BoQ for upgrading of Nertiti No.8 water yard (BBC water yard) - Nertiti-Central Darfur State					
Items	***Description***	***Unit***	***QTY***	***Unit Price(SDG)***	***Total Price (SDG)***
1	**Installation of hyprid solar system:**				
1.1	Provision of materials and construction platform with foundation from natural rocks for the well, using plain concrete slab using concrete mix **1:3:6**, (Cement*Sand*Gravel, diameter **2m**, according to the attached drawings.	Job			
1.2	Provision of materials and casting of reinforced concrete manhole cover dimensions **(1*1*0.06m)**, (Length*Width*Height). Also, use an iron bar **12mm** in diameter, **15cm** from the centre of the cover, and treat with water for **3** days, **3** times per day. Additionally, paint with Bomastic.	Job			
1.3	Provision of steel pipes **1.25 Inch**, **3m** length and replacement of old pipes for the borehole.	PCs	11		
1.4	Provision of complete submersible pump brand (Grundfos), with motor pump **(2.2 KW-3HP)**, discharge **(160-180L/min), Head (52-56m)**, outlet **2 Inch**, and install inside the borehole using the existing pipes, and connect with solar system, including pumping testing.	PCs	1		
1.5	Provision and connect electrical cable **6mm2, 3** Phase, and connect with control pannel with the solar pannels & pump motor, the cable should be protected on the ground by **10m** polyethylene **2"**.	ML	81		
1.6	Provision of Polyethilene pipe diameter **2 Inch**, and insert the electrical cable inside and backfill of the ground in **40cm** depth with well compacting along side the distance between the borehole and solar cell.	ML	50		
1.7	Provide installation of the inverter controller (Grundfos) type, Power **3 KW** provided with a solar power pack.	PCs	1		
1.8	Provision of (complete) Control pannel to operate submersible pump **2.2 KW**	PCs	1		

1.9	Provision of materials and fabrication of metallic box dimensions **(50*40*50cm)**, (Length*Width*Height) provided with door and lock, for the invertor, painted from inside and outside made from Iron sheet thickness **1mm, and steel angle 1.5*1.5*3mm,** to be fixed using plain concrete on the wall inside the Generator room.	PCs	1		
1.10	Provision & installation of solar cell power **540W.P** maxeon/monocrystalline Silcon or Polycrystalline Silcon solar panels brand of (Maxson, Ginko, Trina or other good quality brands), **15°** tilted, **6** modules per string-**2** strings in parallel and connect the solar cell.	Cell	12		
1.11	Provision of materials and construction of solar cell holder dimensions **(7*4*3m)**, (Length*Width*Height), through casting of Galvanized Iron pipes **2 Inch** provided with tension members made from Iron Angle **2Inch, 5mm**, the pools should be casted on the ground using concrete mix ratio **(1:3:6)**, (Cement*Sand*Gravel), dimensions **(30*30*60cm)**, and the solar cells will be laid on welded rectangular pipe **(5*10cm, 1mm)** & **(4*8cm, 1mm)**, finnaly the solar cells should be welded from the upper by using Iron angle **(1.25*1.25Inch, 3mm)**, and paint the solar cell holder, according to attached drawings.	Job			
1.12	Provide and install a changeover switch size **63A** and connect it with the solar system and the existing diesel generator to operate the submersible pump through a hybrid power source.	PCs	1		
1.13	Provision of materials and installation of a lightning arrestor to protect the PV system, utilising an Air terminal made from copper, **75cm** in length, with a down conductor made from **4mm** electrical cable. The earthing should be installed using **3kg** of normal salt and protected with a polyethene **2-inch** diameter.	Job			
Sub total (1)					
2	**Construction of chainlink (Gambian) fencing for solar system dimensions (12*8*2m), (Length*Width*Height):**				
2.1	Digging of the foundation pit for poles dimensions (**30*30*50cm**), (Width,Length, Depth)	M^3	1.8		

2.2	Provision of poles made from painted Iron angle size (**2 inch*2 inch*3 mm**), length **3m** with **(V)** shape on upper for **50cm** length, the poles 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, also provided with tension members made from Iron angle **(2*2inch, 3mm)** each **5m** casted on the ground as per the attached drawings.	PCs	20		
2.3	Digging a foundation trench for the natural rock short wall dimensions (40*30cm), (Width*Depth).	ML	40		
2.4	Provision of materials and construction foundation wall (**45cm height**) made from red bricks **No.1** and cement mix ratio **1:6**, (Cement*Sand), (Width*Depth), and to be above the ground surface for **15cm**, and plastering the foundation with a cement mix ratio **1:6**, (Cement*Sand).	ML	40		
2.5	Provision of chain link (Gambain) wire size **3mm**, dimensions **(10*2m)**, (Length*Height), and then tied with Iron bar 3 Linear **3 rows**, and welding using nuts on the poles and tying wires according to attached drawings.	Roll	4		
2.6	Provision of Coranthian wire, size **50cm**, with each roll to be fixed above the wall in a (**V**) shape, for a **4m** length. The wire is to be tied using tying wire, as per the attached technical drawings.	Roll	10		
2.7	Provision of materials and fabrication of painted door dimensions (**1.5*2m**) **1** leaf, made from Iron sheet thickness **1mm**, and using rectangular pipe (**4*8cm, 1mm**), & (**3*6cm, 1mm**), the poles should be made from UC (CAMMER) size **12**, length **2.5m**.	Pcs	1		
2.8	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) and iron plate 6mm thickness, then treat with fresh water for **3** days **3** times per day.	PCs	2		
2.9	Provision of gravel and backfill the area for the solar cell, with well mobilization of the surface.	M^3	7		

	Sub total (2)				
3	***Construction of fencing for the water yard dimensions (68.5 ML, 2m height):***				
3.1	Digging of the foundation pit for poles dimensions (**30*30*50cm**), (Width,Length, Depth)	M^3	1.6		
3.2	Provision of pools made from painted Iron angle size (**2 inch*2 inch*3 mm**), length **2.5m**, and with tension poles each **5m** using Iron angle 2*2inch, 3mm, the poles 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	18		
3.3	Digging a foundation trench for the natural rock short wall dimensions (40*30cm), (Width*Depth).	ML	68.5		
3.4	Provision of materials and construction foundation wall (**45cm height**) made from red bricks **No.1** and cement mix ratio **1:6**, (Cement*Sand), (Width*Depth), and to be above the ground surface for **15cm**, and plastering the foundation with a cement mix ratio **1:6**, (Cement*Sand).	ML	68.5		
3.5	Provision of chain link wire size **3mm**, dimensions (**10*2m**), (Length*Height), and then tied with Iron bar 3 Linear **3** rows, and welding using nuts on the poles and tying wires according to attached drawings.	Roll	7		
3.6	Provision of materials and fabrication of painted door dimensions (**2*2m**) 2 leafs, 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		
	Sub total (3)				
4	**Cutting of tree branches that cover the solar cells from sun light: تقطيع أفرع شجرة التي تحجب أشعة الشمس عن الألواح الشمسية**				
4.1	Using Axe/Saw, cut the branches from an existing tree ***(Mimosaceae or HARAZ)*** that blocked the direct sun rays from the solar cells.	Job			
	Sub total (4)				

5	**Installation of signboard: تركيب لافتة**				
5.1	Provision of materials & fabricate painted metalic signboard, made from Iron sheet 1mm (Mohayer), rectangular pipe **(4*8cm, 1mm)**, dimensions **(200*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 (5)					
Overall total cost					

SDG

Amount in words: (.....

Prepared by: DRC Central Darfur WASH Team

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

Contractor Name: _____

Contractor Address: _____

Contractor Phone No.: _____

Date: _____

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