GOAL UGANDA

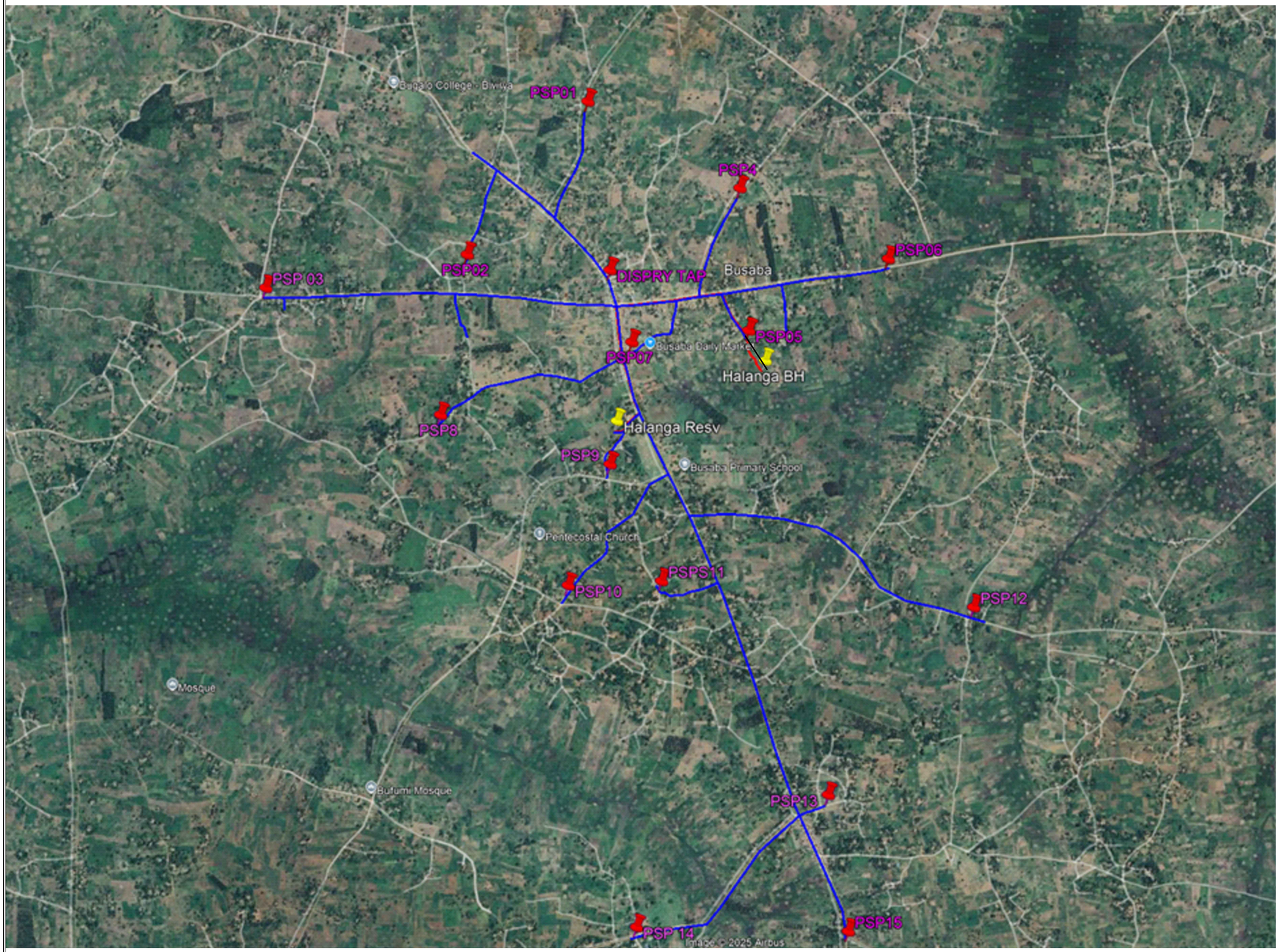
HALANGA PIPED WATER SUPPLY SYSTEM IN BUSABA TOWN COUNCIL, BUTALEJA DISTRICT

BOOK OF DRAWINGS

JUNE 2025

Client:
GOAL
GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

TABLE OF CONTENTS



AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

HALANGA WATER SUPPLY

General Scheme Layout (GOOGLE MAP)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.1

AMENDMENTS

No	Date	Revision

NOTES

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Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

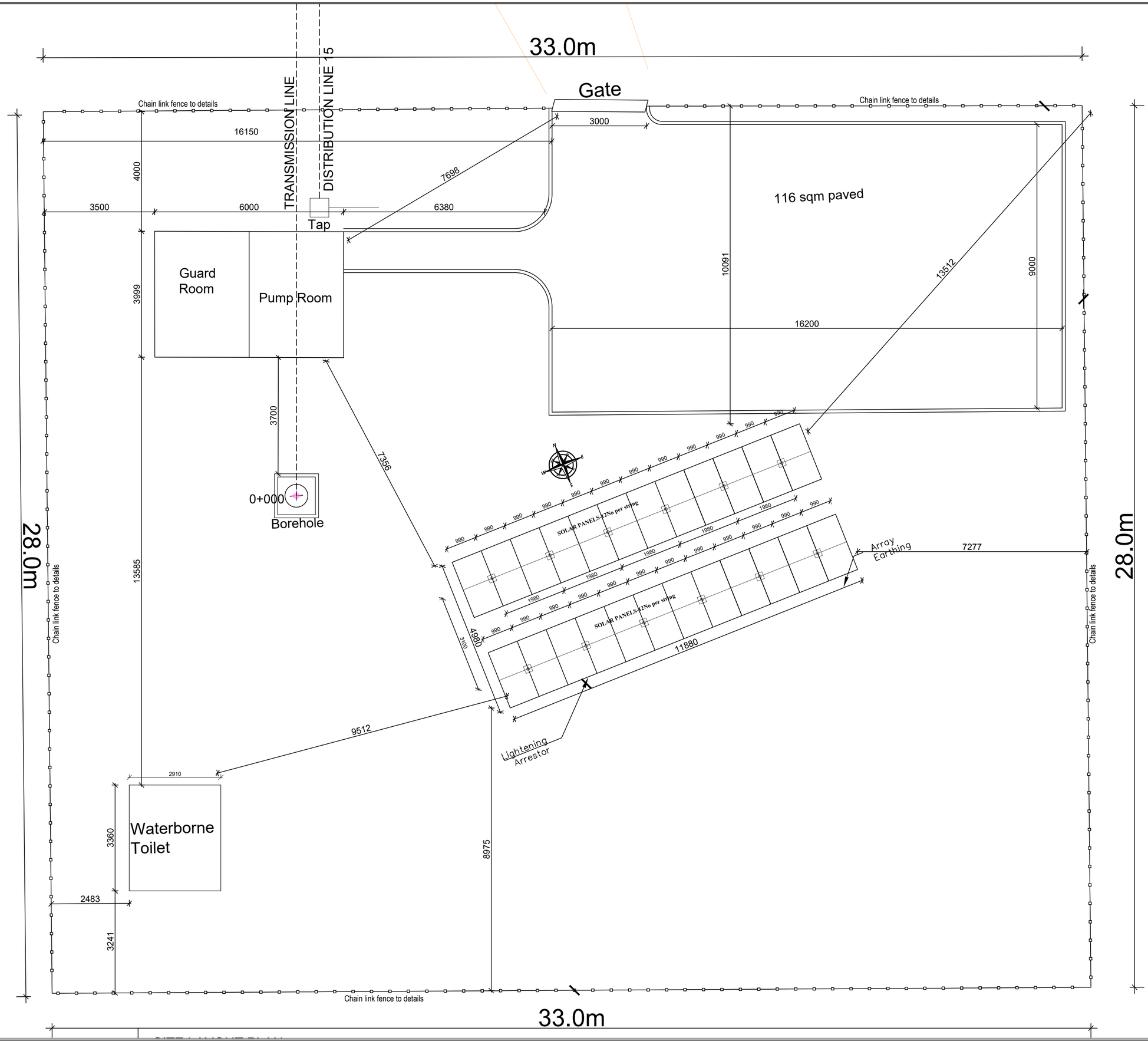
HALANGA WATER SUPPLY

General Scheme Layout (Pipe Network)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.2



AMENDMENTS

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Client:

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Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

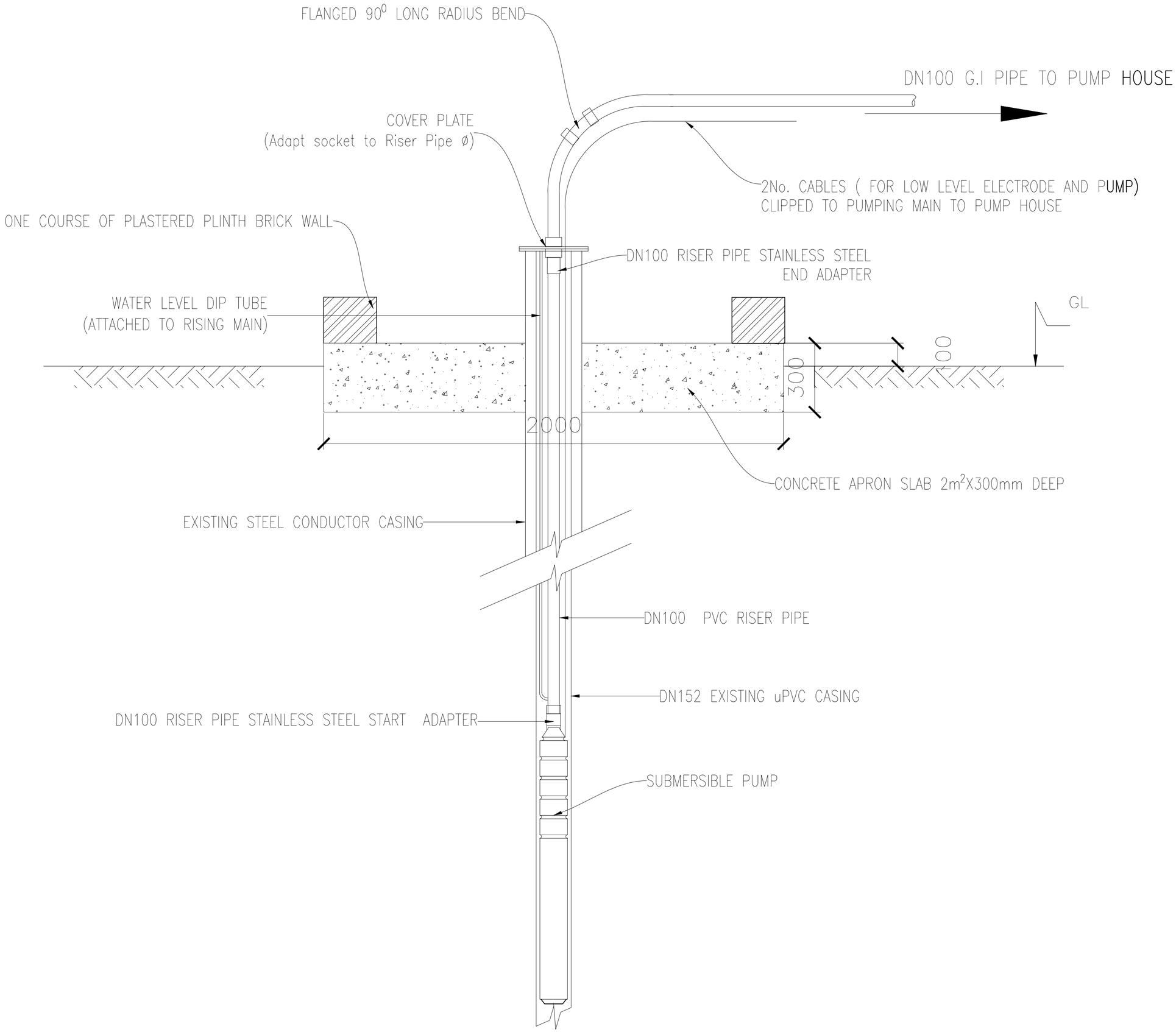
PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

HALANGA WATER SUPPLY

Intake Site Layout

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA
ENGINEERING DESIGN		
Drg No:	GBUT-UN4-2025/HLG/1.3	



AMENDMENTS

No	Date	Revision

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LEGEND

- TRANSMISSION LINE
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- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

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Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

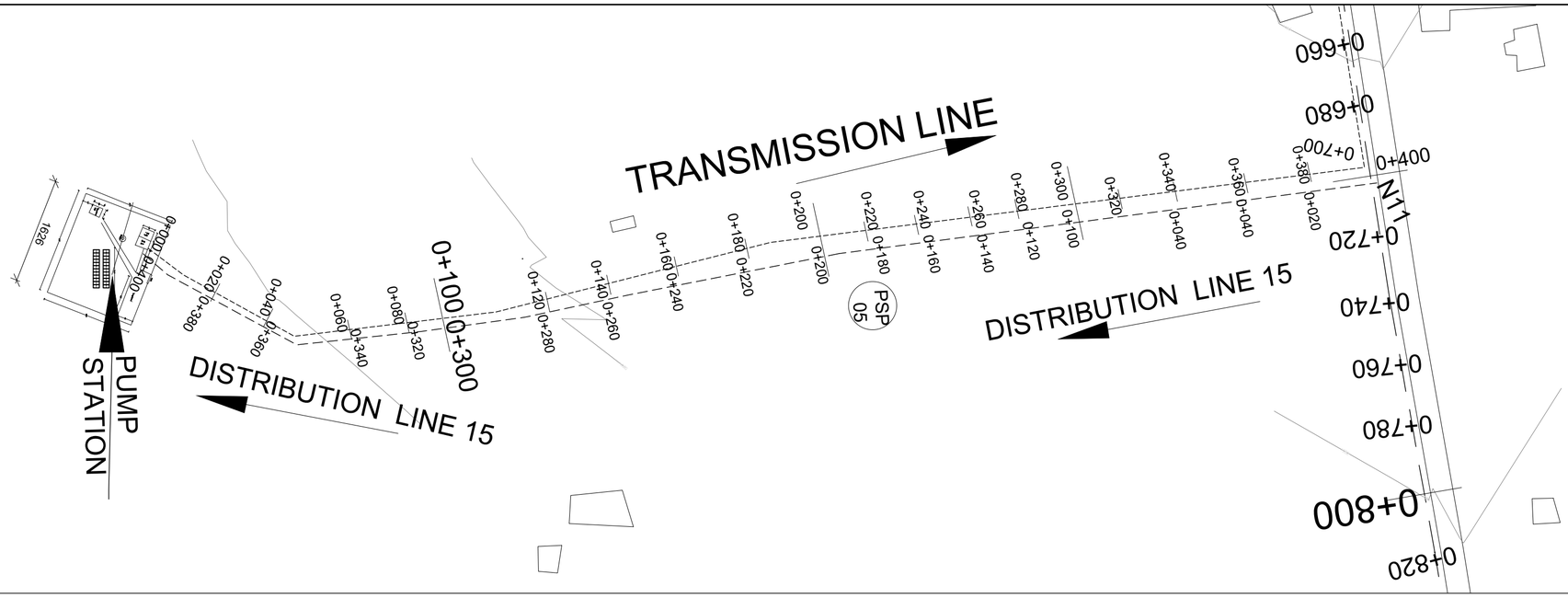
HALANGA WATER SUPPLY
Borehole Installation Details

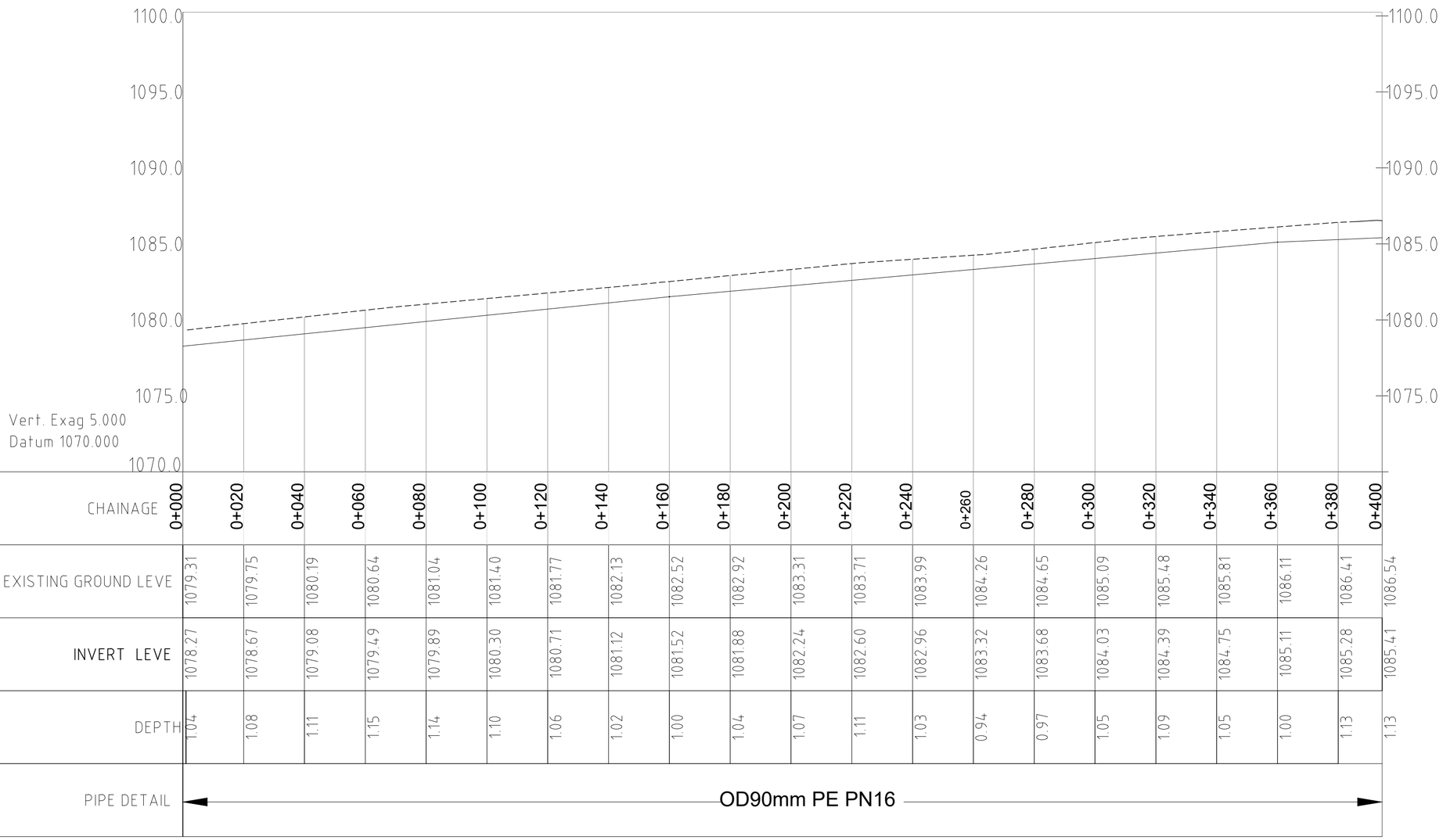
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.4

TRANSMISSION NETWORK DRAWINGS





CHAINAGE	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400
EXISTING GROUND LEVE	1079.31	1079.75	1080.19	1080.64	1081.04	1081.40	1081.77	1082.13	1082.52	1082.92	1083.31	1083.71	1083.99	1084.26	1084.65	1085.09	1085.48	1085.81	1086.11	1086.41	1086.54
INVERT LEVE	1078.27	1078.67	1079.08	1079.49	1079.89	1080.30	1080.71	1081.12	1081.52	1081.88	1082.24	1082.60	1082.96	1083.32	1083.68	1084.03	1084.39	1084.75	1085.11	1085.28	1085.41
DEPTH	1.04	1.08	1.11	1.15	1.14	1.10	1.06	1.02	1.00	1.04	1.07	1.11	1.03	0.94	0.97	1.05	1.09	1.05	1.00	1.13	1.13
PIPE DETAIL	OD90mm PE PN16																				

AMENDMENTS

No	Date	Revision

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LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

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Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

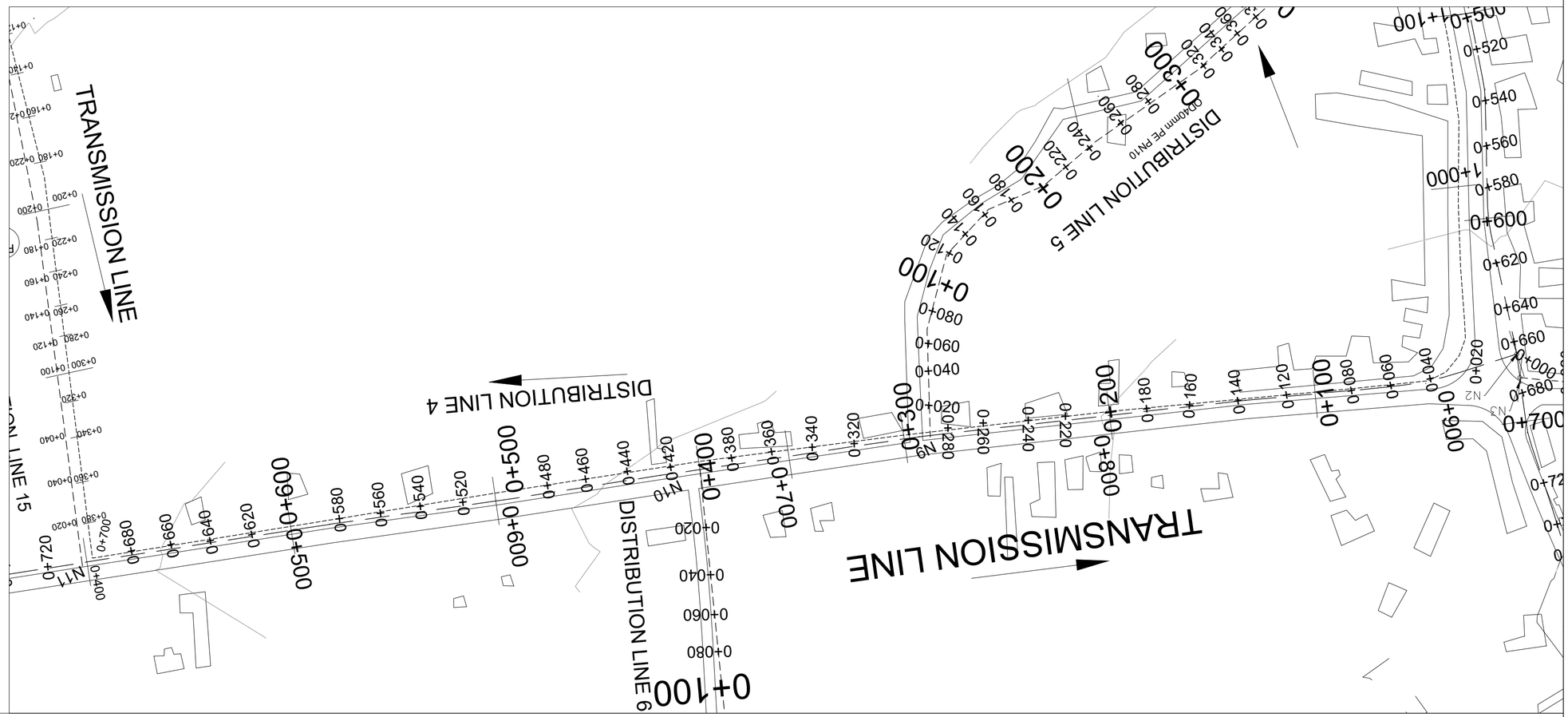
Drawing Title :

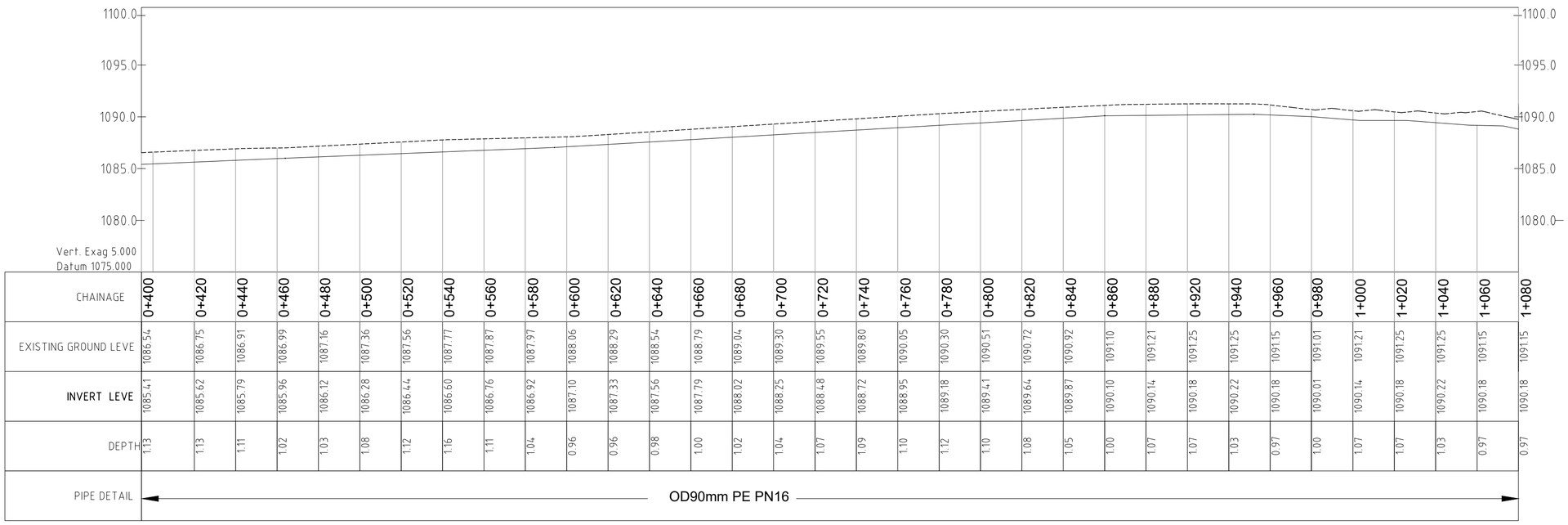
TRANSMISSION NETWORK
CHAINAGE (0+000 – 0+400)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.5





CHAINAGE	EXISTING GROUND LEVE	INVERT LEVE	DEPTH
0+400	1086.54	1085.41	1.13
0+420	1086.75	1085.62	1.13
0+440	1086.91	1085.79	1.11
0+460	1086.99	1085.96	1.02
0+480	1087.16	1086.12	1.03
0+500	1087.36	1086.28	1.08
0+520	1087.56	1086.44	1.12
0+540	1087.77	1086.60	1.16
0+560	1087.87	1086.76	1.11
0+580	1087.97	1086.92	1.04
0+600	1088.06	1087.10	0.96
0+620	1088.29	1087.33	0.96
0+640	1088.54	1087.56	0.98
0+660	1088.79	1087.79	1.00
0+680	1089.04	1088.02	1.02
0+700	1089.30	1088.25	1.04
0+720	1089.55	1088.48	1.07
0+740	1089.80	1088.72	1.09
0+760	1090.05	1088.95	1.10
0+780	1090.30	1089.18	1.12
0+800	1090.51	1089.41	1.10
0+820	1090.72	1089.64	1.08
0+840	1090.92	1089.87	1.05
0+860	1091.10	1090.10	1.00
0+880	1091.21	1090.14	1.07
0+920	1091.25	1090.18	1.07
0+940	1091.25	1090.22	1.03
0+960	1091.15	1090.18	0.97
0+980	1091.01	1090.01	1.00
1+000	1091.21	1090.14	1.07
1+020	1091.25	1090.18	1.07
1+040	1091.25	1090.22	1.03
1+060	1091.15	1090.18	0.97
1+080	1091.15	1090.18	0.97

PIPE DETAIL: OD90mm PE PN16

AMENDMENTS

No	Date	Revision

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- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

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Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

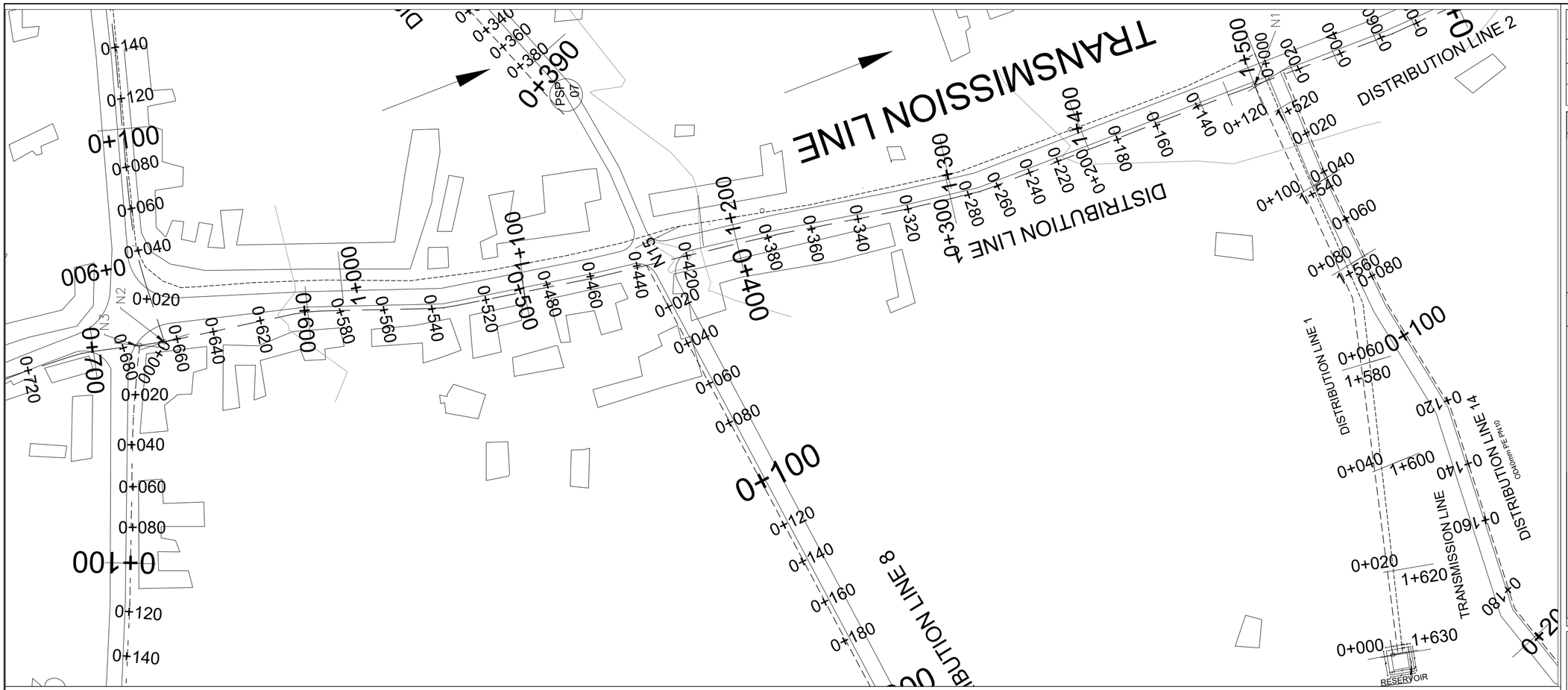
Drawing Title :

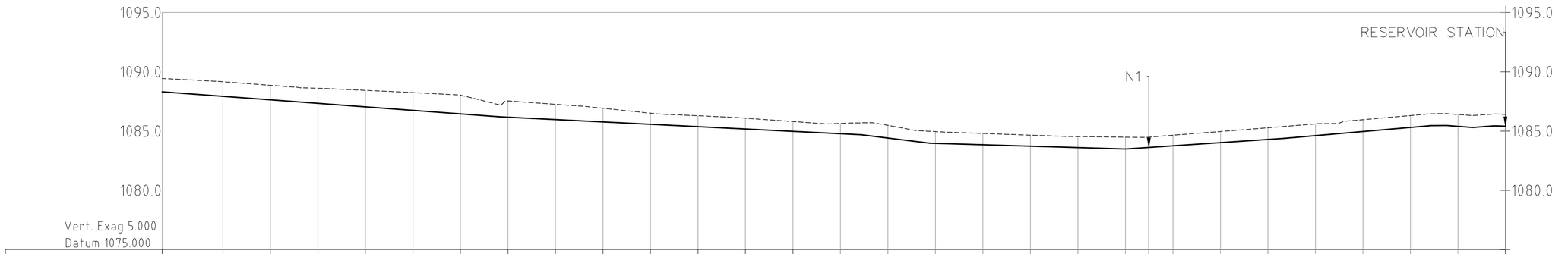
TRANSMISSION NETWORK
CHAINAGE (0+400 – 1+080)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.6





CHAINAGE	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+630
EXISTING GROUND LEVE	1089.44	1089.16	1088.86	1088.61	1088.44	1088.25	1088.04	1087.55	1087.26	1086.93	1086.51	1086.29	1086.09	1085.81	1085.65	1085.49	1084.96	1084.80	1084.66	1084.54	1084.49	1084.483	1084.65	1084.97	1085.28	1085.61	1085.96	1086.31	1086.40	1086.41
INVERT LEVE	1088.31	1087.93	1087.64	1087.34	1087.05	1086.75	1086.46	1086.18	1085.98	1085.78	1085.58	1085.38	1085.18	1084.98	1084.78	1084.42	1083.97	1083.85	1083.73	1083.61	1083.49	1083.523	1083.76	1084.03	1084.30	1084.62	1084.97	1085.31	1085.40	1085.41
DEPTH	1.13	1.23	1.22	1.27	1.39	1.50	1.59	1.37	1.28	1.15	0.93	0.91	0.91	0.83	0.87	1.07	0.99	0.95	0.93	0.93	1.00	0.96	0.89	0.94	0.98	0.99	1.00	1.00	0.99	1.00
PIPE DETAIL	OD90mm PE PN16																													

AMENDMENTS

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LEGEND

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Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

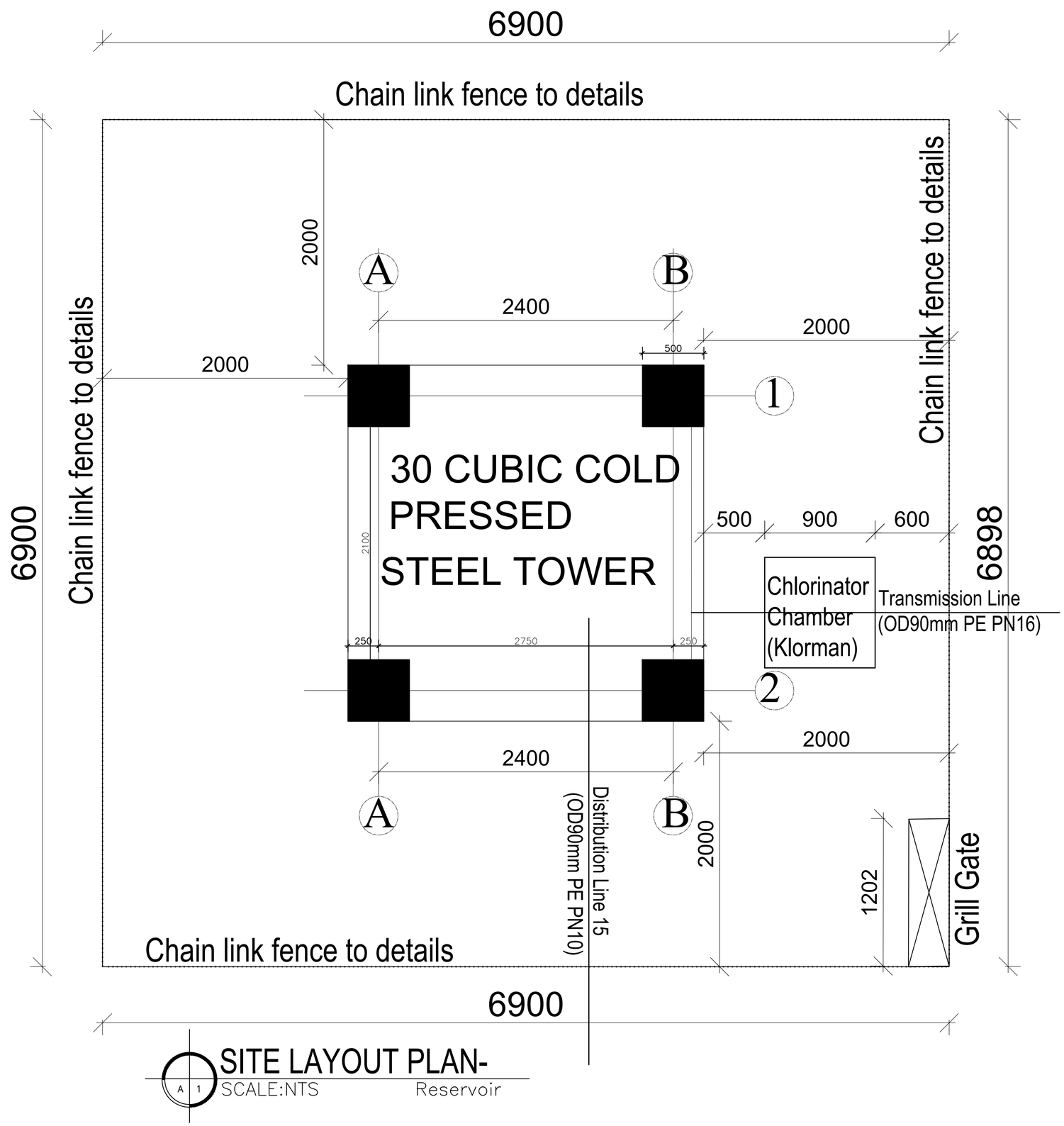
TRANSMISSION NETWORK
CHAINAGE (1+080 – 1+630)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.7

RESERVOIR DRAWINGS



SITE LAYOUT PLAN-

A 1 SCALE:NTS Reservoir

AMENDMENTS

No	Date	Revision

NOTES

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Client:

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Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

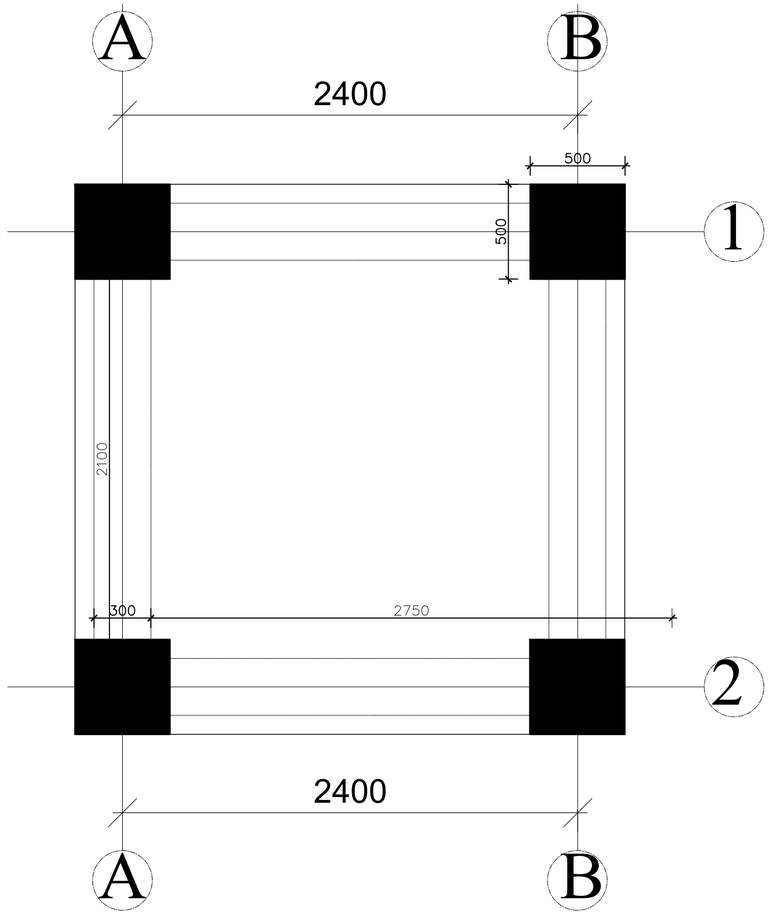
HALANGA WATER SUPPLY

Reservoir Site Layout Plan

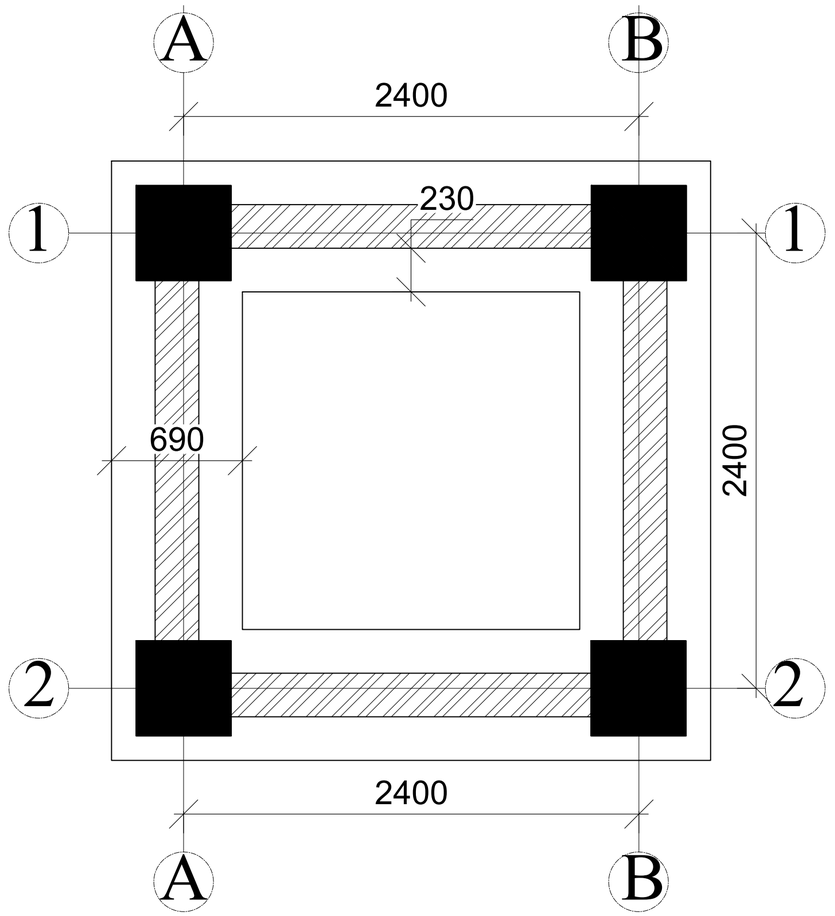
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

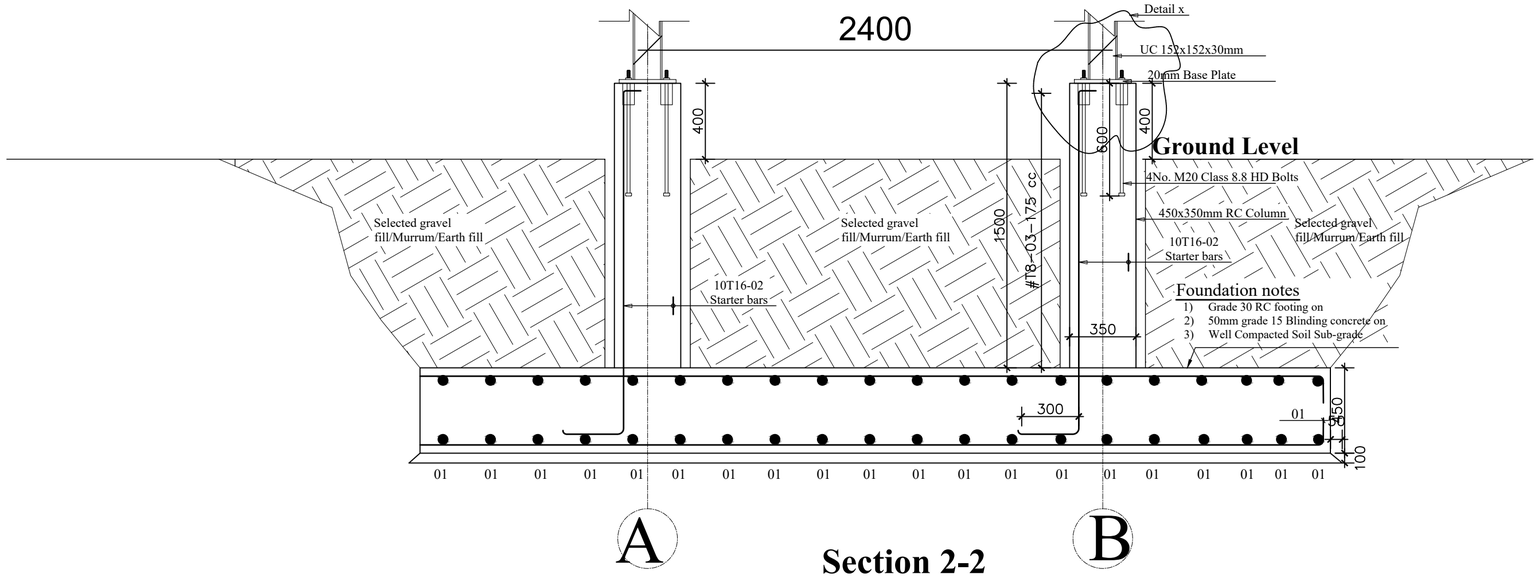
Drg No: GBUT-UN4-2025/HLG/1.9



GROUND BEAM & COLUMN LAYOUT



FOUNDATION EXCVN. LAYOUT



Section 2-2

AMENDMENTS

No	Date	Revision

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LEGEND

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FINANCED BY:

Client:

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Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

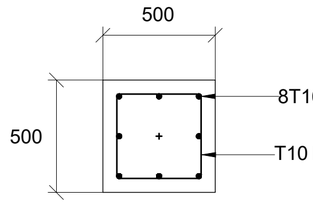
HALANGA WATER SUPPLY

Reservoir Foundation Layout

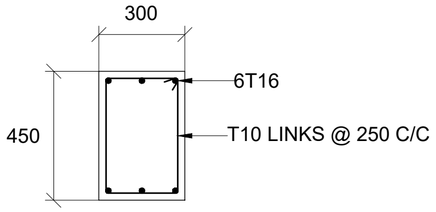
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

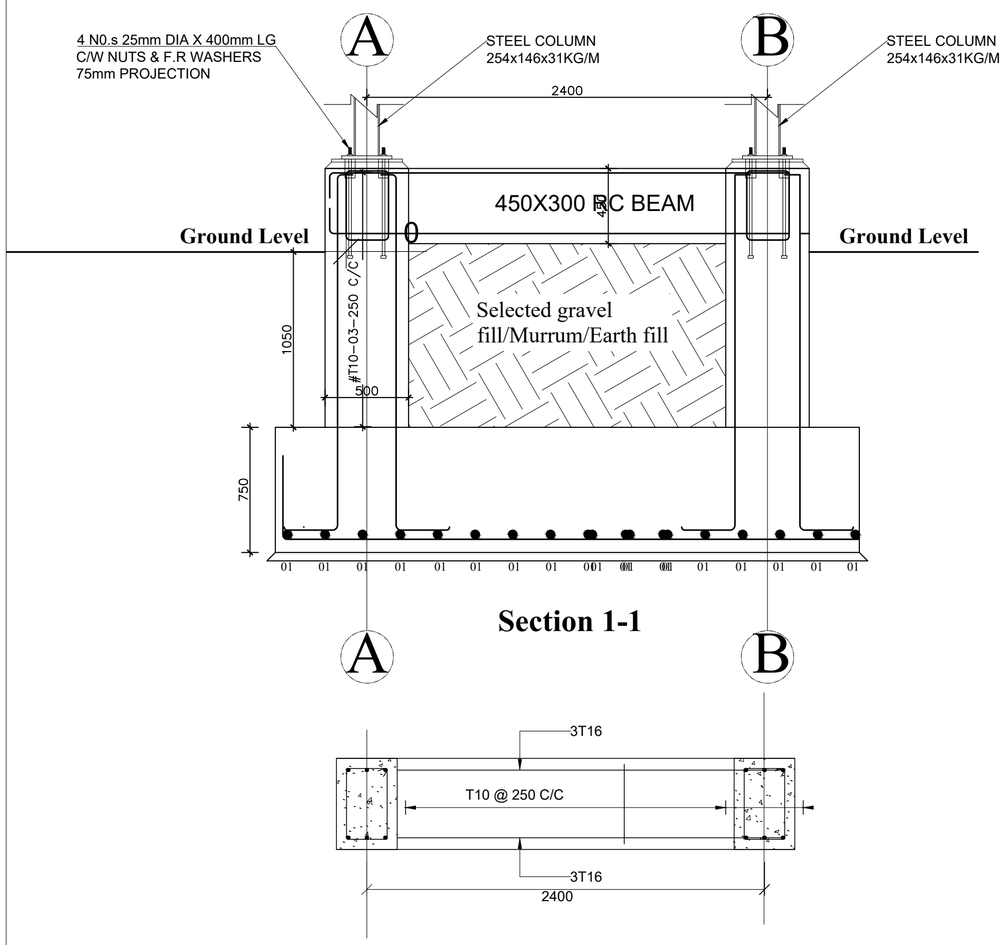
Drg No: GBUT-UN4-2025/HLG/1.10



SECTION THRU
STUP COLUMN



SECTION THRU
RC BEAM



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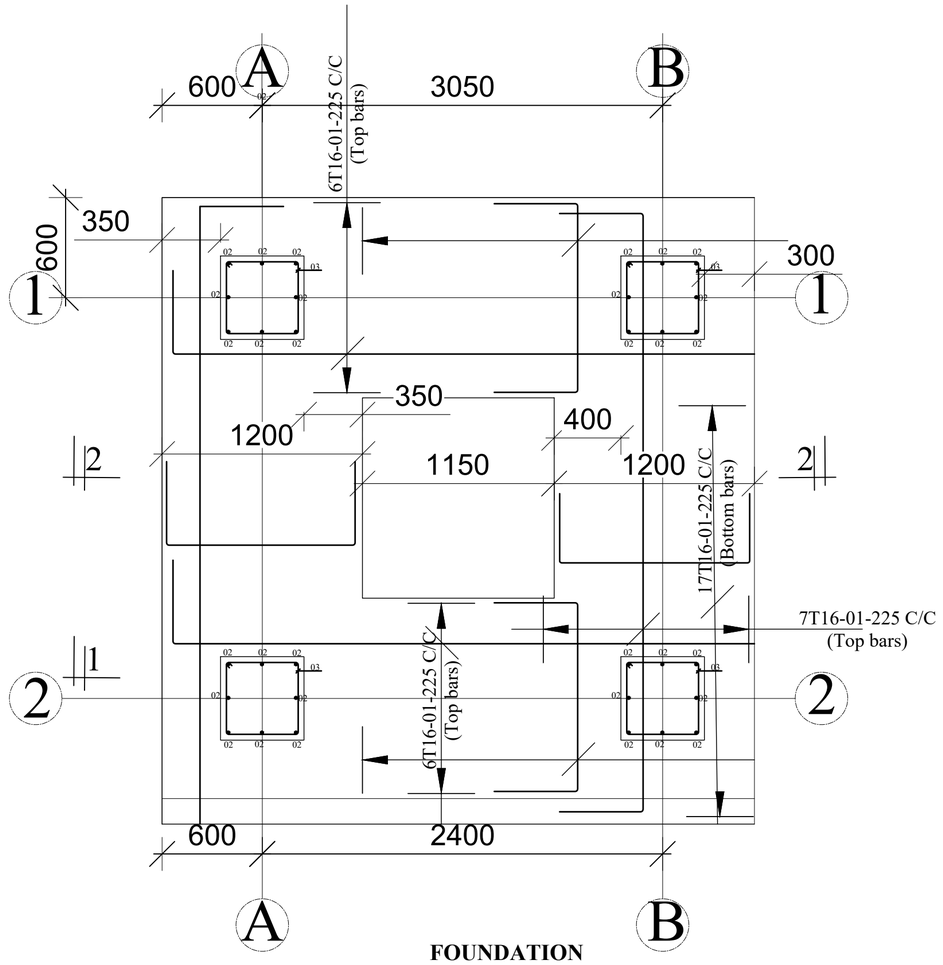

FOUNDATION REINFORCEMENT LAYOUT

AMENDMENTS

No	Date	Revision

NOTES

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LEGEND

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- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
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Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

HALANGA WATER SUPPLY

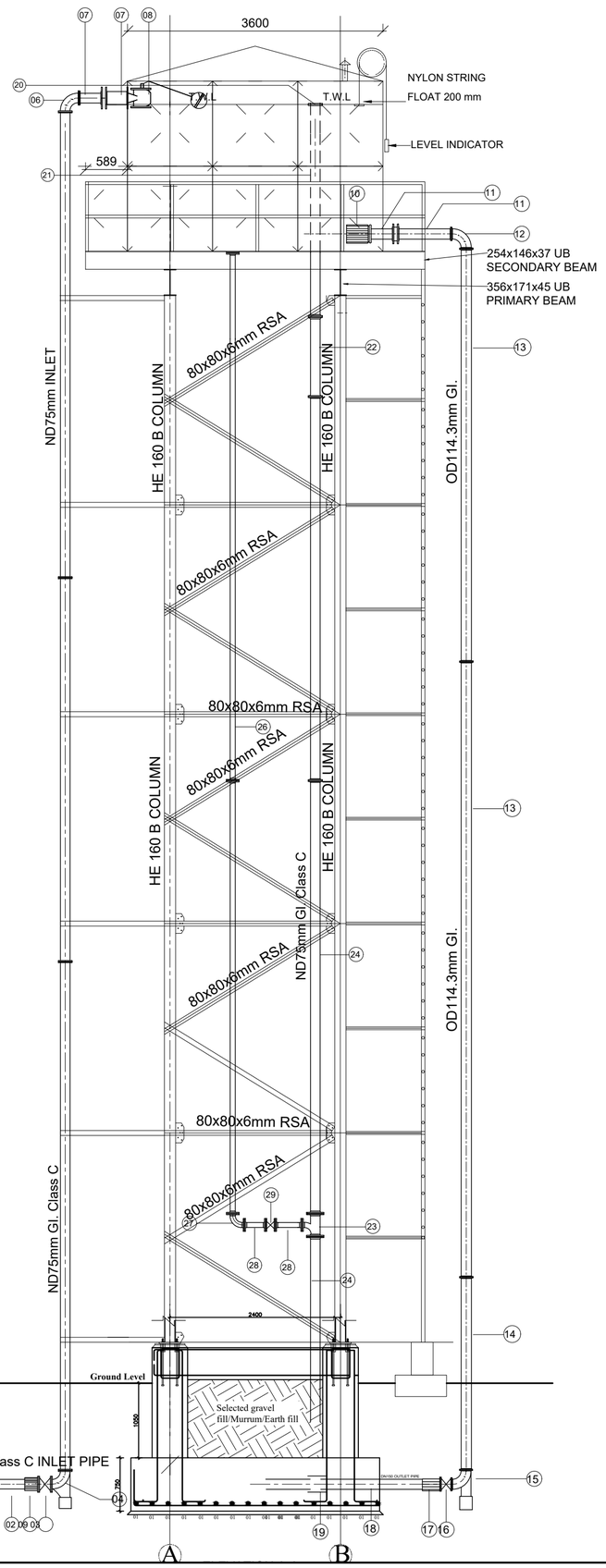
Reservoir Foundation Details

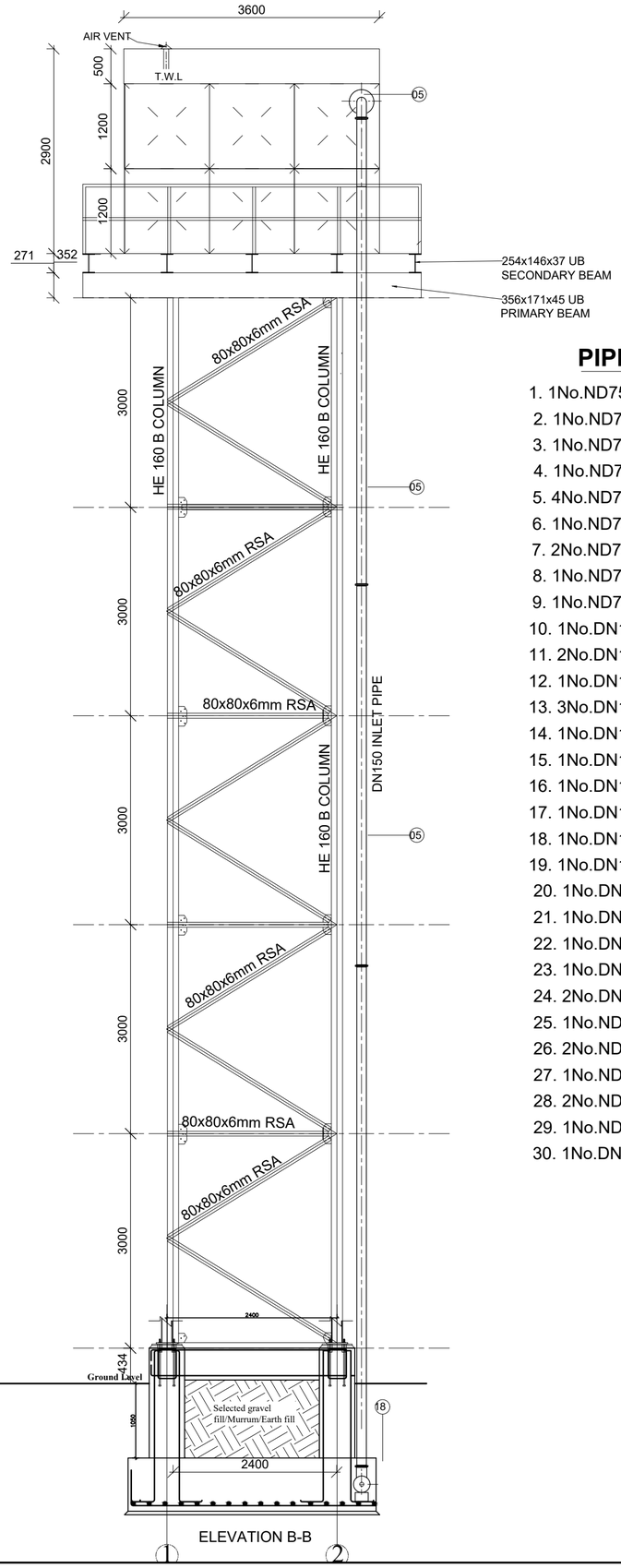
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.11

30 Cubic Reservoir





ELEVATION B-B

PIPE FITTING SCHEDULE

1. 1No.ND75mm Vicking Johnson or Similar Coupling.
2. 1No.ND75mmPipe not exceeding 2.0m.
3. 1No.ND75mm All Flanged Gate Valve.
4. 1No.ND75mm All Flanged Duck foot 90° bend.
5. 4No.ND75mm Double Flanged Pipe not exceeding 6.0m.
6. 1No.ND75mm All Flanged 90° bend.
7. 2No.ND75mm Double Flanged Pipe not exceeding 0.6m.
8. 1No.ND75mm Flanged Ball Float Valve.
9. 1No.ND75mm Flanged Adaptor,Maxi type or similar.
10. 1No.DN150 Flanged Outlet Pipe Strainer.
11. 2No.DN150 Double Flanged Pipe not exceeding 0.6m.
12. 1No.DN150 All Flanged 90° bend.
13. 3No.DN150 Double Flanged Pipe not exceeding 6.0m.
14. 1No.DN150 Double Flanged Pipe not exceeding 2.0m.
15. 1No.DN150 All Flanged Duck foot 90° bend.
16. 1No.DN150 Flanged Gate Valve.
17. 1No.DN150 Flanged Adaptor,Maxi type or similar.
18. 1No.DN150 Double Flanged Pipe not exceeding 2.0m.
19. 1No.DN150 Vicking Johnson or Similar Coupling.
20. 1No.DN150 Flanged Bell Mouth.
21. 1No.DN150 Double Flanged Pipe not exceeding 3.0m.
22. 1No.DN150 Double Flanged Pipe not exceeding 2.0m.
23. 1No.DN150/100 All Flanged Tee.
24. 2No.DN150 Double Flanged Pipe not exceeding 6.0m.
25. 1No.ND75mm All Flanged Duck foot 90° bend.
26. 2No.ND75mm All Flanged Pipe with puddle flange n.e 6.0m.
27. 1No.ND75mm All Flanged 90° bend.
28. 2No.ND75mm Double Flanged Pipe not exceeding 0.4m.
29. 1No.ND75mm Flanged Gate Valve.
30. 1No.DN80 Flanged Adaptor,Maxi type or similar.

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

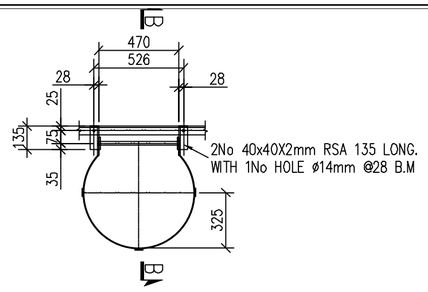
HALANGA WATER SUPPLY

Reservoir Structure Elevations

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

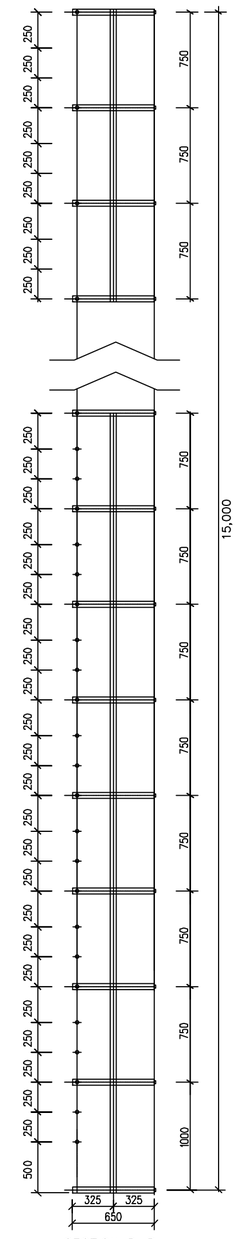
ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.12

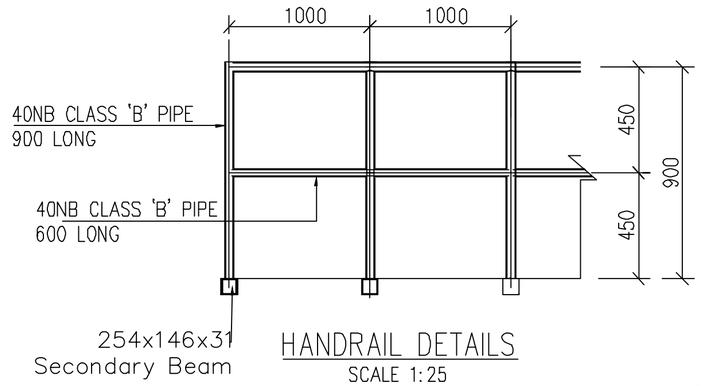


CATLADDER PLAN
SCALE 1:25

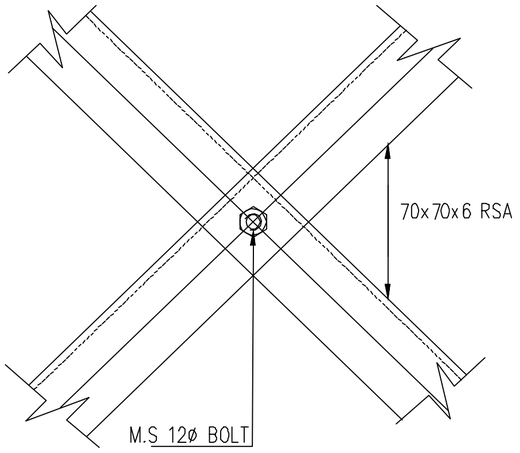
LADDER
Steps of steel Angle line
of 40mm x40mmx2mm
@ 250mm C/C



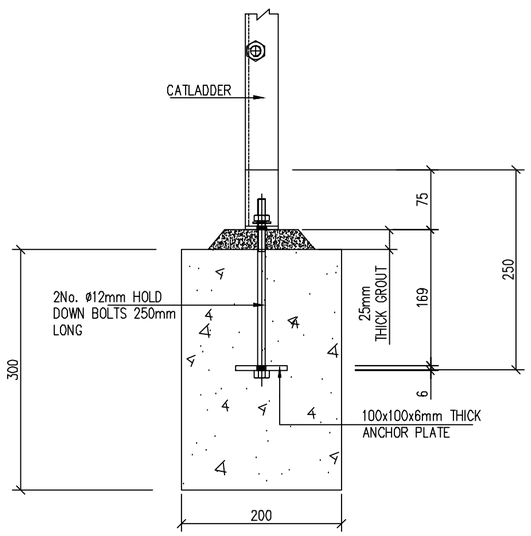
SECTION B-B
CATLADDER ELEVATION
(NOTE. ALL HOLES ARE 14DIA FOR ø12 BOLTS)
SCALE 1:25



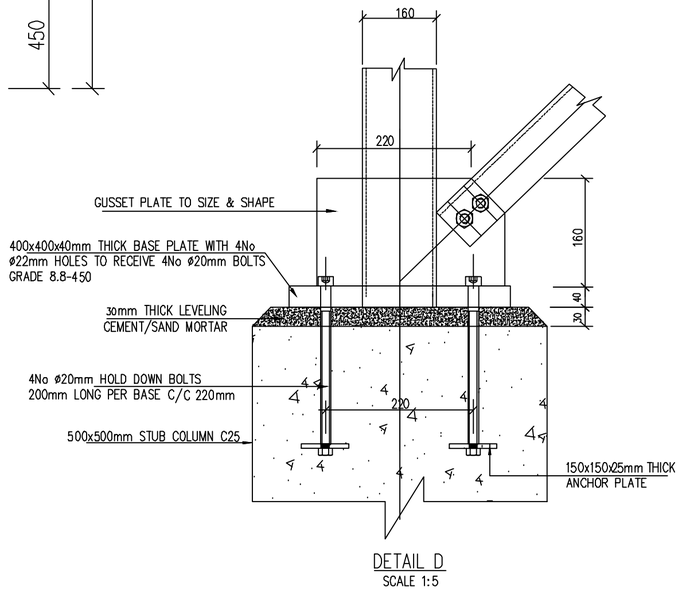
HANDRAIL DETAILS
SCALE 1:25



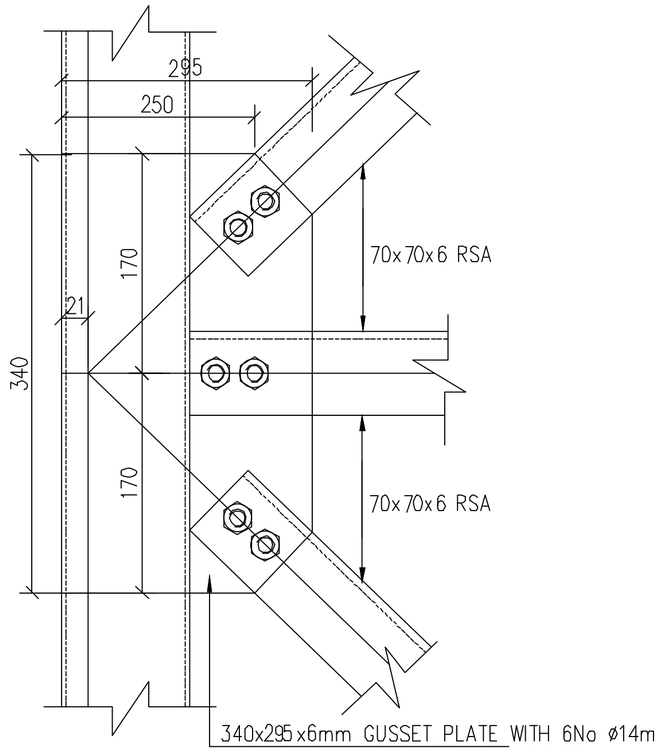
DETAIL A



CATLADDER SUPPORT DETAILS
SCALE 1:5



DETAIL D
SCALE 1:5



DETAIL B
SCALE 1:5

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

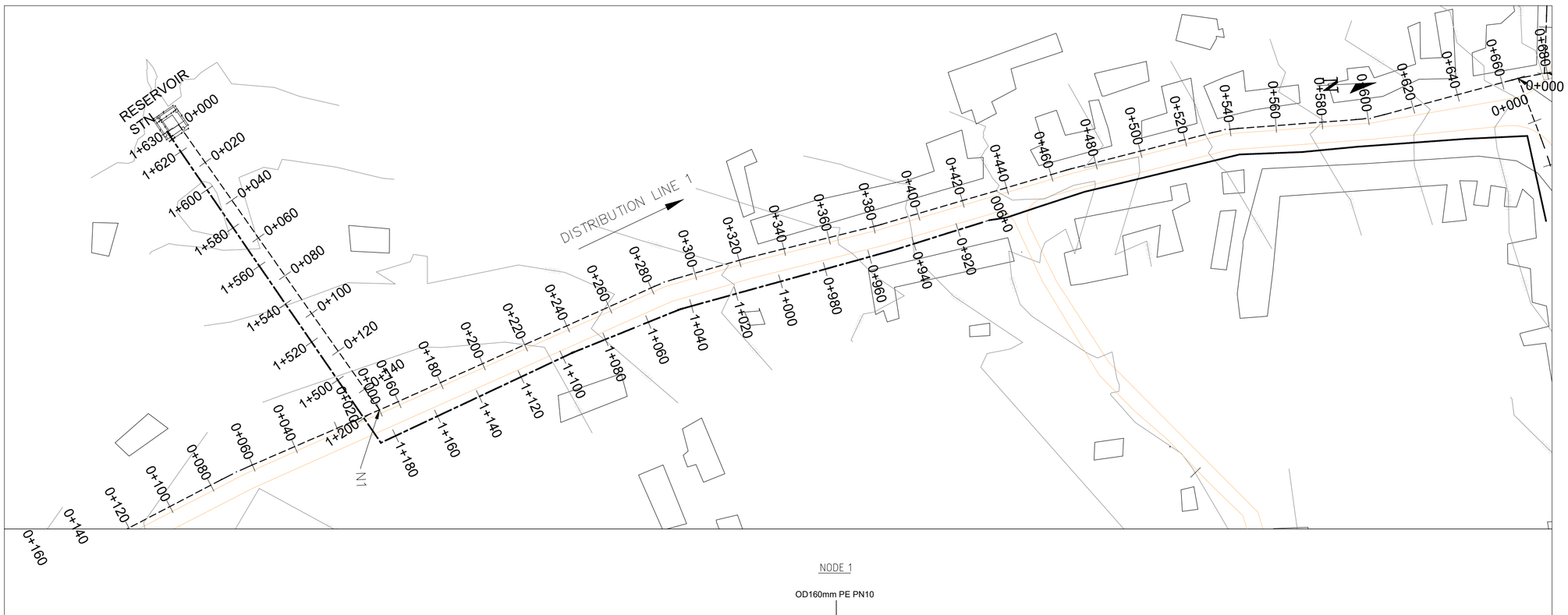
PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

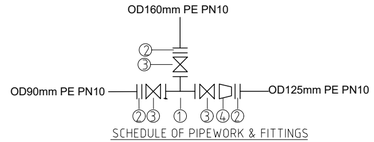
HALANGA WATER SUPPLY
Reservoir Structure Structure Connection details

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA
ENGINEERING DESIGN		
Drg No:	GBUT-UN4-2025/HLG/1.13	

DISTRIBUTION NETWORK DRAWINGS

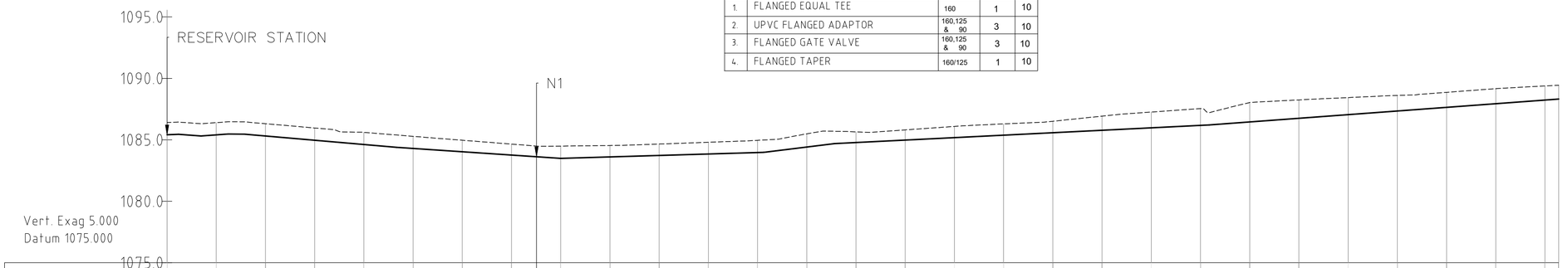


NODE 1



SCHEDULE OF PIPEWORK & FITTINGS

ITEM	DESCRIPTION	SIZE(OD)	Q.TY.	PN
1.	FLANGED EQUAL TEE	160	1	10
2.	UPVC FLANGED ADAPTOR	160,125 & 90	3	10
3.	FLANGED GATE VALVE	160,125 & 90	3	10
4.	FLANGED TAPER	160/125	1	10



CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+000	1086.41	1085.41	1.00
0+020	1086.40	1085.40	0.99
0+040	1086.31	1085.31	1.00
0+060	1085.96	1084.97	1.00
0+080	1085.61	1084.62	0.99
0+100	1085.28	1084.30	0.98
0+120	1084.97	1084.03	0.94
0+140	1084.65	1083.76	0.89
0+151	**1084.483**	**1083.523**	**0.96**
0+160	1084.49	1083.49	1.00
0+180	1084.54	1083.61	0.93
0+200	1084.66	1083.73	0.93
0+220	1084.80	1083.85	0.95
0+240	1084.96	1083.97	0.99
0+260	1085.49	1084.42	1.07
0+280	1085.65	1084.78	0.87
0+300	1085.81	1084.98	0.83
0+320	1086.09	1085.18	0.91
0+340	1086.29	1085.38	0.91
0+360	1086.51	1085.58	0.93
0+380	1086.93	1085.78	1.15
0+400	1087.26	1085.98	1.28
0+420	1087.55	1086.18	1.37
0+440	1088.04	1086.46	1.59
0+460	1088.25	1086.75	1.50
0+480	1088.44	1087.05	1.39
0+500	1088.61	1087.34	1.27
0+520	1088.86	1087.64	1.22
0+540	1089.16	1087.93	1.23
0+560	1089.38	1088.23	1.15
0+566	1089.44	1088.31	1.13

PIPE DETAILS: OD110mm uPVC (0+000 – 0+151); OD90mm PE PN10 (0+151 – 0+566)

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
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Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

DISTRIBUTION LINE 1

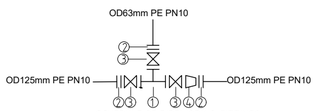
CHAINAGE (0+0.000–0+566)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.14

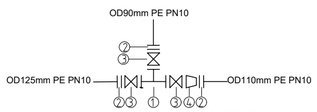
NODE 2



SCHEDULE OF PIPEWORK & FITTINGS

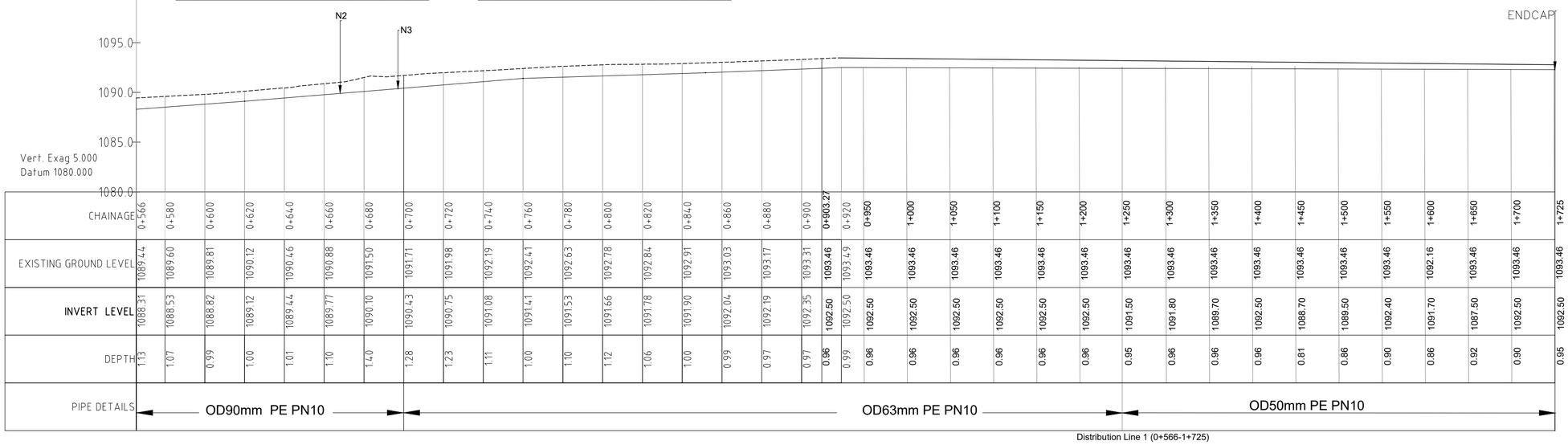
ITEM	DESCRIPTION	SIZE(OD)	Q.TY.	PN
1.	FLANGED EQUAL TEE	160	1	10
2.	UPVC FLANGED ADAPTOR	160,125 & 90	3	10
3.	FLANGED GATE VALVE	160,125 & 90	3	10
4.	FLANGED TAPER	160/125	1	10

NODE 3



SCHEDULE OF PIPEWORK & FITTINGS

ITEM	DESCRIPTION	SIZE(OD)	Q.TY.	PN
1.	FLANGED EQUAL TEE	160	1	10
2.	UPVC FLANGED ADAPTOR	160,125 & 90	3	10
3.	FLANGED GATE VALVE	160,125 & 90	3	10
4.	FLANGED TAPER	160/125	1	10



CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+566	1089.44	1088.31	1.13
0+580	1089.60	1088.53	1.07
0+600	1089.81	1088.82	0.99
0+620	1090.12	1089.12	1.00
0+640	1090.46	1089.44	1.01
0+660	1090.88	1089.77	1.10
0+680	1091.50	1090.10	1.40
0+700	1091.71	1090.43	1.28
0+720	1091.98	1090.75	1.23
0+740	1092.19	1091.08	1.11
0+760	1092.41	1091.41	1.00
0+780	1092.63	1091.53	1.10
0+800	1092.78	1091.66	1.12
0+820	1092.84	1091.78	1.06
0+840	1092.91	1091.90	1.00
0+860	1093.03	1092.04	0.99
0+880	1093.17	1092.19	0.97
0+900	1093.31	1092.35	0.97
0+903.27	1093.46	1092.50	0.96
0+920	1093.49	1092.50	0.99
0+950	1093.46	1092.50	0.96
1+000	1093.46	1092.50	0.96
1+050	1093.46	1092.50	0.96
1+100	1093.46	1092.50	0.96
1+150	1093.46	1092.50	0.96
1+200	1093.46	1092.50	0.96
1+250	1093.46	1091.50	0.95
1+300	1093.46	1091.80	0.96
1+350	1093.46	1089.70	0.96
1+400	1093.46	1092.50	0.96
1+450	1093.46	1088.70	0.81
1+500	1093.46	1089.50	0.86
1+550	1093.46	1092.40	0.90
1+600	1092.16	1091.70	0.86
1+650	1093.46	1087.50	0.92
1+700	1093.46	1092.50	0.90
1+725	1093.46	1092.50	0.95

PIPE DETAILS: OD90mm PE PN10 | OD63mm PE PN10 | OD50mm PE PN10

Distribution Line 1 (0+566-1+725)

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

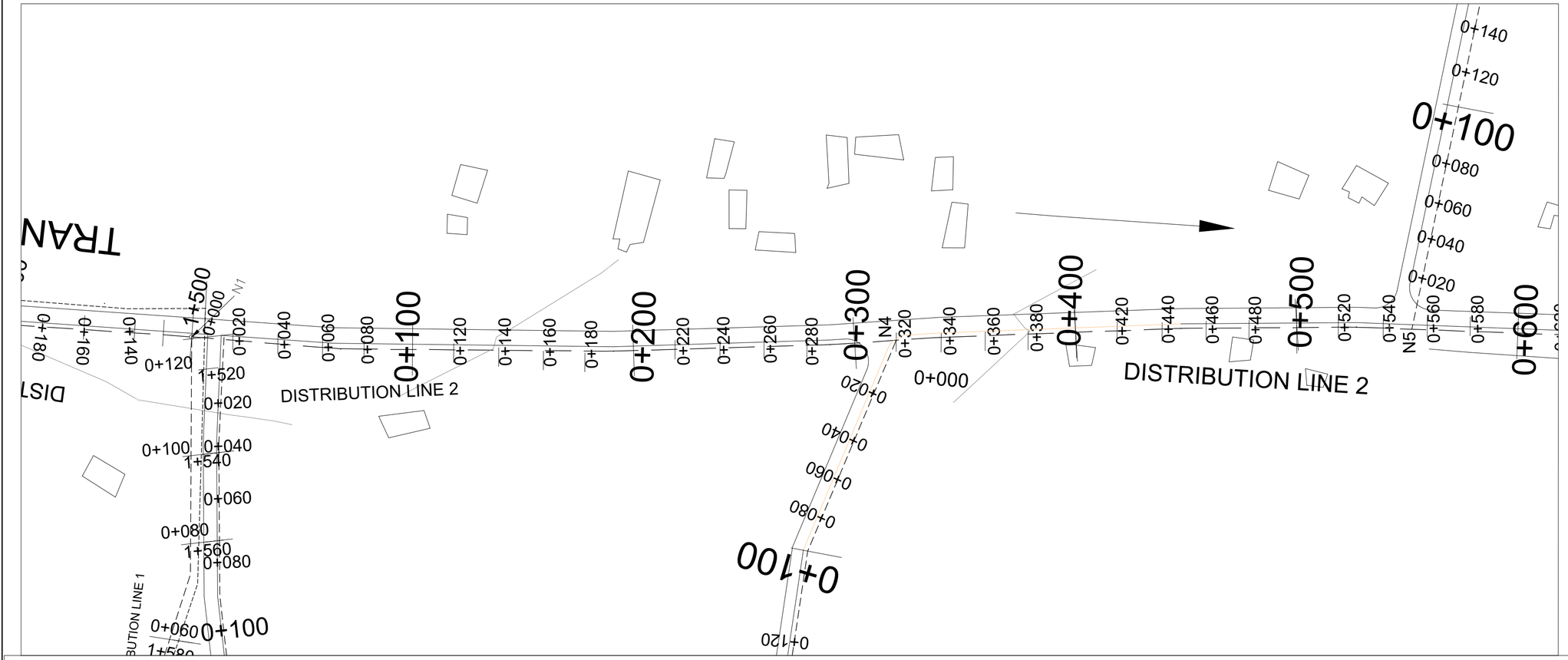
DISTRIBUTION LINE 1

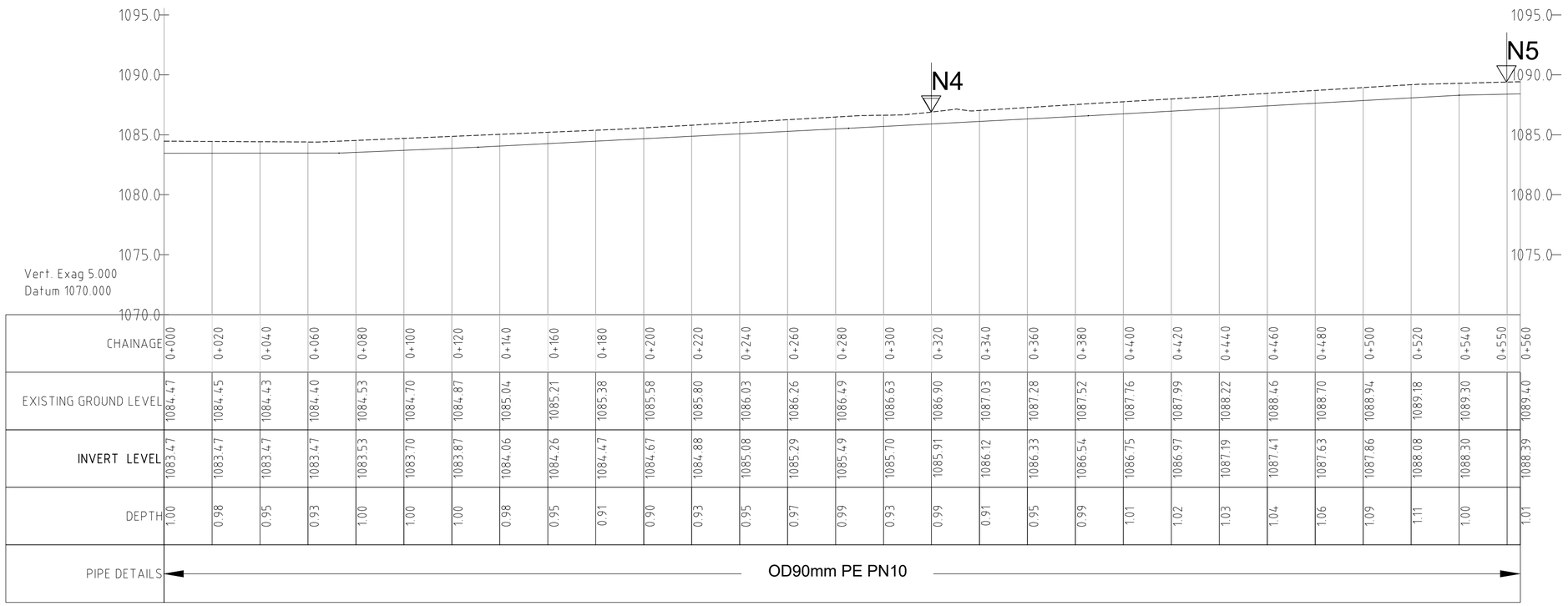
CHAINAGE (0+566–1+725

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.15





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+000	1084.47	1083.47	1.00
0+020	1084.45	1083.47	0.98
0+040	1084.43	1083.47	0.95
0+060	1084.40	1083.47	0.93
0+080	1084.53	1083.53	1.00
0+100	1084.70	1083.70	1.00
0+120	1084.87	1083.87	1.00
0+140	1085.04	1084.06	0.98
0+160	1085.21	1084.26	0.95
0+180	1085.38	1084.47	0.91
0+200	1085.58	1084.67	0.90
0+220	1085.80	1084.88	0.93
0+240	1086.03	1085.08	0.95
0+260	1086.26	1085.29	0.97
0+280	1086.49	1085.49	0.99
0+300	1086.63	1085.70	0.93
0+320	1086.90	1085.91	0.99
0+340	1087.03	1086.12	0.91
0+360	1087.28	1086.33	0.95
0+380	1087.52	1086.54	0.99
0+400	1087.76	1086.75	1.01
0+420	1087.99	1086.97	1.02
0+440	1088.22	1087.19	1.03
0+460	1088.46	1087.41	1.04
0+480	1088.70	1087.63	1.06
0+500	1088.94	1087.86	1.09
0+520	1089.18	1088.08	1.11
0+540	1089.30	1088.30	1.00
0+550			
0+560	1089.40	1088.39	1.01

PIPE DETAILS: OD90mm PE PN10

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
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Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

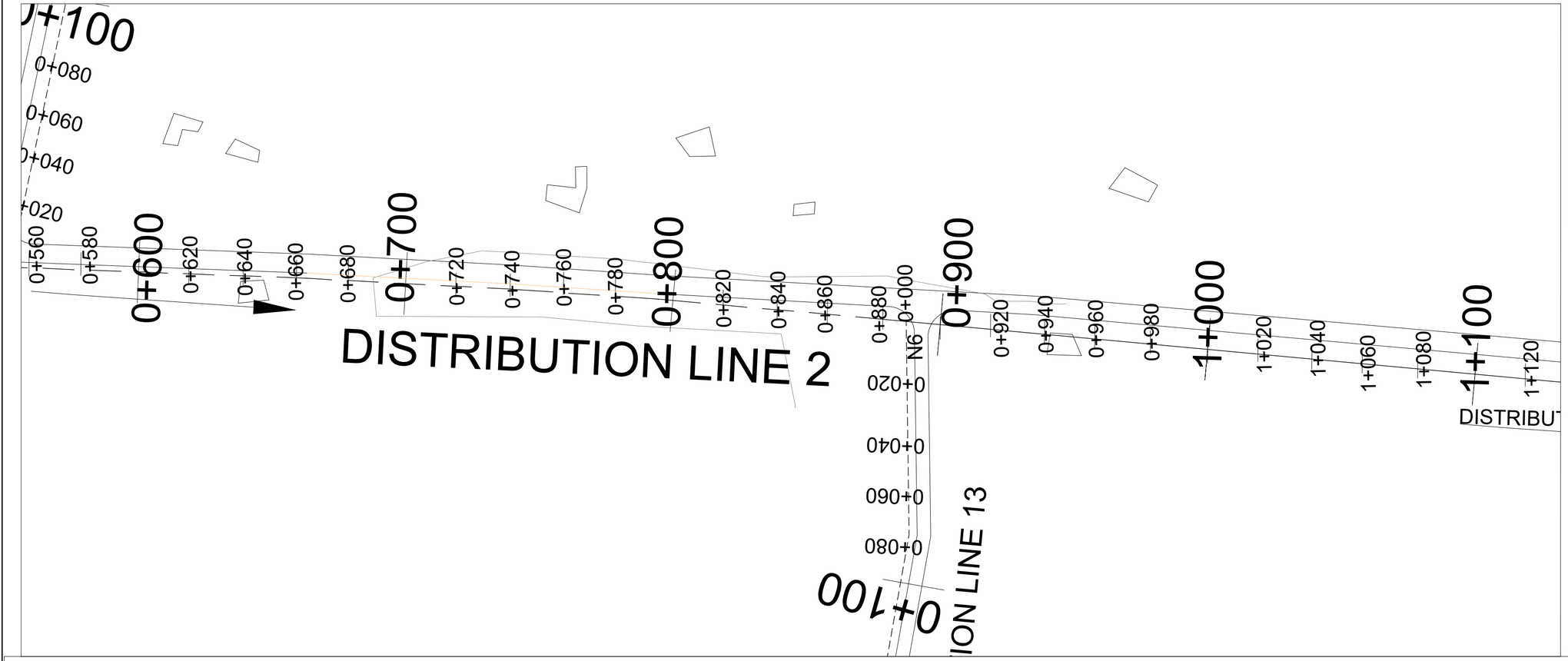
DISTRIBUTION LINE 2

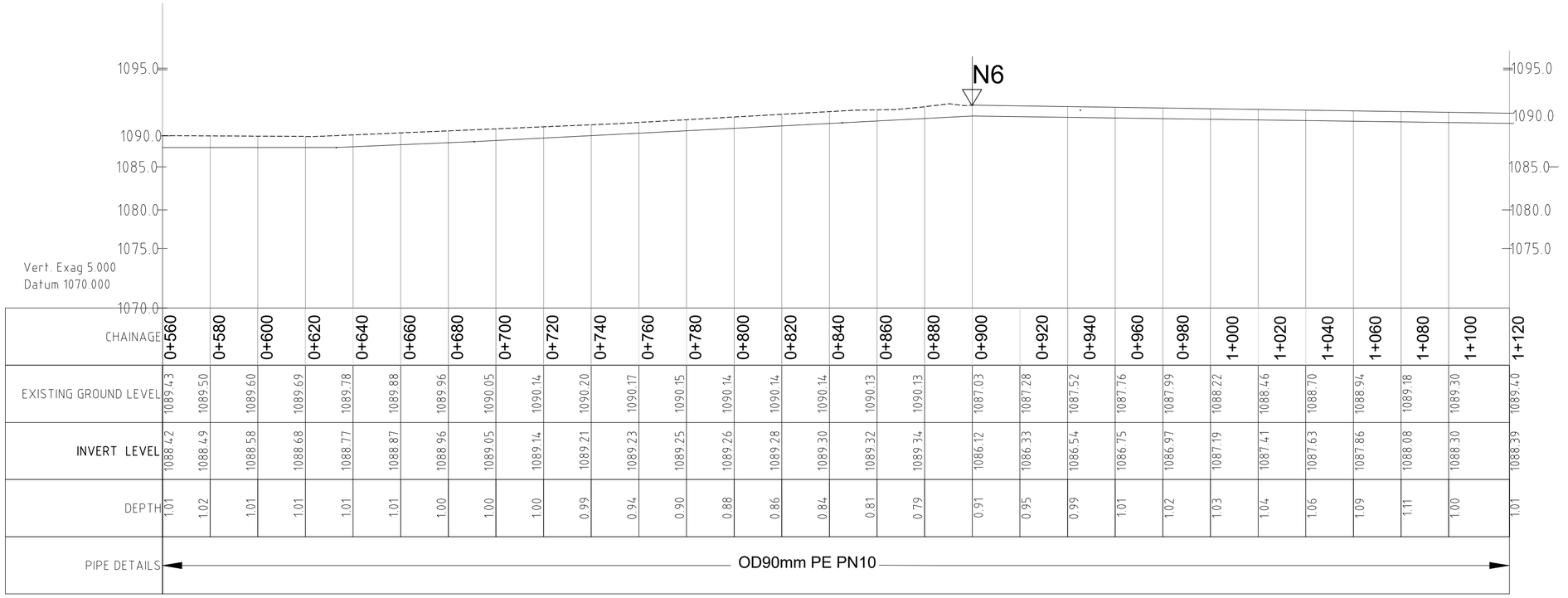
CHAINAGE (0+000–0+560)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.16





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+560	1089.43	1088.42	1.01
0+580	1089.50	1088.49	1.02
0+600	1089.60	1088.58	1.01
0+620	1089.69	1088.68	1.01
0+640	1089.78	1088.77	1.01
0+660	1089.88	1088.87	1.01
0+680	1089.96	1088.96	1.00
0+700	1090.05	1089.05	1.00
0+720	1090.14	1089.14	1.00
0+740	1090.20	1089.21	0.99
0+760	1090.17	1089.23	0.94
0+780	1090.15	1089.25	0.90
0+800	1090.14	1089.26	0.88
0+820	1090.14	1089.28	0.86
0+840	1090.14	1089.30	0.84
0+860	1090.13	1089.32	0.81
0+880	1090.13	1089.34	0.79
0+900	1087.03	1086.12	0.91
0+920	1087.28	1086.33	0.95
0+940	1087.52	1086.54	0.99
0+960	1087.76	1086.75	1.01
0+980	1087.99	1086.97	1.02
1+000	1088.22	1087.19	1.03
1+020	1088.46	1087.41	1.04
1+040	1088.70	1087.63	1.06
1+060	1088.94	1087.86	1.09
1+080	1089.18	1088.08	1.11
1+100	1089.30	1088.30	1.00
1+120	1089.40	1088.39	1.01

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

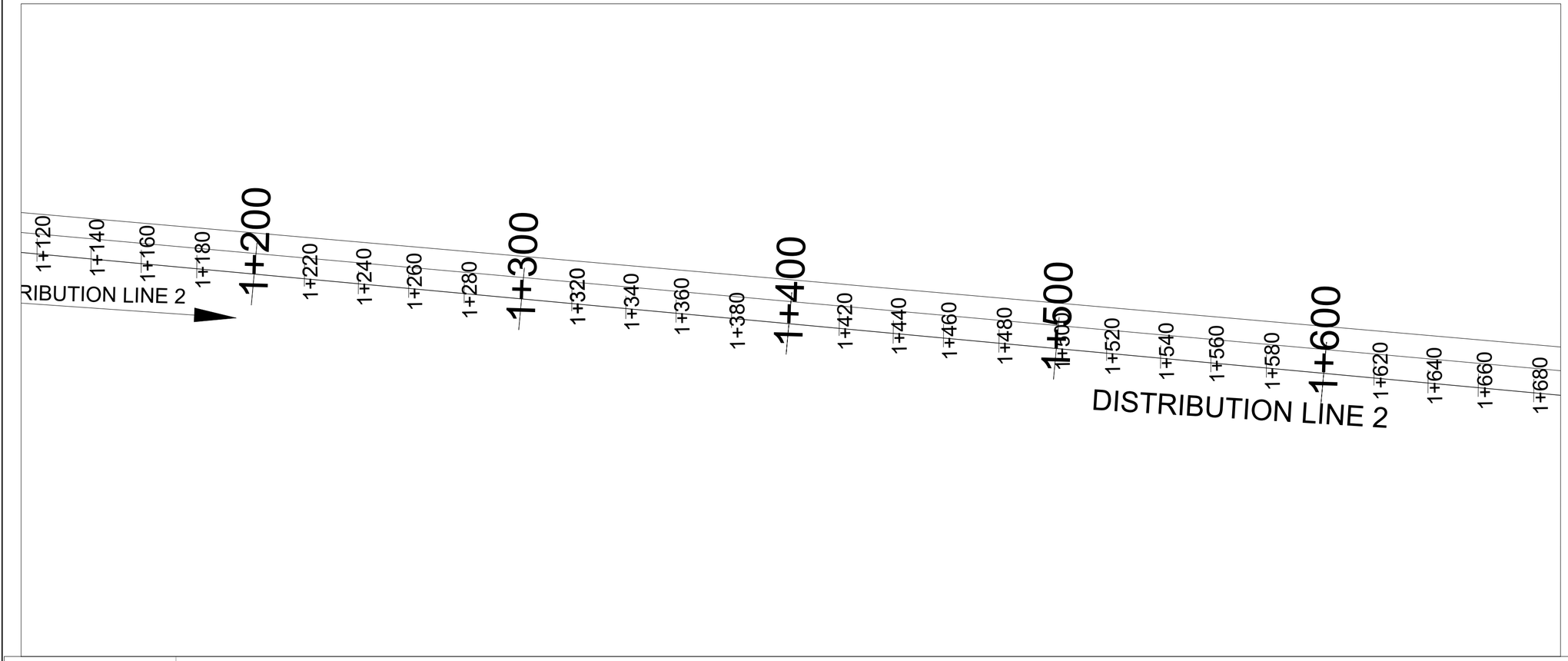
DISTRIBUTION LINE 2

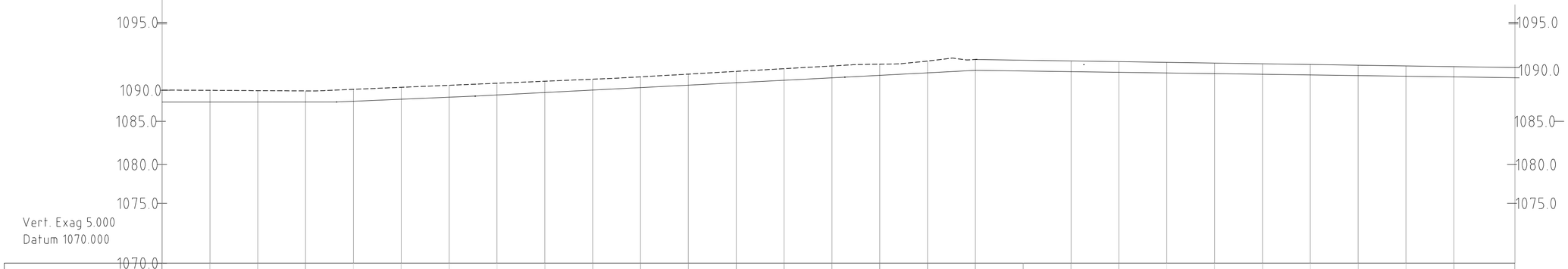
CHAINAGE (0+560–1+120)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.17





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
1+120	1089.43	1088.42	1.01
1+140	1089.50	1088.49	1.02
1+160	1089.60	1088.58	1.01
1+180	1089.69	1088.68	1.01
1+200	1089.78	1088.77	1.01
1+220	1089.88	1088.87	1.01
1+240	1089.96	1088.96	1.00
1+260	1090.05	1089.05	1.00
1+280	1090.14	1089.14	1.00
1+300	1090.20	1089.21	0.99
1+320	1090.17	1089.23	0.94
1+340	1090.15	1089.25	0.90
1+360	1090.14	1089.26	0.88
1+380	1090.14	1089.28	0.86
1+400	1090.14	1089.30	0.84
1+420	1090.13	1089.32	0.81
1+440	1090.13	1089.34	0.79
1+460	1087.03	1086.12	0.91
1+480	1087.28	1086.33	0.95
1+500	1087.52	1086.54	0.99
1+520	1087.76	1086.75	1.01
1+540	1087.99	1086.97	1.02
1+560	1088.22	1087.19	1.03
1+580	1088.46	1087.41	1.04
1+600	1088.70	1087.63	1.06
1+620	1088.94	1087.86	1.09
1+640	1089.18	1088.08	1.11
1+660	1089.30	1088.30	1.00
1+680	1089.40	1088.39	1.01

PIPE DETAILS: OD90mm PE PN10

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

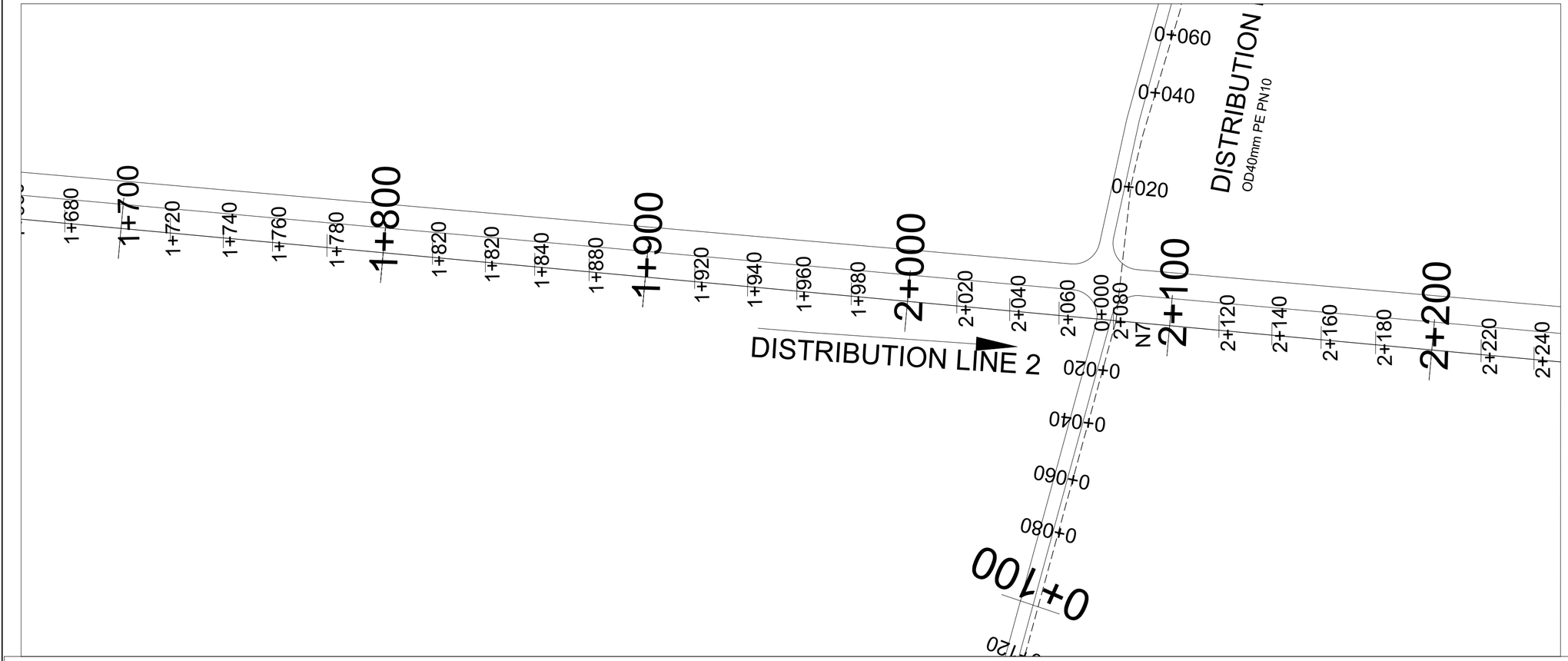
DISTRIBUTION LINE 2

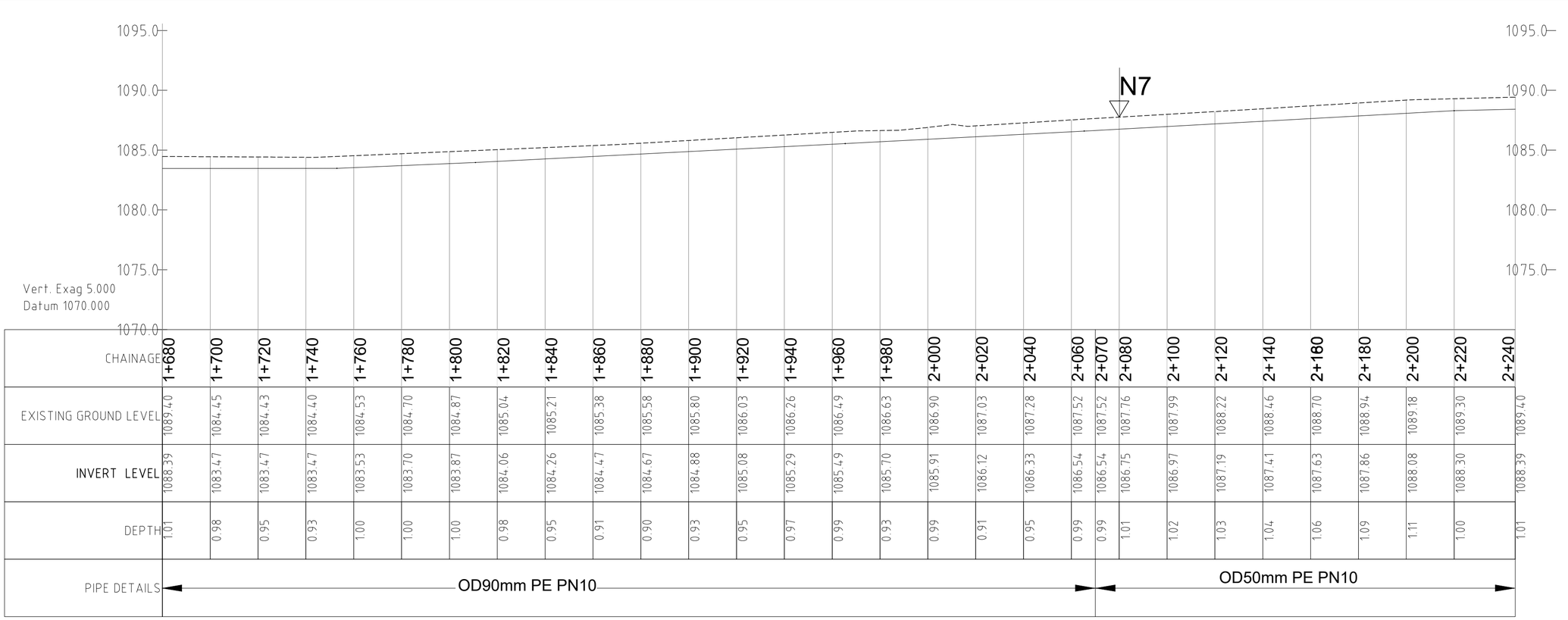
CHAINAGE (1+120–1+680)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.18





CHAINAGE	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+960	1+980	2+000	2+020	2+040	2+060	2+070	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+220	2+240
EXISTING GROUND LEVEL	1089.40	1084.45	1084.43	1084.40	1084.53	1084.70	1084.87	1085.04	1085.21	1085.38	1085.58	1085.80	1086.03	1086.26	1086.49	1086.63	1086.90	1087.03	1087.28	1087.52	1087.52	1087.76	1087.99	1088.22	1088.46	1088.70	1088.94	1089.18	1089.30	1089.40
INVERT LEVEL	1088.39	1083.47	1083.47	1083.47	1083.53	1083.70	1083.87	1084.06	1084.26	1084.47	1084.67	1084.88	1085.08	1085.29	1085.49	1085.70	1085.91	1086.12	1086.33	1086.54	1086.54	1086.75	1086.97	1087.19	1087.41	1087.63	1087.86	1088.08	1088.30	1088.39
DEPTH	1.01	0.98	0.95	0.93	1.00	1.00	1.00	0.98	0.95	0.91	0.90	0.93	0.95	0.97	0.99	0.93	0.99	0.91	0.95	0.99	0.99	1.01	1.02	1.03	1.04	1.06	1.09	1.11	1.00	1.01
PIPE DETAILS	OD90mm PE PN10																				OD50mm PE PN10									

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

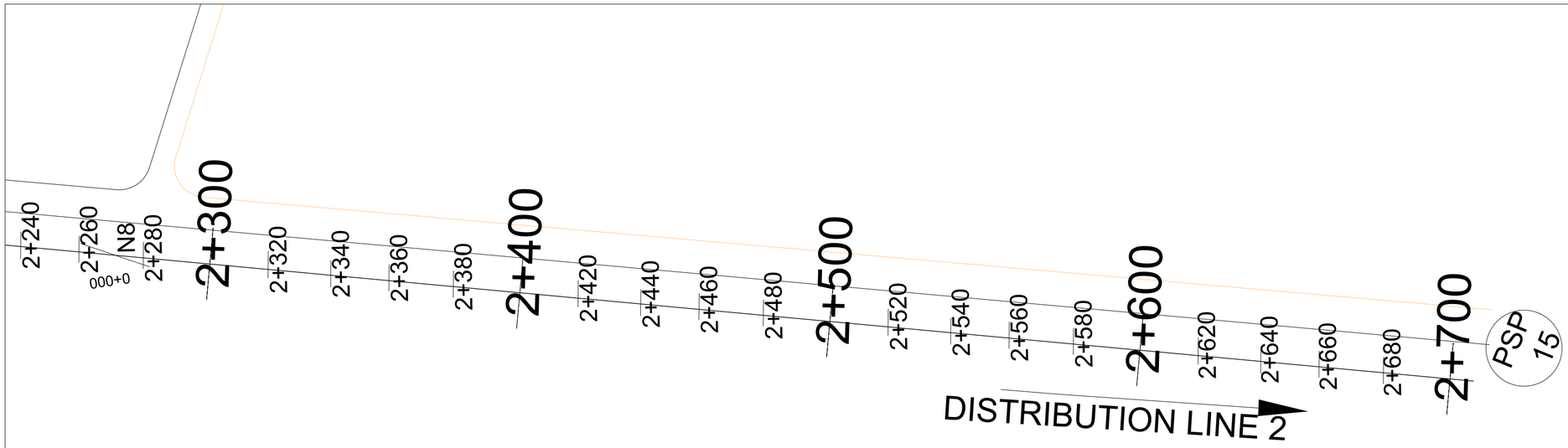
DISTRIBUTION LINE 2

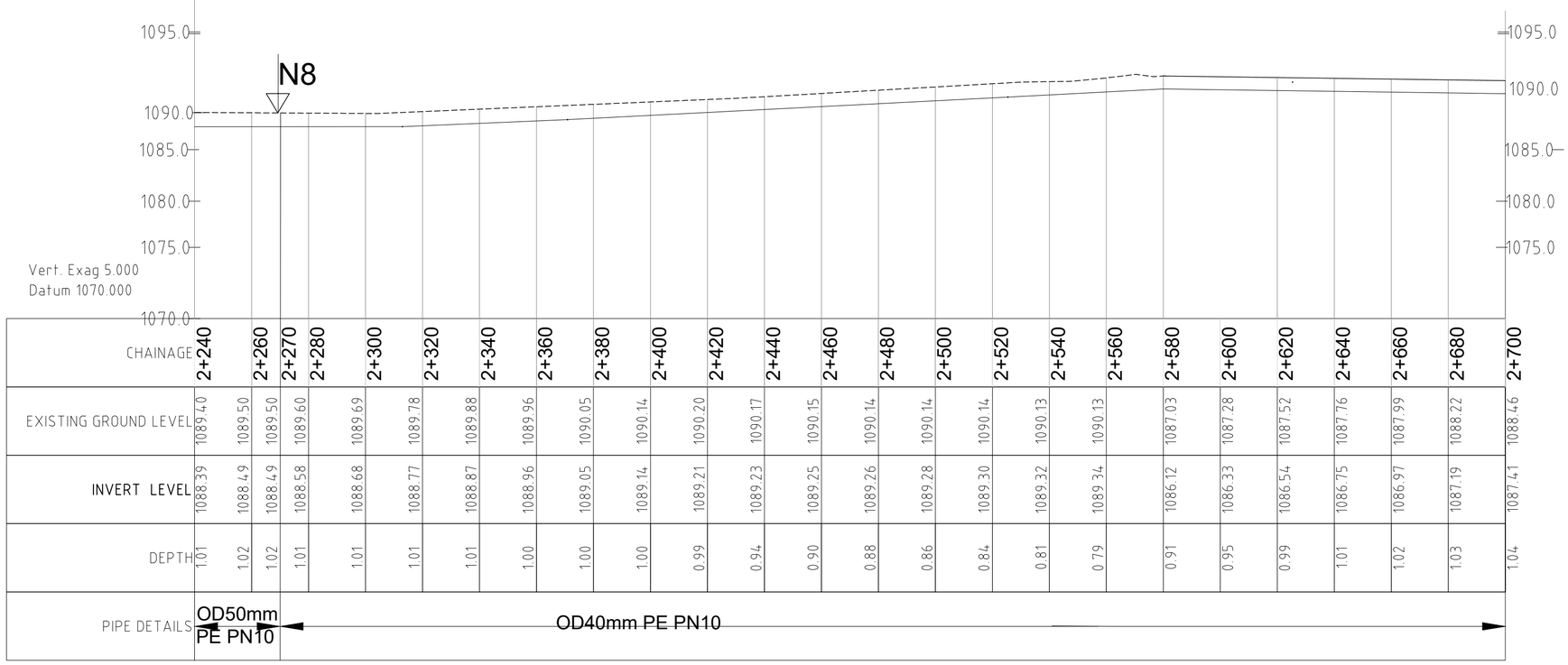
CHAINAGE (1+680–2+240)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.20





CHAINAGE	2+240	2+260	2+270	2+280	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600	2+620	2+640	2+660	2+680	2+700
EXISTING GROUND LEVEL	1089.40	1089.50	1089.50	1089.60	1089.69	1089.78	1089.88	1089.96	1090.05	1090.14	1090.20	1090.17	1090.15	1090.14	1090.14	1090.14	1090.13	1090.13	1087.03	1087.28	1087.52	1087.76	1087.99	1088.22	1088.46
INVERT LEVEL	1088.39	1088.49	1088.49	1088.58	1088.68	1088.77	1088.87	1088.96	1089.05	1089.14	1089.21	1089.23	1089.25	1089.26	1089.28	1089.30	1089.32	1089.34	1086.12	1086.33	1086.54	1086.75	1086.97	1087.19	1087.41
DEPTH	1.01	1.02	1.02	1.01	1.01	1.01	1.01	1.00	1.00	1.00	0.99	0.94	0.90	0.88	0.86	0.84	0.81	0.79	0.91	0.95	0.99	1.01	1.02	1.03	1.04
PIPE DETAILS	OD50mm PE PN10	OD40mm PE PN10																							

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

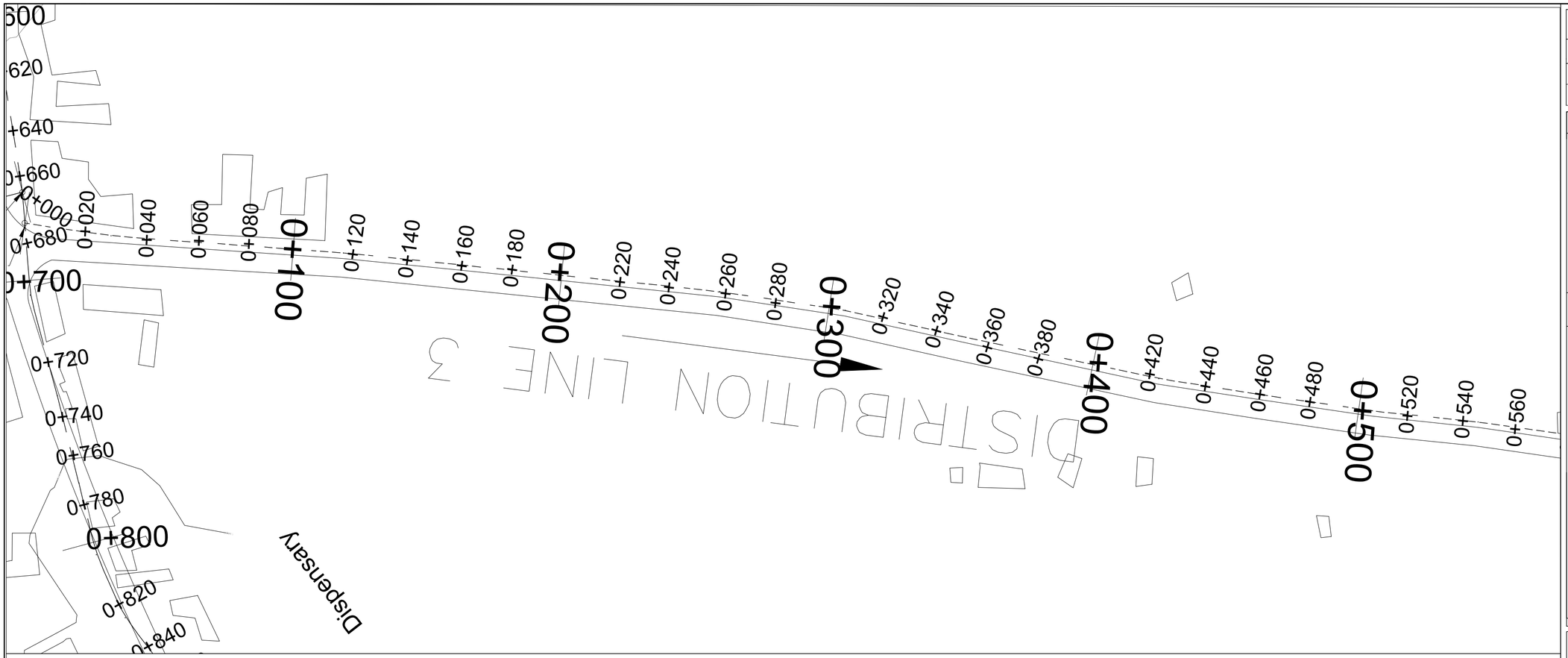
DISTRIBUTION LINE 2

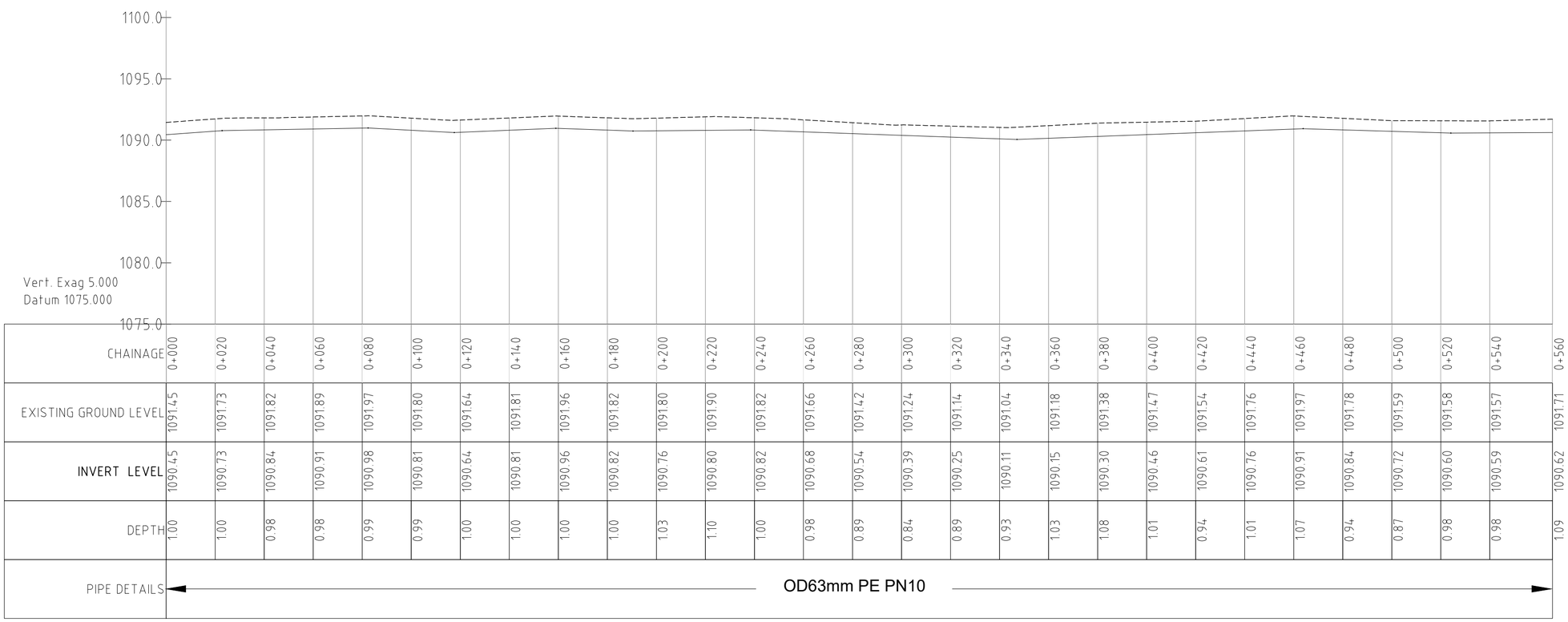
CHAINAGE (1+680–2+240)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.21





CHAINAGE	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560
EXISTING GROUND LEVEL	1091.45	1091.73	1091.82	1091.89	1091.97	1091.80	1091.64	1091.81	1091.96	1091.82	1091.80	1091.90	1091.82	1091.66	1091.42	1091.24	1091.14	1091.04	1091.18	1091.38	1091.47	1091.54	1091.76	1091.97	1091.78	1091.59	1091.58	1091.57	1091.71
INVERT LEVEL	1090.45	1090.73	1090.84	1090.91	1090.98	1090.81	1090.64	1090.81	1090.96	1090.82	1090.76	1090.80	1090.82	1090.68	1090.54	1090.39	1090.25	1090.11	1090.15	1090.30	1090.46	1090.61	1090.76	1090.91	1090.84	1090.72	1090.60	1090.59	1090.62
DEPTH	1.00	1.00	0.98	0.98	0.99	0.99	1.00	1.00	1.00	1.00	1.03	1.10	1.00	0.98	0.89	0.84	0.89	0.93	1.03	1.08	1.01	0.94	1.01	1.07	0.94	0.87	0.98	0.98	1.09
PIPE DETAILS	OD63mm PE PN10																												

AMENDMENTS		
No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
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Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

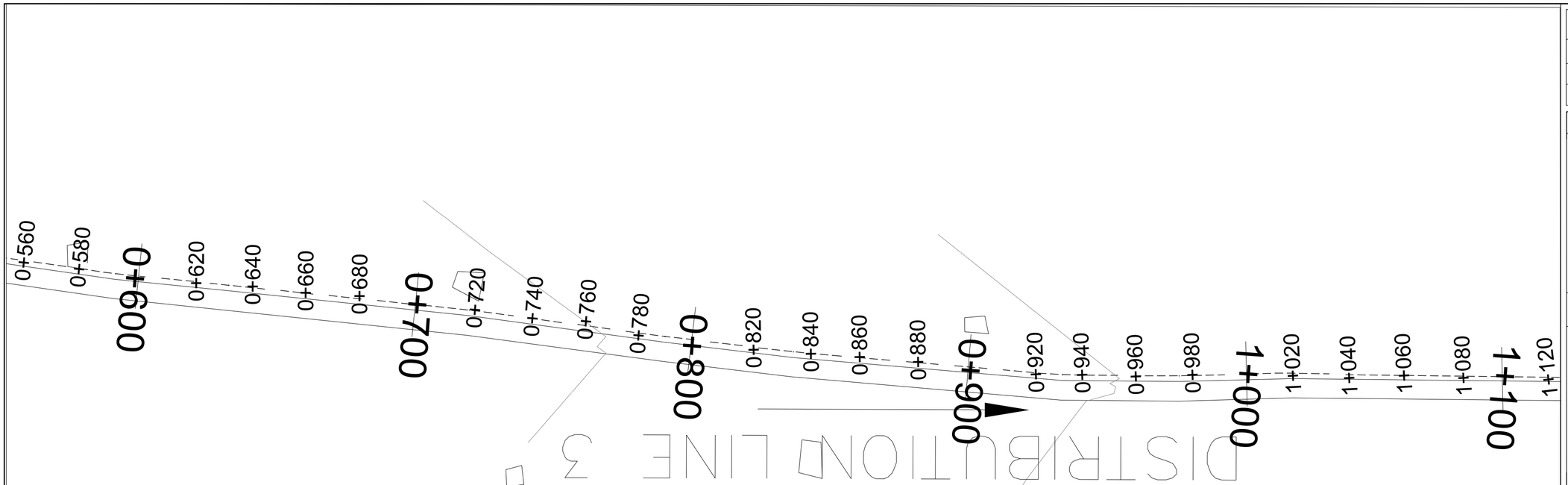
DISTRIBUTION LINE 3

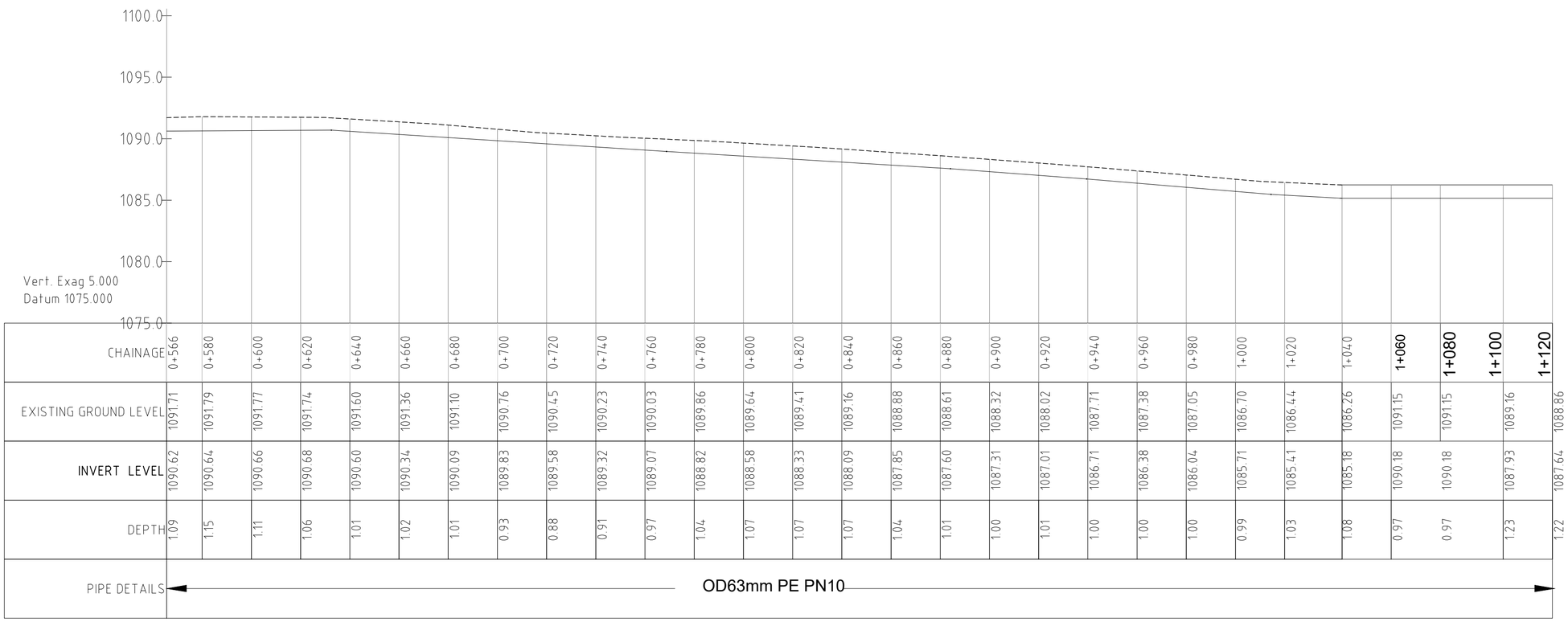
CHAINAGE (0+000–0+560)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.22





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+566	1091.71	1090.62	1.09
0+580	1091.79	1090.64	1.15
0+600	1091.77	1090.66	1.11
0+620	1091.74	1090.68	1.06
0+64.0	1091.60	1090.60	1.01
0+660	1091.36	1090.34	1.02
0+680	1091.10	1090.09	1.01
0+700	1090.76	1089.83	0.93
0+720	1090.45	1089.58	0.88
0+74.0	1090.23	1089.32	0.91
0+760	1090.03	1089.07	0.97
0+780	1089.86	1088.82	1.04
0+800	1089.64	1088.58	1.07
0+820	1089.41	1088.33	1.07
0+84.0	1089.16	1088.09	1.07
0+860	1088.88	1087.85	1.04
0+880	1088.61	1087.60	1.01
0+900	1088.32	1087.31	1.00
0+920	1088.02	1087.01	1.01
0+94.0	1087.71	1086.71	1.00
0+960	1087.38	1086.38	1.00
0+980	1087.05	1086.04	1.00
1+000	1086.70	1085.71	0.99
1+020	1086.44	1085.41	1.03
1+04.0	1086.26	1085.18	1.08
1+060	1091.15	1090.18	0.97
1+080	1091.15	1090.18	0.97
1+100	1089.16	1087.93	1.23
1+120	1088.86	1087.64	1.22
PIPE DETAILS	OD63mm PE PN10		

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

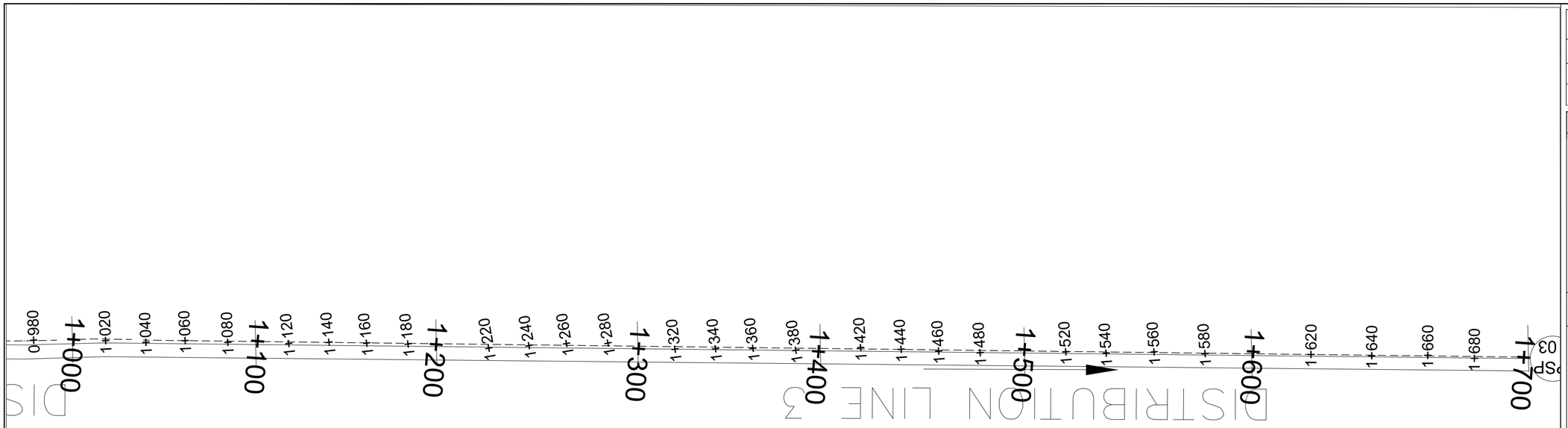
DISTRIBUTION LINE 3

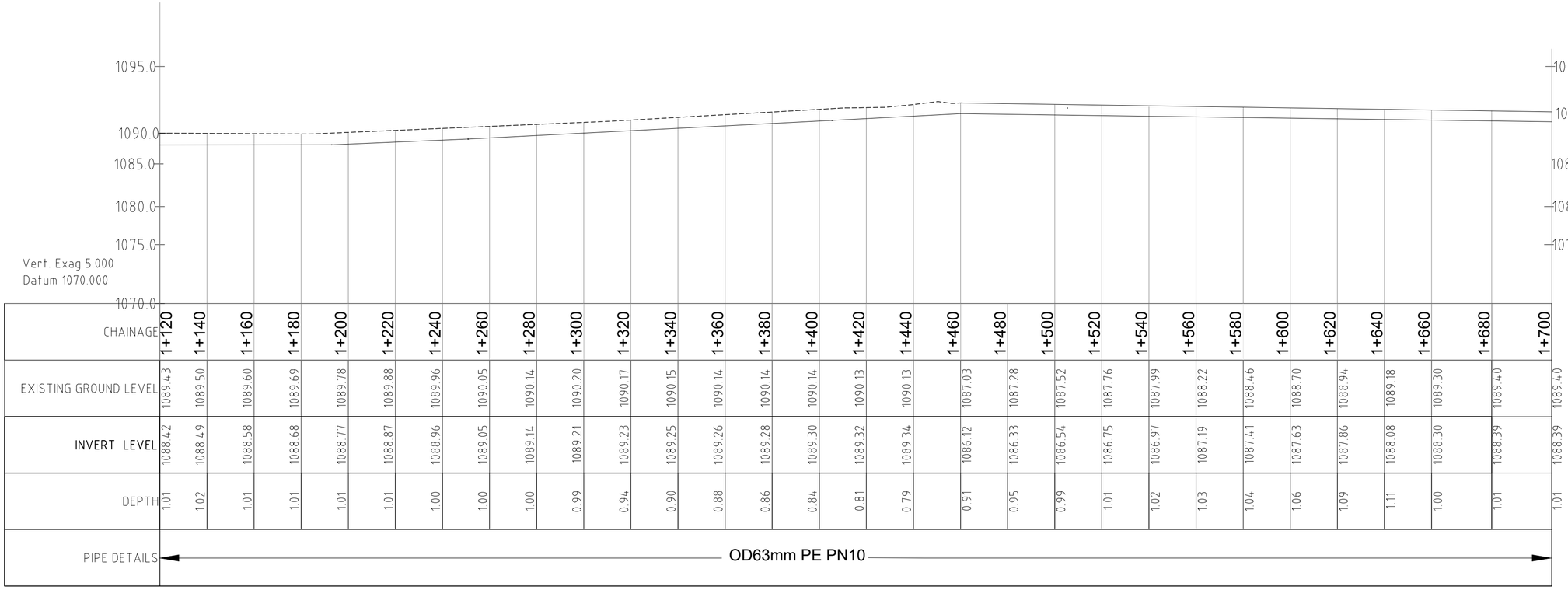
CHAINAGE (0+560–1+120)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.23





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
1+120	1089.43	1088.42	1.01
1+140	1089.50	1088.49	1.02
1+160	1089.60	1088.58	1.01
1+180	1089.69	1088.68	1.01
1+200	1089.78	1088.77	1.01
1+220	1089.88	1088.87	1.01
1+240	1089.96	1088.96	1.00
1+260	1090.05	1089.05	1.00
1+280	1090.14	1089.14	1.00
1+300	1090.20	1089.21	0.99
1+320	1090.17	1089.23	0.94
1+340	1090.15	1089.25	0.90
1+360	1090.14	1089.26	0.88
1+380	1090.14	1089.28	0.86
1+400	1090.14	1089.30	0.84
1+420	1090.13	1089.32	0.81
1+440	1090.13	1089.34	0.79
1+460	1087.03	1086.12	0.91
1+480	1087.28	1086.33	0.95
1+500	1087.52	1086.54	0.99
1+520	1087.76	1086.75	1.01
1+540	1087.99	1086.97	1.02
1+560	1088.22	1087.19	1.03
1+580	1088.46	1087.41	1.04
1+600	1088.70	1087.63	1.06
1+620	1088.94	1087.86	1.09
1+640	1089.18	1088.08	1.11
1+660	1089.30	1088.30	1.00
1+680	1089.40	1088.39	1.01
1+700	1089.40	1088.39	1.01

PIPE DETAILS: OD63mm PE PN10

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
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Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

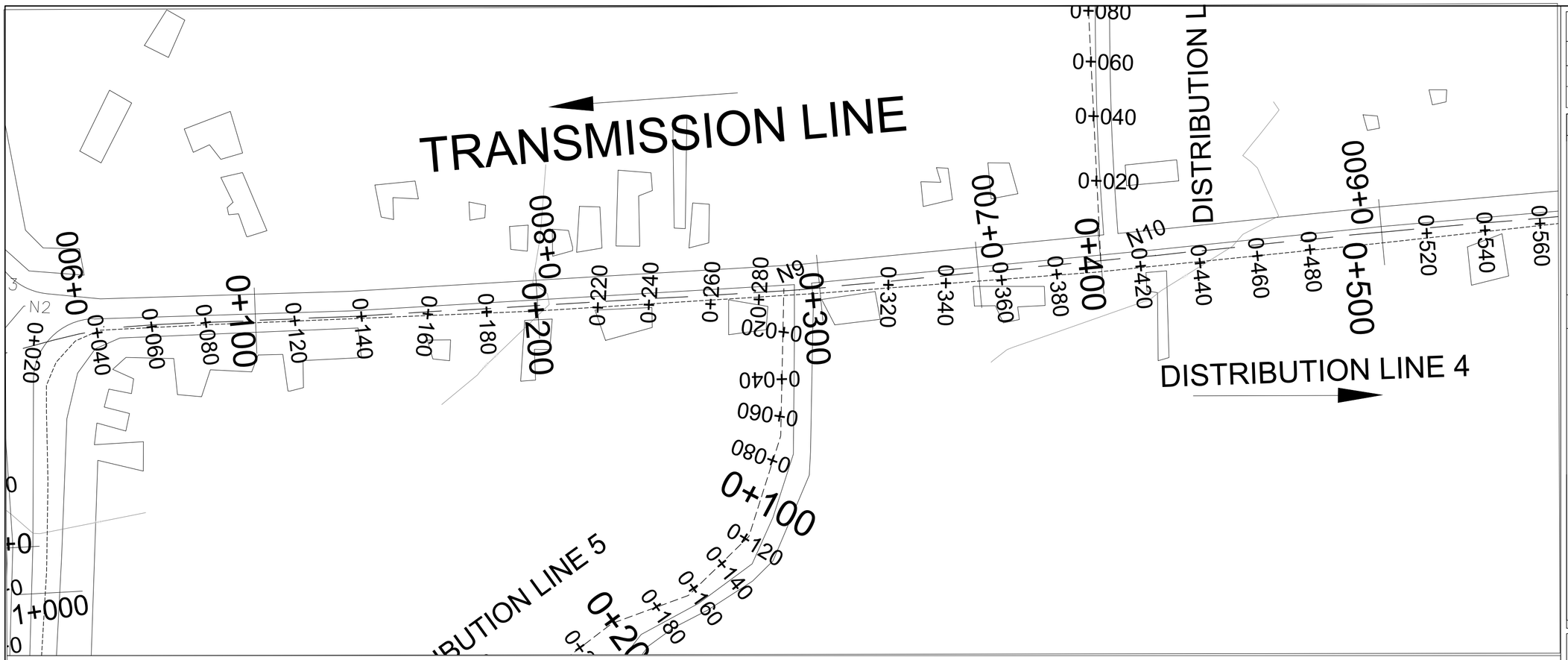
DISTRIBUTION LINE 3

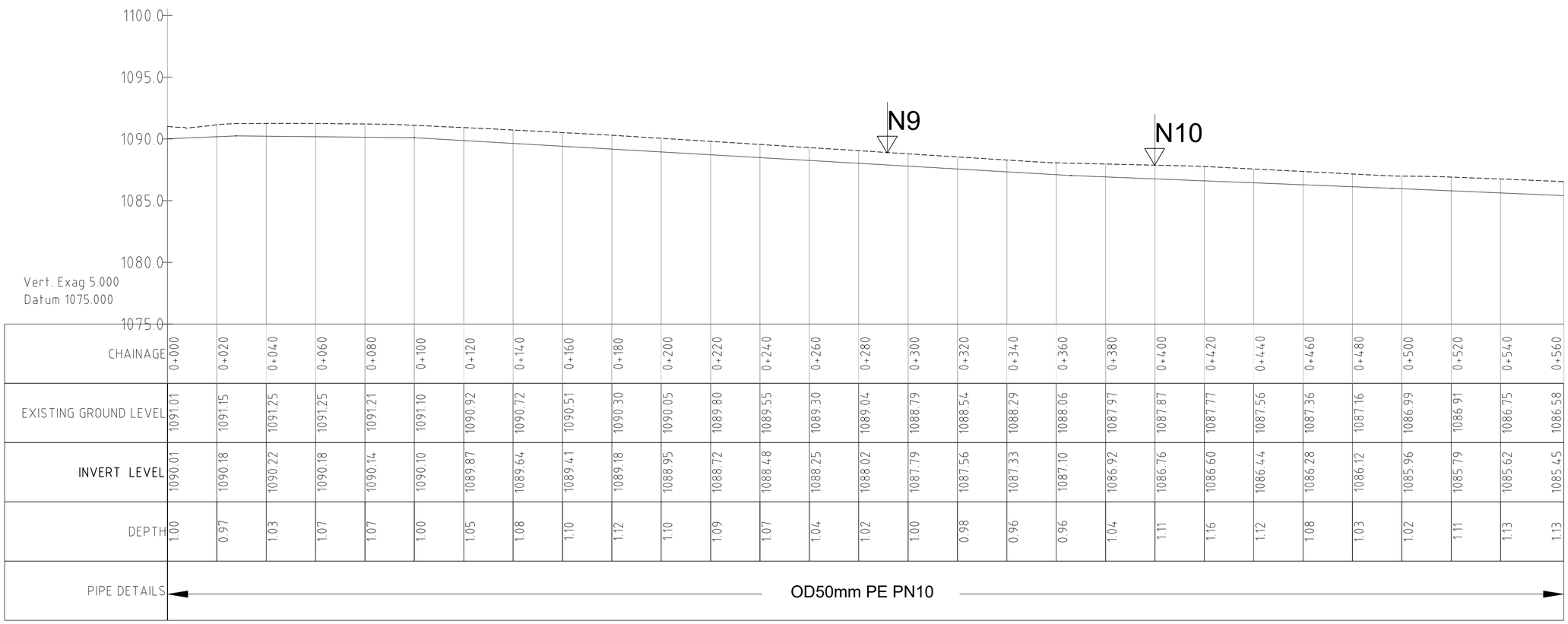
CHAINAGE (1+120–1+700)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.24





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+000	1091.01	1090.01	1.00
0+020	1091.15	1090.18	0.97
0+040	1091.25	1090.22	1.03
0+060	1091.25	1090.18	1.07
0+080	1091.21	1090.14	1.07
0+100	1091.10	1090.10	1.00
0+120	1090.92	1089.87	1.05
0+140	1090.72	1089.64	1.08
0+160	1090.51	1089.41	1.10
0+180	1090.30	1089.18	1.12
0+200	1090.05	1088.95	1.10
0+220	1089.80	1088.72	1.09
0+240	1089.55	1088.48	1.07
0+260	1089.30	1088.25	1.04
0+280	1089.04	1088.02	1.02
0+300	1088.79	1087.79	1.00
0+320	1088.54	1087.56	0.98
0+340	1088.29	1087.33	0.96
0+360	1088.06	1087.10	0.96
0+380	1087.97	1086.92	1.04
0+400	1087.87	1086.76	1.11
0+420	1087.77	1086.60	1.16
0+440	1087.56	1086.44	1.12
0+460	1087.36	1086.28	1.08
0+480	1087.16	1086.12	1.03
0+500	1086.99	1085.96	1.02
0+520	1086.91	1085.79	1.11
0+540	1086.75	1085.62	1.13
0+560	1086.58	1085.45	1.13

PIPE DETAILS: OD50mm PE PN10

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

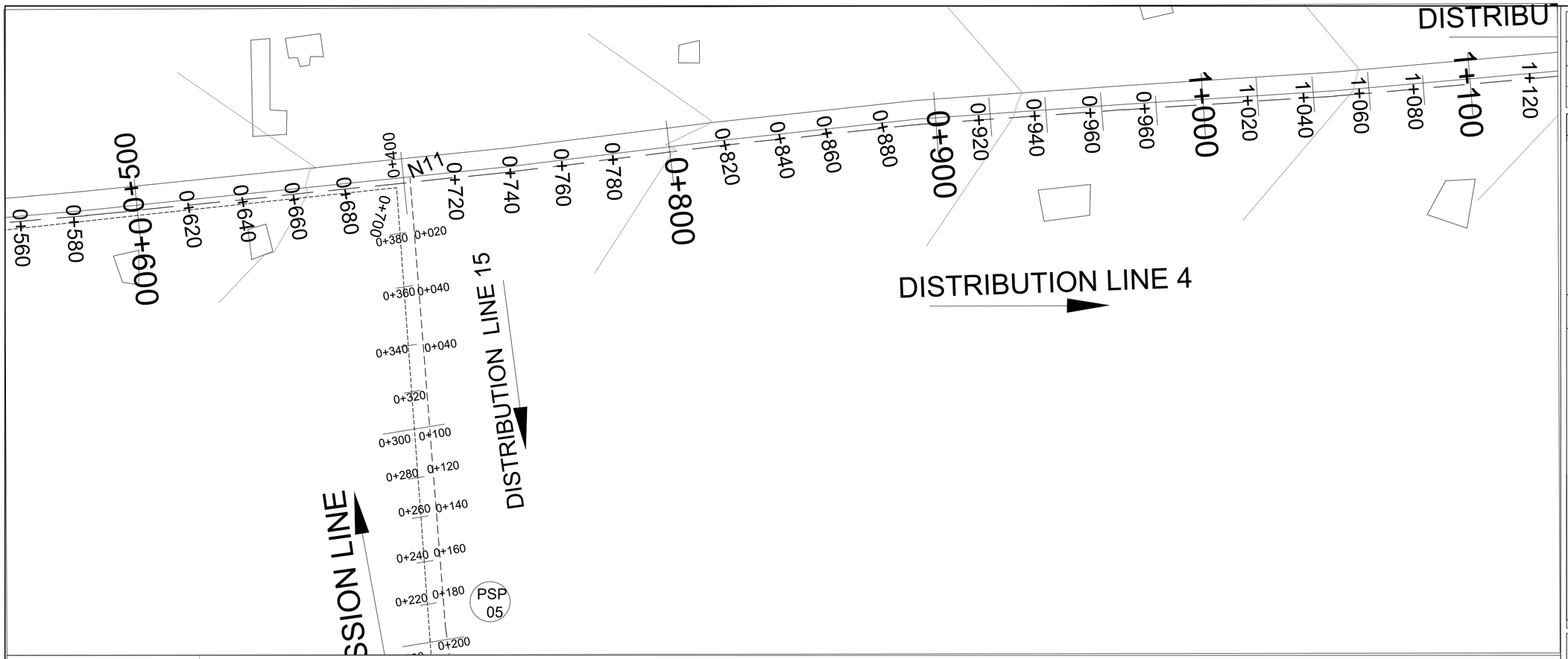
DISTRIBUTION LINE 4

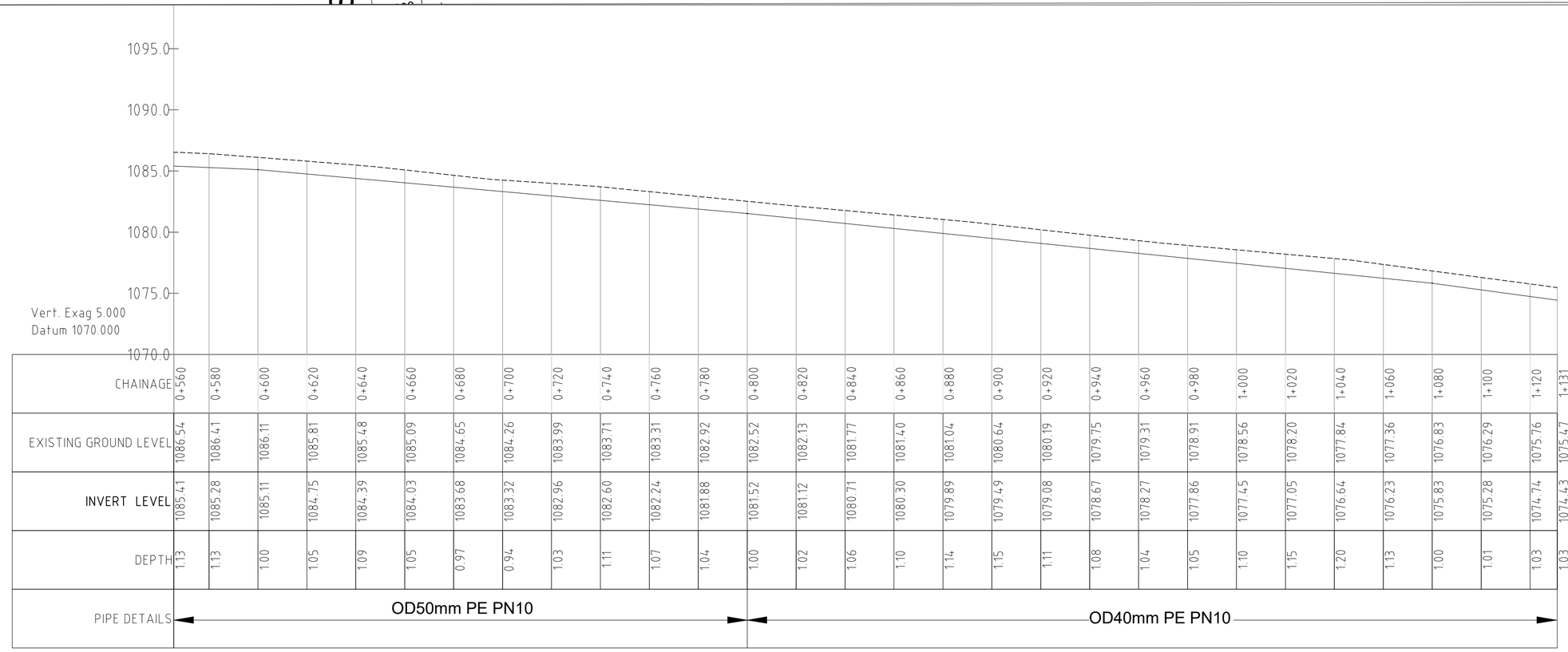
CHAINAGE (0+000–0+560)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.25





CHAINAGE	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+131
EXISTING GROUND LEVEL	1086.54	1086.41	1086.11	1085.81	1085.48	1085.09	1084.65	1084.26	1083.99	1083.71	1083.31	1082.92	1082.52	1082.13	1081.77	1081.40	1081.04	1080.64	1080.19	1079.75	1079.31	1078.91	1078.56	1078.20	1077.84	1077.36	1076.83	1076.29	1075.76	1075.47
INVERT LEVEL	1085.41	1085.28	1085.11	1084.75	1084.39	1084.03	1083.68	1083.32	1082.96	1082.60	1082.24	1081.88	1081.52	1081.12	1080.71	1080.30	1079.89	1079.49	1079.08	1078.67	1078.27	1077.86	1077.45	1077.05	1076.64	1076.23	1075.83	1075.28	1074.74	1074.43
DEPTH	1.13	1.13	1.00	1.05	1.09	1.05	0.97	0.94	1.03	1.11	1.07	1.04	1.00	1.02	1.06	1.10	1.14	1.15	1.11	1.08	1.04	1.05	1.10	1.15	1.20	1.13	1.00	1.01	1.03	1.03
PIPE DETAILS	OD50mm PE PN10												OD40mm PE PN10																	

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

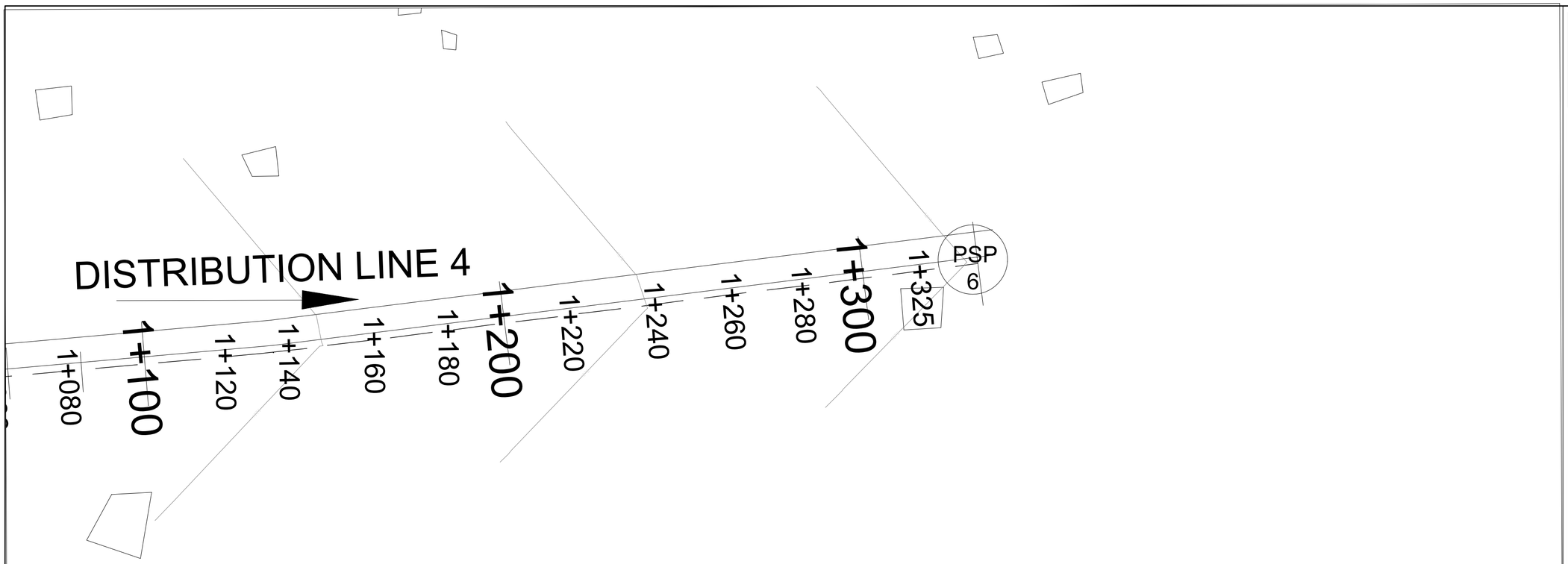
DISTRIBUTION LINE 4

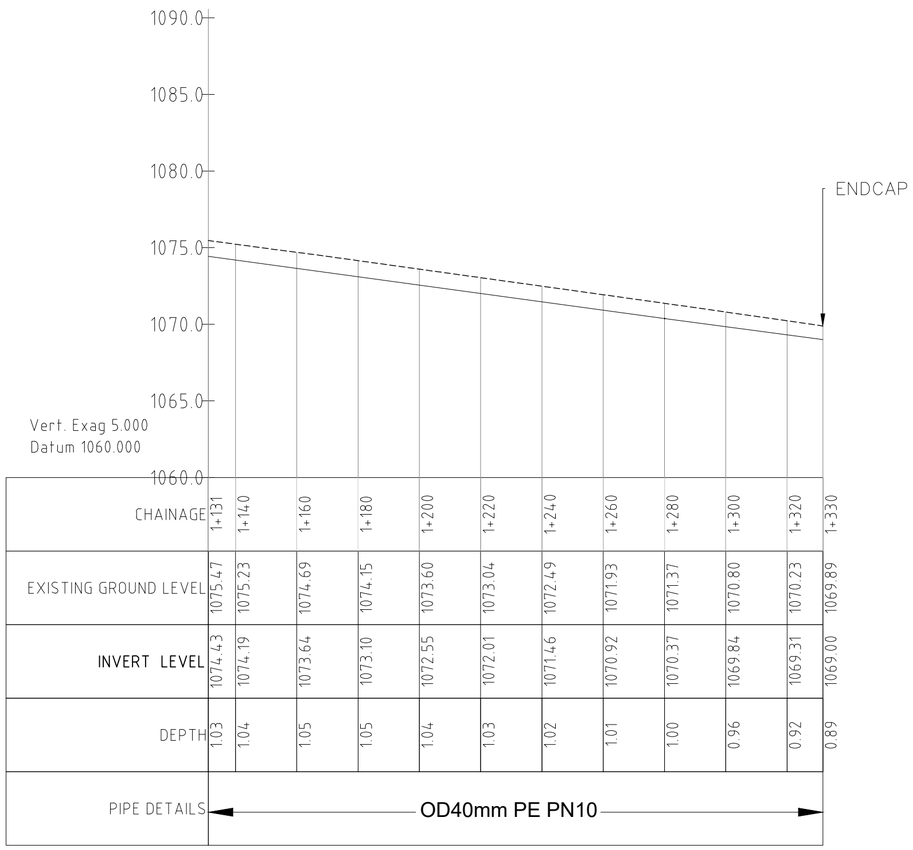
CHAINAGE (0+560–1+131)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.26





AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

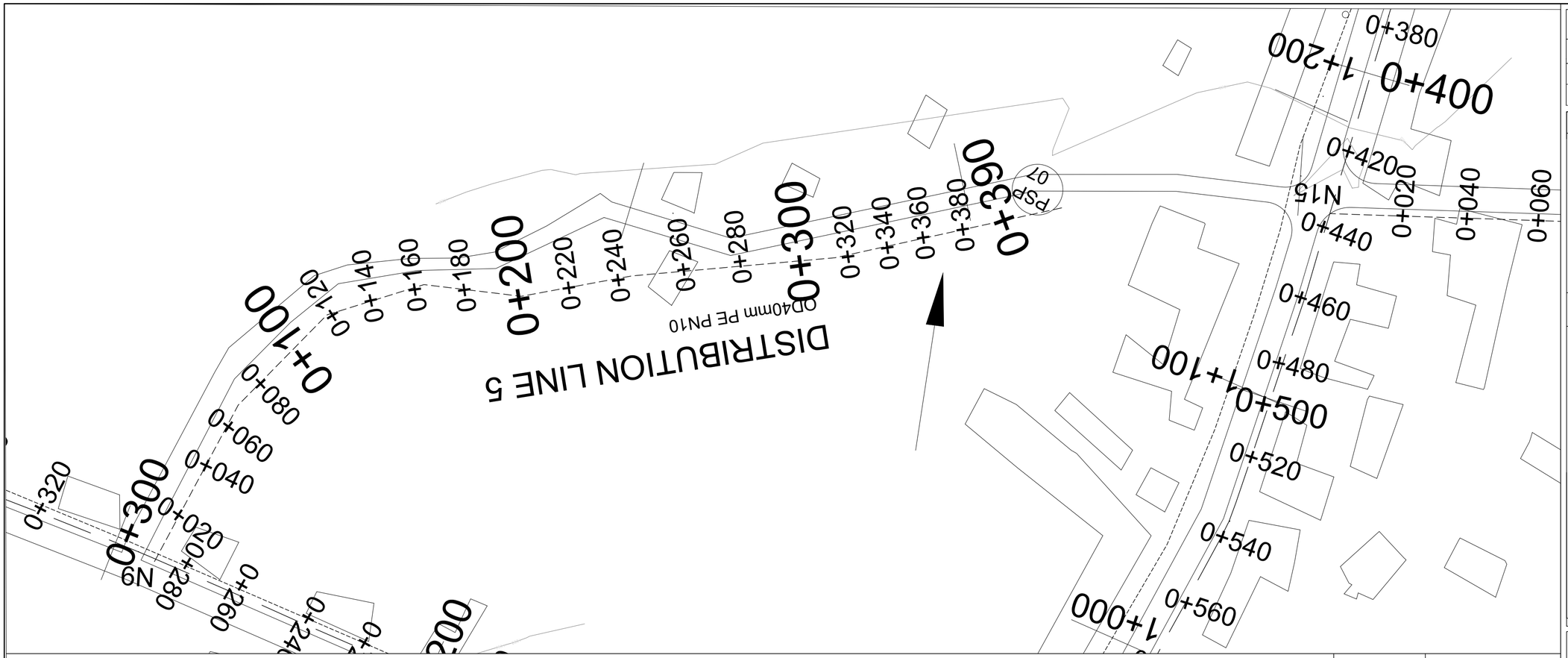
DISTRIBUTION LINE 4

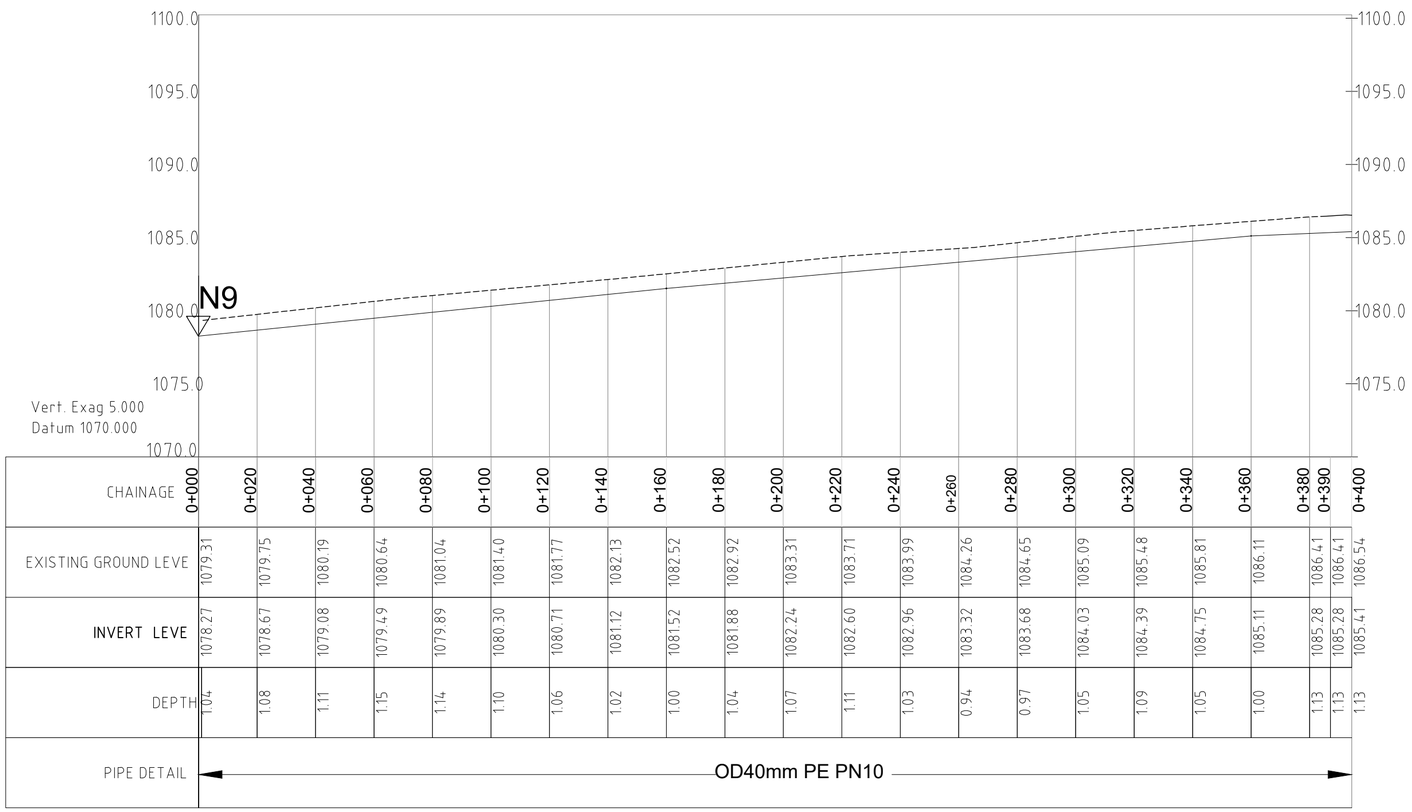
CHAINAGE (0+560–1+330)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.27





CHAINAGE	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+390	0+400
EXISTING GROUND LEVE	1079.31	1079.75	1080.19	1080.64	1081.04	1081.40	1081.77	1082.13	1082.52	1082.92	1083.31	1083.71	1083.99	1084.26	1084.65	1085.09	1085.48	1085.81	1086.11	1086.41	1086.41	1086.54
INVERT LEVE	1078.27	1078.67	1079.08	1079.49	1079.89	1080.30	1080.71	1081.12	1081.52	1081.88	1082.24	1082.60	1082.96	1083.32	1083.68	1084.03	1084.39	1084.75	1085.11	1085.28	1085.28	1085.41
DEPTH	1.04	1.08	1.11	1.15	1.14	1.10	1.06	1.02	1.00	1.04	1.07	1.11	1.03	0.94	0.97	1.05	1.09	1.05	1.00	1.13	1.13	1.13
PIPE DETAIL	OD40mm PE PN10																					

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

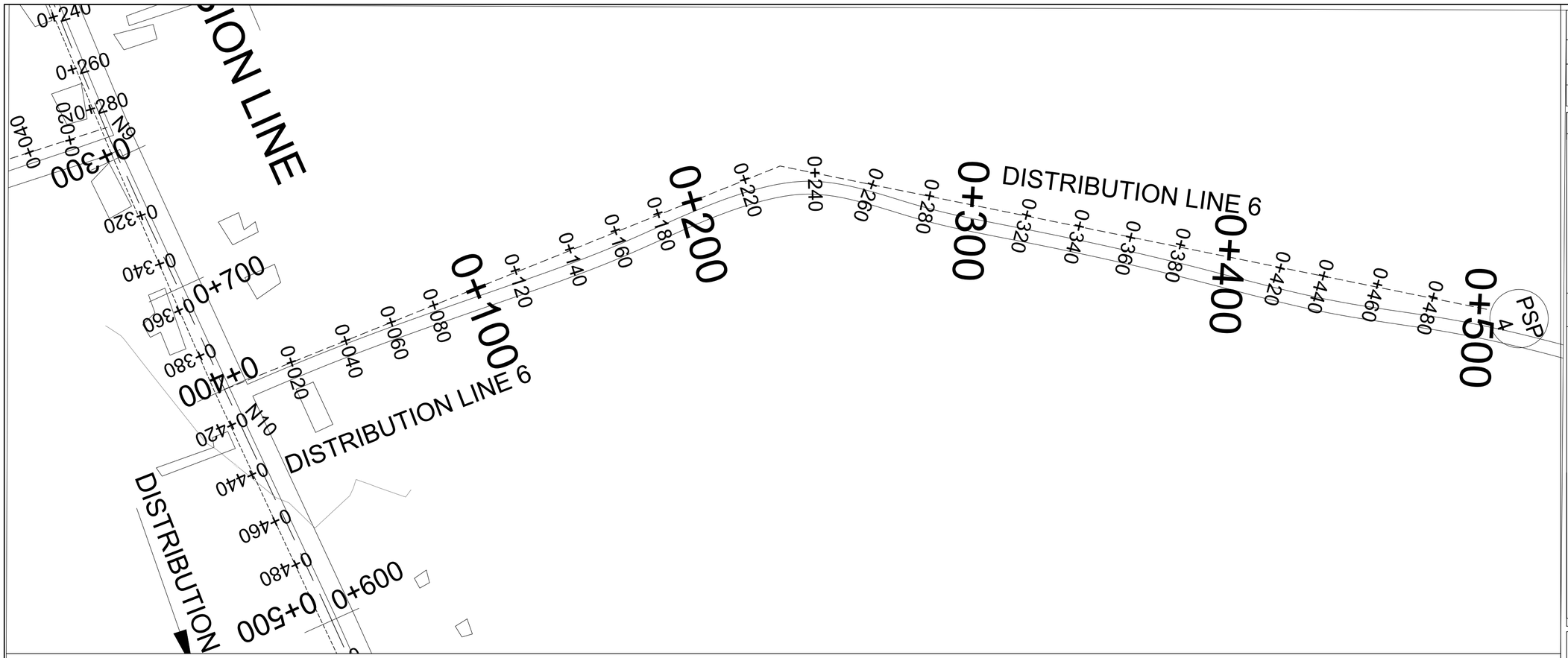
PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

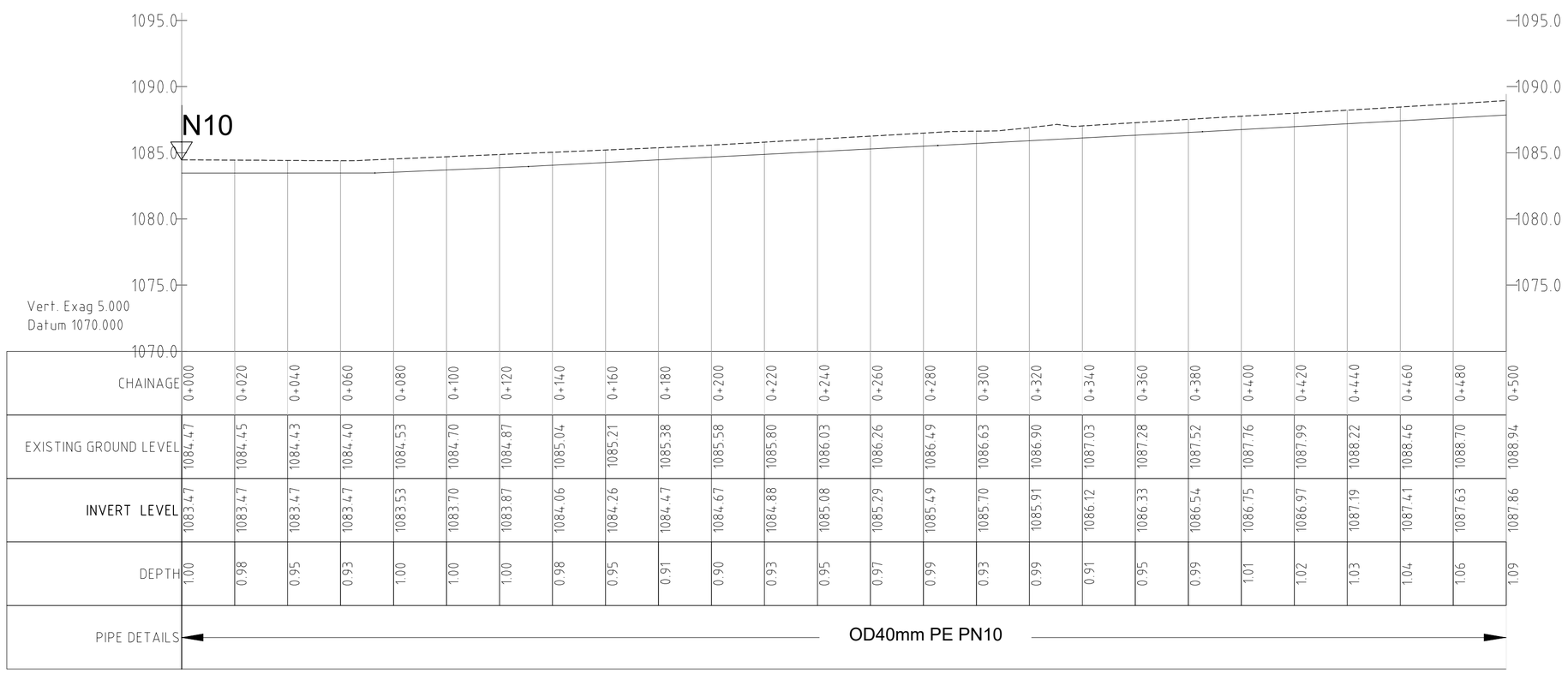
Drawing Title :

DISTRIBUTION LINE 5

CHAINAGE (0+000–0+390)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA
ENGINEERING DESIGN		
Drg No:	GBUT-UN4-2025/HLG/1.28	





CHAINAGE	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500
EXISTING GROUND LEVEL	1084.47	1084.45	1084.43	1084.40	1084.53	1084.70	1084.87	1085.04	1085.21	1085.38	1085.58	1085.80	1086.03	1086.26	1086.49	1086.63	1086.90	1087.03	1087.28	1087.52	1087.76	1087.99	1088.22	1088.46	1088.70	1088.94
INVERT LEVEL	1083.47	1083.47	1083.47	1083.47	1083.53	1083.70	1083.87	1084.06	1084.26	1084.47	1084.67	1084.88	1085.08	1085.29	1085.49	1085.70	1085.91	1086.12	1086.33	1086.54	1086.75	1086.97	1087.19	1087.41	1087.63	1087.86
DEPTH	1.00	0.98	0.95	0.93	1.00	1.00	1.00	0.98	0.95	0.91	0.90	0.93	0.95	0.97	0.99	0.93	0.99	0.91	0.95	0.99	1.01	1.02	1.03	1.04	1.06	1.09
PIPE DETAILS	OD40mm PE PN10																									

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

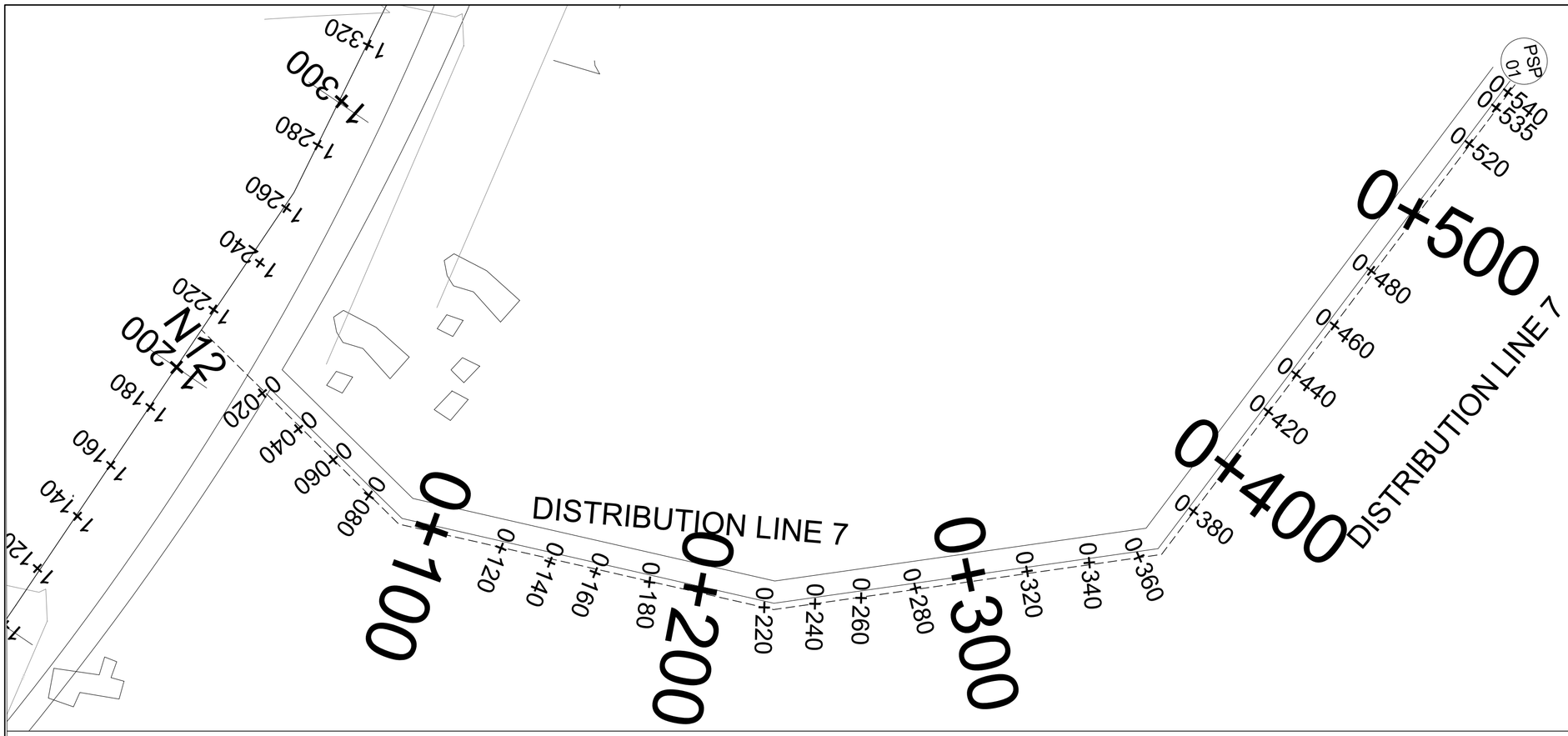
DISTRIBUTION LINE 6

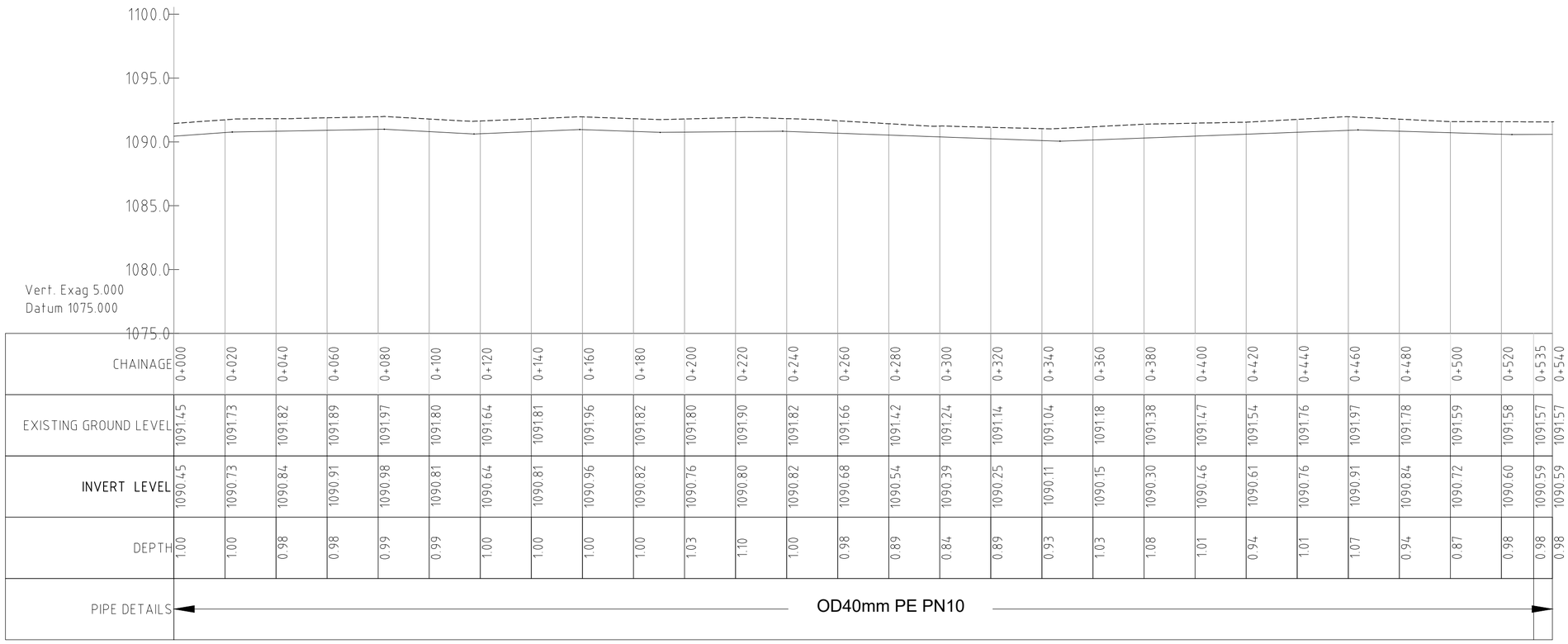
CHAINAGE (0+000–0+500)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.29





CHAINAGE	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+535	0+540
EXISTING GROUND LEVEL	1091.45	1091.73	1091.82	1091.89	1091.97	1091.80	1091.64	1091.81	1091.96	1091.82	1091.80	1091.90	1091.82	1091.66	1091.42	1091.24	1091.14	1091.04	1091.18	1091.38	1091.47	1091.54	1091.76	1091.97	1091.78	1091.59	1091.58	1091.57	1091.57
INVERT LEVEL	1090.45	1090.73	1090.84	1090.91	1090.98	1090.81	1090.64	1090.81	1090.96	1090.82	1090.76	1090.80	1090.82	1090.68	1090.54	1090.39	1090.25	1090.11	1090.15	1090.30	1090.46	1090.61	1090.76	1090.91	1090.84	1090.72	1090.60	1090.59	1090.59
DEPTH	1.00	1.00	0.98	0.98	0.99	0.99	1.00	1.00	1.00	1.00	1.03	1.10	1.00	0.98	0.89	0.84	0.89	0.93	1.03	1.08	1.01	0.94	1.01	1.07	0.94	0.87	0.98	0.98	0.98
PIPE DETAILS	OD40mm PE PN10																												

AMENDMENTS		
No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

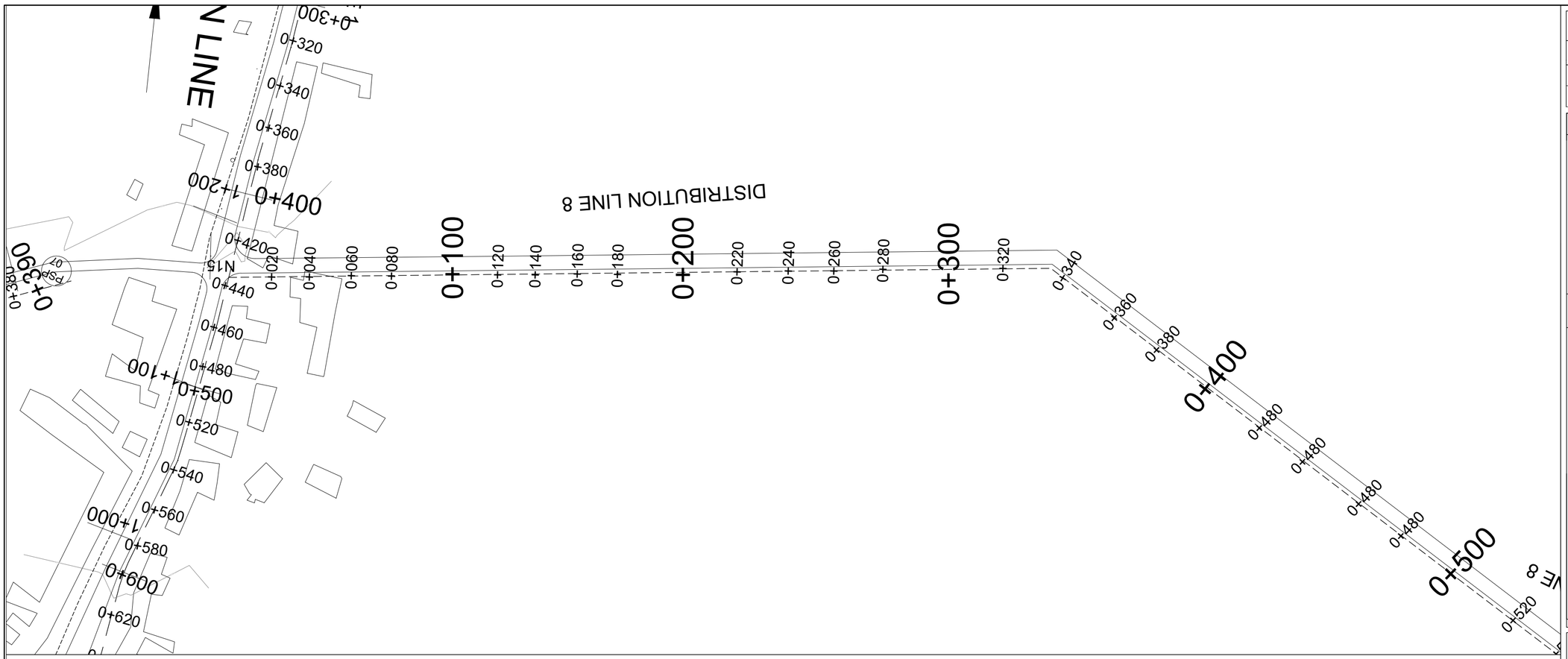
PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

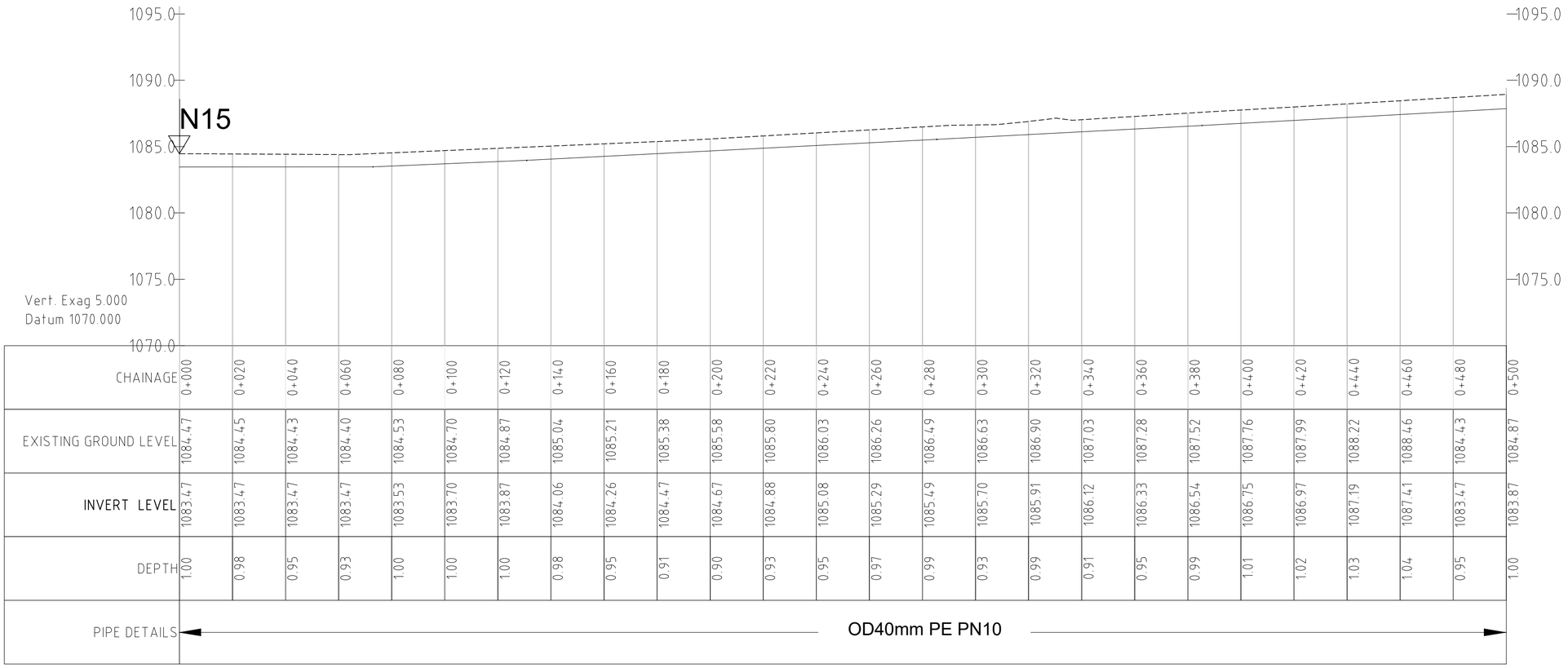
Drawing Title :

DISTRIBUTION LINE 7

CHAINAGE (0+000–0+535)

Scale:	Designed by:	
F.T.S	Drawn by:	PA
Date:	Checked by:	Infrastructure Team
JUNE/2025	Approved:	JKS/JA
ENGINEERING DESIGN		
Drg No:	GBUT-UN4-2025/HLG/1.30	





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+000	1084.47	1083.47	1.00
0+020	1084.45	1083.47	0.98
0+040	1084.43	1083.47	0.95
0+060	1084.40	1083.47	0.93
0+080	1084.53	1083.53	1.00
0+100	1084.70	1083.70	1.00
0+120	1084.87	1083.87	1.00
0+140	1085.04	1084.06	0.98
0+160	1085.21	1084.26	0.95
0+180	1085.38	1084.47	0.91
0+200	1085.58	1084.67	0.90
0+220	1085.80	1084.88	0.93
0+240	1086.03	1085.08	0.95
0+260	1086.26	1085.29	0.97
0+280	1086.49	1085.49	0.99
0+300	1086.63	1085.70	0.93
0+320	1086.90	1085.91	0.99
0+340	1087.03	1086.12	0.91
0+360	1087.28	1086.33	0.95
0+380	1087.52	1086.54	0.99
0+400	1087.76	1086.75	1.01
0+420	1087.99	1086.97	1.02
0+440	1088.22	1087.19	1.03
0+460	1088.46	1087.41	1.04
0+480	1084.43	1083.47	0.95
0+500	1084.87	1083.87	1.00

PIPE DETAILS: OD40mm PE PN10

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

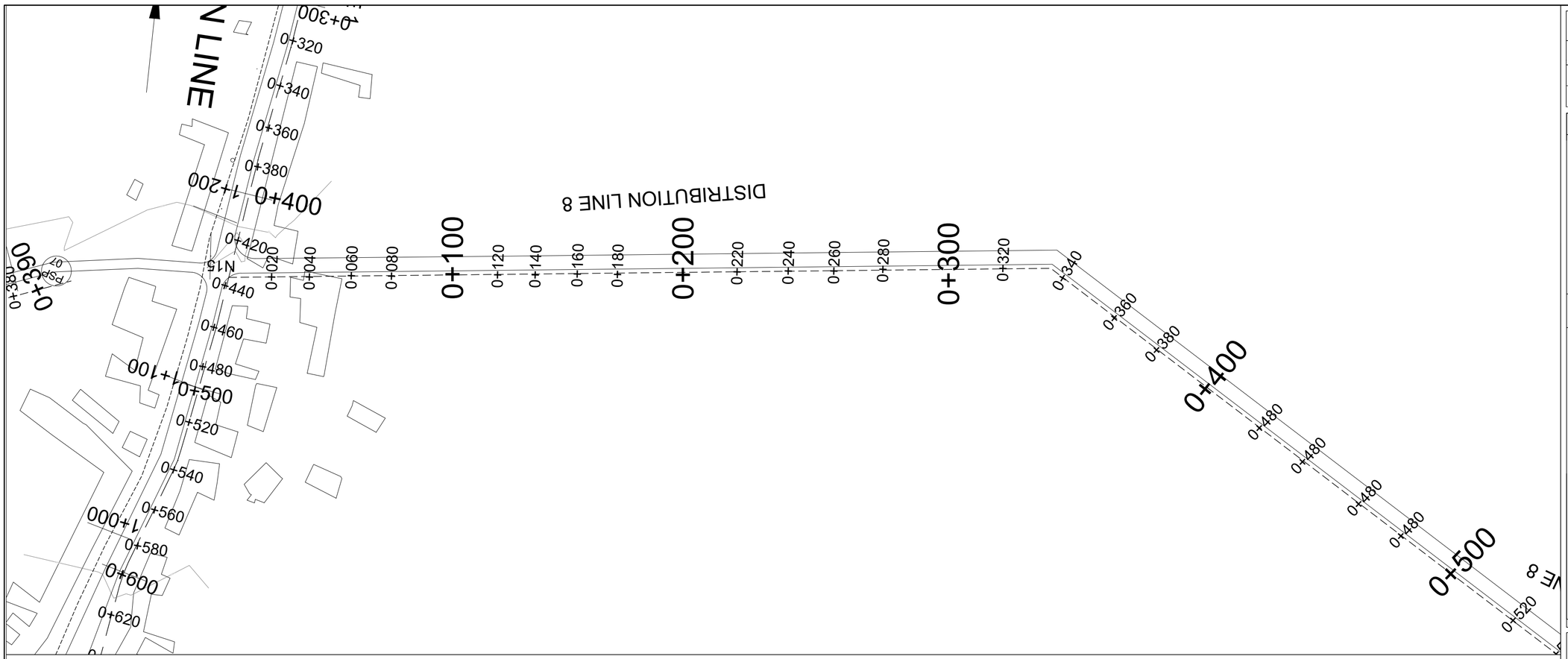
DISTRIBUTION LINE 8

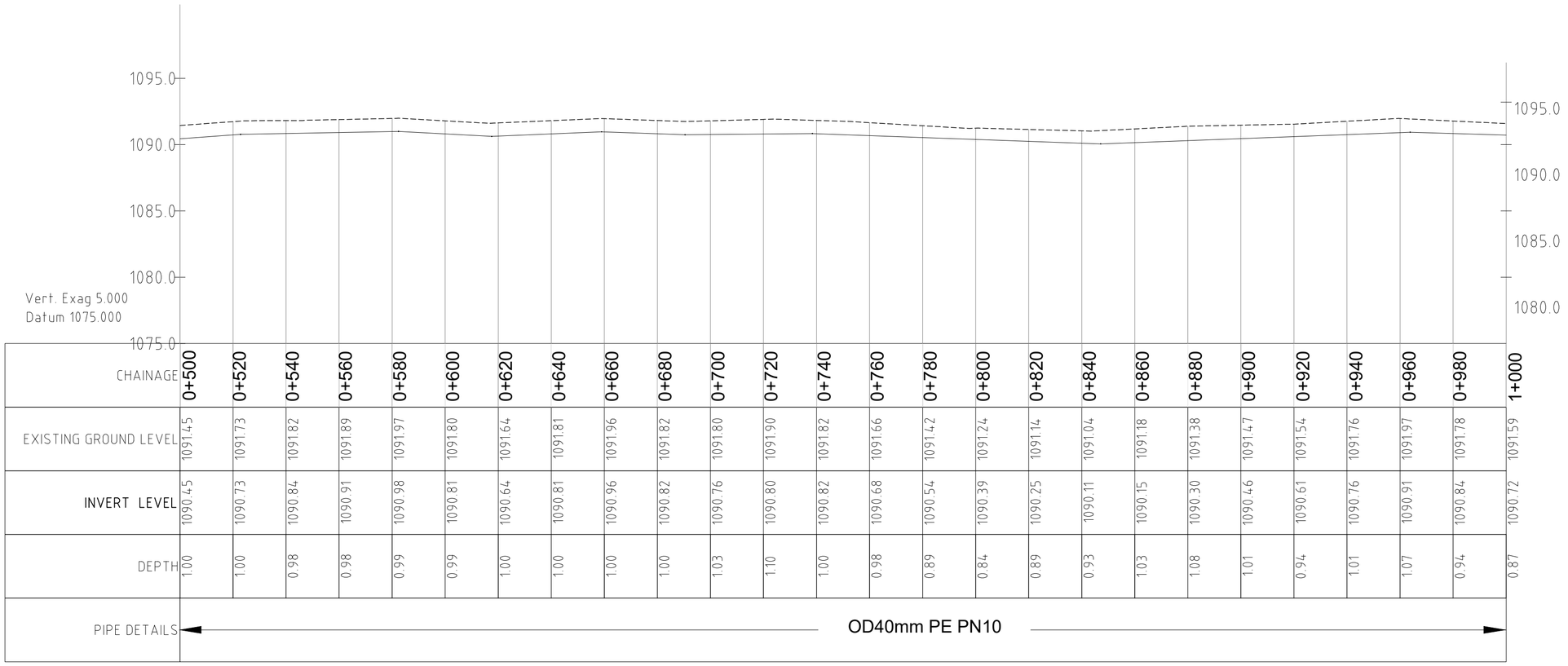
CHAINAGE (0+000–0+500)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.31





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+500	1091.45	1090.45	1.00
0+520	1091.73	1090.73	1.00
0+540	1091.82	1090.84	0.98
0+560	1091.89	1090.91	0.98
0+580	1091.97	1090.98	0.99
0+600	1091.80	1090.81	0.99
0+620	1091.64	1090.64	1.00
0+640	1091.81	1090.81	1.00
0+660	1091.96	1090.96	1.00
0+680	1091.82	1090.82	1.00
0+700	1091.80	1090.76	1.03
0+720	1091.90	1090.80	1.10
0+740	1091.82	1090.82	1.00
0+760	1091.66	1090.68	0.98
0+780	1091.42	1090.54	0.89
0+800	1091.24	1090.39	0.84
0+820	1091.14	1090.25	0.89
0+840	1091.04	1090.11	0.93
0+860	1091.18	1090.15	1.03
0+880	1091.38	1090.30	1.08
0+900	1091.47	1090.46	1.01
0+920	1091.54	1090.61	0.94
0+940	1091.76	1090.76	1.01
0+960	1091.97	1090.91	1.07
0+980	1091.78	1090.84	0.94
1+000	1091.59	1090.72	0.87

PIPE DETAILS: OD40mm PE PN10

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

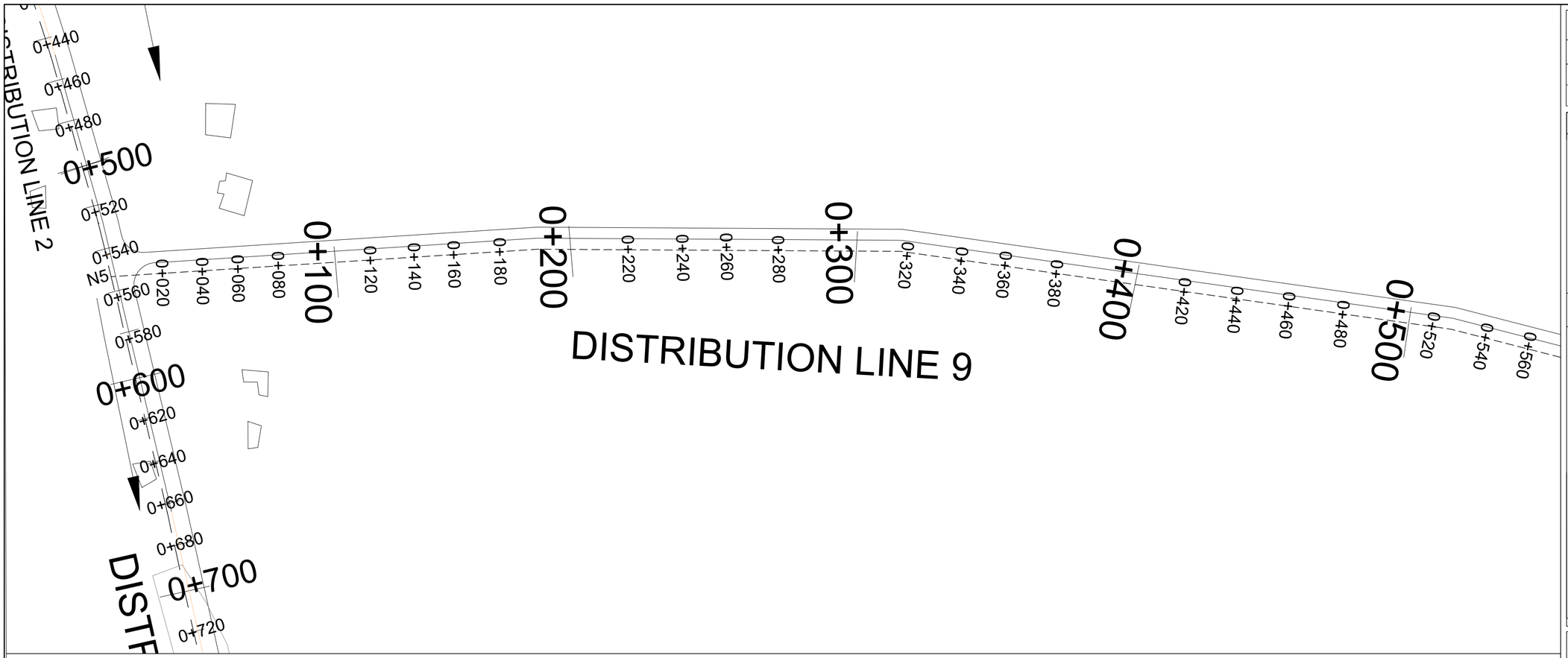
DISTRIBUTION LINE 8

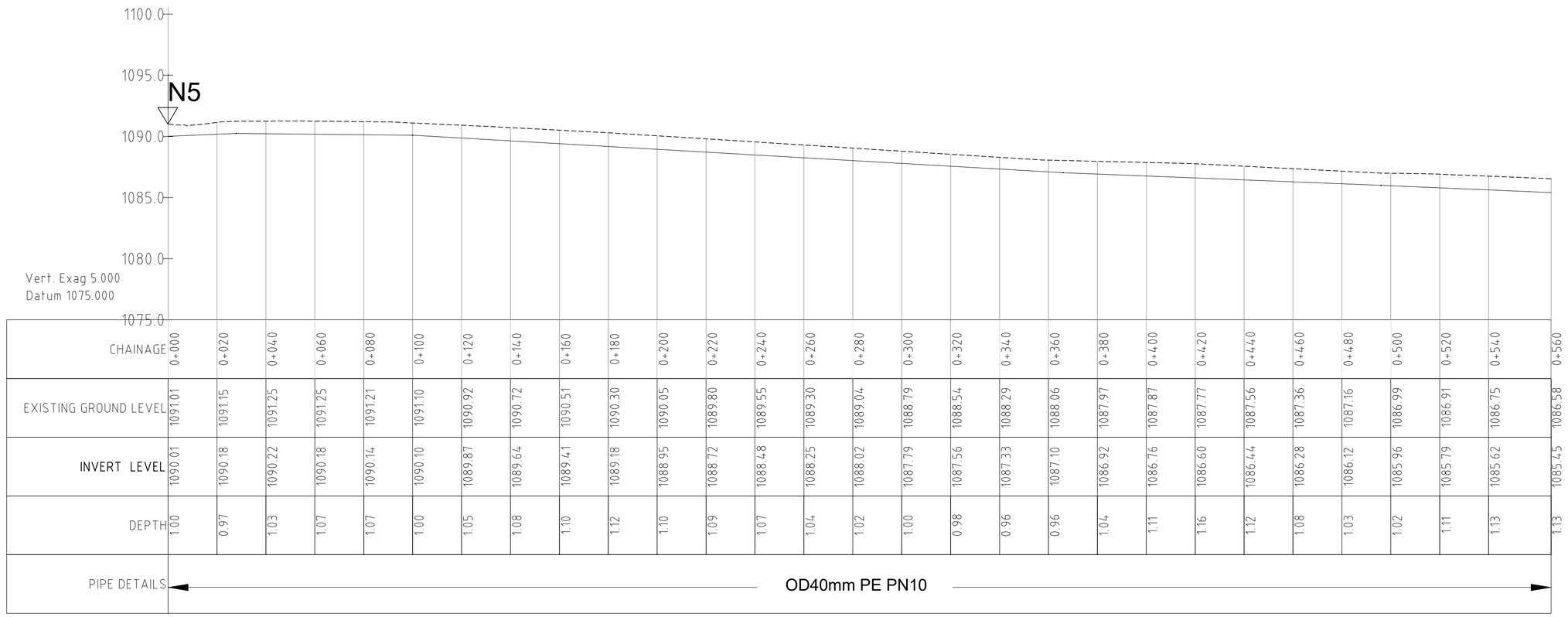
CHAINAGE (0+500–1+000)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.32





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+000	1091.01	1090.01	1.00
0+020	1091.15	1090.18	0.97
0+040	1091.25	1090.22	1.03
0+060	1091.25	1090.18	1.07
0+080	1091.21	1090.14	1.07
0+100	1091.10	1090.10	1.00
0+120	1090.92	1089.87	1.05
0+140	1090.72	1089.64	1.08
0+160	1090.51	1089.41	1.10
0+180	1090.30	1089.18	1.12
0+200	1090.05	1088.95	1.10
0+220	1089.80	1088.72	1.09
0+240	1089.55	1088.48	1.07
0+260	1089.30	1088.25	1.04
0+280	1089.04	1088.02	1.02
0+300	1088.79	1087.79	1.00
0+320	1088.54	1087.56	0.98
0+340	1088.29	1087.33	0.96
0+360	1088.06	1087.10	0.96
0+380	1087.97	1086.92	1.04
0+400	1087.87	1086.76	1.11
0+420	1087.77	1086.60	1.16
0+440	1087.56	1086.44	1.12
0+460	1087.36	1086.28	1.08
0+480	1087.16	1086.12	1.03
0+500	1086.99	1085.96	1.02
0+520	1086.91	1085.79	1.11
0+540	1086.75	1085.62	1.13
0+560	1086.58	1085.45	1.13
PIPE DETAILS	OD40mm PE PN10		

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

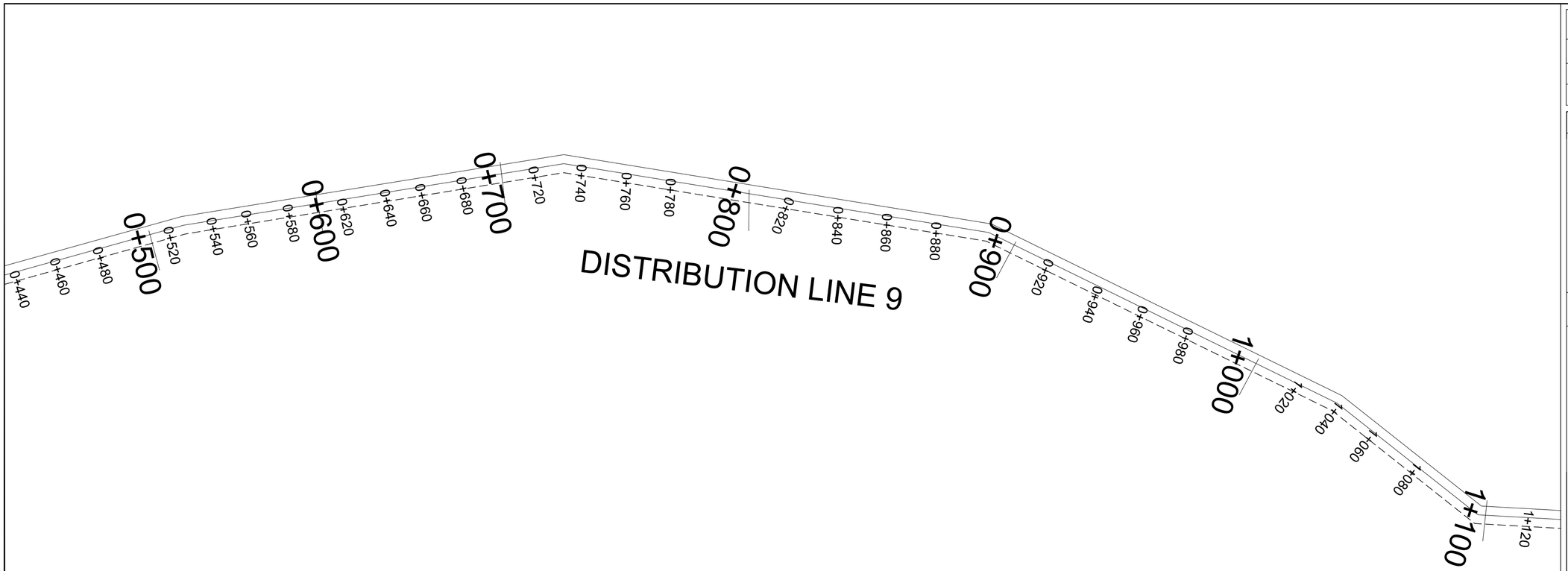
DISTRIBUTION LINE 9

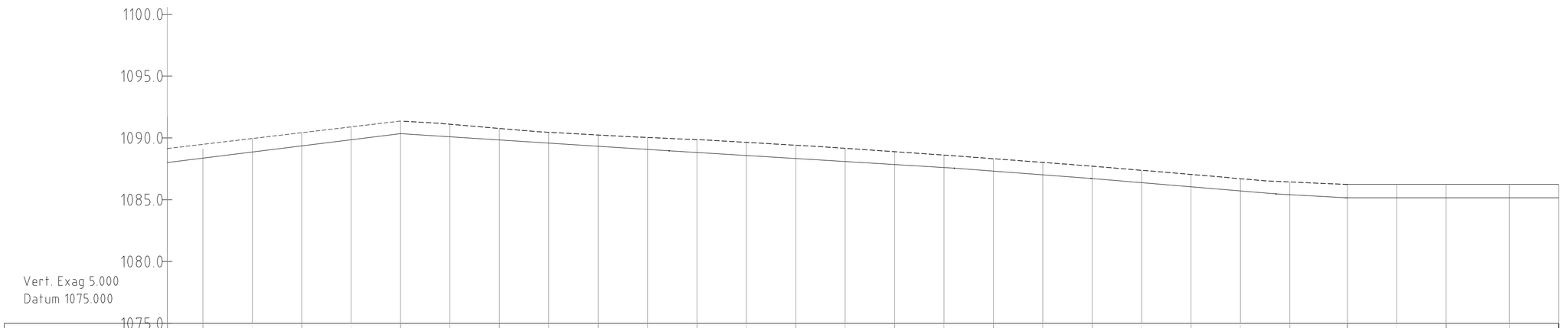
CHAINAGE (0+000–0+560)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.33





CHAINAGE	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120
EXISTING GROUND LEVEL	1086.58	1091.79	1091.77	1091.74	1091.60	1091.36	1091.10	1090.76	1090.45	1090.23	1090.03	1089.86	1089.64	1089.41	1089.16	1088.88	1088.61	1088.32	1088.02	1087.71	1087.38	1087.05	1086.70	1086.44	1086.26	1091.15	1091.15	1089.16	1088.86
INVERT LEVEL	1085.45	1090.64	1090.66	1090.68	1090.60	1090.34	1090.09	1089.83	1089.58	1089.32	1089.07	1088.82	1088.58	1088.33	1088.09	1087.85	1087.60	1087.31	1087.01	1086.71	1086.38	1086.04	1085.71	1085.41	1085.18	1090.18	1090.18	1087.93	1087.64
DEPTH	1.13	1.15	1.11	1.06	1.01	1.02	1.01	0.93	0.88	0.91	0.97	1.04	1.07	1.07	1.07	1.04	1.01	1.00	1.01	1.00	1.00	1.00	0.99	1.03	1.08	0.97	0.97	1.23	1.22
PIPE DETAILS	OD40mm PE PN10																												

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

AMENDMENTS

No	Date	Revision

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

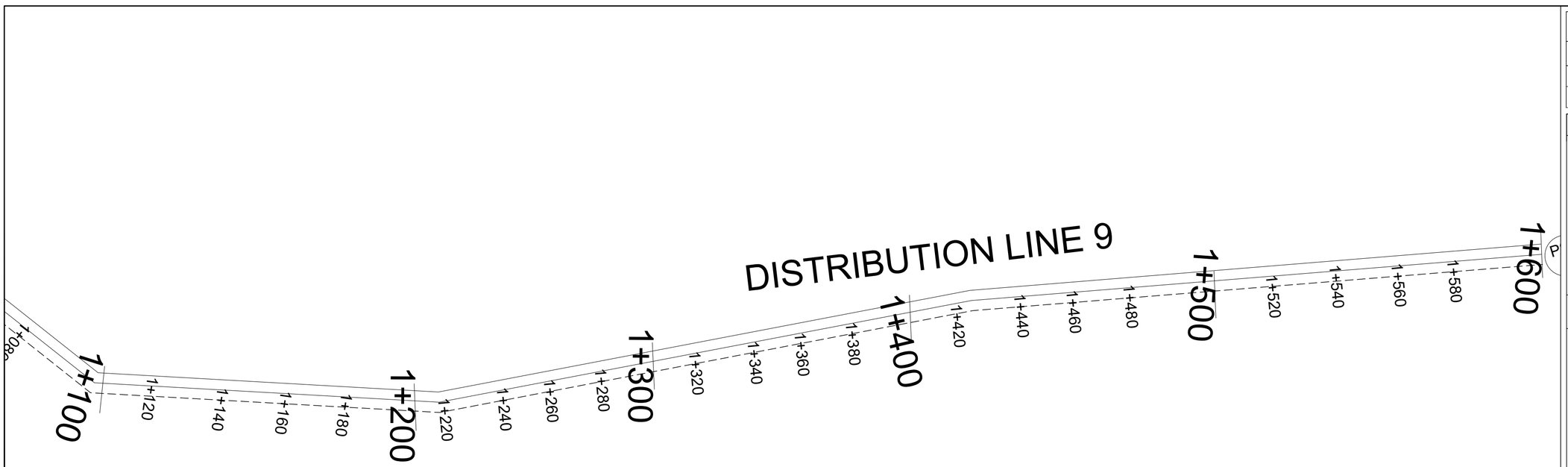
DISTRIBUTION LINE 9

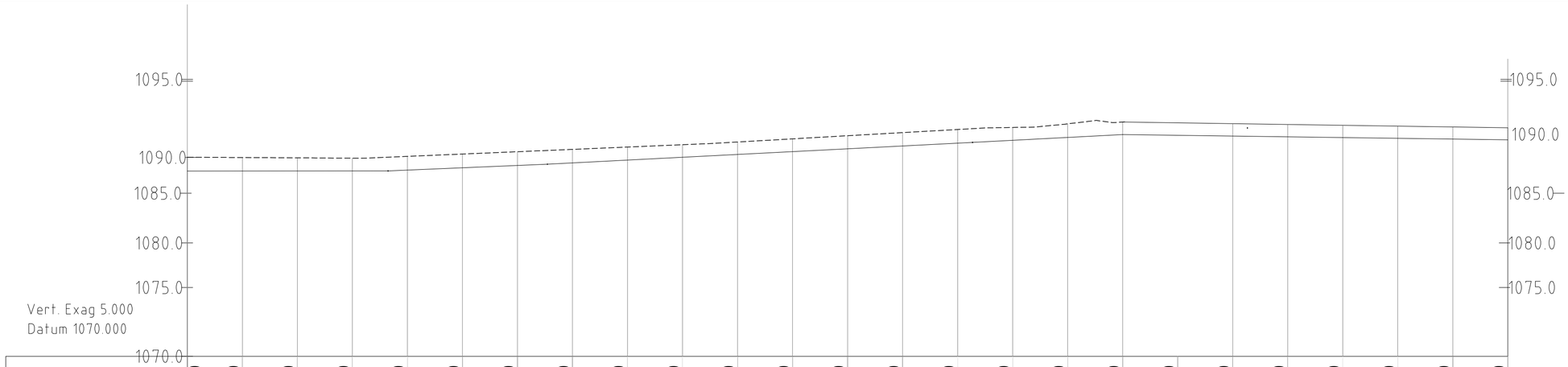
CHAINAGE (0+560–1+120)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.34





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
1+120	1088.86	1087.64	1.22
1+140	1089.50	1088.49	1.02
1+160	1089.60	1088.58	1.01
1+180	1089.69	1088.68	1.01
1+200	1089.78	1088.77	1.01
1+220	1089.88	1088.87	1.01
1+240	1089.96	1088.96	1.00
1+260	1090.05	1089.05	1.00
1+280	1090.14	1089.14	1.00
1+300	1090.20	1089.21	0.99
1+320	1090.17	1089.23	0.94
1+340	1090.15	1089.25	0.90
1+360	1090.14	1089.26	0.88
1+380	1090.14	1089.28	0.86
1+400	1090.14	1089.30	0.84
1+420	1090.13	1089.32	0.81
1+440	1090.13	1089.34	0.79
1+460	1087.03	1086.12	0.91
1+480	1087.28	1086.33	0.95
1+500	1087.52	1086.54	0.99
1+520	1087.76	1086.75	1.01
1+540	1087.99	1086.97	1.02
1+560	1088.22	1087.19	1.03
1+580	1088.46	1087.41	1.04
1+600	1088.70	1087.63	1.06
PIPE DETAILS	OD40mm PE PN10		

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

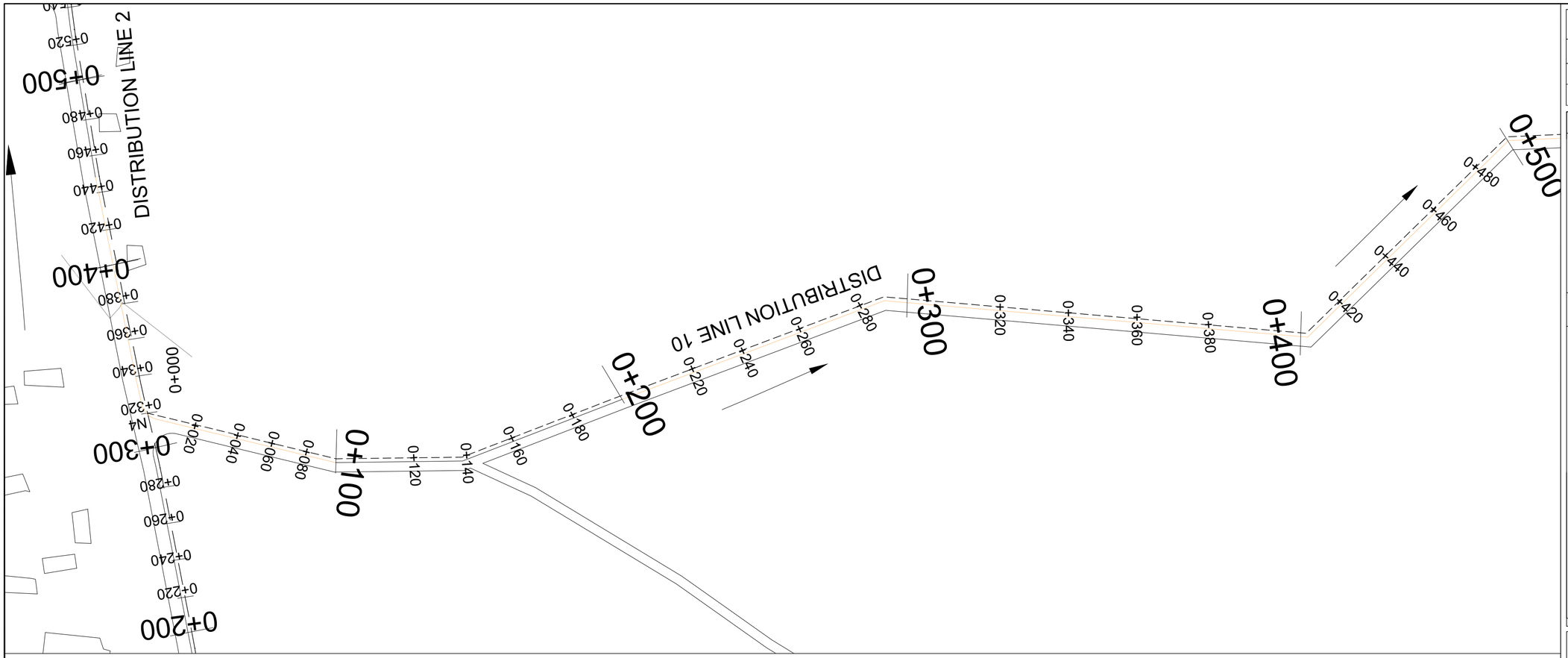
DISTRIBUTION LINE 9

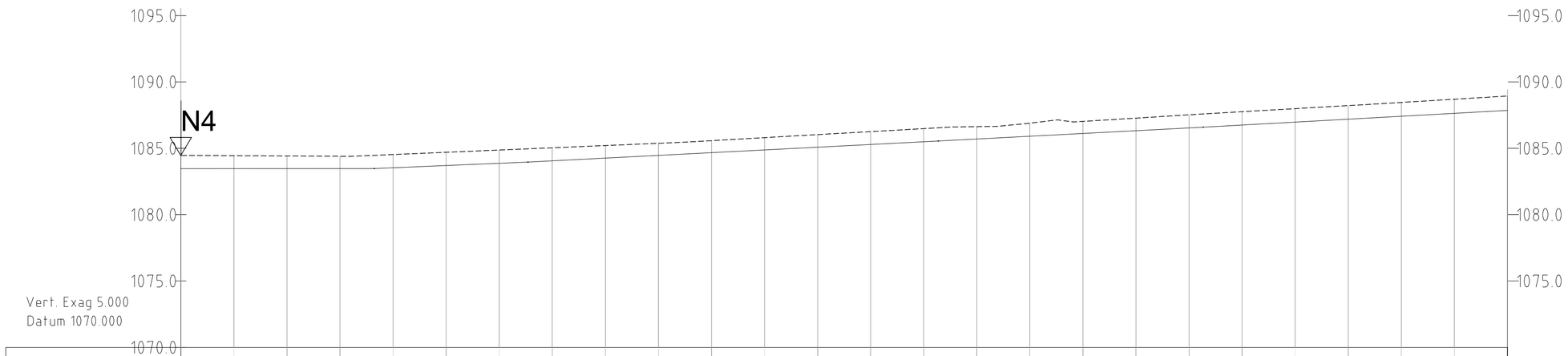
CHAINAGE (1+120–1+600)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.35





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+000	1084.47	1083.47	1.00
0+020	1084.45	1083.47	0.98
0+040	1084.43	1083.47	0.95
0+060	1084.40	1083.47	0.93
0+080	1084.53	1083.53	1.00
0+100	1084.70	1083.70	1.00
0+120	1084.87	1083.87	1.00
0+140	1085.04	1084.06	0.98
0+160	1085.21	1084.26	0.95
0+180	1085.38	1084.47	0.91
0+200	1085.58	1084.67	0.90
0+220	1085.80	1084.88	0.93
0+240	1086.03	1085.08	0.95
0+260	1086.26	1085.29	0.97
0+280	1086.49	1085.49	0.99
0+300	1086.63	1085.70	0.93
0+320	1086.90	1085.91	0.99
0+340	1087.03	1086.12	0.91
0+360	1087.28	1086.33	0.95
0+380	1087.52	1086.54	0.99
0+400	1087.76	1086.75	1.01
0+420	1087.99	1086.97	1.02
0+440	1088.22	1087.19	1.03
0+460	1088.46	1087.41	1.04
0+480	1084.43	1083.47	0.95
0+500	1084.87	1083.87	1.00

PIPE DETAILS: OD40mm PE PN10

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

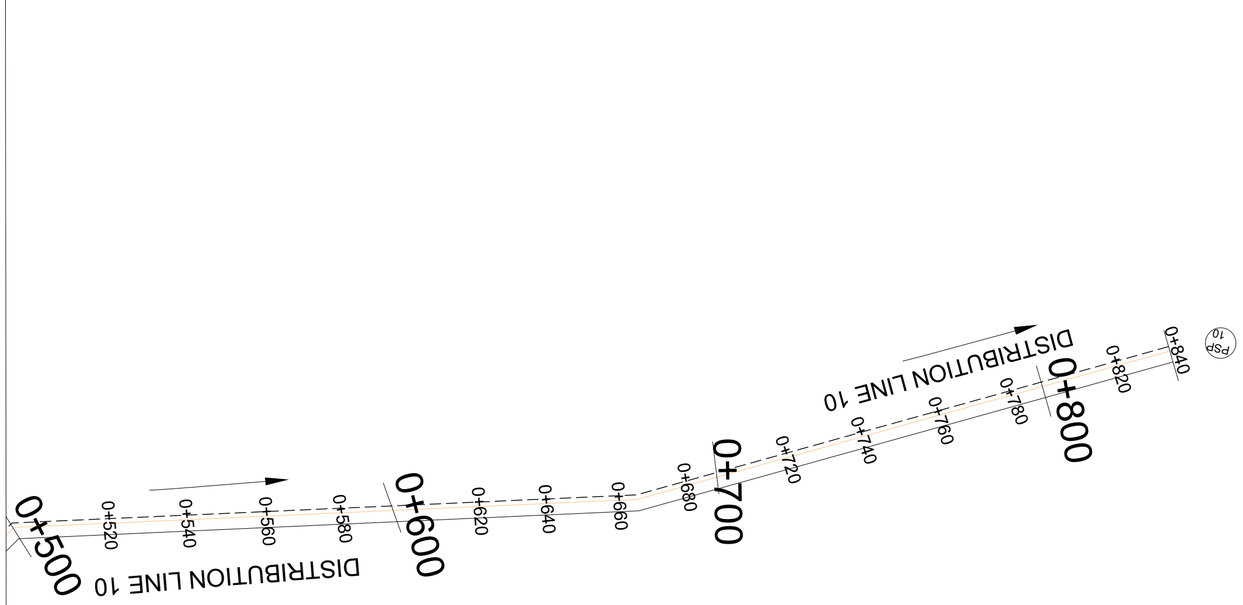
DISTRIBUTION LINE 10

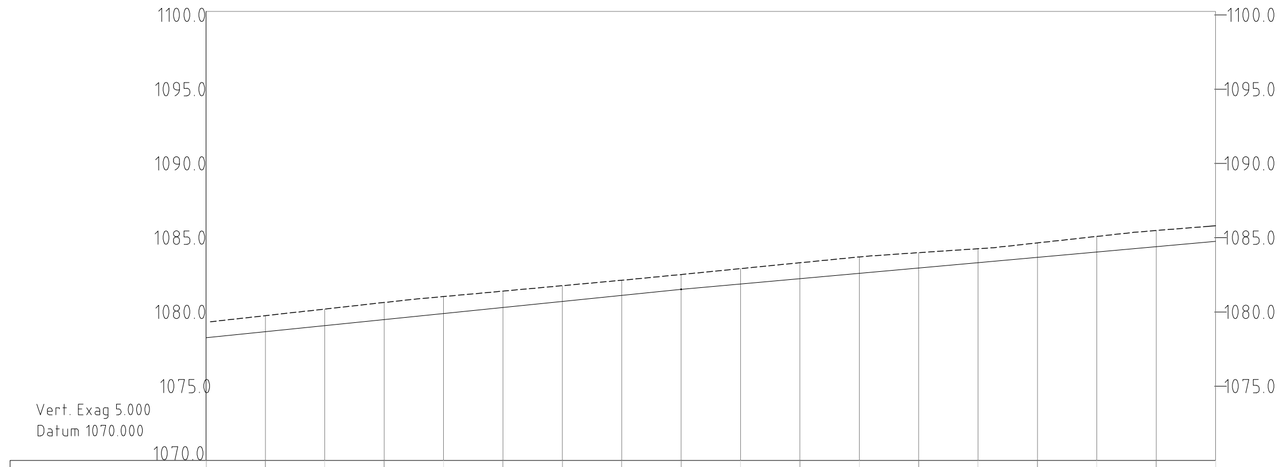
CHAINAGE (0+000–0+500)

Scale: F.T.S		Designed by:	
		Drawn by:	PA
Date: JUNE/2025		Checked by:	Infrastructure Team
		Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.36





CHAINAGE	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840
EXISTING GROUND LEVE	1084.87	1079.75	1080.19	1080.64	1081.04	1081.40	1081.77	1082.13	1082.52	1082.92	1083.31	1083.71	1083.99	1084.26	1084.65	1085.09	1085.48	1085.81
INVERT LEVE	1083.87	1078.67	1079.08	1079.49	1079.89	1080.30	1080.71	1081.12	1081.52	1081.88	1082.24	1082.60	1082.96	1083.32	1083.68	1084.03	1084.39	1084.75
DEPTH	1.00	1.08	1.11	1.15	1.14	1.10	1.06	1.02	1.00	1.04	1.07	1.11	1.03	0.94	0.97	1.05	1.09	1.05
PIPE DETAIL	OD40mm PE PN10																	

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

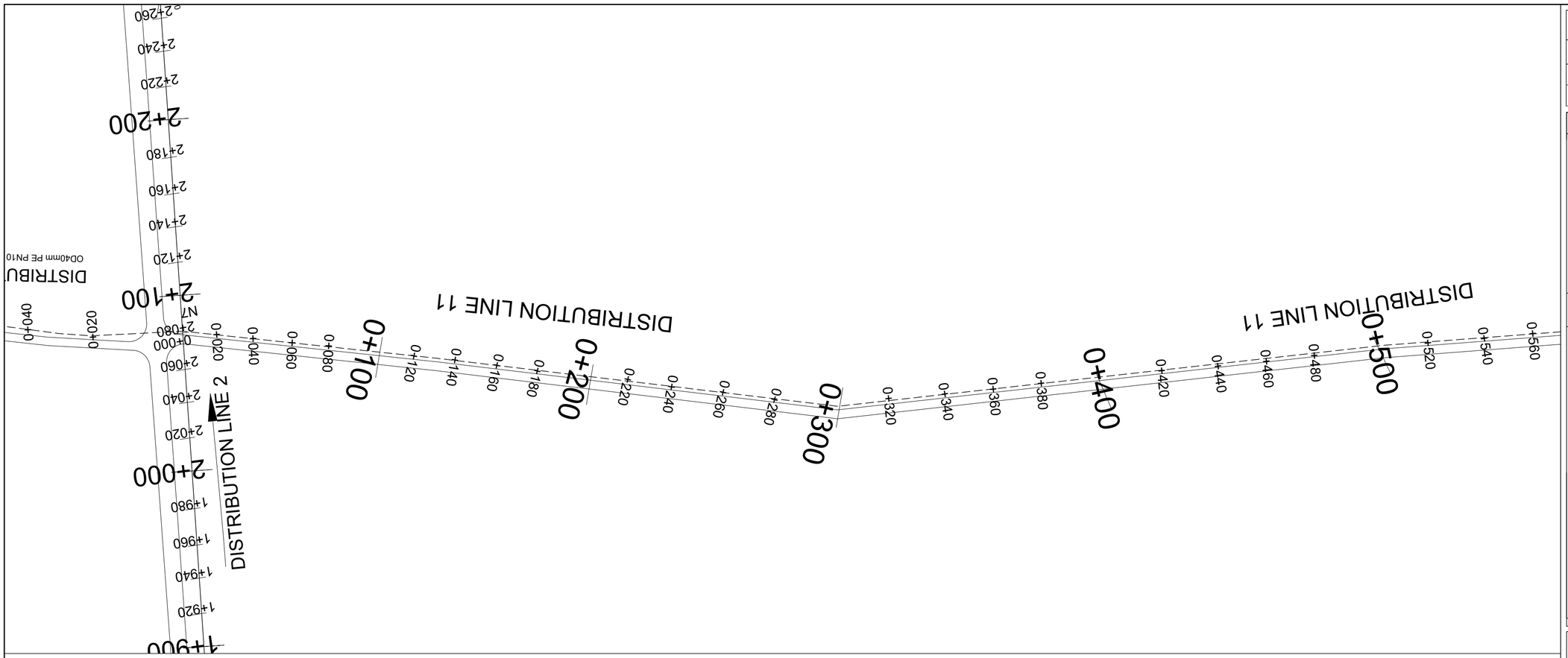
DISTRIBUTION LINE 10

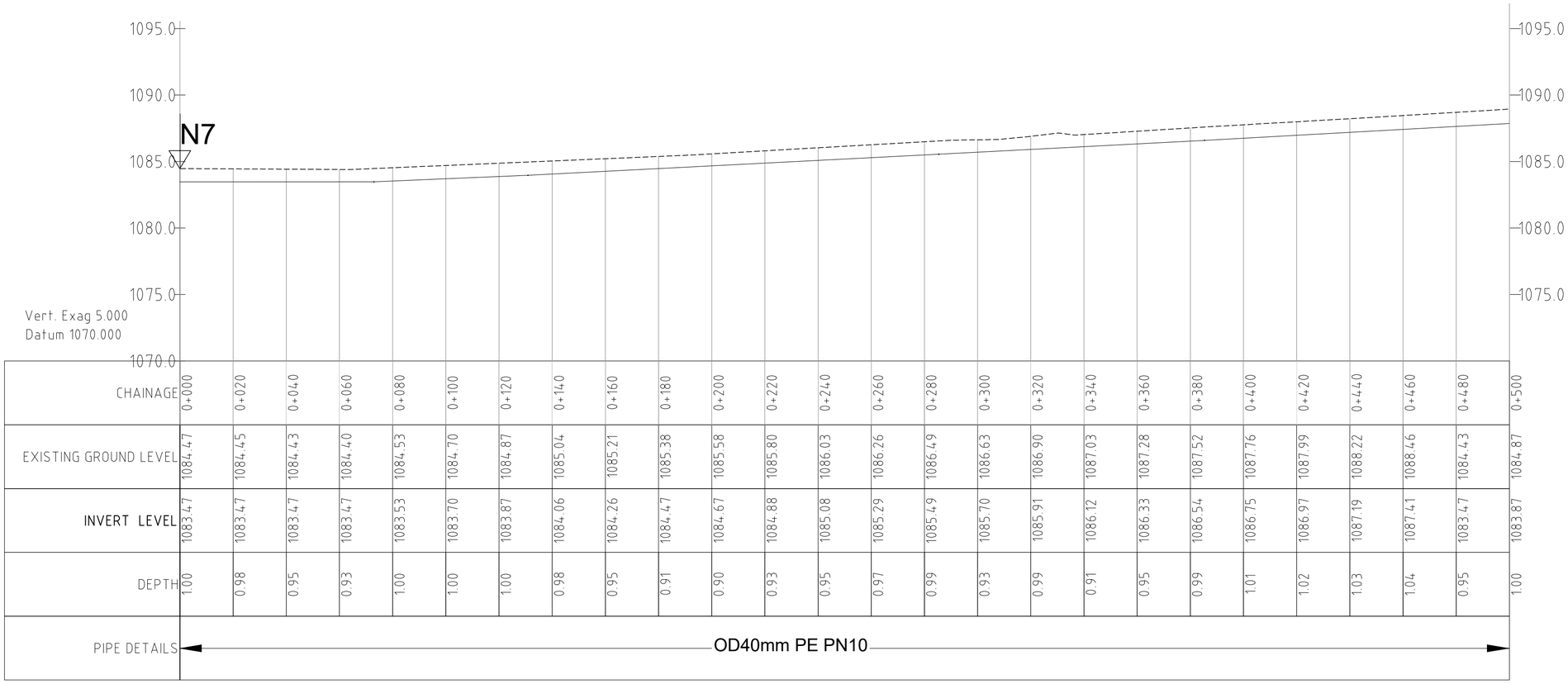
CHAINAGE (0+500–0+840)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.37





AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

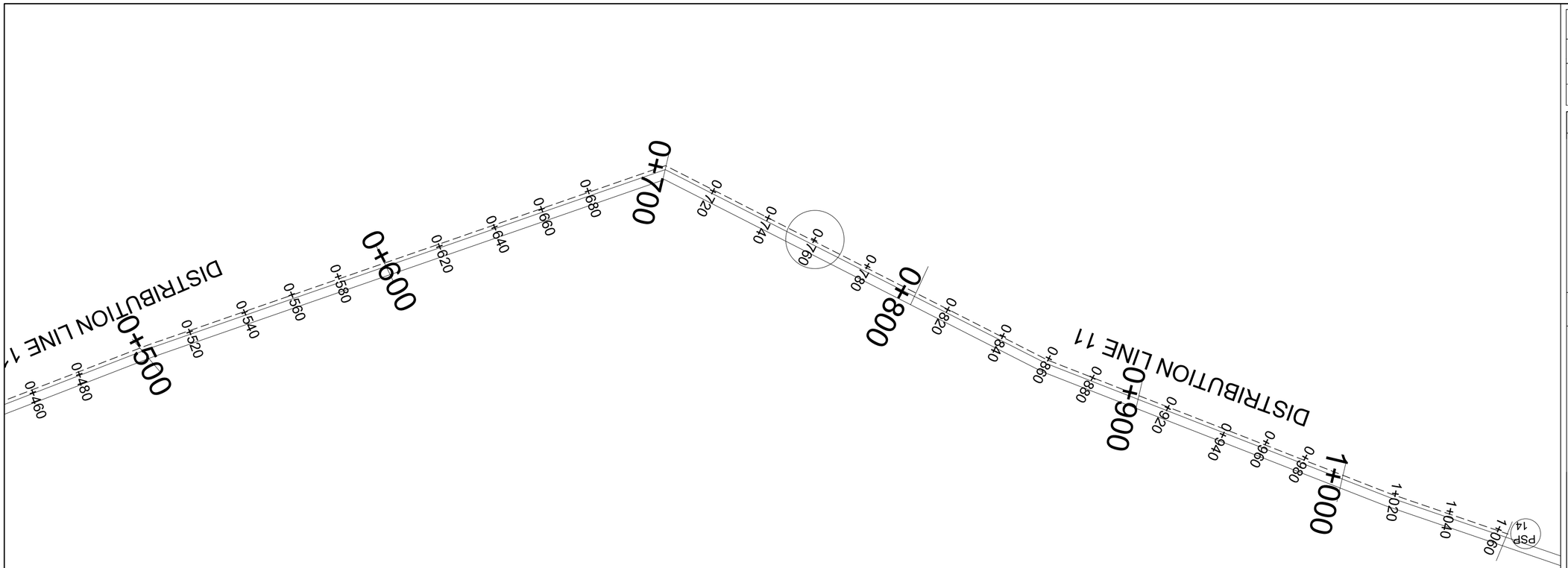
DISTRIBUTION LINE 11

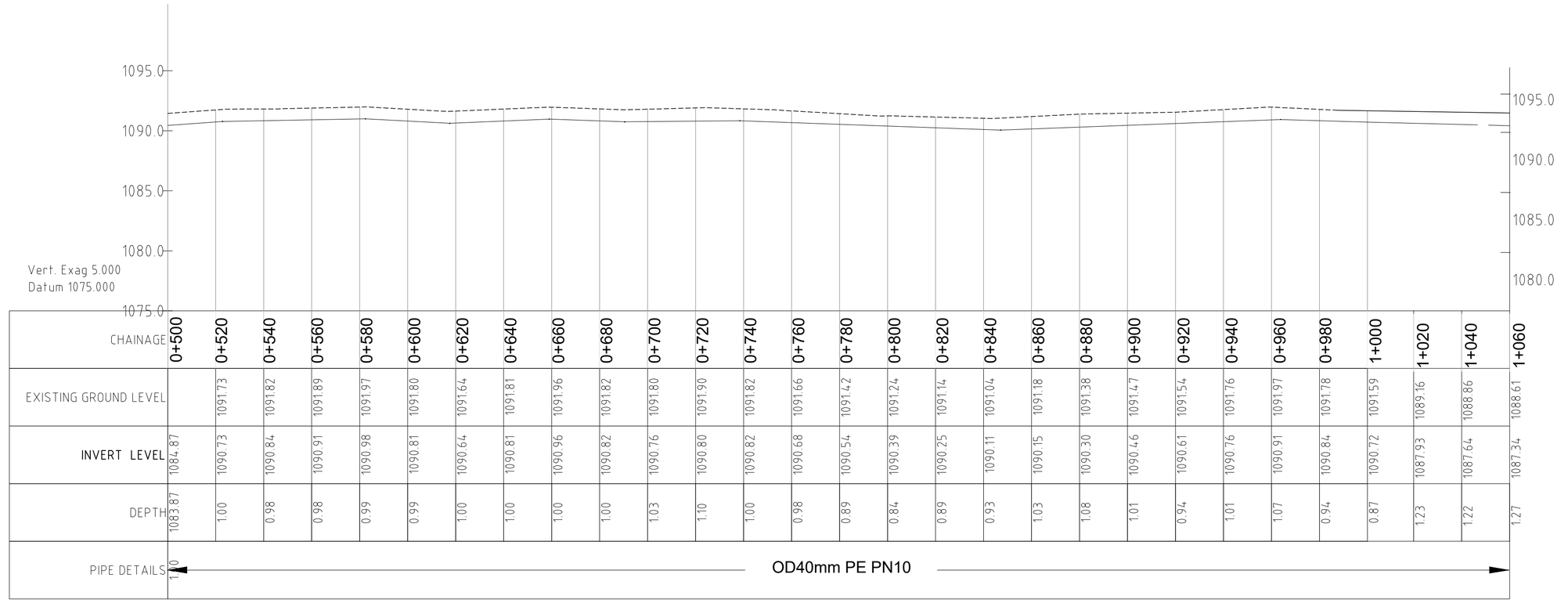
CHAINAGE (0+000–0+500)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.38





CHAINAGE	EXISTING GROUND LEVEL	INVERT LEVEL	DEPTH
0+500	1091.73	1090.73	1.00
0+520	1091.82	1090.84	0.98
0+540	1091.89	1090.91	0.98
0+560	1091.97	1090.98	0.99
0+580	1091.80	1090.81	0.99
0+600	1091.64	1090.64	1.00
0+620	1091.81	1090.81	1.00
0+640	1091.96	1090.96	1.00
0+660	1091.82	1090.82	1.00
0+680	1091.80	1090.76	1.03
0+700	1091.90	1090.80	1.10
0+720	1091.82	1090.82	1.00
0+740	1091.66	1090.68	0.98
0+760	1091.42	1090.54	0.89
0+780	1091.24	1090.39	0.84
0+800	1091.14	1090.25	0.89
0+820	1091.04	1090.11	0.93
0+840	1091.18	1090.15	1.03
0+860	1091.38	1090.30	1.08
0+880	1091.47	1090.46	1.01
0+900	1091.54	1090.61	0.94
0+920	1091.76	1090.76	1.01
0+940	1091.97	1090.91	1.07
0+960	1091.78	1090.84	0.94
0+980	1091.59	1090.72	0.87
1+000	1089.16	1087.93	1.23
1+020	1088.86	1087.64	1.22
1+040	1088.61	1087.34	1.27

PIPE DETAILS: OD40mm PE PN10

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

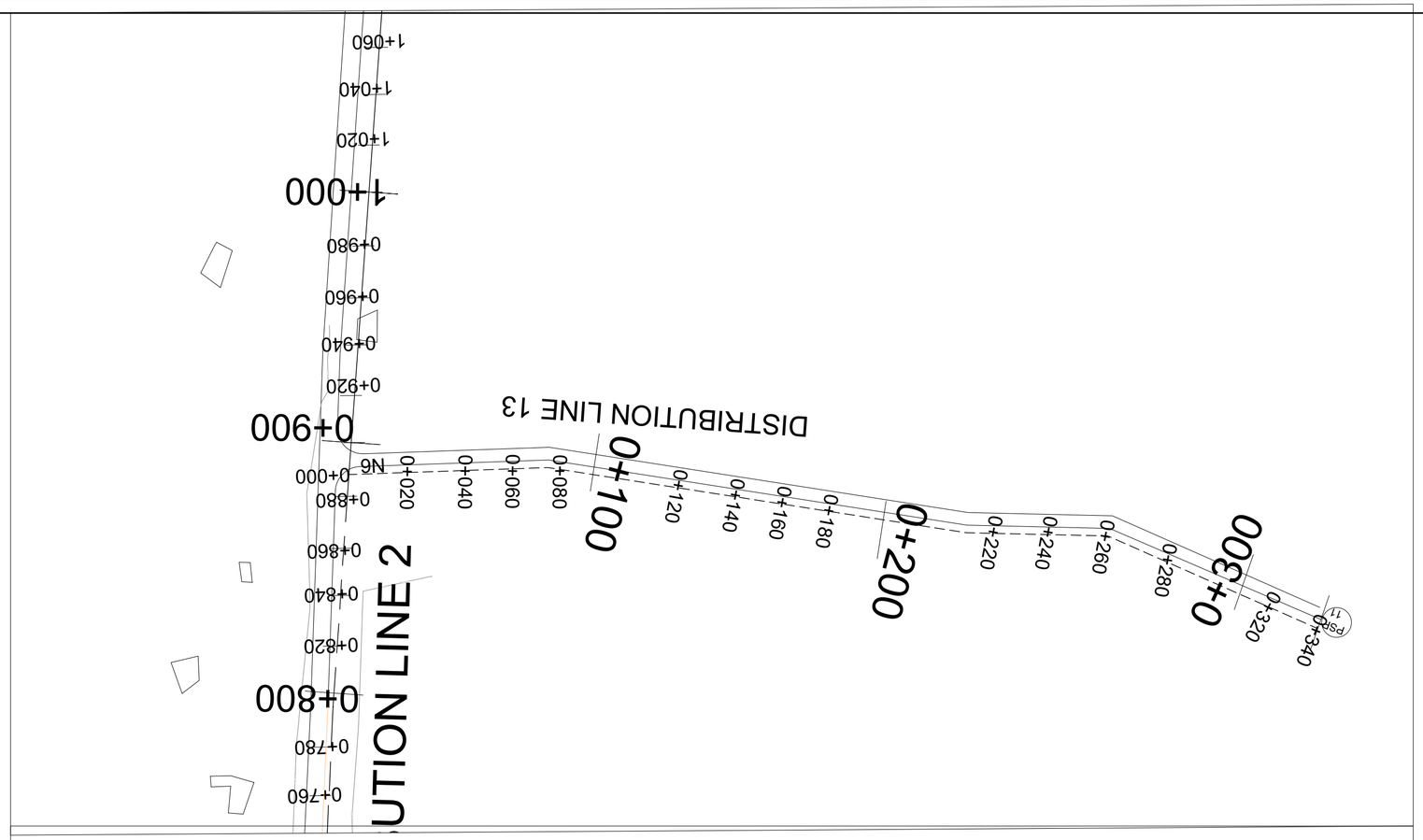
DISTRIBUTION LINE 11

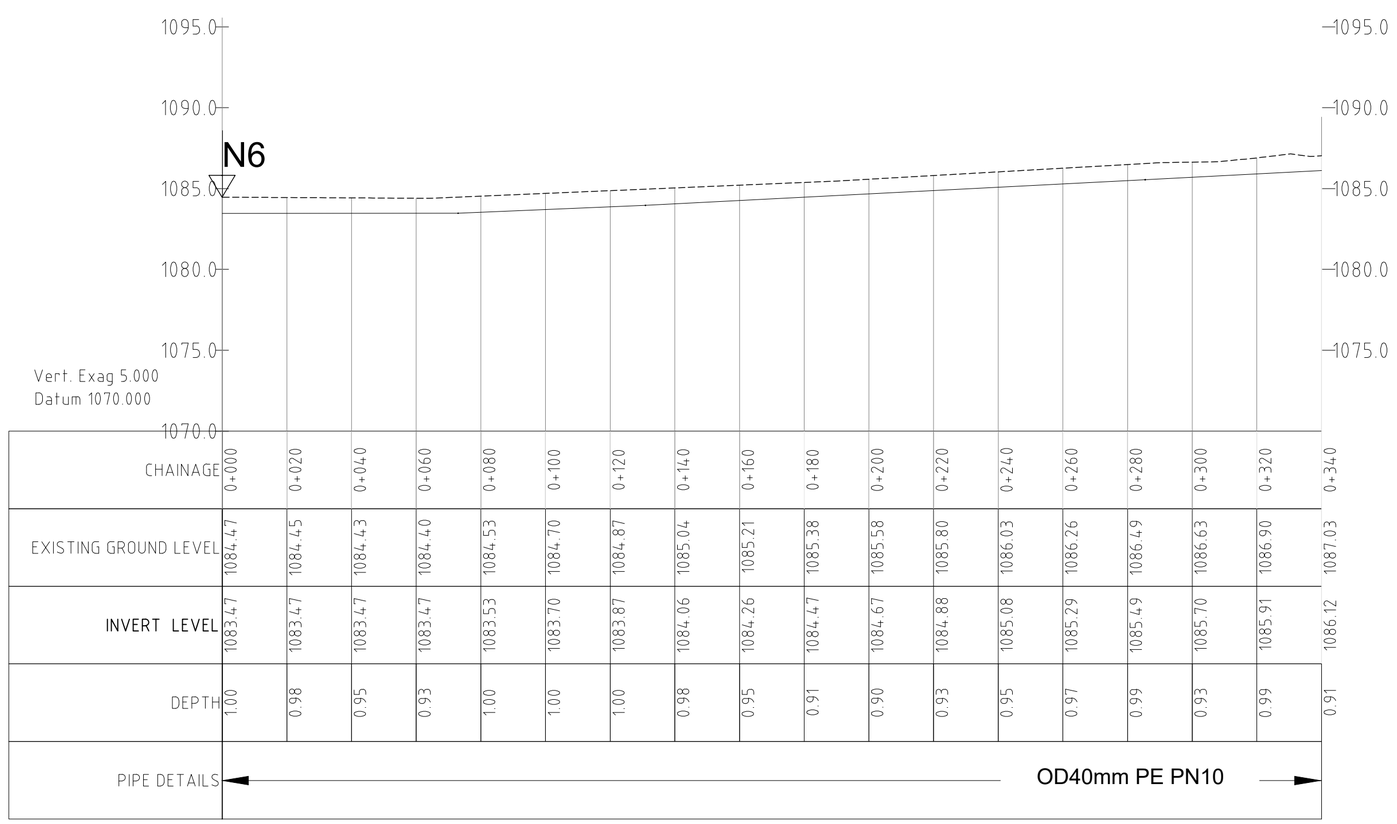
CHAINAGE (0+500–1+000)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.39





AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
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Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

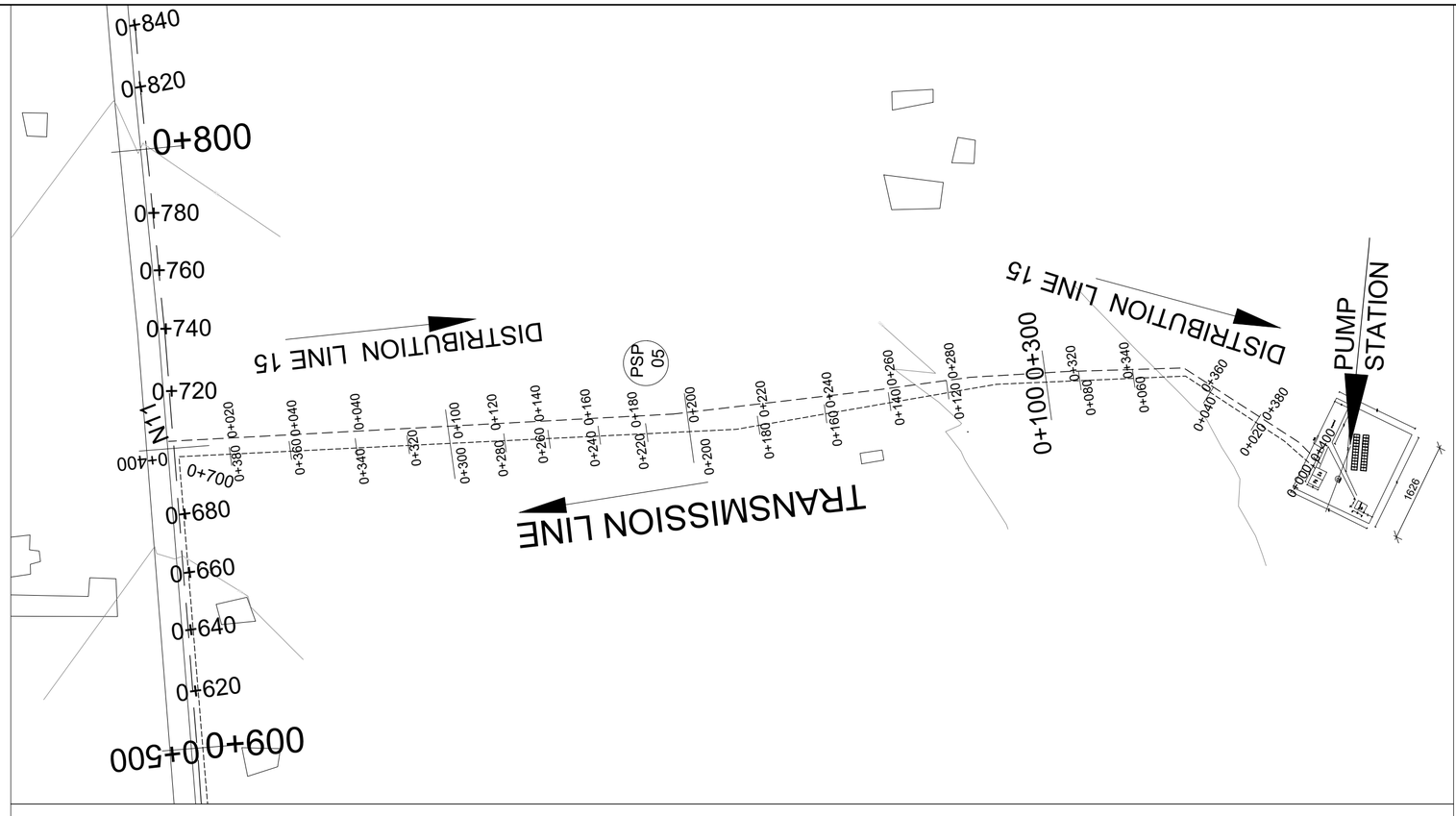
PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

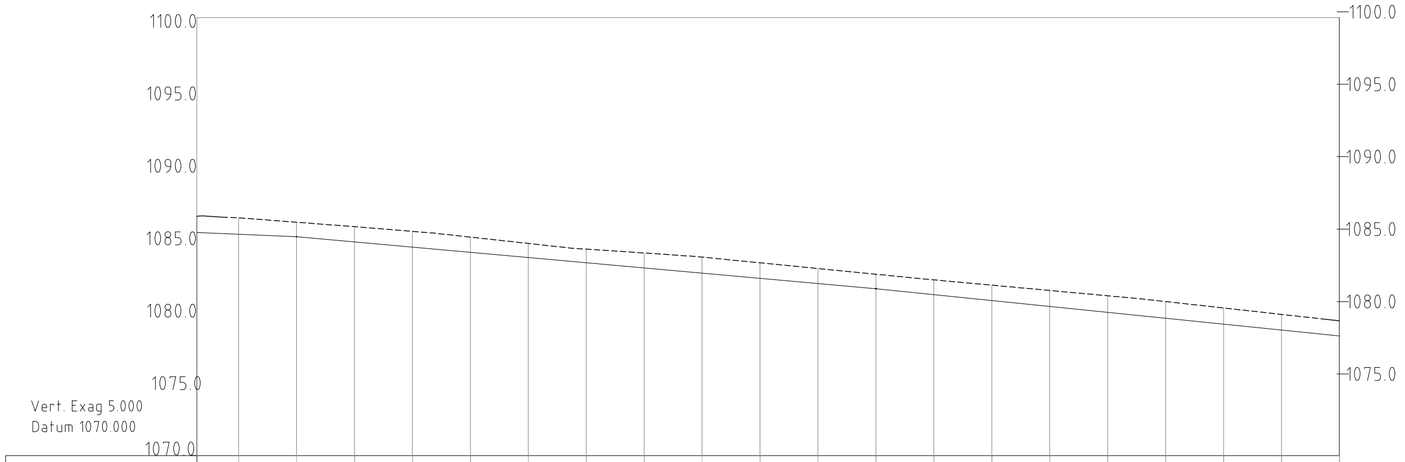
Drawing Title :

DISTRIBUTION LINE 13

CHAINAGE (0+000–0+340)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA
ENGINEERING DESIGN		
Drg No: GBUT-UN4-2025/HLG/1.40		





CHAINAGE	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400
EXISTING GROUND LEVE	1086.54	1086.41	1086.11	1085.81	1085.48	1085.09	1084.65	1084.26	1083.99	1083.71	1083.31	1082.92	1082.52	1082.13	1081.77	1081.40	1081.04	1080.64	1080.19	1079.75	1079.31
INVERT LEVE	1085.41	1085.28	1085.11	1084.75	1084.39	1084.03	1083.68	1083.32	1082.96	1082.60	1082.24	1081.88	1081.52	1081.12	1080.71	1080.30	1079.89	1079.49	1079.08	1078.67	1078.27
DEPTH	1.13	1.13	1.00	1.05	1.09	1.05	0.97	0.94	1.03	1.11	1.07	1.04	1.00	1.02	1.06	1.10	1.14	1.15	1.11	1.08	1.04
PIPE DETAIL	OD40mm PE PN10																				

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

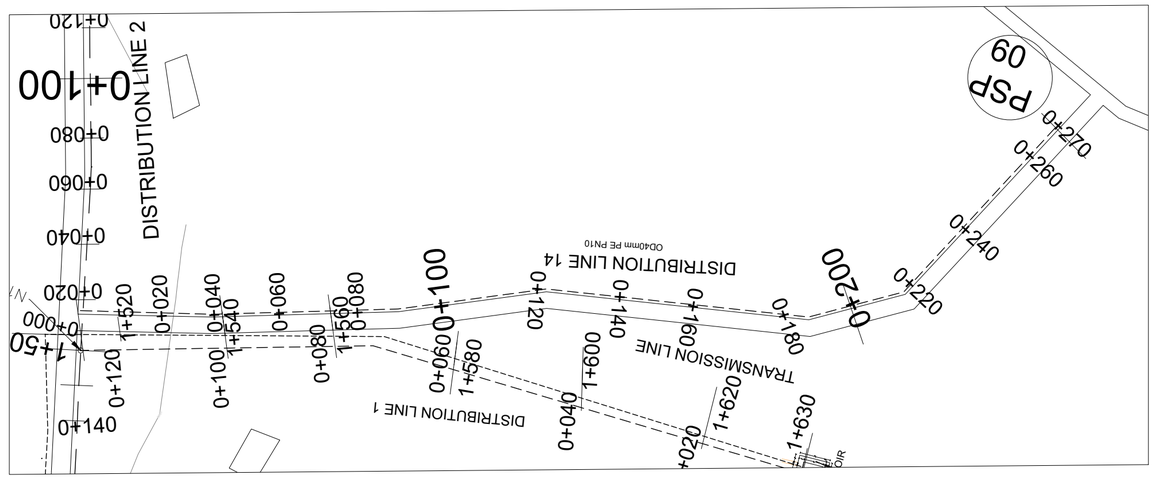
DISTRIBUTION LINE 15

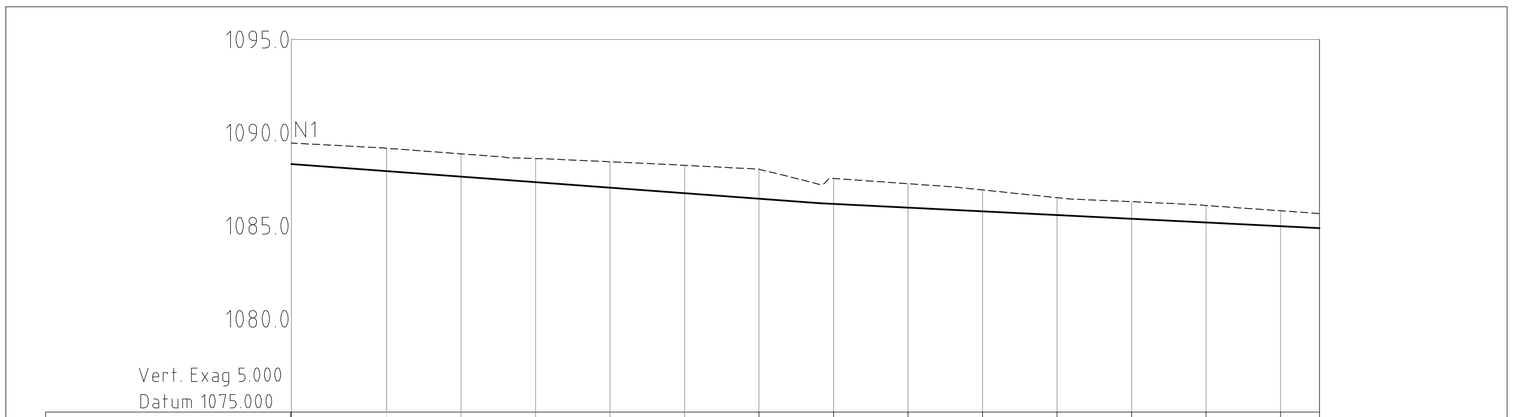
CHAINAGE (0+000–0+400)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.41.1





CHAINAGE	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+270
EXISTING GROUND LEVE	1084.65	1084.97	1085.28	1085.61	1085.96	1086.31	1086.40	1086.41		1085.49	1084.96	1086.51	1086.29	1086.09	1085.81	1085.81
INVERT LEVE	1083.76	1084.03	1084.30	1084.62	1084.97	1085.31	1085.40	1085.41		1084.42	1083.97	1085.58	1085.38	1085.18	1084.98	1084.98
DEPTH	0.89	0.94	0.98	0.99	1.00	1.00	0.99	1.00		1.07	0.99	0.93	0.91	0.91	0.83	0.83
PIPE DETAIL	OD40mm PE PN10															

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

DISTRIBUTION LINE 14

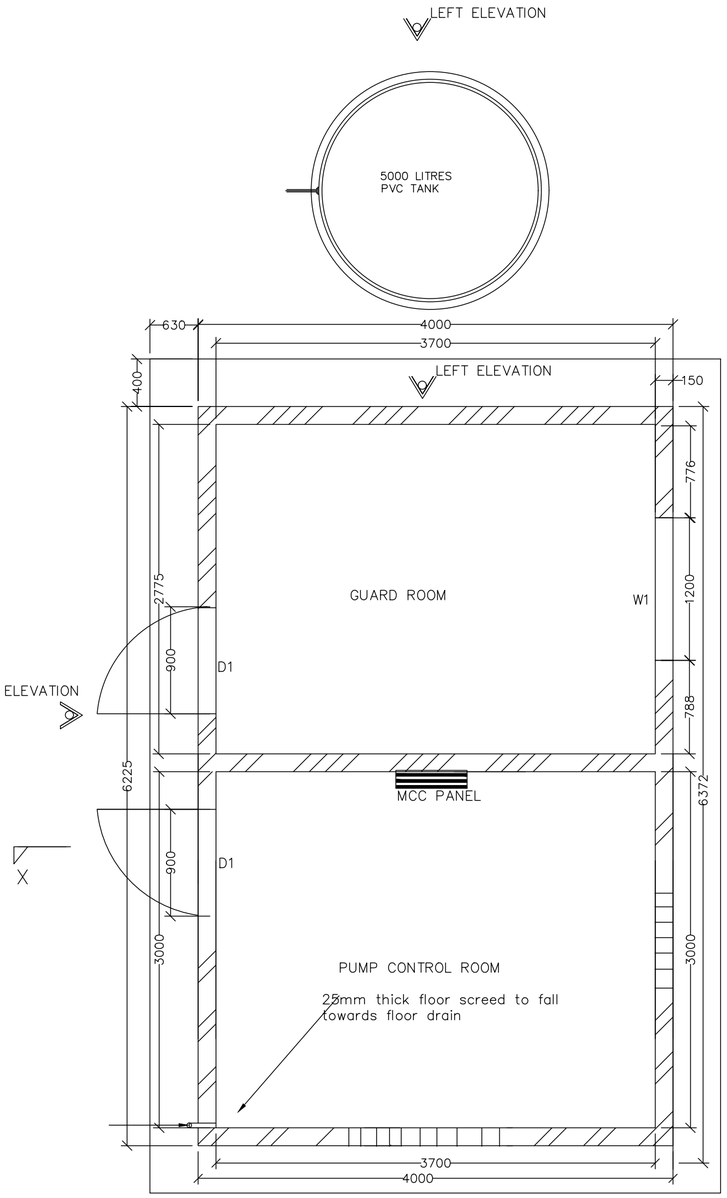
CHAINAGE (0+000–0+270)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

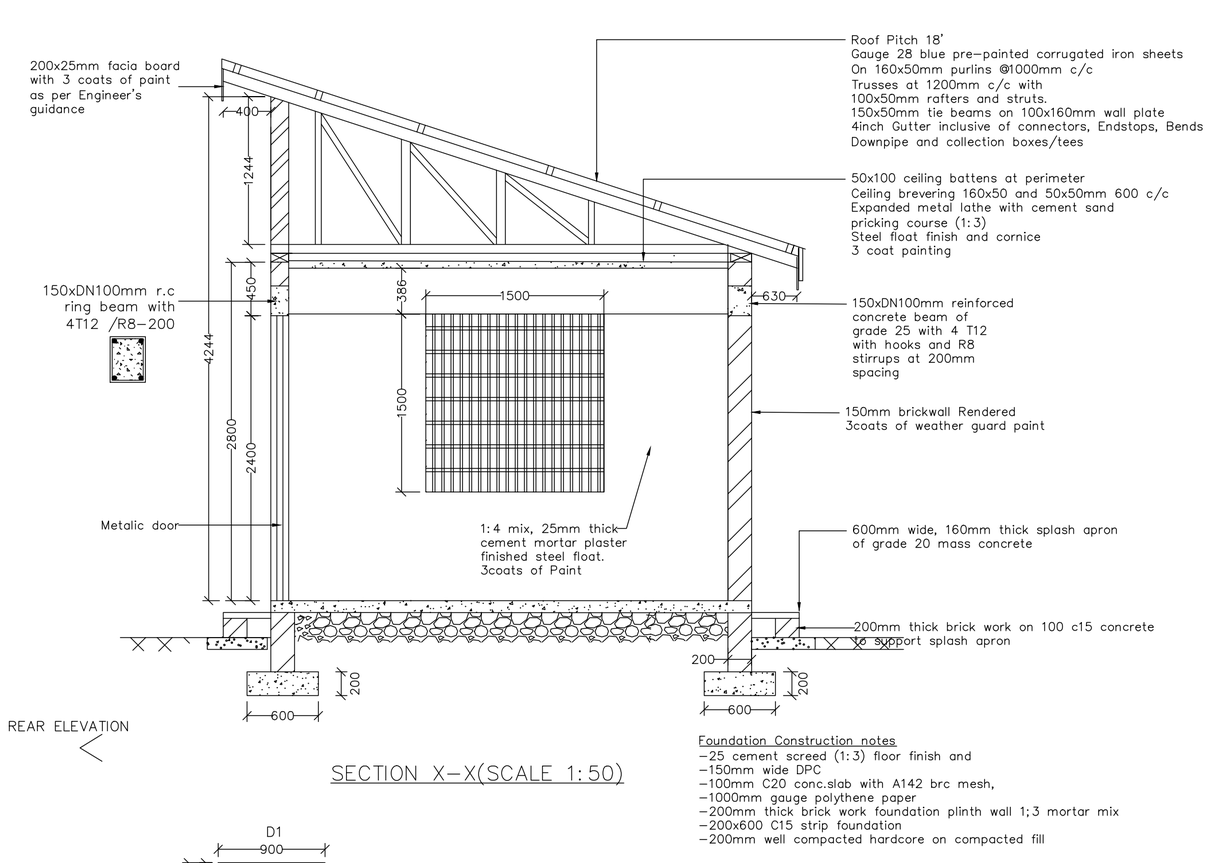
ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.41

PUMP AND GUARD HOUSE

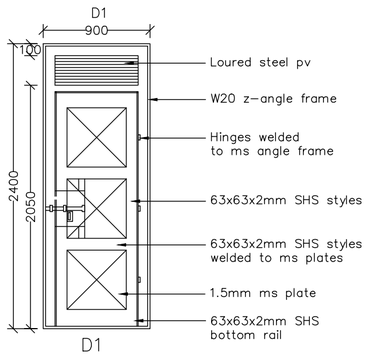


GROUND PLAN(SCALE 1:50)

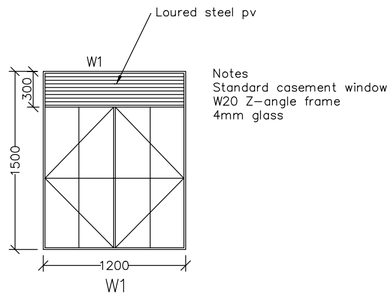


SECTION X-X(SCALE 1:50)

Foundation Construction notes
-25 cement screed (1:3) floor finish and
-150mm wide DPC
-100mm C20 conc.slab with A142 brc mesh,
-1000mm gauge polythene paper
-200mm thick brick work foundation plinth wall 1;3 mortar mix
-200x600 C15 strip foundation
-200mm well compacted hardcore on compacted fill



DOOR DETAI(SCALE 1:50)L



WINDOW DETAIL(SCALE 1:50)

PUMP HOUSE PLAN AND SECTION

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

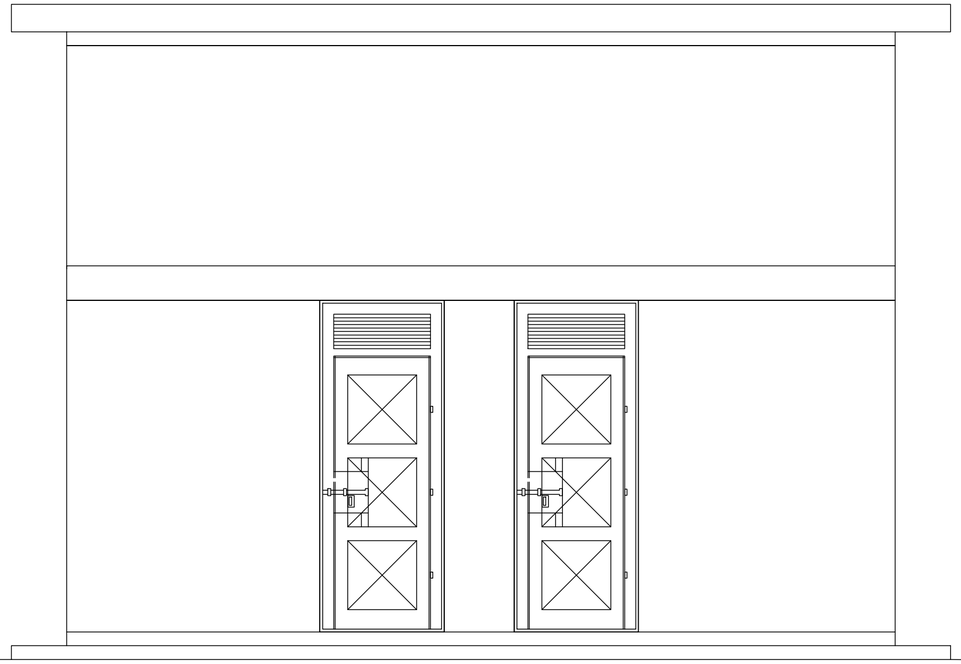
HALANGA WATER SUPPLY

Pump House-Plan & Section

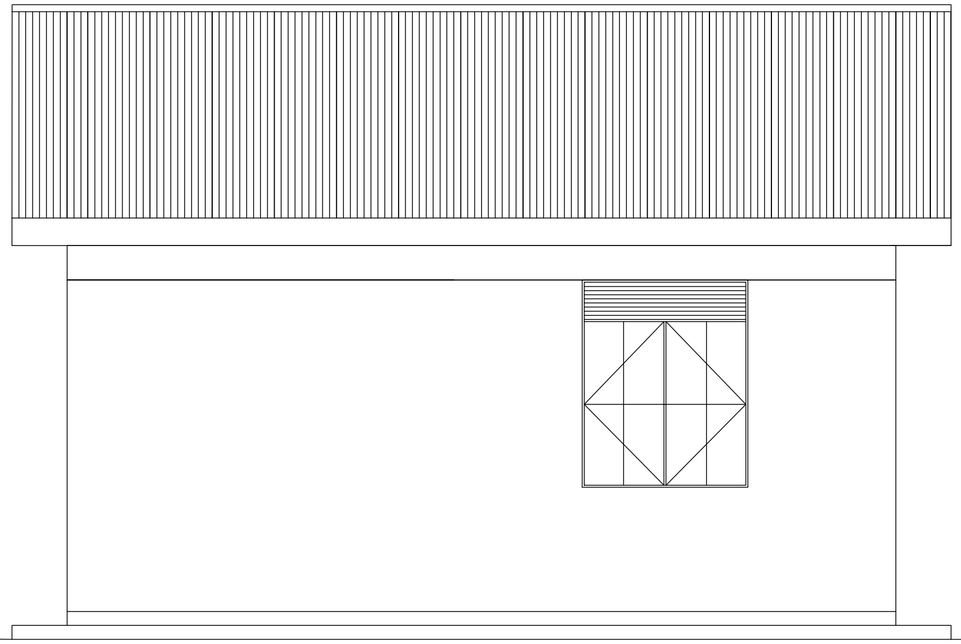
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

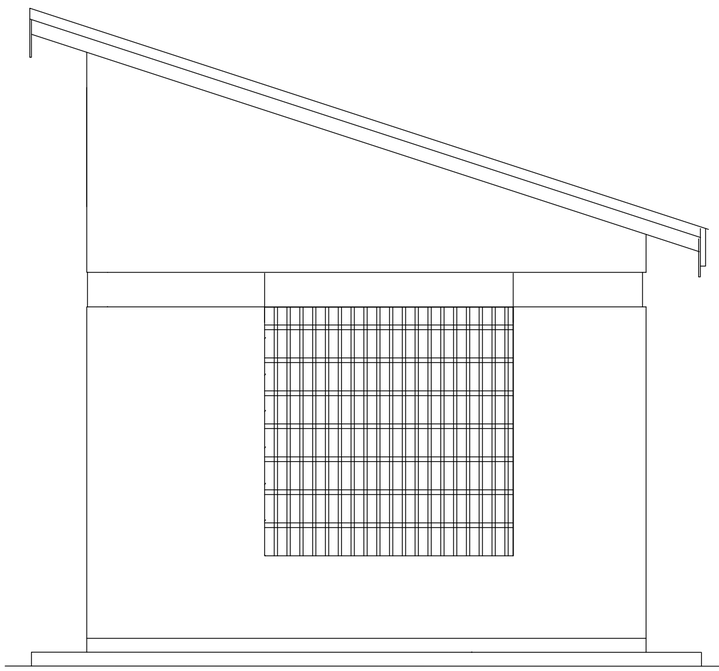
Drg No: GBUT-UN4-2025/HLG/1.42



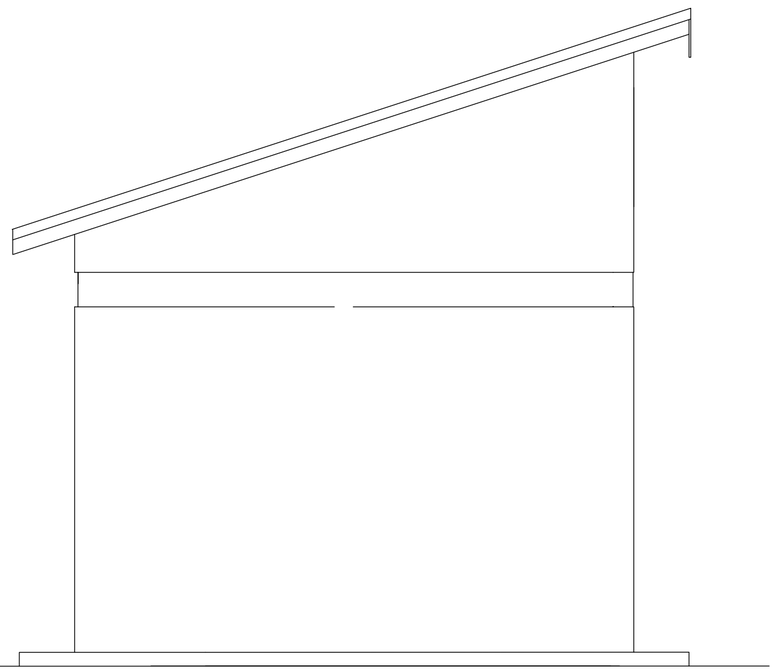
FRONT ELEVATION(SCALE 1:50)



REAR ELEVATION(SCALE 1:50)



RIGHT ELEVATION(SCALE 1:50)



LEFT ELEVATION(SCALE 1:50)

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
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LEGEND

FINANCED BY:

Client:

GOAL

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

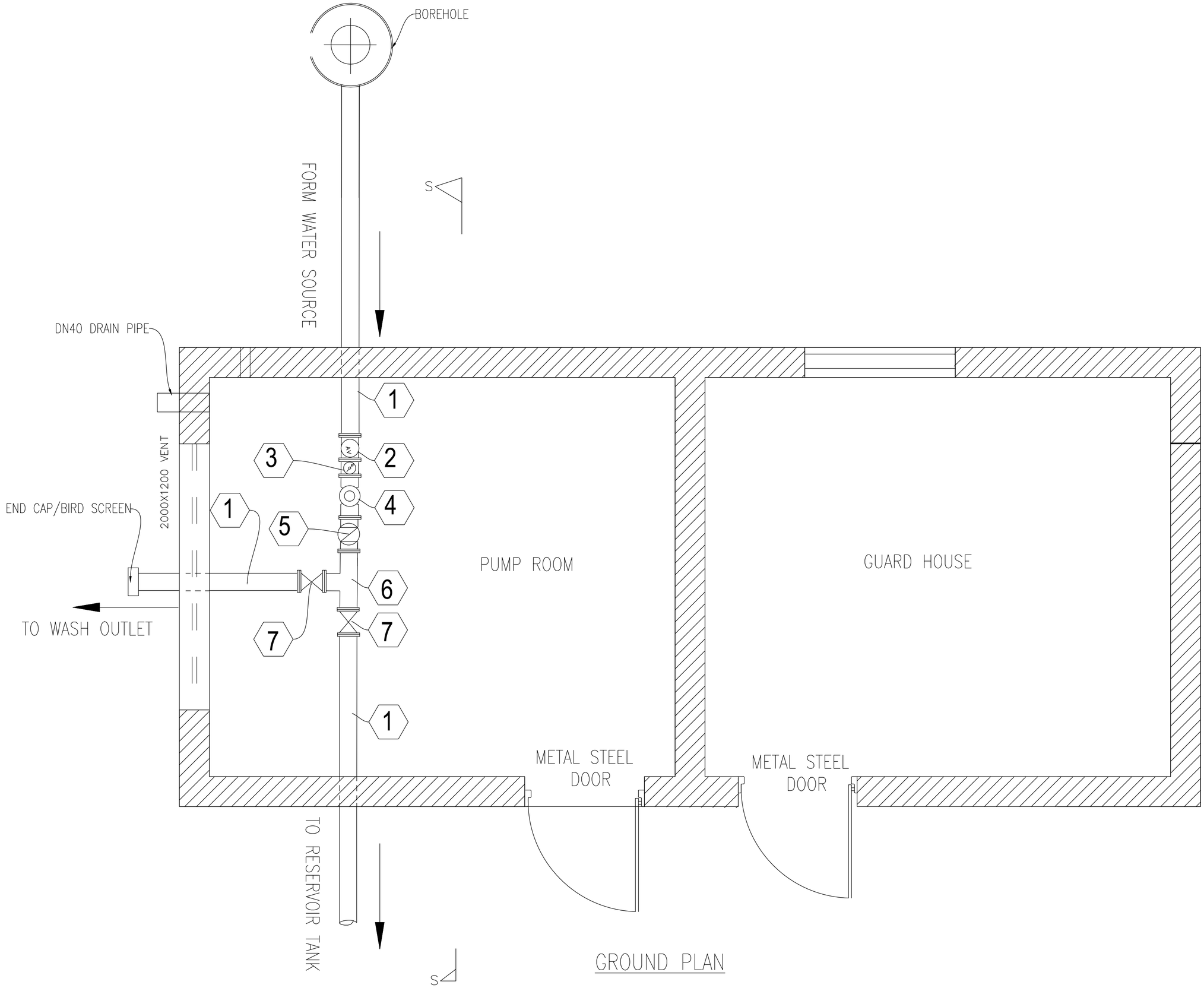
HALANGA WATER SUPPLY

Pump House–Elevations

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.43



GROUND PLAN

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

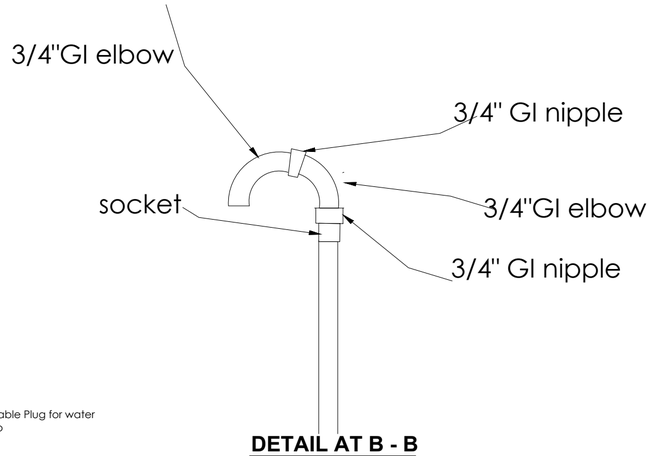
HALANGA WATER SUPPLY

Pump House Fitting Layout

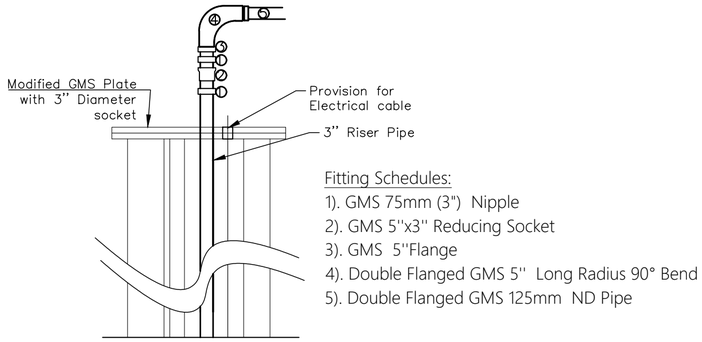
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.44

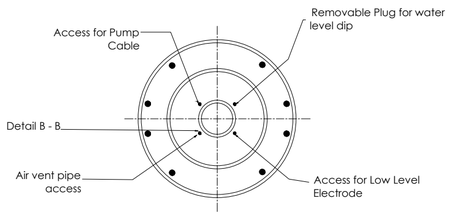


DETAIL AT B - B



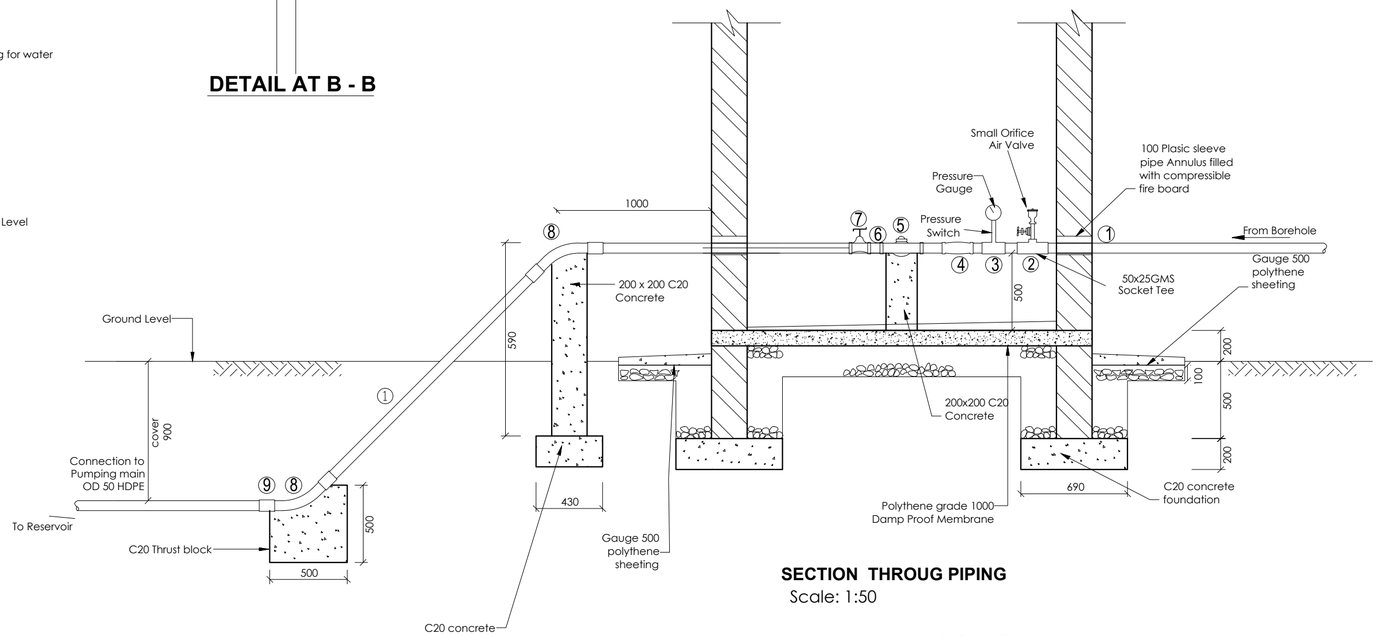
Fitting Schedules:

1). GMS 75mm (3") Nipple
2). GMS 5"x3" Reducing Socket
3). GMS 5"Flange
4). Double Flanged GMS 5" Long Radius 90° Bend
5). Double Flanged GMS 125mm ND Pipe



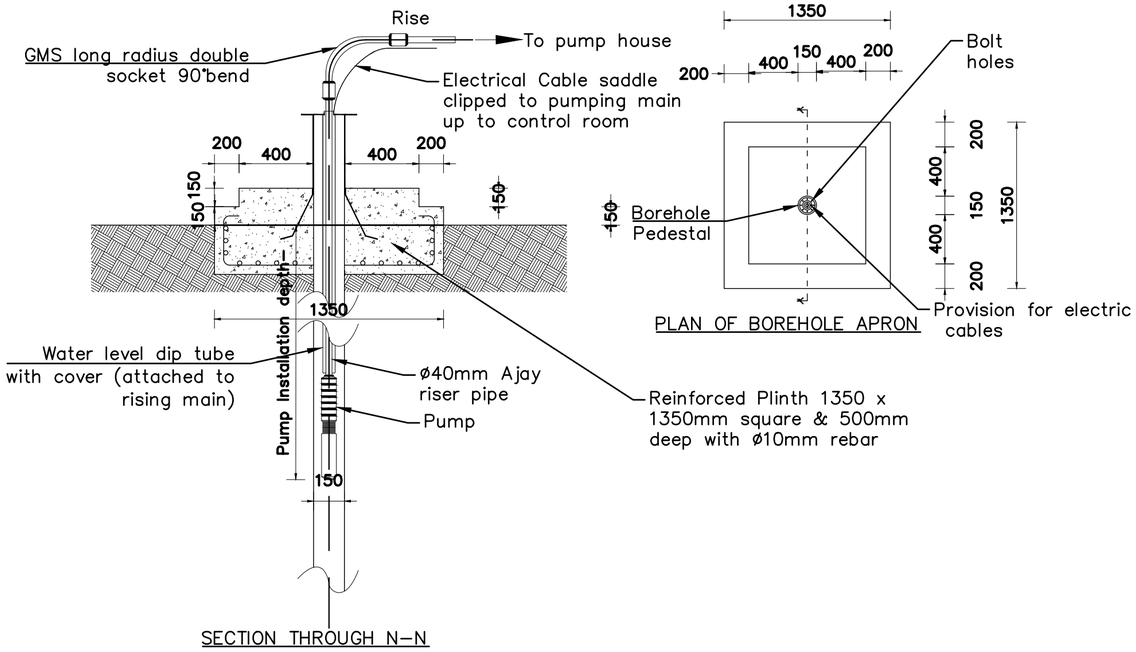
DETAIL AT A-A

Scale: 1:20



SECTION THROUG PIPING

Scale: 1:50



FITTINGS SCHEDULE

1) 1No. DN100 Flanged G.I pipe
2) 1No. DN50 Flanged Air Release Valve
3) 1No. DN20 Pressure Gauge
4) 1No. DN100 Flanged Non-Return Valve(NRV)
5) 1No. DN100 Flanged Flow Meter
6) 1No. DN100 Flanged Tee
7) 1No. DN100 Flanged Gate Valve
8) 1No. DN50 90 gms double socket long radius bend
9) 1No. DN100 Flanged HDPE Adaptor

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
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LEGEND

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

HALANGA WATER SUPPLY

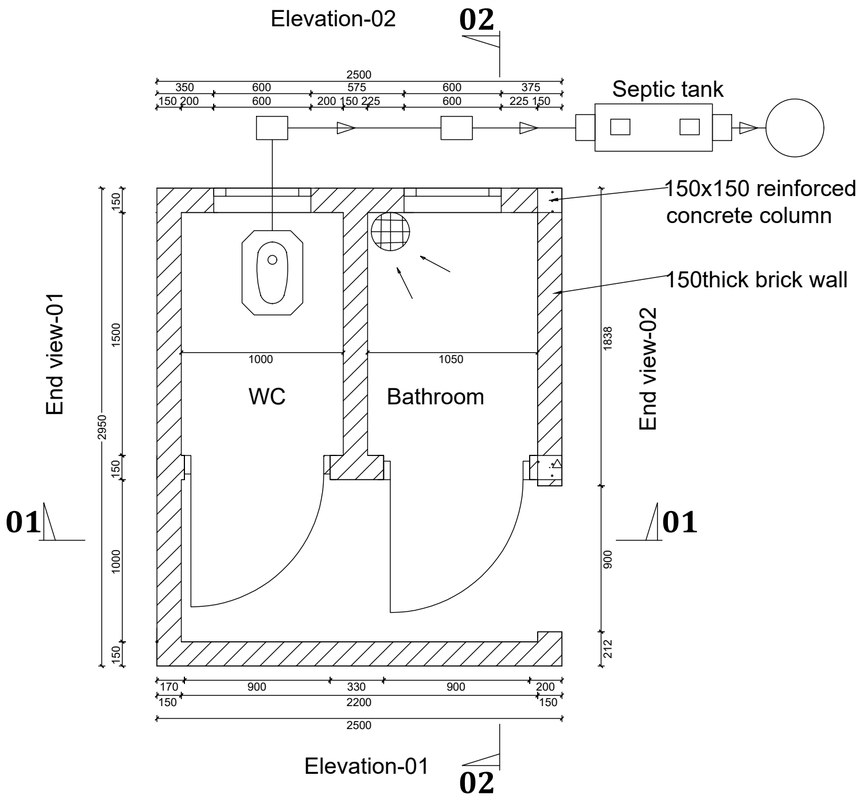
Pump House Fitting (section)

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

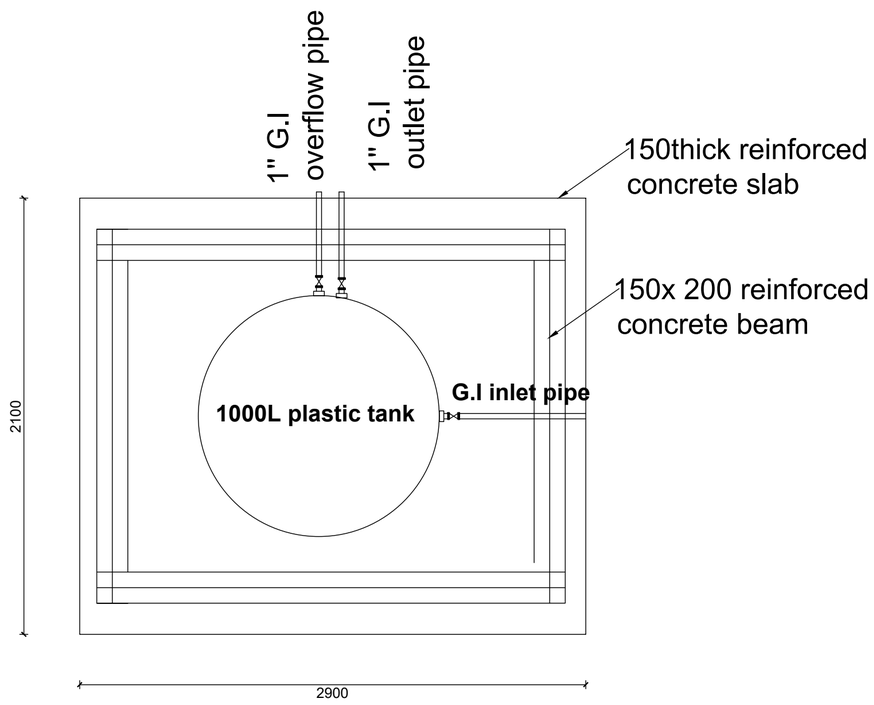
ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.45

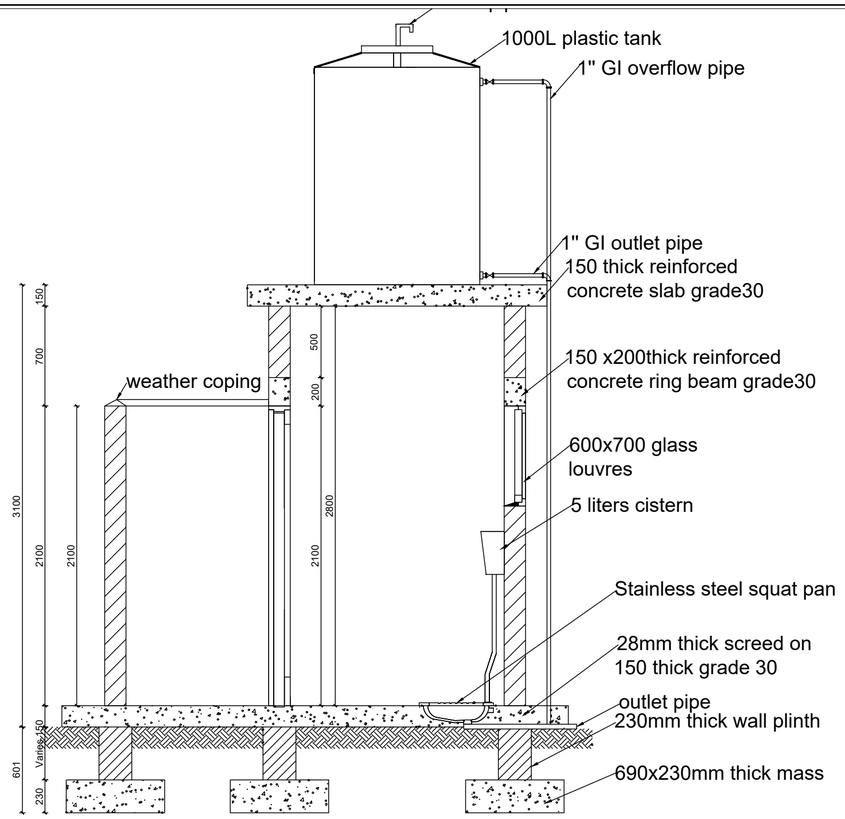
WATER BORNE TOILET
&
SEPTIC TANK DETAILS



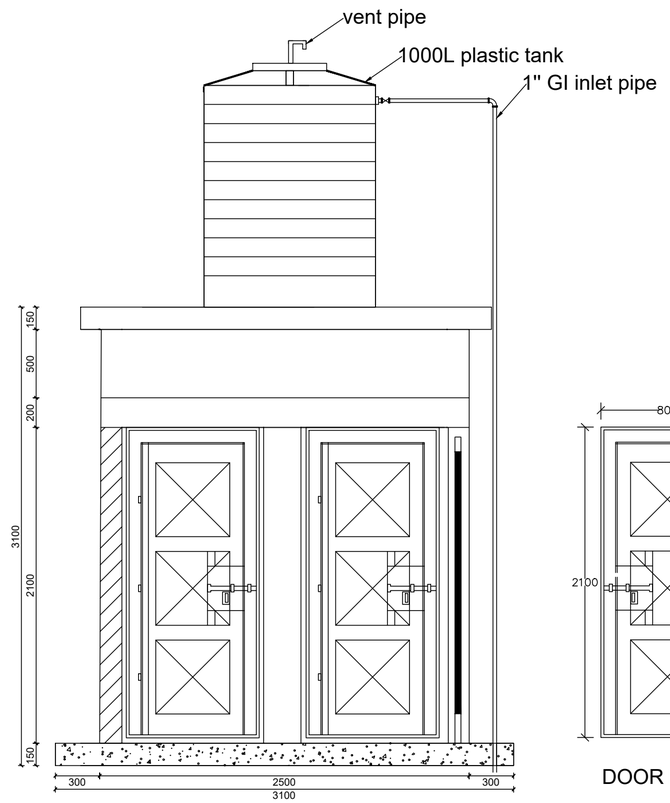
GROUND PLAN



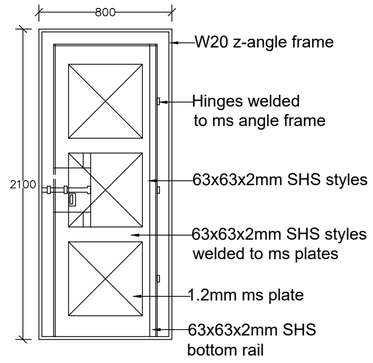
Roof Plan



Section 02-02



Section 01-01



DOOR DETAIL

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

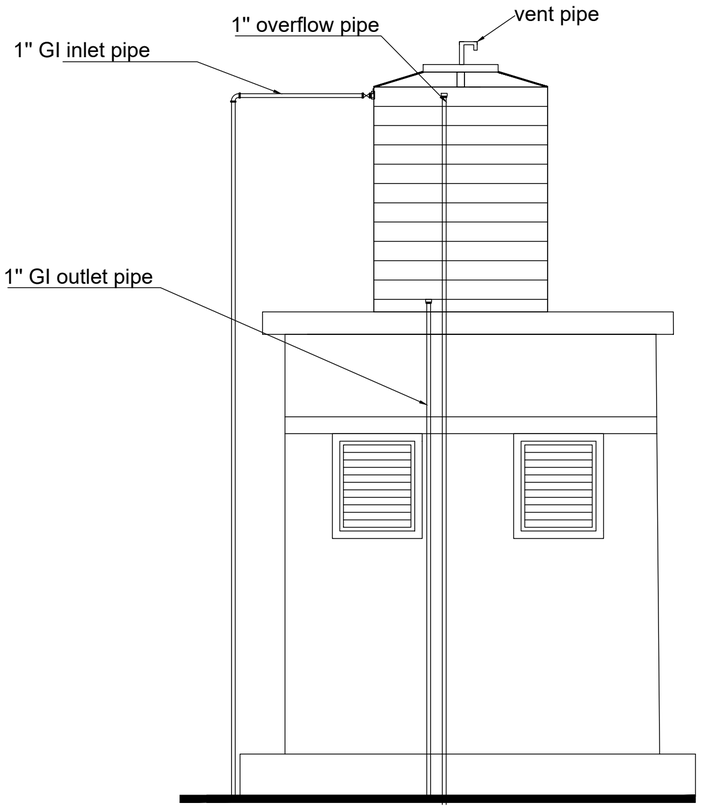
HALANGA WATER SUPPLY

PV and Lightning Arrester details

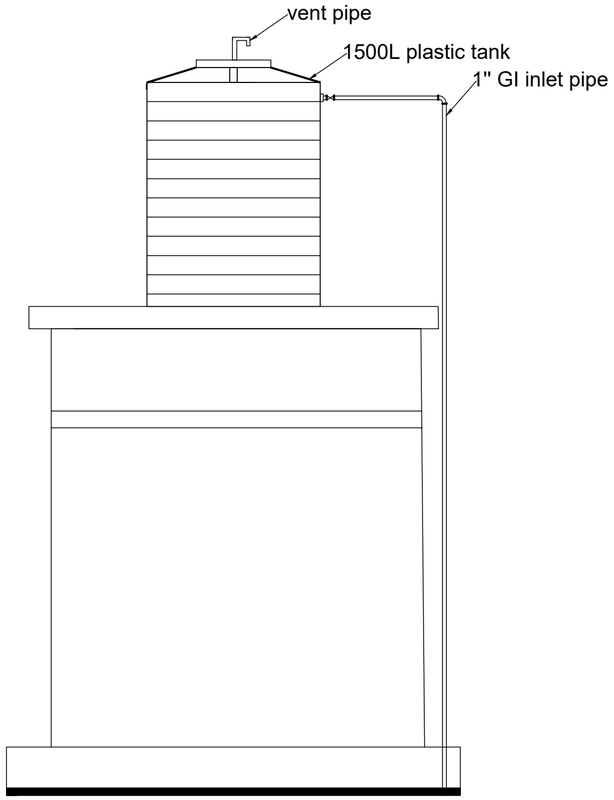
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

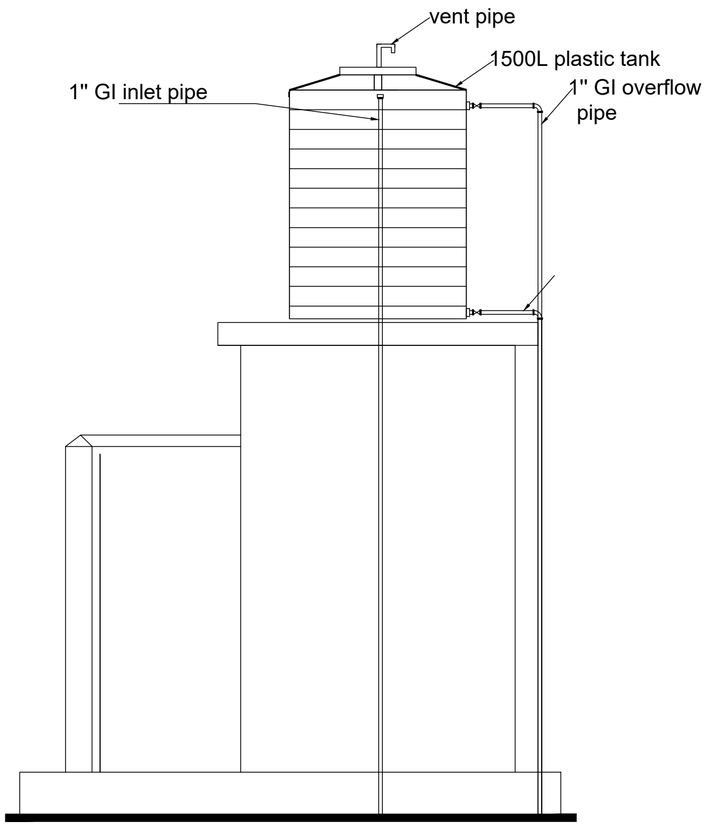
Drg No: GBUT-UN4-2025/HLG/1.46



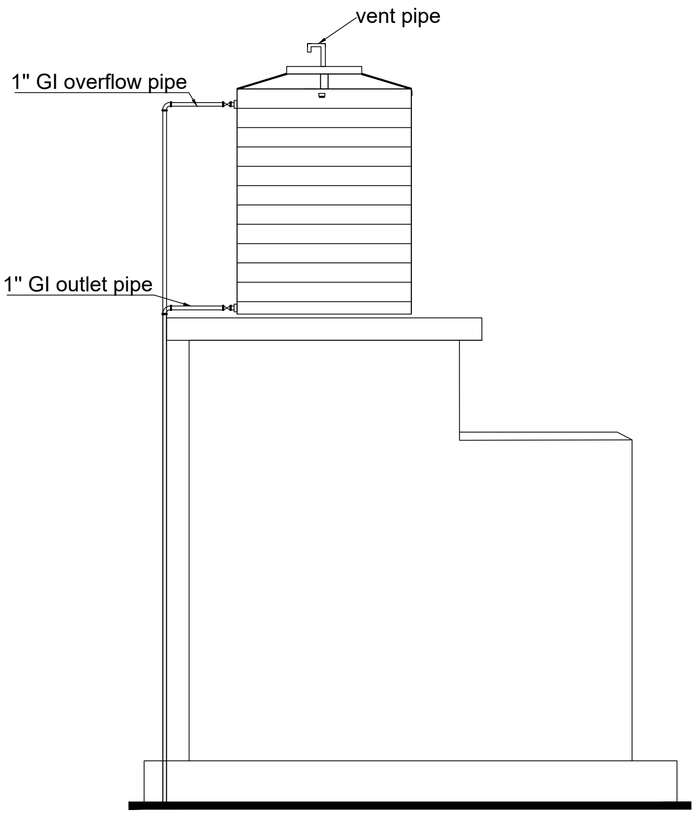
Elevation-02



Elevation-01



End view-02



End view-01

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
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5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

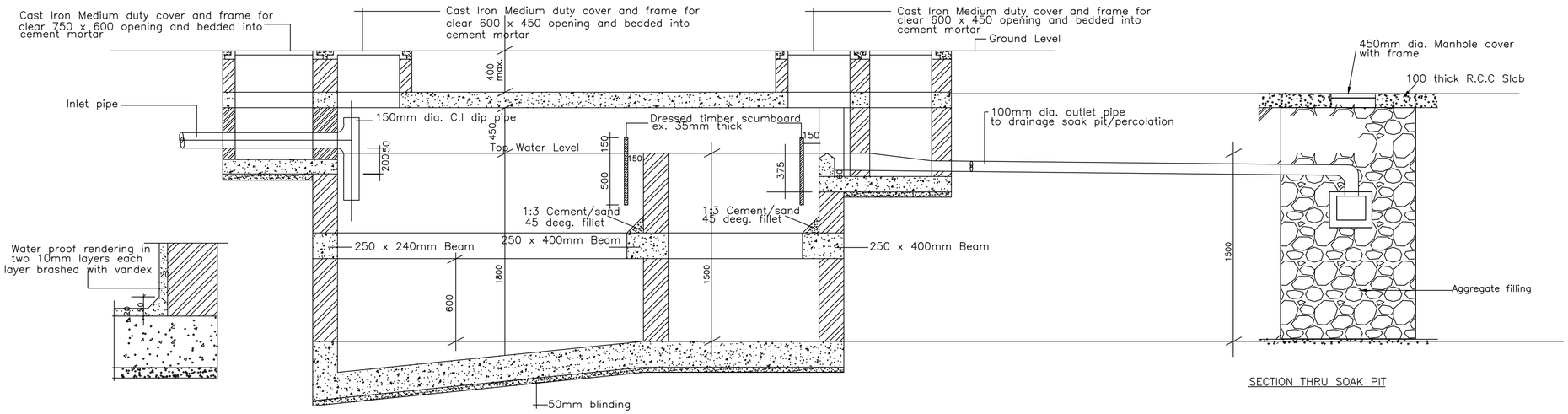
HALANGA WATER SUPPLY

Water Borne Toilet Elevations

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

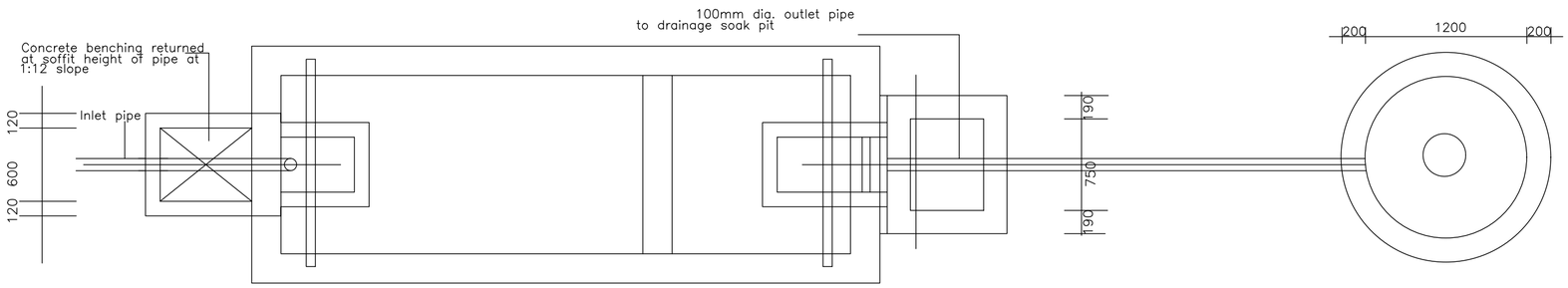
Drg No: GBUT-UN4-2025/HLG/1.47



INTERNAL WATER PROOF TO WALLS AND SLABS

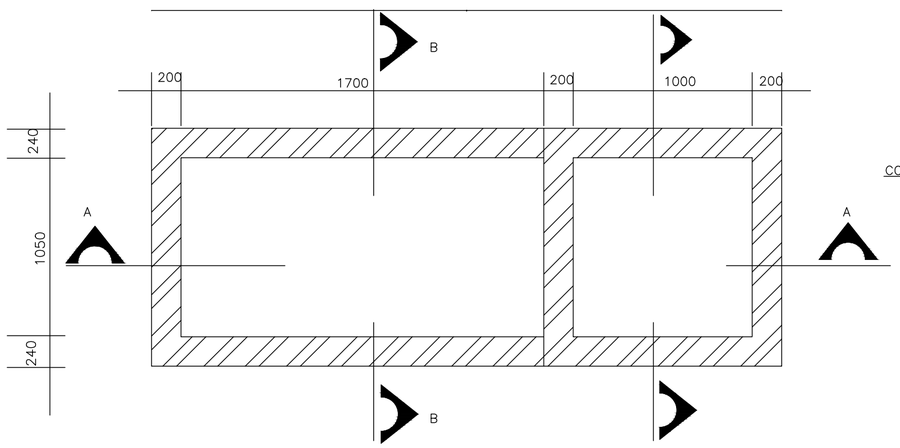
SECTION A – A

SECTION THRU SOAK PIT

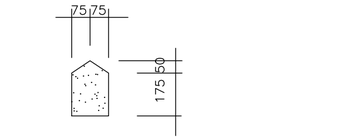


ROOF SLAB PLAN

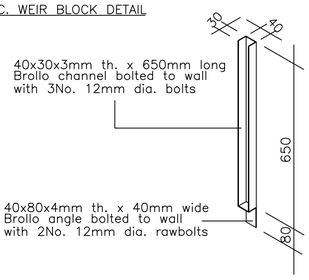
SOAK PIT PLAN



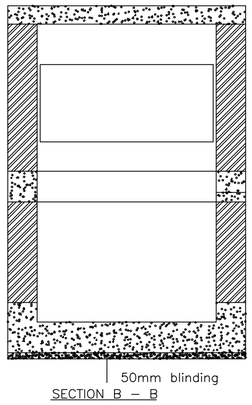
BASE SLAB PLAN



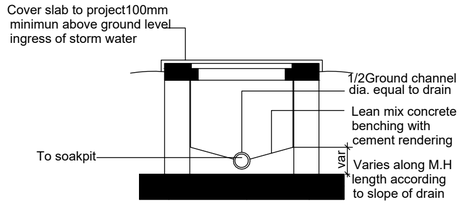
CONC. WEIR BLOCK DETAIL



FIXING DETAIL OF SCUMBOARD (GALVANISED)



SECTION B – B



INTERNAL DIMENSIONS						CAPACITY	NO. OF USERS
TYPE	L1	L2	H1	H2	B	Cu. M	
1	2700mm	1050mm	1500mm	1800mm	1400mm	2.5	6

AMENDMENTS

No	Date	Revision

NOTES

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5). All mass concrete is class 15/10mm aggregate

LEGEND

- TRANSMISSION LINE
- DISTRIBUTION LINE
- GROUND LEVELS
- INVERT LEVELS
- ROAD
- BUILDING
- CONTOUR LINES

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

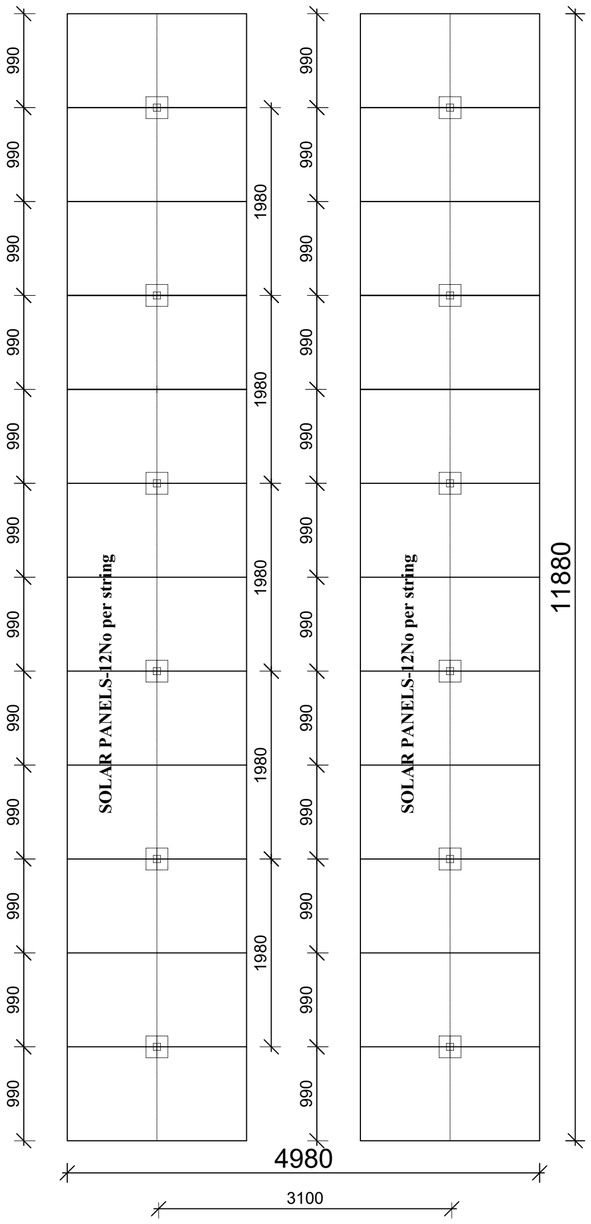
Drawing Title :

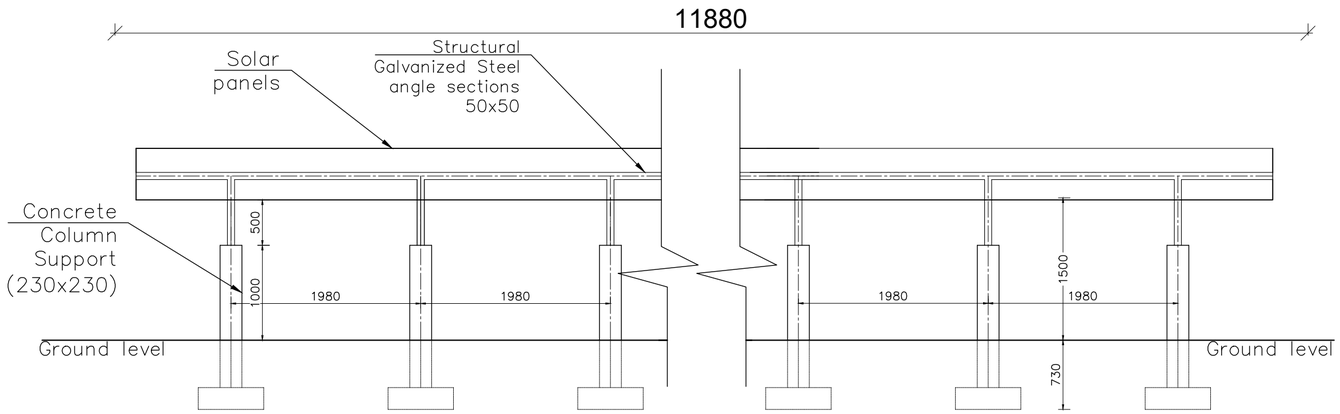
HALANGA WATER SUPPLY

Septic Tank Details

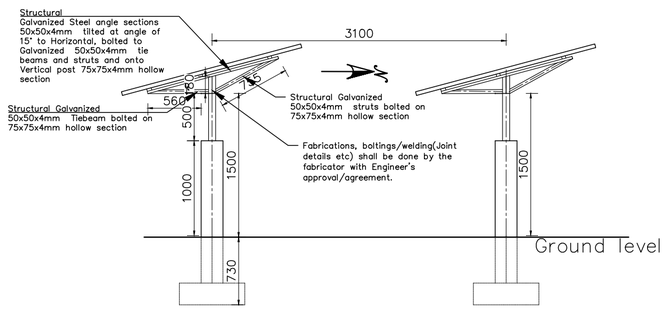
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA
ENGINEERING DESIGN		
Drg No:	GBUT-UN4-2025/HLG/1.48	

PV DESIGN, SIGNBOARD,FENCE,TRENCHING, ARVs,WOs, MARK POSTs, PSP AND CHLORINATOR CHAMBER DETAILEDDRAWINGS

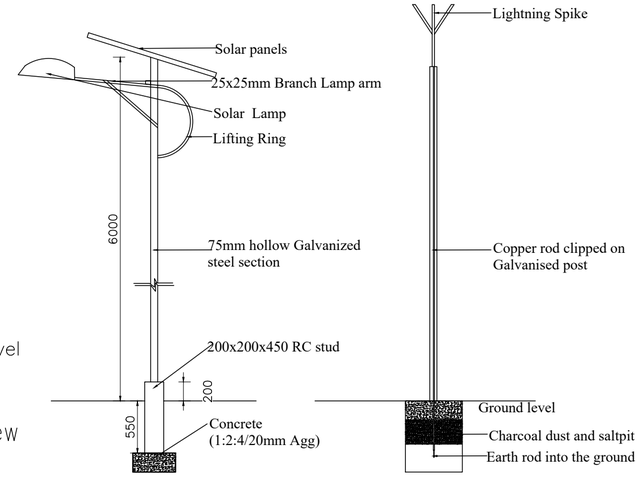




12No. SOLAR PV IN SERIES AND PUMP CONTROLS– Front View



SOLAR PV AND PUMP CONTROLS– Side View



Solar Lighting at Intake

Lightning arrester

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

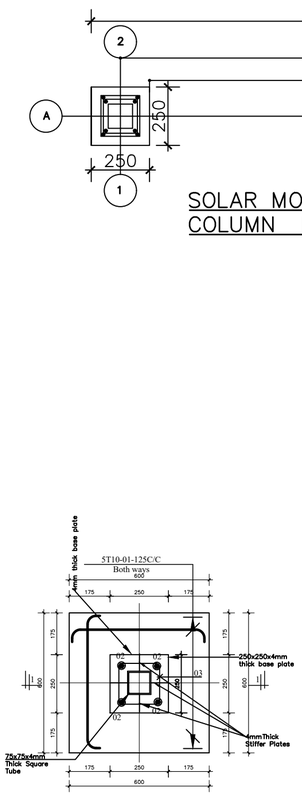
HALANGA WATER SUPPLY

PV and Lightning Arrester details

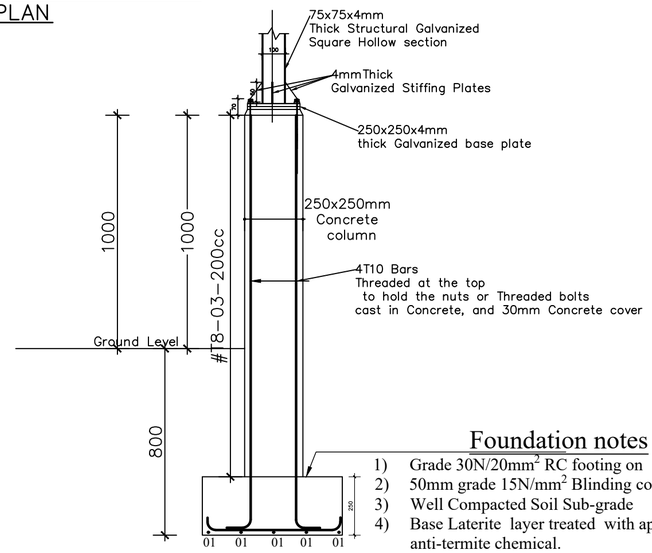
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.49



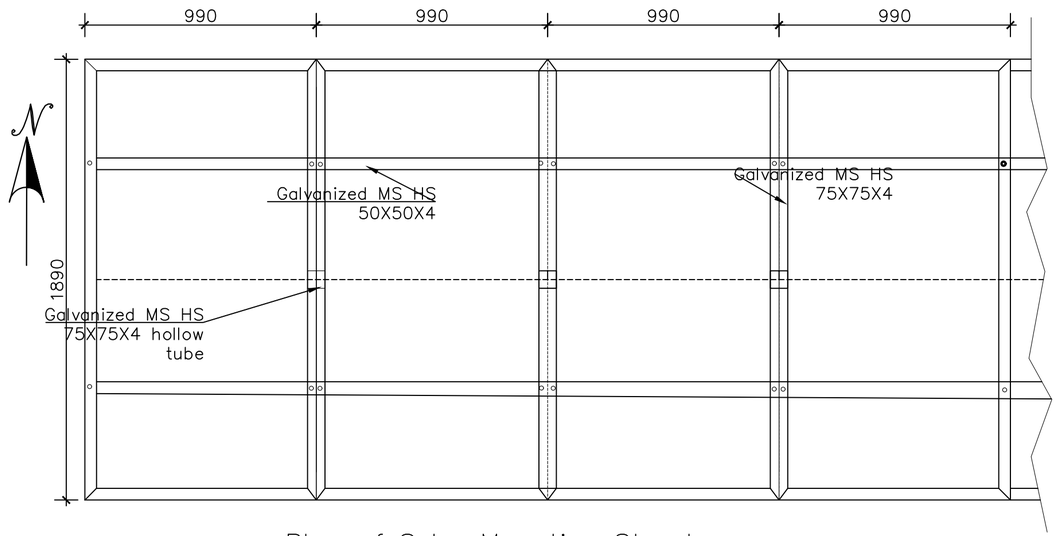
SOLAR RACK RC POST FOOTING–18NO.



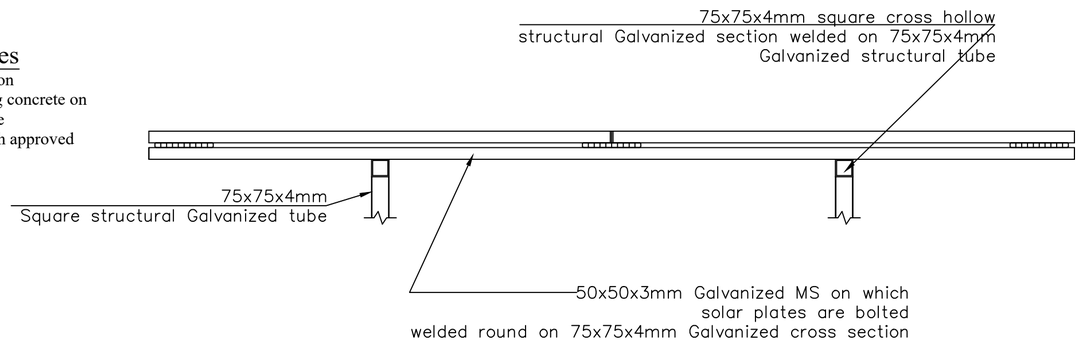
Section 1–1 SOLAR RACK MOUNTING RC CONCRETE COLUMN

Foundation notes

1) Grade 30N/20mm^2 RC footing on
2) 50mm grade 15N/mm^2 Blinding concrete on
3) Well Compacted Soil Sub-grade
4) Base Laterite layer treated with approved anti-termite chemical.



Plan of Solar Mounting Structure



Elevation and Details

AMENDMENTS

No	Date	Revision

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LEGEND

FINANCED BY:

Client:

GOAL

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Procurement and Logistics Department
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Le Palm Building,
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Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

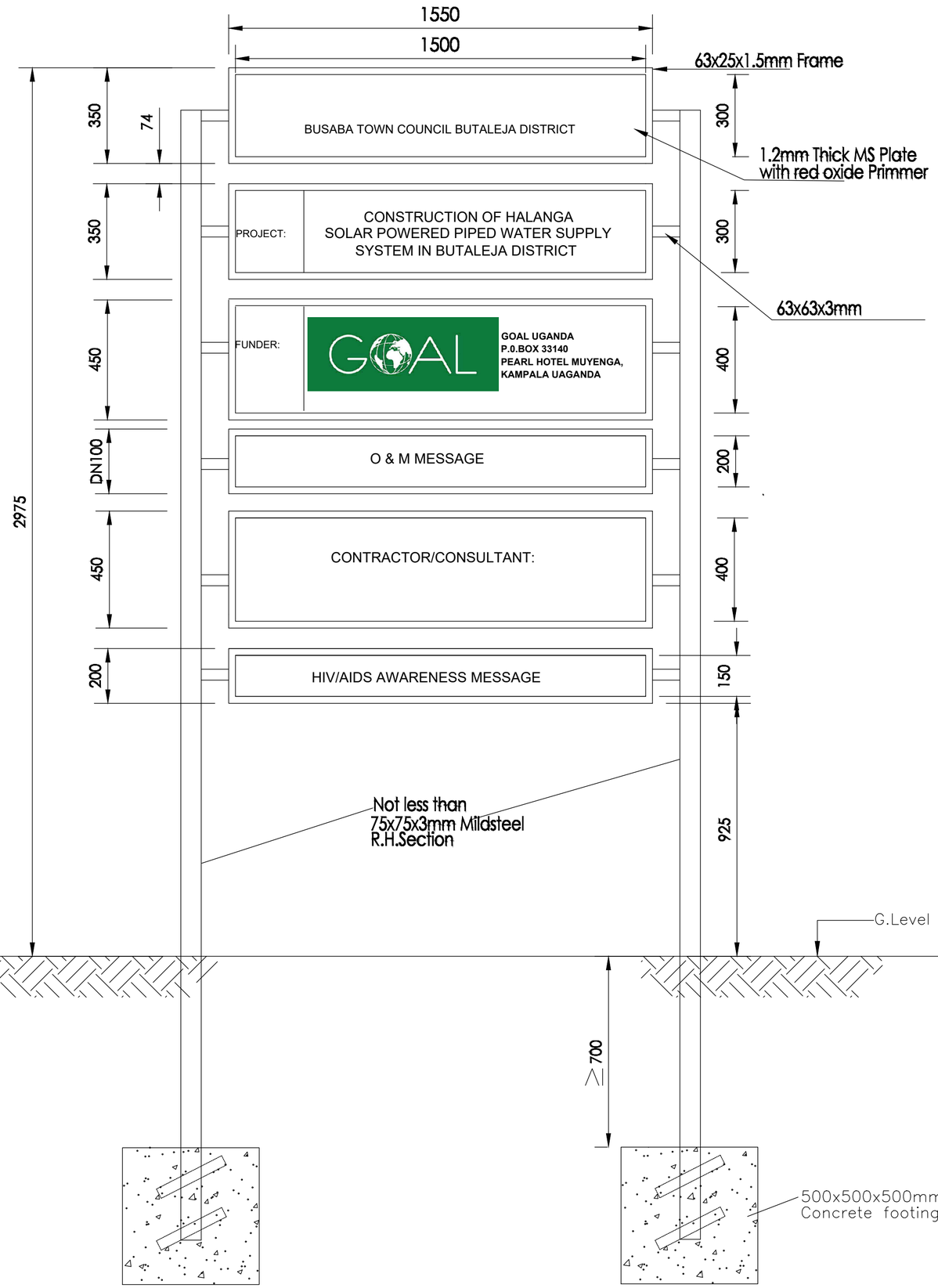
HALANGA WATER SUPPLY

PV Footing and Elevation details

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.50



AMENDMENTS

No	Date	Revision

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Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

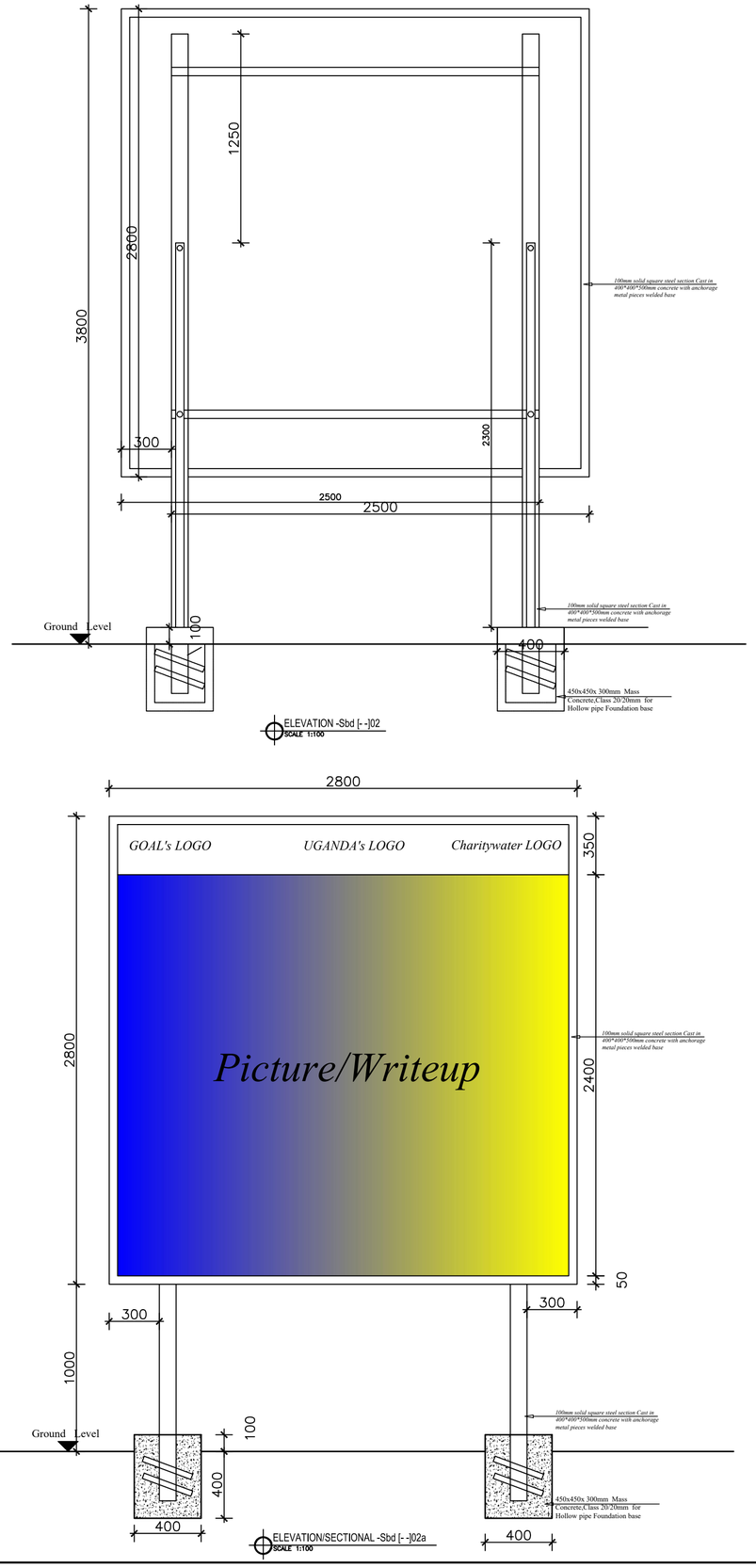
HALANGA WATER SUPPLY

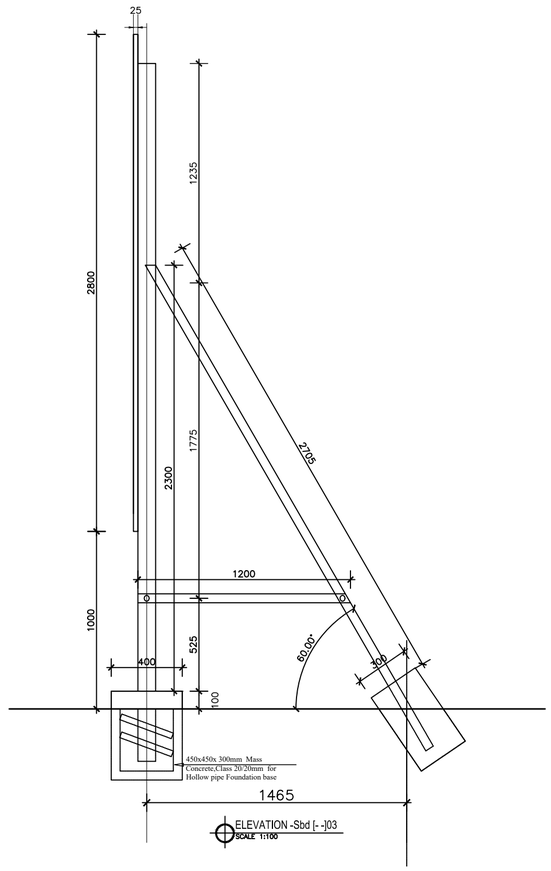
Sign Board details(Temporary)

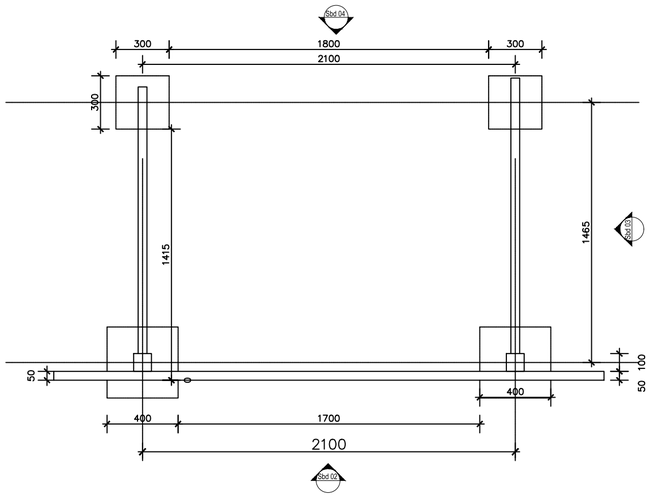
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.51







AMENDMENTS

No	Date	Revision

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LEGEND

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Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

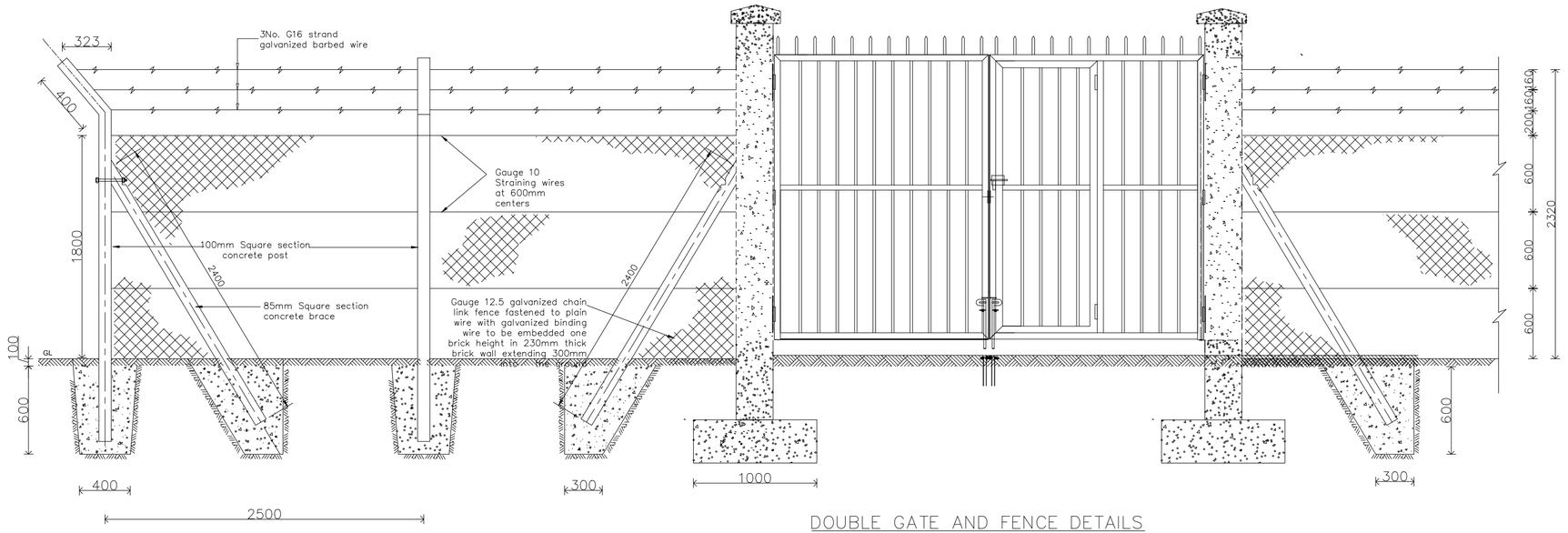
HALANGA WATER SUPPLY

Sign Board details (Permanent)

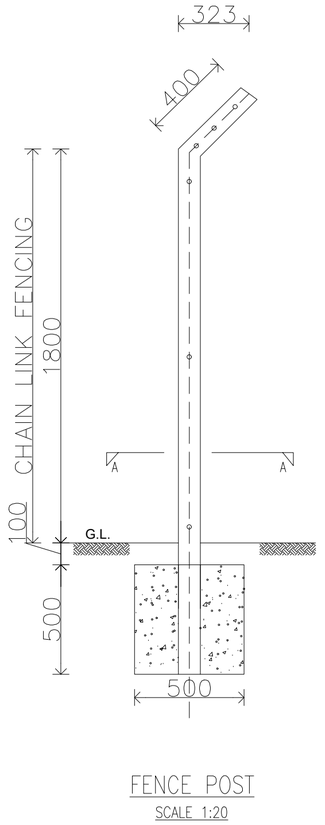
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

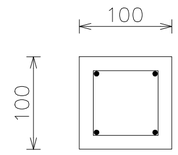
Drg No: GBUT-UN4-2025/HLG/1.51a



DOUBLE GATE AND FENCE DETAILS
1800mm HIGH

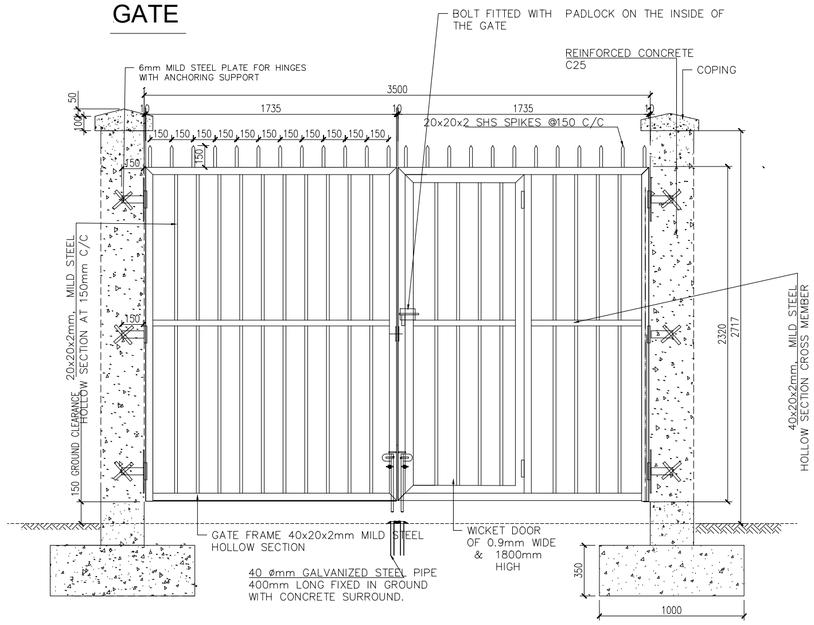


FENCE POST
SCALE 1:20



SECTION A – A
Scale 1:5

GATE



NOTES:
1. Provide six hinges, cast in concrete column and thereafter the gate frame welded to hinges after the column has cured.
2. Prepare the surface properly using sand paper, Apply a coat of primer and 3 coats of gloss blue on gate frames, and spikes.

AMENDMENTS

No	Date	Revision

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LEGEND

FINANCED BY:

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Procurement and Logistics Department
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Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

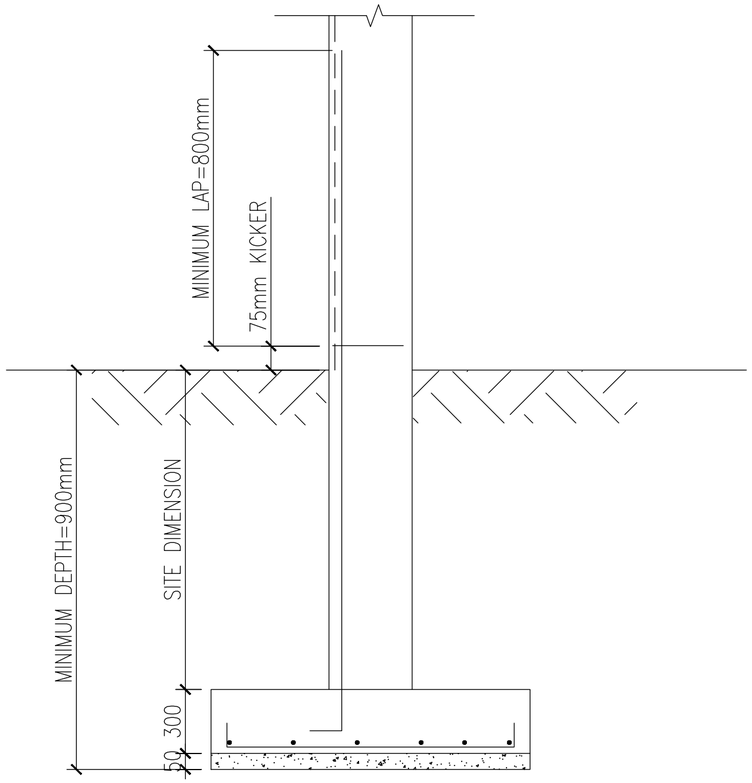
HALANGA WATER SUPPLY

Chain LinK Fence Details

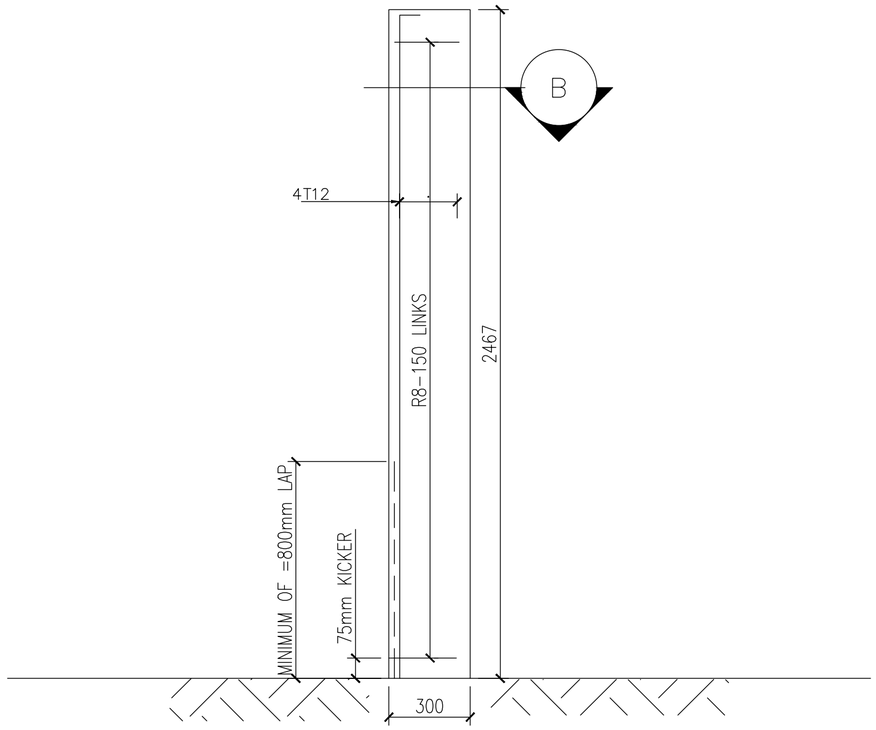
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

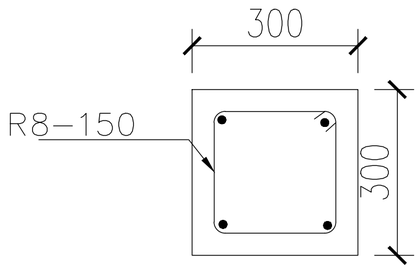
Drg No: GBUT-UN4-2025/HLG/1.52



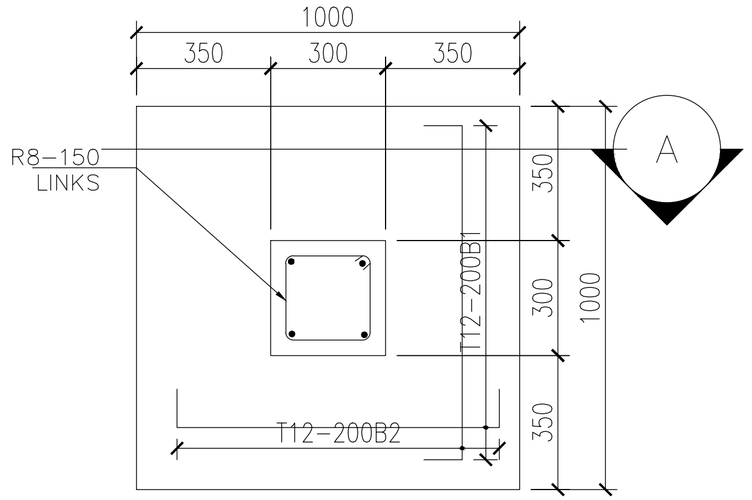
SECTION A:A



COLUNM 300X300



SECTION B:B



COLUNM BASE PLAN

AMENDMENTS

No	Date	Revision

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Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

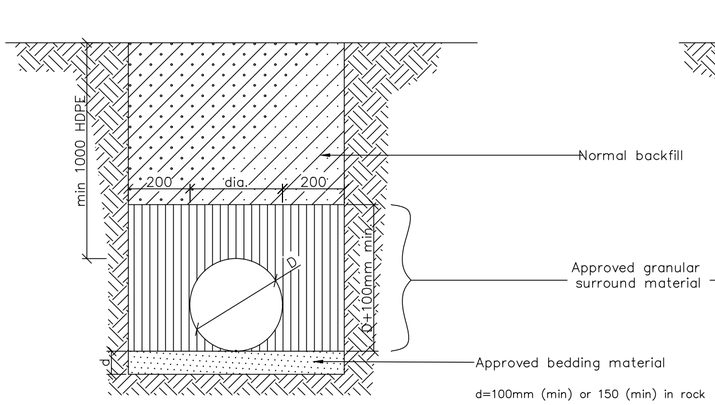
HALANGA WATER SUPPLY

Chain LinK Fence Details–Columns

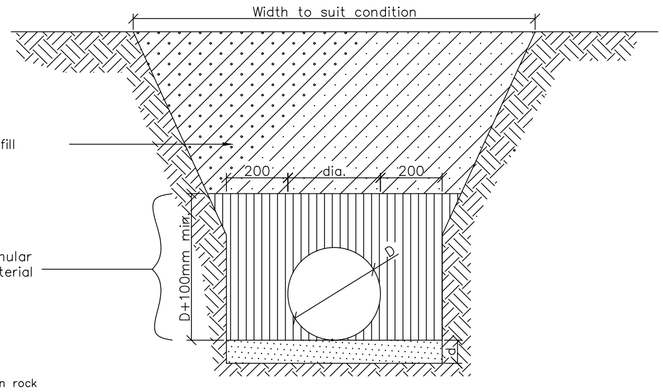
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

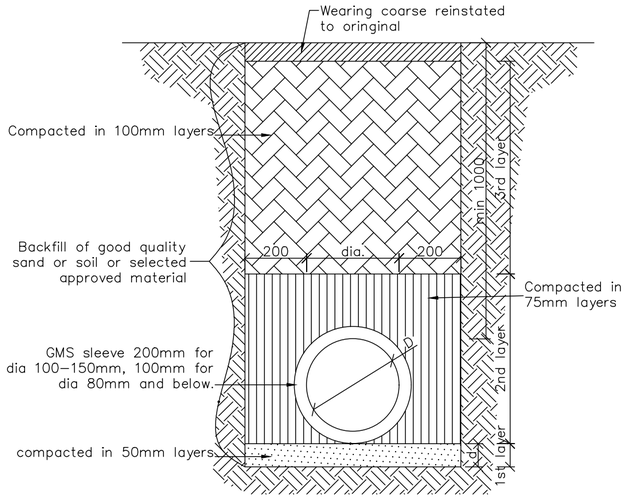
Drg No: GBUT-UN4-2025/HLG/1.53



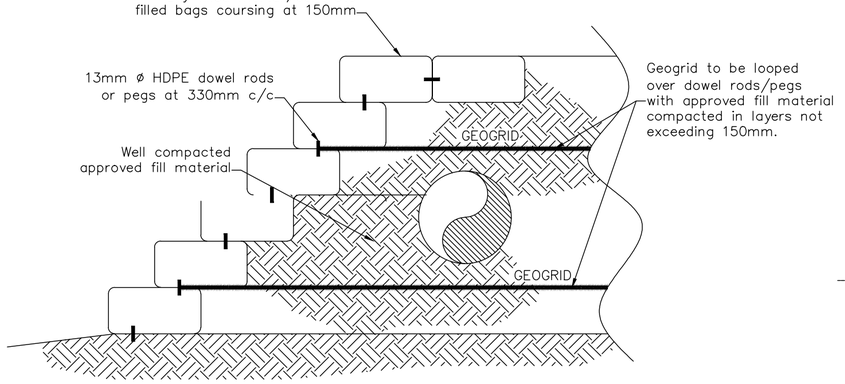
TRENCH UNDER STABLE GROUND CONDITIONS



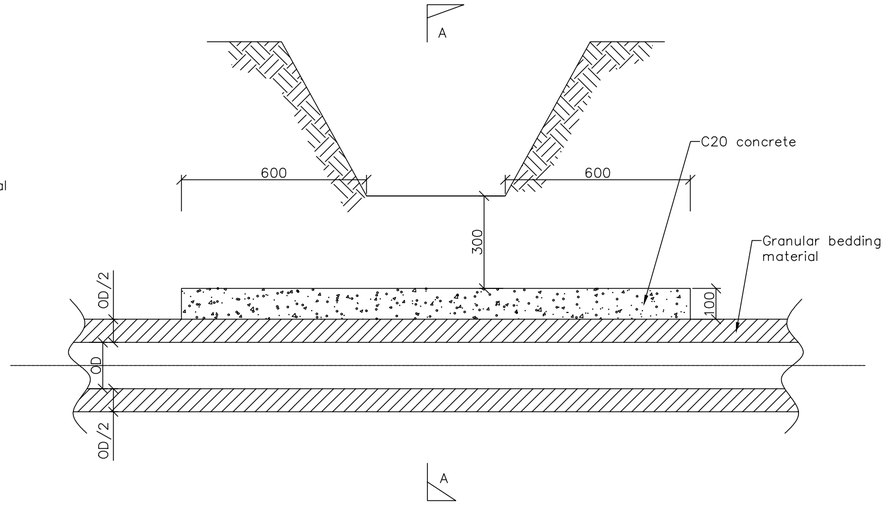
TRENCH UNDER UNSTABLE GROUND CONDITIONS



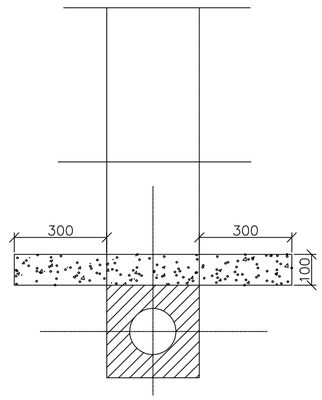
TRENCH DETAIL UNDER MURRAM ROAD CROSSING



TYPICAL SECTION SHOWING BAGWORK CONSTRUCTION TO PROTECT PIPE ALONG EROSION PRONE AREAS



DITCH CROSSING



SECTION A–A

TRENCH WIDTHS FOR HDPE PIPES								
OUTER DIAMETER D (mm)	75	100	125	150	200	225	DN100	300
WIDTH OF TRENCH B (m)	0.60	0.60	0.60	0.60	0.80	0.80	0.85	0.90

B = D + 0.6m (limited to a minimum of 0.6m)
NOTE: All trench widths = 0.60m

TABLE 1 : COMPACTION CHART			
% Mp	SOIL TYPE	COMPACTION METHOD	
		THICKNESS OF LAYER (mm)	No. OF PASSES
90	A and B	300	1
	C	300	2
	D	150	2

TABLE 2 : MATERIAL DESCRIPTION CHART		
SOIL TYPE	DESCRIPTION	GROUP SYMBOL
A	ANGULAR, CRUSHED ROCK NEGLIGIBLE FINES	–
B	WELL GRACED GRAVEL – SAND MIXTURE FEW FINES	GW
C	FINE GRAVEL NO FINES	GP
D	GRAVEL – SAND MIX, UPTO 50% FINES	GF

AMENDMENTS

No	Date	Revision

NOTES

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4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
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Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

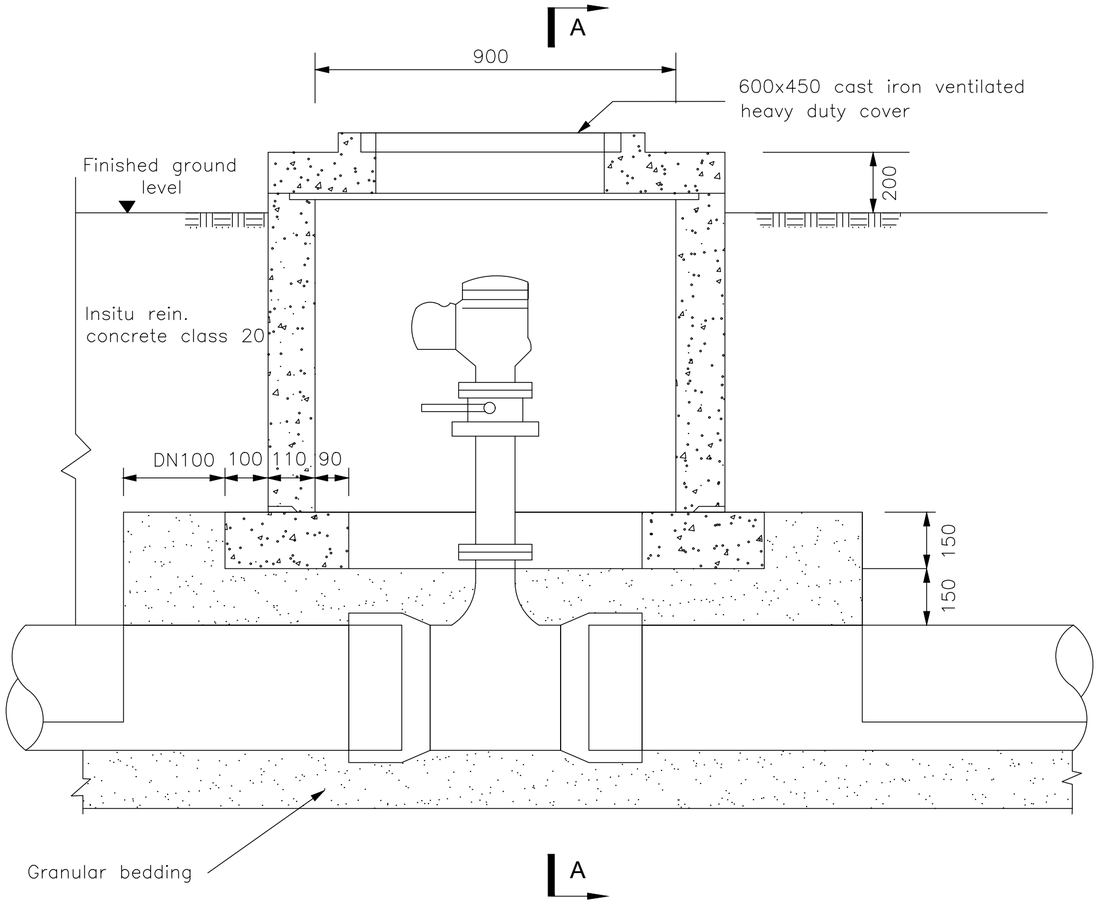
HALANGA WATER SUPPLY

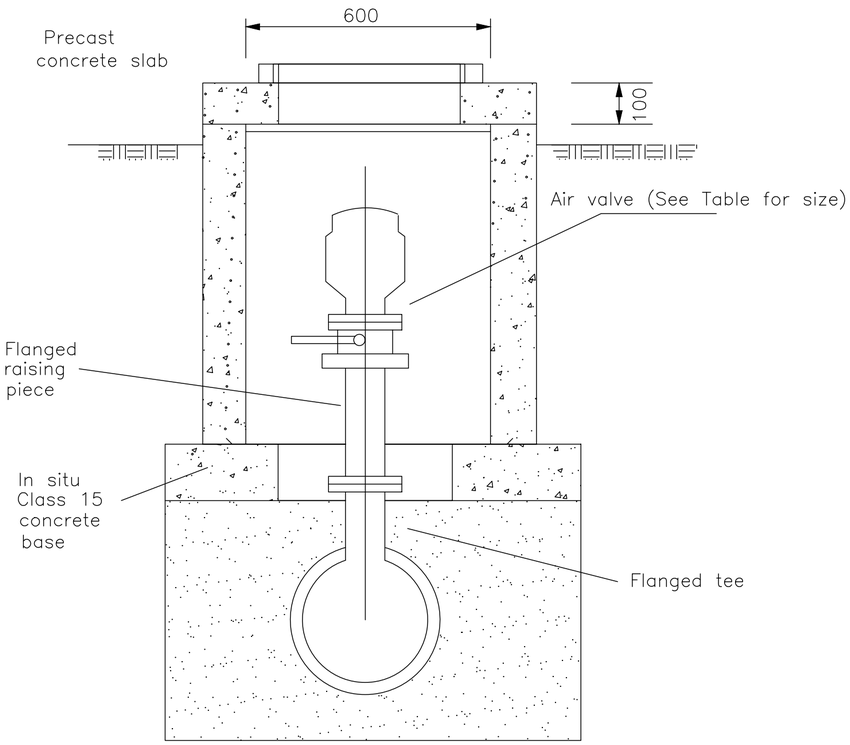
Chain LinK Fence Details–Columns

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.54





Main dia.	Air valve inlet dia.
100–300	50
350–500	80

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PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

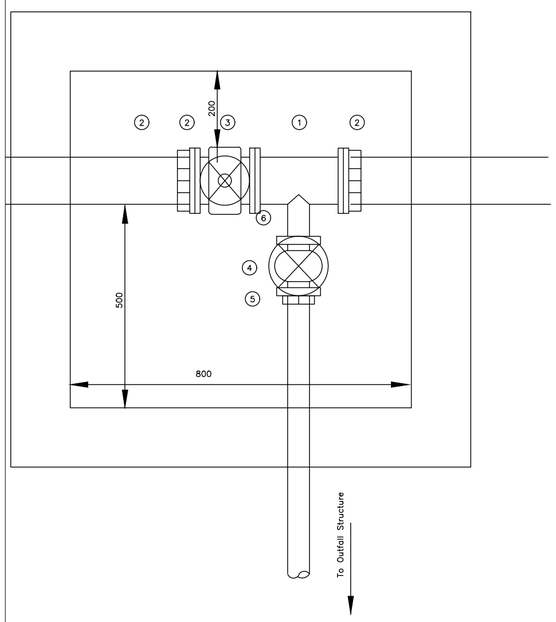
HALANGA WATER SUPPLY

Air Release Valve Details

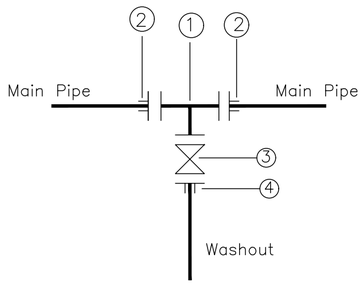
Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.55

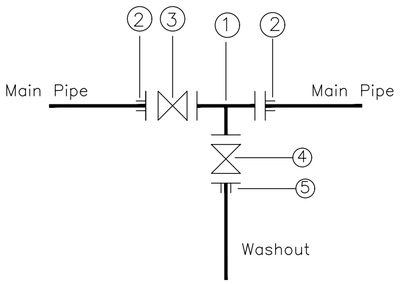


WO TYPE 1



① 1No Saddle clamp Tee OD A/B
② 2No PVC Adaptor, Maxi type or similar type OD A
③ 1No Brass Gate Valve OD A
④ 1No PVC Adaptor, OD B

WO TYPE 2



① 1No Saddle clamp Tee OD A/B
② 2No PVC Adaptor, OD A
③ 1No Brass Gate Valve OD A
④ 1No Brass Gate Valve OD B
⑤ 1No PVC MALE Adaptor OD B

NOTES

1 All dimensions are in millimetres

2 Chamber to have internal dimensions as indicated

3 Chamber Base to be reinforced concrete C20 150mm with drain hole Reinforcement Y8 200mm C/C

4 Chamber Walls to be reinforced concrete C20 100mm thick Reinforcement BRC Mesh A142

4 Chamber Cover slab to be reinforced concrete C20 100mm thick Reinforcement Y10 200mm C/C with moveable cover 600x600 and frame

Pipe Diameter		Fittings Diameter	
Main Pipe	Washout	A	B
OD 50	OD 50	OD 63	OD 63
OD 63	OD 63	OD 50	OD 50
OD 160	OD 63	OD 80	OD 50
OD 110	OD 63	OD 100	OD 50
OD 160	OD 63	OD 150	OD 50
OD 218	OD 110	OD 200	OD 100
OD DN100	OD 110	OD DN100	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

AMENDMENTS

No	Date	Revision

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Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

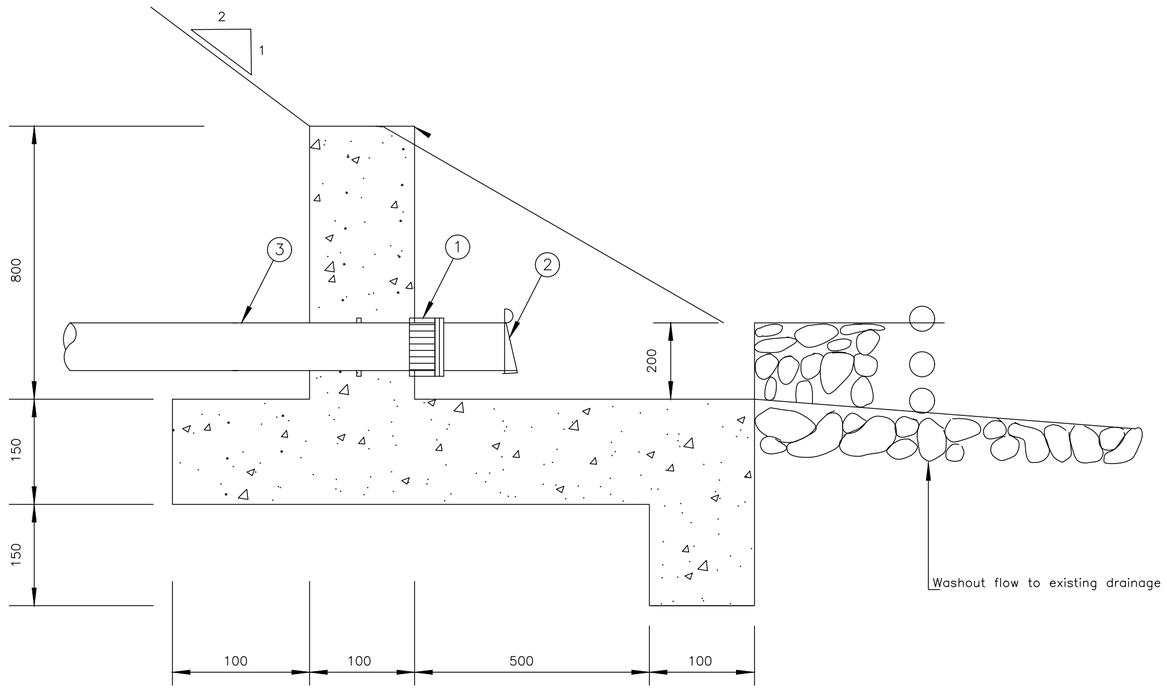
HALANGA WATER SUPPLY

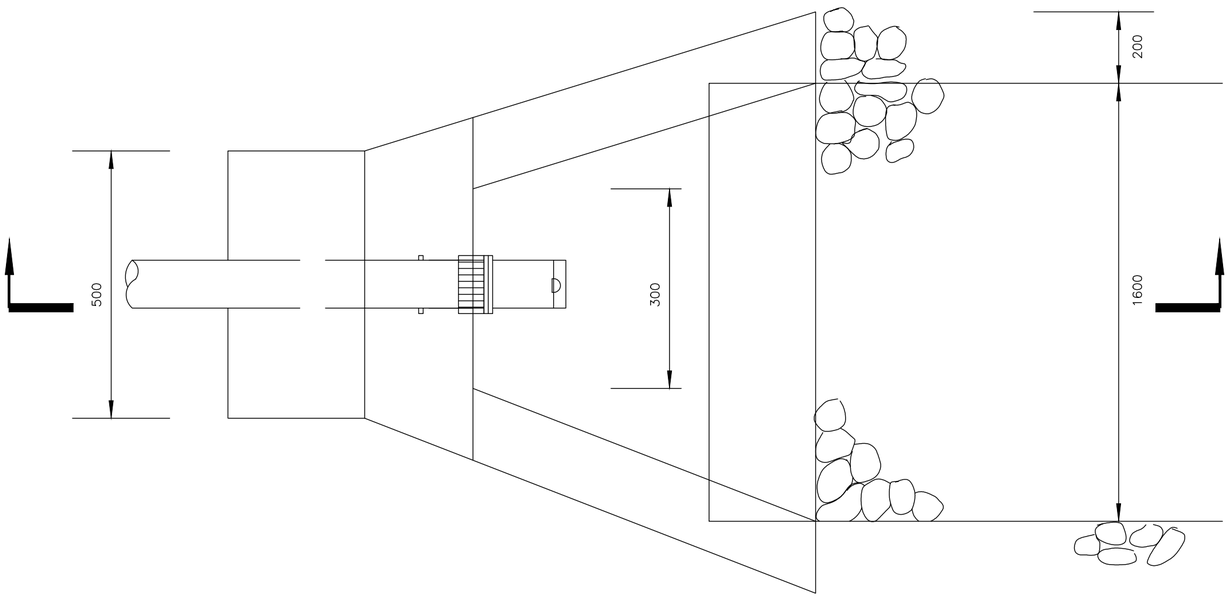
WASHOUT Details

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.56





NOTES

Reinforcement to be one layer A142 mesh throughout

For Pipe fittings diameter and pressure ratings, see relevant drawing No.

1 1No. PVC Adaptor

2 1No. PVC flap valve

3 1No. Washout pipe

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email:
procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

HALANGA WATER SUPPLY

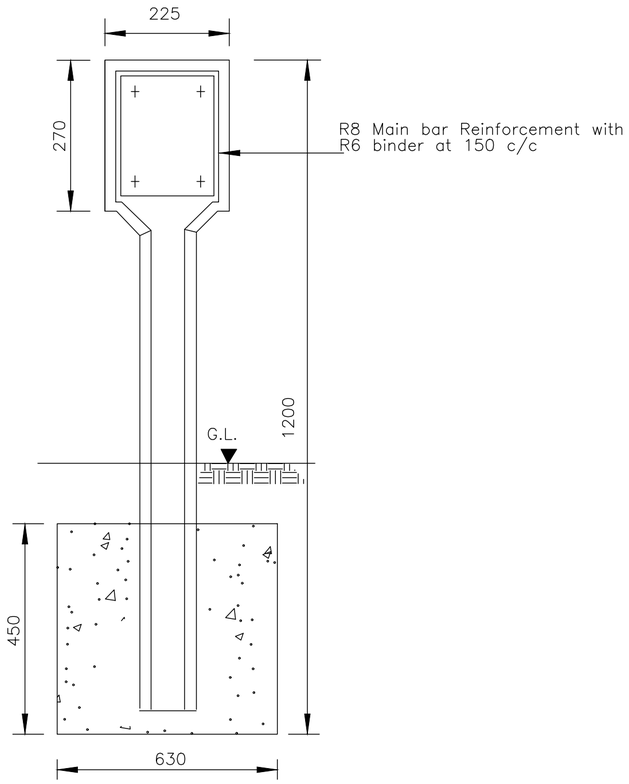
WASHOUT FLOW Details

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

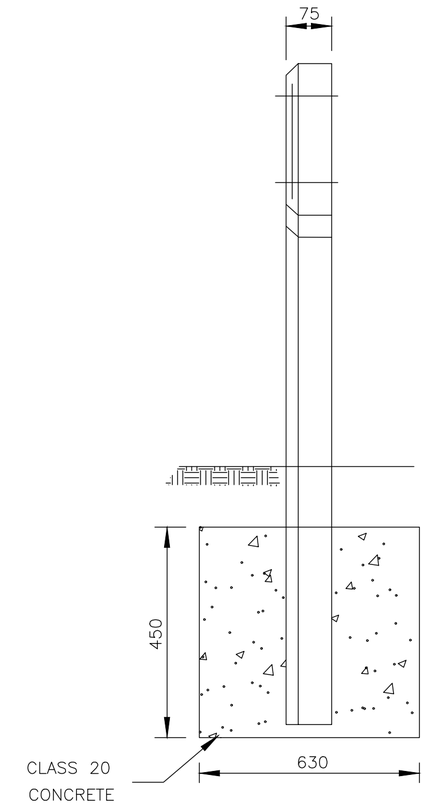
ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.57

INDICATOR POSTS

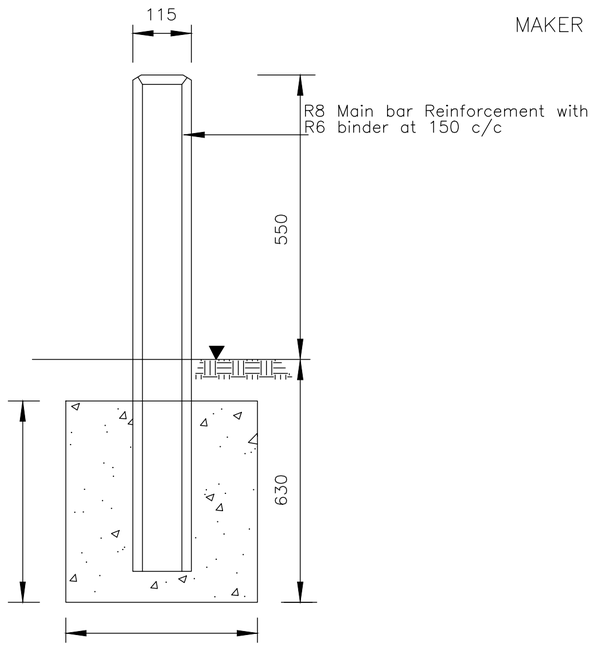


FRONT ELEVATION

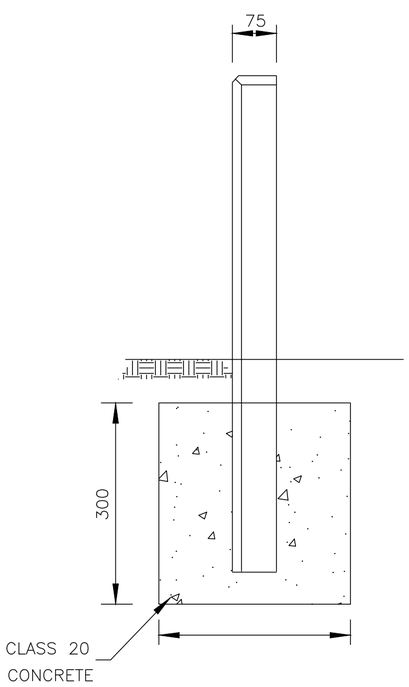


SIDE ELEVATION

MAKER POSTS



FRONT ELEVATION



SIDE ELEVATION

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

FINANCED BY:

Client:

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Procurement and Logistics Department
Plot 1 Lubbobo close,
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Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

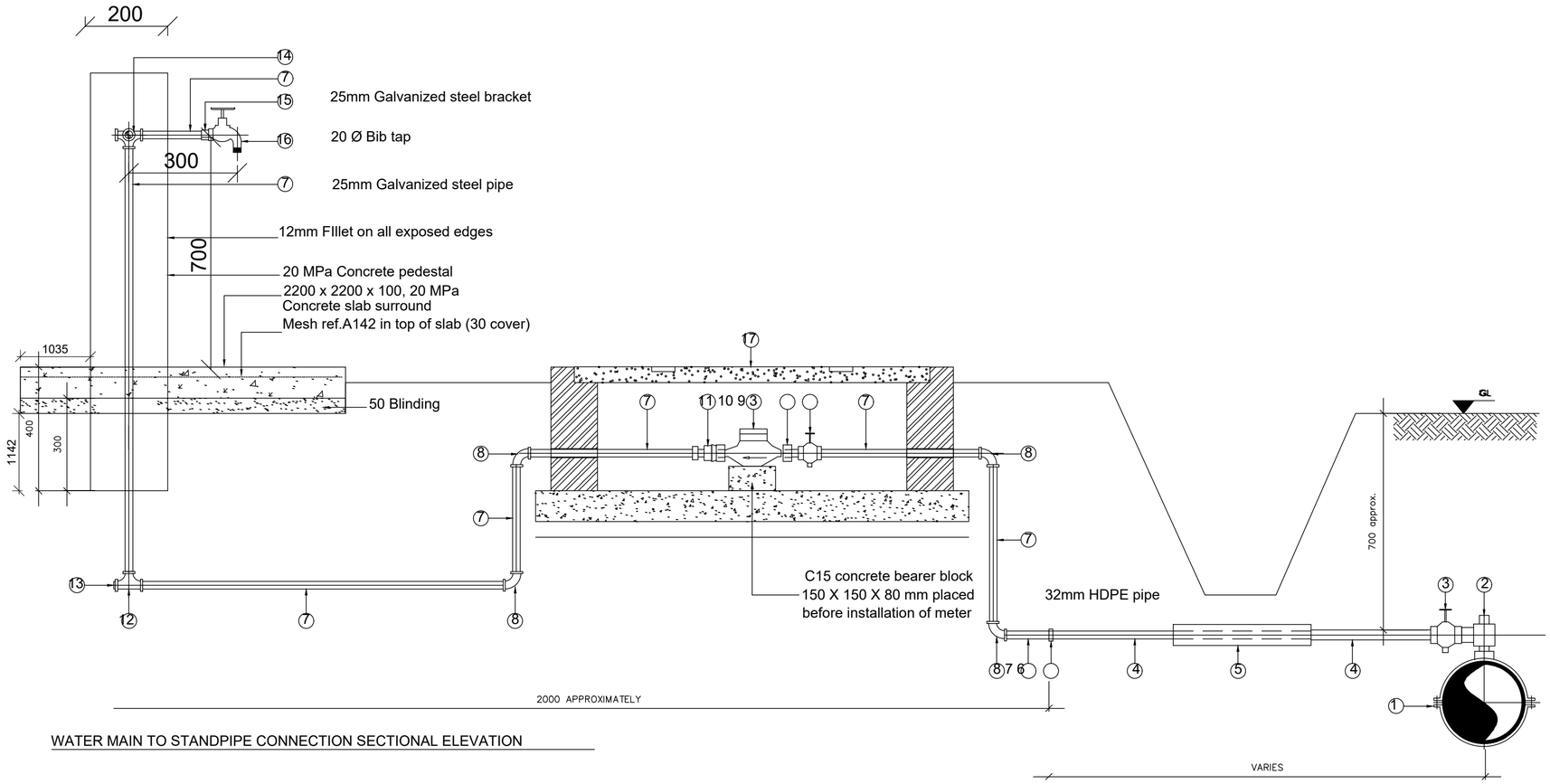
HALANGA WATER SUPPLY

MARK POST Details

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

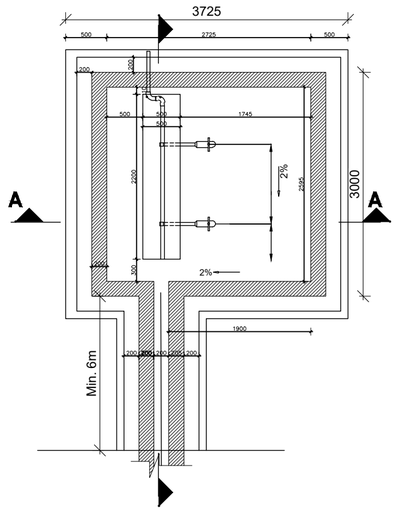
Drg No: GBUT-UN4-2025/HLG/1.58



WATER MAIN TO STANDPIPE CONNECTION SECTIONAL ELEVATION

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	1
4	32mm HDPE PIPE PIECE	1
5	1.0m GMS SLEEVE	1
6	32mm Ø HDPE/25mm ØGMS 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	GI cross tee	4
15	25MM GALVANIZED STEEL BRACKET	6
16	BIB TAP	2
17	METER CHAMBER	1
18	25mm Ø GMS TEE	1



AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

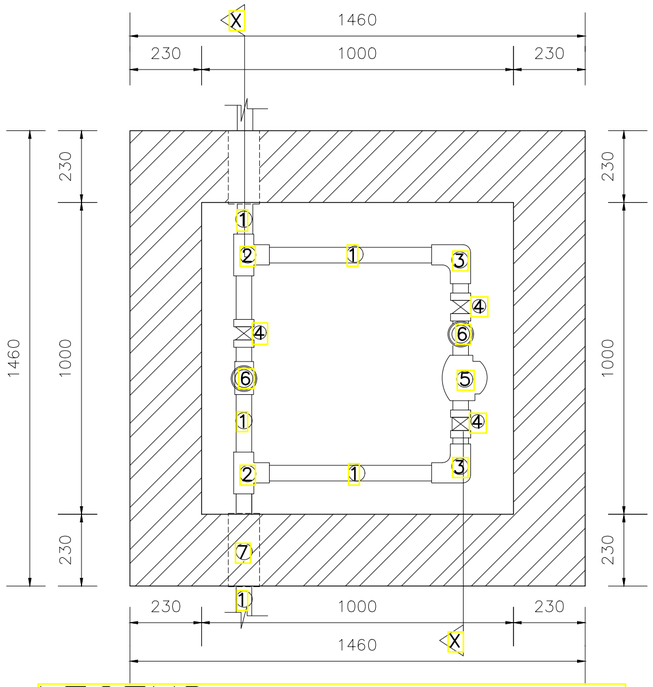
HALANGA WATER SUPPLY

PUBLIC STAND POST(PSP) Details

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

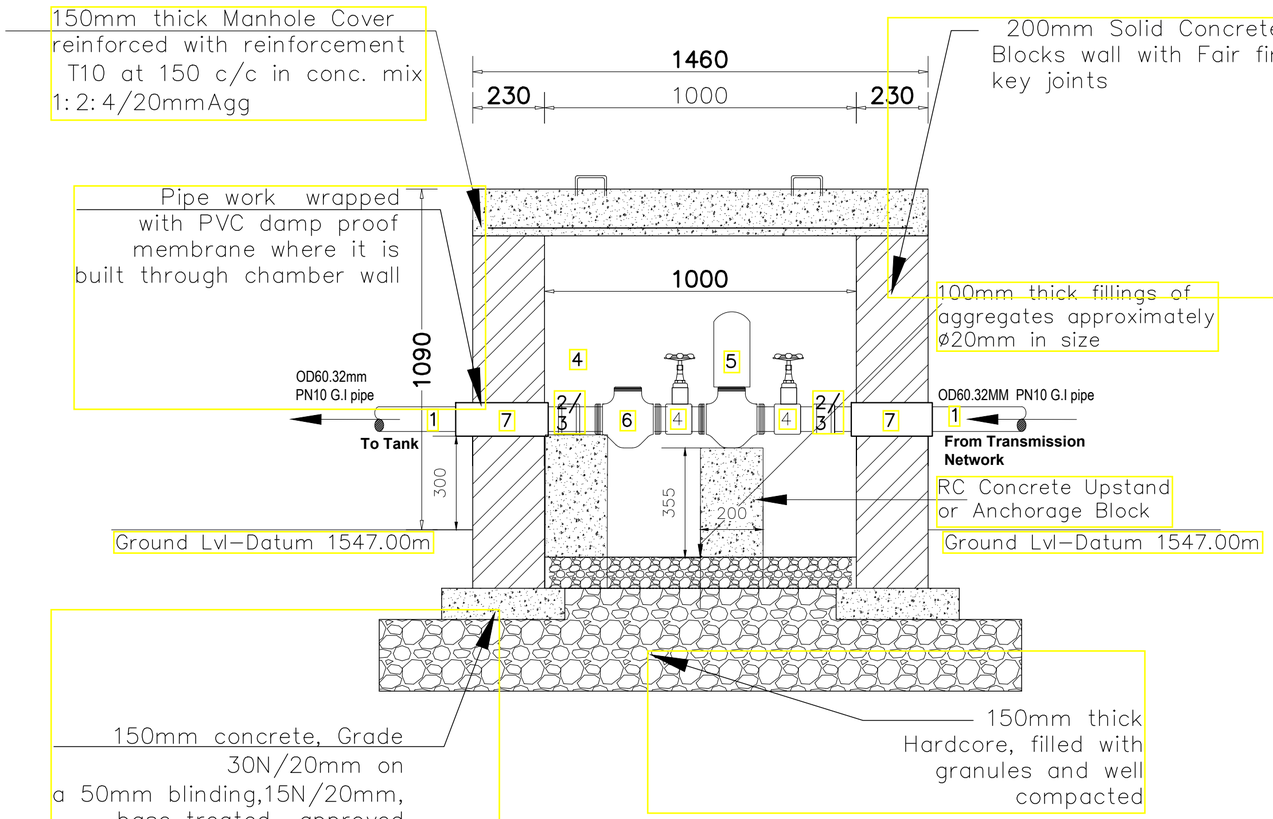
ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.59



LEGEND

1—OD90mmPN16 pipe
2—uPVC Equal Tee
3.—90 deg uPVC Bend
4—uPVC Valve
5—Klorman 1000
6. Flow meter
7—PVC Sleeve OD110mm



SECTION THROUGH X—X

MANHOLE DETAILS FOR CHLORINATOR CHAMBER

AMENDMENTS

No	Date	Revision

NOTES

1). All dimensions in millimetres unless ortherwise indicated
2). All levels in metres above sea level
3). Structural details are not included
4). All structural concrete is class 25/10mm aggregate
5). All mass concrete is class 15/10mm aggregate

LEGEND

FINANCED BY:

Client:

GOAL-KAMPALA
Procurement and Logistics Department
Plot 1 Lubbobo close,
Le Palm Building,
Muyenga, P.O Box 33140,
Kampala-Uganda.
Email: procurement@ug.goal

Consultant:

Project:

PROPOSED PHASE 1 HALANGA PIPED WATER SCHEME IN BUTALEJA DISTRICT, UGANDA

Drawing Title :

HALANGA WATER SUPPLY

CHLORINATOR CHAMBER DETAILS

Scale: F.T.S	Designed by:	
	Drawn by:	PA
Date: JUNE/2025	Checked by:	Infrastructure Team
	Approved:	JKS/JA

ENGINEERING DESIGN

Drg No: GBUT-UN4-2025/HLG/1.60

Company name:
Created by:
Phone:

Date: 01/06/2025

Qty.	Description
1	**SP 18-11**

Note! Product picture may differ from actual product

Product No.: 92951205

Submersible borehole pump, suitable for pumping clean water. Can be installed vertically or horizontally. All steel components are made in stainless steel, EN 1.4301 (AISI 304), that ensures high corrosive resistance. This pump carries drinking water approval.

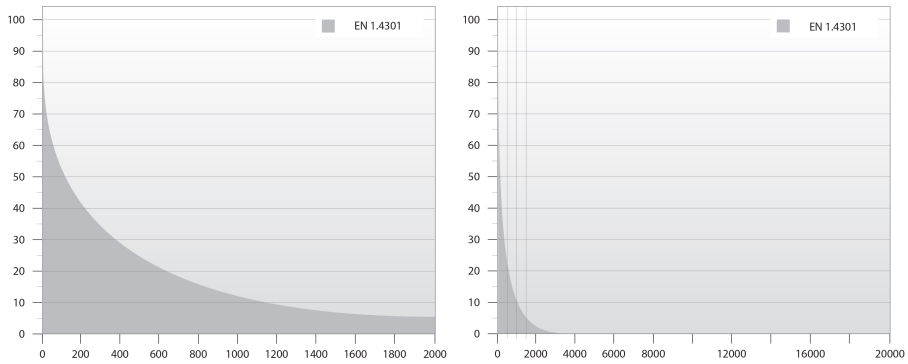
Further product details

The pump is suitable for applications similar to the following:

- raw-water supply
- irrigation
- groundwater lowering
- pressure boosting
- fountain applications.

Pump

All pump surfaces that are in contact with pumped liquids are made in stainless steel which makes them corrosion- and wear-resistant. The corrosion diagram below shows the capabilities of the pump and motor in relation to the temperature in Celsius (y-axis) and the concentration of chloride in ppm (x-axis).



The suction interconnector is fitted with a strainer to prevent large particles from entering the pump. The suction interconnector is designed to comply with NEMA standards for motor mounting/dimensions.

Motor

The stator is hermetically encapsulated in stainless steel and the windings are embedded in polymer compound. This results in high mechanical stability, optimum cooling and reduces the risk of short circuits in the windings.

Liquid:

Pumped liquid:	Water
Liquid temperature range:	-15 .. 40 °C

Technical:

Pump speed on which pump data are based:	2900 rpm
Actual calculated flow:	16.62 m³/h
Rated flow:	18 m³/h

GRUNDFOS

Company name:
Created by:
Phone:

Date: 01/06/2025

Qty.	Description	
1	Resulting head of the pump:	90 m
	Rated head:	84 m
	Approvals:	CE,EAC,UKCA,SEPRO,MOROCCO
	Approvals for motor:	CE,EAC,C_UL_US_NSF372MOROCCO,UKCA,SEPRO
	Approvals for drinking water:	ACS,DM174
	Curve tolerance:	ISO9906:2012 3B
	Motor version:	T40
	Return valve:	YES
	Materials:	
	Pump:	Stainless steel
		EN 1.4301
		AISI 304
	Impeller:	Stainless steel
		EN 1.4301
		AISI 304
	Motor:	Stainless steel
		EN 1.4301
	Shaft seal:	HM/Ceramics
	Installation:	
	Maximum ambient pressure:	60 bar
	Maximum operating pressure:	60 bar
	Maximum outlet pressure:	12.3 bar
	Type of connection:	Rp
	Size of connection:	2 1/2 inch
	Motor diameter:	4 inch
	Minimum borehole diameter:	140 mm
	Electrical data:	
	Motor type:	MS4000
	Motor flange design:	Grundfos
	Rated power - P2:	7.5 kW
	Power (P2) required by pump:	7.5 kW
	Mains frequency:	50 Hz
	Rated voltage:	3 x 380-400-415 V
	Rated current:	18.4-19.3-19.6 A
	RequestedVoltage:	400 V
	RatedCurrentAtThisVoltage:	18.9 A
	Starting current:	470-480-490 %
	Cos phi - power factor:	0.83-0.77-0.72
	Rated speed:	2830-2850-2860 rpm
	Method of start:	Direct-on-line (DOL)
	Enclosure class (IEC 34-5):	IP68
	Insulation class (IEC 85):	F
	Ex-protection standard:	NONE
	Thermal protection:	External
	Built-in temp. transmitter:	No
	Length of cable:	2.5 m
	Power cable type:	FLAT
	Motor No:	7C192512
	Windings:	Enameled
	Others:	
	Minimum efficiency index, MEI ≥:	0.70
	Net weight:	49.9 kg
	Gross weight:	55.4 kg
	Shipping volume:	0.068 m³

GRUNDFOS

Company name:
Created by:
Phone:

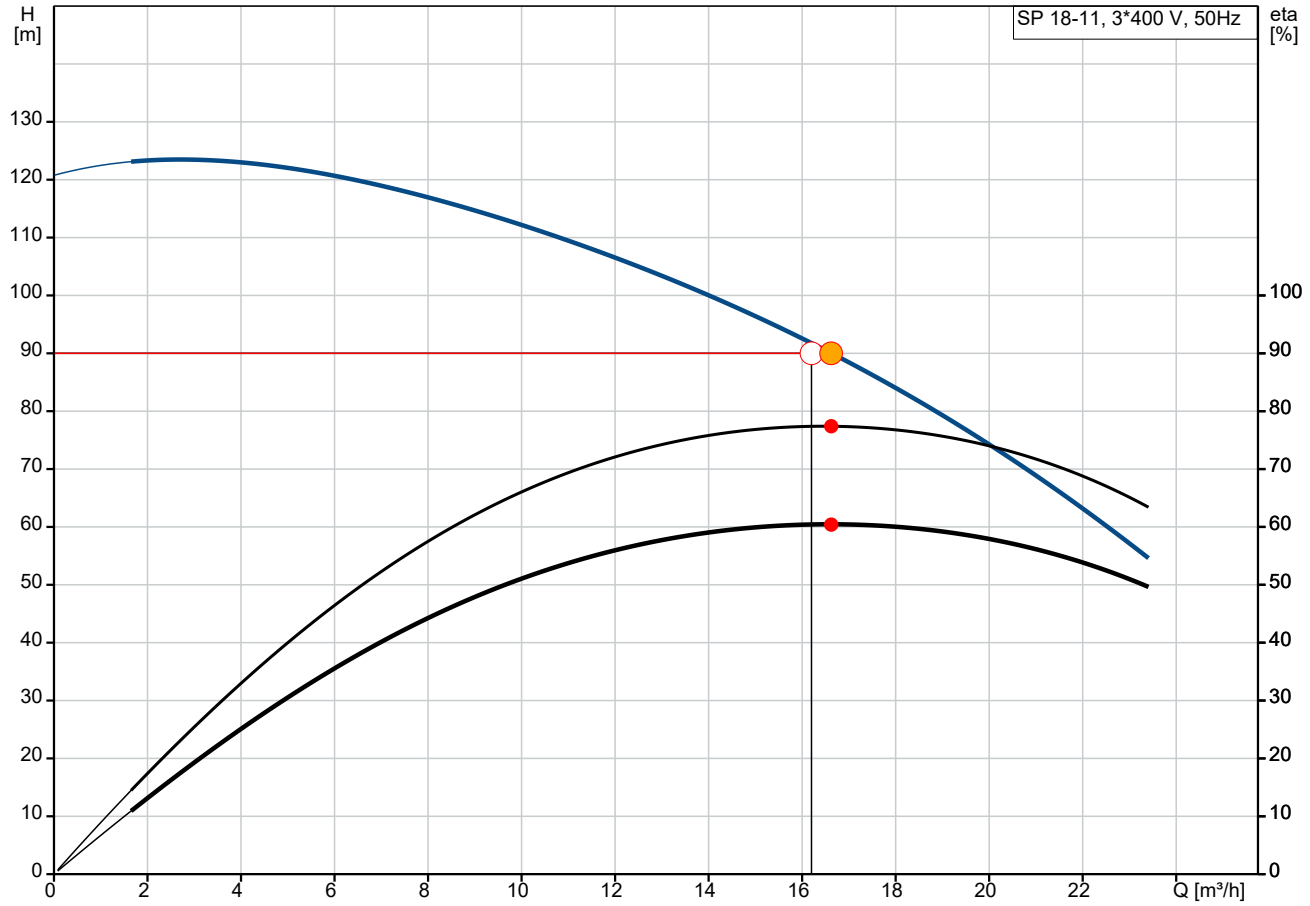
Date: 01/06/2025

Qty.	Description	
1	Environmental approvals:	WEEE

Company name:
Created by:
Phone:

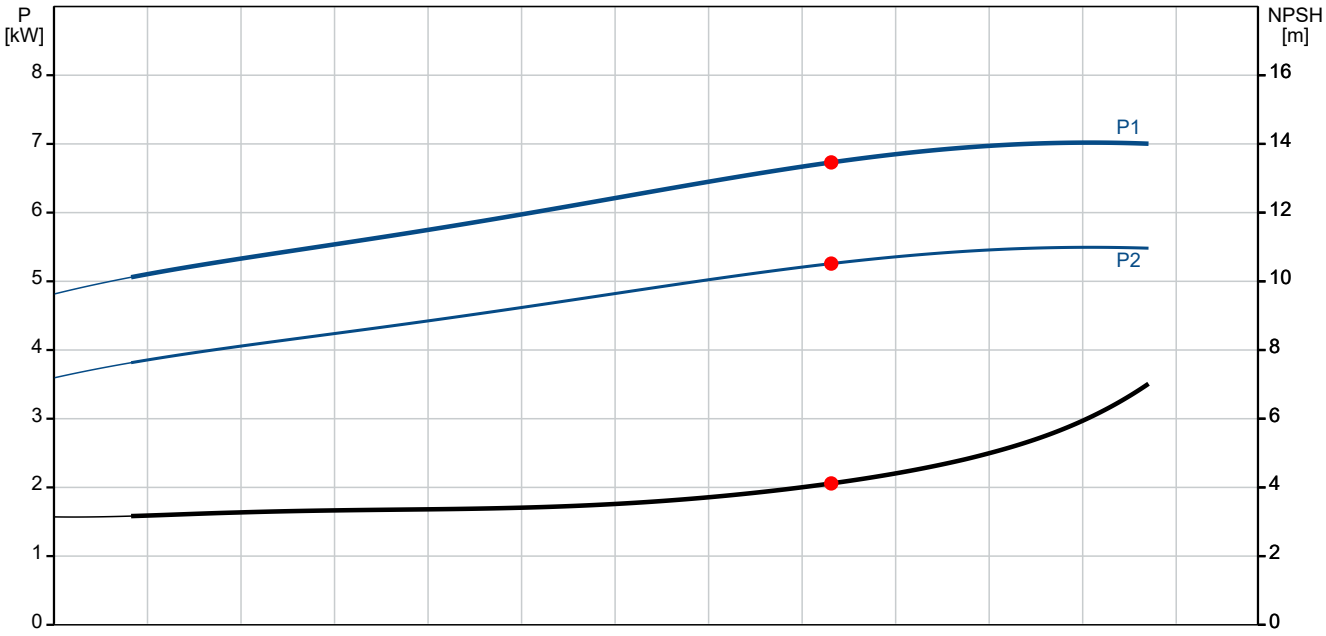
Date: 01/06/2025

92951205 SP 18-11 50 Hz



Q = 16.62 m³/h
Es = 0.4049 kWh/m³
Density = 998.2 kg/m³
Eta pump+motor = 60.4 %

H = 90 m
Pumped liquid = Water
Eta pump = 77.4 %

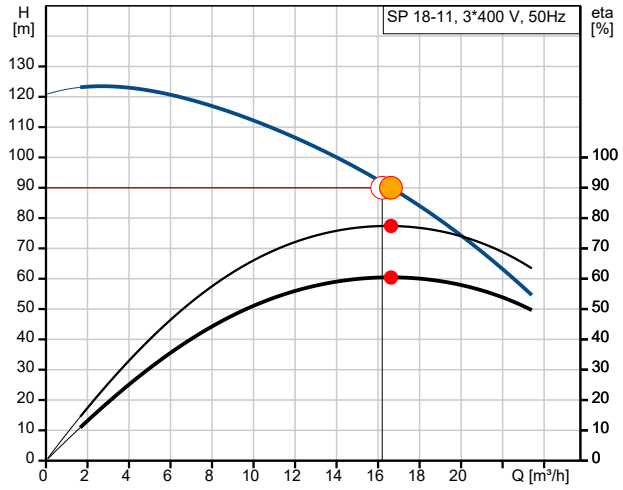


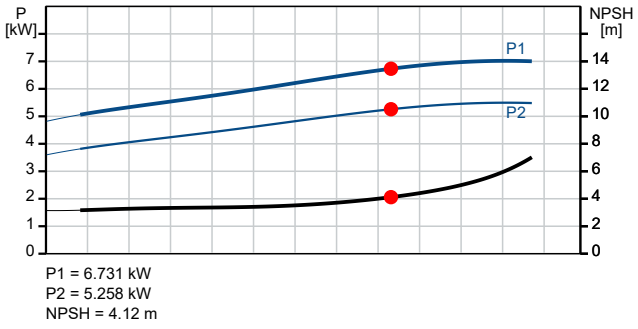
P1 = 6.731 kW
P2 = 5.258 kW
NPSH = 4.12 m

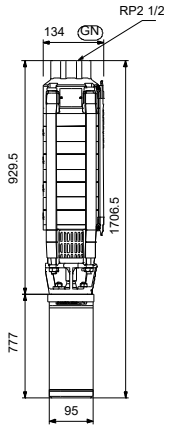
Company name:
Created by:
Phone:

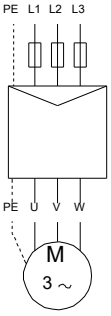
Date: 01/06/2025

Description	Value
General information:	
Product name:	SP 18-11
Product No:	92951205
EAN number:	5715122055993
Technical:	
Pump speed on which pump data are based:	2900 rpm
Actual calculated flow:	16.62 m³/h
Rated flow:	18 m³/h
Resulting head of the pump:	90 m
Rated head:	84 m
Stages:	11
Number of reduced-diameter impellers:	NONE
Approvals:	CE,EAC,UKCA,SEPRO,MOROCCO
Approvals for motor:	CE,EAC,C_UL_US_NSF372MOROCCO,UKCA,SEPRO
Approvals for drinking water:	ACS,DM174
Curve tolerance:	ISO9906:2012 3B
Model:	B
Motor version:	T40
Return valve:	YES
Materials:	
Pump:	Stainless steel
	EN 1.4301
	AISI 304
Impeller:	Stainless steel
	EN 1.4301
	AISI 304
Motor:	Stainless steel
	EN 1.4301
Shaft seal:	HM/Ceramics
Installation:	
Maximum ambient pressure:	60 bar
Maximum operating pressure:	60 bar
Maximum outlet pressure:	12.3 bar
Type of connection:	Rp
Size of connection:	2 1/2 inch
Motor diameter:	4 inch
Minimum borehole diameter:	140 mm
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-15 .. 40 °C
Electrical data:	
Motor type:	MS4000
Motor flange design:	Grundfos
Rated power - P2:	7.5 kW
Power (P2) required by pump:	7.5 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-400-415 V
Rated current:	18.4-19.3-19.6 A
Requested voltage:	400 V
Rated current at this voltage:	18.9 A
Starting current:	470-480-490 %
Cos phi - power factor:	0.83-0.77-0.72
Rated speed:	2830-2850-2860 rpm
Method of start:	Direct-on-line (DOL)
Enclosure class (IEC 34-5):	IP68









GRUNDFOS

Company name:
Created by:
Phone:

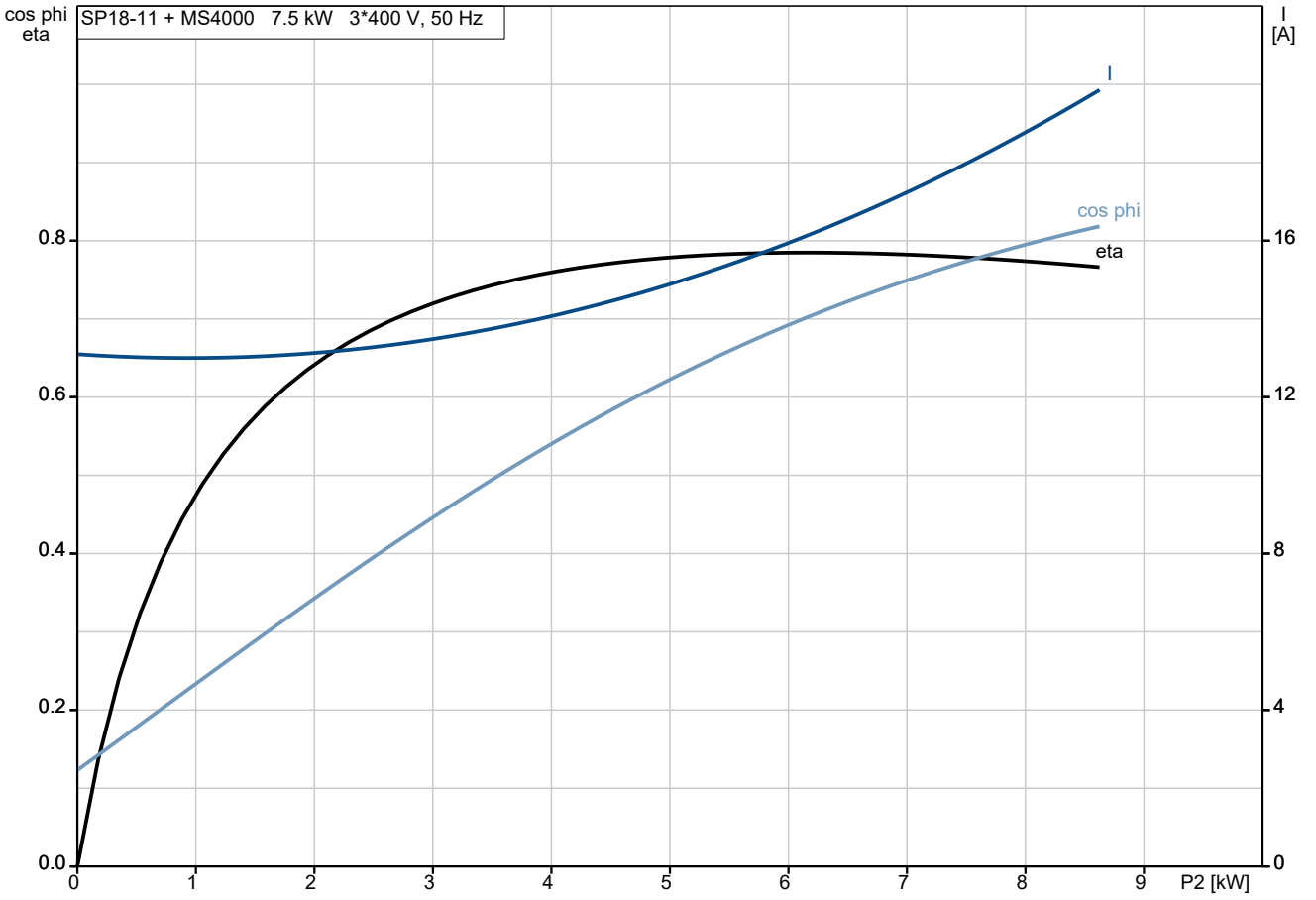
Date: 01/06/2025

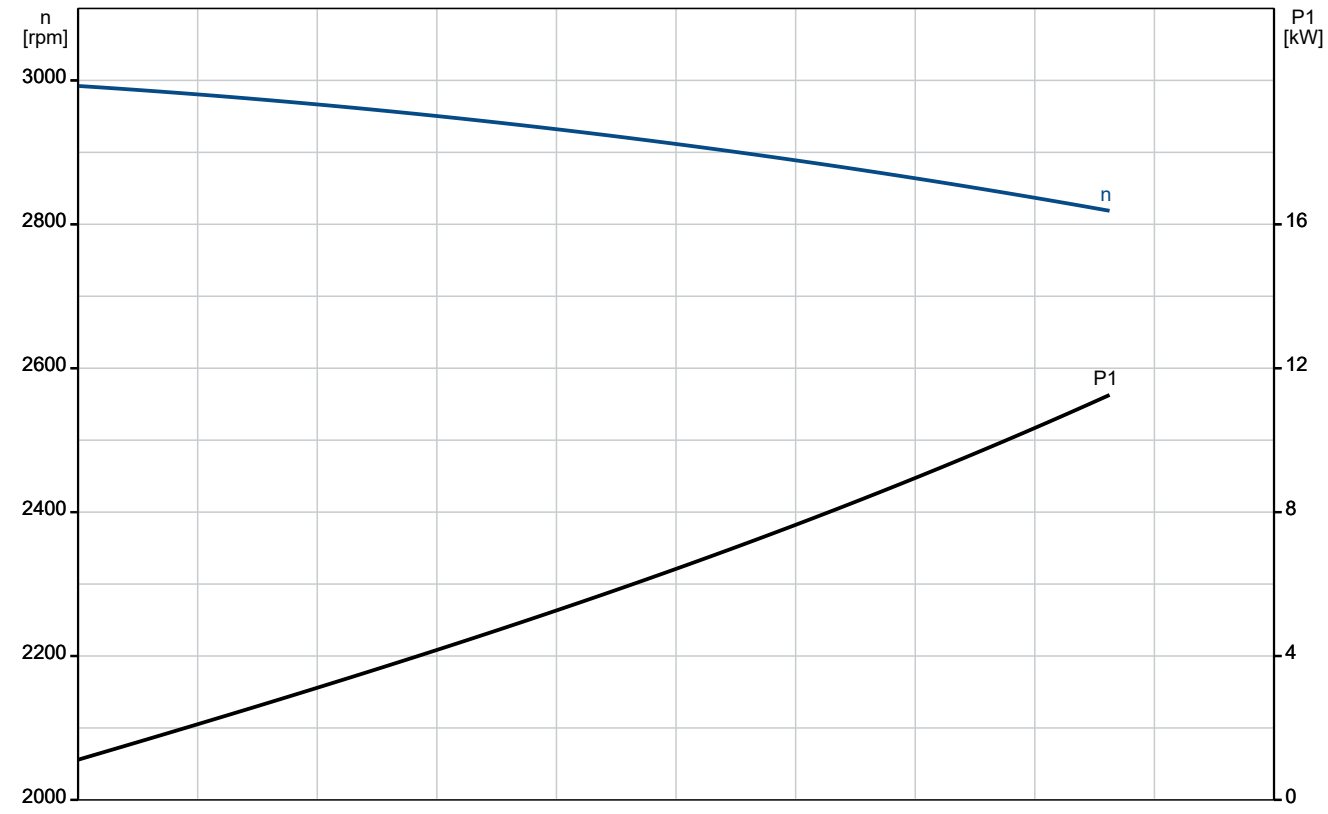
Description	Value
Insulation class (IEC 85):	F
Ex-protection standard:	NONE
Thermal protection:	External
Built-in temp. transmitter:	No
Length of cable:	2.5 m
Power cable type:	FLAT
Motor No:	7C192512
Cable number:	99410241
Windings:	Enameled
Others:	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	49.9 kg
Gross weight:	55.4 kg
Shipping volume:	0.068 m^3
Environmental approvals:	WEEE

Company name:
Created by:
Phone:

Date: 01/06/2025

92951205 SP 18-11 50 Hz



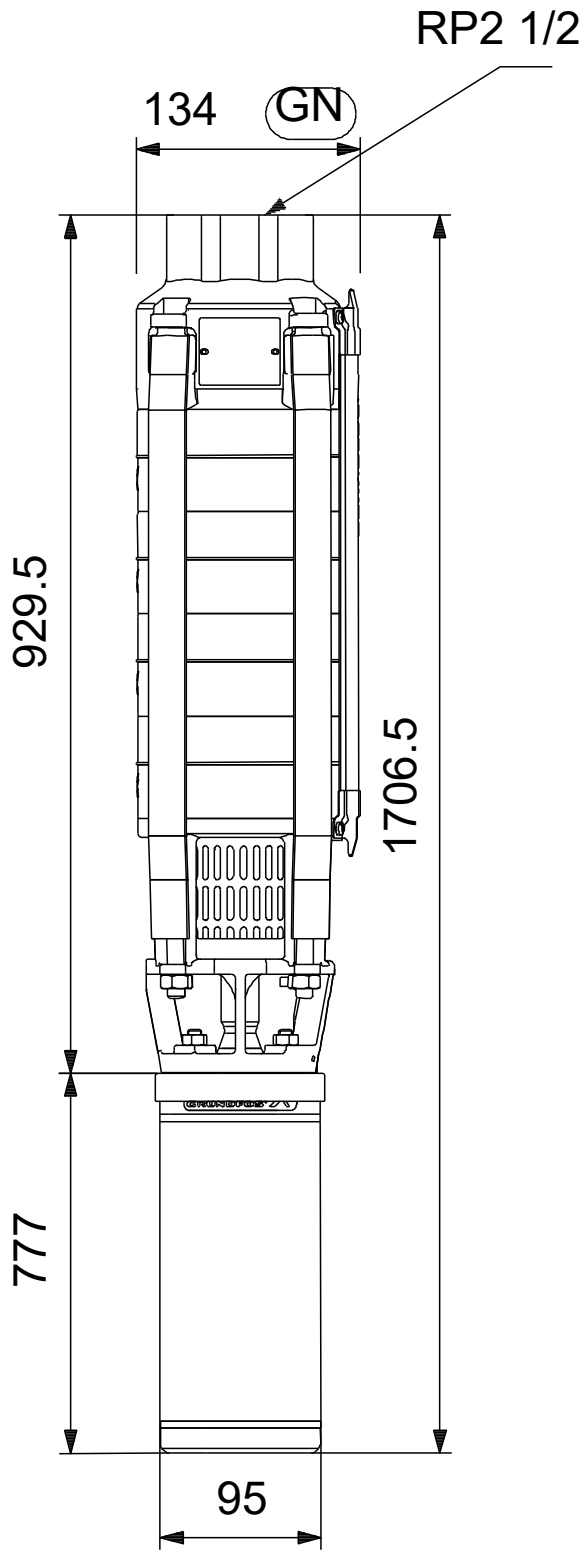


GRUNDFOS

Company name:
Created by:
Phone:

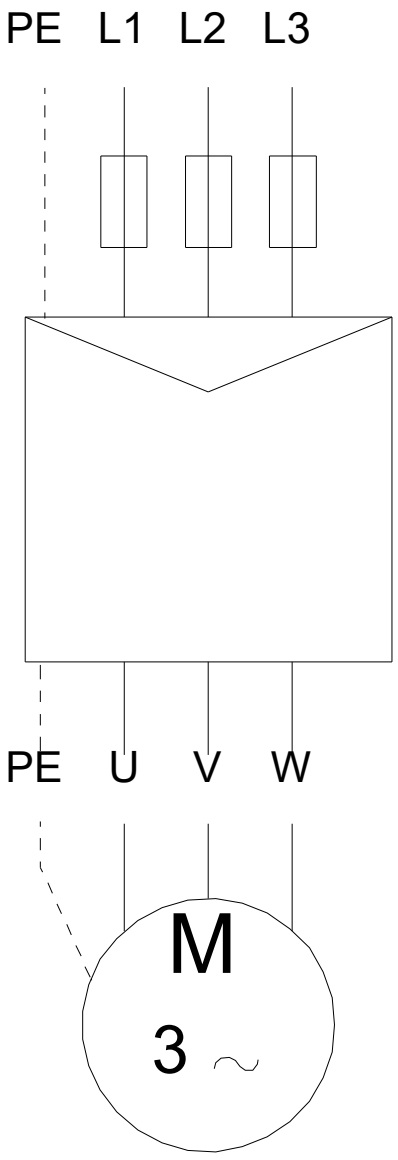
Date: 01/06/2025

92951205 SP 18-11 50 Hz



Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

92951205 SP 18-11 50 Hz



Note! All units are in [mm] unless others are stated.

Company name:
Created by:
Phone:

Date: 01/06/2025

92951205 SP 18-11 50 Hz

Input

Size by	Pump design
Journey	Sizing
Pump design	Submersible groundwater pumps
General	
Select application	Groundwater supply
Installation type	Borehole
Installation	Borehole installation, open tank
Flow	16.2 m³/h
Head	90 m
Evaluation criterion	Energy consumption
Prefer fast delivery	No
Your requirements	
Variable speed	Yes
Enclosure class	IP20
Control mode	Prop. pressure, ext.
Decrease at low flow	10 %
Allow fixed speed	Yes
Max. water temperature	15 °C
Allowed flow oversize	30 %
Allowed flow undersize	5 %
No of duty points	1
Edit load profile	
Load profile	Full load
Operating days per year	365 d
Operation hours per day (low tariff)	10 h
Configuration	
Pump material	GG 0.6025 or 1.4301 (AISI 304)
Motor selection	Grundfos standard motor
Operational conditions	
Frequency	50 Hz
Phase	1 or 3
Voltage	1 x 230 or 3 x 400 V
Starting method 3 phase	Direct on line
Energy price (high tariff)	0.32 EUR/kWh
Energy price (medium tariff)	0.21 EUR/kWh
Energy price (low tariff)	0.11 EUR/kWh
Increase of energy price	6 %
CO2 emission intensity	0.57 kg/kWh
Calculation period	10 years
Life cycle cost	
Do you want to make a comparison?	No comparison
How detailed do you want your life cycle cost analysis?	Simple LCC analysis
	Pump A
Hit list settings	
Include cheapest solution	Yes
Max. hits per product group	5
Max. hits total	20

Load Profile

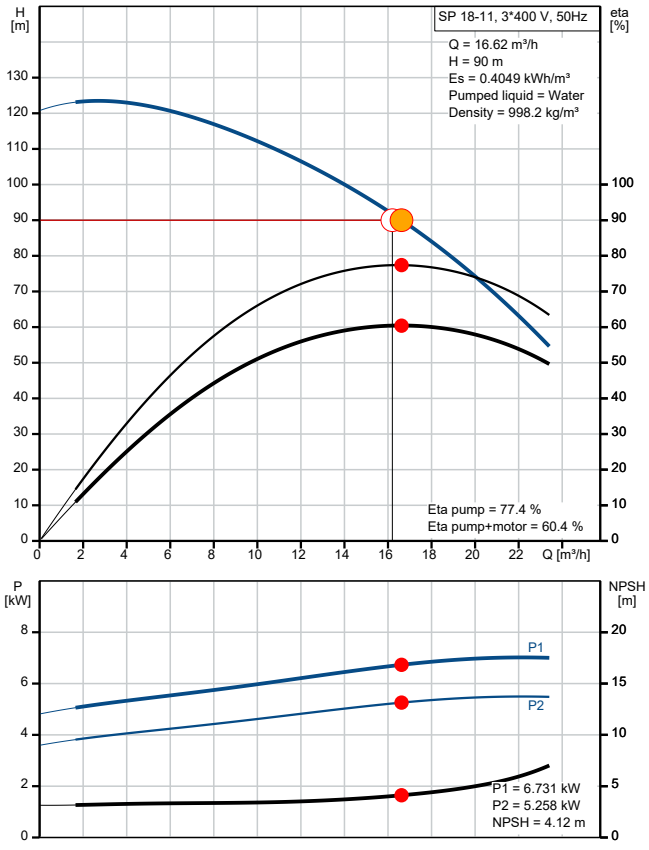
	1
Flow (%)	103
Flow (m³/h)	16.62
Head (%)	100
Head (m)	90
P1 (kW)	6.731
Eta total (%)	60.4
Time (h/a)	3557
Energy consumption (kWh/Year)	23943
Quantity	1

Sizing result

Type SP 18-11
Quantity * Motor 1 * 7.5 kW ,

Flow	16.62	m³/h (+3%)
H total	90	m
Power P1	6.731	kW
Power P2 required in the duty point	5.258	kW
Current (rated)	19.3	A
Current (actual)	15.1	A
Cos phi (actual)	0.64	
Eta pump	77.4	%
Eta motor	78.1	%
Eta total	60.4	% =Eta pump * Eta motor
Flow total	59130	m³/year
Spec. energy consumption	0.4049	kWh/m³
	4.5	Wh/m³/m
Energy consumption	23943	kWh/year
CO2 emission:	13600 kg/Year	
Price	On request	
Life cycle cost	42986	EUR /10Years

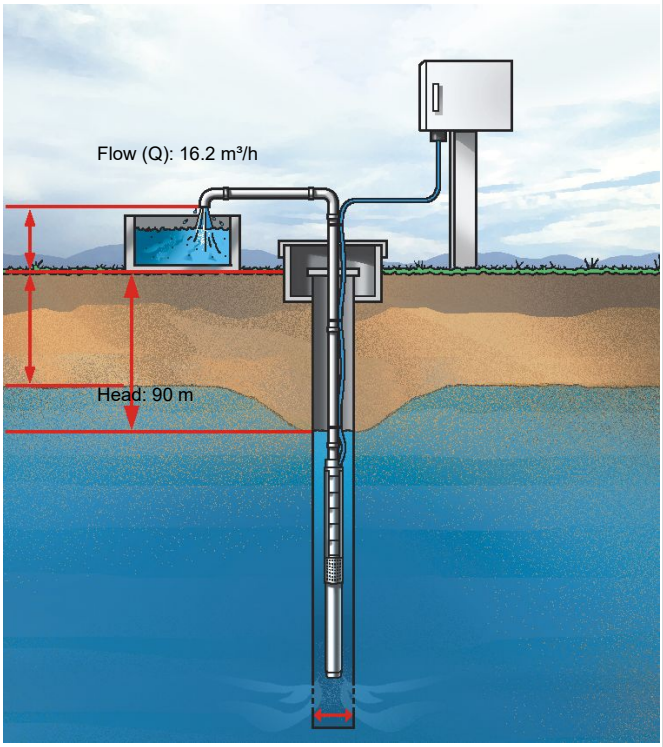
Cable losses are not included !



Company name:
Created by:
Phone:

Date: 01/06/2025

Installation and Input



Sizing Results

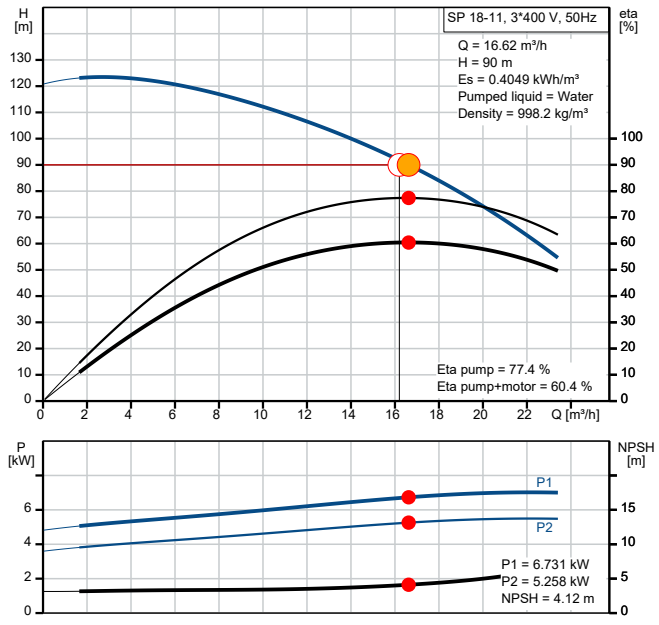
Product number:	92951205
Type:	SP 18-11
Flow:	16.62 m³/h (59130)
H total:	90 m
Power P1:	6.731 kW
Power P2 required in the duty point:	5.258 kW
Eta pump:	77.4 %
Eta motor:	78.1 %
Eta total:	60.4 %
Energy consumption:	23943 kWh/year
Spec. energy consumption:	0.4049 kWh/m³ (4.5 Wh/m³/m)
Motor type:	MS4000
Phase:	3
Voltage:	380-400-415
Frequency:	50 Hz
Current (rated):	19.3 A
Current (actual):	15.1 A
Cos phi (actual):	0.64
Liquid max. temperature:	40 °C

Cable losses are not included !

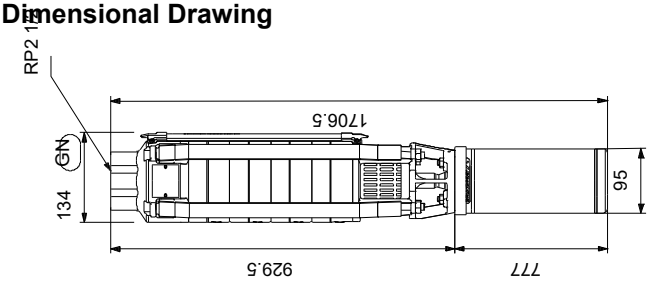
Load profile

	1
Flow (%)	103
Flow (m³/h)	16.62
Head (%)	100
Head (m)	90
P1 (kW)	6.731
Eta total (%)	60.4
Time (h/a)	3557
Energy consumption (kWh/Year)	23943
Quantity	1

Pump Curve



Dimensional Drawing



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Company name:
Created by:
Phone:

Date: 01/06/2025