ENGINEERING DESIGN OF WASH FACILITIES ACROSS BORNO, ADAMAWA, AND YOBE (BAY) STATES

GANGARASSO MAIN WATER SCHEME
ELEVATED STORAGE TANK 50 Cu.m

ADAMAWA
NOTE:
Soil bearing capacity is to be determined by contractor on site for the foundation of tower.
**DETAIL-B**

- 80x80x8mm EA diagonal bracing
- 100x100x8mm EA diagonal bracing
- 8mm Gusset Plate welded to stanchion
- 80x80x8mm EA diagonal bracing

**DETAIL-C**

- 80x80x8mm EA diagonal bracing
- 8mm Gusset Plate welded to stanchion
- 100x100x8mm EA diagonal bracing
- 80x80x8mm EA diagonal bracing

**DETAIL-A**

- 80x80x8mm EA diagonal bracing
- 100x100x8mm EA
- 8mm Gusset Plate welded to stanchion
- 80x80x8mm EA diagonal bracing
- 16mm thick base plate
- Reinforced concrete (1:2:4)
- 22mm dia. rod with threaded end

**TANK DETAILS**

**ELEVATED STORAGE TANK 50 Cu.m**

**GANYE**

**GANGARASSO MAIN WATER SCHEME**

**ADAMAWA**

- BB8U03
**STANCHION BASE DETAILS**

4 No THUS

- **Dimensions:**
  - 30-Y16
  - 6-Y10\@300mm/c links
  - Y16\@250mm/c

- **Materials:**
  - 22mm Ø HDB
  - 20mm thick base plate
  - 25mm GROUT

- **Additional Details:**
  - 4 No 22mm Ø HDB 1200mm
  - 22mm Ø BOLTS
  - 2 No 150X150X23 With Stiffner

**FOOTING DETAILS**

- **Dimensions:**
  - 500X500X20mm THICK BASE PLATE

- **Materials:**
  - 22mm Ø BOLTS
  - 20mm thick base plate
  - 5mm GROUT

- **Additional Details:**
  - 4 No 22mm Ø HDB 1200mm

**Detail 'A'**

- **Dimensions:**
  - 50mm conc. blinding
  - Y16@250mm/c

- **Materials:**
  - 30-Y16
  - 6-Y10@300mm/c links
  - Y16@250mm/c

- **Additional Details:**
  - 2 No 150X150X23 With Stiffner

**Section 3-3**

- **Dimensions:**
  - 500X500X20mm THICK BASE PLATE

- **Materials:**
  - 22mm Ø HDB
  - 20mm thick base plate
  - 5mm GROUT

- **Additional Details:**
  - 4 No 22mm Ø HDB 1200mm

**Drawings Made by:**

- Engr Soji

**Drawings Checked:**

- Damola

**Drawings Drawn:**

- USAID/MERCY CORPS

**Consultant:**

- KONSADEM ASSOCIATES LTD
  - Engineers & Consultants
  - 29, Olowo Market, Ibadan, NIGERIA.
  - E-mail: konsadem@gmail.com

**Client:**

- USAID/BAY/BU-00

**Engineering Design of Wash Facilities Across Borno, Adamawa, and Yobe (Bay) States**

- Service Contract No: YOL SC 14

**Scale:**

- 1:100

**Design:**

- 2ML CONSULTING NIGERIA LTD
  - Office 8, B1-Close Off 69(A) Road Gwarinpa Abuja

**Ref. No:**

- 255-880-BB/BU-04
All bolts connected to gusset plates to be 16mm dia, grade 8.8

DETAILS AT 'B'

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NOTES

1. CONCRETE GRADE = 25
2. STEEL GRADE = 43
3. SOIL BEARING CAPACITY (ASSUMED) = 150KN/m²
4. WIND LOADING CONDITIONS = 40m/s²
5. ELECTRODE: A fax 3.10/4.00mm
   5mm thick fillet weld on body panels
   10mm thick butt welding on base.

PAINTING
a. Internal section of tank with 1 coat of epoxy primer followed by 2 coats asphalt paint.
b. External surface of tank including the
   access ladder and ventilation beams with
   with red oxide base followed by 2 coats of
   HR aluminum paint (5200)
Borehole depth as specified

- Lockable Temporary Steel Cap
- 125mm dia. API Steel/UPVC Casing
- Cement grout in borehole annulus 6m from ground level
- Backfill with cutting from drill hole
- 125/75mm dia. mild steel/UPVC Adapter
- Gravel pack with 2-4mm dia. gravel inserted to a minimum of 3m above the screen
- 125mm dia. stainless steel/UPVC screen
- 1.5m length of 125mm dia. plain casing as sump
- Borehole depth as specified
Soil bearing capacity is to be determined by contractor on site for the foundation of tower.
DETAIL-B

- 80x80x8mm EA diagonal bracing
- 100x100x8mm EA
- 8mm Gusset Plate welded to stanchion
- 80x80x8mm EA diagonal bracing

DETAIL-C

- 80x80x8mm EA diagonal bracing
- 8mm Gusset Plate welded to stanchion
- 100x100x8mm EA
- 80x80x8mm EA diagonal bracing

DETAIL-A

- 80x80x8mm EA diagonal bracing
- 100x100x8mm EA
- 16mm thick base plate
- Reinforced concrete (1:2:4)
- 22mm dia. rod with threaded end
All bolts connected to gusset plates to be 16mm dia, grade 8.8

NOTES

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3. SOIL BEARING CAPACITY (ASSUMED) = 150KN/m²
4. WIND LOADING CONDITIONS = 40m/s²
5. ELECTRODE: A fox 3.10/4.00mm
   5mm thick fillet weld on body panels
   10mm thick butt welding on base.

PAINTING
a. Internal section of tank with 1 coat of epoxy primer followed by 2 coats asphaltic paint.
b. External surface of tank including the access ladder and ventilation beams with red oxide base followed by 2 coats of HR aluminum paint (5200)
Lockable Temporary Steel Cap

125mm dia. API Steel/UPVC Casing

Cement grout in borehole annulus 6m from ground level

Backfill with cutting from drill hole

125/75mm dia. mild steel/UPVC Adapter

Gravel pack with 2-4mm dia. gravel inserted to a minimum of 3m above the screen

125mm dia. stainless steel/UPVC screen

1.5m length of 125mm dia. plain casing as sump

Borehole depth as specified
Soil bearing capacity is to be determined by contractor on site for the foundation of tower.

NOTE:

- 750 Ø Manhole
- Water Level Indicator
- Air Vent
- 3mm thick M/S plate
- 2500 Ø Manhole
- 6mm thick M/S base plate
- 5mm thick M/S plate
- DN 20g pipe handrail
- 3000 x 5000 mm ladder and 6mm Thick Protective Guard
- 3000 x 5000 mm 12mm thick Checker plate
- 356x171x67 U.B
- 457x152x67 U.B
- 100X100x8 EA
- 80x80x8 EA
- Bracing
- 254x254x73 U.C
- 100X100X8 EA
- Bracing
- 9000 x 10000 mm 150mm Ø outlet Pipe
- 75mm Ø Inlet Pipe
- 100mm Ø overflow Pipe
- 1000100x8 EA
- 80x80x8 EA
- Bracing
- 254x254x73 U.C
- 100X100X8 EA
- Bracing

SIDE VIEW

- 40x48 angle iron protective frame for Solar Panel, tilted at 15 degrees

FRONT VIEW

- 5mm thick M/S plate
- DN 20g pipe handrail
- 6mm thick M/S base plate
- 45x152x67 U.B

DIAGRAM INFORMATION

- Made by:
- Date:
- Mark:
- Revision
- Checked:
- Traced:
- Drawn:
- Date:
- Ref. No:
- Designed:
- CONSULTANT:
- USAID/MERCY CORPS
- USAID/BAY/BU-O0
- KONSADEM ASSOCIATES LTD
- 2ML CONSULTING NIGERIA LTD
- Office B, 6th Close Off 69(A) Road
- Gwarinpa, Abuja, P.M.B 5478, Ibadan, NIGERIA.
- E-mail: konsadem@gmail.com

ENGINEERING DESIGN OF WASH FACILITIES ACROSS BORNO, ADAMAWA, AND YOBE (BAY) STATES

GANYE STATE

ELEVATED STORAGE TANK 25 Cu.m

BB68U03-00
**DETAIL-A**

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- 100x100x8mm EA
- 8mm Gusset Plate welded to stanchion
- 80x80x8mm EA diagonal bracing

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4. WIND LOADING CONDITIONS = 40m/s²
5. ELECTRODE: A fox 3.10/4.0Gmm
   3mm thick fillet weld on body panels
   10mm thick butt welding on base.

PAINTING:
  a. Internal section of tank with 1 coat of epoxy primer followed by 2 coats asphaltine paint.
  b. External surface of tank including the access ladder and ventilation beams with
     red oxide base followed by 2 coats of HR aluminum paint (520D)
Borehole depth as specified

Lockable Temporary Steel Cap

125mm dia. API Steel/UPVC Casing

Cement grout in borehole annulus 6m from ground level

Backfill with cutting from drill hole

125/75mm dia. mild steel/UPVC Adapter

Gravel pack with 2-4mm dia. gravel inserted to a minimum of 3m above the screen

125mm dia. stainless steel/UPVC screen

1.5m length of 125mm dia. plain casing as sump