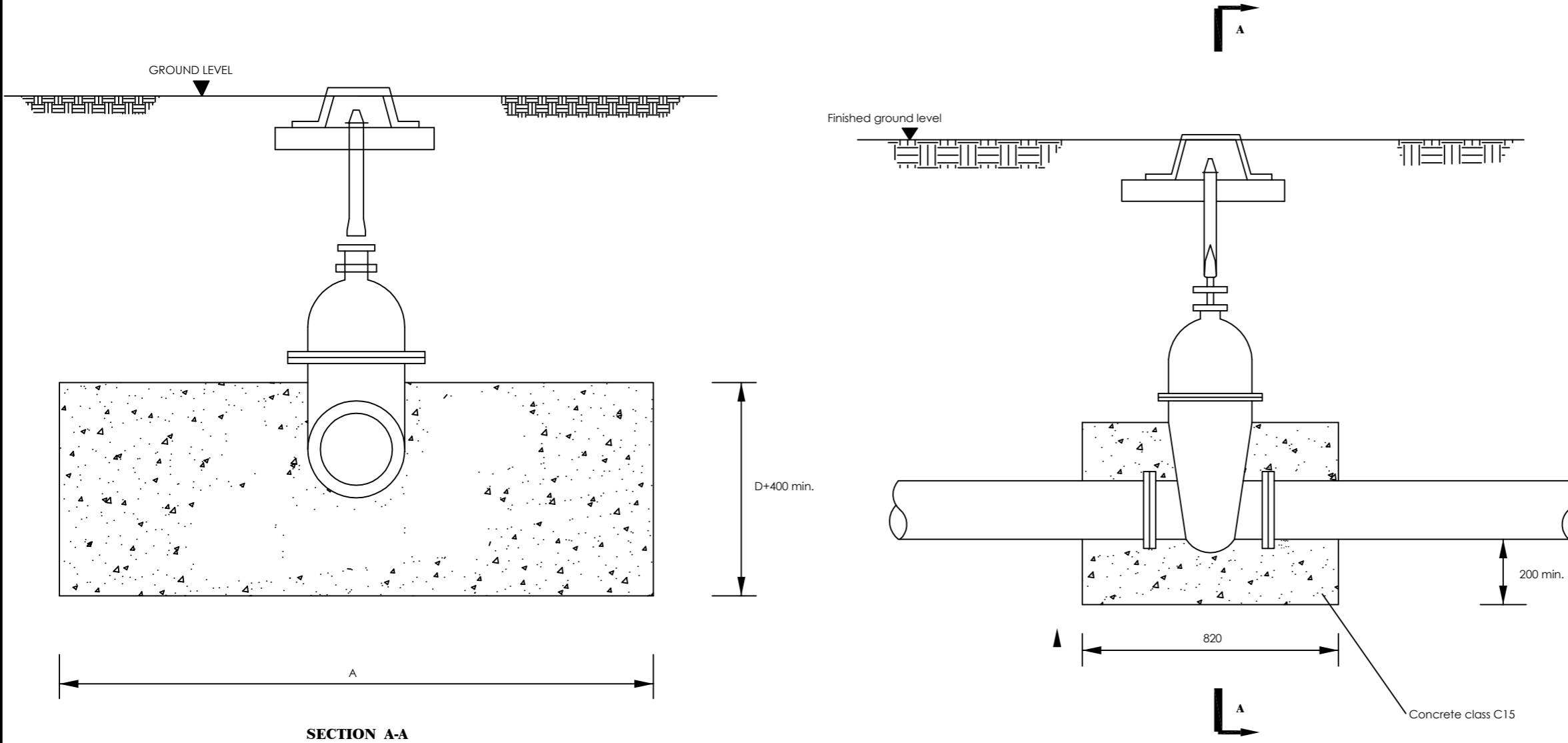
Drawing Title:

**STANDARD DRAWINGS  
 GATE VALVE I**

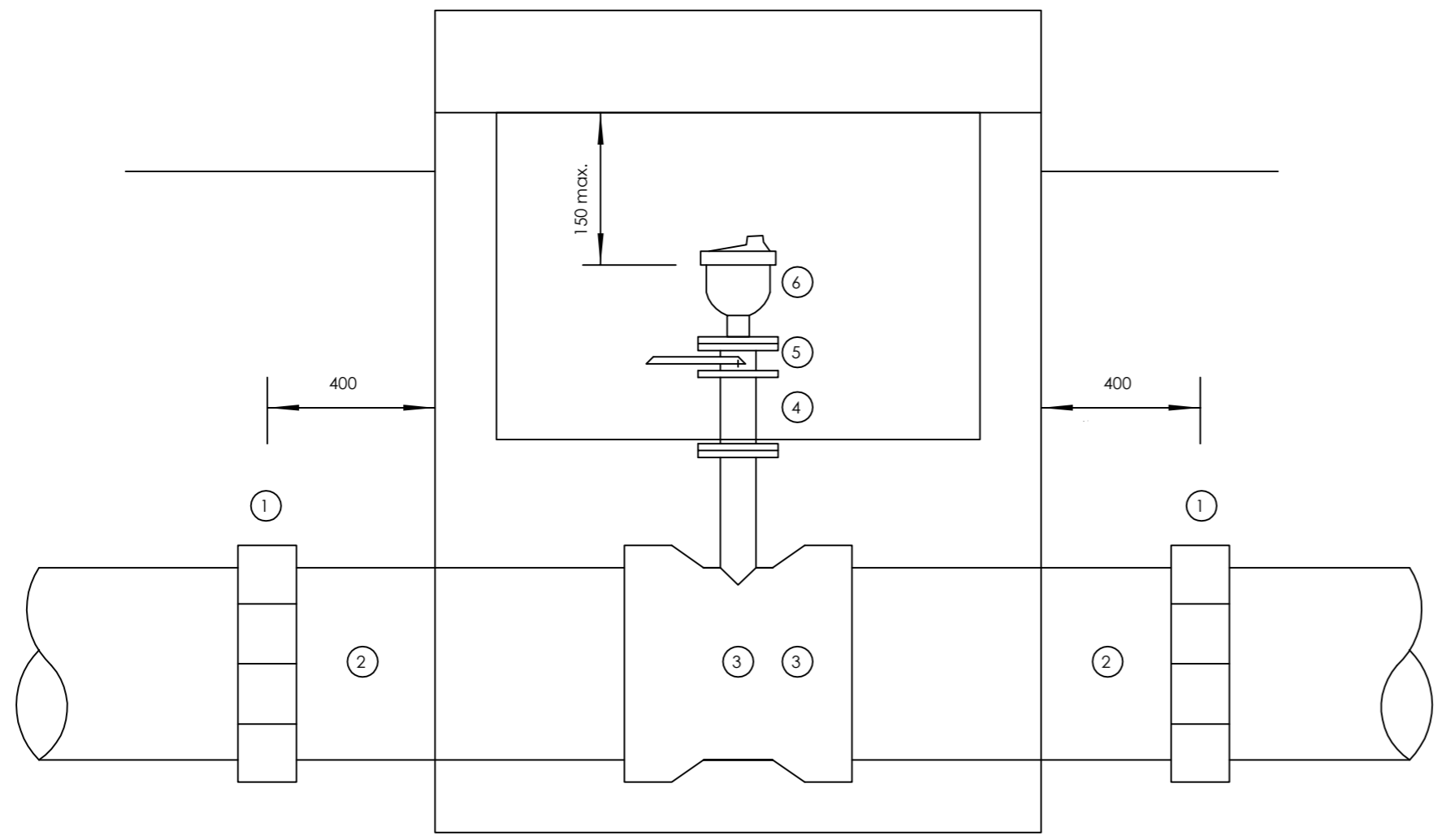
<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
<b>Date:</b>	<b>Drawn:</b>	P.S Eyamu
Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

Drq No: MWE/GWE/SD111A | Cad file No: WSS<22\_11>



- NOTES**
1. For details of Valve box see SD122
  2. For dimension A see S.T. 111 D and E



- NOTES**
- 1 All dimensions are in millimetres
  - 2 Flanged pipework to be ductile iron
  - 3 Make up pipes to be ductile iron
  - 4 Chamber to be 1200x900 internal dimensions
  - For details see standard drawing SD 112D
  - 5 See General Notes

**SCHEDULE**

ITEM	DESCRIPTION
1	Flexible adaptor if required
2	Make-up pipe
3	Socket tee flanged branch 80/50 dia as required
4	Flanged pipe 80/50 dia as required
5	Isolating valve } main 100-300dia valve 50 dia
6	Air valve } main 350-600dia valve 80dia

**AMENDMENTS**

No	Date	Revision
1	7.7.2023	Draft Design

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4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**



CLIENT

**MINISTRY OF WATER AND ENVIRONMENT**  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

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Consultant:

Corporate Headquarter  
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 United Kingdom

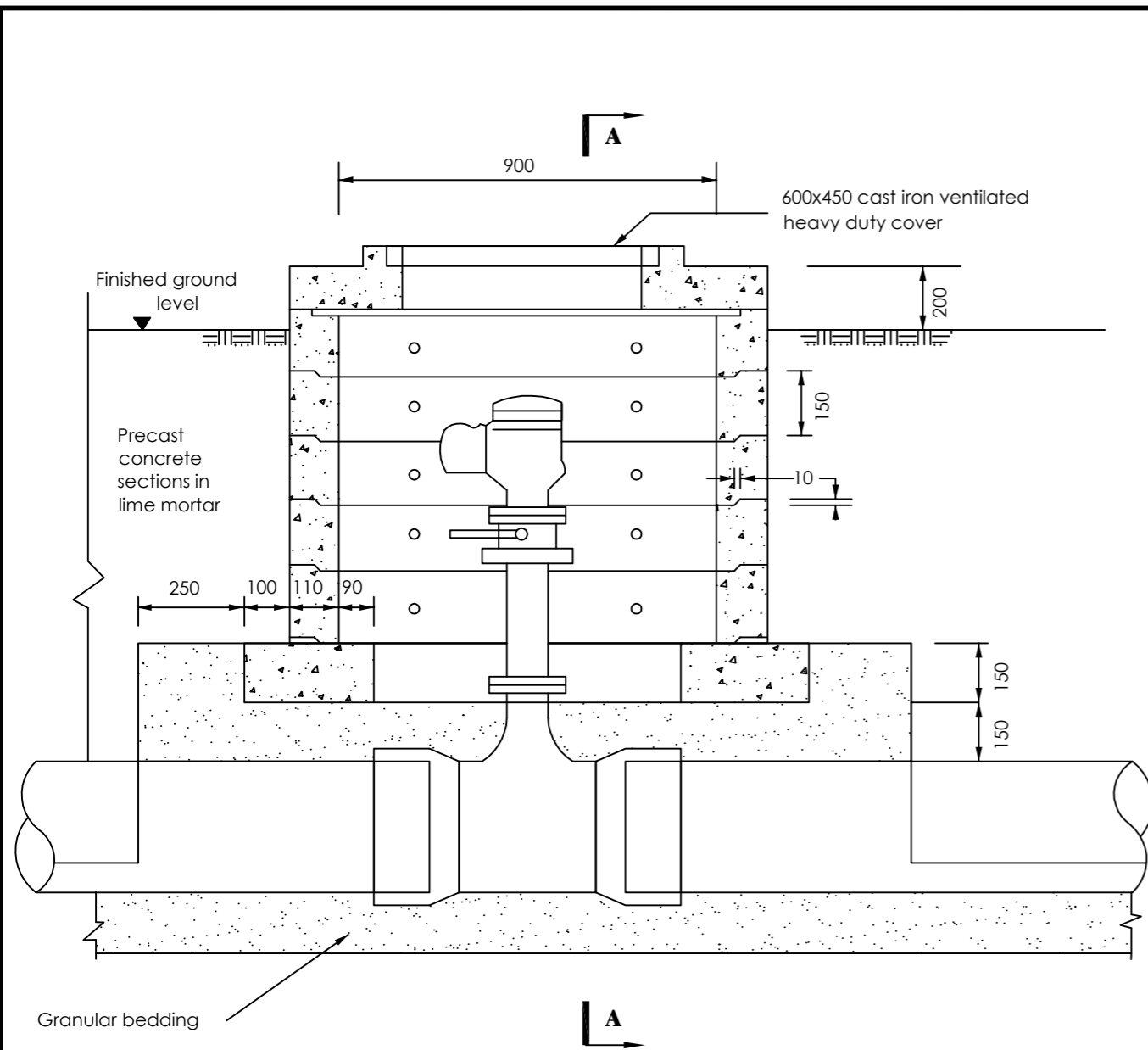
Drawing Title:

**STANDARD DRAWINGS  
 AIR VALVE PIPEWORK**

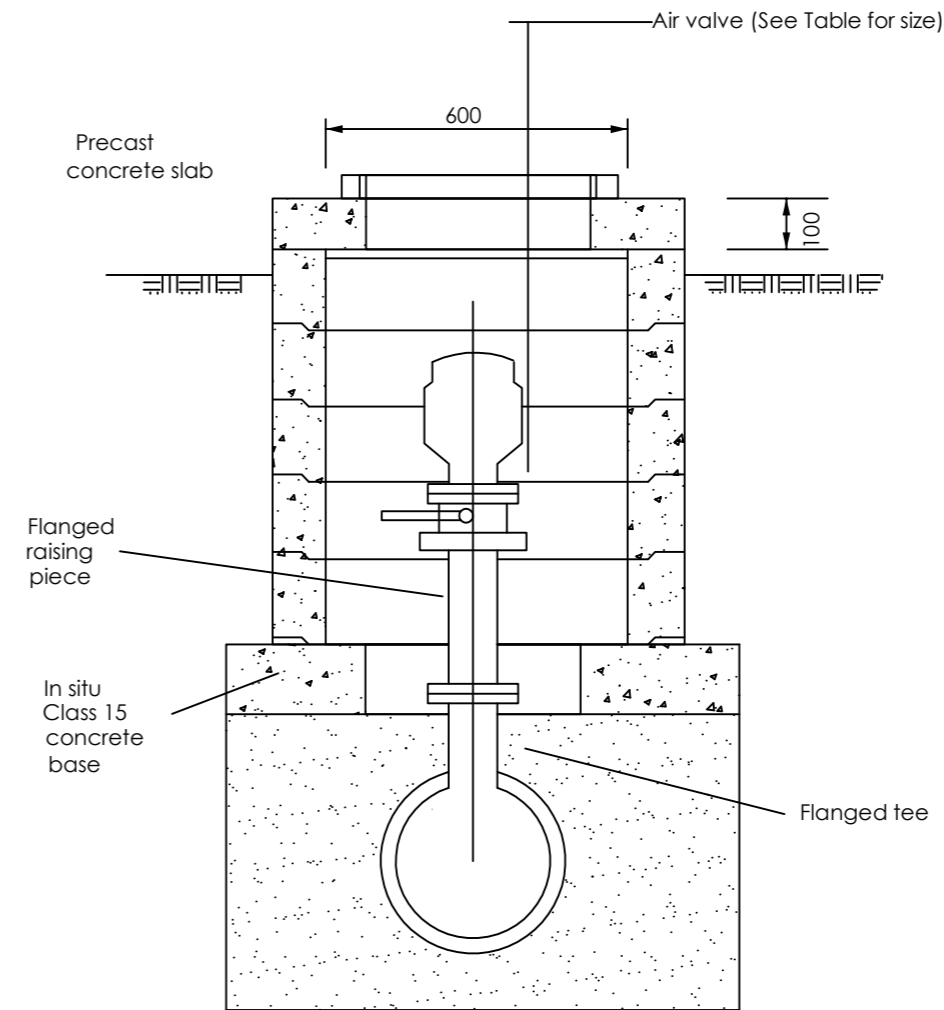
Scale:	Designed:	O.R Daniel
Date:	Drawn:	P.S Eyamu
Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

ENGINEERING DESIGN DRAWING

Drq No: MWE/GWE/SD112A | Cad file No: WSS<22\_11>



Main dia.	Air valve inlet dia.
100-300	50
350-500	80



### AMENDMENTS

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4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

### LEGEND

CO-FINANCE BY:

CLIENT

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

### CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM

Consultant:

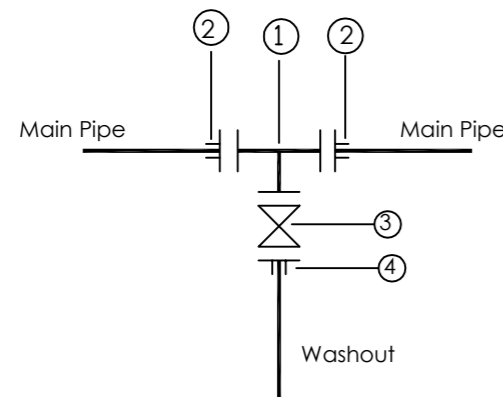
Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

Drawing Title:  
**STANDARD DRAWINGS  
 AIR VALVE CHAMBER**

Scale:	Designed:	O.R Daniel
	Drawn:	P.S Eyamu
Date: Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

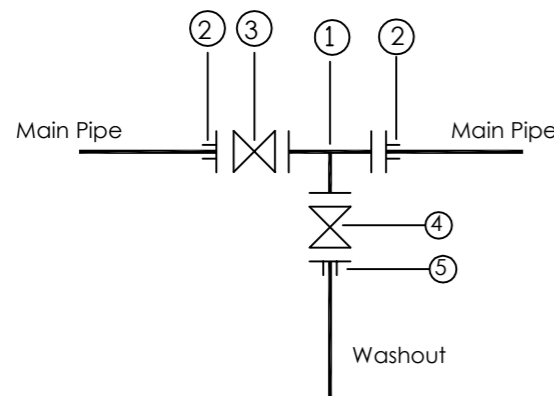
ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/SD112B | Cad file No: WSS<22\_11>

**WO TYPE 1(uPVC, Steel and DI Mains)**



- ① 1 No CI Flanged Tee DN A/B
- ② 2 No DI Flange Adaptor, Maxi type or similar type DN A
- ③ 1 No CI Flanged Gate Valve DN A
- ④ 1 No DI Flange Adaptor, Maxi type or similar DN B

**WO TYPE 2**

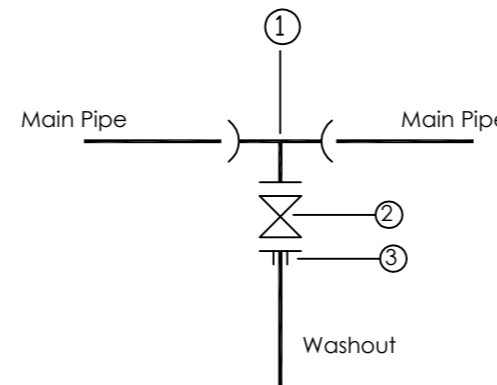


- ① 1 No CI Flanged Tee DN A/B
- ② 2 No DI Flange Adaptor, Maxi type or similar type DN A
- ③ 1 No CI Flanged Gate Valve DN A
- ④ 1 No DI Flanged Gate Valve DN B
- ⑤ 1 No DI Flange Adaptor, Maxi type or similar DN B

Pipe Diameter		Fittings Diameter	
Main Pipe	Washout	A	B
OD 50	OD 50	DN 40	DN 40
OD 63	OD 63	DN 50	OD 50
OD 90	OD 63	DN 80	OD 50
OD 110	OD 63	DN 100	OD 50
OD 160	OD 63	DN 150	OD 50
OD 218	OD 110	DN 200	OD 100
OD 250	OD 110	DN 250	OD 100
OD 300	OD 110	DN 300	OD 100
OD 350	OD 110	DN 350	OD 100
OD 400	OD 110	DN 400	OD 100
OD 500	OD 110	DN 450	OD 100

NOTE: Pressure ratings of Washouts and Fittings shall be similar to those of the main pipe on which the washout is to be installed

**WO TYPE 1(HDPE Mains)**



- ① 1 No Compression HDPE Tee with flanged branch DN A/B
- ② 1 No CI Flanged Gate Valve DN A
- ③ 1 No Compression Flange Adaptor for HDPE Spigots DN B

**AMENDMENTS**

No	Date	Revision
1	7.7.2023	Draft Design

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4. For Node details, see Dwg. MWE/GWE/5.0.0
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**LEGEND**

**CO-FINANCE BY:**



**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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**PROJECT**

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**Consultant:**

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 Corporate Headquarter  
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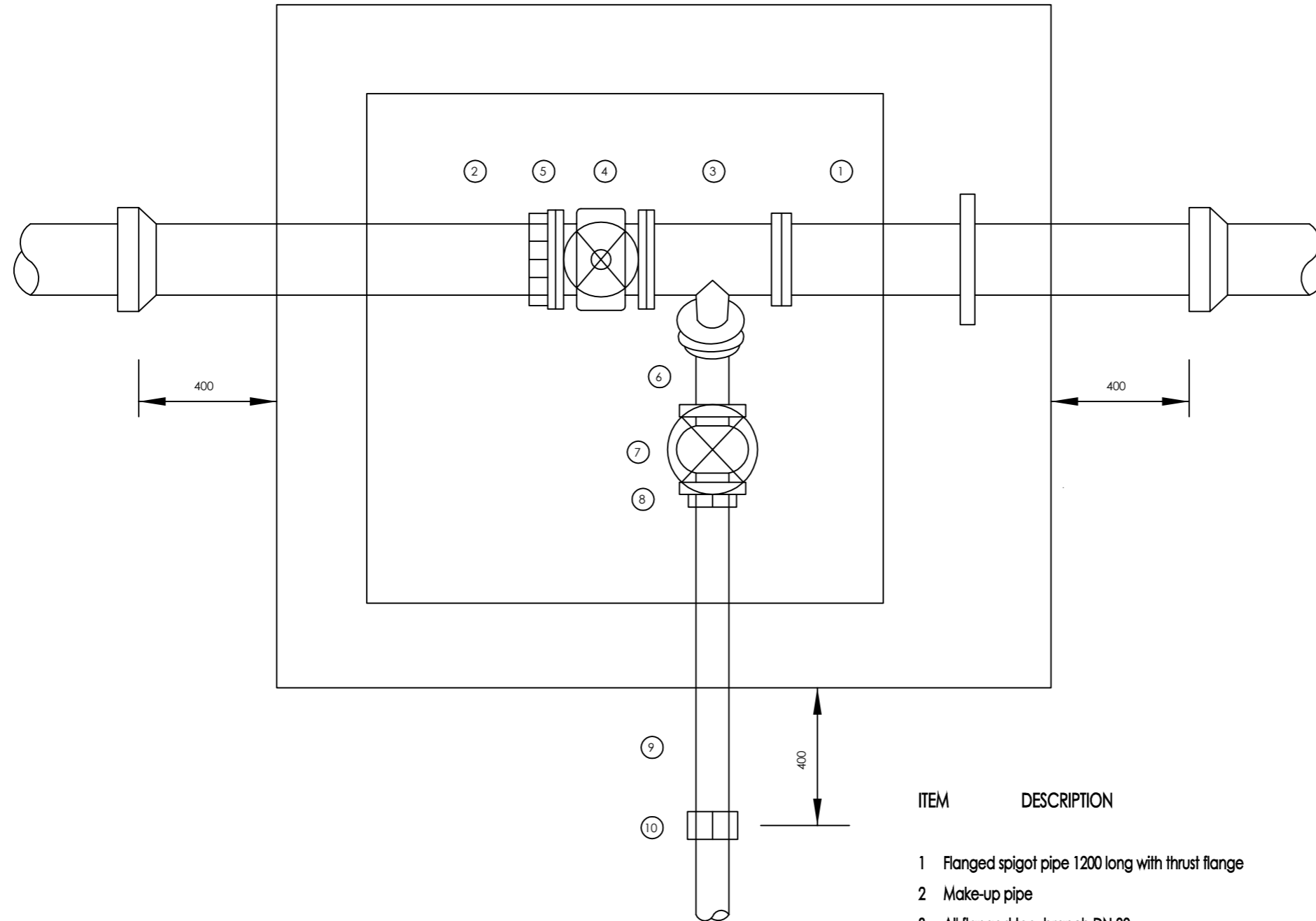
**Drawing Title:**

**STANDARD DRAWINGS  
 WASHOUT PIPE DETAILS**

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
<b>Date:</b>	<b>Drawn:</b>	P.S Eyamu
Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R DANIEL

ENGINEERING DESIGN DRAWING

Drp No: MWE/GWE/SD114A | Cad file No: WSS<22\_11>



ITEM	DESCRIPTION
1	Flanged spigot pipe 1200 long with thrust flange
2	Make-up pipe
3	All flanged tee, branch DN 80
4	Flanged in-line gate valve
5	Flange adaptor
6	Flanged 45o bend DN 80
7	Flanged gate valve DN 80
8	Flanged adaptor DN 80
9	Spigot pipe DN 80
10	Flexible adaptor if required

**NOTES**

- 1 Dimension in millimetres
- 2 Max. main size DN 500
- 3 Pipework within chamber to be ductile iron
- 4 For details of chamber see standard detail drawing SD135

AMENDMENTS		
No	Date	Revision
1	7.7.2023	Draft Design

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**LEGEND**

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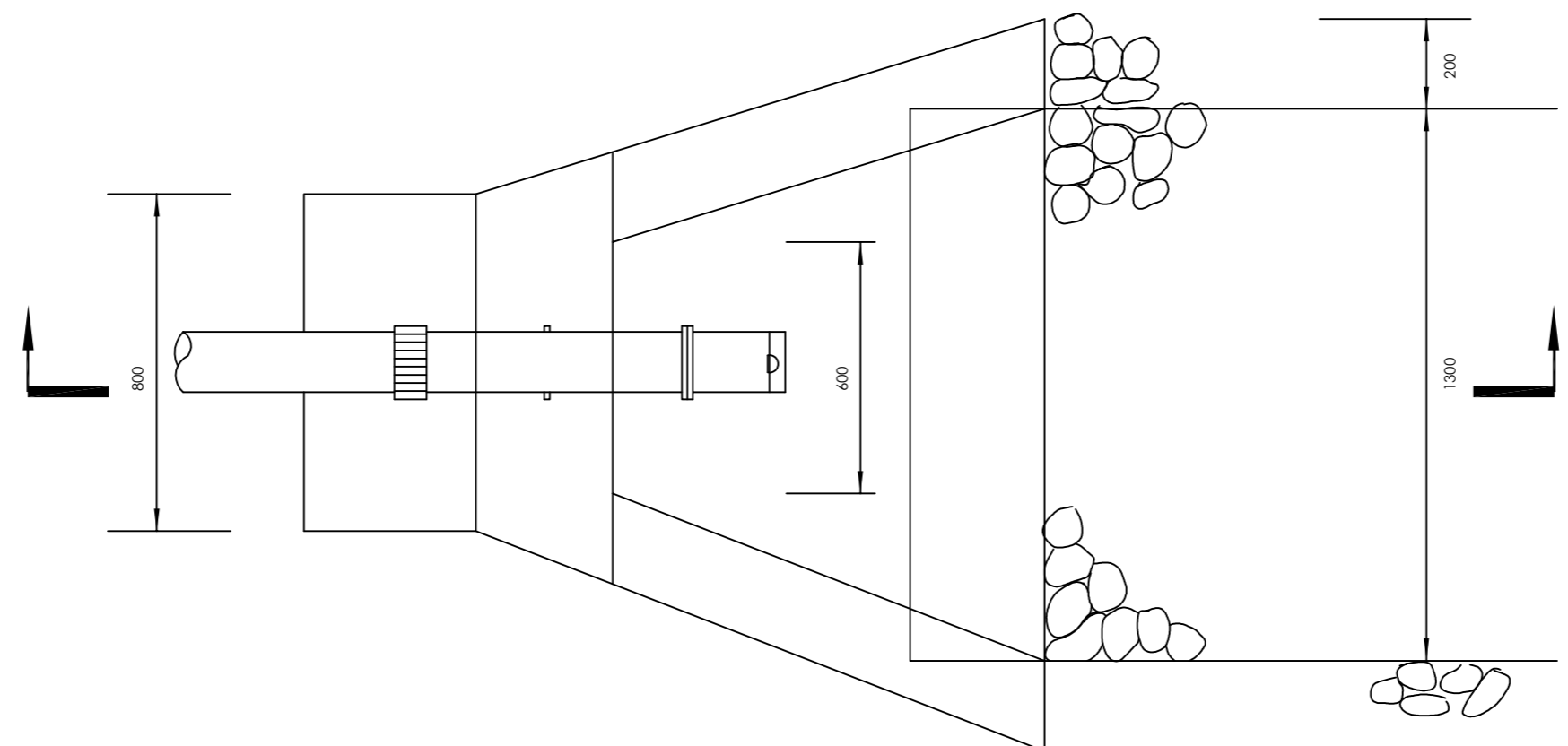
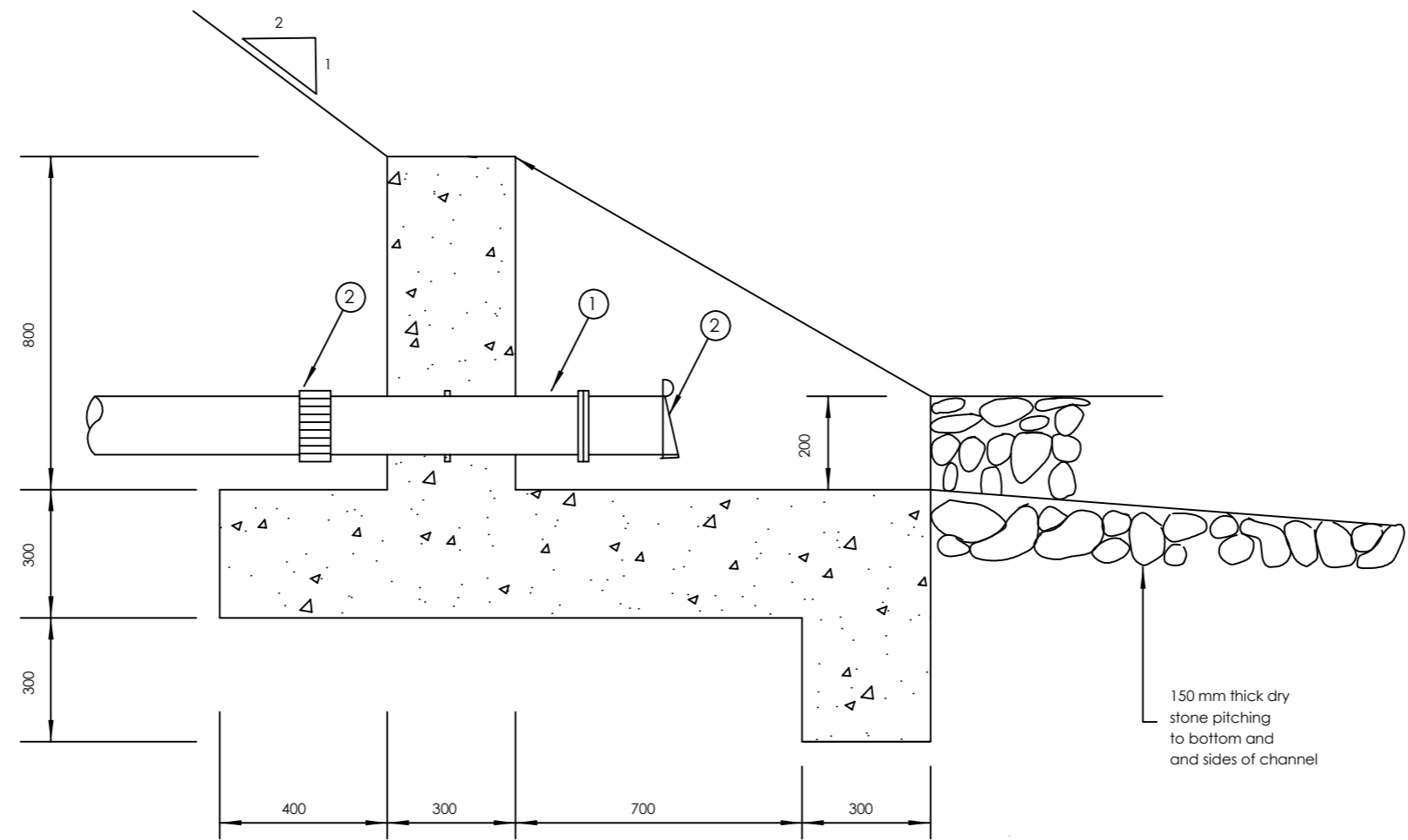
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
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Drawing Title:  
 STANDARD DRAWINGS  
 WASHOUT CHAMBER

Scale:	Designed:	O.R Daniel
Date:	Drawn:	P.S Eyamu
Dec-2022	Checked:	O.R Daniel
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AMENDMENTS		
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**LEGEND**

Reinforcement to be one layer A252 mesh throughout

For Pipe fittings diameter and pressure ratings, see drawing No. SD 114

- ① 1 No. Flanged socket piece with paddle flange 350mm from flange, length not exceeding 750mm
- ② 1 No. Flange flap valve
- ③ 1 No. Viking Johnson flexible coupling



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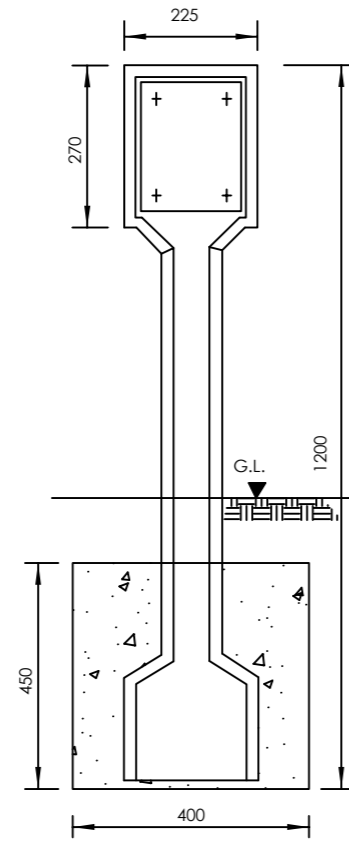
STANDARD DRAWINGS  
 OUTFALL

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel

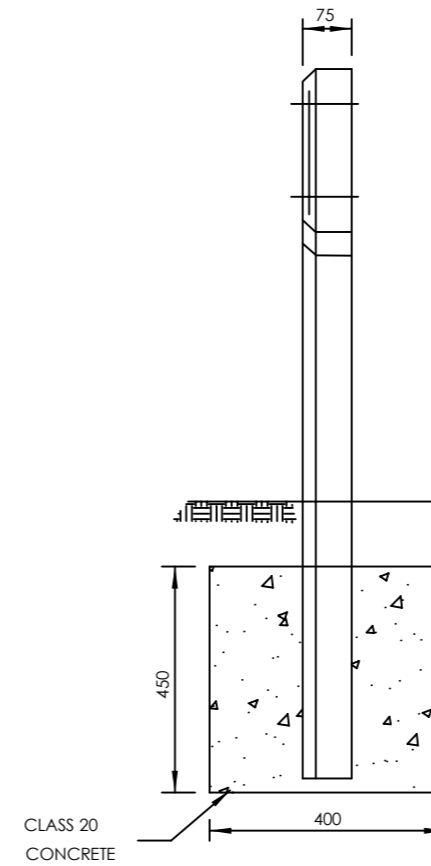
ENGINEERING DESIGN DRAWING

**Drp No:** MWE/GWE/SD116 **Cad file No:** WSS<22\_11>

INDICATOR POSTS

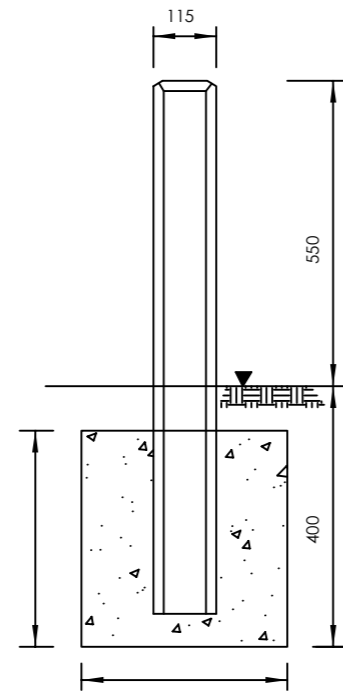


FRONT ELEVATION

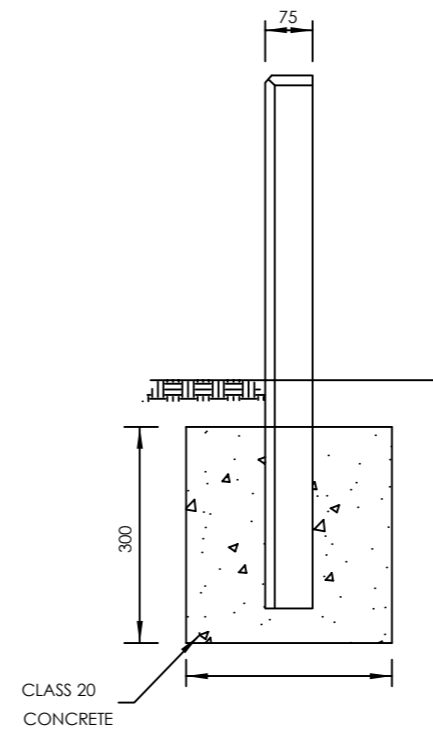


SIDE ELEVATION

MAKER POSTS



FRONT ELEVATION



SIDE ELEVATION

AMENDMENTS

No	Date	Revision
1	7.7.2023	Draft Design

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LEGEND


CO-FINANCE BY:

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Consultant:

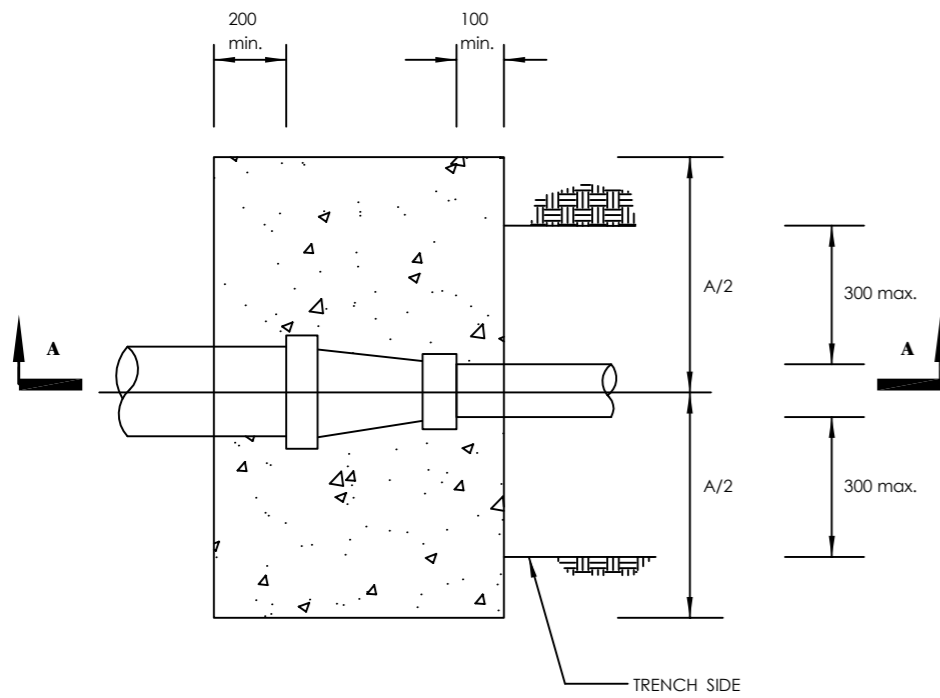
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:  
**STANDARD DRAWINGS  
MARKER POST**

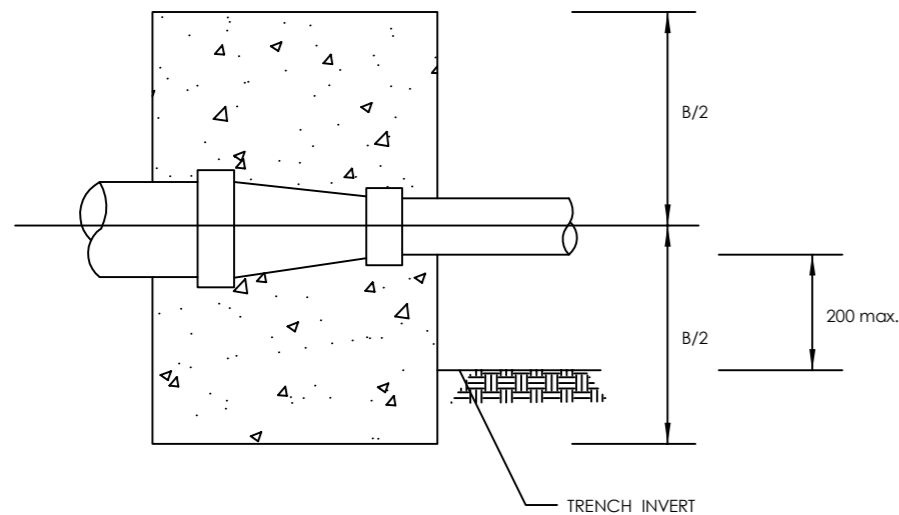
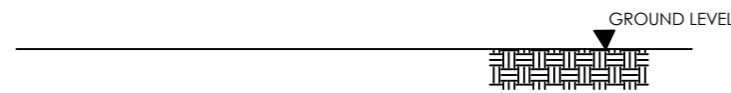
<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
<b>Date:</b>	<b>Drawn:</b>	P.S Eyamu
Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

Drq No: MWE/GWE/SD117 | Cad file No: WSS<22\_11>



**PLAN**



**SECTION A-A**

GROUND CONDITION		DRY	SUBMERGED
		TEST PRESSURE (BAR)	15
80 - 50	A	850	850
	B	650	650
100 - 50	A	1020	1020
	B	680	680
150 - 100	A	1300	1300
	B	700	1000
200 - 100	A	1700	1900
	B	700	1000
200 - 150	A	1350	1350
	B	750	950
250 - 100	A	2150	2250
	B	750	1250
250 - 150	A	1950	1950
	B	750	1250
250 - 200	A	1400	1400
	B	800	1200
300 - 200	A	2050	2050
	B	1000	1600
300 - 250	A	1450	1450
	B	850	1350
350 - 300	A	1250	1650
	B	1000	1200
500 - 400	A	2000	2300
	B	1400	1800

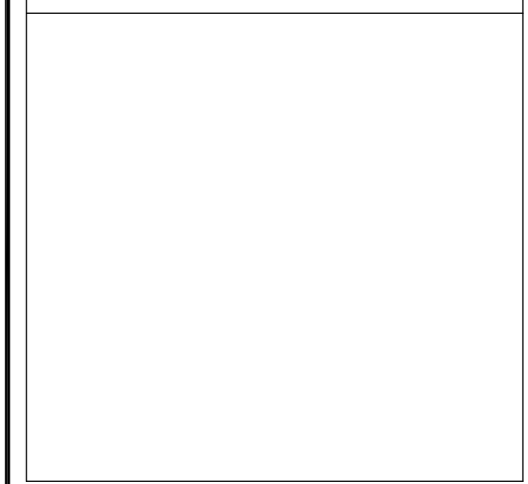
**AMENDMENTS**

No	Date	Revision
1	7.7.2023	Draft Design

**NOTES**

1. All dimensions are in metres unless stated otherwise.
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3. For Site location see Dwg. MWE/GWE/0.0.0
4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**



CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

PROJECT

Consultancy Services for the Feasibility Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

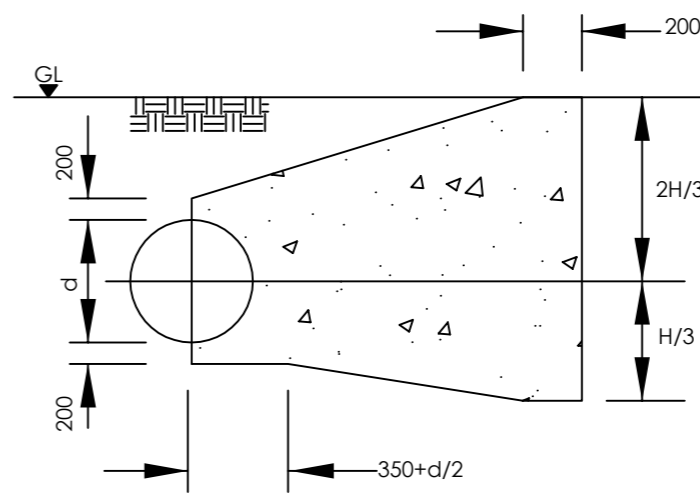
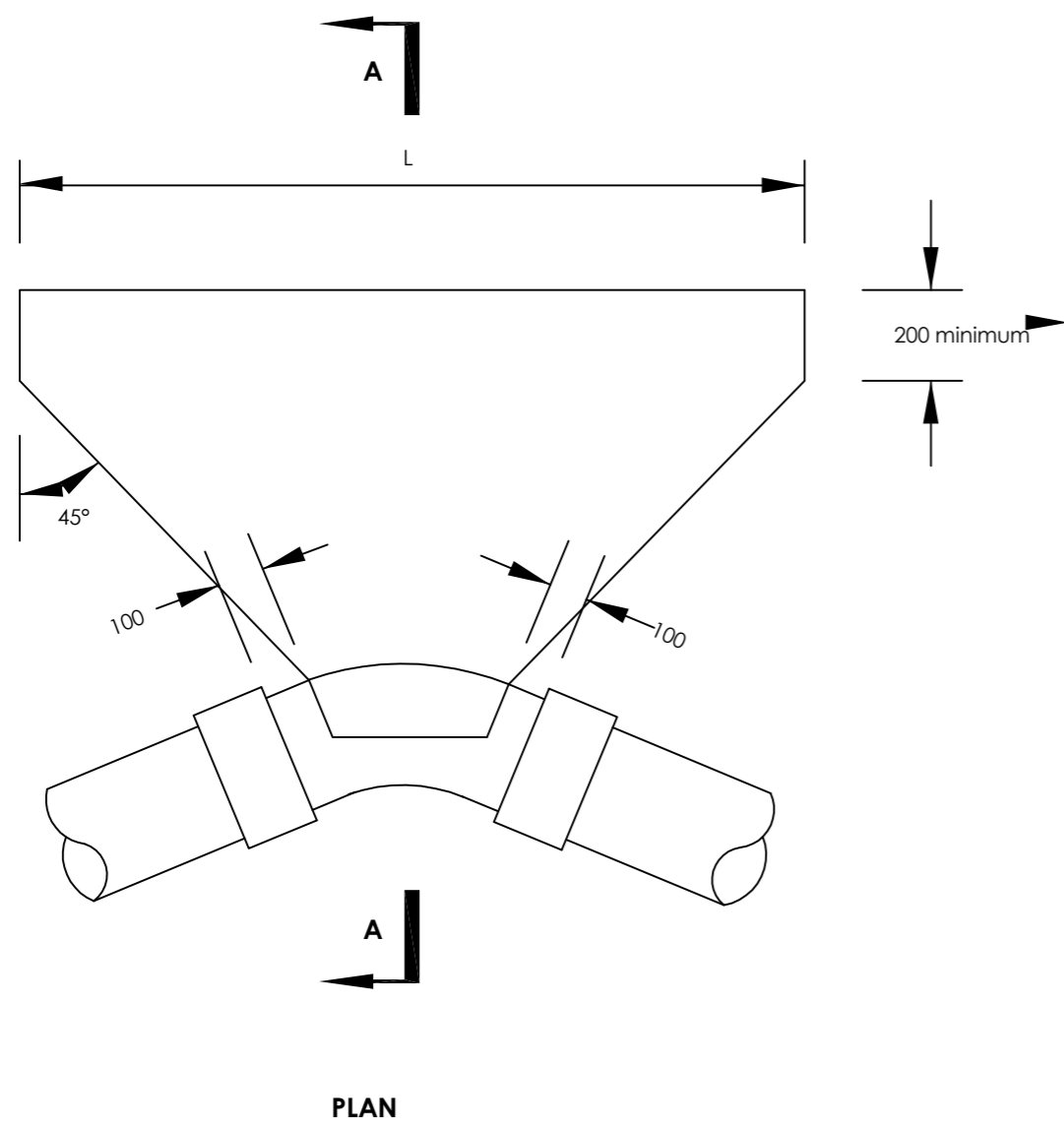
**Drawing Title:**  
**STANDARD DRAWINGS  
ANCHOR BLOCKS FOR TAPERS**

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b> Dec-2022	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

Drq No: MWE/GWE/SD118A | Cad file No: WSS<22\_11>





SECTION A-A

PLAN

Ground Condition			DRY			
Test Pressure (Bar)			15			
Bend Angle			11½°	22½°	45°	90°
PIPE DIAMETER (mm)	80	H L	SEE SD 118C			
	80 < d < 150	H L				
	150 < d < 300	H L				
	300 < d < 400	H L	1600 2450	1600 4530		
	450	H L	1650 2900	1650 5330		
	500	H L	1000 1250	1350 1950	1800 3050	1800 5650

AMENDMENTS		
No	Date	Revision
1	7.7.2023	Draft Design

- NOTES**
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  - All levels are in metres above sea level.
  - For Site location see Dwg. MWE/GWE/0.0.0
  - For Node details, see Dwg. MWE/GWE/5.0.0
  - All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**



**CLIENT**  
 MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
 Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
 Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
 Website: www.mwe.go.ug

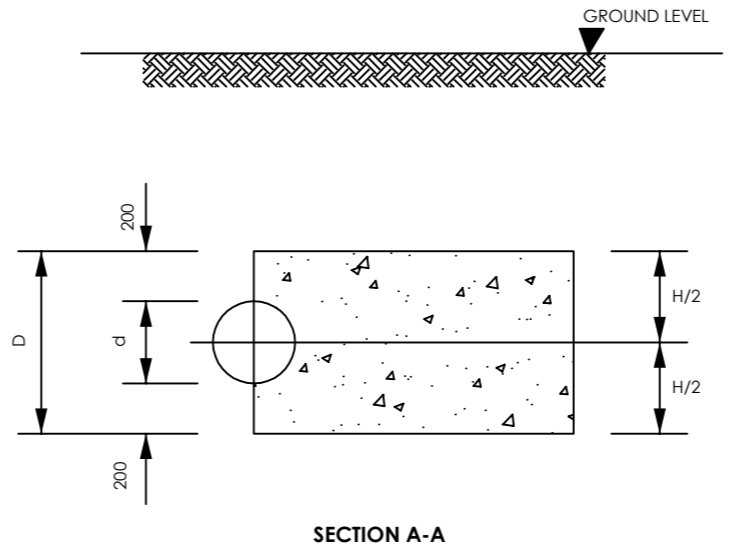
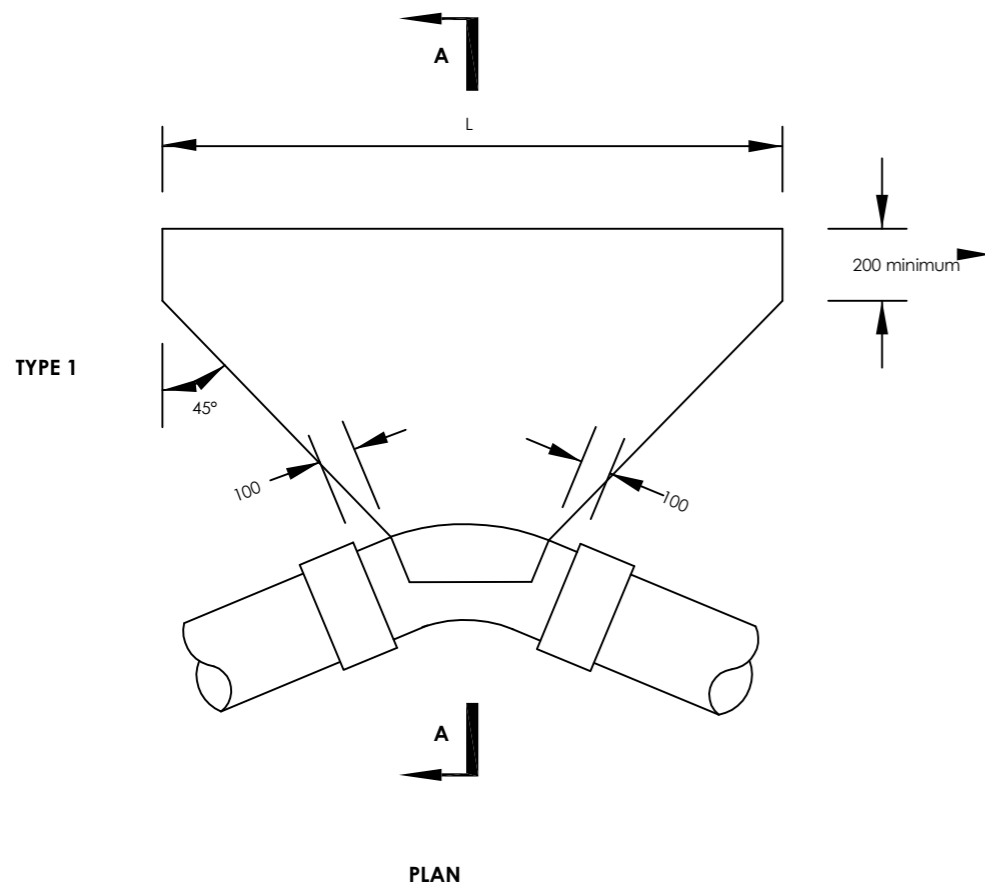
**PROJECT**  
 Consultancy Services for the Feability Study, Detailed Engineering Design and Construction Supervision of Solar Powered Piped Water Supply Systems and Sanitation Facilities In Refugee Settlements and Host Districts In West Nile and Northern Uganda  
**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
 STANDARD DRAWINGS  
 ANCHOR BLOCKS FOR BENDS 1

<b>Scale:</b>	<b>Designed:</b> O.R Daniel
<b>Date:</b> Dec-2022	<b>Drawn:</b> P.S Eyamu
	<b>Checked:</b> O.R Daniel
	<b>Approved:</b> O.R Daniel



**NOTE:**  
Two layers of water proof paper to be placed between concrete fitting

GROUND CONDITION		DRY				
TEST PRESSURE (Bar)		15				
BEND ANGLE		11¼°	22½°	45°	90°	
PIPE DIAMETER (mm)	80	H L	480 200	460 300	480 350	460 700
	80 < d < 150	H L	550 300	550 750	550 900	550 1700
	150 < d < 300	H L	700 650	700 1250	700 2500	
	300 < d < 400	H L	800 900	800 1800		
	450	H L	900 2500	900 5000		
	500			SEE SD 118A		

AMENDMENTS		
No	Date	Revision
1	7.7.2023	Draft Design

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  - For Node details, see Dwg. MWE/GWE/5.0.0
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**LEGEND**



**CLIENT**  
MINISTRY OF WATER AND ENVIRONMENT  
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Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

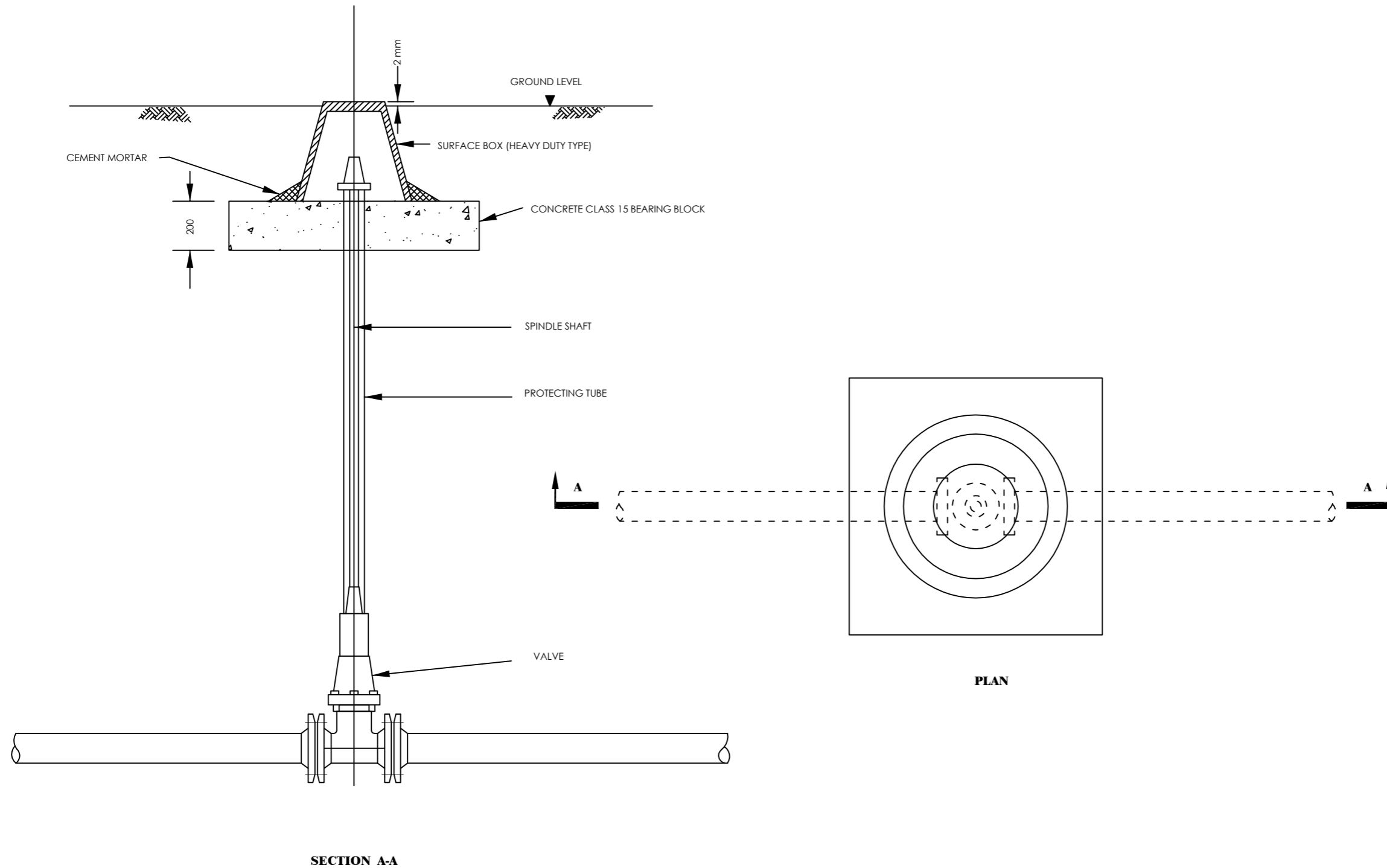
**Consultant:**  
 **SARI CONSULTING LTD**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

**Drawing Title:**  
STANDARD DRAWINGS  
ANCHOR BLOCKS FOR BENDS 2

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R DANIEL

ENGINEERING DESIGN DRAWING  
Drg No: MWE/GWE/SD118C | Cad file No: WSS<22\_11>

TYPICAL GATE VALVE, EXTENSION SPINDLE, PROTECTION TUBE  
AND SURFACE BOX



**AMENDMENTS**

No	Date	Revision
1	7.7.2023	Draft Design

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3. For Site location see Dwg. MWE/GWE/0.0.0
4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
Tel : +256 417 889 400, Email: mwe@mwe.go.ug  
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PROJECT

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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:

STANDARD DRAWINGS  
SURFACE BOX

Scale:	Designed:	O.R Daniel
Date:	Drawn:	P.S Eyamu
Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/SD122 | Cad file No: WSS<22\_11>

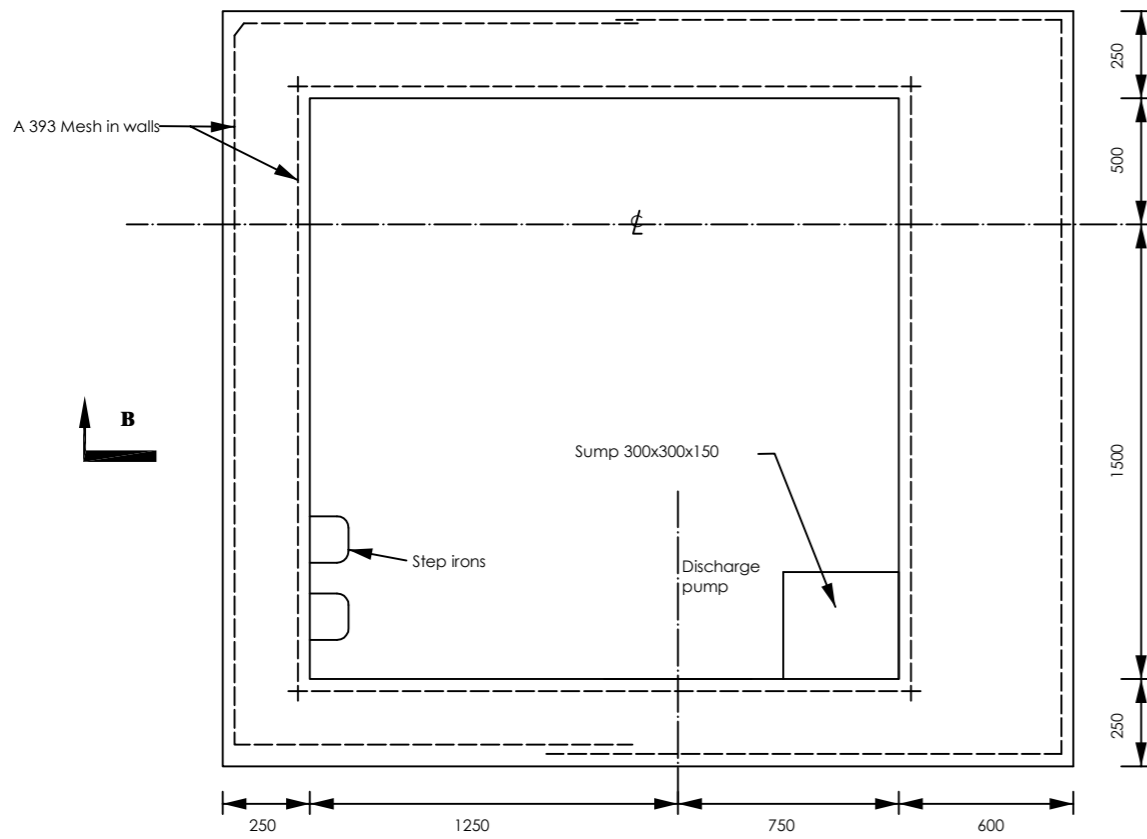
**AMENDMENTS**

No	Date	Revision
1	7.7.2023	Draft Design

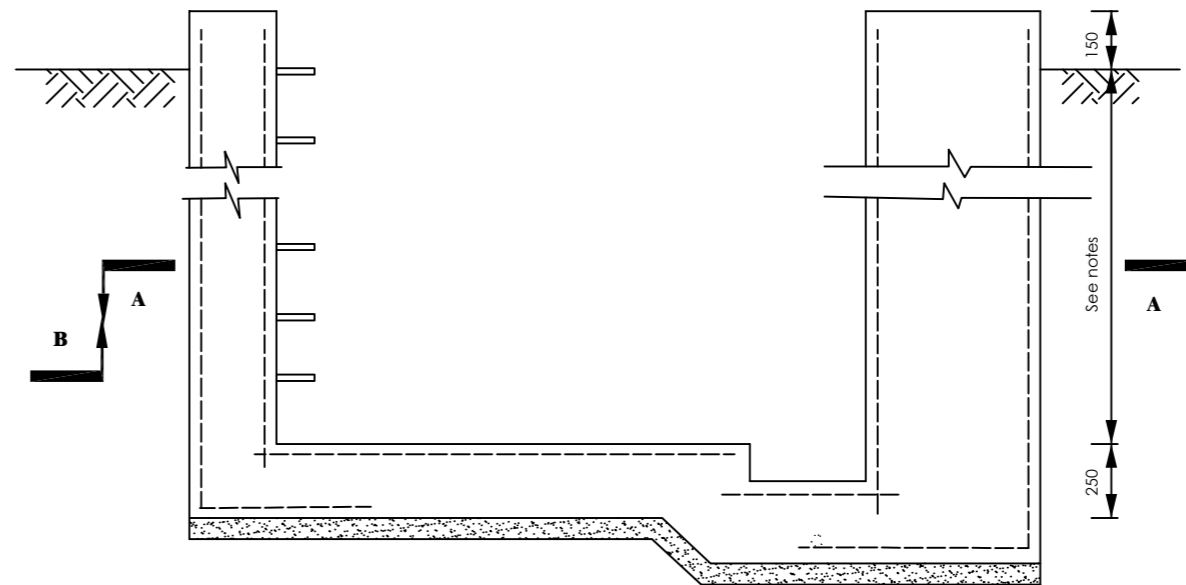
**NOTES**

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3. For Site location see Dwg. MWE/GWE/0.0.0
4. For Node details, see Dwg. MWE/GWE/5.0.0
5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**



**SECTION A-A**



**SECTION B-B**

**NOTES**

1. Floor of chamber to be 250 below pipe IL – min depth 1700 below ground level.
2. Fore details of cover slab see Drawing SD 135C
3. See General notes.
4. Use SD 135b if additional thrust block is required

CO-FINANCE BY:



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MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
Plot 3 - 7 Kabalega Crescent Road, Luzira, Box 20026 Kampala  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

**SARI CONSULTING LTD**  
Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

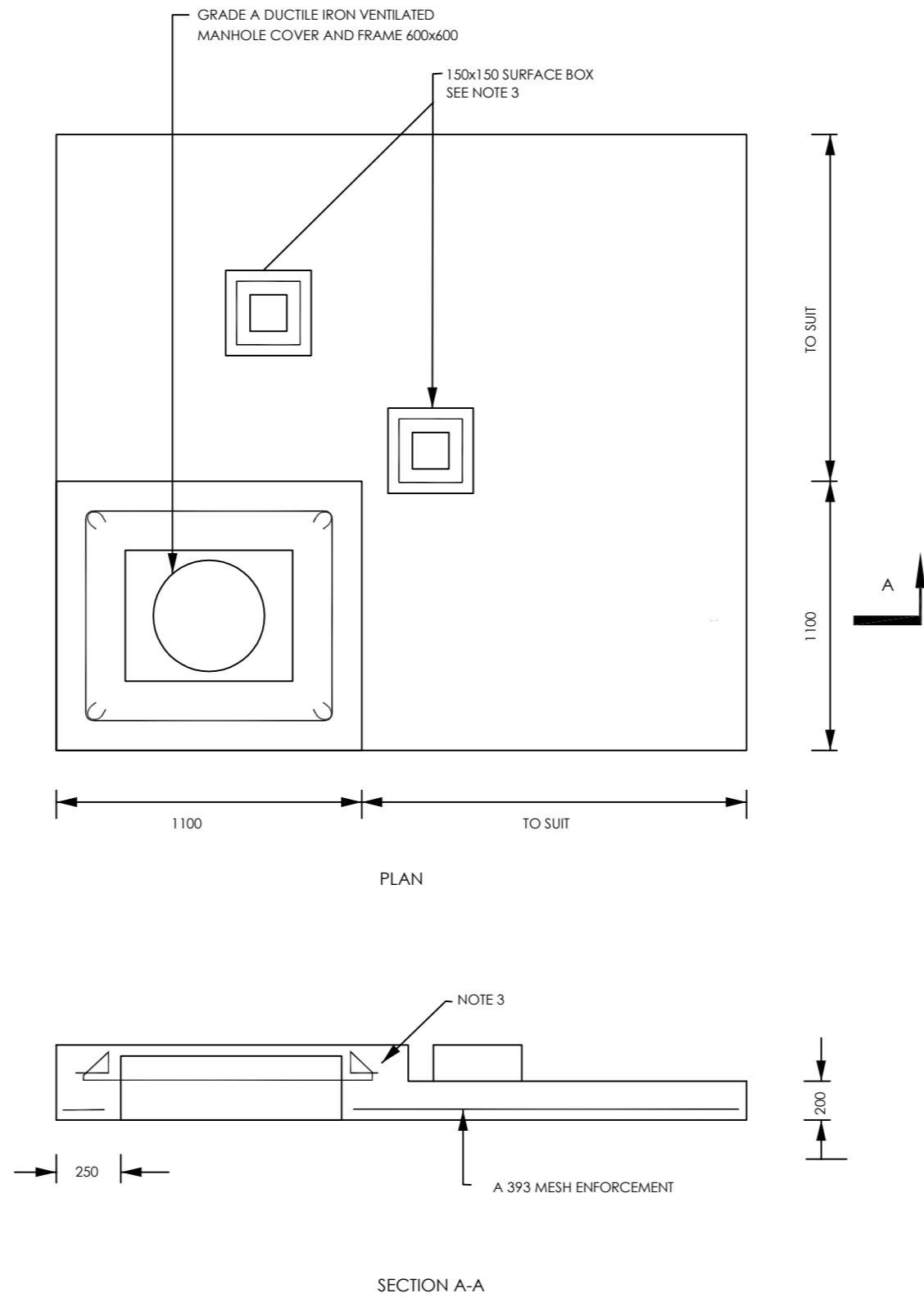
Drawing Title:

STANDARD DRAWINGS  
WASHOUT GV CHAMBER

<b>Scale:</b> Dec-2022	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
	<b>Approved:</b>	O.R DANIEL

ENGINEERING DESIGN DRAWING

Drg No: MWE/GWE/SD135A | Cad file No: WSS<22\_11>



AMENDMENTS		
No	Date	Revision
1	7.7.2023	Draft Design

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**LEGEND**



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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

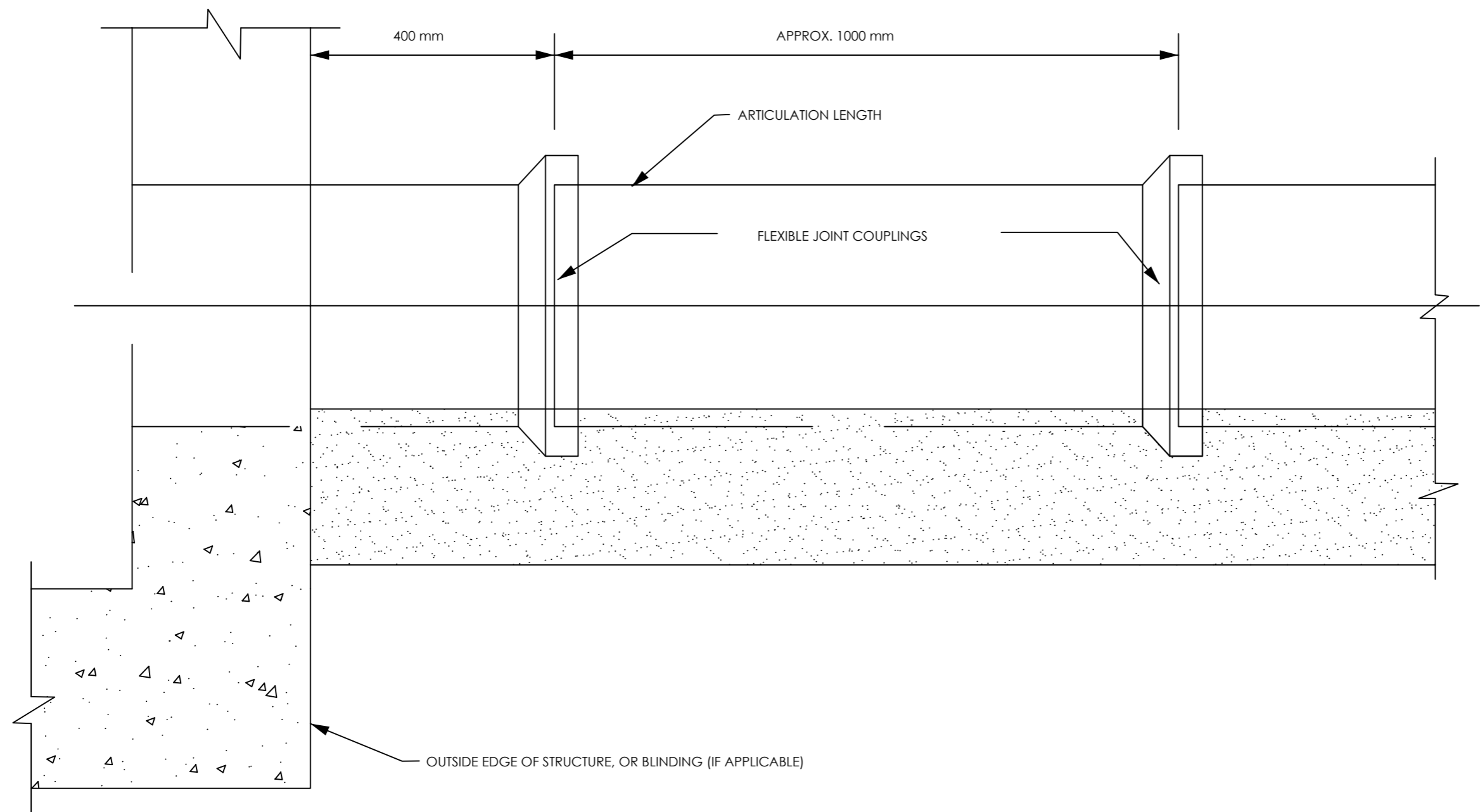
**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**  
**SARI CONSULTING LTD**  
 Corporate Headquarter  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
 STANDARD DRAWINGS  
 WASHOUT GV ROOF SLAB

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R DANIEL

ENGINEERING DESIGN DRAWING  
 Drg No: MWE/GWE/SD135C | Cad file No: WSS<22\_11>



AMENDMENTS		
No	Date	Revision
1	7.7.2023	Draft Design

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**LEGEND**

CO-FINANCE BY:

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 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

**Consultant:**

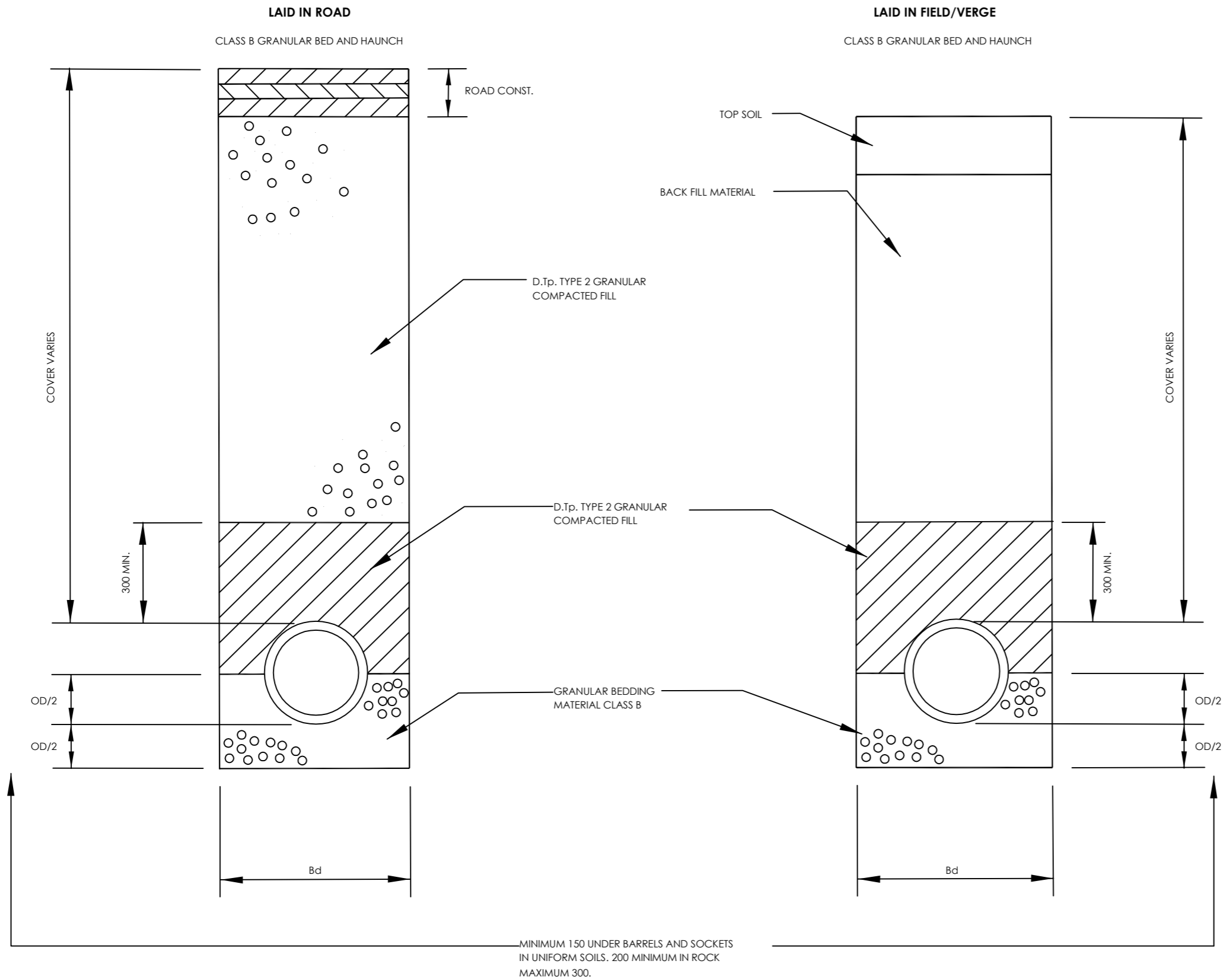
**Corporate Headquarter**  
 10 Philpot Lane, 1st Floor,  
 London EC3M 8AA,  
 United Kingdom

**Drawing Title:**  
 STANDARD DRAWINGS  
 FLEXIBLE PIPE JOINT DETAILS

<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING  
**Drp No:** MWE/GWE/SD137 **Cad file No:** WSS<22\_11>

**GRAVITY LINES AND LATERALS**



**AMENDMENTS**

No	Date	Revision
1	7.7.2023	Draft Design

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**LEGEND**

PIPE DIA.	MAX Bd
100	550
150	600
225	700
300	850
400	1000
450	1100
525	1130
600	1200

**TRENCH WIDTH TABLE**

**CO-FINANCE BY:**



**CLIENT**

MINISTRY OF WATER AND ENVIRONMENT  
 DIRECTORATE OF WATER DEVELOPMENT (DWD)  
 RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

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**Consultant:**



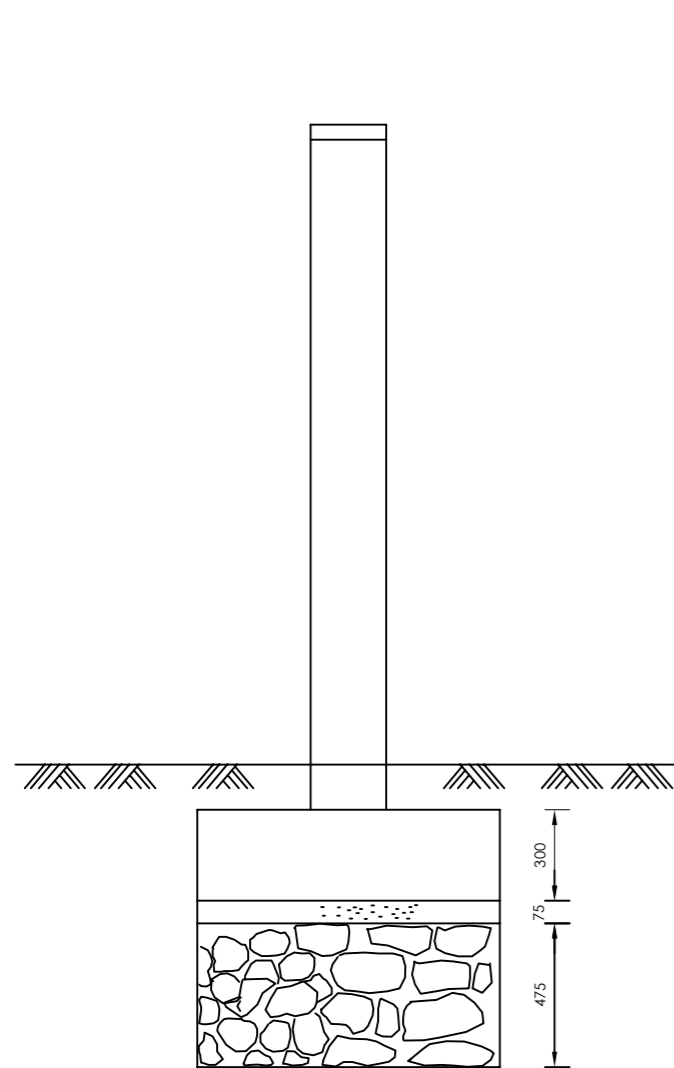
**Drawing Title:**

**STANDARD DRAWINGS  
 PIPE BEDDING**

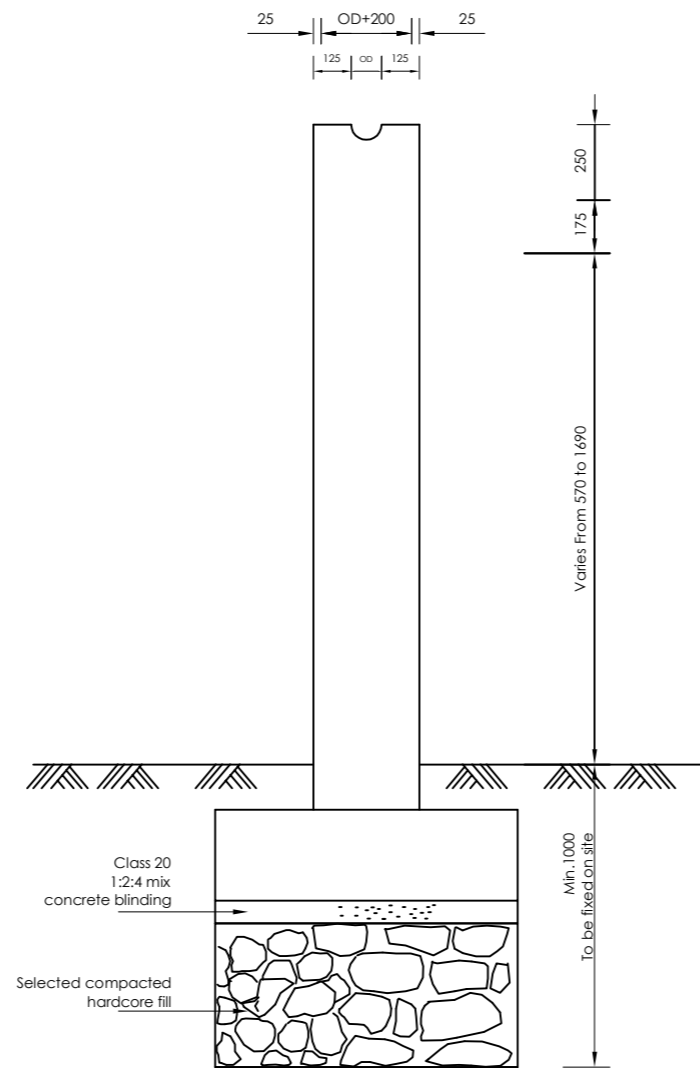
<b>Scale:</b>	<b>Designed:</b>	O.R Daniel
	<b>Drawn:</b>	P.S Eyamu
<b>Date:</b>	<b>Checked:</b>	O.R Daniel
Dec-2022	<b>Approved:</b>	O.R Daniel

ENGINEERING DESIGN DRAWING

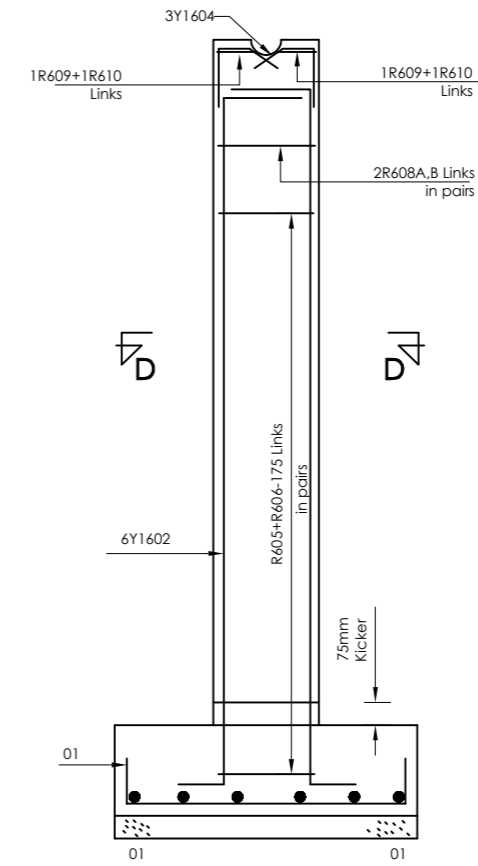
Drp No: MWE/GWE/SD204 | Cad file No: WSS<22\_11>



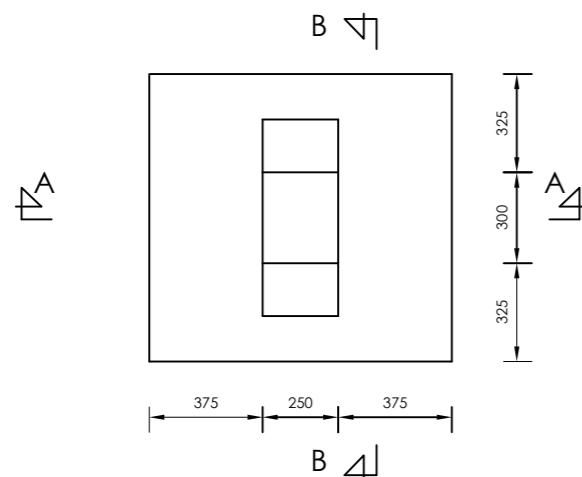
SECTION A-A



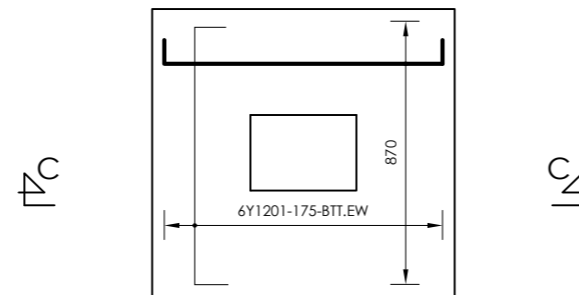
SECTION B-B



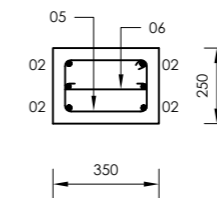
SECTION C-C



FOUNDATION PLAN



FOUNDATION TYPE 1  
12 No. OFF THIS



SECTION D-D

AMENDMENTS		
No	Date	Revision
1	7.7.2023	Draft Design

- NOTES**
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  4. For Node details, see Dwg. MWE/LEF/5.0.0
  5. All valves, hydrants and washout locations are identified by marker post in positions.

**LEGEND**

CO-FINANCE BY:

CLIENT

MINISTRY OF WATER AND ENVIRONMENT  
DIRECTORATE OF WATER DEVELOPMENT (DWD)  
RURAL WATER SUPPLY AND SANITATION DEPARTMENT  
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**- LOT 1 - MADI OKOLLO, TEREGO AND MOYO DISTRICTS -**

**CONSTRUCTION OF GWERE RGC WATER SUPPLY AND SANITATION SYSTEM**

Consultant:

Corporate Headquarter  
10 Philpot Lane, 1st Floor,  
London EC3M 8AA,  
United Kingdom

Drawing Title:

STANDARD DRAWINGS  
PIPE SUPPORTS (R.C DETAILS)

Scale:	Designed:	O.R Daniel
Date:	Drawn:	P.S Eyamu
Dec-2022	Checked:	O.R Daniel
	Approved:	O.R Daniel
ENGINEERING DESIGN DRAWING		
Drg No: MWE/GWE/SD220	Cad file No	WSS<22_11>