

STRUCTURAL DESIGNS AND DRAWINGS



CLIENT



Korea International
Cooperation Agency

PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL EDUCATION THROUGH
A HOLISTIC APPROACH IN ZANZIBAR,
CONSTRUCTION OF LABORATORIES AND WASH FACILITIES
- JONGOWE SECONDARY SCHOOL

MARCH 2021

PROJECT NUMBER:	TSU-2020-023	
DRAWING NUMBER:	SR-000	REV
PROJECT STATUS:	DESIGN REVIEW DRAWING	00

GENERAL NOTES FOR STRUCTURAL WORKS

I. GENERAL

- 1.1 ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE RELEVANT G.A., M & E SERVICES, ARCHITECTURAL, EQUIPMENT SUPPLIER'S DRAWINGS AND SPECIFICATIONS. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF ENGINEER BEFORE COMMENCING WORKS.
- 1.2 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- 1.3 ALL CONTOURS AND LEVELS ARE IN METERS, UNLESS NOTED OTHERWISE.
- 1.4 ALL GRID ORDINATES ARE IN METERS.
- 1.5 ALL LEVELS INDICATED ARE FINISHED FLOOR LEVELS UNLESS NOTED OTHERWISE.
- 1.6 EL(+/-)0.00 CORRESPONDS TO EXISTING GROUND LEVEL.
- 1.7 IN THE EVENT THAT ANY OF THE NOTES GIVEN IN THIS DRAWING ARE IN CONFLICT WITH THE REQUIREMENTS OF THE TECHNICAL SPECIFICATION, THE SPECIFICATION SHALL TAKE PRECEDENCE. THE CONFLICTING NOTE SHOULD IN ANY CASE BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER.
- 1.9 FOR ANY SPECIALIZED CONSTRUCTION METHOD (E.G. SLIP-FORM) OR TEMPORARY WORKS (E.G. CRANE) PROPOSED BY THE CONTRACTOR, A DETAILED METHOD STATEMENT TOGETHER WITH THE SUPPORTING CALCULATIONS AND HEALTH AND SAFETY RISK ASSESSMENT SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO IMPLEMENTATION OF SUCH WORKS.

2. FOUNDATION FORMATION LEVEL

- 2.1 FOUNDATION FORMATION LEVELS FOR ALL COLUMNS AND STRIP FOOTINGS TO BE AT A MINIMUM DEPTH OF 1500MM
2.2 FOUNDATION FORMATION LEVELS FOR ALL COLUMNS AND STRIP FOOTINGS TO THE APPROVAL OF THE SITE ENGINEER

3. CONCRETE

- 3.1 CONCRETE MIX DESIGNS SHALL BE SUBMITTED TO THE SITE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF ANY CONCRETE WORKS.
- 3.2 BLINDING AND MASS CONCRETE SHALL BE GRADE (1 : 2 : 4) OR GRADE C16/20 UNLESS NOTED OTHERWISE.
- 3.3 CONCRETE GRADE FOR ALL REINFORCED CONCRETE WORKS SHALL BE GRADE C20/25 UNLESS NOTED OTHERWISE.

PROPOSED USE	GRADE	PERMITTED TYPE OF AGGREGATE		MAX. SIZE AGGREGATE	WORKABILITY
		COURSE	FINE		
REINFORCED CONC. (INCL. GROUND BEARING SLAB)	C 20/25	EN 12620	EN 12620	20 mm	MEDIUM (75)
CONCRETE CONTAINING NO EMBEDDED METAL	C 20/25	EN 12620	EN 12620	20 mm	MEDIUM (75)
BINDING CONCRETE	C 16/20	EN 12620	EN 12620	20 mm	MEDIUM (75)
CONCRETE IN MINOR ELEMENTS EG LINTELS	C 20/25	EN 12620	EN 12620	20 mm	MEDIUM (75)

4. REINFORCEMENT

1. ALL HIGH TENSILE (T) AND MILD STEEL (R) BARS TO BE IN ACCORDANCE WITH B.S. 4449 AND MESH FABRIC TO BE MADE BY COLD WORKED STEEL BARS IN ACCORDANCE WITH B.S. 4483.
- 4.2 UNLESS OTHERWISE STATED ON THE DRAWINGS MINIMUM CLEAR CONCRETE COVER TO MAIN REINFORCEMENT (I.E EXCLUDES LINKS) TO BE AS FOLLOWS:
- | | |
|------------------------------------|--|
| FOUNDATIONS | 50MM FROM BLINDING SURFACE OR 75MM FROM NATURAL GROUND |
| GROUND FLOOR SLAB (BOTTOM & SIDES) | 50MM |
| GROUND FLOOR SLAB (TOP) | 30MM |
| RETAINING WALLS | 40MM |
| WATER TANK WALLS | 40MM |
| COLUMNS | 40MM |
| BEAMS | 35MM (BOTTOM AND SIDES) AND 35MM (TOP) |
| SLABS & STAIRCASES | 25MM |
- MAXIMUM TOLERANCE ON CONCRETE COVER TO BE +/- 5MM.
- 4.3 LEGEND FOR REINFORCEMENT SPECIFIED ON THE DRAWINGS IS AS FOLLOWS :
- | | |
|-----|----------------------|
| NF | NEAR FACE |
| FF | FAR FACE |
| EF | EACH FACE |
| EW | EACH WAY |
| B1 | BOTTOM 1ST LAYER |
| B2 | BOTTOM 2ND LAYER |
| T1 | TOP 1ST LAYER |
| T2 | TOP 2ND LAYER |
| AP | ALTERNATELY PLACED |
| AR | ALTERNATELY REVERSED |
| STG | STAGGERED |
- 4.4 MINIMUM LAPS TO ALL BARS TO BE 50 x DIAMETER OF SMALLER BAR UNLESS OTHERWISE STATED.
- 4.5 WHEN REINFORCING STEEL IS NOTED AS CONTINUOUS IN BEAMS, SLABS AND/OR WALLS, OR WHEN ONLY A TYPICAL SECTION IS GIVEN, LAPS SHOULD ONLY BE USED WHEN THEY ARE UNAVOIDABLE DUE TO STOCK LENGTHS. IN THIS CASE ALL LAPS SHALL BE STAGGERED A MINIMUM OF 1200MM. THE TOP BAR SPLICES SHOULD BE LOCATED 'WITHIN THE MIDDLE HALF OF THE SPAN', AND THE BOTTOM BAR SPLICES SHOULD BE LOCATED AT 'SUPPORTS OR BETWEEN SUPPORTS & 1/3 SPAN POINT' UNLESS NOTED OTHERWISE ON THE DRAWINGS.

5. TIMBER

- 5.1 ALL TIMBER TO BE SEASONED CYPRESS GRADE II (STRUCTURAL) GRADE OR BETTER IN ACCORDANCE WITH KENYA STANDARD KS02-771:1991 OR BS EN 1912:2012
- 5.2 ALL TIMBER SHALL BE PRESERVATIVE TREATED BY CHROMATED COPPER ARSENATE (CCA) TO KS 02-94 OR BS 8417:2011 + A1:2014
- 5.3 WALL PLATE TO BE FIXED TO CONCRETE BEAM WITH 12MM DIA. BOLTS AT 600MM C/C
- 5.4 TIMBER TO BE PROTECTED BY APPLICATION OF APPROVED FIRE RETARDANT PAINT OR FIRE RESISTANT PAINT (INTUMESCENT PAINT) TO BRITISH SPECIFICATION STANDARDS BS 476-7:1997
- 5.5 ALL TIMBER RAFTERS AND TRUSSES SHALL BE FIXED TO WALL PLATE USING NAILS AND 3MM THICK BEND PLATE.
- 5.6 BOLTS FOR CONNECTION OF TIMBER MEMBERS SHALL BE 16MM DIA. BLACK BOLTS WITH WASHERS UNLESS NOTED OTHERWISE.
- 5.7 TIMBER SHALL BE WELL SEASONED
- 5.8 BOLT HOLES TO BE 2MM LESS THAN BOLT DIAMETER.
- 5.9 EDGE DISTANCE NOT LESS THAN 4XBOLT DIAMETER.
- 5.10 END DISTANCE NOT LESS THAN 2.5X BOLT DIAMETER.

6. FINISHES

- 6.1 FINISHES TO STRUCTURAL ELEMENTS SHALL BE IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS
- 6.2 ALL STRUCTURAL STEELWORK DELIVERED TO SITE SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS, AND TO COLOUR SCHEMES APPROVED BY THE ARCHITECT.
- 6.3 UNLESS SPECIFIED OTHERWISE, FINISHES FOR CONCRETE SLABS (INCLUDING ROOF SLABS), TERRACES, CANOPY AND GUTTERS EXPOSED TO RAIN SHALL BE EXECUTED AS FOLLOWS AS A MINIMUM:
- MINIMUM 120MM THICK CEMENT SCREED LAID TO FALLS.
 - WATERPROOFED WITH VANDEX WATER PROOFING AGENT OR SIMILAR APPROVED WHICH SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. THE CONTRACTOR SHALL PROVIDE A WARRANTY OF MINIMUM 10 YEARS AGAINST LEAKAGE FOR WATERPROOFING SO APPLIED.

7. FINISHES

- 7.1 EXPANSION JOINTS SHALL BE OF 25MM THICK UNLESS NOTED OTHERWISE.
- 7.2 EXPANSION JOINTS SHALL CONSIST OF FLEXCELL FILLER OR EQUIVALENT WITH MASTIC SEALANT TO THE APPROVAL OF THE SITE ENGINEER.
- 7.3 UNLESS SHOWN OTHERWISE GROUND FLOOR SLABS WITH EXPANSION JOINTS SHALL HAVE M12x400MM LONG DOWELS ACROSS THE JOINT AT 300 C/C WITH ONE END DEBONDED & CAPPED TO LEAVE 25MM MINIMUM END GAP.
- 7.4 CONTRACTION JOINTS SHALL HAVE 10MM WIDE X 20MM DEEP GROOVES FILLED WITH MASTIC SEALANT AND WITH M12x400MM LONG DOWELS ACROSS THE JOINT AT 300 C/C, WITH ONE END DEBONDED.
- 7.5 BASEMENT AND GROUND FLOOR SLABS SHALL BE CAST IN PANELS NOT EXCEEDING 6M X 6M WITH CONTRACTION JOINT ALONG THE PERIMETER FOR ADJACENT PANELS.

8. CONCRETE WATER-PROOFING

- 8.1 CONTRACTOR SHALL ENSURE WATER TIGHTNESS FOR WATER RETAINING OR EXCLUDING STRUCTURES BY USING CONCRETE ADMIXTURE 'SIKA' OR EQUIVALENT. CONCRETE STRUCTURES REQUIRED TO MEET THIS REQUIREMENT SHALL BE AS SPECIFIED ON THE DRAWINGS.
- 8.2 ALL CONTRACTION JOINTS FOR WATER TIGHT STRUCTURES SHALL HAVE 200MM WIDE P/V WATER BAR UNLESS SPECIFICALLY INDICATED OTHERWISE.

9. LEGEND

- | | |
|------|---|
| 13.1 | GENERAL LEGEND USED ON THE DRAWINGS IS AS FOLLOWS |
| FFL | FINISHED FLOOR LEVEL |
| SFL | STRUCTURAL FLOOR LEVEL |
| GL | GROUND LEVEL |
| TOC | TOP OF CONCRETE |
| RHS | RECTANGULAR HOLLOW SECTION |
| SHS | SQUARE HOLLOW SECTION |
| CHS | CIRCULAR HOLLOW SECTION |
| NB | NOMINAL BORE |
| NTS | NOT TO SCALE |
| UB | UNIVERSAL BEAM |
| UC | UNIVERSAL COLUMN |
| RSC | ROLLED STEEL CHANNEL. |
| RSJ | ROLLED STEEL JOIST. |
| RSA | ROLLED STEEL ANGLE. |
| MS | MILD STEEL |
| GMS | GALVANISED MILD STEEL. |

10. FOUNDATIONS BEARING CAPACITY

- A GEOTECHNICAL INVESTIGATION WAS NOT DONE BEFORE THE DESIGN PROCESS STARTED. THE FOLLOWING CONSERVATIVE SOIL PROPERTIES WERE ASSUMED IN DESIGN
- SHEAR RESISTANCE ANGLE (QK) OF 20.0°
- EFFECTIVE COHESION OF CK 0.5KPA
- A COMPLETE GEOTECHNICAL INVESTIGATION IS TO BE UNDERTAKEN AND IF NECESSARY A DESIGN OF FOUNDATION DONE BEFORE CONSTRUCTION CAN BEGIN
- SITE ENGINEER TO APPROVE ALL EXCAVATIONS BEFORE BLINDING CAN BE DONE
- ASSUMED SAFE BEARING PRESSURE = 150 KN/MM²

II. BLOCKWORK/MASONRY WALL

- ALL LOAD BEARING BLOCKWORK TO BE CONSTRUCTED FROM SOLID CONCRETE BLOCKS OF 7.0N/MM² MIN CHARACTERISTIC COMPRESSIVE STRENGTH COMPLYING WITH EN 1996 (EC6)
MORTAR TO CONFORM TO BS EN 998
WALLS TO BE CONSTRUCTED BEFORE SLABS AND THE SHATTERING IS DONE

12. STRUCTURAL STEEL

- 12.1 ALL STRUCTURAL STEEL WORK TO USE GRADE S275N CONFORMING TO EN 10025-1:2004 UNLESS NOTED OTHERWISE.
- 12.2 ALL BOLTED CONNECTIONS TO USE GRADE 8.8 BOLTS WITH WASHERS UNLESS NOTED OTHERWISE.
- 12.3 CONNECTION DETAILS FOR ALL STRUCTURAL STEELWORK TO BE IN ACCORDANCE WITH ENGINEER'S DRAWINGS.
OR CONTRACTORS FABRICATIONS DRAWINGS APPROVED BY THE ENGINEER.
- 12.4 CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE APPROVAL OF THE ENGINEER PRIOR TO COMMENCEMENT OF FABRICATION.
- 12.5 PROTECTION OF THE STRUCTURAL STEELWORK TO BE AS PER EN ISO 12944.
- 12.6 ALL OPEN ENDS OF R.H.S. AND S.H.S. SECTIONS SHALL BE BLOCKED WITH 3MM THICK PLATES UNLESS NOTED OTHERWISE.
- 12.7 ALL MATERIALS SHALL BE TESTED FOR THROUGH THICKNESS PROPERTIES TO THE SPECIFIED QUALITY CLASS EN 1993-1-10.
- 12.8 MANUFACTURER'S CERTIFICATE OF TEST AND INSPECTION SHALL BE ISSUED CONFORMING TO EN 10204 STATING THE
PROCESS OF MANUFACTURE AND PRODUCT GRADE.
12.9 PRELOADED FASTENERS SHALL GENERALLY BE HSFG BOLTS WITH ASSOCIATED NUTS AND WASHERS.
- 12.10 STEEL CASTINGS AND FORGINGS SHALL CONFORM TO EN 10293:2015
- 12.11 BEDDING MATERIAL FOR STEEL BASES ON CONCRETE FOUNDATION SHALL BE DONE TO ENGINEERS APPROVAL
- 12.12 STRUCTURAL STEEL MEMBERS SHALL POSITIVELY BE IDENTIFIED BY A MARKING SCHEME.
- 12.13 CUTTING SHALL BE BY SAWING, SHEARING, CROPPING OR THERMAL CUTTING (IF PERMITTED).
HAND HELD CUTTING SHALL BE
USED ONLY WHERE IT IS IMPRACTICAL TO USE MACHINE CUTTING.
- 12.14 CUT EDGES SHALL BE TRUE TO PROFILE AND FREE FROM MAJOR NOTCHES AND CUTTING SARRATIONS.
- 12.15 ROUND HOLE FOR PINS SHALL BE DRILLED, PLASMA OR LASER CUT.
- 12.16 ALL WELD, BOLTING AND CUTTINGS SHALL BE APPROVED ON SITE BEFORE FABRICATION (PREPARE SAMPLE FOR ERECTION)
- 12.17 ALL MEASUREMENT SHALL BE DONE ACCURATELY AT ALL STAGES.
- 12.18 SUPPORT TO BE PROVIDED FOR ROOF FRAME UNITS UNTIL THEY ARE ADEQUATELY FIXED IN THE POSITION.



KENYA MULTI-COUNTRY OFFICE (KEMCO)
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VILLAGE MARKET, 00621
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No	REVISION	DATE	APPR
R0	ISSUED TO DESIGN REVIEW	AUG. 2020	

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EDUCATION THROUGH A HOLISTIC APPROACH IN
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WASH FACILITIES.

DRAWING TITLE

JONGOWE SECONDARY SCHOOL
ENGINEERING NOTES

DESIGN SERVICES UNIT

DESIGNED BY	ARNOLD T
DRAWN BY	STEPHEN N
CHECKED BY	PHOSTINE W
APPROVED BY	PHILIP M
SCALE AS SHOWN (A3)	DATE AUG. 2020

PROJECT NUMBER:

TSU-2020-023

DRAWING NUMBER:

G-SR-003

DESIGN REVIEW DRAWINGS

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- A. 100mm THICK CONCRETE CLASS 25 GROUND SLAB REINFORCED WITH 1 LAYER B.R.C. OF MESH REF No. A142 ON 1000 GAUGE POLYTHENE DAMP PROOF MEMBRANE
- B. 50mm THICK CONCRETE CLASS 15 BLINDING LAYER
- C. 300mm THICK HARDCORE COMPACTED IN LAYERS NOT EXCEEDING 100mm THICK
- D. SELECTED AND APPROVED BACKFILL MATERIAL WELL COMPACTED IN LAYERS NOT EXCEEDING 100mm THICK
- E. 200mm THICK CONCRETE BLOCK WALL WITH MINIMUM CHARACTERISTIC COMPRESSIVE STRENGTH OF 7.0 N/mm² TO BS 5628
- F. 600 x 200mm THICK STRIP FOOTING WITH T10 @ 200mm BOTH WAYS
- G. 600 x 600 x 50mm THICK PRE-CAST PAVING SLAB ON 50mm THICK SAND LAYING COURSE
- H. 200mm WIDE DAMP PROOF COURSE



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No	REVISION	DATE	APPR
RO	ISSUED TO DESIGN REVIEW	MAR. 2021	

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DRAWING TITLE

JONGOWE SECONDARY SCHOOL TOILET
BLOCKS FOUNDATION LAYOUT PLANS &
DETAILS

DESIGN SERVICES UNIT

DESIGNED BY	NJOROGE M.
DRAWN BY	NJOROGE M.
CHECKED BY	ARNOLD T.
APPROVED BY	

SCALE 1/100, 1/50	DATE MARCH 2021
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PROJECT NUMBER:

TSU-2020-023

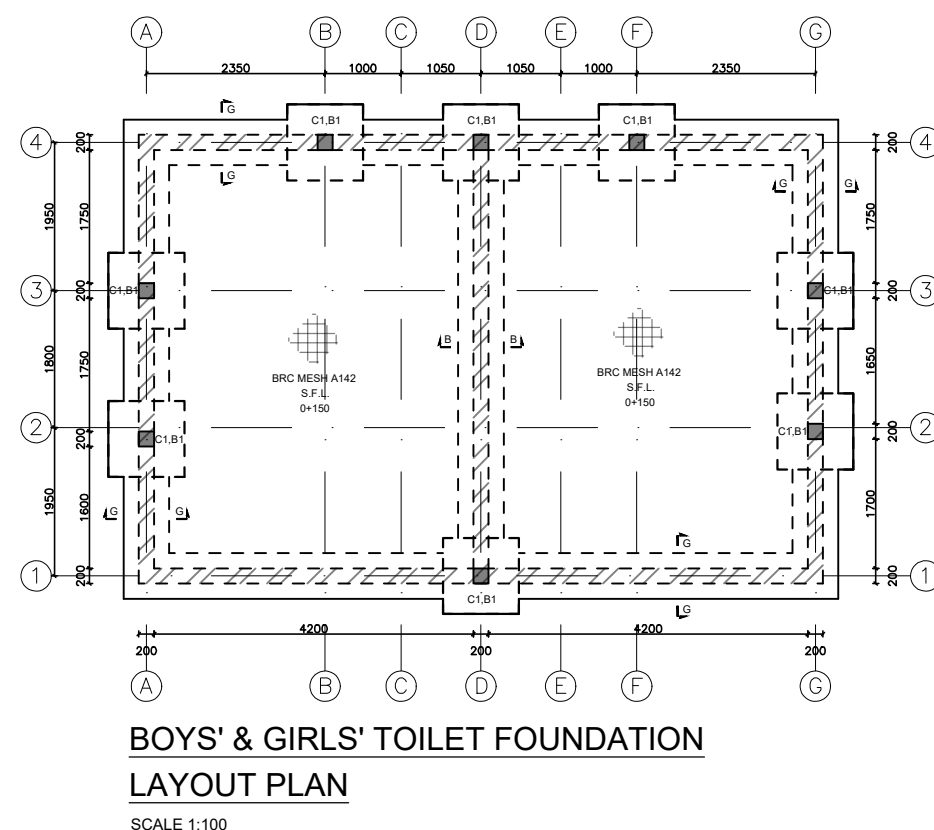
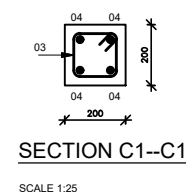
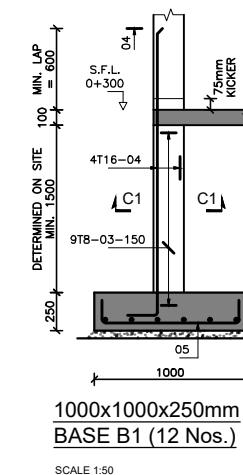
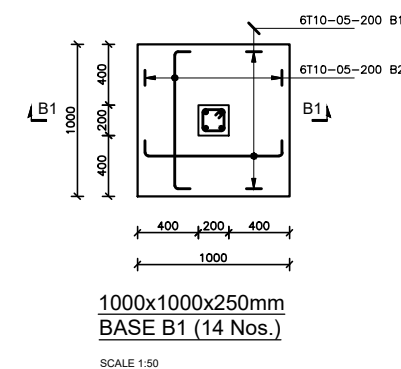
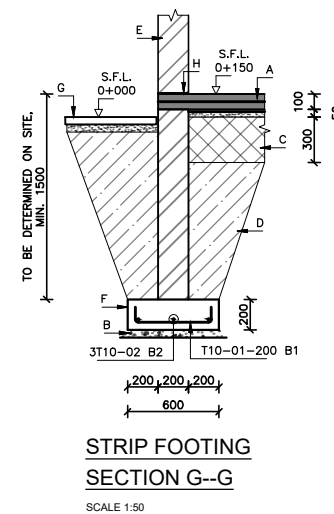
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DRG

DESIGN REVIEW DRAWINGS

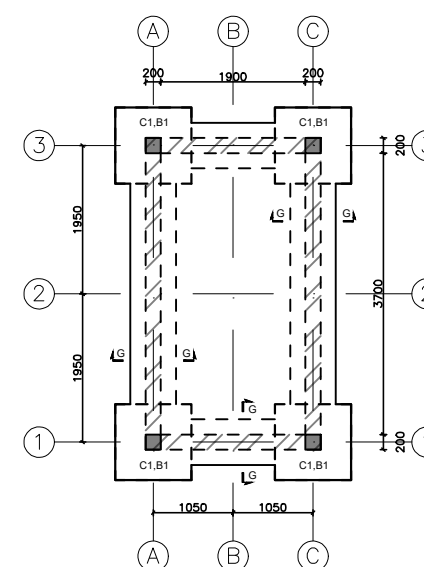
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LEGEND

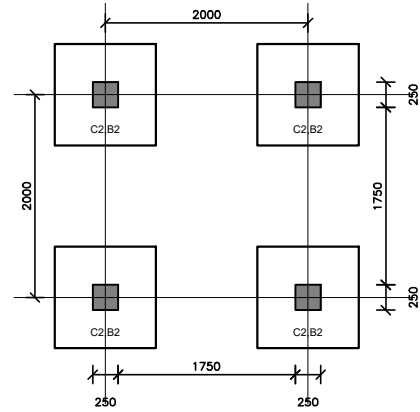
- A. 100mm THICK CONCRETE CLASS 25 GROUND SLAB REINFORCED WITH 1 LAYER B.R.C. OF MESH REF No. A142 ON 1000 GAUGE POLYTHENE DAMP PROOF MEMBRANE
- B. 50mm THICK CONCRETE CLASS 15 BLINDING LAYER
- C. 300mm THICK HARDCORE COMPACTED IN LAYERS NOT EXCEEDING 100mm THICK
- D. SELECTED AND APPROVED BACKFILL MATERIAL WELL COMPACTED IN LAYERS NOT EXCEEDING 100mm THICK
- E. 200mm THICK CONCRETE BLOCK WALL WITH MINIMUM CHARACTERISTIC COMPRESSIVE STRENGTH OF 7.0 N/mm² TO BS 5628
- F. 600 x 200mm THICK STRIP FOOTING WITH T10 @ 200mm BOTH WAYS
- G. 600 x 600 x 50mm THICK PRE-CAST PAVING SLAB ON 50mm THICK SAND LAYING COURSE
- H. 200mm WIDE DAMP PROOF COURSE



TEACHERS' TOILET

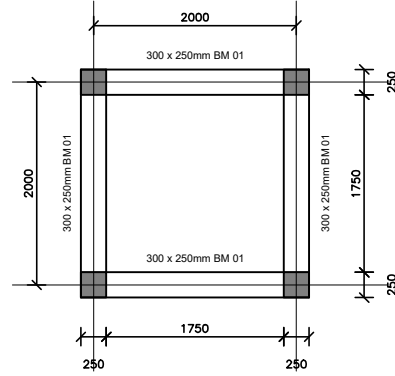
FOUNDATION LAYOUT PLAN

SCALE 1:100



ELEVATED WATER TANK
FOUNDATION LAYOUT PLAN

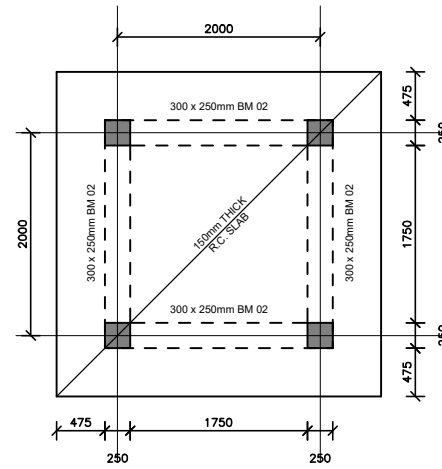
SCALE 1:75



ELEVATED WATER TANK
TIE BEAM LAYOUT PLAN

LEVEL @ +3000mm

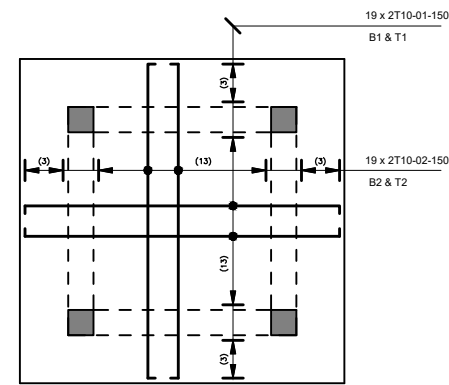
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ELEVATED WATER TANK
SLAB LAYOUT PLAN

LEVEL @ +6000mm

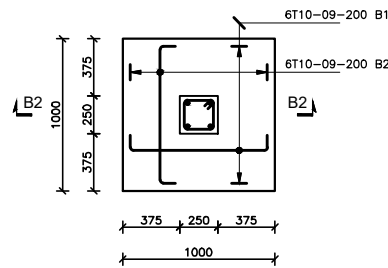
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ELEVATED WATER TANK
SLAB R.C. DETAIL

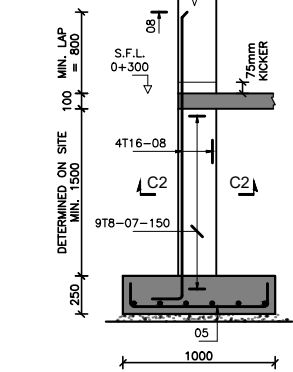
LEVEL @ +6000mm

SCALE 1:75



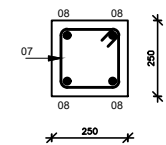
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BASE B2 (4 Nos.)

SCALE 1:50



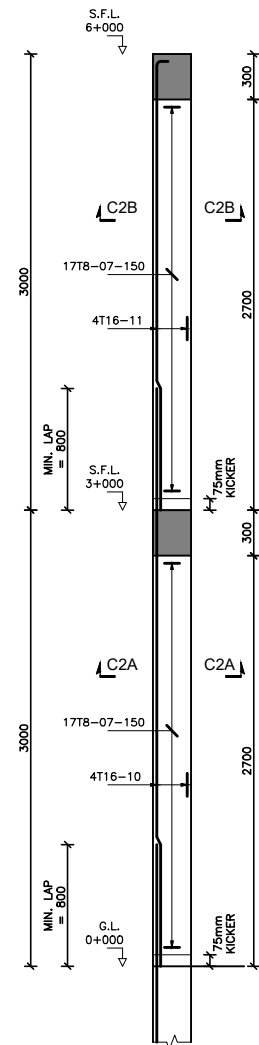
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BASE B2 (4 Nos.)

SCALE 1:50



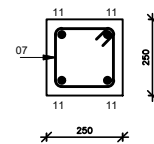
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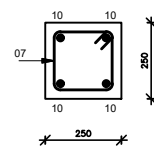
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(4 Nos.)

SCALE 1:50



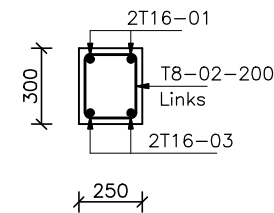
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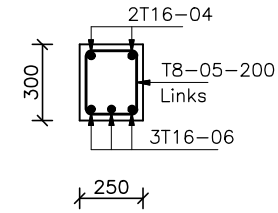
SECTION C2A--C2A

SCALE 1:25



300x250mm BM 01
DETAILS

SCALE 1:25



300x250mm BM 02
DETAILS

SCALE 1:25

LEGEND

- 100mm THICK CONCRETE CLASS 25 GROUND SLAB REINFORCED WITH 1 LAYER B.R.C. OF MESH REF No. A142 ON 1000 GAUGE POLYTHENE DAMP PROOF MEMBRANE
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- 200mm WIDE DAMP PROOF COURSE



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NAIROBI, KENYA.

GENERAL NOTES

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DRAWING TITLE
JONGOWE SECONDARY SCHOOL
ELEVATED WATER TANK DETAILS

DESIGN SERVICES UNIT

DESIGNED BY	NJOROGE M.
DRAWN BY	NJOROGE M.
CHECKED BY	ARNOLD T.
APPROVED BY	

SCALE 1/100, 1/50 DATE MARCH 2021

PROJECT NUMBER:

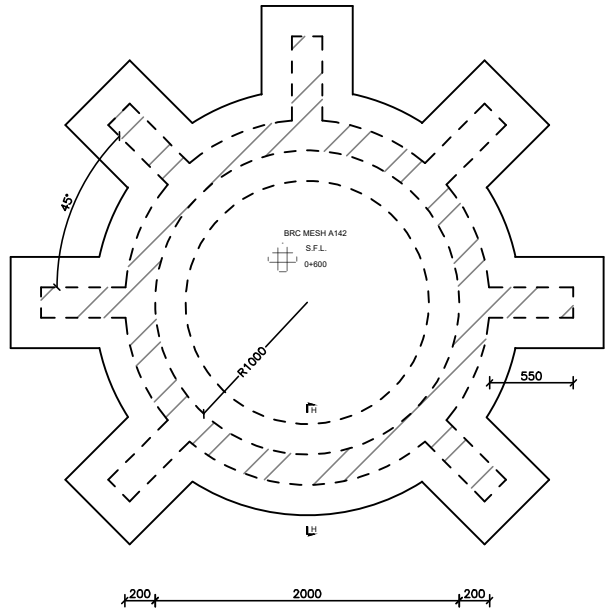
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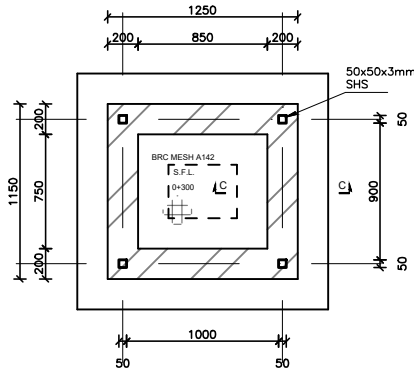
DRG

DESIGN REVIEW DRAWINGS

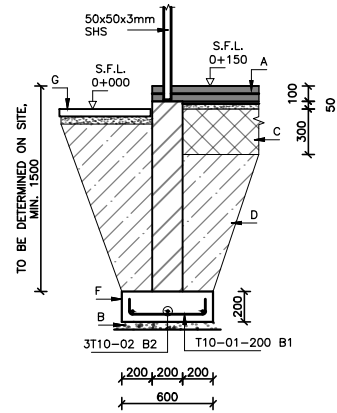
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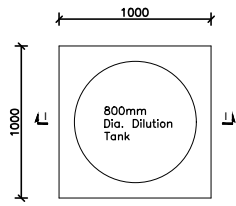
GROUND WATER TANK
FOUNDATION LAYOUT PLAN
SCALE 1:50



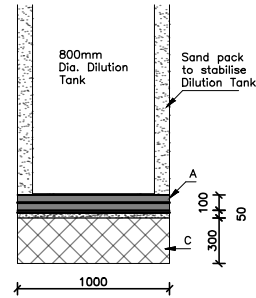
GAS CAGE FOUNDATION
LAYOUT PLAN
SCALE 1:50



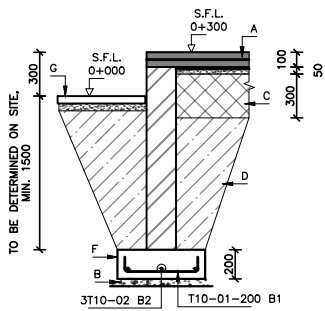
GAS CAGE SHS SUPPORT
CAST IN GROUND SLAB
DETAIL
SCALE 1:50



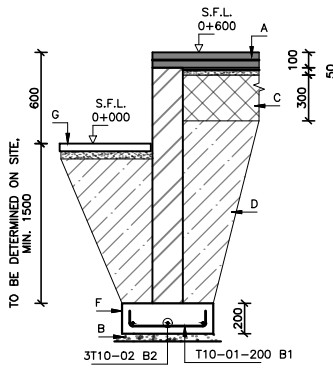
DILUTION TANK BASE
LAYOUT PLAN
SCALE 1:50



DILUTION TANK BASE
SECTION I-I
SCALE 1:50



STRIP FOOTING
SECTION C-C
SCALE 1:50



STRIP FOOTING
SECTION H-H
SCALE 1:50

LEGEND

- 100mm THICK CONCRETE CLASS 25 GROUND SLAB REINFORCED WITH 1 LAYER B.R.C. OF MESH REF No. A142 ON 1000 GAUGE POLYTHENE DAMP PROOF MEMBRANE
- 50mm THICK CONCRETE CLASS 15 BLINDING LAYER
- 300mm THICK HARDCORE COMPACTED IN LAYERS NOT EXCEEDING 100mm THICK
- SELECTED AND APPROVED BACKFILL MATERIAL WELL COMPACTED IN LAYERS NOT EXCEEDING 100mm THICK
- 200mm THICK CONCRETE BLOCK WALL WITH MINIMUM CHARACTERISTIC COMPRESSIVE STRENGTH OF 7.0 N/mm² TO BS 5628
- 600 x 200mm THICK STRIP FOOTING WITH T10 @ 200mm BOTH WAYS
- 600 x 600 x 50mm THICK PRE-CAST PAVING SLAB ON 50mm THICK SAND LAYING COURSE
- 200mm WIDE DAMP PROOF COURSE



KENYA MULTI-COUNTRY OFFICE (KEMC)
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No	REVISION	DATE	APPR
R0	ISSUED TO DESIGN REVIEW	MAR. 2021	

CLIENT



PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL EDUCATION THROUGH A HOLISTIC APPROACH IN ZANZIBAR, CONSTRUCTION OF LABORATORIES AND WASH FACILITIES.

DRAWING TITLE

JONGOWE SECONDARY GROUND WATER TANK, GAS CAGE & DILUTION TANK FOUNDATION DETAILS

DESIGN SERVICES UNIT

DESIGNED BY	NJOROGE M.
DRAWN BY	NJOROGE M.
CHECKED BY	ARNOLD T.
APPROVED BY	

SCALE 1/100, 1/50 DATE MARCH 2021

PROJECT NUMBER:

TSU-2020-023

DRAWING NUMBER: SR - 02 - 003A

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No	REVISION	DATE	APPR
R0	ISSUED TO DESIGN REVIEW	MAR. 2021	

CLIENT

Korea International Cooperation Agency

PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL EDUCATION THROUGH A HOLISTIC APPROACH IN ZANZIBAR, CONSTRUCTION OF LABORATORIES AND WASH FACILITIES.

DRAWING TITLE

JONGOWE SECONDARY SCHOOL
LABORATORY RING BEAM DETAILS & COLUMN DETAILS

DESIGN SERVICES UNIT

DESIGNED BY	NJOROGE M.
DRAWN BY	NJOROGE M.
CHECKED BY	ARNOLD T.
APPROVED BY	

SCALE 1/100, 1/50 DATE MARCH 2021

PROJECT NUMBER:

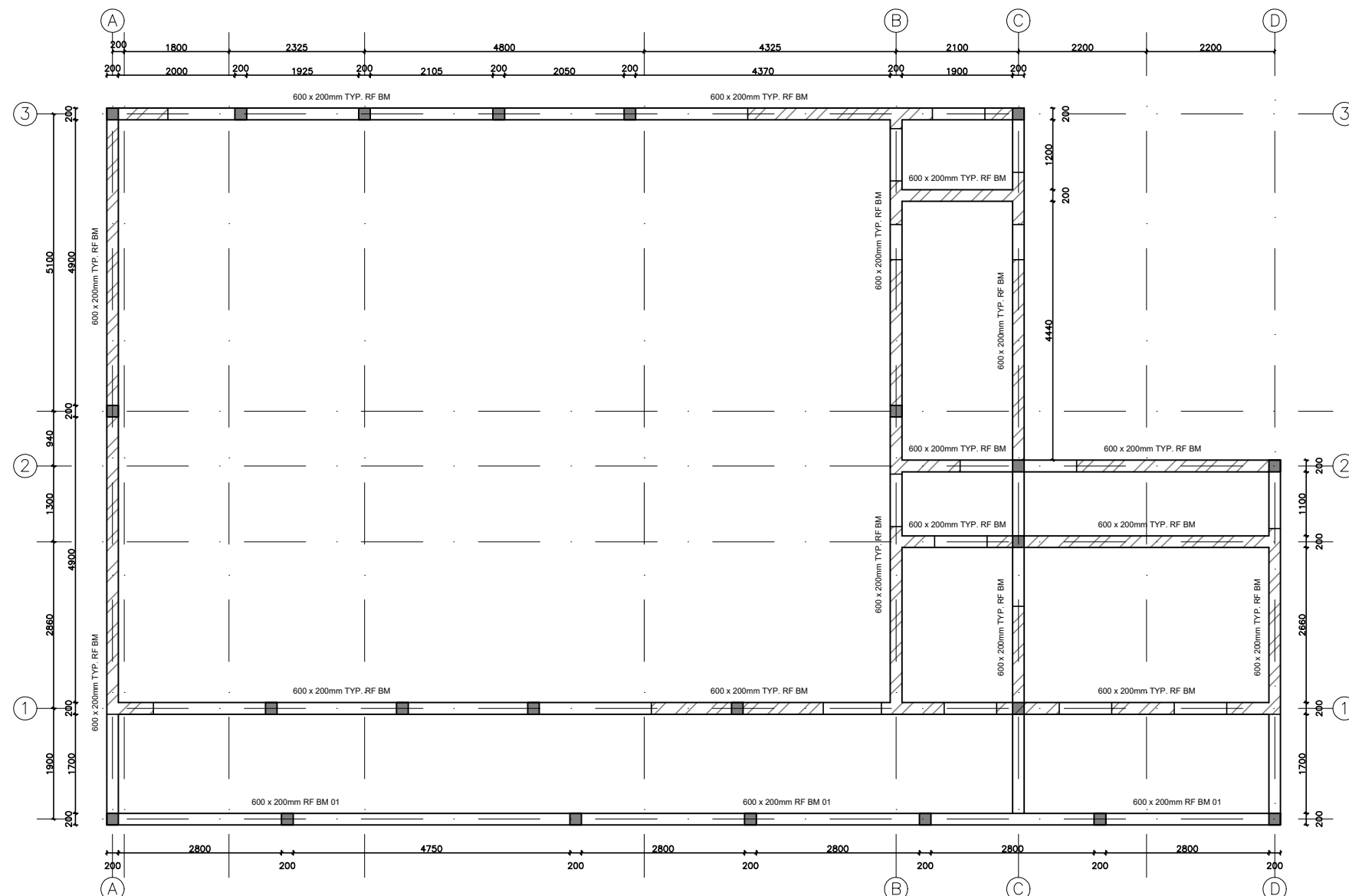
TSU-2020-023

DRAWING NUMBER: SR - 02 - 004

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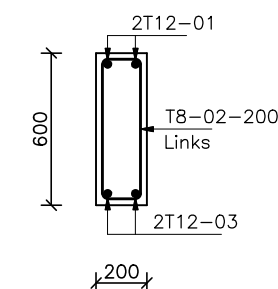
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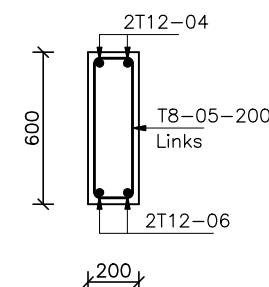
LABORATORY RING BEAM LAYOUT PLAN

SCALE 1:100



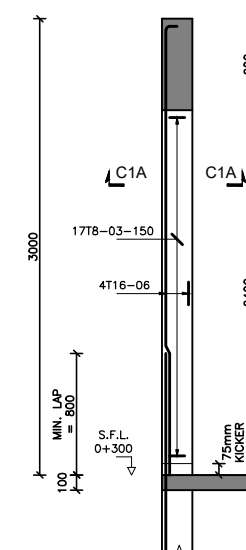
600x200mm TYP. RF BM DETAILS

SCALE 1:25



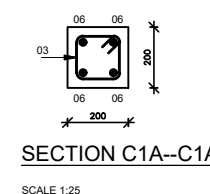
600x200mm RF BM 01 DETAILS

SCALE 1:25



200x200mm COL. C1 (23 Nos.)

SCALE 1:50



SECTION C1A--C1A

SCALE 1:25

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No	REVISION	DATE	APPR
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PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL
EDUCATION THROUGH A HOLISTIC APPROACH IN
ZANZIBAR,CONSTRUCTION OF LABORATORIES AND
WASH FACILITIES.

DRAWING TITLE

JONGOWE SECONDARY SCHOOL TOILET
BLOCKS RING BEAM DETAILS &
COLUMN DETAILS

DESIGN SERVICES UNIT

DESIGNED BY	NJOROGE M.
DRAWN BY	NJOROGE M.
CHECKED BY	ARNOLD T.
APPROVED BY	

SCALE 1/100, 1/50 DATE MARCH 2021

PROJECT NUMBER:

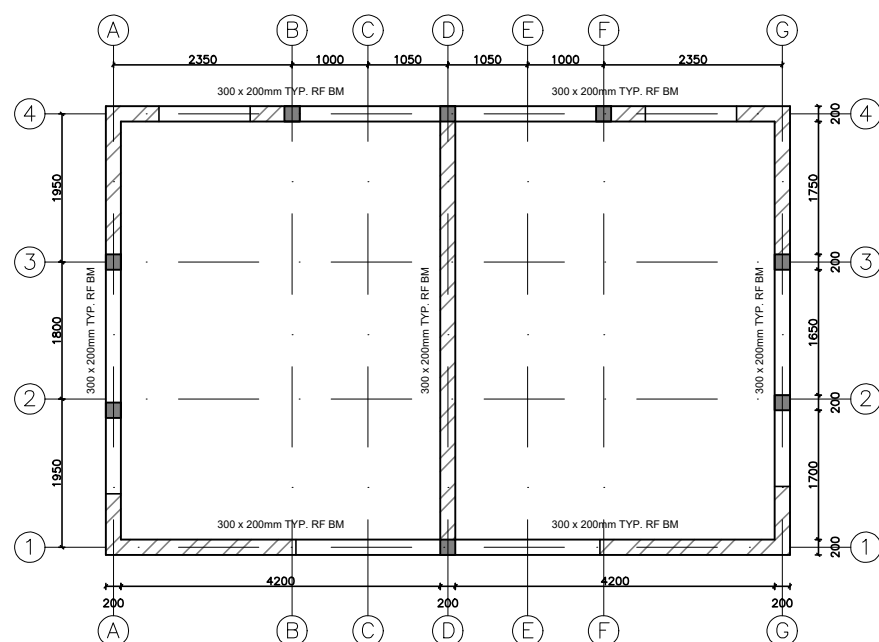
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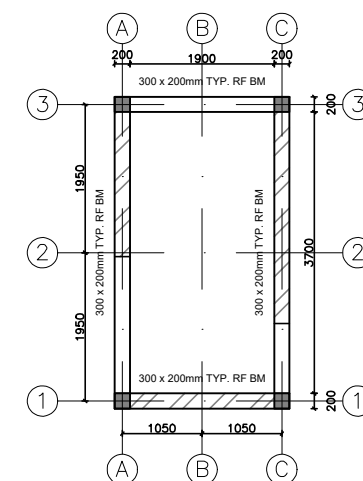
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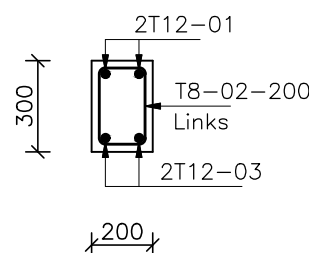
BOYS' & GIRLS' TOILET ROOF RING BEAM
LAYOUT PLAN

SCALE 1:100



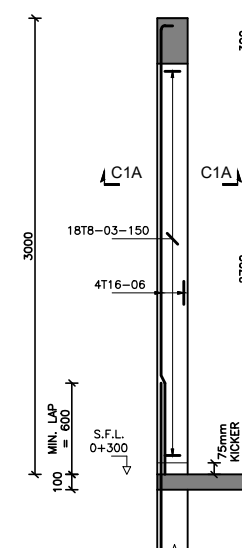
TEACHERS' TOILET ROOF
RING BEAM LAYOUT PLAN

SCALE 1:100



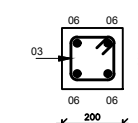
300x200mm TYP. RF
BM DETAILS

SCALE 1:25



200x200mm COL. C1
(12 Nos.)

SCALE 1:50



SECTION C1A-C1A

SCALE 1:25

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PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL EDUCATION THROUGH A HOLISTIC APPROACH IN ZANZIBAR, CONSTRUCTION OF LABORATORIES AND WASH FACILITIES.

DRAWING TITLE

SEPTIC TANK & CESS POOL
R.C. DETAILS

DESIGN SERVICES UNIT

DESIGNED BY	NJOROGE M.
DRAWN BY	NJOROGE M.
CHECKED BY	ARNOLD T.
APPROVED BY	

SCALE 1/100, 1/50 DATE MARCH 2021

PROJECT NUMBER:

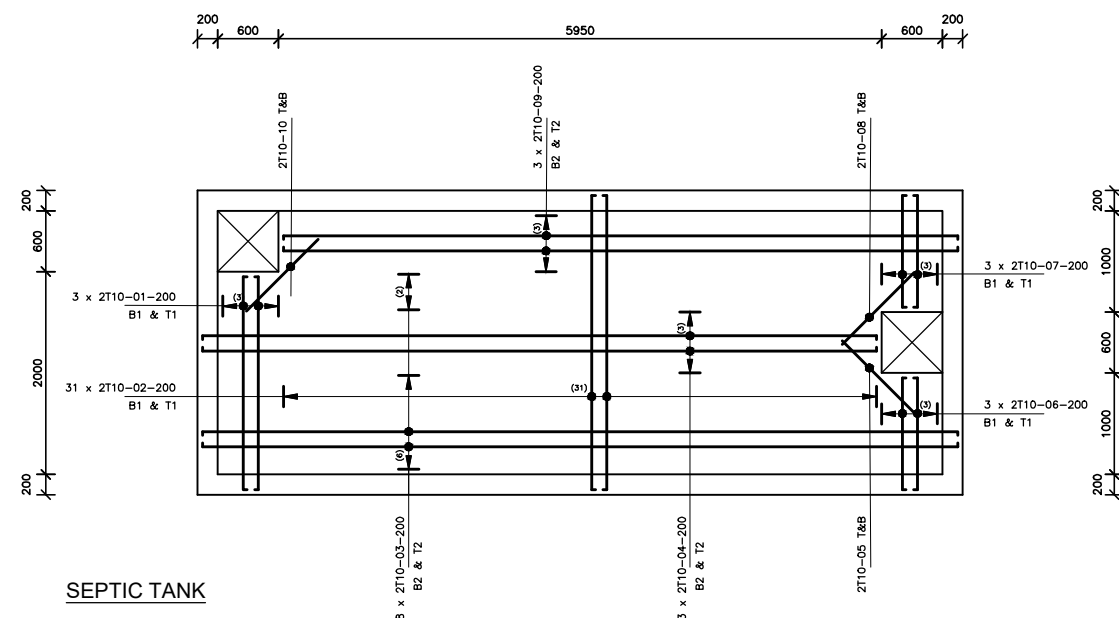
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DRAWING NUMBER: SR - 02 - 005B

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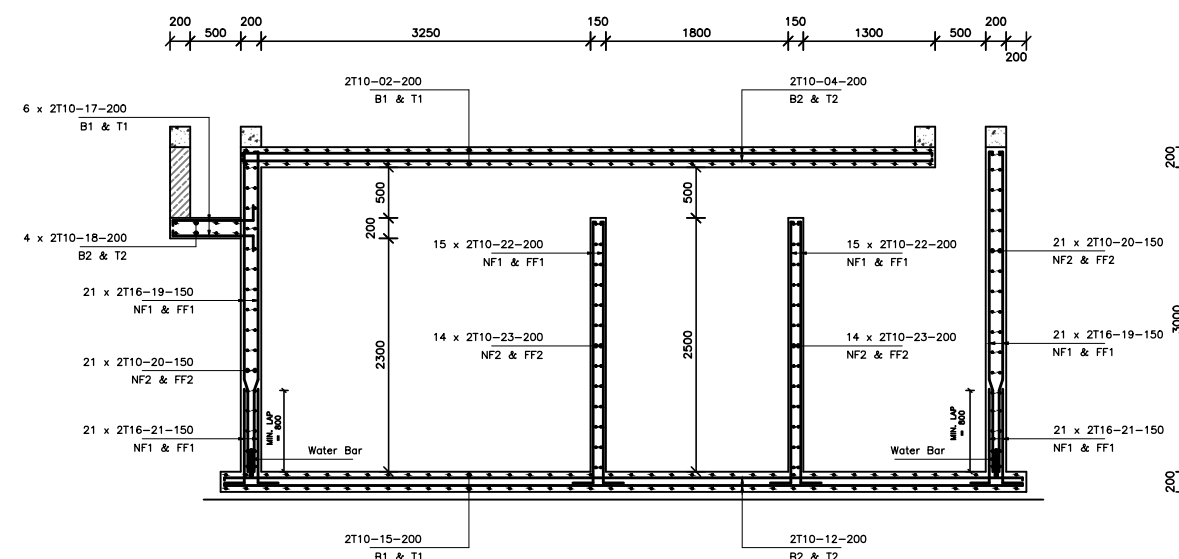


SEPTIC TANK

TOP SLAB R.C. DETAIL

200mm THICK SLAB

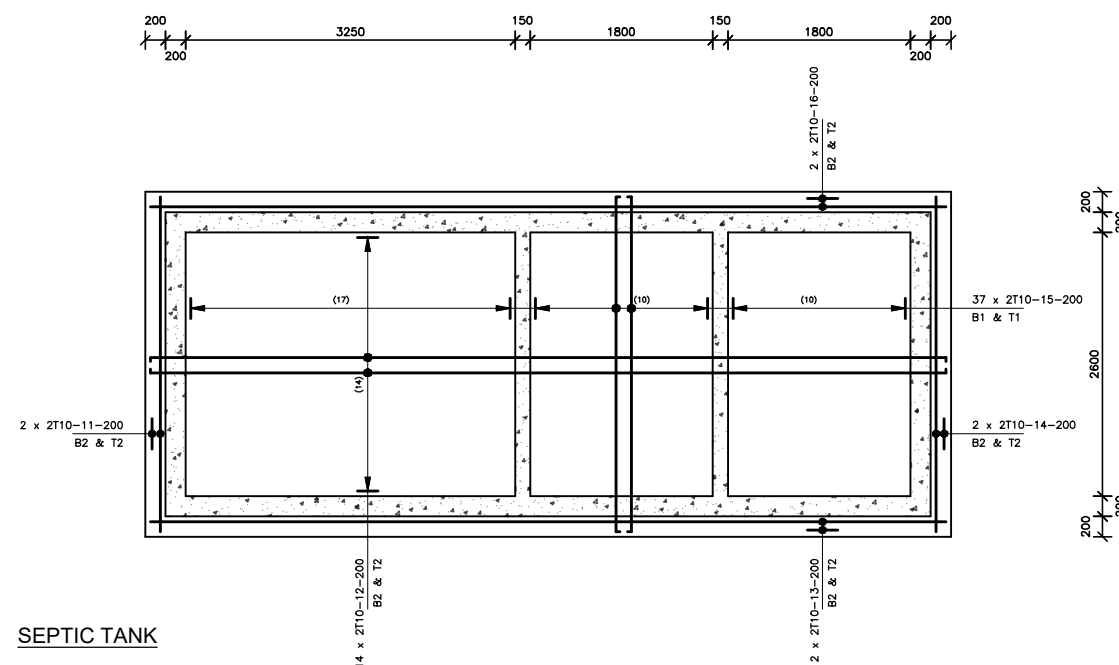
SCALE 1:75



SEPTIC TANK

LONGITUDINAL SECTION R.C. DETAIL

SCALE 1:75

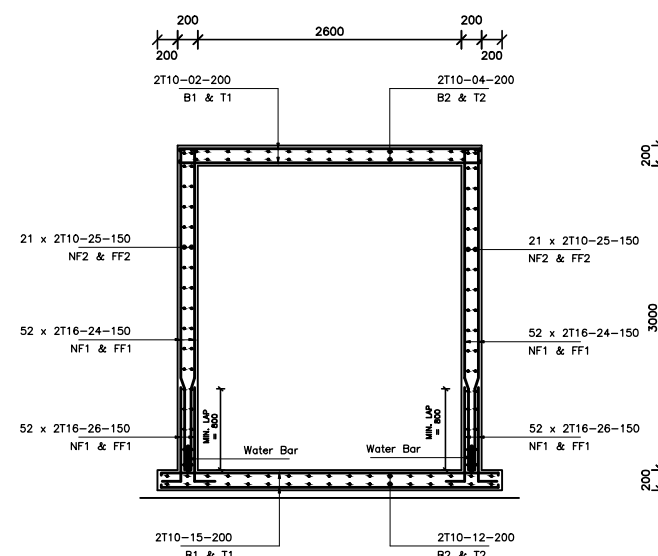


SEPTIC TANK

BOTTOM SLAB R.C. DETAIL

200mm THICK SLAB

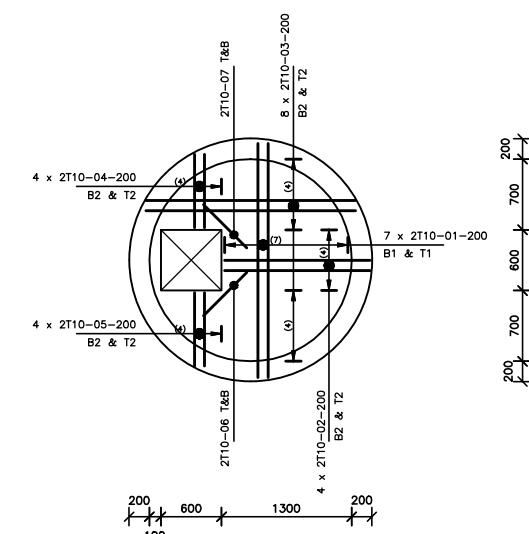
SCALE 1:75



SEPTIC TANK

CROSS SECTION R.C. DETAIL

SCALE 1:75

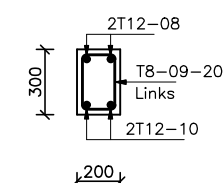


CESS POOL

TOP SLAB R.C. DETAIL

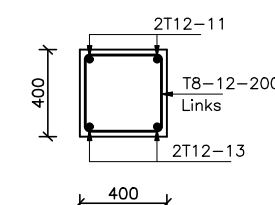
150mm THICK SLAB

SCALE 1:75



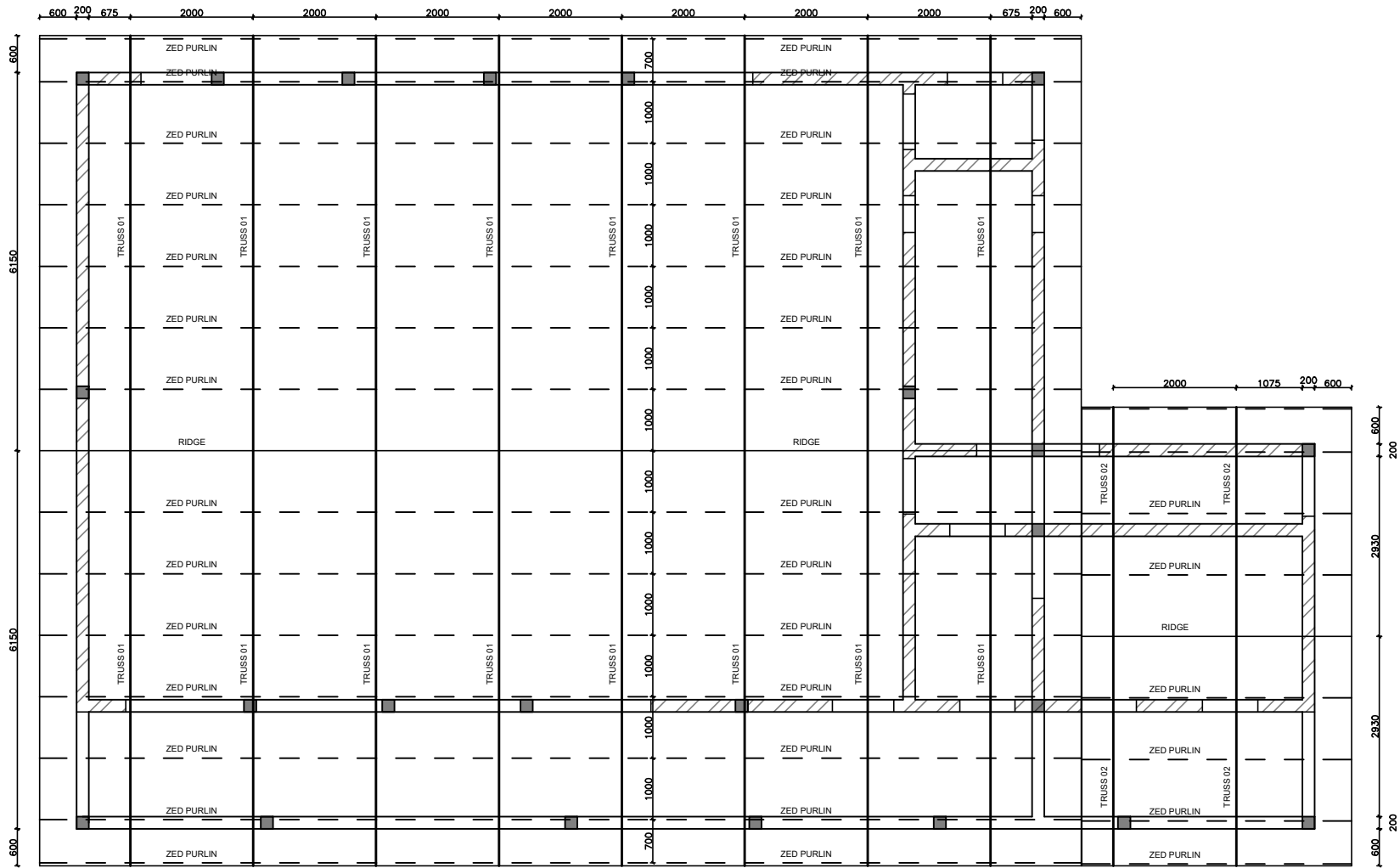
300x200mm CESS POOL TOP BEAM DETAILS

SCALE 1:35



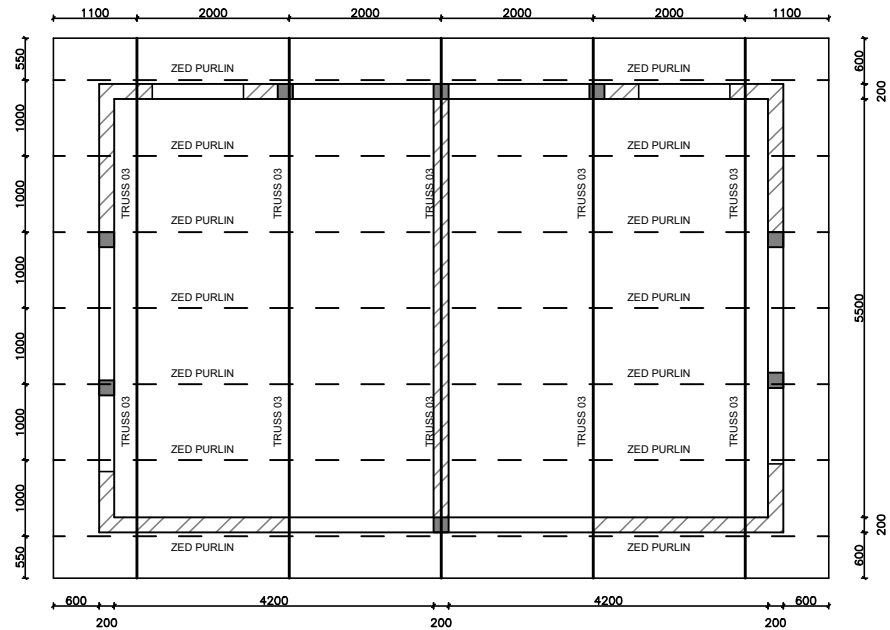
400x400mm CESS POOL BASE BEAM DETAILS

SCALE 1:35



LABORATORY ROOF LAYOUT PLAN

SCALE 1:100



BOYS' & GIRLS' TOILET ROOF LAYOUT PLAN

SCALE 1:100

ROOF NOTES

1. ROOF COVER TO BE ITS ROOFING SHEETS
2. ALL TRUSS MEMBERS TO BE 50 x 50 x 3mm SHS MEMBERS
3. MAXIMUM TRUSS SPACING TO BE 2000mm
4. ZED PURLINS TO BE 100 x 50 x 20 x 2mm ZED SECTIONS
5. MAXIMUM ZED PURLIN SPACING TO BE 1000mm
6. ALL TRUSS MEMBERS TO BE JOINED USING 6mm FILLET WELDS



KENYA MULTI-COUNTRY OFFICE (KEMCO)
UNOPS BUILDING, UN LANE,
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VILLAGE MARKET, 00621
NAIROBI, KENYA.

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No	REVISION	DATE	APPR
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CLIENT

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PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL
EDUCATION THROUGH A HOLISTIC APPROACH IN
ZANZIBAR,CONSTRUCTION OF LABORATORIES AND
WASH FACILITIES.

DRAWING TITLE

JONGOWE SECONDARY SCHOOL
LABORATORY & TOILET BLOCKS ROOF
LAYOUT PLANS

DESIGN SERVICES UNIT

DESIGNED BY	NJOROGE M.
DRAWN BY	NJOROGE M.
CHECKED BY	ARNOLD T.
APPROVED BY	

SCALE 1/100, 1/50 DATE MARCH 2021

PROJECT NUMBER:

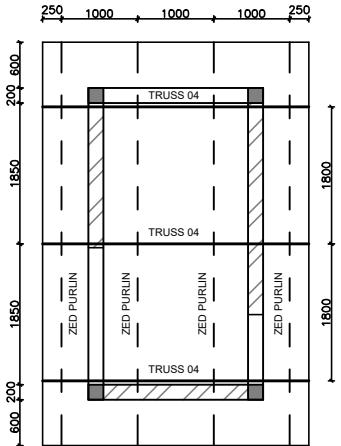
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TEACHERS' TOILET
ROOF LAYOUT PLAN

SCALE 1:100

GENERAL NOTES

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EDUCATION THROUGH A HOLISTIC APPROACH IN
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WASH FACILITIES.

DRAWING TITTLE

JONGOWE SECONDARY SCHOOL
TOILET BLOCKS LOFT TANKS
PLATFORMS

DESIGN SERVICES UNIT

DESIGNED BY	NJOROGE M.
DRAWN BY	NJOROGE M.
CHECKED BY	ARNOLD T.
APPROVED BY	

SCALE 1/100, 1/50 DATE MARCH 2021

PROJECT NUMBER:

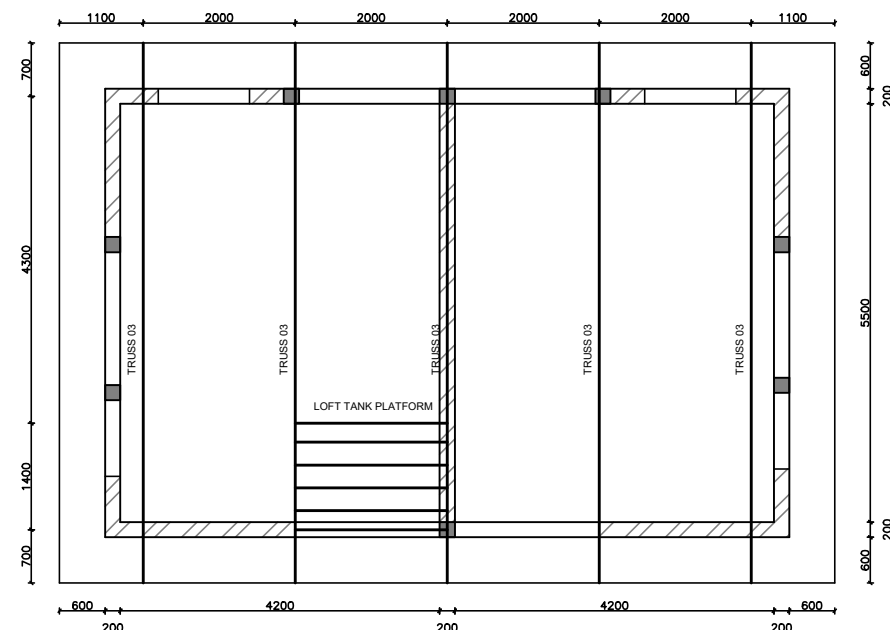
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DRAWING NUMBER: SR - 02 - 006B

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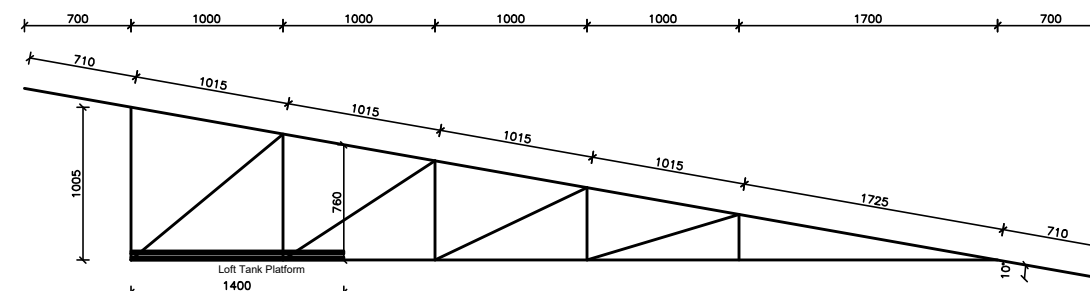
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LOFT TANK PLATFORM

SCALE 1:100

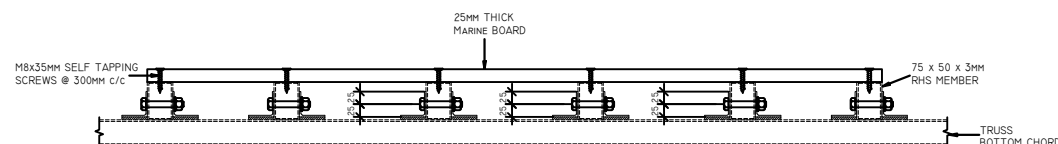


PLATFORM LOCATION ON TRUSS 03

SCALE 1:50

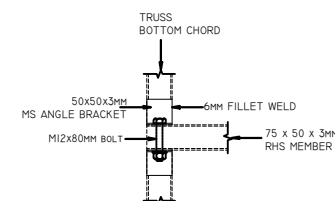
TANK PLATFORM NOTES

1. PLATFORM RAFTERS TO BE 75 x 50 x 3mm RHS MEMBERS
2. MAXIMUM RAFTER SPACING TO BE 300mm
3. EACH 920-LITRE TANK TO BE ON ITS OWN PLATFORM
4. PLATFORMS TO BE SET UP IN NON-ADJACENT BAYS WHERE MULTIPLE TANKS ARE REQUIRED



PLATFORM SECTION DETAIL

SCALE 1:15



PLATFORM TO TRUSS CONNECTION PLAN

SCALE 1:15

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PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL EDUCATION THROUGH A HOLISTIC APPROACH IN ZANZIBAR, CONSTRUCTION OF LABORATORIES AND WASH FACILITIES.

DRAWING TITLE

JONGOWE SECONDARY SCHOOL TRUSS & CONNECTION DETAILS

DESIGN SERVICES UNIT

DESIGNED BY	NJOROGE M.
DRAWN BY	NJOROGE M.
CHECKED BY	ARNOLD T.
APPROVED BY	

SCALE 1/100, 1/50 DATE MARCH 2021

PROJECT NUMBER:

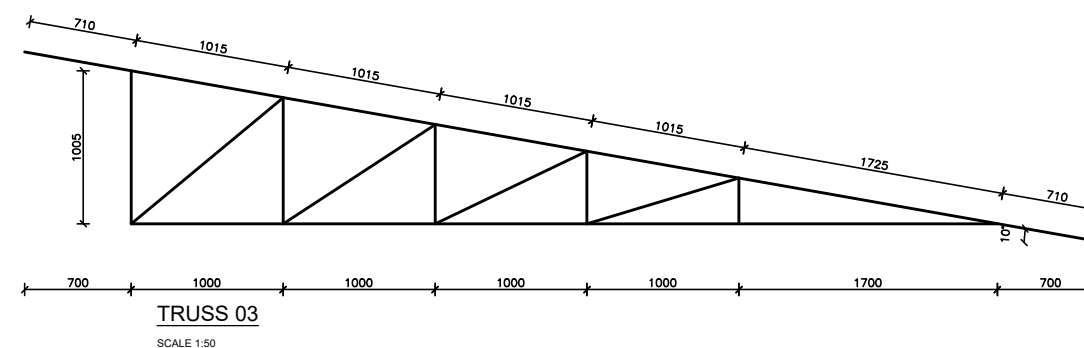
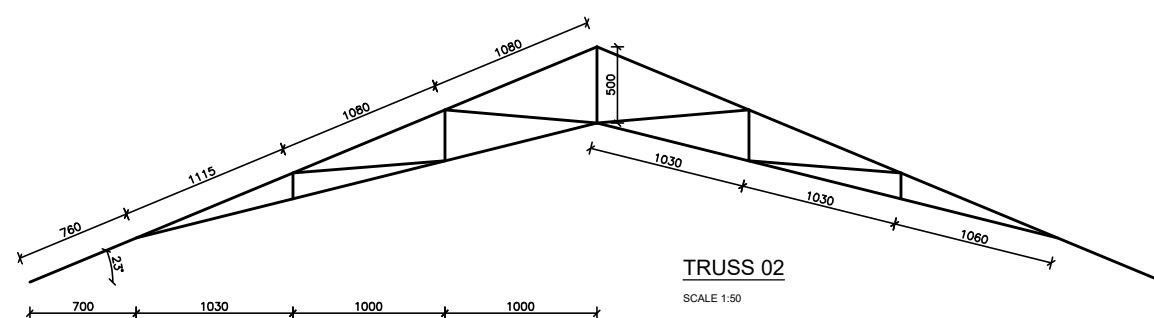
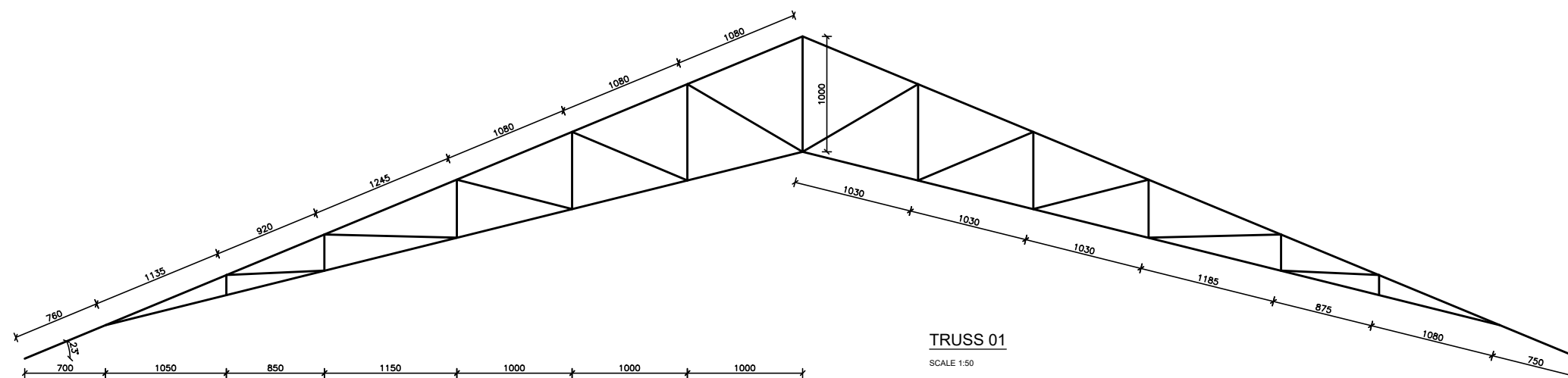
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DRAWING NUMBER: SR - 02 - 007

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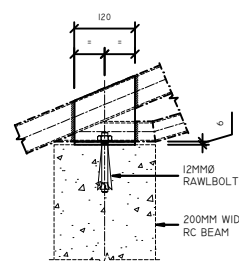
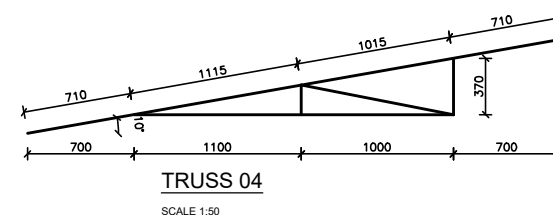
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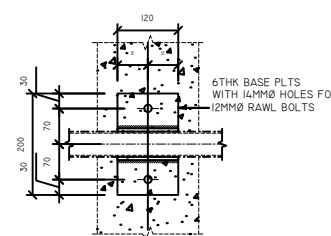
ROOF NOTES

1. ROOF COVER TO BE ITS ROOFING SHEETS
2. ALL TRUSS MEMBERS TO BE 50 x 50 x 3mm SHS MEMBERS
3. MAXIMUM TRUSS SPACING TO BE 2000mm
4. ZED PURLINS TO BE 100 x 50 x 20 x 2mm ZED SECTIONS
5. MAXIMUM ZED PURLIN SPACING TO BE 1000mm
6. ALL TRUSS MEMBERS TO BE JOINED USING 6mm FILLET WELDS



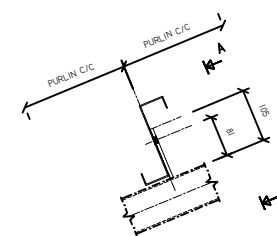
**TRUSS TO RING BEAM
CONNECTION DETAIL**

SCALE 1:15



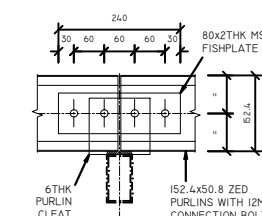
**TRUSS TO RING BEAM
CONNECTION PLAN**

SCALE 1:15



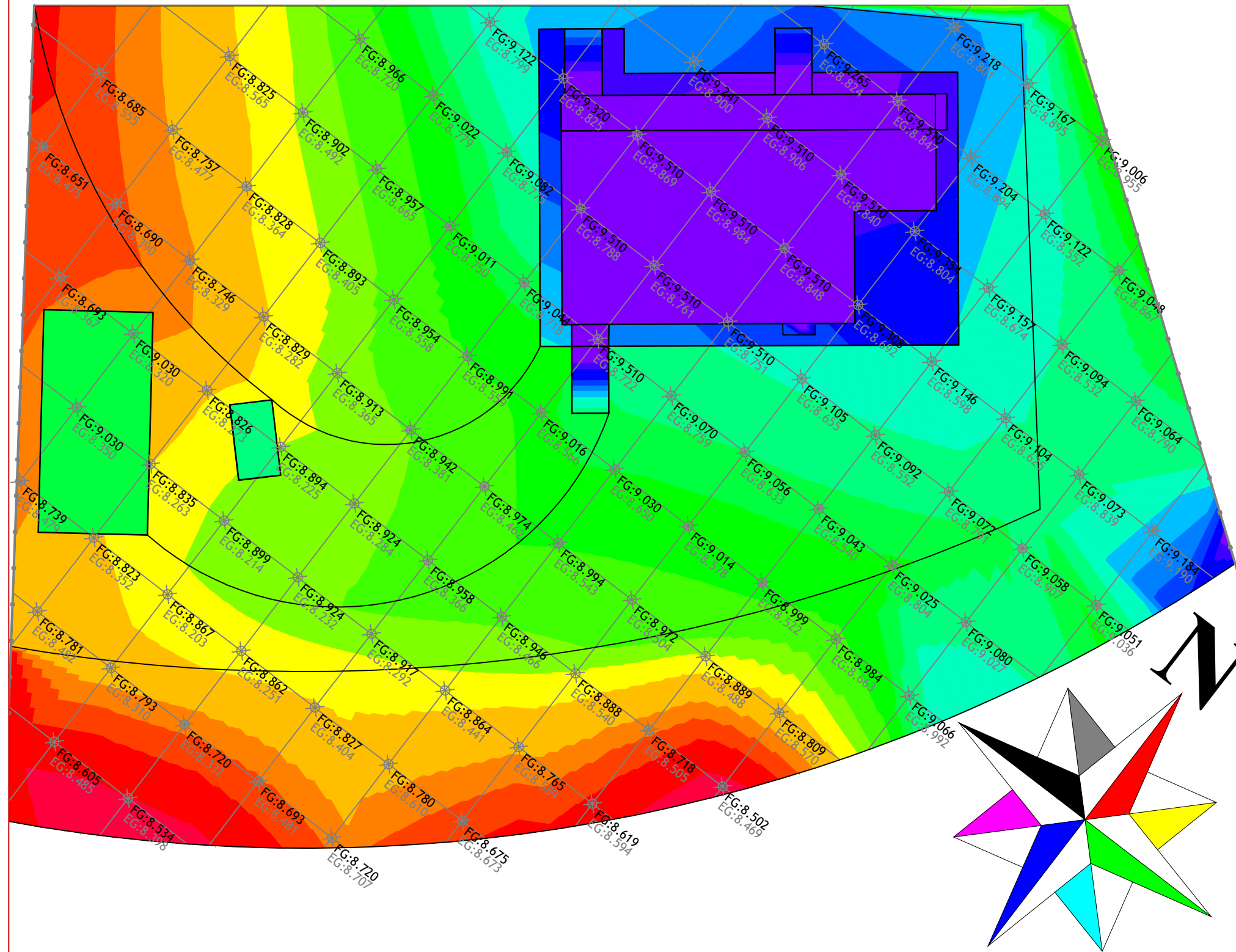
**ZED PURLIN TO TRUSS
CONNECTION DETAIL**

SCALE 1:15



ELEVATION A - A

SCALE 1:15



GRADING-PLAN
SCALE: 1:250

LEGEND

SPOT HEIGHTS
(5x5)m GRID

FG: 1615.275
EG: 1617.234

EG EXISTING GROUND
FG FINISHED GROUND

BANDING TABLE

Elevations Table				
NO.	Min. Elevation	Max. Elevation	Area	Color
1	8.40	8.54	26.70	
2	8.54	8.64	74.29	
3	8.64	8.70	136.56	
4	8.70	8.75	132.77	
5	8.75	8.84	244.19	
6	8.84	8.89	195.43	
7	8.89	8.94	202.20	
8	8.94	8.99	232.70	
9	8.99	9.03	185.03	
10	9.03	9.06	214.67	
11	9.06	9.10	276.27	
12	9.10	9.17	176.92	
13	9.17	9.21	57.59	
14	9.21	9.25	64.84	
15	9.25	9.28	36.48	
16	9.28	9.36	55.60	
17	9.36	9.40	24.91	
18	9.40	9.51	243.10	

UNOPS
KENYA MULTI-COUNTRY OFFICE (KEMCO)
UNOPS Building, UN lane,
Off Avenue P.O. Box 783,
Village Market, 00621
Nairobi, Kenya.

GENERAL NOTES

1. ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE STATED.

2. WRITTEN DIMENSIONS OVERRIDE SCALED DIMENSIONS, THUS ALL DIMENSIONS ARE TO BE READ AND NOT AT ANY TIME SCALED FROM THE DRAWING.

3. THE FINISHED GROUND LEVELS REPRESENT DESIGN LEVELS FOR THE CARRIAGEWAYS, TOP OF KERB LEVELS AND FLOOR LEVELS.

No	REVISION	DATE	APPR
RO	ISSUED TO DESIGN REVIEW	MAR. 2021	

CLIENT

KOICA
Korea International
Cooperation Agency

PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL EDUCATION THROUGH A HOLISTIC APPROACH IN ZANZIBAR, CONSTRUCTION OF LABORATORIES AND WASH FACILITIES.

DRAWING TITLE

JONGOWE SECONDARY SCHOOL
SEWER DRAINAGE LAYOUT

DESIGN SERVICES UNIT

Designed by Njoroge M.
Drawn by Njoroge M.
Checked by Arnold T.
Approved by

Scale 1/250 Date MARCH 2021

PROJECT NUMBER:

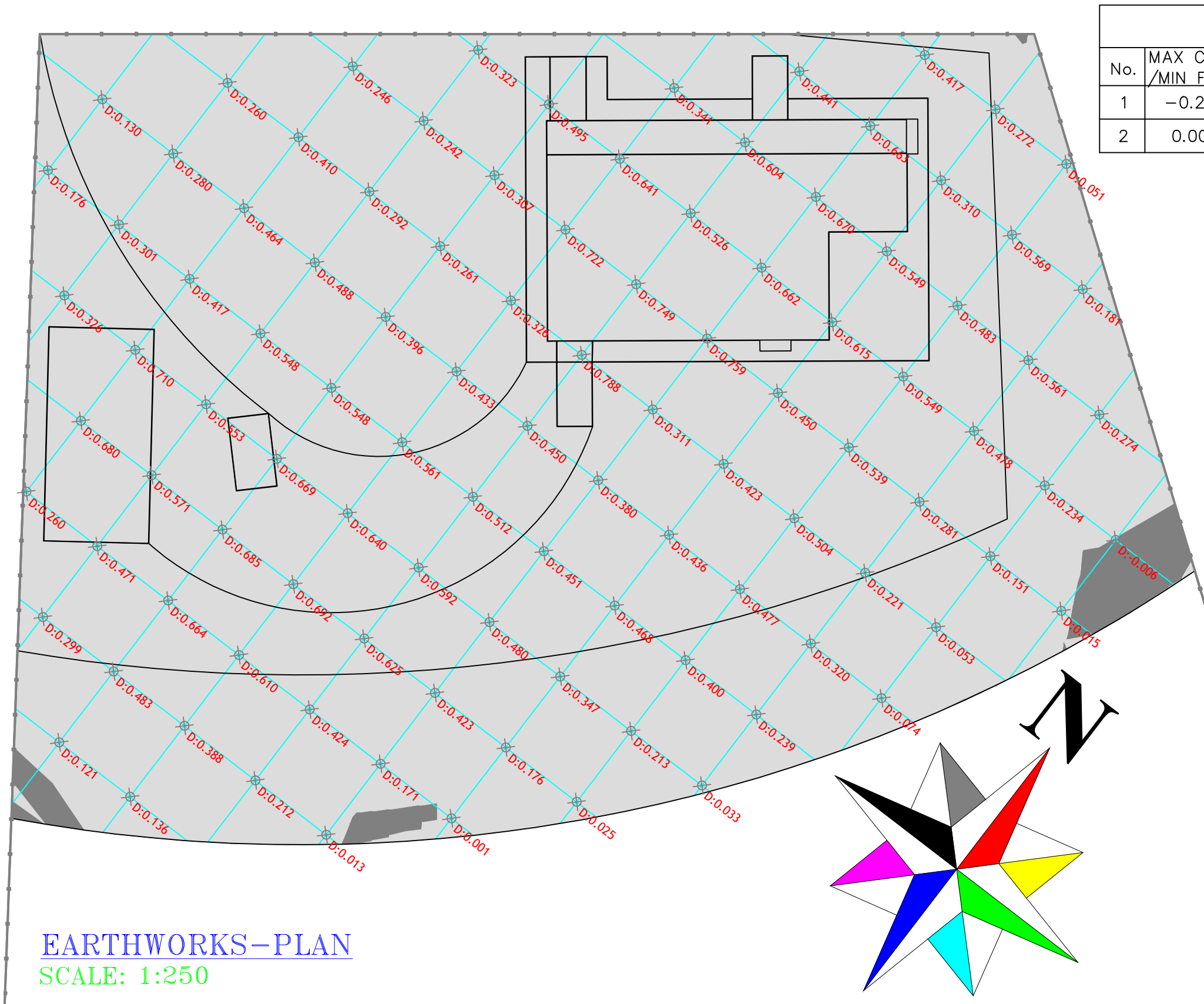
TSU-2020-023

DRAWING NUMBER: SR - 02 - 008


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EARTHWORKS TABLE					
No.	MAX CUT /MIN FILL	MIN CUT /MAX FILL	Area	Volume	Color
1	-0.26	0.00	44.93	2.82	
2	0.00	0.85	2535.31	1029.46	




KENYA MULTI-COUNTRY OFFICE (KEMC)
UNOPS Building, UN lane,
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Nairobi, Kenya.

GENERAL NOTES

1. ALL DIMENSIONS SHOWN ARE IN METERS, UNLESS OTHERWISE STATED.
2. THE LEVELS SHOWN REPRESENT CUT AND FILL DEPTHS SITE-WIDE.
3. EARTHWORKS QUANTITIES ARE BASED ON A CUT TO FILL SCENARIO.

No	REVISION	DATE	APPR
RO	ISSUED TO DESIGN REVIEW	MAR. 2021	

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Korea International Cooperation Agency

PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL EDUCATION THROUGH A HOLISTIC APPROACH IN ZANZIBAR,CONSTRUCTION OF LABORATORIES AND WASH FACILITIES.

DRAWING TITLE

JONGOWE SECONDARY SCHOOL
SEWER DRAINAGE LAYOUT

DESIGN SERVICES UNIT

Designed by	Njoroge M.
Drawn by	Njoroge M.
Checked by	Arnold T.
Approved by	

Scale 1/250 Date MARCH 2021

PROJECT NUMBER:
TSU-2020-023

DRAWING NUMBER: SR - 02 - 009

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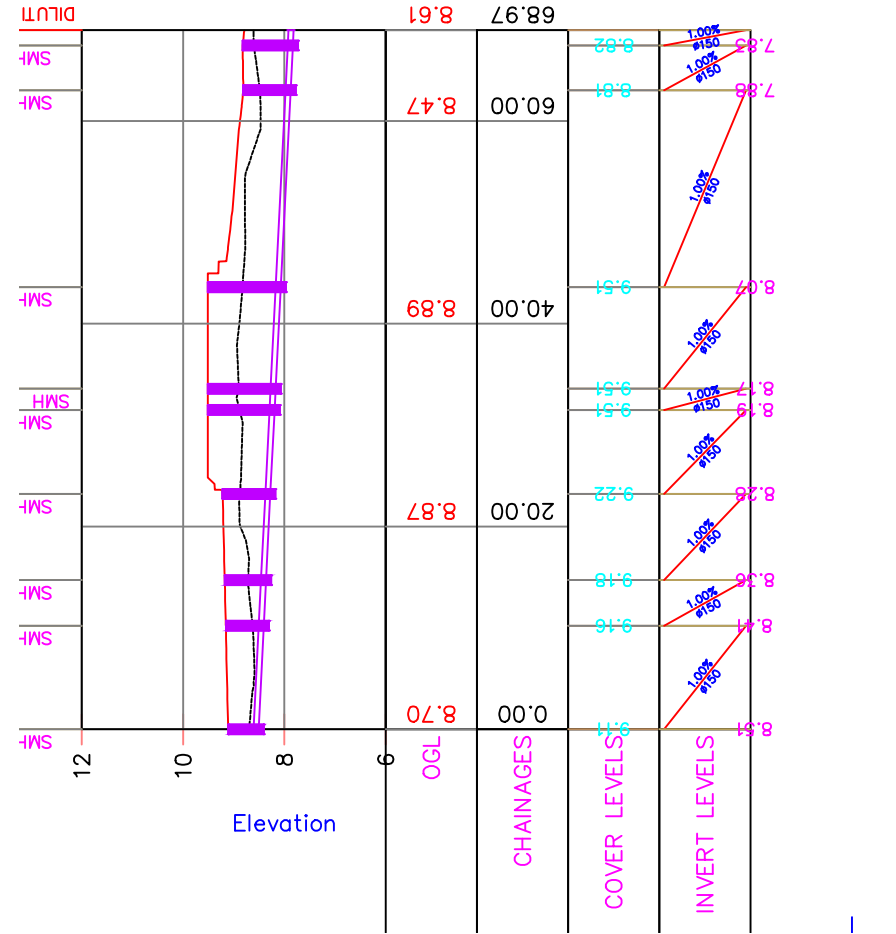
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EARTHWORKS-PLAN
SCALE: 1:250

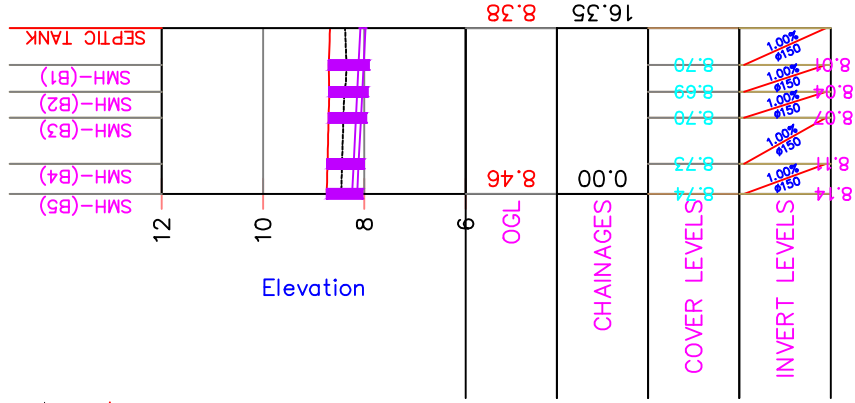
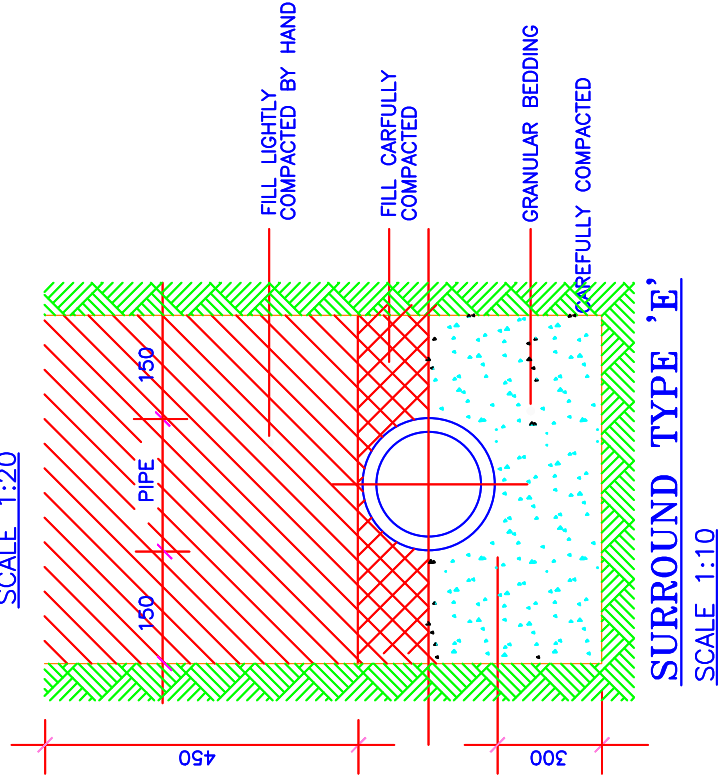
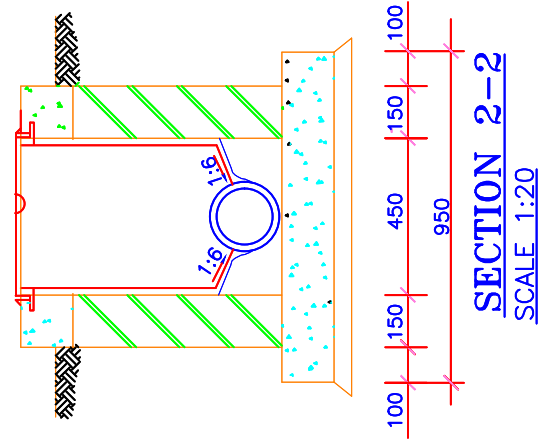
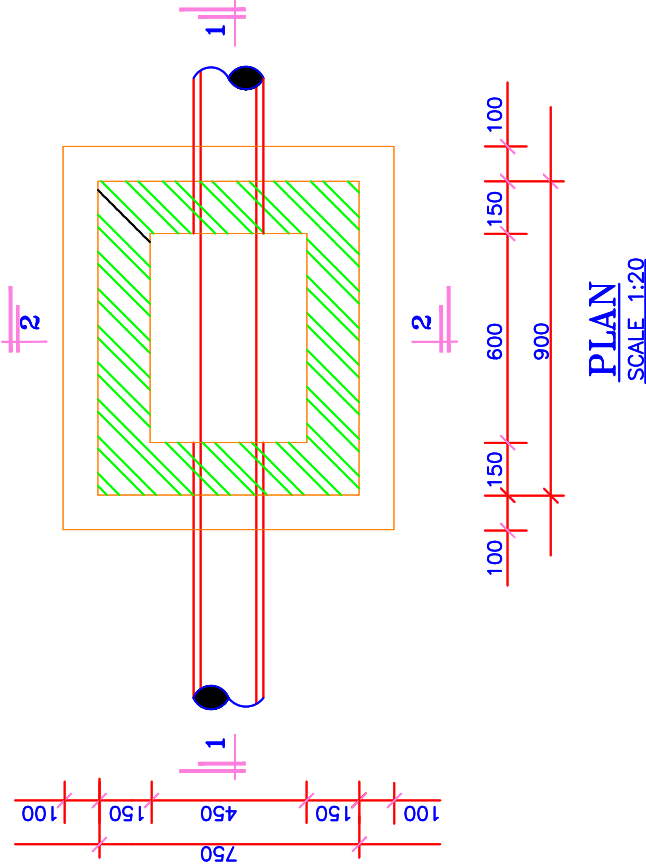
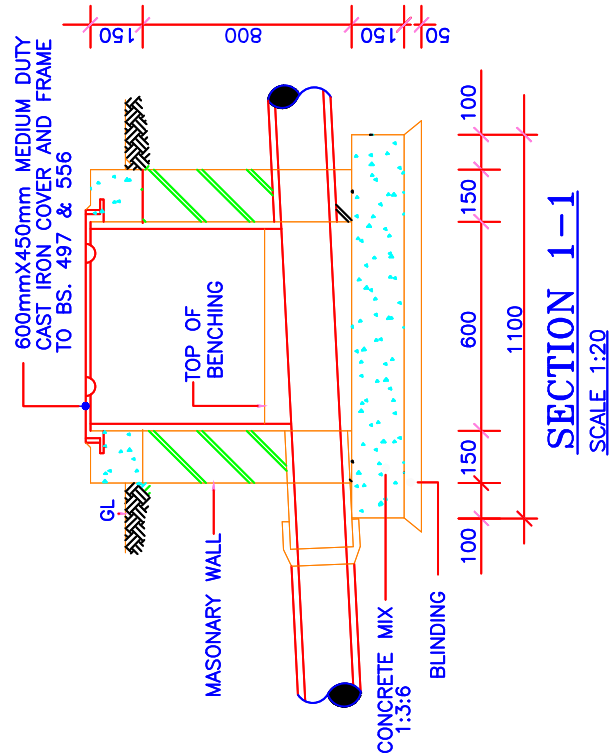
Cut/Fill Summary

Name	2d Area	Cut	Fill	Net
EW	2580.24sq.m	2.82 Cu. M.	1029.46 Cu. M.	1026.63 Cu. M.<Fill>



SEWER—LINE A

SCALE: HORI 1:500
VERT 1:100



SEWER—LINE B

SCALE: HORI 1:500
VERT 1:100

RECTANGULAR SEWER MANHOLES DETAIL

SCALE: NTS



KENYA MULTI-COUNTRY OFFICE (KEMCO)
UNOPS Building, UN lane,
Off Avenue P.O. Box 783,
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Nairobi, Kenya.

GENERAL NOTES

1. THE COORDINATE PROJECTION IS THE UTM ARC 1960 375 COORDINATE SYSTEM.
2. ALL PIPES LESS THAN Ø300 TO BE HEAVY DUTY UPVC PIPES.
3. THE FINISHED GROUND LEVELS REPRESENT DESIGN LEVELS FOR THE CARRIAGEWAYS, TOP OF KERB LEVELS AND FLOOR LEVELS AND LANDSCAPED AREAS.
4. ALL PROFILE DIMENSIONS IN METERS AND TYPICAL DETAILS IN MILLIMETERS.

No	REVISION	DATE	APPR
R0	ISSUED TO DESIGN REVIEW	MAR. 2021	

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PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL EDUCATION THROUGH A HOLISTIC APPROACH IN ZANZIBAR, CONSTRUCTION OF LABORATORIES AND WASH FACILITIES.

DRAWING TITLE

JONGOWE SECONDARY SCHOOL
DRAINAGE PROFILES AND
DETAILS

DESIGN SERVICES UNIT

Designed by	Njoroge M.
Drawn by	Njoroge M.
Checked by	Arnold T.
Approved by	

Scale NTS Date MARCH 2021

PROJECT
NUMBER:

TSU-2020-023

DRAWING
NUMBER: SR - 02 - 011

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SEWER TABLES

JO – SEWER				
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT	MANHOLE COORDINATES
SMH – (A4)	TYPE: RECTANGULAR MANHOLE RIM = 9.51 HEIGHT: 1.32	SP – (A5) DIA: Ø150 mm INV IN = 8.20 L = 7.546m SLOPE: 1.00%	SP – (A4) DIA: Ø150 mm INV OUT = 8.20 L = 1.350m SLOPE: 1.00%	N: 9352857.4549 E: 523949.2425
SMH – (A3)	TYPE: RECTANGULAR MANHOLE RIM = 9.51 HEIGHT: 1.44	SP – (A4A) DIA: Ø150 mm INV IN = 8.07 L = 9.268m SLOPE: 1.00%	SP – (A3) DIA: Ø150 mm INV OUT = 8.07 L = 18.678m SLOPE: 1.00%	N: 9352850.0969 E: 523939.6173
SMH – (A4A)	TYPE: RECTANGULAR MANHOLE RIM = 9.51 HEIGHT: 1.34	SP – (A4) DIA: Ø150 mm INV IN = 8.17 L = 1.350m SLOPE: 1.00%	SP – (A4A) DIA: Ø150 mm INV OUT = 8.17 L = 9.268m SLOPE: 1.00%	N: 9352856.1801 E: 523947.5750
SMH – (A5)	TYPE: RECTANGULAR MANHOLE RIM = 9.22 HEIGHT: 0.94	SP – (A6) DIA: Ø150 mm INV IN = 8.28 L = 7.745m SLOPE: 1.00%	SP – (A5) DIA: Ø150 mm INV OUT = 8.28 L = 7.546m SLOPE: 1.00%	N: 9352862.4767 E: 523955.8436
SMH – (A6)	TYPE: RECTANGULAR MANHOLE RIM = 9.18 HEIGHT: 0.82	SP – (A7) DIA: Ø150 mm INV IN = 8.36 L = 3.744m SLOPE: 1.00%	SP – (A6) DIA: Ø150 mm INV OUT = 8.36 L = 7.745m SLOPE: 1.00%	N: 9352855.7542 E: 523961.0348
SMH – (A7)	TYPE: RECTANGULAR MANHOLE RIM = 9.16 HEIGHT: 0.75	SP – (A8) DIA: Ø150 mm INV IN = 8.41 L = 9.473m SLOPE: 1.00%	SP – (A7) DIA: Ø150 mm INV OUT = 8.41 L = 3.744m SLOPE: 1.00%	N: 9352852.1979 E: 523963.7810
SMH – (A8)	TYPE: RECTANGULAR MANHOLE RIM = 9.11 HEIGHT: 0.60		SP – (A8) DIA: Ø150 mm INV OUT = 8.51 L = 9.473m SLOPE: 1.00%	N: 9352845.9505 E: 523955.6907
SMH – (B.4)	TYPE: RECTANGULAR MANHOLE RIM = 8.86 HEIGHT: 0.60		SP – (B.4) DIA: Ø150 mm INV OUT = 8.26 L = 2.193m SLOPE: 1.13%	N: 9352820.6747 E: 523934.0134
SMH – (B.2.1)	TYPE: RECTANGULAR MANHOLE RIM = 8.84 HEIGHT: 0.61		SP – (B.2.1) DIA: Ø150 mm INV OUT = 8.24 L = 2.805m SLOPE: 1.80%	N: 9352826.5121 E: 523933.7573
SMH – (B.3)	TYPE: RECTANGULAR MANHOLE RIM = 8.83 HEIGHT: 0.60	SP – (B.4) DIA: Ø150 mm INV IN = 8.23 L = 2.193m SLOPE: 1.13%	SP – (B.3) DIA: Ø150 mm INV OUT = 8.23 L = 2.786m SLOPE: 1.43%	N: 9352823.0523 E: 523932.2806
SMH – (A1)	TYPE: RECTANGULAR MANHOLE RIM = 8.82 HEIGHT: 0.99	SP – (A2) DIA: Ø150 mm INV IN = 7.84 L = 3.657m SLOPE: 1.00%	SP – (A1) DIA: Ø150 mm INV OUT = 7.84 L = 1.147m SLOPE: 1.00%	N: 9352841.7136 E: 523921.5414
SMH – (A2)	TYPE: RECTANGULAR MANHOLE RIM = 8.81 HEIGHT: 0.93	SP – (A3) DIA: Ø150 mm INV IN = 7.88 L = 18.678m SLOPE: 1.00%	SP – (A2) DIA: Ø150 mm INV OUT = 7.88 L = 3.657m SLOPE: 1.00%	N: 9352838.2292 E: 523924.2374

JO – SEWER				
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT	MANHOLE COORDINATES
SMH – (B.2)	TYPE: RECTANGULAR MANHOLE RIM = 8.78 HEIGHT: 0.60	SP – (B.3) DIA: Ø150 mm INV IN = 8.18 L = 2.786m SLOPE: 1.43% SP – (B.2.1) DIA: Ø150 mm INV IN = 8.18 L = 2.805m SLOPE: 1.80%	SP – (B.2) DIA: Ø150 mm INV OUT = 8.18 L = 3.067m SLOPE: 1.33%	N: 9352825.9083 E: 523930.1991
SMH – (B5)	TYPE: RECTANGULAR MANHOLE RIM = 8.74 HEIGHT: 0.60		SP – (B5) DIA: Ø150 mm INV OUT = 8.14 L = 2.210m SLOPE: 1.00%	N: 9352816.3748 E: 523927.7638
SMH – (B4)	TYPE: RECTANGULAR MANHOLE RIM = 8.73 HEIGHT: 0.62	SP – (B5) DIA: Ø150 mm INV IN = 8.11 L = 2.210m SLOPE: 1.00%	SP – (B4) DIA: Ø150 mm INV OUT = 8.11 L = 3.785m SLOPE: 1.00%	N: 9352818.7661 E: 523926.0210
SMH – (B.1)	TYPE: RECTANGULAR MANHOLE RIM = 8.72 HEIGHT: 0.60	SP – (B.2) DIA: Ø150 mm INV IN = 8.12 L = 3.067m SLOPE: 1.33%	SP – (B.1) DIA: Ø150 mm INV OUT = 8.12 L = 4.192m SLOPE: 1.00%	N: 9352828.9915 E: 523927.9520
SMH – (B3)	TYPE: RECTANGULAR MANHOLE RIM = 8.70 HEIGHT: 0.64	SP – (B4) DIA: Ø150 mm INV IN = 8.07 L = 3.785m SLOPE: 1.00%	SP – (B3) DIA: Ø150 mm INV OUT = 8.07 L = 1.831m SLOPE: 1.00%	N: 9352822.4298 E: 523923.3508
SMH – (B1)	TYPE: RECTANGULAR MANHOLE RIM = 8.70 HEIGHT: 0.69	SP – (B.1) DIA: Ø150 mm INV IN = 8.08 L = 4.192m SLOPE: 1.00% SP – (B2) DIA: Ø150 mm INV IN = 8.02 L = 1.893m SLOPE: 1.00%	SP – (B1) DIA: Ø150 mm INV OUT = 8.02 L = 3.256m SLOPE: 1.00%	N: 9352826.0570 E: 523923.9766
SMH – (B2)	TYPE: RECTANGULAR MANHOLE RIM = 8.69 HEIGHT: 0.65	SP – (B3) DIA: Ø150 mm INV IN = 8.04 L = 1.831m SLOPE: 1.00%	SP – (B2) DIA: Ø150 mm INV OUT = 8.04 L = 1.893m SLOPE: 1.00%	N: 9352824.5146 E: 523921.8314



KENYA MULTI-COUNTRY OFFICE (KEMC)
UNOPS Building, UN lane,
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Village Market, 00621
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GENERAL NOTES

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UTM ARC 1960 375 COORDINATE SYSTEM.

2. ALL PIPES LESS THAN Ø300 TO BE
HEAVY DUTY UPVC PIPES.

3. THE FINISHED GROUND LEVELS
REPRESENT DESIGN LEVELS FOR THE
CARRIAGEWAYS, TOP OF KERB LEVELS AND
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4. ALL DIMENSIONS IN METERS.

No	REVISION	DATE	APPR
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PROJECT
ENHANCING THE QUALITY OF SECONDARY
SCHOOL EDUCATION THROUGH A HOLISTIC
APPROACH IN ZANZIBAR, CONSTRUCTION OF
LABORATORIES AND WASH FACILITIES.

DRAWING TITLE
JONGOWE SECONDARY SCHOOL
DRAINAGE DATA TABLES

DESIGN SERVICES UNIT

Designed by	Njoroge M.
Drawn by	Njoroge M.
Checked by	Arnold T.
Approved by	

Scale NTS Date MARCH 2021

PROJECT
NUMBER:

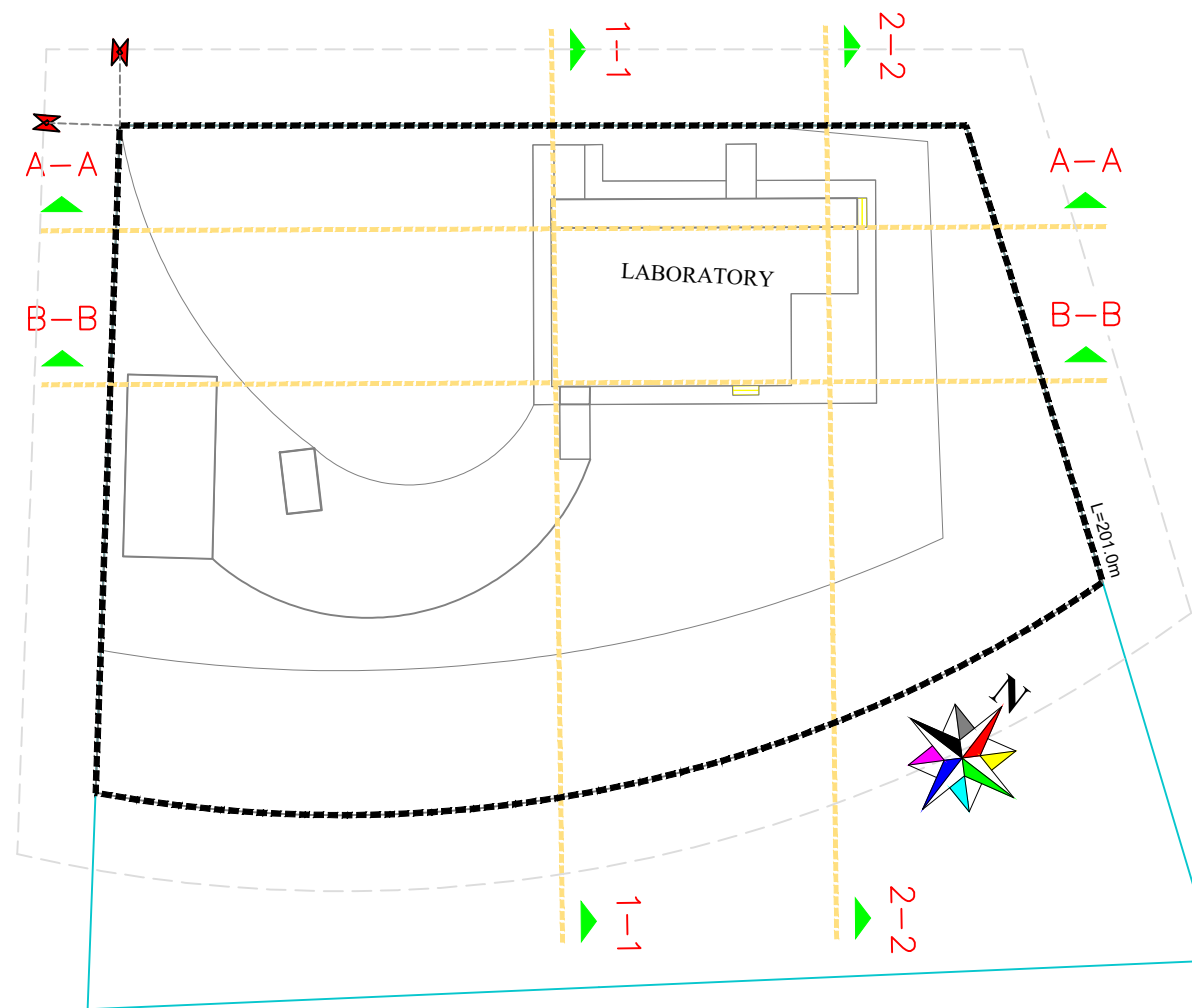
TSU-2020-023

DRAWING
NUMBER: SR - 02 - 012

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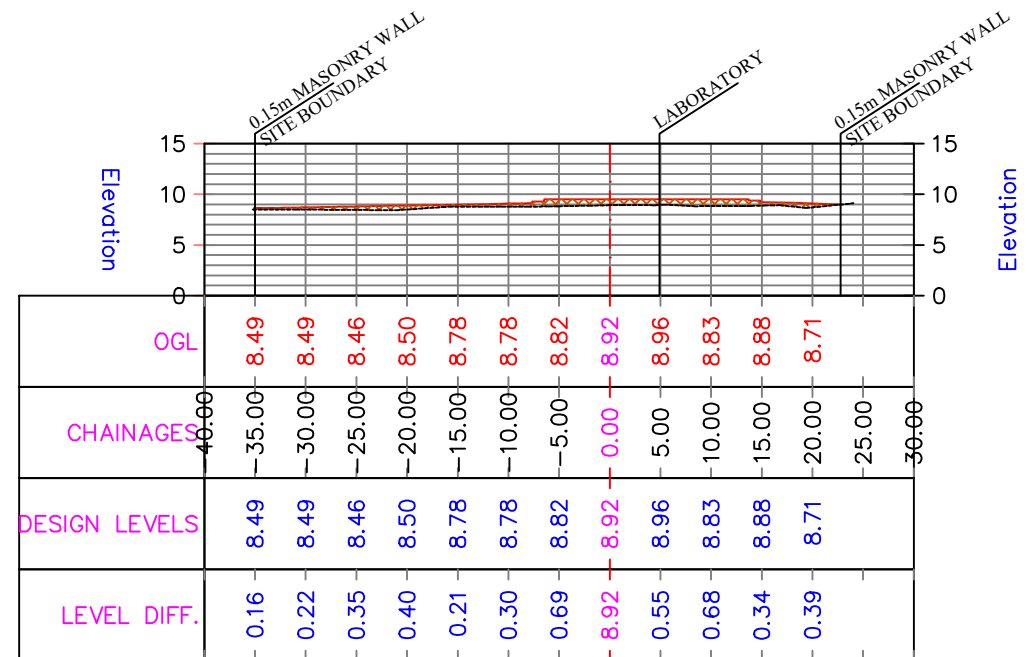
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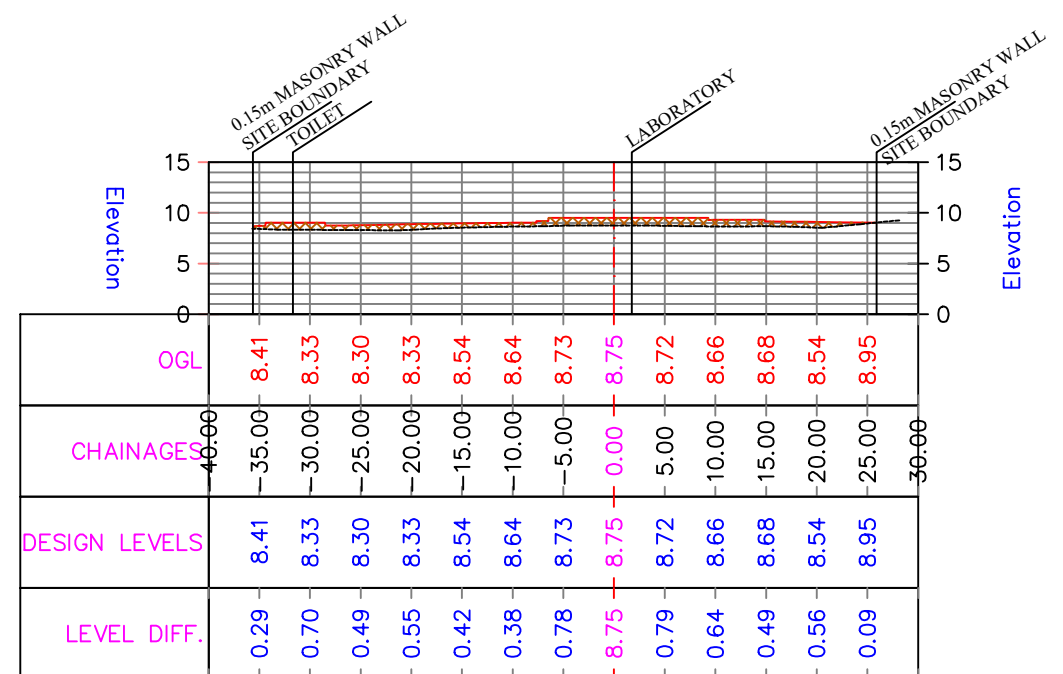


SECTIONS-PLAN
SCALE:1:500

LEGEND	
SECTION LINES	
MASONRY WALL<1.5m	
SECTION GROUND LEVEL	
SECTION DESIGN LEVEL	
SECTION FILL	
SECTION CUT	



A-A
SCALE: HORI 1:750
VERT 1:750



B-B
SCALE: HORI 1:750
VERT 1:750

GENERAL NOTES

1. FINISHED GROUND LEVELS REPRESENT DESIGN LEVELS FOR THE PARKING CARRIAGEWAYS AND TOP OF KERB LEVELS
2. ALL DIMENSIONS ARE IN METERS.
3. RETAINING WALL HEIGHTS ARE INDEPENDENT OF THE ARCHITECTURAL BOUNDARY WALL AND ARE THE STRUCTURAL ELEMENTS ON WHICH THE ARCHITECTURAL WALL IS MOUNTED.
4. STONE PITCHED EMBANKMENTS WITH A MAX SLOPE OF 1:1 OR 100% TO BE APPLIED WHERE THERE ARE NO SPACE CONSTRAINTS ALONG THE PLOT BOUNDARY AND ON-SITE.
5. ALL SLOPES LESS THAN 85% TO BE GRASSED, WHILE THOSE ABOVE 85% TO BE STONE PITCHED.

No	REVISION	DATE	APPR
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PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL EDUCATION THROUGH A HOLISTIC APPROACH IN ZANZIBAR, CONSTRUCTION OF LABORATORIES AND WASH FACILITIES.

DRAWING TITLE

JONGOWE SECONDARY SCHOOL
SITE SECTIONS

DESIGN SERVICES UNIT

Designed by	Njoroge M.
Drawn by	Njoroge M.
Checked by	Arnold T.
Approved by	

Scale:
PROJECT NUMBER:
Date MARCH 2021

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DRAWING NUMBER: SR - 02 - 013

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GENERAL NOTES

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3. RETAINING WALL HEIGHTS ARE INDEPENDENT OF THE ARCHITECTURAL BOUNDARY WALL AND ARE THE STRUCTURAL ELEMENTS ON WHICH THE ARCHITECTURAL WALL IS MOUNTED.
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5. ALL SLOPES LESS THAN 85% TO BE GRASSED, WHILE THOSE ABOVE 85% TO BE STONE PITCHED.

No	REVISION	DATE	APPR
RO	ISSUED TO DESIGN REVIEW	MAR. 2021	

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PROJECT
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DRAWING TITLE
JONGOWE SECONDARY SCHOOL SITE SECTIONS & RETAINING WALL DETAILS

DESIGN SERVICES UNIT
Designed by Njoroge M.
Drawn by Njoroge M.
Checked by Arnold T.
Approved by

Scale:	Date MARCH 2021
PROJECT NUMBER:	

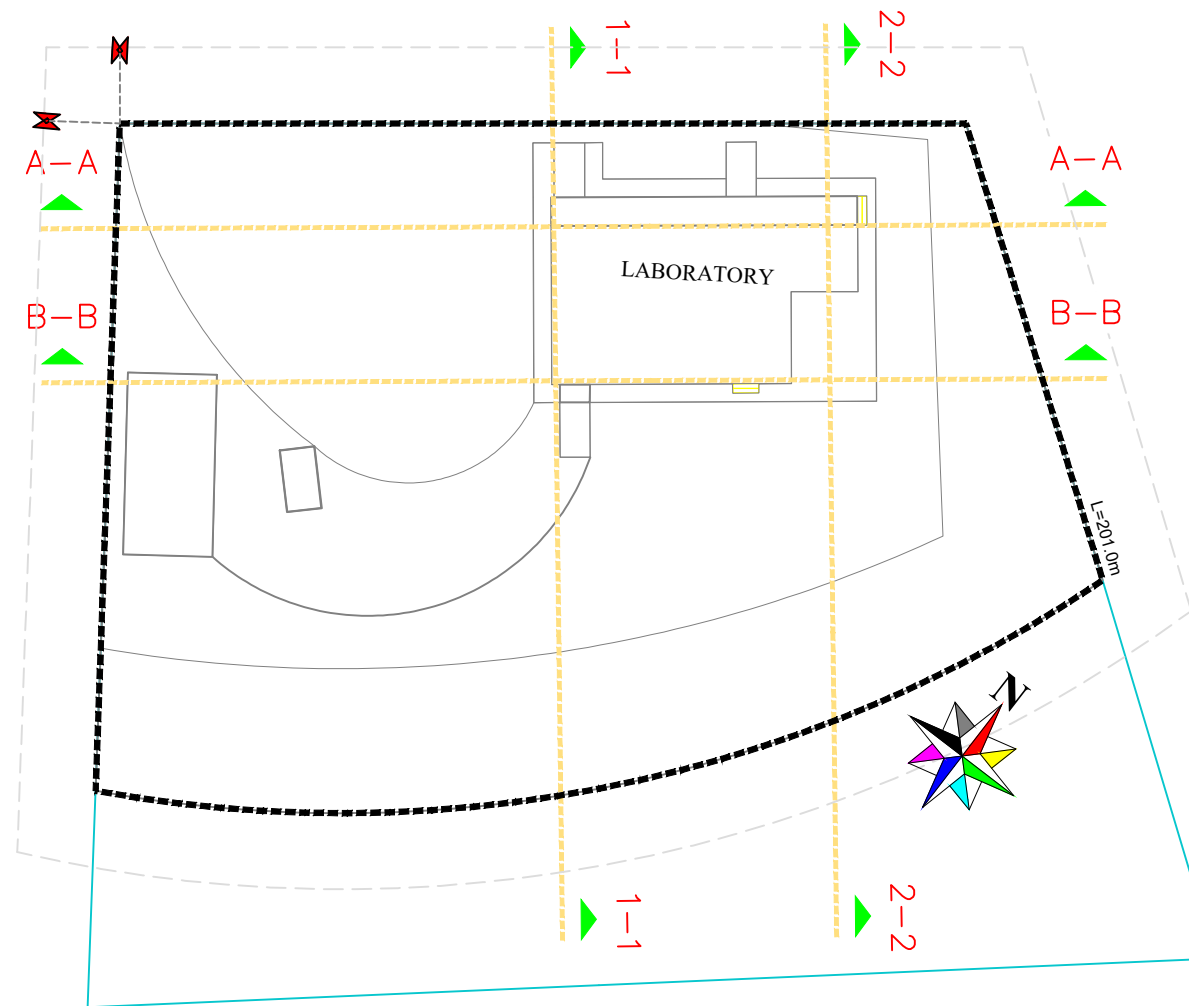
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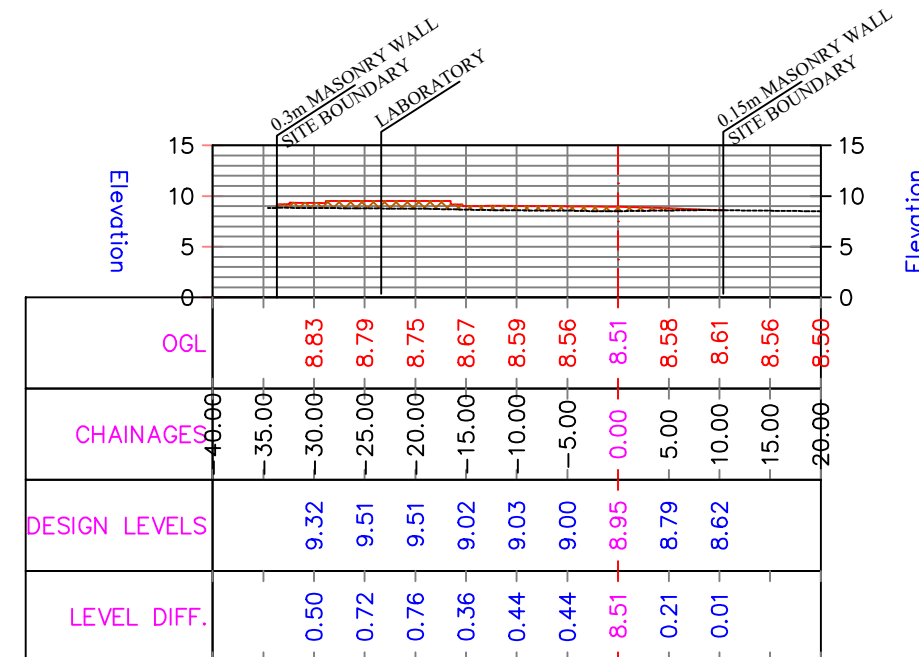
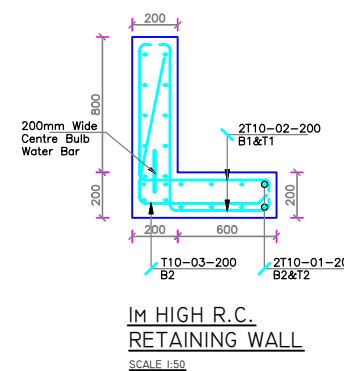
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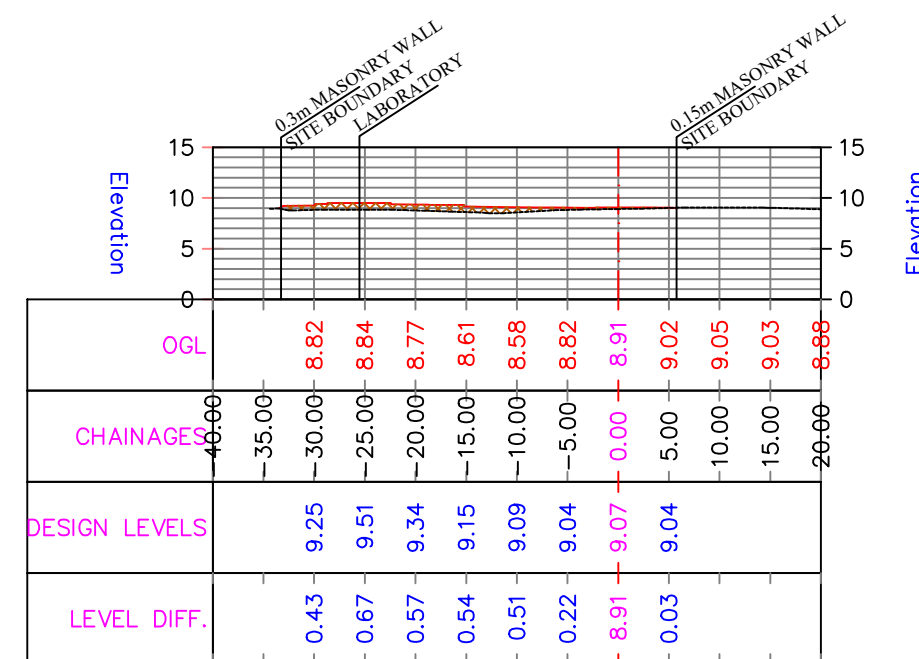


SECTIONS-PLAN
SCALE: 1:500

LEGEND	
SECTION LINES	
MASONRY WALL < 1.5m	
SECTION GROUND LEVEL	
SECTION DESIGN LEVEL	
SECTION FILL	
SECTION CUT	



1-1
SCALE: HORI 1:750
VERT 1:750



2-2
SCALE: HORI 1:750
VERT 1:750

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE STATED.
2. ALL DIMENSIONS TO BE CHECKED AND CONFIRMED ON SITE BEFORE COMMENCEMENT OF ANY WORK.
3. WRITTEN DIMENSIONS OVERRIDES SCALED DIMENSIONS, THUS ALL DIMENSIONS ARE TO BE READ AND NOT AT ANY TIME SCALED FROM THE DRAWING.
4. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEER PROMPTLY BEFORE PROCEEDING.

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KOICA
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PROJECT

ENHANCING THE QUALITY OF SECONDARY SCHOOL
EDUCATION THROUGH A HOLISTIC APPROACH IN
ZANZIBAR, CONSTRUCTION OF LABORATORIES AND
WASH FACILITIES.

DRAWING TITLE

RETAINING WALLS R.C. DETAIL
EMBANKMENT DETAIL

DESIGN SERVICES UNIT

DESIGNED BY	NJOROGE M.
DRAWN BY	NJOROGE M.
CHECKED BY	ARNOLD T.
APPROVED BY	

SCALE 1/100, 1/50 DATE MARCH 2021

PROJECT NUMBER:

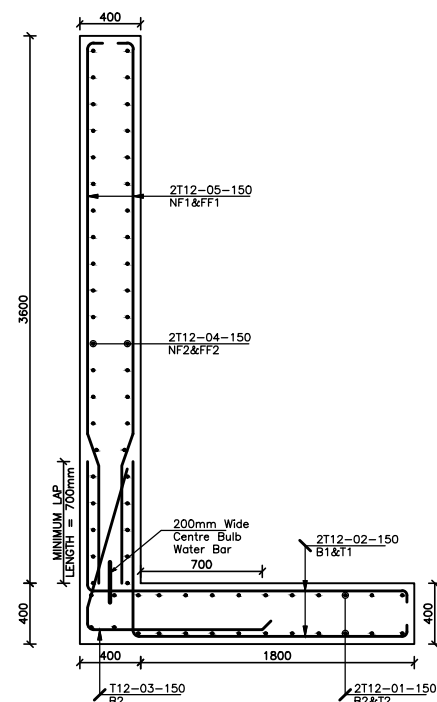
TSU-2020-023

DRAWING NUMBER: SR - 02 - 015

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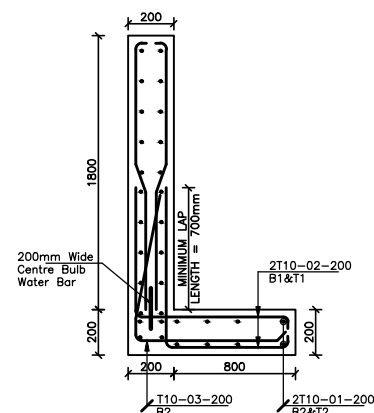
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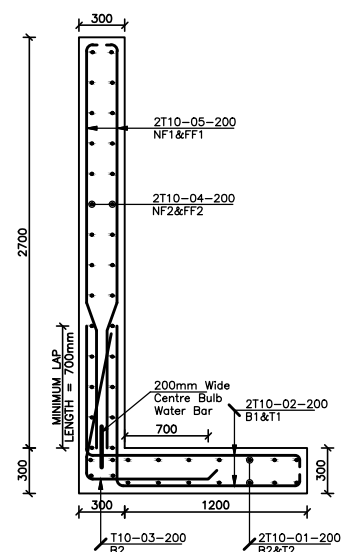
4m HIGH R.C.
RETAINING WALL

SCALE 1:50



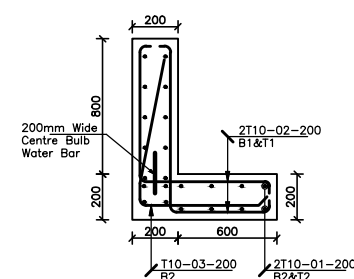
2m HIGH R.C.
RETAINING WALL

SCALE 1:50



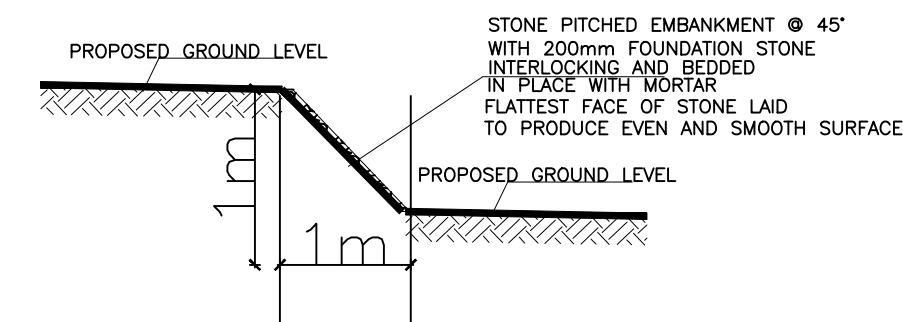
3m HIGH R.C.
RETAINING WALL

SCALE 1:50



1m HIGH R.C.
RETAINING WALL

SCALE 1:50



STONE PITCHED EMBANKMENT DETAIL