

Solar Pump BOQ for one mini water yard Borehole in Eraida - Um Dukhun Locality-Central Darfur State:

Borhole Data: Q max =4 m³/h, H = 80 m, SWL =27.4m, PSD =32m, DD = 41.42 m, Total depth =64m, pipe distance from borehole out leit to elevated tank =226 m, Borehole =Ø4.5 inch.

SN	Item Descriptions	QTY	Unit	Unit cost	Total cost SDG
A	Solar BOQ:				
	DRC is looking for a qualified technical experienced person to provide, thier laboring, and transport the items in the table list and the installation of one solar power system according to the borehole data above as specified in the BOQ list:				
1	<u>Grundfos</u> . Centrifugal pump Q = 5 m³/hr	1	Set		
2	Provide an installed inverter controller PSK, to operate the submersible pump, provided with a solar power pack of Grundfos type, which should be fixed under the solar cells.	1	PCs		
3	Provision of materials and fabrication of metallic box dimensions (50*40*50cm) , (Length*Width*Height) provided with door and lock, for inverter, painted from inside and outside, made from Iron sheet thickness 1mm & expanded iron sheet, and steel angle 1.5*1.5*3mm , to be fixed using plain concrete on the wall inside the Generator room.	1	PCs		
4	Water level sensor for dry run protection with wire.	1	Set		
5	Solar module total 5000 -Watt peak, 10 panels polycrystalline (5*2-Lc300w - P72) , dimension (1650*992*35) mm. Weight 18.5kg , efficient PV.	1	Set		
6	Solar panel support structure using steel I section for columns, steel pipes 4x8cm for beams and 3x6cm for purlins, the legs of the support structure must be anchored in concrete (made with 1:2:4 cement concrete) with dimensions (40cm x 40cm x 60cm depth) and 10 cm above ground level.	1	job		
7	Pump drop cable: flexible 4 -core cable with 4*16mm² to relate to the Grundfos system.	60	m.l		
8	Provision of polyethylene 2inches for protection of electrical cable and backfill on the ground for 50cm depth.	20	M.L		

9	Galvanised steel riser pipes: standard (Diameter 1¼-inch*3meter long, threaded on both sides with socket), heavy type-ASTM.	20	Pcs		
10	Fittings for 9 above (Connectors, elbows, adapters, clamp to hold the pipes on top of the wall casing, ... etc).	1	Set		
11	Angle size 1¼ inch Assad 6ml*2mm thickness for fixing the array panels with welding.	11	No		
12	Flowmeter reading size 2 inch for m³ and water meter fraction counting - type - BS.	1	Set		
13	Digging of the trench for pumping pipeline dimensions (30*40cm), (Width*Depth).	230	M.L		
14	Provision and connection of polyethene pipe typeHigh Density (HD), high quality 2" , provided with necessary fittings, from the elevated tank to human tab stands.	230	M.L		
15	Provision of materials and installation of lightning arrestor to protect the PV system, using an Air terminal made from copper, length 75cm , with a down conductor made from electrical cable 4mm, and the earthing should be installed using 3kg of normal salt, according to attached drawings.	Job			
16	Purchasing of security solar lights 3,000 W , working with remote control charging through solar panel, and installing using G.I pipe 3 Inch length 3m , to be fixed on the ground using plain concrete (30*30*50cm ratio (1:3:6), (Cement*Sand*Gravel), then treat with fresh water for 3 days 3 times per day.	2	PCs		
Total (SDG)					

SDG

Amount in words: (.....)

Prepared by: DRC CD WASH Team

Reviewed by: John Paul / WASH, Shalter & CCCM Coordinator

Contractor Name: _____

Contractor Address: _____

Contractor Phone No.: _____

Date: _____

Duration of completion of the work (in days): _____

BoQ for fabrication and installation of steel elevated water tank 15m³, Height 4m

No	Description	Unit	Quantity	Unit price	Total Cost
1	Tank body:				
1.1	Provide material and cast steel tank body cylindrical shape, Diameter: 2.6m , height: 3m . side body: steel sheet 4mm thickness, top side: steel sheet 3mm thickness, bottom side: steel sheet 6mm thickness, open 0.5x0.5m on the top with locked cover and open drainage hole 3inch in the bottom for cleaning with socket and blogger 3-inch , with antirust paint first then paint gray color outside and black non toxic color inside, with DRC logo on three sides of the tank body as per attached drawing.	Sum lump	1		
1.2	Ladder: Provide steel angle 2-inch Assad type & steel bar 16 mm and make ladder 3.5 m.L with steps, the distance between steps 0.3m, and weld it on the tank body.	No	1		
2	Thank Stand:				-
2.1	Provide material and make steel stand 4-meter height, column: steel I section (kamar) size (18x9)cm , main beam: steel I section (kamar) size 14x7cm 2PCs , branch beam: steel I section (kamar) size 12x6cm 7PCs , rafters structure: steel angle 2.5 inch Assad type steel angle 3inch, plates: steel sheet 6mm, stand column foot plate/up: steel sheet 12mm , balacon: steel angle 2 inch Assad type then paint all the stand by black metallic paint as per attached drawing.	Sum lump	1		
2.2	Provision of materials and installation of water level indicator on the tank side using Iron angle 2 inches*2 inches , 5mm, and marking in Feet using black & yellow paint.	PCs	1		
2.3	Ladder: Provide steel angle 2 inch Assad type & steel bar 16 mm and make ladder 5m.L with steps, distant between steps 0.3m and fix it properly.	No	1		
3	Concrete Work:				-
3.1	Provide material and install steel water tank by excavation of foundation (1x1m) , depth 1m up to ground level, cleaning concrete slab for foundation: plain concrete 1:3:6 with thickness 10cm , footing: reinforced concrete 1:2:4 for foundation (1x1m) thickness 40cm with steel bar 12mm , Short column: reinforced concrete 1:2:4 for column (0.5x0.5m) length 80cm, 30cm over the ground with welding 4 steel bolts on each and reinforced concrete beam (0.3x0.3m) connection to 4 Short columns up to ground level with steel bar 12mm . as per attached drawing.	Sum lump	1		
4	Galvanized pipe work:				-
4.1	Provide and fix galvanised pipe 8m. L size 2-inch for inlet good quality with fitting needed.	No	1		

4.2	Provide and fix galvanize pipe and 8m.L 3- inch for outlet with control valve 3inch good quality and fitting needed.	No	1		
4.3	Construction of reinforcement concrete for valve dimensions (60*60*40cm)	No	1		
Total Cost SDG					

SDG

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Contractor Name: _____

Contractor Address: _____

Contractor Phone No.: _____

Date: _____

Duration of completion of the work (in days): _____

BoQs for Connection of pumping pipeline, distribution pipeline, human tab stands & animals tab stand-Ereada village-Umdukhon

Items	Description	Unit	QTY	Unit Price(SDG)	Total Price (SDG)
1	Connection of distribution pipeline, human tab stands:				
1.1	Digging of the trench for distribution pipeline dimensions (30*40cm) , (Width*Depth).	ML	25		
1.2	Provision and connection of Gulvanized Iron pipe 3" , 6m length, provided with necessary fittings, from the elevated tank to human tab stands and animal troughs.	ML	25		
1.3	Construct a distribution water point (tap stand) with 10 Copper taps 3/4Inch , from redbricks and cement mortar dimensions (4*1*1.35m) , (Length*With*Height) with well plastering, and construct drainage system made red bricks No.1 and cement mix and from PVC pipe 4 Inch length (1m) according to attached technical drawings.	Tab stand	2		
Sub total (1)					-
2	Construction of fencing for tank & human tab stands dimensions 10*7m				
2.1	Digging of the foundation pit for pool dimensions (30*30*50cm) (Width,Length, Depth)	M³	0.76		
2.2	Provision of pools made from Iron angle size (2 inch*2 inch*3 mm) , length 2.5m , the pool should be cast on the ground using plain concrete dimensions (30*30*60cm) ratio (1:3:6) , (Cement, Sand, Gravel) and treat with fresh water 3 times per day for 3 days.	PCs	17		
2.3	Provision of chain link wire size 3mm , dimensions (10*2m) (Length*Height), and then tied with tension wire 3 rows according to attached drawings.	Roll	4		
2.4	Provision of materials and fabrication of painted door dimensions (1.5*2m) , made from Iron sheet thickness 1mm , and using rectangular pipe (4*8cm, 1mm) , & (3*6cm, 1mm) , the pool should be made from UC (CAMMER) size 12 , length 2.5m .	Pcs	1		
2.5	Purchasing of security solar lights 3,000W , working with remote controlcharging through solar panel, and installing using G.I pipe 2 Inch length 3.5m , to be fixed on the ground using plain concrete (30*30*50cm) , provided with metallic stands according to attached pictures	PCs	2		
2.6	Provision of materials & fabricate painted metalic signboard, made from Iron sheet 1mm (Mohayer), rectangular pipe (4*8cm, 1mm) , dimensions (100*100cm) height 1m, and paint with construction details, and fix on the ground dimensions (30*30*50cm) , (Length*Width*Depth) infront of water yard, by using concrete mix (1:3:6) , (Cement*Sand*gravel).	PCs	1		
Sub total (2)					-

3	Construct of donkey cart filling tab stand				
3.1	Construct of donkey cart filling tab stand hieght 2m, provided with plastered, painted supporting wall dimensions (0.40*0.40*1.5m) , made from red bricks No.1 and cement mortar, Galvanized Iron pipe 2Inch , with 2 Nickel valves 2 Inches , according to the attached technical drawings.	Donkey cart stand	1	900,000	900,000.00
	Sub total (3)				
4	Animal trough tab stand provided with platform:				
4.1	Provision of materials and fabrication animal trough made from Iron sheet 4mm , size 1m³ , and using Iron angle 3 inch*3 inch*5 mm , and connect with the distribution pipeline, then install 2 nickel valve type (ball)) according to the attached drawings.	PCs	2		
4.2	Provision of materials and construction of animal trough foundation made from reinforced concrete mix ratio (1:2:4) , (Sand*Sand*Gravel), and using an Iron bar 16mm, 15cm from C/C, and to be cast above a red bricks platform thickness of 30cm that constructed by cement mix ratio 1:6 , then treat with pure water 3 times per day for 3 days, according to attached drawings.	M ³	2.16		
	Sub total (4)				
	Overall total cost				

Amount in words: (.....). SDG

Prepared by: DRC CD WASH Team

Reviewed by: John Paul Mugo / WASH, Shalter & CCCM Coordinator

Signature :

Contractor Name:

Contractor Address:

Contractor Phone No.:

Date:

Duration of completion of the work (in days):

BoQs for construction of solar fencing dimensions (9*7*2.5m), (Length*Width*Height) -Ereada village-Umdukhon

Items	Description	Unit	QTY	Unit Price(USD)	Total Price (USD)
S/N	Specification	Unit	Qty	Unit price	Total cost
1	Excavate a trench as a foundation with dimensions 0.6x0.5m (width and depth) and remove the soil away from the site.	m.l	32		
2	Provide materials and build a foundation by a brick wall (32x1m), (Length*Height) - (red brick - grade one) as foundation with cement mortar (1:6 mix) and dimensions 80x0.8m (length and height).	m.l	32		
3	Provide materials and build wall by 1.5m red brick wall (grade one) with cement mortar (1:6 mix) and dimensions 32*1m (length*height).	m ²	32		
4	Installation of painted Expanded Iron sheet "and welding of Iron Angle 1.5*1.5", 3mm as frame for the expanded Iron sheet" to be fixed very well by welding on the Angle 2*2", 3mm which fixed up to the wall each 2m using concrete mix (1:3:6), (Cement*Sand*Gravel) , and painting with red paint, according to attached technical drawings.	m ²	32		
5	Provide materials and fix/taiting Corinthian (Gambian) Wire on top of the wall. "One roll for 4m "	PCs	8		
6	Plastering: Provide and do soft plastering 2cm for the internal wall and rough plastering out the external, by ratio 1:6 .	m ²	64		
7	Provision of materials and do painting using BOMASTIC for the wall from internal & external.	m ²	64		
8	Provide and fix steel door (1.5x2m), (Width*height) made of metallic sheets 1 mm thickness and rectangular pipe (4*8cm, 1mm) & (3*6cm, 1mm) thickness, with paint.	No.	1		
9	Provide of gravel and backfill the area of solar system.	m ³	5		
10	Provide materials and fabricate with painted signboard size 130x200m by using 4x8 square pipes and a heavy steel sheet. The signboard should include the message provided by the WASH Engineer.	pcs	1		
Total Activity Cost					
Total Activity Cost in USD					\$ -

Amount in words: (.....).

Prepared by: DRC CD WASH Team

Reviewed by: John Paul Mugo / WASH, Shalter & CCCM Coordinator

Signature :

Contractor Name:

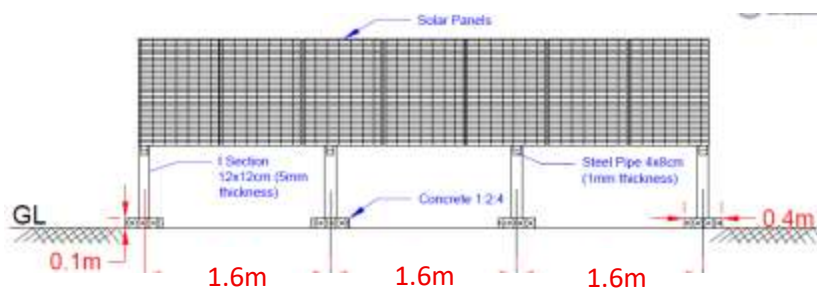
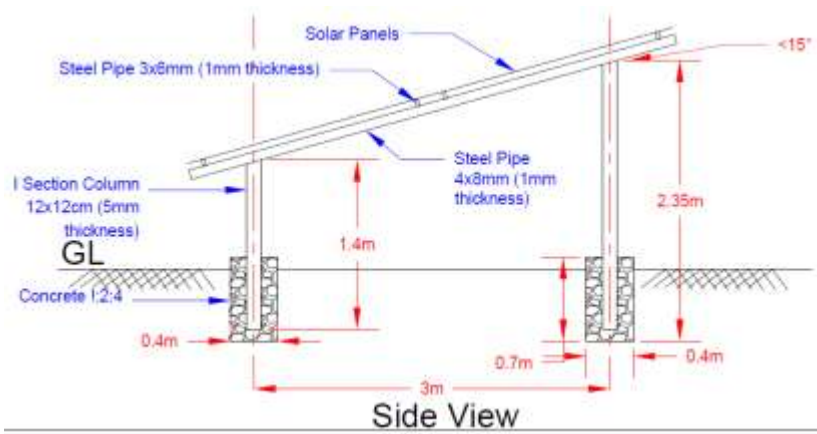
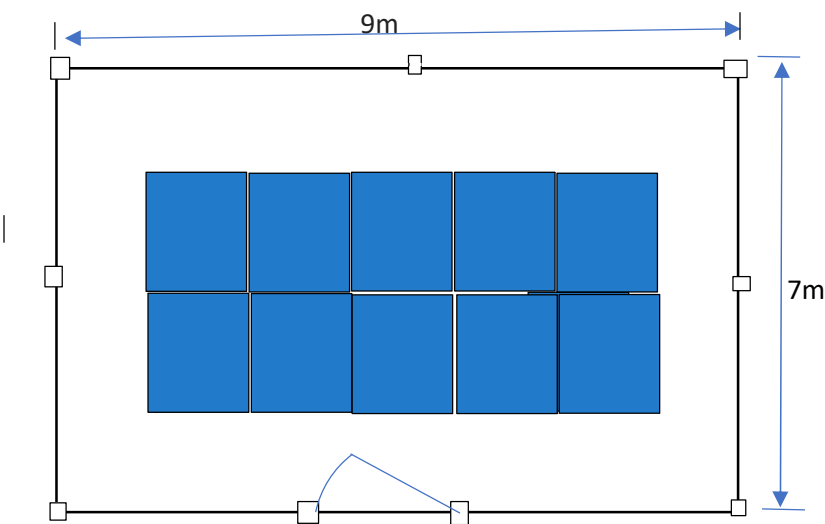
Contractor Address:

Contractor Phone No.:

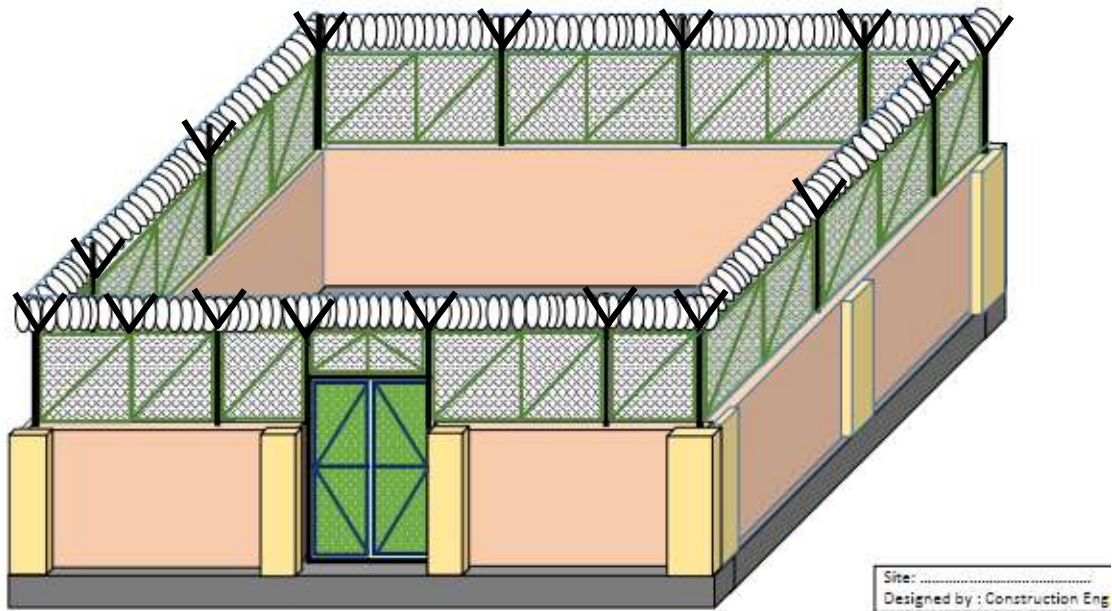
Date:

Duration of completion of the work (in days):

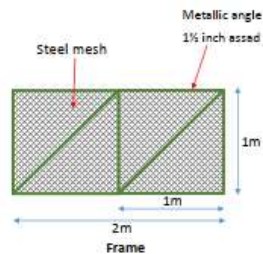
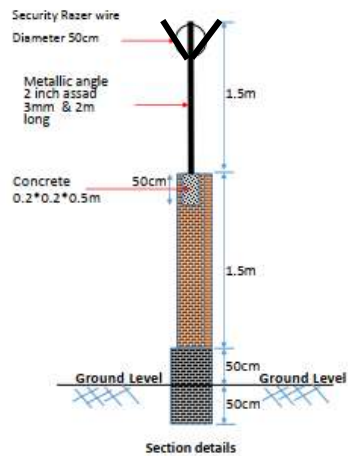
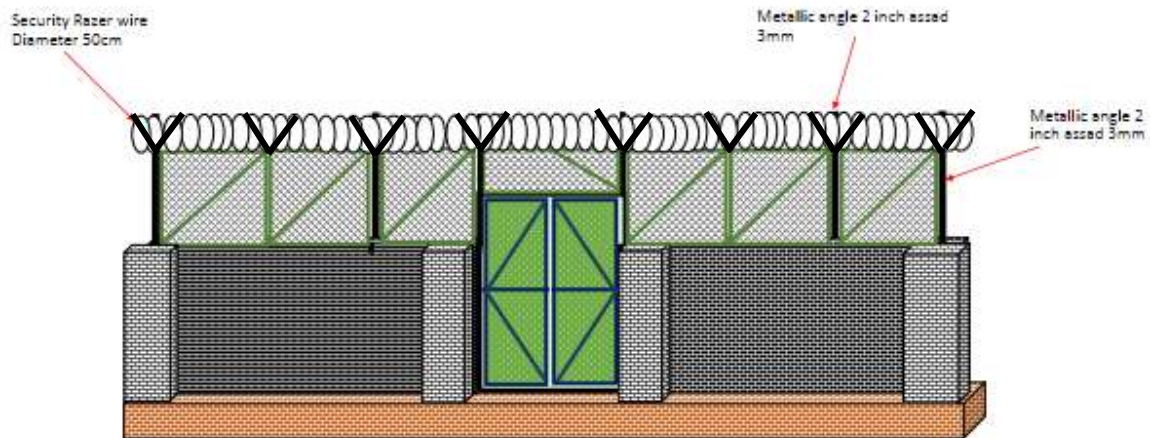
Solar system holder :



Solar fence Design

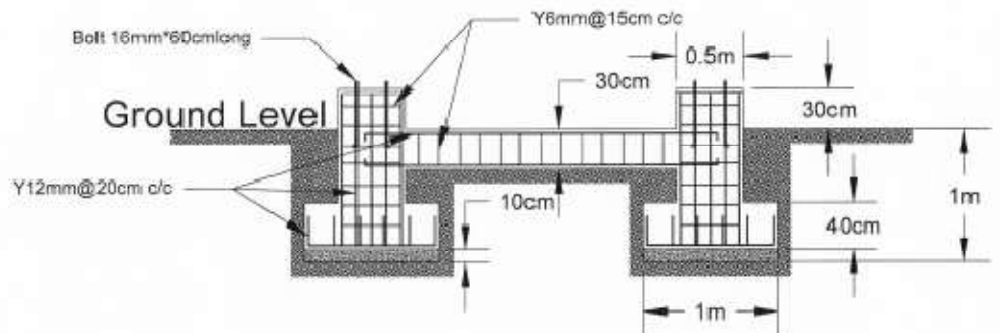
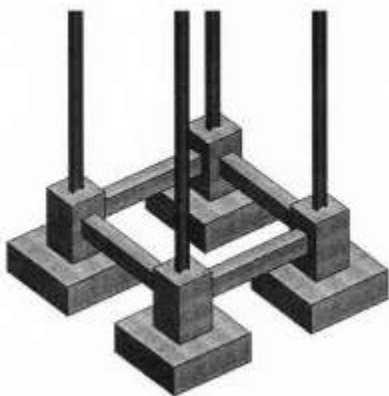
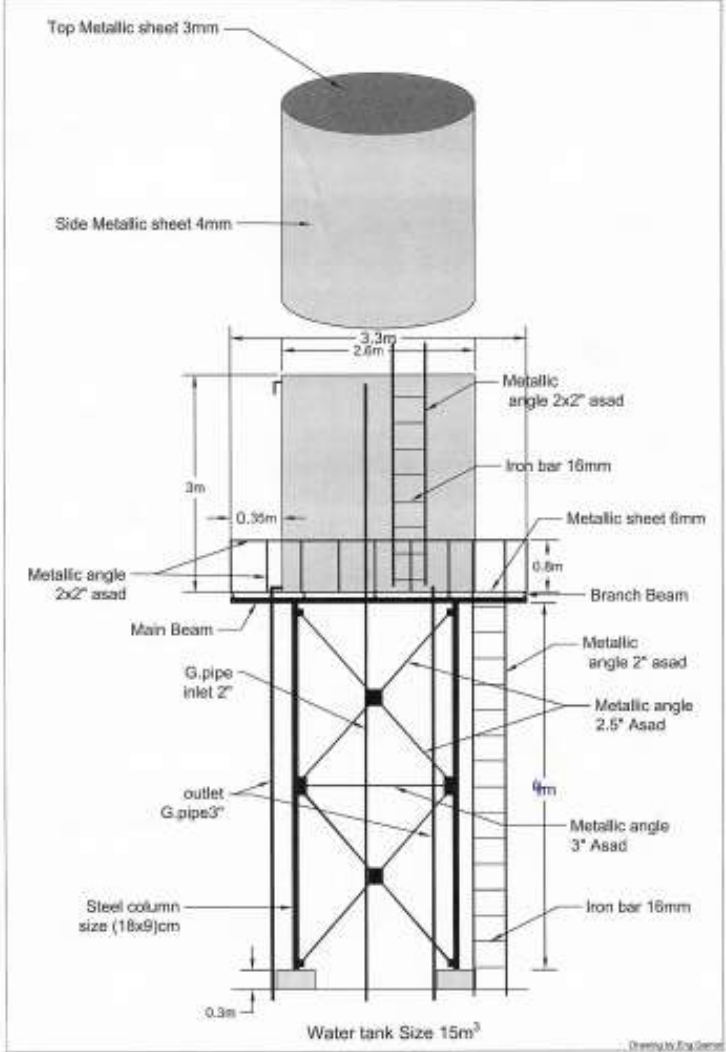
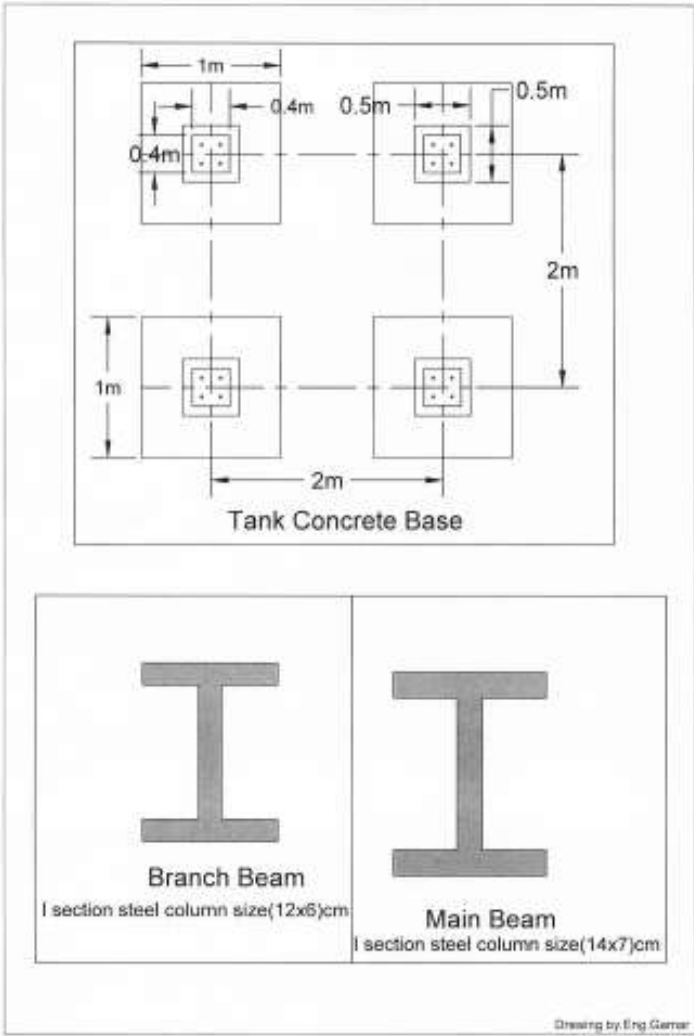


Solar fence Design



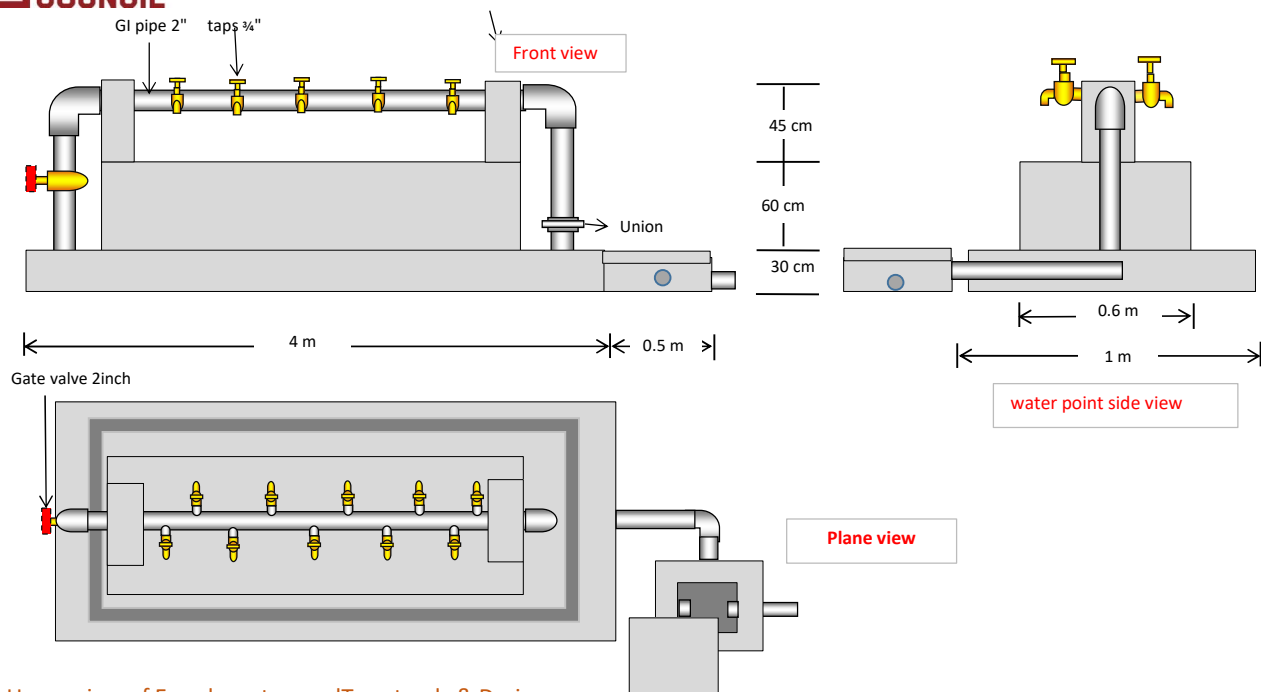
Site:
Designed by : Construction Eng

Ereada elevated water tank:

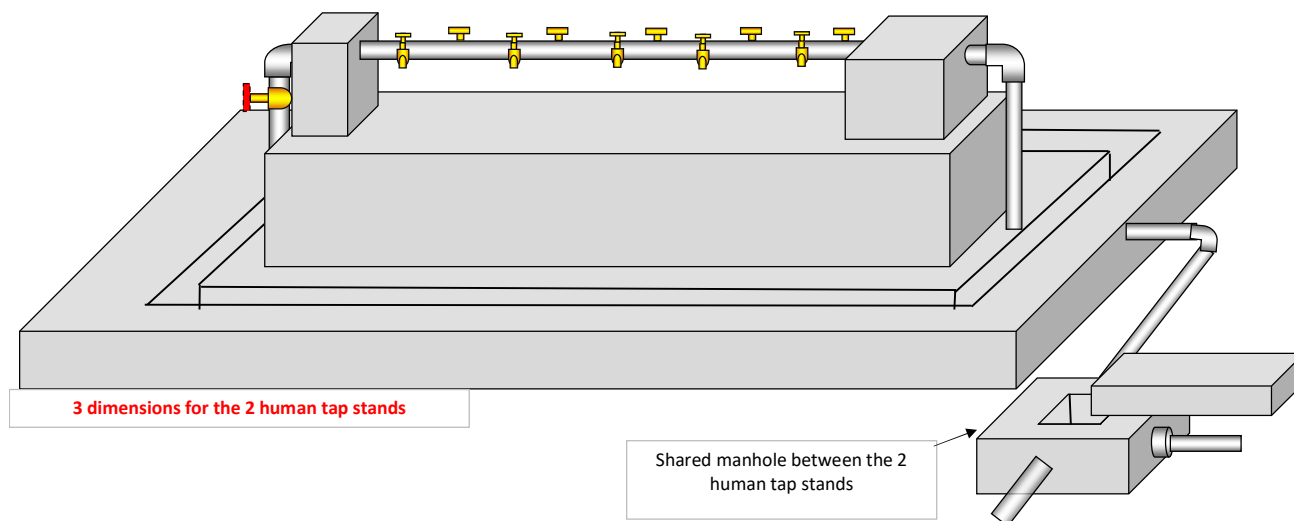


Foundation Details

Ereada water yard human tap stand Dimensions in Cm and m



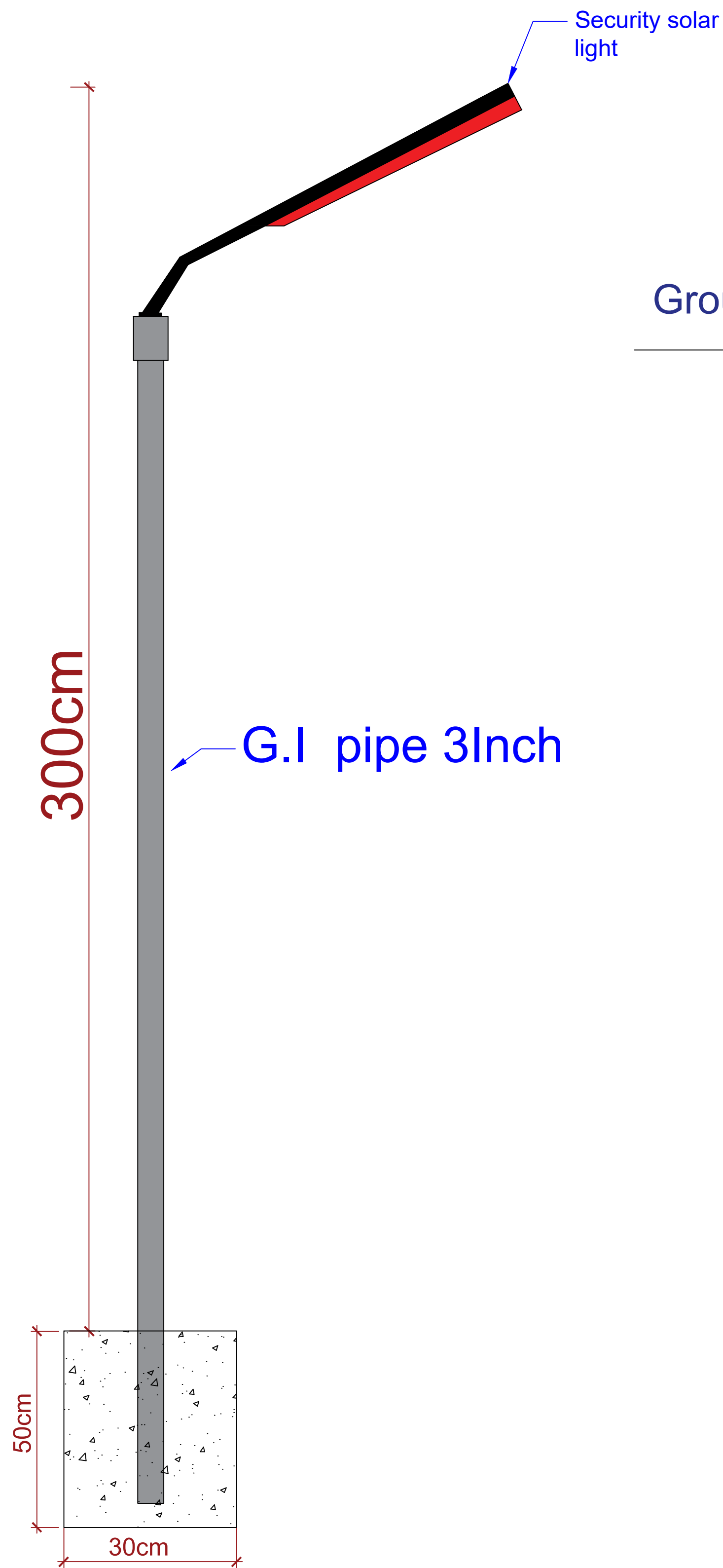
Upper view of Ereada water yard Tap stands & Drainage



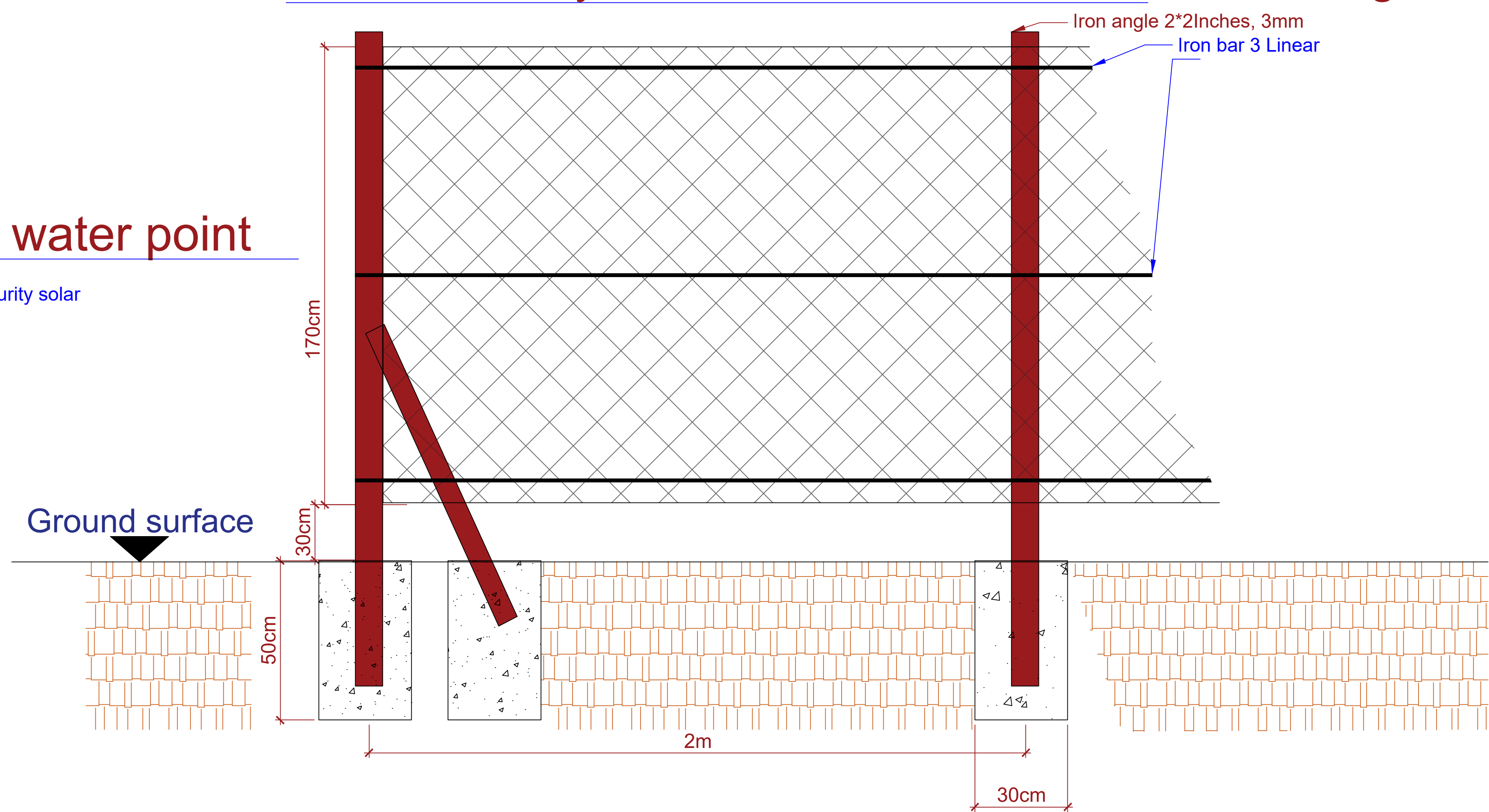
Prepared by:
Mohammed Abd Elsalam
WASH & Infrastructure Officer

Reviewed by:
John Paul Mugo
WASH, shelter & CCCM Coordinator

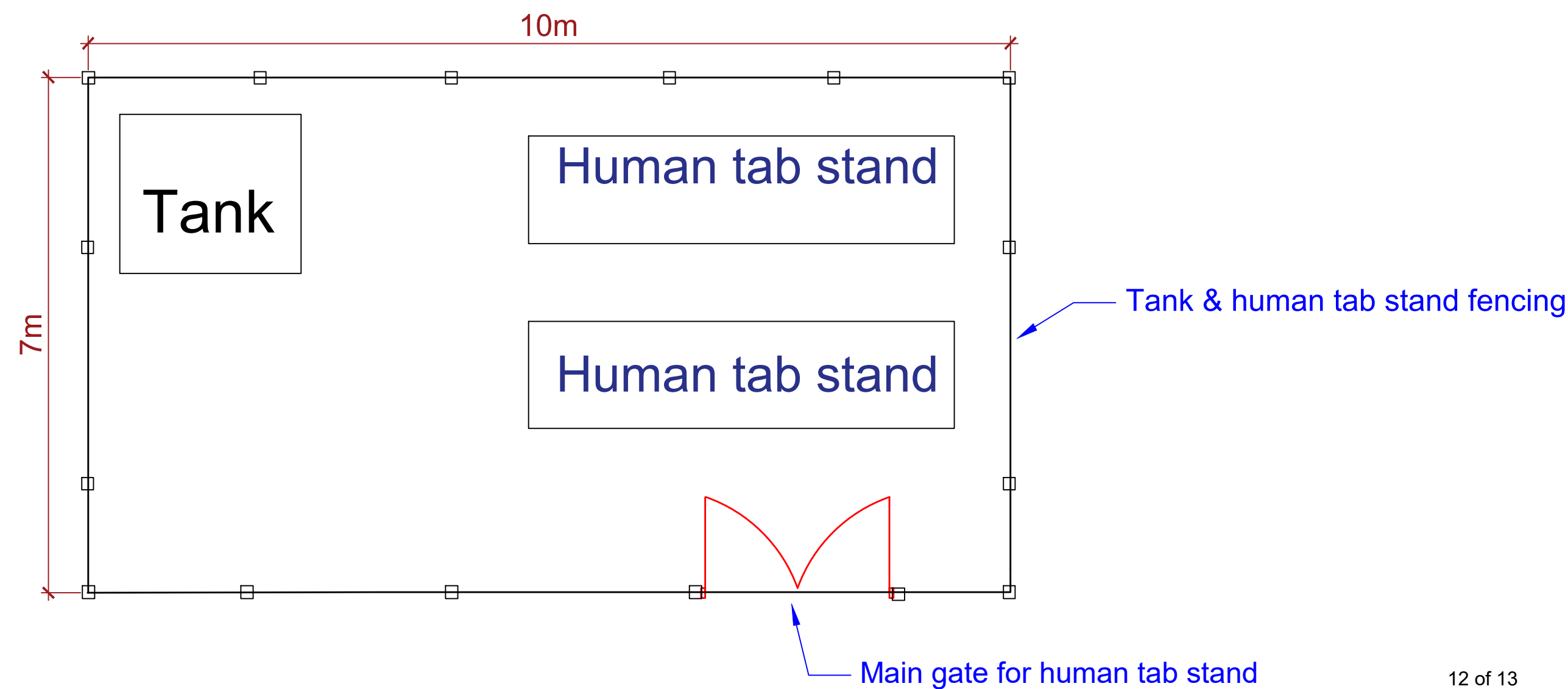
Installation of solar light at Eraida water point



Eraida water yard Tank & Human tab stand fencing



Plane view for Eraida tank & human tab stand fencing



General Notes		
Construction of human tab stand fencing at Eraida water yard:		
Digging of the foundation pit for pool dimensions (30*30*50cm), (Width,Length, Depth)		
Provision of pools made from Iron angle size (2 inch*2 inch*3 mm), length 2.5m, the pool should be cast on the ground using plain concrete dimensions (30*30*60cm) ratio (1:3:6), (Cement, Sand, Gravel) and treat with fresh water 3 times per day for 3 days.		
Provision of chain link wire size 3mm, dimensions (10*2m), (Length*Height), and then tied with Iron bar 3 Linear 3 rows.		
Provision of materials and fabrication of painted door dimensions (1.5*2m), made from Iron sheet thickness 1mm, and using rectangular pipe (4*8cm, 1mm), & (3*6cm, 1mm), the pool should be made from UC (CAMMER) size 12, length 2.5m.		
Installation of security light of solar system:		
Purchasing of security solar lights 3,000W, working with remote control charging through solar panel, and installing using G.I pipe 3 Inch length 3m, to be fixed on the ground using plain concrete (30*30*50cm), provided with metallic stands.		
No.	Revision/Issue	Date
Firm Name and Address		
Prepared by: Mohammed Abd Elsalam WASH & Infrastructure Officer		
Reviewed by: John Paul Mugo WASH/Shelter & CCCM Coordinator		
Project Name and Address		
Sida & SDC		
Central Garfur		
Project	Sheet	
Sida & SDC project		
Date	29/5/2025	
Scale		

Animal trough 1m3:

