Project: Abusakeen Onion Store
North Darfur State
Contains:
Brick Work Plan
**GENERAL:**

1. THIS DRAWING MUST NOT BE SCALED.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER ENGINEERS, ARCHITECT AND SUB-CONTRACTOR DRAWINGS, DETAILS AND SPECIFICATION.
3. THE CONTRACTOR IS TO CHECK AND CONFIRM ALL THE DIMENSIONS AND DETAILS SHOWN ON THIS DRAWING.
4. ALL DIMENSIONS IN M. UNLESS NOTED OTHERWISE.

**Note:**

- Steel $F_y = 410 \text{ N/mm}^2$
- Larger than bar size.
- Overlaps of steel should not be less than 45 times
- No Overlaps of steel @ cantilevers areas.
- Concrete Cover: @ Slab & Col. = 25mm, @ Footings = 50mm.
- Max Aggregate Size = 20mm.

**FOOTING'S SCHEDULE**

<table>
<thead>
<tr>
<th>L (A)</th>
<th>W (B)</th>
<th>DEPTH (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F1</strong></td>
<td>160 X 160 C/C</td>
<td>50 CM Y16 @ 150MM</td>
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</table>

**FOOTING STEEL:**

- Y Dia 16 @ 150MM C/C BOTH WAY

**COLUMNS DETAILS**

- **C1 COLUMN**
  - $8 \times 16$
  - Under Ground Level:
    - Concrete grade 30
    - 6 Y Dia 12 Links 1 R 8 @ 150
  - Above Ground Level:
    - Concrete grade 30
    - 6 Y Dia 12 Links 1 R 8 @ 150
  - Column length not less than 2.4

**FOOTING STEEL:**

- Y Dia 16 @ 150MM C/C BOTH WAY

**SELECTED SOIL MECH. IMPACTED LAYERS**

- 200MM THK

---

**Project:**

Abusakeen Onion Store

**Contains:**

Brick Work Plan

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**Notes:**

- Use 4:1 Mixes in all Masonry
- All Steel should be bar rebar in conjunction with RC design.
- Concrete Cover: @ Slab & Col. = 25mm, @ Footings = 50mm, Max Aggregate Size = 20mm.
3.75 M REINFORCED CONCRETE COLUMN

Circular Column details

FOOTING STEEL: YDIA16@150MM C/C BOTHWAY

30 CM PLAIN CONCRETE

1 BRICK INTERNAL AND EXTERNAL SHUTTERING WALLS TO SUPPORT THE BACK FILLING

1.00Ø 1.50 C/C REINFORCED CONCRETE SHORT COLUMN OF 2.4 METER HEIGHT AT LEAST

1.00Ø 0.70 M REINFORCED CONCRETE SHORT COLUMN

1.00Ø 0.25 M REINFORCED CONCRETE SHORT COLUMN

ROOF BEAM OF 25*30 AT +3.75M FROM GB

LENTIL BEAM OF 30*20 AT +2.20 M FROM GB

TRUSS SECTIONAL DETAILS

NUT (X2)

40X80 MM SQUARE SECTION TRUSS

3 COATS OF ANTI-CORROSION PAINT

50X100 MM SQUARE SECTION TRUSS

3 COATS OF ANTI-CORROSION PAINT

1.00Ø 1.50 C/C PURLING @100CM C/C

3 COATS OF ANTI-CORROSION PAINT
TRUSS SECTIONAL DETAILS

1. 15 brick Wall of good quality bricks cement sand mortar mix 1:8, plastered internally and externally

2. 40cm*40cm reinforced concrete grade beam 6*16 mm rebars 8mm links*20cm c/c

3. 10cm depth plain concrete

4. 40cm*80cm strip foundation of Good quality granite stone and 1:6 cement sand mortar selected material properly compacted

5. 60cm*80cm strip foundation of Good quality granite stone and 1:6 cement sand mortar selected material properly compacted

Sectional Wall Details

40cm width brick wall of 40cm height

50cm depth plain concrete

40cm*40cm reinforced concrete grade beam 6*16 mm rebars 8mm links*20cm c/c

D1

D2

Project:
Abusakeen Onion Store
North Darfur State

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Brick Work Plan

Mar 2020

A6
DET.01 PARTIAL LONGITUDE STEEL ROOF SECTION

- 0.35 MAX @ CENTER
- 2.22 MAX @ CENTER
- +5.95 TOP OF CAP
- 0.10 INSERTED
- -3.90 BEAM LOWER FACE
- +4.20 EXTERNAL FASCIA

Components:
- **Steel Cap**: Powder coated pre-paint "RAL 1001" fixed to steel sheets by self-drilling stainless steel screws with rubber washer.
- **Steel Structure**: 5’10" steel truss with 3 coats of anti-corrosion paint. See structural drawings.
- **Glass Wool Thermal Insulation**: Laid under US zinc sheets & above purling and supported by steel mesh from bottom.
- **Parapet**: Hollow cement block 40x20x20 cm with 1.5 cm plaster c/s 1:4 mix. Both sides coated with 3 layers of acrylic emulsion textured paint externally.
- **Roof Purling**: 4x8 cm square section purling with 3 coats of anti-corrosion paint.

Dimensions:
- 0.510
- 0.525
- 0.625

Project Details:
- **Project**: Abusakeen Onion Store
- **Location**: North Darfur State

Design by UNDP.
WOOODEN FASCIA & CLADDING

WOODEN FASCIA & CLADDING

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DET. 01: VERTICAL UPPER SECTION

IPE A120 - 8.7 KG/M WELDED TO PLATE
10X10 CM C-SECTION CHANNEL TRACK WELDED TO IPE A120

10 CM THICK REINFORCED CONCRETE RAMP 1:2:4 MIX, 10 MM @ 150 MM BOTHWAY

20 X 30 CM 10.45 M LENGTH REINFORCED CONCRETE BEAM AS DOOR BED 1:2:4 MIX, 4016MM LINKS 8MM @ 150 MM C/C

DOOR ROLLER GUIDE

DET. 02: VERTICAL LOWER SECTION

IPE A120 - 8.7 KG/M WELDED TO PLATE

7 MM THICK PLASTIC SHEET CURTAIN STRIPS AS WEATHER PROTECTION FIXED TO RC BEAM BY STEEL FISHER @ 50CM C/C

DET. 02: SECTIONAL PART PLAN

FILLED STEEL ROD AS WHEEL TRACK

2 QTY 50 X 50 MM STEEL ANGLE INSERTED IN RC BEAM BY STEEL FISHER OR ANCHORS WELDED TO BEAM STEEL 3 COATS OF ANTI-CORROSION PAINT

IPE A120 - 8.7 KG/M WELDED TO PLATE
3X6 CM HOLLOW SECTION

DOOR LEAF FRAME

STYROFOAM INSULATION

3X6 CM SQUARE SECTION @ 50 CM C/C BOTHWAY COATED BY ANTI-CORROSION PAINT

2 QTY 50 X 50 MM STEEL ANGLE INSERTED IN RC BEAM BY STEEL FISHER, OR ANCHORS WELDED TO BEAM STEEL 3 COATS OF ANTI-CORROSION PAINT

10 CM THICK REINFORCED CONCRETE RAMP 1:2:4 MIX, 10 MM @ 150 MM BOTHWAY

2 QTY 50 X 50 MM STEEL ANGLE INSERTED IN RC BEAM BY STEEL FISHER, OR ANCHORS WELDED TO BEAM STEEL 3 COATS OF ANTI-CORROSION PAINT

DET. 02: ROLLER WHEEL DETAIL

FILLED STEEL ROD AS WHEEL TRACK

DOOR ROLLER GUIDE

3X6 CM HOLLOW SECTION
**EAVE DETAILS AT STEEL ROOF**

**DETAIL 03**

- **25 X 30 CM RC BEAM**
- **STEEL STRUCTURAL TRUSS**
  - Fabricated from 5*10 BOX PIPE
  - Steel 3 coats of anti-corrosion paint (see structural drawings)
- **ROCK/GLASS WOOL THERMAL INSULATION LAYED UNDER US ZINC SHEETS & ABOVE STEEL MESH AND PURLING**
- **4X8 CM SQUARE SECTION PURLING**
- **20 CM WIDE 1CM THICK SOFT WOODEN FASCIA; 3 COATS OF WEATHER PROOF OIL PAINT**
- **4X8 CM SQUARE SECTION PURLING**
- **25X25CM SQUARE SECTION, SCREWED ON 5X10 CM VERTICAL ANGLE WELDED TO TRUSS**
- **25 X 45 X 1 CM STEEL PLATE ANCHORED TO RC BEAM**

- **SELF DRILLING STAINLESS STEEL SCREW**
- **RUBBER WASHER**
- **SILICONE SEALANT**
- **PANEL A**
  - US ZINC SHEET
- **PANEL B**
  - US ZINC SHEET

**ENLARGED DETAIL**

**ELECTRICAL KEY**
- **WALL MOUNTED LAMP**
- **ELECTRICAL KEY**
- **DOUBLE ONE WAY SWITCH**
- **SOCKET OUTLET**
- **CEILING FAN**

**DESIGN BY:**

**UNDP**
Latrine Plan View

1500 liter water tank
connected with latrines with water pipe

DOOR 1 DETAILS

DOOR 2 DETAILS

Highlights window

Good quality steel sheet.

Good quality lock

Latrines

Hand rail for disable attached to latrine concrete floor.

Hand rail for disable attachment.

Agency:

UNDP SUDAN

Content:

2 Rooms latrine

L1

Agency:

UNDP SUDAN

Content:

2 Rooms latrine

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2 Rooms latrine

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Agency:
#4 rebar of 10 mm diameter with 6 mm links

**Lentil Beam Detail**

- 15 cm depth Re-concrete cover slab of 1:2:4 concrete mix and R10 re-bars linked with 6 mm rebar @20 cm
- 20 cm*15 cm Re-concrete tie beam of 1:2:4 concrete mix and R10 re-bars linked with 6 mm rebar @20 cm

**Zink Sheet Roof**
- Attached to 4*8 steel box pipe purlins with self tap bolts

**2 Rooms Latrine**
- Normal ground level
- 30 cm*60 cm stone strip foundation & cement/sand mortar 1:6 mix
- 2 brick wall & cement/sand mortar 1:6 mix
- 3.0 meter diameter well of 7 meter depth lined with 1.5 brick wall built of good brick and cement sand mortar of 1:6

**50 cm*60 cm stone strip foundation & cement/sand mortar 1:6 mix**

**Ring Beam Detail**
- 2.34
- 0.30
- 0.10

**UNDP Sudan**
- Empowered lives.
- Resilient nations.
NOTE:
All steel work shall be painted with antirust paint and final paints.
**Note:**

- The steel frame and the steel sheet shall be of good quality.
- The steel frame and the sheet shall be painted with antirust and final coats.
- The contractor shall properly draw as indicated in the BoQ.

Heavy steel sheet fully welded to 4*8 steel box pie frame.

- 4*8 steel box pipe painted with antirust paint.
- 2 inch steel angle.
- Plan concrete.

**General:**

1. All steel members shall be of good quality heavy steel (Black type).
2. All steel members shall be painted with antirust paint and final coats.
3. The plain concrete is of 1:3:6 mix and shall be treated properly with water.
4. All dimensions are in meter unless otherwise stated.

**Abusakeen Onion Store**
North Darfur State

**SUDAN**
Empowered lives. Resilient nations.