


- GENERAL NOTES:**
1. SHOP DRAWINGS TO BE PROVIDED FOR REVIEW AND APPROVAL.
 2. APPROVAL OF DESIGNS AND CALCULATIONS DOES NOT TRANSFER LIABILITY FROM THE PREFABRICATION BUILDING VENDOR.
 3. I/H BEAM TO BE GRADE S355.
 4. PLATES ANGLES & HOLLOW SECTION TO BE GRADE 43A.
 5. STEELWORK TO BE SHOT BLASTED PRIOR PAINTING.
 6. ALL SHOP WELDS TO BE 6MM FILLET WELDS U.O.N.
 7. BOLTS ARE P.G. GRADE 4.6 & GRADE 8.8
 8. ALL SECTION SIZES TO BE AS SPECIFIED ON DRAWING.
 9. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
 10. REFER TO DRAWING NO. KMS/SD/13 SHEET 2 OF 4 AND SHEET 3 OF 4 FOR MORE NOTES.
 11. THIS DRAWING SHOWS THE GENERAL ARRANGEMENT OF THE PRESSED STEEL ELEVATED TANK.
 12. ALL MATERIALS AND FABRICATION SHALL CONFORM WITH THE RELEVANT B.S. / EN.
 13. TANK HEIGHT = 15m.
 14. TANK TO BE DESIGNED AND SUPPLIED BY APPROVED PRESSED STEEL TANK MANUFACTURER TO THE SPECIFICATION OF THE RESIDENT ENGINEER.
 15. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.


RELEVANT BUILDING AND DESIGN CODES

- BS 6399 PT 1 & 3 / CP3 PT 2 – GRAVITY & WIND LOADS KENYA EARTHQUAKE CODE
- BS 8110 – STRUCTURAL USE OF CONCRETE
- BS 5950 – STRUCTURAL USE OF STEEL
- BS EN 1992 (EUROCODE 2) – DESIGN OF CONCRETE STRUCTURES
- BS EN 1993 (EUROCODE 3) – DESIGN OF STEEL STRUCTURES

REV	DESCRIPTION	DATE



KIWASCO
KISUMU WATER AND SANITATION COMPANY



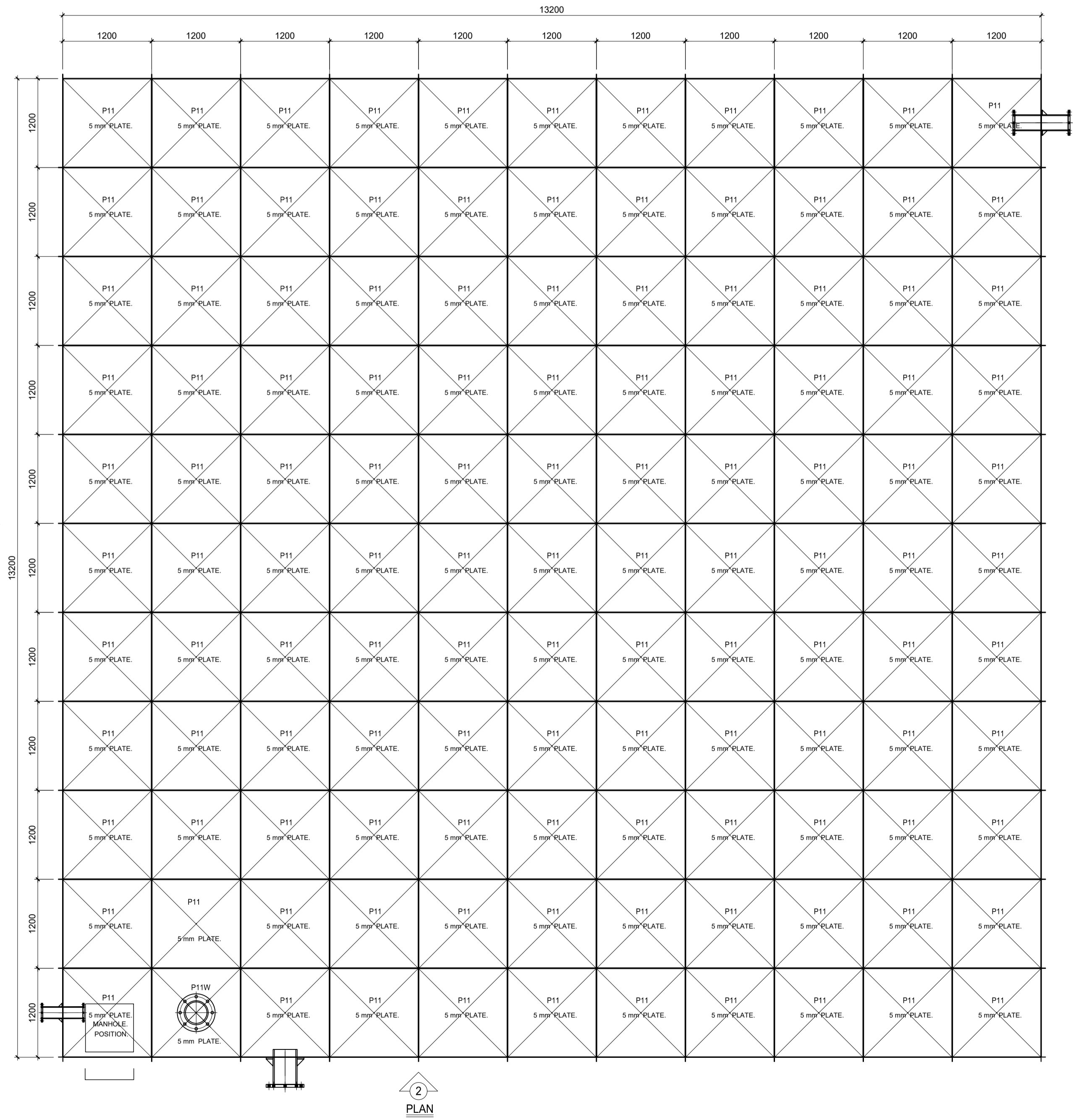
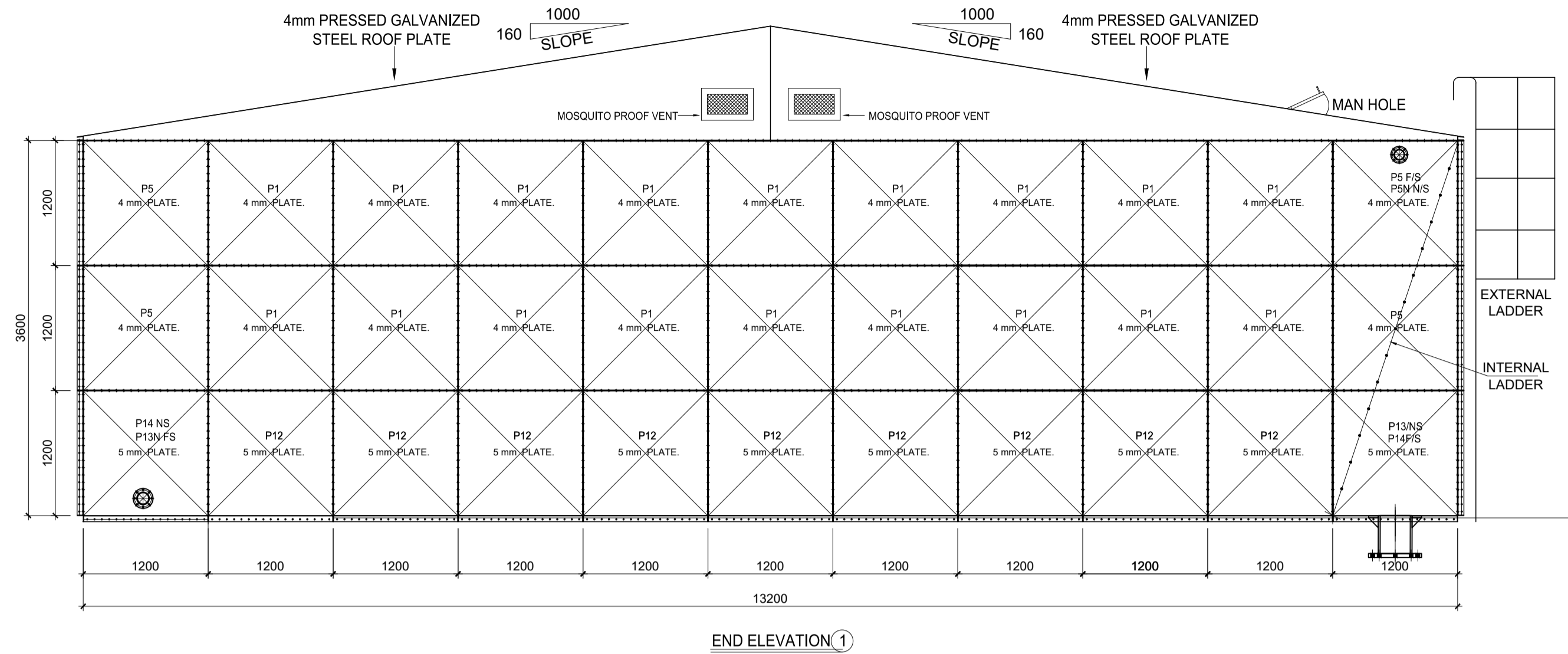
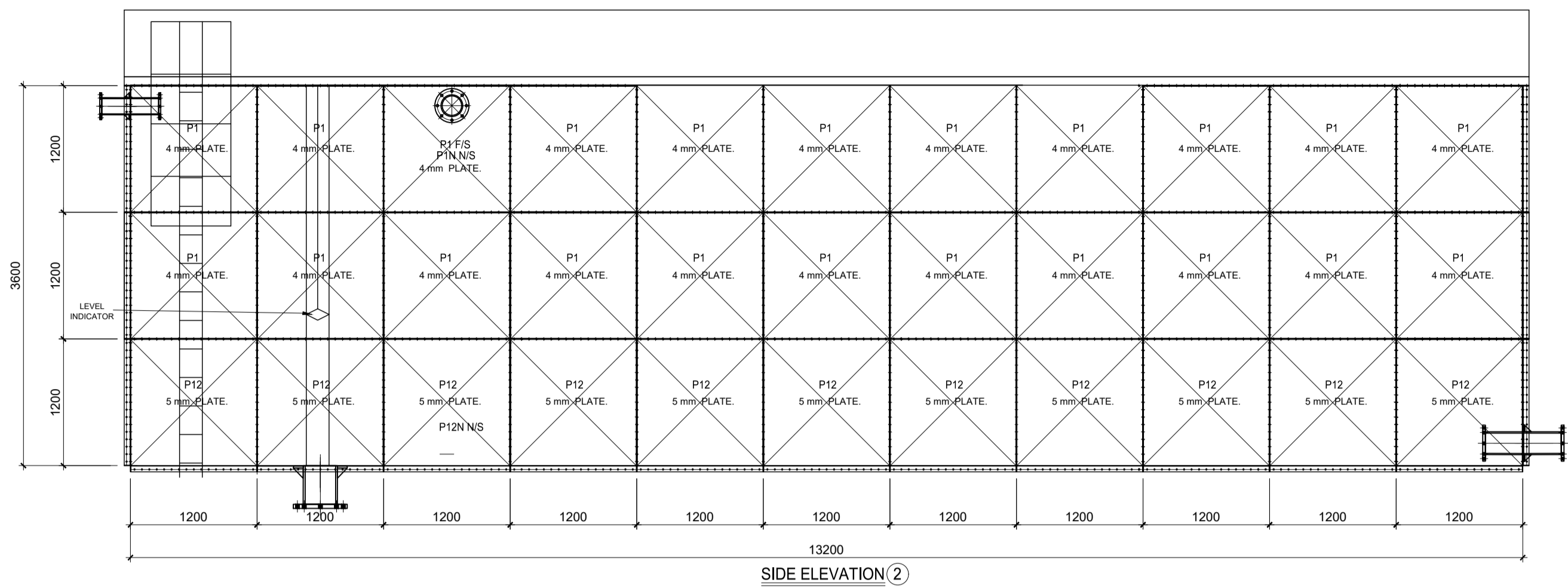
PROJECT:
KISUMU WATER SUPPLY IMPROVEMENT AID ON DELIVERY-AOD PROJECT

DETAILED DESIGN

DRAWING TITLE:
**GENERAL DRAWINGS
STEEL ELEVATED TANK 500m³
LAYOUT AND SECTIONS**

CONSULTANT:
Design Master Plan
Fifth Ngong, Avenue Office Suites, Room 12, P.O. Box 58438-00200 Nairobi, Kenya
IN JOINT VENTURE WITH
Gauf Consultants Africa
Chalbi Drive 3734, Lavington, P.O. Box 49817-00100 Nairobi, Kenya

DESIGNED BY: E.R	DRAWN BY: S.O
CHECKED BY: D.L	DATE: APRIL, 2026
SCALE: A1 SIZE:	SHEET No: 1 OF 4
DRG No: KSM/SD/13	REV.



PANELS

MARK	QTY (1 No.)
P1	79
P1N	1
P5	7
P5N	1
P11	120
P11W	1
P12	40
P13	1
P13N	1
P14	2
TOTALS	253

FABRICATION NOTES

- STEELWORK TO BE SHOT BLASTED PRIOR TO PAINT APPLICATION.
- APPLY ONE COAT OF PRIMER & ONE COAT OF SILVER ALUMINIUM PAINT TO THE OUTSIDE OF TANK.
- APPLY ONE COAT OF PRIMER & EPOXY RESIN TO THE INSIDE OF TANK.
- ALL SHOP WELDS TO BE 6MM FILLET WELDS UNLESS OTHERWISE NOTED.
- ALL BOLTS ARE E.P.G. GRADE 8.8

GENERAL NOTES:

- SHOP DRAWINGS TO BE PROVIDED FOR REVIEW AND APPROVAL.
- APPROVAL OF DESIGNS AND CALCULATIONS DOES NOT TRANSFER LIABILITY FROM THE PREFABRICATION BUILDING VENDOR.
- I/H BEAM TO BE GRADE S355.
- PLATES, ANGLES & HOLLOW SECTION TO BE GRADE 43A.
- STEELWORK TO BE SHOT BLASTED PRIOR PAINTING.
- ALL SHOP WELDS TO BE 6MM FILLET WELDS U.O.N.
- BOLTS ARE E.P.G GRADE 4.6. & GRADE 8.8
- ALL SECTION SIZES TO BE AS SPECIFIED ON DRAWING.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
- THIS DRAWING SHOWS THE GENERAL ARRANGEMENT OF THE PRESSED STEEL ELEVATED TANK.
- ALL MATERIALS AND FABRICATION SHALL CONFORM WITH THE RELEVANT B.S. / EN.
- TANK HEIGHT = 15m.
- TANK TO BE DESIGNED AND SUPPLIED BY APPROVED PRESSED STEEL TANK MANUFACTURER TO THE SPECIFICATION OF THE RESIDENT ENGINEER.
- SLAB SHOWN IS TO ILLUSTRATE OVERALL FOOTPRINT REQUIREMENTS ONLY. FINAL 500m³ TANK REQUIREMENT, PANELS AND JOINT POSITIONS SUBJECT TO PREFABRICATION BUILDING VENDOR STRUCTURAL DESIGN.
- STRUCTURAL STEEL WORK AND ROOF ARE INDICATIVE ONLY AND SUBJECT TO PREFABRICATION BUILDING VENDOR STRUCTURAL DESIGN.
- MINIMUM 500mm FREE BOARD TO BE PROVIDED.
- GEOTECHNICAL FAILURE PREVENTION MEASURES TO BE VERIFIED.
- ALLOW FOR DEAD COLUMN IN PREFABRICATION BUILDING VENDOR DESIGN.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS STATED OTHERWISE.

RELEVANT BUILDING AND DESIGN CODES

- BS 6399 PT 1 & 3 / CP3 PT 2 – GRAVITY & WIND LOADS KENYA EARTHQUAKE CODE
- BS 8110 – STRUCTURAL USE OF CONCRETE
- BS 5950 – STRUCTURAL USE OF STEEL
- BS EN 1992 (EUROCODE 2) – DESIGN OF CONCRETE STRUCTURES
- BS EN 1993 (EUROCODE 3) – DESIGN OF STEEL STRUCTURES

REV	DESCRIPTION	DATE



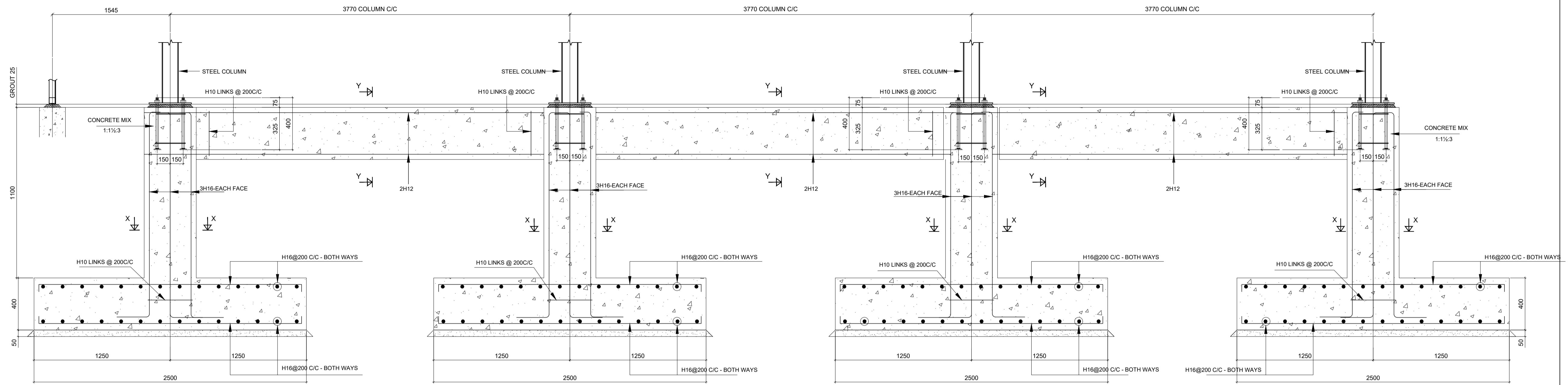
PROJECT:
**KISUMU WATER SUPPLY
 IMPROVEMENT AID ON DELIVERY-
 AOD PROJECT**

DETAILED DESIGN

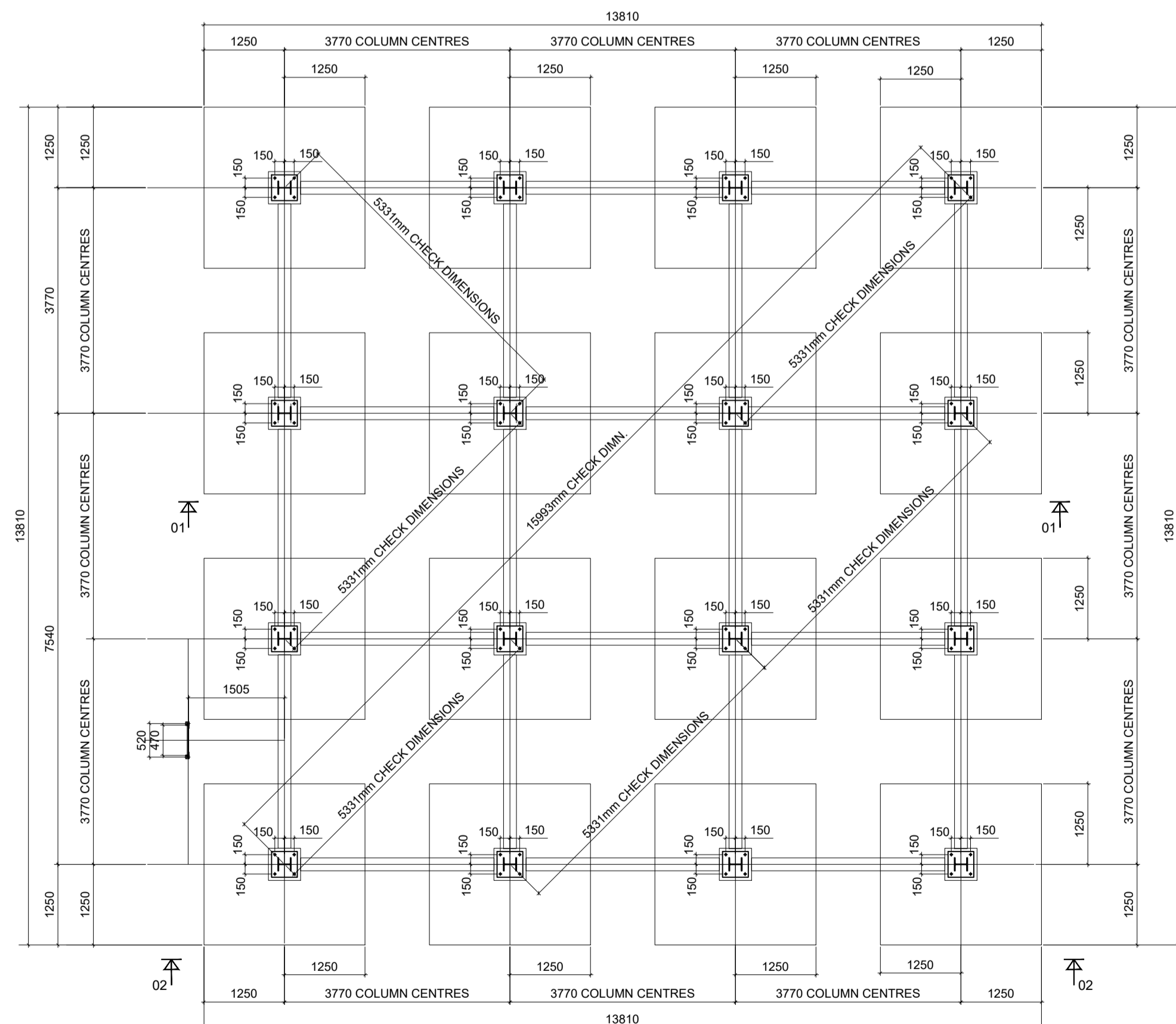
DRAWING TITLE:
**GENERAL DRAWINGS
 STEEL ELEVATED TANK 500m³
 LAYOUT OF PANELS**

CONSULTANT:
Design Master Plan Fifth Ngong, Avenue Office Suites,
 Room 12, P.O Box 58438-00200
 Nairobi, Kenya
 CIVIL ENGINEERING CONSULTANTS
 IN JOINT VENTURE WITH
Gauff Consultants Africa Chabbi Drive 3734, Lavington,
 P.O. Box 49817-00100 Nairobi,
 Kenya

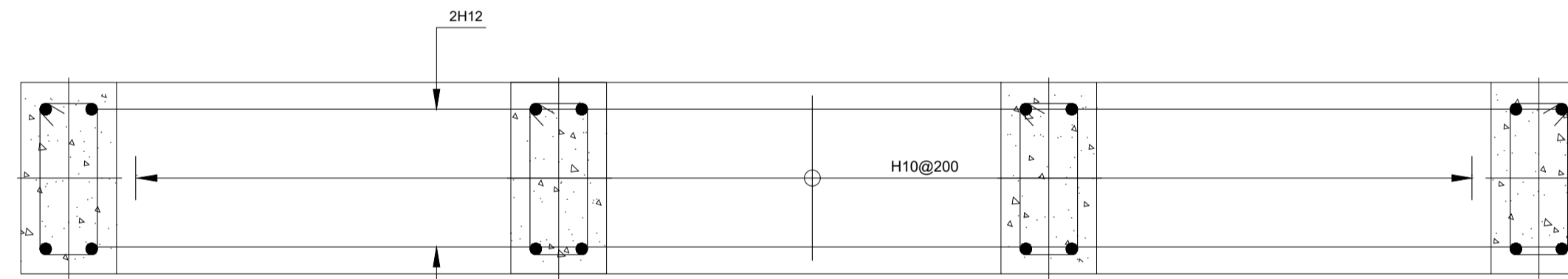
DESIGNED BY: E.R	DRAWN BY: S.O
CHECKED BY: D.L	DATE: APRIL, 2026
SCALE: A1 SIZE:	SHEET No: 2 OF 4
DRG No: KSM/SD/13	REV.



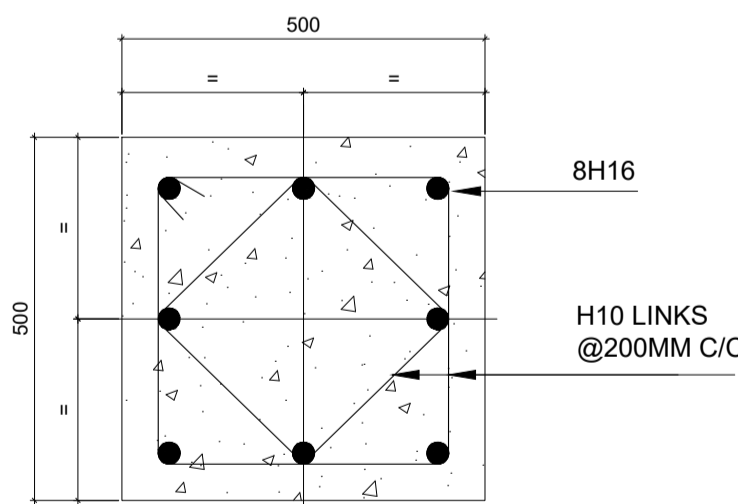
TYPICAL SECTION 02 - 02



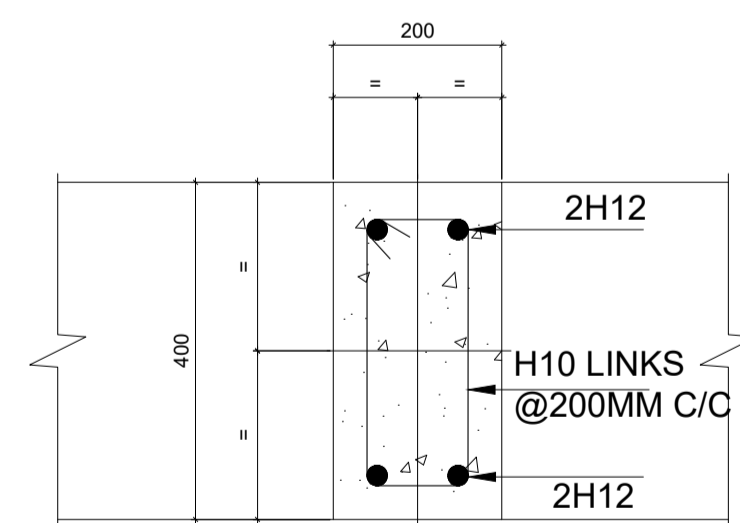
H.D. LAYOUT PLAN



TYPICAL SECTION 01 - 01



TYPICAL SECTION X - X THRU SUB COLUMNS



TYPICAL SECTION Y - Y THRU RC BEAMS B1

NOTES:

1. SHOP DRAWINGS TO BE PROVIDED FOR REVIEW AND APPROVAL.
2. APPROVAL OF DESIGNS AND CALCULATIONS DOES NOT TRANSFER LIABILITY FROM THE PREFABRICATION BUILDING VENDOR.
3. MIX OF CONCRETE TO ATTAIN THE STRENGTH OF F_{cu} 25 N/mm²
4. CONCRETE MIX 1:1½:3
5. CONCRETE MIX 1:3:6 BLINDING
6. WATER CEMENT RATIO 0.5
7. CUBE STRENGTH 28 DAYS - 25 N/mm²
8. REINFORCEMENT STEEL STRENGTH - 450/250 N/mm²
9. COVER TO BASE - 50mm
10. COVER TO COLUMN - 40mm
11. CONTRACTOR TO CONFIRM CHECK DIMENSION USING STEEL TAPE MEASURE.
12. HOLDING DOWN BOLTS TO BE CAST TO ±5mm ACCURACY AND SHOULD BE RECAST IF THIS TOLERANCE IS EXCEEDED.
13. CONTRACTOR TO CONFIRM LEVELS OF FOUNDATIONS.
14. ASSUMED GROUND BEARING PRESSURE - 150 KN/M²
15. TANK TO BE DESIGNED AND SUPPLIED BY APPROVED PRESSED STEEL TANK MANUFACTURER TO THE SPECIFICATION OF THE RESIDENT ENGINEER.
16. SLAB SHOWN IS TO ILLUSTRATE OVERALL FOOTPRINT REQUIREMENTS ONLY. FINAL 500m³ TANK REQUIREMENT, PANELS AND JOINT POSITIONS SUBJECT TO PREFABRICATION BUILDING VENDOR STRUCTURAL DESIGN.
17. STRUCTURAL STEEL WORK AND ROOF ARE INDICATIVE ONLY AND SUBJECT TO PREFABRICATION BUILDING VENDOR STRUCTURAL DESIGN.
18. MINIMUM 500mm FREE BOARD TO BE PROVIDED.
19. GEOTECHNICAL FAILURE PREVENTION MEASURES TO BE VERIFIED.
20. ALLOW FOR DEAD COLUMN IN PREFABRICATION BUILDING VENDOR DESIGN.
21. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS STATED OTHERWISE.

RELEVANT BUILDING AND DESIGN CODES

- BS 6399 PT 1 & 3 / CP3 PT 2 – GRAVITY & WIND LOADS KENYA EARTHQUAKE CODE
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REV	DESCRIPTION	DATE

KISUMU WATER AND SANITATION COMPANY

WaterFund **KfW**
GERMAN DEVELOPMENT BANK

PROJECT:
KISUMU WATER SUPPLY IMPROVEMENT AID ON DELIVERY-AOD PROJECT

DETAILED DESIGN

DRAWING TITLE:
GENERAL DRAWINGS STEEL ELEVATED TANK 500m³ RC FOUNDATION DETAILS & H.D. BOLTS LAYOUT

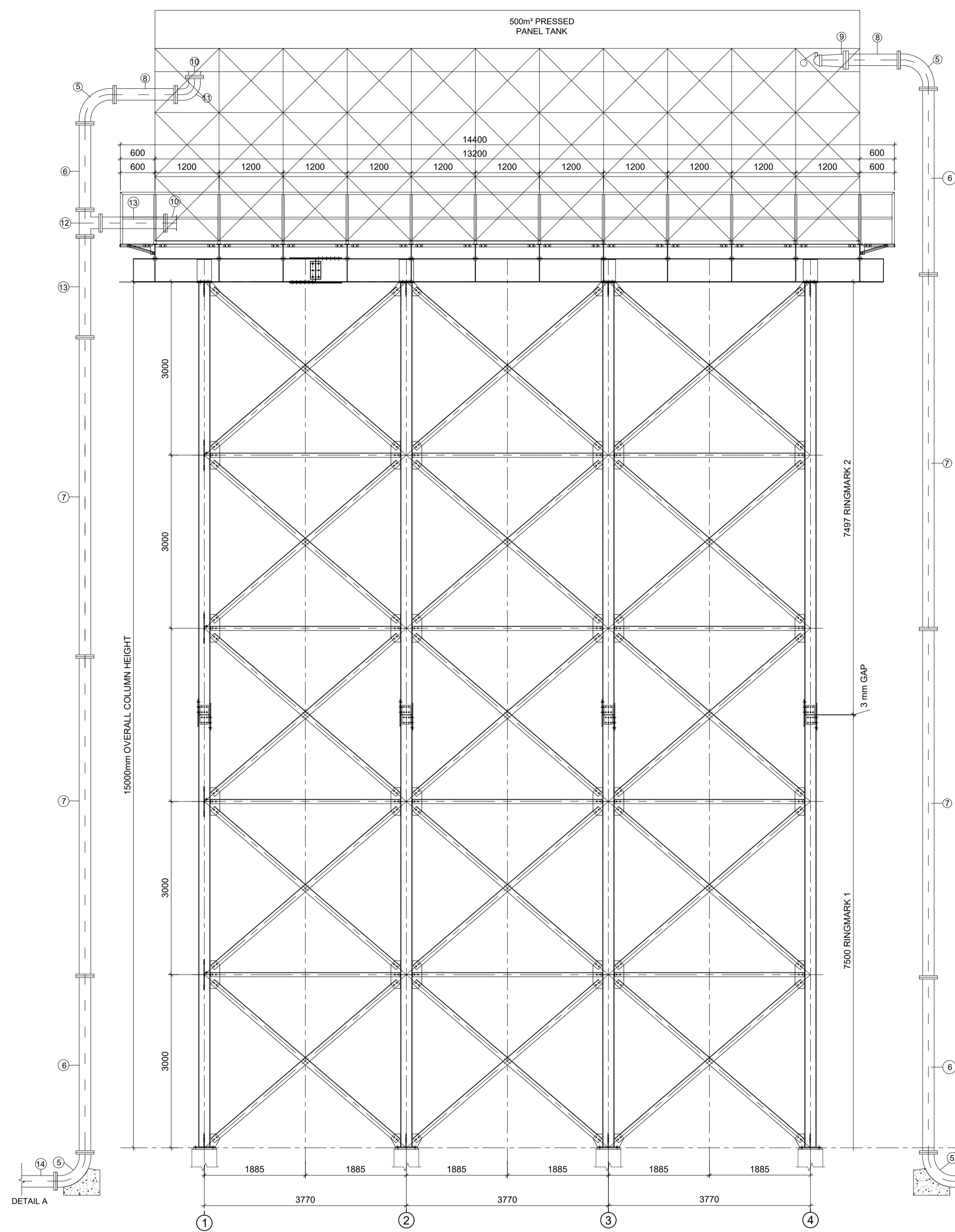
CONSULTANT:
Design Master Plan (Civil Engineering Consultants)
Gauff Consultants Africa

Fifth Ngong, Avenue Office Suites, Room 12, P.O. Box 58438-00200 Nairobi, Kenya
Chalbi Drive 3734, Lavington, P.O. Box 49817-00100 Nairobi, Kenya

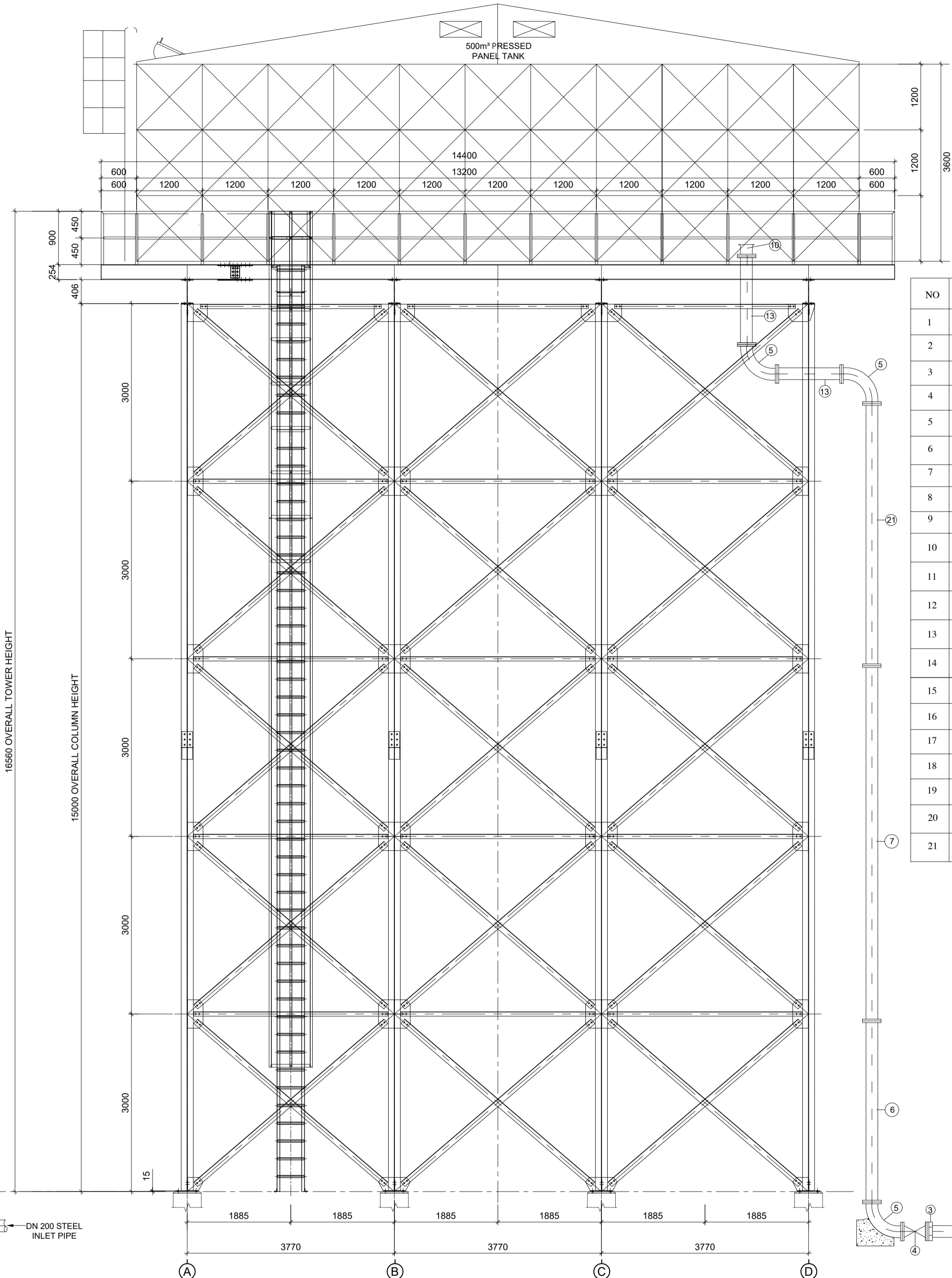
DESIGNED BY: E.R	DRAWN BY: S.O
CHECKED BY: D.L	DATE: APRIL, 2026
SCALE: A1 SIZE	SHEET No: 3 OF 4
DRG No: KSM/SD/13	REV.

NOTES

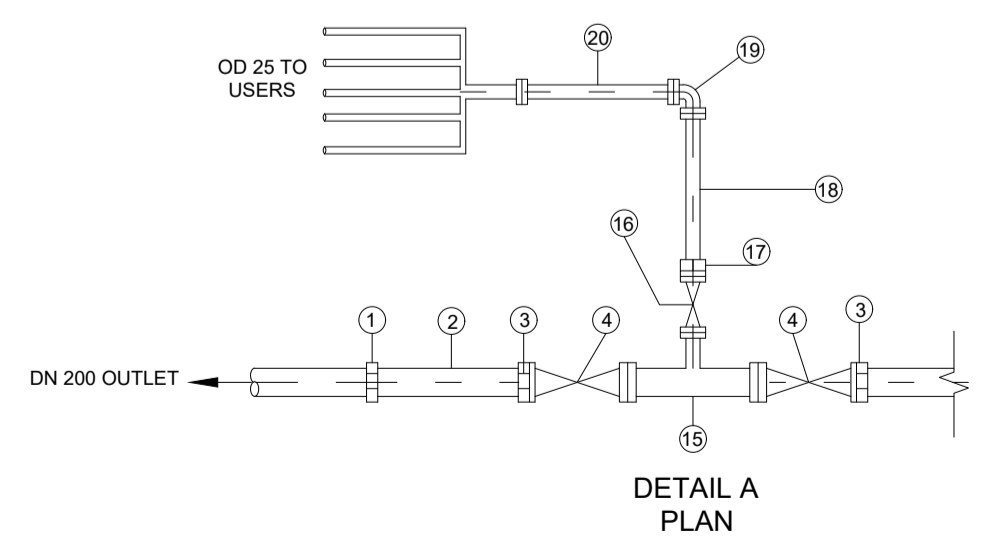
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
2. SHOP DRAWINGS TO BE PROVIDED FOR REVIEW AND APPROVAL.
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TANK ELEVATION



TANK ELEVATION




DETAIL A PLAN



SCHEDULE OF OUTLET PIPE DETAILS TO FILTERS

NO	DESCRIPTION	LENGTH (mm)	DIA (mm)	QTY
1	VJ COUPLING EPOXY COATED	200	200	3
2	ALL SPIGOT PIPE PIECE EPOXY COATED	1000	200	3
3	FLANGED ADAPTOR EPOXY COATED	200	200	4
4	ALL FLANGED SLUICE VALVE	200	200	4
5	ALL FLANGED 90° LONG RADIUS BEND EPOXY COATED	200	200	7
6	ALL FLANGED PIPE PIECE EPOXY COATED	3000	200	5
7	ALL FLANGED PIPE PIECE EPOXY COATED	6000	200	5
8	ALL FLANGED PIPE PIECE EPOXY COATED	1000	200	2
9	FLANGED BALL AND FLOAT VALVE	200	200	1
10	FLANGED BELL MOUTH EPOXY COATED	200	200	3
11	ALL FLANGED 90° SHORT RADIUS BEND EPOXY COATED	200	200	1
12	ALL FLANGED EQUAL TEE EPOXY COATED	200/200	200	1
13	ALL FLANGED PIPE PIECE EPOXY COATED	1200	200	4
14	FLANGED SPIGOT PIPE PIECE EPOXY COATED	1000	200	1
15	ALL FLANGED REDUCING TEE EPOXY COATED	200/50	200	1
16	ALL FLANGED SLUICE VALVE	50	50	1
17	FLANGED ADAPTOR EPOXY COATED	50	50	1
18	FLANGED SPIGOT PIPE PIECE EPOXY COATED	500	50	1
19	ALL FLANGED 90° LONG RADIUS BEND EPOXY COATED	50	50	1
20	ALL FLANGED PIPE PIECE EPOXY COATED	500	50	1
21	ALL FLANGED PIPE PIECE EPOXY COATED	4700	200	1

REV	DESCRIPTION	DATE



KIWASCO
KISUMU WATER AND SANITATION COMPANY

WaterFund **KfW**
Bank für internationale Zusammenarbeit
GERMAN DEVELOPMENT BANK

PROJECT: **KISUMU WATER SUPPLY IMPROVEMENT AID ON DELIVERY-AOD PROJECT**

DETAILED DESIGN

DRAWING TITLE: **GENERAL DRAWINGS STEEL ELEVATED TANK 500m³ PIPE WORK DETAILS**

CONSULTANT: **Design Master Plan** (Fifth Ngong, Avenue Office Suites, Room 12, P.O Box 58438-00200 Nairobi, Kenya) **CIVIL ENGINEERING CONSULTANTS**
IN JOINT VENTURE WITH **Gauff Consultants Africa** (Chalbi Drive 3734, Lovington, P.O. Box 49817-00100 Nairobi, Kenya)

DESIGNED BY: **E.R** DRAWN BY: **S.O**
CHECKED BY: **D.L** DATE: **APRIL 2026**
SCALE: **A1 SIZE** SHEET No: **4 OF 4**
DRG No: **KSM/SD/13** REV: