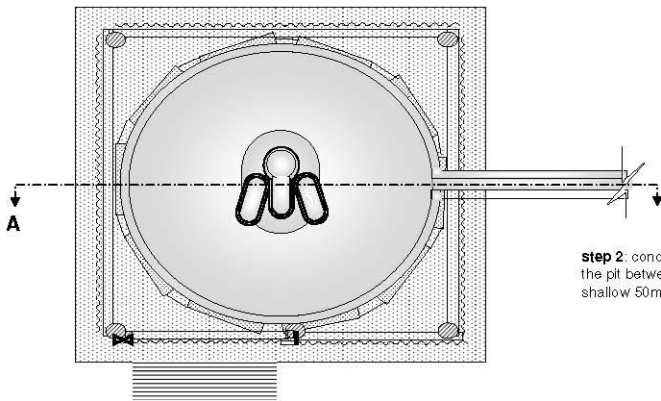
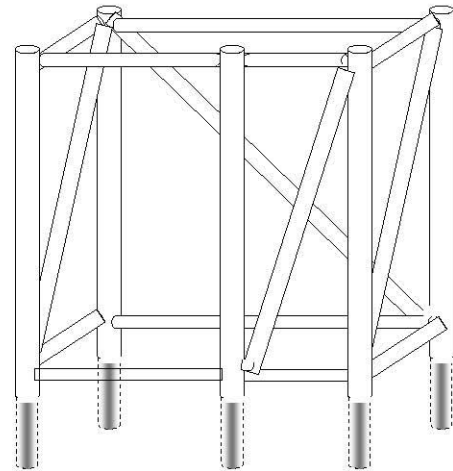
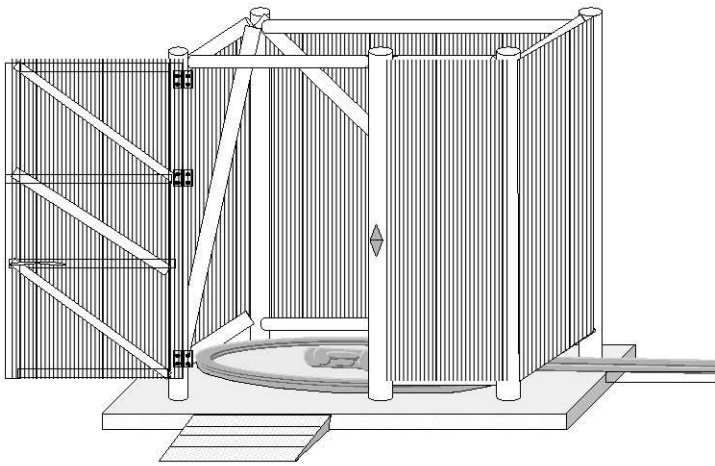
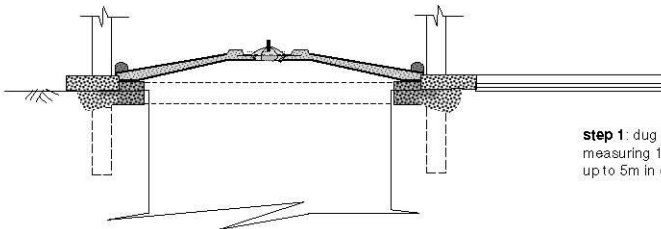


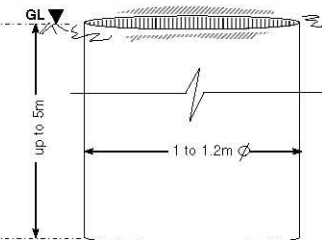
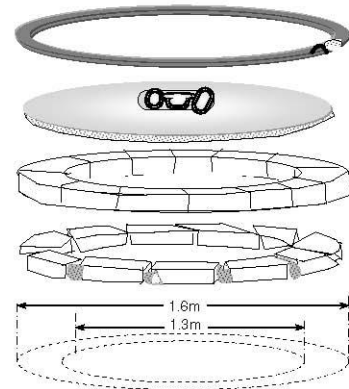
## ILLUSTRATIONS FOR COMMUNAL LATRINE IN HOST COMMUNITY AREAS



**step 2:** concrete block placed around the pit between 1.3 to 1.6m circular shallow 50mm deep trench.



**step 1:** dug pit in selected location measuring 1 to 1.2m diameter and up to 5m in depth.



GL

up to 5m

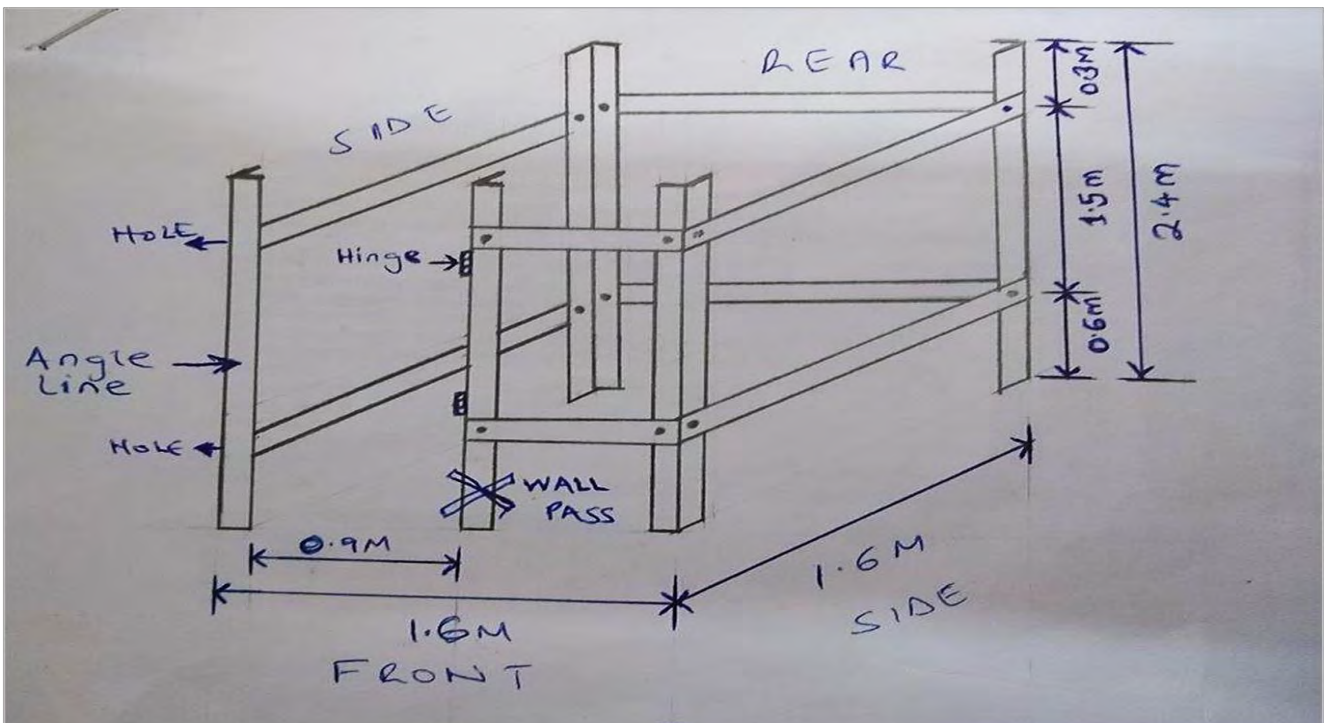
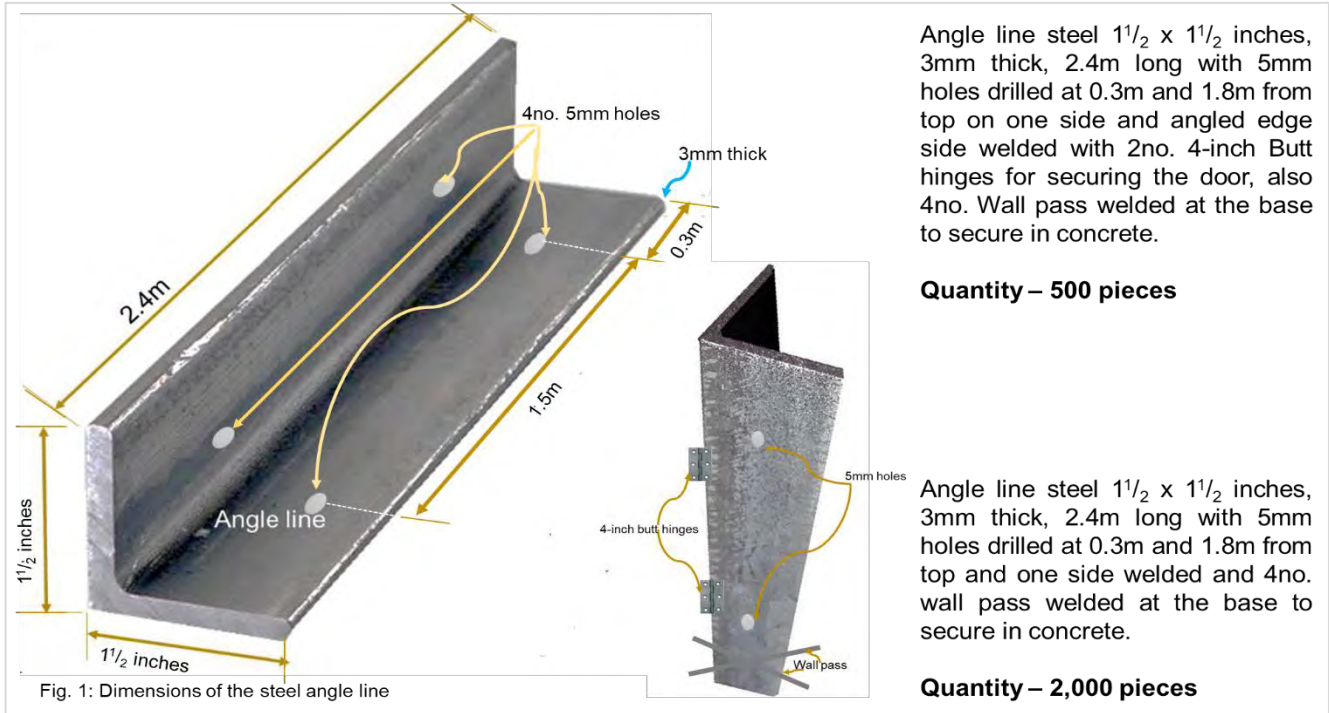
1 to 1.2m  $\phi$

1.6m

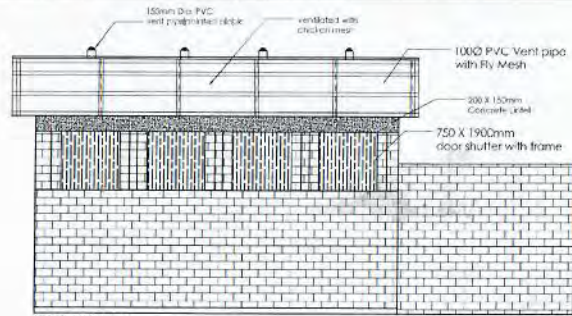
1.3m

## SPECIFICATION FOR STEEL ANGLE LINE FOR LATRINES FOR POCS IN IFO 2 CAMP

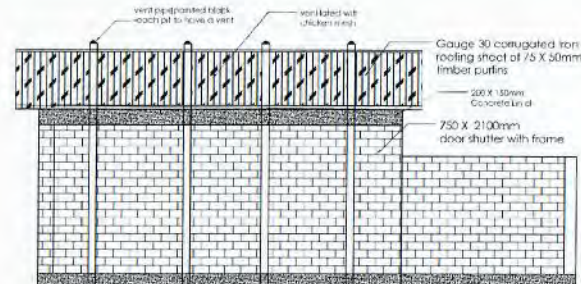
The drawing below figures 1 and 2 show the dimensions of the steel angle line and how the angle line will be used in the construction of latrines for the refugees.



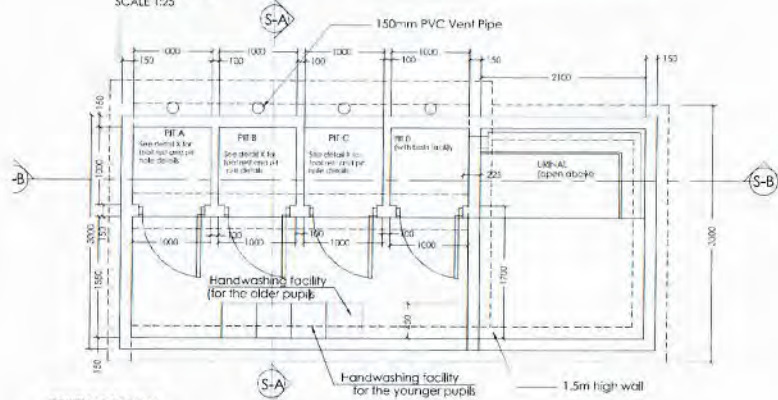




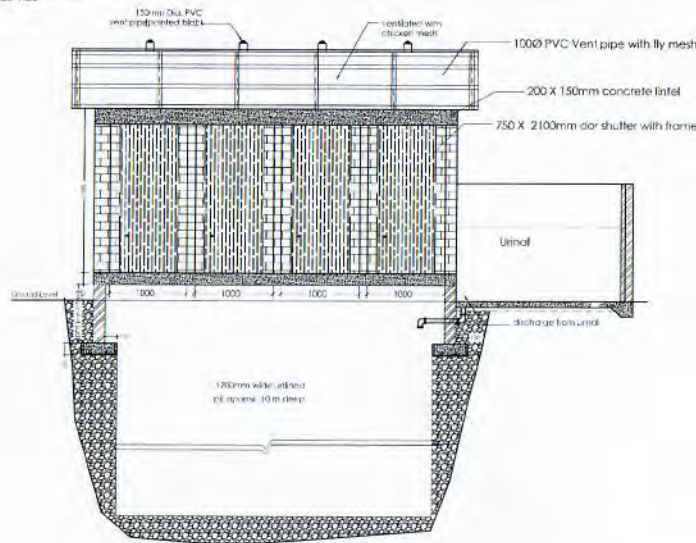
FRONT ELEVATION  
SCALE 1:25



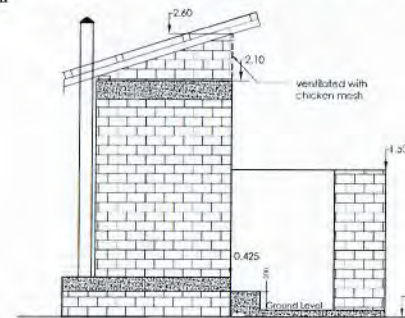
REAR ELEVATION  
SCALE 1:30



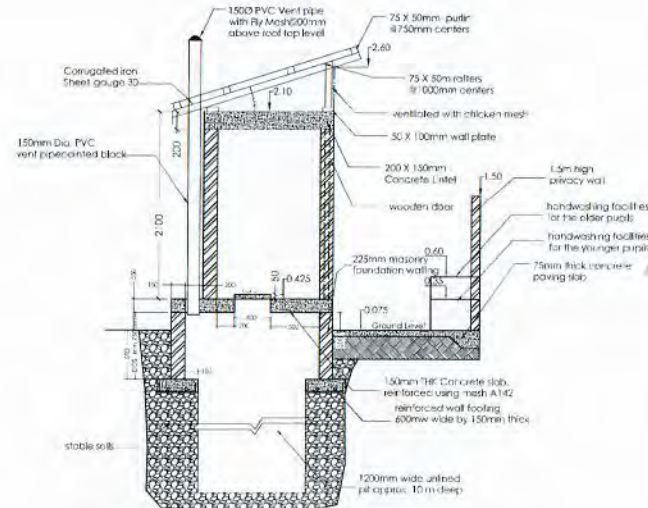
TOILET BLOCK PLAN  
SCALE 1:25



SECTION B-B  
SCALE 1:25



SIDE ELEVATION  
SCALE 1:25



SECTION A-A Typical Foundation in Granular Stable Soils  
SCALE 1:25

REVISIONS

| NUMBER | DATE | INITIAL | REVISION DETAILS |
|--------|------|---------|------------------|
|        |      |         |                  |

NOTES

- ARCHITECTURAL NOTES
- All work to be carried out in accordance with local Authority.
  - All figures/dimensions to be taken in preference to scaled dimensions.
  - All walls below 230mm to be reinforced with top iron at every alternate course.
  - Flow direction provided on D.P.C. under all walls.
  - P.V. indicates permanent ventilators.
  - All drainage installed under building and wherever to be of PVC pipe and encased in 150mm thick concrete surround.
  - All inspection chambers in dry areas to have heavy duty covers.
  - Check all dimensions on site.
  - All sanitary work to be in accordance with standards and regulations.
  - 500 g/l of formalin should be added to the water in the pits.
  - All reinforced concrete work to be in accordance with structural engineer's details.
  - 4000 litres water reserved for fire hose work.
  - Automatic booster pumps for HRS to be provided.
  - Electrical fire alarm system to be provided at the fire department.
  - Fire alarm and booster to be provided.
  - 200 litre water and 100g/l of 50g/l to be provided per floor.
  - 200 kg 20% powder fire extinguisher at parking areas.
  - Fire extinguisher to be provided at the main entrance at strategic positions.
  - Fire extinguisher to be provided at the main entrance at strategic positions.
  - All internal partitioning water to be full height partitioning.
  - All glass to be double glazing to be provided in accordance with design details.
  - Basement concrete floor to be provided with suitable system to dry near details.
  - Periodic structural inspection of all structures.
  - Water meter to be of at least 30mm above ground level.

- COPYRIGHT ON THIS DRAWING IS RESERVED.  
- ALL DIMENSIONS TO BE VALIDATED PRIOR TO COMMENCEMENT OF WORKS.  
- DIMENSIONS ARE INDICATED IN MM.

DOCUMENT STATUS

Project Status

Unless Stamped this Drawing is NOT Validated and should NOT be used

CLIENT

PROJECT NAME

DEVELOPMENT OF STANDARDISED DESIGN FOR WASH AND BUILDING CONSTRUCTION PROJECTS

DRAWING NAME

| SCALE       | PROJECT DATE | DRAWN BY    | SK |
|-------------|--------------|-------------|----|
| 1:100       |              |             |    |
|             | PRINT DATE:  | CHECKED BY: | AO |
| PROJECT NO. | DRAWING NO.  | REVISION    |    |
| 2023-003    | A103         |             |    |

**SUMMARY PAGE OF BOQ AND 4 DOOR VIP LATRINE**

| <b>No.</b> | <b>Item</b>        | <b>Amount for unit</b> | <b>qty</b>   | <b>Total Amount</b> |
|------------|--------------------|------------------------|--------------|---------------------|
| 1          | 4 Door VIP latrine | -                      | 5.00         | -                   |
| 2          | Communal latrine   | -                      | 12.00        | -                   |
|            |                    |                        | <b>Total</b> | -                   |

| <b>MATERIAL BOQ FOR ONE HOUSEHOLD LATRINES</b>   |   |             |                 |                        |                   |
|--|---|-------------|-----------------|------------------------|-------------------|
| <b>NO</b>  | <b>DESCRIPTION</b>  | <b>UNIT</b> | <b>QUANTITY</b> | <b>UNIT COST (KES)</b> | <b>AMOUNT KES</b> |
| 1  | 75mm x 50mm sawn and pre-treated cypress timber   | M           | 30              |                        | 0                 |
| 2  | 50mm x 50mm sawn and pre-treated cypress timber   | M           | 24              |                        | 0                 |
| 3  | Roofing Nails   | Kgs         | 3               |                        | 0                 |
| 4  | Ordinary Nails 3"   | Kgs         | 2.0             |                        | 0                 |
| 5  | Tower bolt 4"   | Pcs         | 2               |                        | 0                 |
| 6  | PAD bolt 4"   | Pcs         | 2               |                        | 0                 |
| 7  | Butt hinge 4" -Hinges will be welded on angle post  | Pcs         | 3               |                        | 0                 |
| 8  | Prepainted Corrugated Iron Sheets G30 . 2M Long   | Pcs         | 9               |                        | 0                 |
| SUB TOTAL 1  |   |             |                 |                        | <b>0</b>          |
| <b>Angle line specification (1<sup>1</sup>/<sub>2</sub>x1<sup>1</sup>/<sub>2</sub>) Inch 3mm thick</b> |   |             |                 |                        |                   |
| <b>NO</b>  | <b>DESCRIPTION</b>  | <b>UNIT</b> | <b>QUANTITY</b> | <b>UNIT COST (KES)</b> | <b>AMOUNT KES</b> |
| 12   | Supply 4 # - 2.4m long Angle line fabricated as follows;<br>Drilling 5mm holes at 0.3m and 1.8m from top<br>Weld 4no 100mm long wall pass lugs to secure the anglines posts in concrete.  | Item        | 1               |                        | 0                 |
| 13   | Supply 1#- 2.4m long Angle line fabricated as follows;<br>Drilling 5mm holes at 0.3m and 1.8m from top.<br>Weld 2no. 4" Heavy duty brass butt hinges for securing the door.<br>Weld 4no 100mm long wall pass lugs to secure the anglines posts in concrete.   | Item        | 1               |                        | 0                 |
| SUB TOTAL 2  |   |             |                 |                        | <b>0</b>          |
| SUB TOTAL 3 - ( ALL MATERIALS )  |   |             |                 |                        | <b>0</b>          |
| 9  | Provision of materials and skilled labor for constructing a lightly reinforced concrete slab to cover a 1.5-meter-wide pit. The slab will use D8 reinforcement bars in a woven mesh pattern, spaced at 150 mm centers, ensuring structural integrity and load distribution.<br><br>The concrete will be cast with a C25/30 mix for required strength and durability. Supporting angle posts will be installed and concreted with proper alignment and anchorage, as per the design. All works will adhere to relevant construction standards and best practices for long-term performance and safety. | Item        | 1               |                        | 0                 |
| 10   | Labour pit excavation and construction of the super structure (Pit diameter 1m, depth 5m) at 35% of the cost of materials above   | Item        | 1               |                        | 0                 |
| SUB TOTAL SLAB AND LABOR   |   |             |                 |                        | <b>0</b>          |
| <b>TOTAL COST FOR ONE LATRINE</b>  |   |             |                 |                        | <b>0</b>          |

**PROPOSED 1 NO. BLOCK OF FOUR DOOR VIP LINED LATRINE IN HOST COMMUNITY**

| <b>Item</b>                                       | <b>Description</b>   | <b>Unit</b> | <b>Qty</b> | <b>Rate</b> | <b>Kshs</b> |
|---|--|-------------|------------|-------------|-------------|
| <b>Element No.1: Excavation &amp; Earth Works</b> |  |             |            |             |             |
| A   | General excavation to remove top soil to an average depth of 250mm [4m x 7.5m]   | SM          | 30.00      |             | -           |
| B   | Bulk excavation for latrine pit of plan dimension 1.5m m by 3.2m length to a maximum depth of 6m from the striped level 0-3m depth   | CM          | 14.40      |             | -           |
| C   | Ditto but between 3-6m depth   | CM          | 14.40      |             | -           |
| D   | Ditto but between 6-8m depth   | CM          | 1.00       |             | -           |
| E   | Excavation in any hard ground including hard rock in C and D above   | CM          | 4.62       |             | -           |
| F   | Excavation for wall footing, 450mm wide by 100mm thick   | CM          | 0.42       |             | -           |
| G   | Cart away surplus excavated material & deposit at designated area for dumping construction wastes  | CM          | 34.84      |             | -           |
| H   | Approved hard-core, well compacted and blinded using 50mm murrum/quarry dust under the strip foundation  | CM          | 0.21       |             | -           |
| <b>Carried to Collection</b>                      |  |             |            |             | -           |
| <b>Element No.2: Masonry Work</b>                 |  |             |            |             |             |
| A   | 225mmX225mmX400mm natural quarry stone as pit lining and sub-structure walling bedded in cement sand mortar 1:3. Rate to included mild steel reinforcement of 6mm diameter after every two consecutive courses. Avoid use of quarry rejected stones  | SM          | 60.16      |             | -           |
| B   | 10mm wide DPM under walls OR 1000 gauge black sheet  | M           | 27.90      |             | -           |
| C   | Supply and place 150mmX225mmX400mm Machine cut stone as superstructure external and partition masonry walling embedded in cement sand mortar 1:3 for superstructure walling, both side left for plastering. Rate to included mild steel of 6mm reinforcement after every two consecutive courses.    | SM          | 21.85      |             | -           |
| B   | Supply and place 150mmX225mmX400mm Machine cut stone as superstructure privacy screen and urinal masonry walling embedded in cement sand mortar 1:3 for superstructure walling, both side left for plastering. Rate to included mild steel of 6mm reinforcement after every two consecutive courses. | SM          | 8.10       |             | -           |
| <b>Carried to Collection</b>                      |  |             |            |             | -           |

|   |   |      |      |  |   |
|---|---|------|------|--|---|
|   | <b>Element No.3: Concrete Work</b>  |      |      |  | - |
| A   | Supply materials, transport, place and compact reinforced concrete class 25/20 in 6No. 300x200mm reinforced columns in VIP Latrine Aallowing for water proofing using sikacim water proofing mixture  | CM   | 2.16 |  | - |
| A   | Supply materials, transport, place and compact reinforced concrete class 25/20 in 6No. 200x150mm reinforced beam in the pit at 4m height above the bottom of strip footing and at 200mm above round level to receive the floor slab . Allow for water proofing using sikacim water proofing mixture | CM   | 0.84 |  | - |
| B   | Ditto 150mm thick and 450mm wide reinforced concrete class 20 (1:2:4) in foundation footing.  | CM   | 0.91 |  | - |
| C   | Ditto 150mm concrete class 25 (1:2:4) in latrine slab (to cover pit, urinal, handwashing and general area as one unit). Offset the slab 2 feet beyond wall base to form a pavement around the latrine. Provide expansion joints to slab as instructed on site                                       | CM   | 3.73 |  | - |
| E   | 200mm X 150mm Concrete Grade 25 (1:2:4) in ring beam and lintel   | CM   | 1.48 |  | - |
| F   | 75mm Concrete Grade 10 (1:3:6) disabled person access ramp, constructed with a slope of 1:7 and surface finnished with suffuiciant treads and a self draining pattern to engineer's approval  | CM   | 4.00 |  | - |
| G   | 250mm wide and 75mm thick lightly reinforced concrete apron as paved walkway around the latrine as escribed in C above. This to be done on top of a later of rammed murrem 50mm thich and base of 200mm handpacked hardcore. Rate to include the cost of the sub structure treatemnet               | CM   | 4.31 |  | - |
| Carried to Collection   |   |      |      |  | - |
| <b>Element No. 4: Concrete Ancillaries and openings</b>             |   |      |      |  | - |
| <b>Formwork</b>   |   |      |      |  | - |
| Provide cut and fix in position sawn timber formwork or equivalent. |   |      |      |  | - |
| A   | side of foundation footing 150mm wide   | SM   | 4.00 |  | - |
| B   | edges floor slab 150mm wide   | SM   | 4.10 |  | - |
| C   | Under floor slab  | SM   | 9.50 |  | - |
| D   | Side of ring beam 250mm deep  | SM   | 6.50 |  | - |
| E   | support props and floor slab  | Item | 1.00 |  | - |
| F   | on substructure columns and beams   | SM   | 4.05 |  | - |

|      |  |    |        |  |   |
|------|--|----|--------|--|---|
| G    | <b>Reinforcement</b>   |    |        |  | - |
|      | <i>Steel reinforcement cut, bend &amp; placed in position, unit price to include cutting, bending &amp; placing in position with binding wire and concrete seats</i> |    |        |  | - |
|      | <b>In Foundation Footing</b>   |    |        |  | - |
| II   | 12mm diameter high tensile steel (0.89kg/m) (in strip footing as 2 No. main reinforcement at 150mm )   | Kg | 25.10  |  | - |
| ii   | 8mm diameter mild steel (0.39kg/m) in substructure strip footing as distribution steel at 200mm C/C  | Kg | 41.83  |  | - |
|      | <b>Substructure columns</b>  |    |        |  | - |
| iii  | 12mm diameter high tensile steel (0.89kg/m) (in columns as 4 No. main reinforcement )  | Kg | 134.57 |  | - |
| iv   | 8mm diameter mild steel (0.39kg/m) in columns as distribution steel at 200mm C/C   | Kg | 46.80  |  | - |
|      | <b>Substructure and ground beams</b>   |    |        |  | - |
| v    | 8mm diameter mild steel (0.39kg/m) in substructure beams and columns as distribution steel   | Kg | 36.66  |  | - |
| vi   | 12mm diameter high tensile steel (0.89kg/m) (as 4No. In substructure and ground beams)   | Kg | 33.46  |  | - |
| vii  | <i>BRC A 142 in the floor slab</i>   | SM | 24.65  |  | - |
|      | <b>Superstructure Lintel/ Ring beam</b>  |    |        |  | - |
| viii | 8mm diameter mild steel (0.39kg/m) as distribution steel in ring beam  | Kg | 36.66  |  | - |
| ix   | 8mm diameter mild steel (0.39kg/m) as main reinforcement in ring beam  | Kg | 14.66  |  | - |



|   |   |                       |      |  |   |
|---|---|-----------------------|------|--|---|
|   |   |                       |      |  | - |
|   | <b>Openings</b>   |                       |      |  | - |
| A | Allow for forming of pit hole and construction of foot rest to details for all pits ensuring that a self cleansing finish with smooth steel float as shall be guided by the supvising engineer  | No.                   | 3.00 |  | - |
|   |   |                       |      |  | - |
| B | Supply and install 'commodes chair fitted with arm rail support system and foot rest details as per engineers instructions.<br>The support structure to feature 3/4 inch GI pipes cut, bent and embeded on the wall and floor as appropriate to aid the use of the facility by a person living with disability using a wheel chair. see accompanying illustration approved by the APDK. | No                    | 1.00 |  | - |
|   |   | Carried to Collection |      |  | - |

|   |   |    |       |  |   |
|---|---|----|-------|--|---|
|   | <b>Element No.5: Roofing</b>  |    |       |  | - |
|   |   |    |       |  | - |
| A | Roof cover in Gauge 30 CIS Nailed to 50 X 75mm purlins. Use pre painted Box Profile iron sheets   | SM | 12.00 |  | - |
|   |   |    |       |  | - |
|   |   |    |       |  | - |
|   | <b>Timber Work</b>  |    |       |  | - |
|   |   |    |       |  | - |
|   | All structure truss members shall be in seasoned cypress wood or most preferably eucalyptus wood and painted two coats of anti termite solution and shall be tight fixed with top tie beam with 6mm diameter plain bar.                             |    |       |  | - |
|   |   |    |       |  | - |
| A | a) 150 X 50mm wall plate  | M  | 9.50  |  | - |
|   |   |    |       |  | - |
| B | b) 50X 150mm timber to rafter and tie beam  | M  | 13.50 |  | - |
|   |   |    |       |  | - |
| C | c) 100 X 50mm vertical member   | M  | 2.50  |  | - |
|   |   |    |       |  | - |
| D | e) 50x75mm roof purlin  | M  | 19.00 |  | - |
|   |   |    |       |  | - |
|   | Carried to Collection   |    |       |  | - |
|   | <b>Element No.6: Fixtures and Fittings</b>  |    |       |  | - |
|   |   |    |       |  | - |
|   | <b>Doors</b>  |    |       |  | - |
|   | Provide and install the following purpose made doors complete with fittings and locks. Consider the cost of installing ventilation or Louvre block at the back of the latrine block and above the latrine door covered with a net screen or a gauze |    |       |  | - |
|   |   |    |       |  | - |
| A | Light guage mild steel sheets shutter door 750 X 2100mm to normal latrine. Fabricated with sheets welded to 50x 25x3ss rectangular steel section frames .Provide internal and external locks/latches and have door supported on 100mm brass hinges  | No | 4.00  |  | - |
|   |   |    |       |  | - |
| B | 3x3x 75mm Angle line framed 900 X 2100mm to latrine for use by PLWD   | No | 1.00  |  | - |
|   |   |    |       |  | - |
|   | Carried to Collection   |    |       |  | - |
|   | <b>Element No.7: Finishes</b>   |    |       |  | - |

|   |   |      |       |  |   |
|---|---|------|-------|--|---|
|   |   |      |       |  | - |
| A | Apply plater in ratio 1:3 of cement : sand clean river sand to beam surface internally and externally and to all wall surfaces to achieve a smooth steel float finish   | SM   | 29.95 |  | - |
|   |   |      |       |  | - |
| B | Apply one priming coat and two finishing coats of 1st grade paint to beam surface internally and externally and to . Use either dura coat , crown or sadolin paint  | SM   | 29.95 |  | - |
|   |   |      |       |  | - |
| C | Cement sand screed with 0.1 aggregate mix, price to urinal platform, cost to includes chiselling of floor in all latrines to ensure a self draining gradient that directs flow into the pit latrine with smooth steel finish          | SM   | 22.00 |  | - |
|   |   |      |       |  | - |
| D | Provide 3 coats of black bituminous paint to all exposed concreted faces at the bottom of the wall for a 400mm high skirting  | SM   | 12.00 |  | - |
|   |   |      |       |  | - |
| E | Branding: Provide labour and inscribe LWF_ Logo and with visible wording i.e THIS FACILITY WAS CONSTRUCTED AND HANDED OVER TO .....COMMUNITY BY LWF 2021 on a surface prepared on the wall by plaster or as directed by site Engineer | Item | 1.00  |  | - |
|   |   |      |       |  | - |
|   | <b>Vent Pipe</b>  |      |       |  | - |
| F | Provide a PVC vent pipe 150 mm diameter complete with fly screen and cap to 200mm above the roof pitch , installed external to the latrine wall   | No   | 4.00  |  | - |
|   | <b>Carried to Collection</b>  |      |       |  | - |

| <b>Element No.8: Drainage and Water Supply</b> |   |                |             |  | - |
|--|---|----------------|-------------|--|---|
| A  | Supply and install a stand alone hand wash station featuring a well finished tap stand complete with all fittings for fresh water and used water drainange gully trap and soak away pipe ( 3" ) leading into a soak away trench filled with hardcore as shall be advised by the engineer  | Item           | 1.00        |  | - |
| B  | Supply and install a plastic storage tank of 0.5m3 capacity complete with 25mm ppr pipe works, valves and fittings from water main to hand washing basins.<br><br>The storage tank to be located at a position as shall be directed by the engineer and installed on a 1.5m high steel frame made from 5mm x 50mm x 50mm hollow tubes embedded in a 600mm concretete foundations . Rate to include all the work required to cut, form, join, weld, corrosion protection, priming and two coats of red oxide | Item           | 1.00        |  | 0 |
| C  | Provide and install ceramic tiles for the male urinal internal wall to height of 1.2m above ground surface  | m <sup>2</sup> | 6.50        |  | 0 |
| <b>D</b>                                       | <b><u>Supply and install the following:</u></b><br>i) Water connection to a nearby source using 0.5 inch PPR pipes and related control fittings such as gate valves to serve the storage tank<br><br>and the absence of a nerby water source ( within 30 meter distance)<br><br>ii) A PVC rain water harvesting gutter, receptacle and and down pipe to sufficintlly feed the above hand washing plastic storage tank   | <b>Item</b>    | <b>1.00</b> |  | - |

|   |  |      |      |  |   |
|---|--|------|------|--|---|
|   |  |      |      |  | - |
| E | Provide 150 diameter half-round Ceramic tile lined drain open urinal drainage channel that empties hygienically into the pit latrine through a grated floor trap | M    | 2.63 |  | - |
|   |  |      |      |  |   |
| F | Provide a 4 inch floor trap into which the above urinal facility drains  | item | 1.00 |  | - |
|   |  |      |      |  | - |
| G | Provide and install ceramic tiles for the male urinal internal wall to height of 1.2m above ground surface   | SM   | 4.20 |  | - |
|   | <b>Carried to Collection</b>   |      |      |  | - |



| <b>SUMMARY</b>                                |                           |  |  |  |   |
|---|---------------------------|--|--|--|---|
|   |                           |  |  |  | - |
| 1   | EXCAVATION AND EARTHWORKS |  |  |  | - |
| 2   | MASONRY WORK              |  |  |  | - |
| 3   | CONCRETE WORK             |  |  |  | - |
| 4   | CONCRETE ANCILLARIES      |  |  |  | - |
| 5   | ROOFING                   |  |  |  | - |
| 6   | FIXTURES AND FITTINGS     |  |  |  | - |
| 7   | FINISHES                  |  |  |  | - |
| 8   | DRAINAGE AND WATER SUPPLY |  |  |  | - |
| <b>SUB TOTAL ONE 4-DOOR LINED VIP LATRINE</b> |                           |  |  |  | - |