



New solar photovoltaic (PV) system installation complete with 1,5m tank stand for three tanks, three (3) domestic water tanks, plastic cattle trough and trough foundation, two taps and tap stand.

TENDER SPECIFICATIONS/SCHEDULE OF QUANTITIES/PRICE				Water Point Number		Region		
						Oshikoto		
Location Name		Wife Kalangula		GPS Reading		S:17.54631° E: 17.24135°		
Distance from nearest Centre		Omuthiya 120km		Condition of Road		Sandy		
Borehole/Well								
WW Number		207089	Borehole Depth	150m	Number of Pipes	40	Casing Diameter	165mm
Installation Depth		120m	Rest Water Level	17.83m	Pump Water Level		Pumping Yield	12m ³ /h
New Equipment								
Type Equipment		Solar				Pump		
Manufacturer/Model		Solar Modules/Sunset solar/similar equal an approved				Grundfos SQF3-105		
Item No	Brief Description of Works			Unit of Measure	Quantity	Unit Price NS	Total Price NS	
A*	B*			C*	D*	E	F	
1	SITE ESTABLISHMENT							
1.1	site establishment: According to SABS 1200 AA 1986			Sum	1			
1.2	Transport of material to site plus additional transport of miscellaneous item (Transport Rate (excluding VAT) <u>Specify Tonnage of transporter(s):</u>							
1.2.1	Ton @			Km				
1.2.2	Ton @			Km				
1.2.3	Ton @			km				
1.3	Temporary domestic water supply during construction period			m ³	10			
SUB TOTAL								

	SPECIFICATIONS OF WORK TO BE DONE	SCHEDULE OF QUANTITIES			
Item No.	Description	Unit of Measure	Quantity	Unit Price N\$	Total Price N\$
TOTAL BROUGHT FORWARD:					
2	BOREHOLE: Supply all material and construct new borehole block complete with base plate. Base plate to be welded on the borehole steel casing. Refer to drawing number 21/1-4/34 R5, 21/1-4/73 R8.				
2.1	Labour charges (exl. VAT)				
2.1.1	Artisan	hrs			
2.1.2	Skilled Labour	hrs			
2.1.3	Unskilled Labour	hrs			
2.1.4	Concrete (concrete class 25MPa), 800mmx800mmx800mm, with 19mm aggregated stones).	m³	0.6		
2.1.5	Borehole base plate assembly as per drawing no. 21/1-4/73R8, mild steel 500mmx500mmx16mm	No	1		
2.1.6	50mm Ø GMS discharge pipe work complete	Sum	1		
2.1.7	GMS union 50mmØ	No	1		
2.1.8	Borehole adaptor plate 300mmx300mmx16mm to suit Solar installation as per drawing no. 21/1-4/73 R8	No	1		
3	SOLAR: Supply all material and install a new pump, complete with submersible cables, stainless rope (for pump safety), control box, solar panels, solar panel stand and solar panels frame; to pump at least 3.5 metre cubic per hour at 100m water head (Note: The power required should be 2.5kW minimum). Submersible pump should be compatible for alternating current (AC).				
3.1	Labour charges (exl.VAT)				
3.1.1	Artisan	hrs			
3.1.2	Skilled Labour	hrs			
3.1.3	Unskilled Labour	hrs			
3.1.4	Manufacture 3m high solar stand complete with base plate (200mmx200mmx8mm thick) with 200mmx16mm anchors) and solar frame (note use 5mmx100mm square tubing or 5mmx100mm round tube Mild steel, pipes for legs). Solar should slide in a welded frame for security reasons. Refer to attached drawings No. 17022-C-100	No	1		
3.1.5	Concrete blocks for stand (2x700mmx700mmx700mm) ,with 19mm aggregated stones, class 25MPa.	m³	0.7		
3.1.6	Anchor concrete blocks 200mmx200mm, with 19mm aggregated stones, class 25MPa	m³	0.35		
3.1.7	PUMP: SQF 3-105	No	1		
3.1.8	Solar panels to suit power required	Sum	1		
3.1.9	Control box to suit pump complete with lock-able "Protection Cover" or similar equal and approved.	No	1		
3.1.10	Aquavern- Submersible electrical cable 4mm² 4core, suitable for current drawn down and voltage drop. Cable should be protected against with UV resistant sleeve above ground	M	130		
3.1.11	Ski rope for pump security- 10mm steel.	M	120		
3.1.12	40mm, GMS pipe	No	40		
3.1.13	Stabilizers 40mm x 150mm	No	13		
3.1.14	Splicing kit/electrical termination kit, Scotch cast2.5mm² – 4mm² 4core complete	Sum	1		

3.1.15	Cable ties (50mmx6mm)	sum	1		
3.1.16	All required GMS fittings, Accessories and any other additional required items. (All inclusive)	sum	1		
	SUB TOTAL				

	SPECIFICATIONS OF WORK TO BE DONE	SCHEDULE OF QUANTITIES			
Item No.	Description	Unit of Measure	Quantity	Unit Price N\$	Total Price N\$
TOTAL BROUGHT FORWARD:					
4	TANK STANDS: Supply all materials and re-paint existing tank stands.				
4.1	Labour charges (exl. VAT)				
4.1.1	Artisan	hrs			
4.1.2	Skilled Labour	hrs			
4.1.3	Unskilled Labour	hrs			
4.1.6	Fit data and borehole information plate (210mm x 110mm), manufactured from black anodized aluminium. Letter size to be 5mm.	No	1		
4.1.8	Steel painting, antirust 1 st coat, final coat aluminium industrial paint.	Sum	1		
	SUB TOTAL				

	SPECIFICATIONS OF WORK TO BE DONE	SCHEDULE OF QUANTITIES			
Item No.	Description	Unit of Measure	Quantity	Unit Price N\$	Total Price N\$
TOTAL BROUGHT FORWARD:					
5	PLASTIC TANKS: Supply all material and install 3 new 10 cubic metres plastic tanks (300kg) on tank stands complete with all pipe work, fittings, valves, tank strappings. Refer to drawing no. 21/1-4/65 R8. All underground steel pipes, fittings and other steel components shall be Denso wrapped. Old plastic tanks to be delivered to the Regional Office.				
5.1	Labour charges (exl. VAT)				
5.1.1	Artisan	hrs			
5.1.2	Skilled Labour	hrs			
5.1.3	Unskilled Labour	hrs			
5.1.4	300kg, 12mm thickness, 10 cubic metres tank (engraved with the emblem of water affairs), Made in Namibia	No	3		
5.1.5	50mm Ø GMS Inlet pipe work complete with all fittings	Sum	1		
5.1.6	50mm Ø GMS outlet pipe work complete with all fittings	Sum	1		
5.1.7	Overflow pipe work complete with all fittings (50mm Ø GMS)	Sum	1		
5.1.8	Security brackets for all pipe work	Sum	1		
5.1.9	50mm Ø Cobra gate valve	No	5		
5.1.10	Hold down strapping for tank	Sum	1		
	SUB TOTAL				

	SPECIFICATIONS OF WORK TO BE DONE	SCHEDULE OF QUANTITIES			
Item No.	Description	Unit of Measure	Quantity	Unit Price N\$	Total Price N\$
TOTAL BROUGHT FORWARD:					
6	PIPE LINES: Pipeline from pump to domestic tank on tank stand (50m), from domestic tank to trough, from domestic tank to tap point, from overflow pipe to ground- Supply all material and install 50mm class 10 HDPE 50m pipeline. Complete with all required compression type fittings and valves				
6.1	Labour charges (exl. VAT)				
6.1.1	Artisan	hrs			
6.1.2	Skilled Labour	hrs			
6.1.3	Unskilled Labour	hrs			
6.1.4	50mm class 10 HDPE pipe	M	50		
6.1.5	50mm GSM pipe	Sum	1		
6.1.6	All required compression type fittings	Sum	1		
6.1.7	All required GMS fittings	Sum	1		
6.1.8	Pipe work security brackets -	Sum	1		
6.1.9	400-500mm deep trenches	m	50		
6.1.10	Back-fill trenches	m	50		
7	CONCRETE TROUGH: Supply all materials and rehabilitate exsiting concrete trough, complete all pipe work as per drawing no. 21/1-4/42 R2				
7.1	Labour charges (exl. VAT)				
7.1.1	Artisan	hrs			
7.1.2	Skilled Labour	hrs			
7.1.3	Unskilled Labour	hrs			
7.1.4	Reinstating/remedial works to existing concrete trough (filling cracks & finishing)	Item	1		
7.1.7	GMS pipe work and fittings	sum	1		
8	DOMESTIC TAP STAND: Supply all material and install one domestic tap stand complete with GMS pipe work and two taps. Refer to drawing number 21/1-4/43R2				
8.1	Labour charges (exl. VAT)				
8.1.1	Artisan	hrs			
8.1.2	Skilled Labour	hrs			
8.1.3	Unskilled Labour	hrs			
8.1.4	20mm brass bibcock taps	No	2		
8.1.5	Concrete Grade 25MPa a strength, with 19mm aggregated stones	m³	0.3		
8.1.6	GMS pipe work	sum	1		
8.1.7	160/110mmØ UPVC pipe	m	1		
8.1.8	40/20mm Ø GMS pipe	m	1		
8.1.9	All required GMS fittings	Sum	1		
9	DOMESTIC TAP PROTECTOR: Manufacture and fit tap protector at taps stand as per attached sketch				
9.1	Labour charges (exl. VAT)				
9.1.1	Artisan	hrs			
9.1.2	Skilled Labour	hrs			
9.1.3	Unskilled Labour	hrs			
9.1.4	Angel iron 50mmx50mmx4mm	M	6		
9.1.5	Steel painting, antirust 1 st coat, final coat aluminium industrial paint.	L	2		

	SUB TOTAL	
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	SPECIFICATIONS OF WORK TO BE DONE	SCHEDULE OF QUANTITIES			
Item No.	Description	Unit of Measure	Quantity	Unit Price N\$	Total Price N\$
TOTAL BROUGHT FORWARD:					
10,	TOOL KIT: Supply tool kit for Solar Water Point Maintenance / Repair. Note, toolkit to be delivered at the Regional Office.				
10.1	Spade, carbon steel	No	1		
10.2	Adjustable Wrench pipe 0mm approx...60mm (Monkey Wrench)	No	1		
10.3	Steel Rake, heavy duty	No	1		
10.4	Squeegee (for cleaning panels)	No	1		
11	GENERAL:				
11.1	All existing equipment which was either removed or has become surplus, must be returned to the regional office/stores as specified in the tender conditions.				
11.1.1	Transport charges. (Annual Tender Transport Rate (excluding VAT) <u>Specify Tonnage of Transporter(s):</u>				
11.1.1.1	Ton @	Km			
11.1.1.2	Ton @	Km			
11.1.1.3	Ton @	km			
11.1.2	Labour charge (excl. VAT)				
11.1.2.1	Artisan	hrs			
11.1.2.2	Skilled Labourer	hrs			
11.1.2.3	Unskilled Labourer	hrs			
	SUB TOTAL				
			Subtotal		
			VAT @ 15 %		
			Grand Total		