

WORLD VISION INTERNATIONAL DAWAM WASH Project BoQ for Solar Water Supply Project Rehabilitation						
Village/CDC: Zarin Naw Abad		District: Dawlat Abad		Province: Faryab		
S/N	Activity/Item/Description	Unit	Quantity	Unit Cost AFN	Total Cost AFN	Remarks
A	BoQ for Public Stand Post./ Total # of Stand post 17					
A1	Site Preparation: Including preparation, trimming and site cleaning before and after construction according to technical requirements.	M ²	30			
A2	Demolition of Existing Damaged Stand Taps: Demolition of existing damaged stand taps according to technical requirements.	Job	10			
A3	Excavation Work: Excavation of Each stand post foundation according to Designed drawing and Site conditions.	M ³	9.04			
A4	Stone bolder Pitching: Supply and pitching of stone in foundation and surrounding area of stand post.	M ³	4.5			
A5	R.C.C (Plain Cement Concrete) M(1:1.5:3) Includes varnished steel form working, bar bending and other requirements according to drawing and tehcnical spesification.	M ³	7.0			
A6	P.C.C (Plain Cement Concrete) M(1:2:4) The construction materials should be according to attached Specification.	M ³	3.3			
A7	Plumbing works: (Ø1/2" GI Pipe with Elbow, Socket, Nipple and etc.) according to Drawing and specification	Stand Tap	17			
A8	Water Taps: Supply and installation of taps in new constructed and existing public stand taps with all required activities and accessories according to engineering considertion and technical requirements,	No	17			
A9	Back Filling & Earth work: Back Filling , Cleaning, Drain out, Site preparation and soak pit according to site requirement.	M ³	2			
Sub Total Cost of Stand Posts					0	
B	BoQ for Pipe networks					
B1	Excavation of Trench: Excavation of trench type 4 According attached Drawing and Specification.	M ³	41.0			
B2	Back Filling with Soft Soil: Back Filling of trench with proper compaction, curring and caution,	M ³	10.2			
B3	Back Filling of Trench with Excavated Materilas: Back Filling of trench with proper compaction, curring and caution according to attached drawing.	M ³	30.7			
B4	HDPE/Pipe/PN16/Dia=25mm (SDR17)- (W.T-2.3mm)- Weight(0.171Kg/m)ISO4427, DIN8074, ASTM D2239, ASTM D2737, ASTM D3035, ASTM D2516 All relevant marks should be attached in pipe (Bar, measurement length, Standards).	M	51			
B5	HDPE/Pipe/PN10/Dia=63mm (SDR17)- (W.T-3.8mm)- Weight(0.721Kg/m)ISO4427, DIN8074, ASTM D2239, ASTM D2737, ASTM D3035, ASTM D2516 All relevant marks should be attached in pipe (Bar, measurement length, Standards).	M	22			
B6	HDPE/Pipe/PN10/Dia=90mm (SDR17)- (W.T-5.4mm)- Weight(1.46Kg/m)ISO4427, , Comply ISO4427, DIN8074, ASTM D2239, ASTM D2737, ASTM D3035, ASTM D2515 All relevant marks should be attached in pipe (Bar, mesurment length, Standards).	M	55			
B7	PE Fittings 10 Bars: (Flanged adapter, GI-Flanged Valve in pipe network, Sockets, Elbows, TEEs, Saddle Clamps, Reducers, M/F Adapter and etc.) with Supplying and installation according to drawing and its specifications.	L.s	1			
B8	Pipe Works (Plumbing): Supply, Installation, Laying and fitting of HDPE+GI pipes according to attached Drawing and its specification.	L.s	1			
Sub Total cost of Pipe network					0	
Selection of pipe alignment should be with close consultation of World Vision Afghanistan Technical engineer and attached drawing. The HDPE pipe should be tested in labatory according to MRRD requirement and the report should be submitted and varified by technical enigneer.						
C	BoQ for Existing Elevated Tank Rehabilitation					
C1	Inlet GI Pipe. Supply and Installation Flanged GI Pipe Ø 2 1/2", Min Wall thickness =2.9 mm, Min Weight =6.25 Kg/M with Nut+bolt+Washer and other accessories.	M	14			
C2	Over flow Pipe: Supply and Installation Flanged GI Pipe Ø 2 1/2", Min Wall thickness =2.9 mm, Min Weight =5.2 Kg/M with Nut+bolt+Washer and other accessories.	M	14			
C3	Outlet Pipe : Supply and Installation Flanged GI Pipe Ø 3", Min Wall thickness =2.9 mm, Min Weight =6.25 Kg/M with Nut+bolt+Washer and other accessories including welding to the existing outlet pipe.	M	10			
C4	Drain Out Pipe: Supply and Installation Flanged GI Pipe Ø 2", Min Wall thickness =2.6 mm, Min Weight =3.81 Kg/M with Nut+bolt+Washer and other accessories.	M	13			
C5	Painting work Painting work of water tank Weather Shield 100% with WVA Logo.	M ²	50.4			
Sub Total cost of Elevated Tank Rehabilitation					0	

D	BoQ for Well Protection Box Construction					
D1	Pump Test: Proper pump data should be recorded, the test should be min for 8 hours.	Job	1			
D2	Excavation Work: Excavation of well protection box foundation according to Designed drawing and Site conditions.	M ³	2.70			
D3	Gravel Filling: Supply and laying of gravel at gate valve box foundation according to technical requirements with 10cm thickness.	M ³	0.113			
D4	P.C.C (Plain Cement Concrete) M(1:2:4) The construction materials should be according to attached Specification.	M ³	0.113			
D5	R.C.C for Well Protection Box Construction, M(1:1.5:3) RCC (M:250) for Well protection box including Varnished steel form working, bar bending and other requirements according to drawing and technical specification.	M ³	1.43			
D6	Installation of Iron Gate: Installation of iron gate for well protection box, including anti-rust painting and be lockable (3 mm Steel sheet) With its relevant features/fittings according to drawing.	M ²	1.96			
	Sub Total Cost of Well Protection Box				-	
E	BoQ for Gate Valve Box Construction					
E1	Excavation Work: Excavation of Each stand post foundation according to Designed drawing and Site conditions.	M ³	10.47			
E2	Gravel Filling: Supply and laying of gravel at gate valve box foundation according to technical requirements with 10cm thickness.	M ³	0.4			
E3	P.C.C (Plain Cement Concrete) M(1:2:4) The construction materials should be according to attached Specification.	M ³	1.1			
E4	R.C.C for Gate Valve Box Cover, M(1:1.5:3) RCC (M:250) for gate valve box including Varnished steel form working, bar bending and other requirements according to drawing and technical specification.	M ³	0.18			
E5	Stone Masonry Work of Valve Box: Stone masonry for foundation and superstructure: use 1:4 ratio of mortar, stone shall have high bearing capacity and smooth surface for decoration. With it's all related activities according to the drawing and technical specification.	M ³	8.61			
E6	Flanged Gate Valve : Supply and installation of Flanged Gate Valve Ø 3" with Nut Bolt and Washers and other accessories. And with relevant composite fitting to be connected with network main pipe(OD 90) mm HDPE pipe according to attached drawing.	No	3			
	Sub Total Cost of Gate Valve Box				-	
F	BoQ for Solar Panels					
F1	Excavation of Foundation: Site preparation and excavation in foundation for solar frame:	M ³	2.3			
F2	Solar Panel: Providing and insatallation of Solar Panels according to MRRD Manual (European made or Equivelenat meet by IEC, ISO, TUV and CE, Solar array rated power = 5.4KW Solar module type: POLYCRYSTALLINE or MONOCRYSTALLINE Water proof PV junction boxes IP68 for each array including DC Fuses, DC switch disconnectors, bus bars ,terminals, ducts or trays, supports & labels suitable to the PV arrays loads. Contractor must submit manufacturer warranty for solar panel for a period not less than 25 years. Contractor must submit all the required certificates for each PV solar panel from Serial number of PV Panel should be certified by manufacturing company, for more details and electrical parameters refer to attached Design.	Watt	5400			The # of Solar depend to Redesign of Pump PV system
F3	Submersible pump with its Compatible inverter, control box and Fuse box in stainless steel. Eupean Made Technology Comply EN 1.4301 (AISI 304).EN 1.4301 (AISI 304). EN 1.4539 (AISI 904L). EN 1.4401 (AISI 316).. Rated power - P1- 3.584Kw , P2-3 KW Rated voltage: 3*380-400-415 V Main frequency: 50 Hz Compatible inverter: RSI 3x380-440V IP66 3kW 8.0A, Pure sine wave, VFD and soft starter Avg. water production per day: (71.9 m ³ /day), Total Dynamic Head is considered = 79.5 m. it is initial Assumed head the final will be declare after bore well and pump test. distance between tank and well =10 M. Solar pump P2- 5.5 KW according to the technical specification and requirement, Contractor must submit manufacturer warranty for solar Pump for a period not less than 2 years. Contractor must submit all the required certificates for solar pump Serial number of Solar pump should be certified by manufacturing company	set	1			the Pump Model Depend to Redesign of the system.

F4	Well Probe Sensor: Dry running sensor including Electrical Wire and other fittings , According to Attached Electrical parameters	set	1			
F5	Motor (Submersible drop Cable) 10 mm ² 3-phase cable for power and 1-phase cable for ground according to drawing and technical requirements(Turkish made)	M	150			
F6	PV System-Inverter Cable (1x10mm2), Cable from PV-combiner Box to Inverter (Turkish made)	M	30			
F7	Grounding/Earthing. All system Should be proper Grounded by ground Rod and Copper Cable (PV, PV-Frame, Inverter, Sumersible and other electrical installed features)	LS	1			
F8	Pump Holding Rope : Plastic made, diameter=16 mm Double line with its relevant accessoires and features.	M	150			
F9	Electrical Conduite: Electrical Conduite for External Wire:	L.s	1			
F10	Circuite Breaker and Auto Fuses: Circuite Breaker and Auto fuses should be installed to prevent system during electrical issues.	Set	1			
F11	HDPE/Pipe/PN16/Dia=75mm (SDR11)- (W.T-6.8mm)- Weigth(1.47Kg/m)ISO4427, DIN8074, ASTM D2239, ASTM D2737, ASTM D3035, ASTM D2531 All relevant marks should be attached in pipe (16 Bar, mesurment length, Standards).	M	80			
F12	PE and GI Fittings: PE and GI 16 Bars fittings for Sumersible-Tank (PE Flanged Adapter, Flanged Elbow, Flanged Sockets and etc.) according ot technical requirment and site conditions.	L.s	1			
F13	Boulder Stone Pitching: Bolder Stone pitching in foundation of Solar system frame according to drawing and technical requirements	M ³	0.1			
F14	P.C.C (Plain Concrete and Cement)M(1:2:4) according to attached Drawing and technical specification	M ³	0.1			
F15	RCC (Reinforced Concrete and Cement)-(M:200, 1:1.5:3) for Solar Stand: including Varnished steel form working, bar bending and other requirements according to drawing and technical specification.	M ³	2			
F16	PV-Solar Frame for Solar Panels: Supply and installation of Stand and frame for solar panels, able to be rotated manually (Steel pipe dia 6", th=4mm, Profile box 40 x 80, th=2mm)	Frame	2			
F17	Back Filling and Compaction: Back Filling, Draining out, and Site Cleaning of Solar system plant.	M ³	2			
F18	Sign Board: Supply and istallation of metallic sign board.	No	1			
Sub Total cost of Solar Panels					0	
Attached is the solar system Design, The Solar pump PV system has designed based on technical survey, the contractor will be paid based on actual works.						
Grand Total for All BoQ (A+B+C+D+E+F)					0.0	

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