

The International Committee of the Red Cross

WATER & HABITAT DEPARTMENT

Shura / WTP / Rehabilitation

Shura / Musel / Ninawa

19.March.2017

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
0	Site installation				
0.1	Providing materials and manpower required for the WTP rehabilitation, starting from intake and compact units, Rehabilitation of the pumps station, valves with the piping, flash mixer and sedimentation tanks, electrical system, cables, all filter rehabilitation, sand filter pumps, booster pumps E&M rehabilitation, civil work, Alum & Chlorine system Rehabilitation, in addition to all electrical systems according to instructions of ICRC engineer, the Iraqi & ICRC standards.				
1	Intake Steel Structure (low lift system & electrical low lift system)				
1.1	<p>Providing of materials and manpower required for rehabilitation of low lift steel structure on the river. The work includes:</p> <p>1-Extending of the steel structure by using new steel I-beam 12m length section area should be (Web (152)mm x (Flange) 89mm x 16 kg/m), Extend the structure 1m more inside the river and make iron triangle shape through use and weld the mentioned above steel in order to install steel submersible pump holder (crane system holder). the work also contains providing and connect steel I-beam 40m length section area should be (Web 127mm x Flange 76mm x 13kg/m) , doing three □ section from the river side to the end of the structure and doing 2 section of the river directly to pull the pump from the river, the height Colom of □ section should be 2.75m and wide be 2m or as it requested more or less abit, the girder or crane holder also should be (Web (152)mm x (Flange) 89mm x 16 kg/m), 13m length. by using diesel welding Generator, Making all steel badge or steel triangle supporters around welded area, fixing all steel chain carrier of installed the submersible pumps directed by ICRC engineer.</p> <p>2-Steel Checker Plate or Floor Plate, standard sheet size of 1200 mm x 2400 mm, Tools, cut plate to size (1200mm x 1200mm & 12 m length), oil paint all the structure using Jotun type paint.</p> <p>3- Providing of steel chain 20m length x 8mm x 4 pieces to install the submersible pump properly.</p> <p>4-Providing of mechanical crane 4 ton capacity x 2 pieces .</p> <p>5-metalic checker plate sitting beside each pump down and metallic ladder.</p>	LS	1		0
1.2	Providing of materials, labours and machines (shovel, truck, roller, etc....), in order to do and open new road beside the old low lift building. Providing sub-base materials. Starting from the top decrease the sharp slop in the area, cut the road by shovel and add sub-base materials till the river beside the steel structure until being usable to move the cars smoothly (in order to transport the pump or materials from the river to the WTP), all as directed of ICRC engineer.	LS	1		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
1.3	<p>Providing of materials , technicians, crane and supply and install new low lift submersible pump, 1450 rpm complete unit, type (Wilo, Turbosan, Mass Daff, Standard) Turkish made. Capacity (250)M3/h, Head 30m, 45kW, three phase 380v power supply, discharge 150mm. All fittings, elbows, check valve, required for installation.</p> <p>- The impeller must be cast iron. - The shaft must be stainless steel. - Max temp. -20 to110° C -connect the pump to the existing pipe DN 200mm which feeds the CU 250m³ / h (Farancy CU) the pump must stay on the floor freely Field of application is water supply. All the works must be as directed by ICRC engineer.</p>	No	2		0
1.4	<p>Providing of materials and technicians, Supply and install new galvanized pipe DN200mm with all fittings (t-section, elbows, bolts, nuts, flanges,etc...) Turkish made, choose quality, in order to connect all submersible pumps of Faris CU 200m³/h with the provided galvanized header. Work includes. doing header same pipe type DN250mm, 1m length etc.. as directed by ICRC engineer.</p>	ML	16		0
1.5	<p>Providing of materials , technicians, crane and supply and install new low lift submersible pump, 1450 rpm complete unit, type (Wilo, Turbosan, Mass Daff, Standard) Turkish made. Capacity (220)M3/h, Head 30m, 40kW, three phase 380v power supply, discharge 150mm. All fittings, elbows, check valve, required for installation.</p> <p>- The impeller must be cast iron. - The shaft must be stainless steel. - Max temp. -20 to110° C -connect the pump to the existing pipe DN 150mm which feeds the CU 200m³ / h (Faris CU) the pump must stay on the floor freely Field of application is water supply. All the works must be as directed by ICRC engineer.</p>	No	2		0
1.6	<p>Supply and install new brand cast iron gate valve Turkish made (FAF or Duyar), for Faris CU on the river, DN150, PN 10, to install submersible pump (discharge) working temperature (max 130C° hand wheel type/ductile iron, cast iron body & Bonnet , stem should be stainless steel, wedge should be ductile iron+rubber coated, flange type with all bolts and nuts/DIN933, Washer/steel . The work includes providing any fittings required.</p>	No	2		0
1.7	<p>Providing of materials and technicians. Supply & install cable tray size (5x20)cm in order to lay the supplied cables on smoothly. Fixing cable tray on the steel structure by bolts, weld, or any steel iron required, as directed by ICRC engineer.</p>	ML	24		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
1,8	Providing materials, manpower and supply of power low tension Armoured cable size (3x25mm ² +16mm ²) for the submersible pumps to the control panels Y-Δ connection inside the old low lift building, standard brand to be measured by Vernier measurement tool, Turkish or best available made in the local market, terminals, bolts, excavation in any kind of soil to lay the cable smoothly and all accessories required.	ML	200		0
1,9	Supplying and installing new main electrical distribution board (1.6 x 1 x 0.6 depth)m & 2mm thickness, for low lift system, Double door, Turkish made floor standing, the control board containing, main circuits breakers (MCCB) ABB type as following: 1-The main MCCB 630A. 2-Busbar 800 A complete set (4m length, size 4cm x 1cm). 3-Busbar 250 A complete set (6m length, size 2cm x 1 cm). 3-Digital gages multi readings. 4-MCCB 250 A (2 pieces) old low pumps. 5-MCCB 160 A (4 pieces) new low lift pumps system 5-MCB 63 A (2 pieces).services 6-Cover all non isolated part by using isolated sheet signal lights, gages multi readings, ampere transformer (C.T) 600/5 (3 No). -Automatic fan cooling & lighting systems. All inlet outlet connection should be from bottom of the board All connections needed should be by using only Busbar & all accessories, metal frame of installation as to instructions of ICRC engineer.	No	1		0
1,91	Supplying materials and skilled technicians for fixing new control panel Y-Δ 90 kw for the (old submersible pump Q400) with metal painted cabinet double door (120cm x 80cm x 40cm x 2mm thick), delta star connection. Including: 1-Main circuit breaker 250A. 2-Contactors (3x200A). 3-Thermal overload (80-130). 4-Automatic fan cooling system 5-Automatic lighting system. 6-Cover all non isolated part by using isolated sheet 7- Ampere transformer C-T 250 / 5 A (3 No). 8-Isolated Bus Bar 200 A complete set (4m length, size 2cm x 0.5 cm). the power connection should be with Bus Bar and the control by wires phase failure sequence, push button, Digital Ampere& voltmeter and testing, all the supplied items should be of ABB, original as to instructions of ICRC engineer	No	1		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
1,92	Supplying materials and skilled technicians for fixing new control panel Y-Δ 45 kw for the low lift submersible pump with metal painted cabinet double door (60cm x 80cm x 40cm x 2mm thick), delta star connection. Including: 1-Main circuit breaker 160A. 2-Contactors (3x150A). 3-Thermal overload (40-70). 4-Automatic fan cooling system 5-Automatic lighting system. 6-Cover all non isolated part by using isolated sheet 7- Ampere transformer C-T 160 / 5 A (3 No). 8-Isolated Bus Bar 100 A complete set (4m length, size 2cm x 0.5 cm). the power connection should be with Bus Bar and the control by wires phase failure sequence, push button, Digital Ampere& voltmeter and testing, all the supplied items should be of ABB, original as to instructions of ICRC engineer.	No	4		0
1,93	Providing materials, manpower and supply of strand power low tension cable, size (3x95mm ² +50mm ²) M.D.B with control panel and changeover connection, standard bran to be measured by Vernier measurement tool, terminals, bolts and all accessories required Turkish or best available.	ML	15		0
1,94	Providing of materials and labours in order to do repair for the building of the old low lift pumps on the river. The work contains repair all the metal windows and doors (handle, switches lock,etc..) with painting the metal. Painting the plastered wall inside the building almost 100m ² , all the work as directed of ICRC engineer.	LS	1		0
1,95	Supplying materials and fixing 250W sodium type outdoor projectors with transformer and suitable length of cable size(4x4)mm ² for the building in and out of the old low lift pump . The work includes the installation of new photocell and circuit breaker.	No	4		0
...					
	Total				0
2	Treatment plant (Faris Compact Unit 200m³/H & its electrical system)				
2.1	Providing of materials and technicians & overhaul repair for the existing sedimentation tank size (Length:12.2m x Wide: 2.44 x Height: 2.44). Work includes sand blasting all the interior and exterior surfaces, internals surfaces painting by food stuff epoxy paint Jotun type, externally UV oil painting Jotun type, replace any damaged part of the tank or any leakage area, by using new same iron materials, all the works must be according to instructions of ICRC engineer.	No	2		0
2.2	Coagulation & Flocculation Units (one set for one settling tank 2 X mixer) as per: Fixing rapid mixture tubular type coagulator, motor power (0.55) kW, rpm 190, 50Hz, 380V. shaft stainless steel type with four blades, and fixing slow vertical mixer unit paddle type, motor power (0.37) kw, rpm 14, 50Hz, 380V. shaft stainless steel. reduction gear boxes, control boards. item includes all metal iron framings and food stuff epoxy paintings as directed by ICRC engineer.	No	2		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
2.3	Lamella Settlers Plates: manufacturing from PVC plates, install in packs with effective surface loads rates of 10m ³ /m ² /h of the basin surfaces, with angle of settling 60 the horizontal, interpolate distances max. (20)cm. to be fixed inside flocculation/ sedimentation containers (12.2 x 2.44 x 2.44)m. work includes necessary iron frames & fixing two pieces of perforated steel pipes size (DN250) along the upper parts of the settling tanks, with epoxy painting of pipe external faces.	No	2		0
2.4	Providing of materials and technicians & overhaul repair for the existing intermediate tank size (Length:3.2m x Wide: 2.44 x Height: 2.44). Work includes sand blasting all the interior and exterior surfaces, internals surfaces painting by food stuff epoxy paint Jotun type, externally UV oil painting Jotun type, replace any damaged part of the tank or any leakage area , by using new same iron materials, making metallic ladder made of square iron (2x2) ² all the works must be as directed by ICRC engineer.	No	2		0
2.5	Supplying and installing single stage and suction horizontal centrifugal volute sand filter end section pump 1450rpm complete unit (pump, electric motor, base plate & coupling guard), the pump unit should be Turkish production ,(Wilo, Mas Daff, Standard.). Capacity (220)M ³ /h, Head 40m, 55kW. contractor shall submit technical specifications and with catalogues of the pumps and will provide a supplier's pump efficiency curve for the pump, to ensure that the pumps installed are efficient and not simply matching the requested flow rate and head.), approved by ICRC Engineer. - The impeller must be Bronze. - The shaft must be stainless steel. - Max temp. -20 to 110° C - Gland must be Bronze. - Wear Ring must be Bronze The pump and the motor should have standard connection to the common base plate with flexible coupling Field of application is water supply. The work includes fixing the pump on reinforced concrete base and All the works must be according to ICRC engineer.	No	2		0
2.6	Supplying and installing Galvanized steel pipe (DN 150mm) suitable length to complete the suction & discharge pump connections with the filters, best available in the local market by using flexible joint, elbows, flanges, reducer needed with all fittings required to do the work according to ICRC engineer instructions.	LS	2		0
2.7	Supply and install new brand cast iron Check Valve Turkish made (FAF or Duyar) DN150, PN 16, to install sand filter pump (discharge) working temperature (max 130C°), Turkish made, or best equivalent, flange end with all bolts and nuts. Seat Ring Bronze/ Brass Disc Ring Brass/ Bronze/ EPDM/ NBR Hanger EN GJL 500 7 Hanger Pin Stainless Steel Cover Gasket Graphite With Soft Steel The Check Valves (Non Return Valves) are used to stop back flow / pressure to the upstream side of the valve.	No	2		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
2,8	Supply and install new brand cast iron gate valve Turkish made (FAF or Duyar), DN150, PN 16, to install pump (suction & discharge) working temperature (max 130C°), hand wheel type/ductile iron, cast iron body & Bonnet , stem should be stainless steel, wedge should be ductile iron+rubber coated, flange type with all bolts and nuts/DIN933, Washer/steel . The work includes providing any fittings required.	No	4		0
2,9	Supply and install new brand cast iron seated butterfly valve Turkish made (FAF or Duyar,or equivalent) DN150, PN 16, to install it at the filter. Inside outside electrostatic epoxy resin powder coating, body made of ductile iron working temperature (max130C°), double O ring on the stem, Disc and stem stainless steel, flange type with all bolts and nuts.	No	4		0
2,91	Providing of materials and technicians, Supply and install new galvanized pipe DN200mm with all fittings (t-section, elbows, bolts, nuts, flanges,etc...) Turkish made, choose quality, in order to connect the low lift transmission pvc pipe with Faris CU 200m³/h inside the WTP . Work includes. all excavator in all kind of soil required etc.. as directed by ICRC engineer.	ML	120		0
2,92	Supply and install new brand cast iron gate Valves of tanks drainage & ventilation of filters, Turkish made (FAF or Duyar, or equivalent) DN75, PN 10, to install working temperature (max +130), hand wheel type, stem should be stainless steel, wedge should be ductile iron+rubber coated, casket EPDM - NBR (Ethylene propene,Nitrile,Fluorine (Viton)), , flange type with all bolts and nuts.	No	15		0
2,93	Supply and install of Chemical dosage (Alum Sulphate flocculants) equipment of: using the existing two PVC heat resistant solution preparation tanks (500 Lt), supply & installing of (flash mixers (0.55)kw, 900rpm & electric diaphragm type, dosing pumps of (200) lt/hr capacity at (4) bars mean pressure, motor power (0.55)kw, control panel for the system . the materials Western European produced, UPVC pipes (DN20, PN16)) and all fittings with accessories for connection feeding line. all the chemical dosage equipment installed on the base concrete, all electromechanical connections required with the sedimentation tanks. transfer the system to the place outside the pump room instead of Chlorine system.	No	2		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
2,94	<p>Disassembling existing pressure filters 6m x 2.3m opening of manholes covers, fill any lack of quantity of media required s(gravel, sand and sand quartz), damaged nozzle strainers, by laying new media with rated flow (10) m3/m2. hour, working pressure (5) bars, externally UV oil painting, HDPE strainer nozzles (disc diffuser type) spaced (10)Sq.cm c/c apart, pressure gauges (10) bar stainless steel, media materials consists of five different layers from: Sand (Coarse grade: 5-8mm, Medium gage: 3-5mm, Fine grade 1.5-2.5mm), Sand quartz: 0.4-0.8mm, Anthracite Coal: 0.8-1.6mm.</p> <p>work includes any works needed for maintaining all inlet, outlet pipes, flanged fittings or connections, gate & butter fly (lever type) valves of (influent, effluent, backwash, wash waste drain) by replace any damaged parts (gland & gland bolts, stem, disk or wedge, O rings rubber NBR), cleaning of the external surfaces, fixing with steel bolts and nuts zinc coated (16mm E)*8 pieces., inspection manholes (4) pcs, item includes test and operate and oil exterior paint, Jotoun type of all the units completely.</p>	No	2		0
2,95	<p>Providing of materials, manpower equipment like (shovel, trucks), in order to implement removing and cleaning all unsuitable materials inside the yard of the project, removing of the reeds debris, transfer the damaged equipment to directed place...etc.. all the work should be as directed of ICRC engineer</p>	Days	1		0
2,96	<p>Supplying and installing new main electrical distribution board (1.2 x 0.8 x 0.6 depth)m & 2mm thickness, for Faris CU, Double door, Turkish made floor standing, the control board containing, main circuits breakers (MCCB) ABB type as following:</p> <p>1-The main MCCB 250A. 2-Busbar 300 A complete set (3m length, size 2cm x 1cm). 3-Busbar 200 A complete set (2m length, size 2cm x 0.5 cm). 4-Digital gages multi readings. 5-MCCB 160 A (2 pieces) sand filter pumps. 6-MCB 63 A (2 pieces).services (Alum, lighting, etc.) 7-Cover all non isolated part by using isolated sheet signal lights, gages multi readings, ampere transformer (C.T) 600/5 (3 No). -Automatic fan cooling & lighting systems.</p> <p>All inlet outlet connection should be from bottom of the board All connections needed should be by using only Busbar & all accessories, metal frame of installation as to instructions of ICRC engineer.</p>	No	1		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
2,97	<p>Supplying materials and skilled technicians for fixing new control panel Y-Δ 55 kw for the sand filter of Faris compact unit pump with metal painted cabinet double door (60cm x 80cm x 40cm x 2mm thick), delta star connection.</p> <p>Including:</p> <p>1-Main circuit breaker 200A. 2-Contactors (3x150A). 3-Thermal overload (40-70). 4-Automatic fan cooling system 5-Automatic lighting system. 6-Cover all non isolated part by using isolated sheet 7- Ampere transformer C-T 200 / 5 A (3 No). 8-Isolated Bus Bar 100 A complete set (4m length, size 2cm x 0.5 cm).</p> <p>the power connection should be with Bus Bar and the control by wires phase failure sequence, push button, Digital Ampere& voltmeter and testing, all the supplied items should be of ABB, original as to instructions of ICRC engineer..</p>	No	2		0
2,98	Supplying materials and fixing 250W sodium type outdoor projectors with transformer and suitable length of cable size(4x4)mm ² . The work includes the installation of new photocell and circuit breaker.	No	4		0
2,99	Providing materials, manpower and supply of strand power low tension cable, size (4x16mm ²) for sand filter pump connection, Jordanian made standard bran to be measured by Vernier measurement tool, terminals, bolts and all accessories required.	ML	20		0
Total					0
3	Treatment plant Farancy (Compact Unit 250m³/H with its electrical system)				
3.1	Providing of materials and technicians & overall repair for the existing sedimentation tank size (Length:12.2m x Wide: 2.44 x Height: 2.44). Work include. cleaning the interior surfaces from the mud and sediments by using electrical brushes and exterior surfaces. Externally UV oil painting Jotun type, replace any damaged part of the tank or any leakage area, by using new same iron materials, all the works must be according to instructions of ICRC engineer.	No	2		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
3.2	<p>Supplying and installing single stage and suction horizontal centrifugal volute sand filter end section pump 1450rpm complete unit (pump, electric motor, base plate & coupling guard), the pump unit should be Turkish production ,(Wilo, Mas Daff, Standard.). Capacity (250)M3/h, Head 35m, 55kW.</p> <p>contractor shall submit technical specifications and with catalogues of the pumps and will provide a supplier's pump efficiency curve for the pump, to ensure that the pumps installed are efficient and not simply matching the requested flow rate and head.), approved by ICRC Engineer.</p> <ul style="list-style-type: none"> - The impeller must be Bronze. - The shaft must be stainless steel. - Max temp. -20 to 110° C - Gland must be Bronze. - Wear Ring must be Bronze <p>The pump and the motor should have standard connection to the common base plate with flexible coupling Field of application is water supply. The work includes fixing the pump on reinforced concrete base and All the works must be according to ICRC engineer.</p>	No	2		0
3.3	<p>Supplying and installing Galvanized steel pipe (DN 150mm) suitable length to complete the suction & discharge pump connections with the filters, best available in the local market by using flexible joint, elbows, flanges, reducer needed with all fittings required to do the work according to ICRC engineer instructions.</p>	LS	2		0
3.4	<p>Supply and install new brand cast iron Check Valve Turkish made (FAF or Duyar) DN150, PN 16, to install sand filter pump (discharge) working temperature (max 130C°), Turkish made, or best equivalent, flange end with all bolts and nuts.</p> <p>Seat Ring Bronze/ Brass Disc Ring Brass/ Bronze/ EPDM/ NBR Hanger EN GJL 500 7 Hanger Pin Stainless Steel Cover Gasket Graphite With Soft Steel The Check Valves (Non Return Valves) are used to stop back flow / pressure to the upstream side of the valve.</p>	No	2		0
3.5	<p>Supply and install new brand cast iron gate valve Turkish made (FAF or Duyar), DN150, PN 16, to install pump (suction & discharge) working temperature (max 130C°), hand wheel type/ductile iron, cast iron body & Bonnet , stem should be stainless steel, wedge should be ductile iron+rubber coated, flange type with all bolts and nuts/DIN933, Washer/steel . The work includes providing any fittings required.</p>	No	4		0
3.6	<p>Supply and install of Chemical dosage (Alum Sulphate flocculants) equipment of: using the existing two PVC heat resistant solution preparation tanks (500 Lt) and the existing (flash mixers (0.55)kw, 900rpm & electric diaphragm type. Supply and install new dosing pumps of (200) lt/hr capacity at (4) bars mean pressure, motor power (0.55)kw, control panel for the system . the materials Western European produced, supply also UPVC pipes (DN20, PN16)) and all fittings with accessories for connection feeding line. all the chemical dosage equipment installed on the base concrete, all electromechanical connections required with the sedimentation tanks.</p>	No	2		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
3,7	Supply and installing Root Air Blower, air cooled, oil free, electrical driven, with 0.8 bar & (600)m ³ /h capacity,(1450-2900)RPM,380-400V,3phases,50Hz,new brand, Turkish production or best equivalent, the work includes providing all ,check valve ,gate valve, vibration absorber base, safety valve, drain valve in lower point of pipes with air cleaner silencer on blower intake, works includes all mechanical connections with the filters, fittings, accessories, electrical connection and civil works (reinforced concrete base) as to instructions of ICRC engineer.	No	1		0
3,8	Disassembling existing pressure filters 6m x 2.3m opening of manholes covers, supply, install and lay of media (gravel, sand and sand quartz), laying new media with rated flow (10) m ³ /m ² . hour, working pressure (5) bars, externally UV oil painting, HDPE strainer nozzles (disc diffuser type) spaced (10)Sq.cm c/c apart, pressure gauges (10) bar stainless steel, Supply of HDPE nozzles, 55 nozzles per square meter of the baffle for all the filter, pressure gauges 10bar supply and laying media materials consists of different layers according to the Standard . 1-Coarse grade (9.5-13)mm 2-Medium grade (6.5-9.5)mm 3-Fine grade (2.5-6.5)mm 4-Sand quartzes (0.6-0.65) The price also includes replace the gasket of the inspections repair any damaged parts (gland & gland bolts, stem, disk or wedge, O rings rubber NBR), cleaning of the external surfaces, fixing with steel bolts and nuts zinc coated (16mm E)*8 pieces., inspection manholes (4) pcs, item includes test and operate and oil exterior paint, Jotoun type of all the units completely.	No	2		0
3,9	Supplying and installing new main electrical distribution board (1.2 x 0.8 x 0.6 depth)m & 2mm thickness, for Farancy CU, Double door, Turkish made floor standing, the control board containing, main circuits breakers (MCCB) ABB type as following: 1-The main MCCB 250A. 2-Busbar 300 A complete set (3m length, size 2cm x 1cm). 3-Busbar 200 A complete set (2m length, size 2cm x 0.5 cm). 4-Digital gages multi readings. 5-MCCB 160 A (2 pieces) sand filter pumps. 6-MCB 63 A (2 pieces).services (Alum, lighting, etc.) 7-Cover all non isolated part by using isolated sheet signal lights, gages multi readings, ampere transformer (C.T) 600/5 (3 No). -Automatic fan cooling & lighting systems. All inlet outlet connection should be from bottom of the board All connections needed should be by using only Busbar & all accessories, metal frame of installation as to instructions of ICRC engineer. Remove the old board and install this board on suitable metallic structure	No	1		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
3,91	<p>Supplying materials and skilled technicians for fixing new control panel Y-Δ 55 kw for the sand filter of Farancy compact unit pump with metal painted cabinet double door (60cm x 80cm x 40cm x 2mm thick), delta star connection.</p> <p>Including:</p> <p>1-Main circuit breaker 200A. 2-Contactors (3x150A). 3-Thermal overload (40-70). 4-Automatic fan cooling system 5-Automatic lighting system. 6-Cover all non isolated part by using isolated sheet 7- Ampere transformer C-T 200 / 5 A (3 No). 8-Isolated Bus Bar 100 A complete set (4m length, size 2cm x 0.5 cm).</p> <p>the power connection should be with Bus Bar and the control by wires phase failure sequence, push button, Digital Ampere& voltmeter and testing, all the supplied items should be of ABB, original as to instructions of ICRC engineer..</p>	No	2		0
3,92	<p>Supplying materials and fixing 250W sodium type outdoor projectors with transformer and suitable length of cable size(4x4)mm². The work includes the installation of new photocell and circuit breaker.</p>	No	5		0
3,93	<p>Providing materials, manpower and supply of strand power low tension cable, size (4x16mm²) for sand filter pump connection, Turkish or Jordanian made standard bran to be measured by Vernier measurement tool, terminals, bolts and all accessories required.</p>	ML	20		0
3,94	<p>Supplying materials and skilled technicians for fixing new control panel D.O.L 22kw for the Air blower with metal painted cabinet single door (50cm x 40cm x 25cm x 2mm thick), D.O.L connection.</p> <p>Including:</p> <p>1-Main circuit breaker 100A. 2-Contactors (1x100A). 3-Thermal overload (40-60). 4-Automatic fan cooling system 5-Automatic lighting system. 6-Cover all non isolated part by using isolated sheet 7- Ampere transformer C-T 100 / 5 A (3 No). phase failure sequence, push button, Digital Ampere& voltmeter and testing, all the supplied items should be of ABB, original as to instructions of ICRC engineer</p>	No	1		0
	Total				0
4	Treatment extension 200m³/h, storage tank, Main Boosting station & Electrical System				

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
4.1	Construction Reinforced concrete base (10m x 17m) size, (1:2:4) mixture ratio in min. compressive strength of (210 Kg/cm ²), Sulphate Resistant cement, by using approved block mouldings, chamfered edges. The cast includes providing and fixing of steel bars 12mm, 2 layers, three concrete curve shape for the front, middle and end of the filter to hold the filter accordingly. making concrete drainage trenches. All the cast should be over compacted sub-base materials 30cm thick, after remove the nature soil from the land. 10cm plain concrete, 25cm reinforced concrete.	M ³	45		0
4.2	Supply and install of manual operated rapid pressure cylinder type filter, horizontal sand filter rated at flow 8m ³ / m ² /h. Diameter 2.3m, length 6m (DISH - DISH). shell thickness 10MM & 12MM end dishes, nozzle plate (14)MM thickness. All from welded carbon steel (ST-37) for working pressure 6 bar, painting the interior surfaces 2 coat of Epoxy food stuff and exterior of 2 coat oil paint. The filter contains of HDPE nozzle not less than 550 nozzle/filter. 2 pressure gauges (10) bar, Ø10 cm diam.. Supply and laying media materials consists of different layers according to the Standard: 1-Coarse grade (9.5-13)mm 2-Medium grade (6.5-9.5)mm 3-Fine grade (2.5-6.5)mm 4-Sand quartzes (0.6-0.65) The price also includes providing of manholes, drain butterfly valves complete set, pipes connection different size and length and all fittings & civil works needed, to be tested according to required technical specifications and as directed by ICRC engineer.	No	2		0
4.3	Supplying and installing single stage and suction horizontal centrifugal volute sand filter end section pump 1450rpm complete unit (pump, electric motor, base plate & coupling guard), the pump unit should be Turkish production ,(Wilo, Mas Daff, Standard.). Capacity (220)M ³ /h, Head 40m, 55kW. contractor shall submit technical specifications and with catalogues of the pumps and will provide a supplier's pump efficiency curve for the pump, to ensure that the pumps installed are efficient and not simply matching the requested flow rate and head.), approved by ICRC Engineer. - The impeller must be Bronze. - The shaft must be stainless steel. - Max temp. -20 to 110° C - Gland must be Bronze. - Wear Ring must be Bronze The pump and the motor should have standard connection to the common base plate with flexible coupling Field of application is water supply. The work includes fixing the pump on reinforced concrete base and All the works must be according to ICRC engineer.	No	2		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
4,4	Supplying and installing Galvanized steel pipe (DN 200mm) suitable length to complete the suction from the clarifier concrete tank & discharge pump connections with the filters, best available in the local market by using flexible joint, elbows, flanges, reducer needed with all fittings required to do the work according to ICRC engineer instructions.	LS	2		0
4,5	Supplying and installing Galvanized steel pipe (DN 200mm) to complete discharge pump connections to the storage tank, best available in the local market by using flexible joint, elbows, flanges, reducer needed with all fittings required and civil work on the concrete storage tank to do the work according to ICRC engineer instructions.	ML	100		0
4,6	Supply and installing Root Air Blower, air cooled, oil free, electrical driven, with 0.8 bar & (600)m ³ /h capacity,(1450-2900)RPM,380-400V,3phases,50Hz,new brand, Turkish production or best equivalent, the work includes providing all ,check valve ,gate valve, vibration absorber base, safety valve, drain valve in lower point of pipes with air cleaner silencer on blower intake, works includes all mechanical connections with the filters, fittings, accessories, electrical connection and civil works (reinforced concrete base) as to instructions of ICRC engineer.	No	1		0
4,7	providing of materials and technicians and overall repair for the vertical flash mixer machine inside the old concrete clarifier tank. The work contains replace the existing electrical motor, 900rpm, 0.55kW, replace the metal fan, replace the stainless steel shaft. supply control panel with wiring, cables, etc...	LS	1		0
4,8	Providing of materials and manpower and overall rehabilitation & cleaning mud of the concrete clarifier tank (4.5m x 4.5m) flash mixer pit & (9m x 16m) clarifier pit, all are 4m depth. The work also contains repair and oil paint the handrail.	LS	1		0
4,9	Supply and fabricate of sun shed size (8m x 8 m) from 3" diam. galvanized pipes Colom each 3m span welded on the base and top 25cm x 25 cm x 10 mm thick. plate and the base anchored with 4bolts, diam14 mm and from above welded by 4" x 2' U profile steel channel, covered by pitch roof made of 2" X 2" angle iron and 1 mm thick. corrugated galvanized steel sheet, all welding, oil paint and anti rust as directed by ICRC engineer.	Sq.m	64		0
4,10	Providing materials, equipment (shovel etc.), manpower (not less than10 workers per day for 3 days), tools and 2 submersible pumps with PVC hose not less than 20 m in order to remove and clean all the settled mud in Storage concrete tank (10 X 10 X 4)M and transfer it to located area away from the site according to instructions of ICRC engineer.	LS	1		0
4,11	Supply and install new brand foot valve with strainer steel mesh DN250mm flange type for the the pumps inside the old WTP to maintain pump prime between pumping cycles, the body should be epoxy coated, flat washer, rubber disc, stainless steel or PE screen .with all bolts, washers, casket and nuts.	No	4		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
4,12	Providing of materials and technicians and using the existing ductile pipe DN250mm and provide any fittings required like (elbow, T-section, reducer, connector, flexible joint), size DN200 & DN250 to re-install the booster pumps of Shura & villages according to the instructions of ICRC engineer, the work is on the suction and discharge of the pumps.	LS	4		0
4,13	Supply and install new brand cast iron Check Valve Turkish made (FAF or Duyar) DN200, PN 16, to install sand filter pump (discharge) working temperature (max 130C°), Turkish made, or best equivalent, flange end with all bolts and nuts. Seat Ring Bronze/ Brass Disc Ring Brass/ Bronze/ EPDM/ NBR Hanger EN GJL 500 7 Hanger Pin Stainless Steel Cover Gasket Graphite With Soft Steel The Check Valves (Non Return Valves) are used to stop back flow / pressure to the upstream side of the valve.	No	4		0
4,14	Supply and install new brand cast iron gate valve Turkish made (FAF or Duyar), DN200, PN 16, to install the booster pump (suction & discharge) working temperature (max 130C°), hand wheel type/ductile iron, cast iron body & Bonnet , stem should be stainless steel, wedge should be ductile iron+rubber coated, flange type with all bolts and nuts/DIN933, Washer/steel . The work includes providing any fittings required.	No	8		0
4,15	Providing materials, manpower, plastic & oil painting of best quality Turkish made for all exposed surfaces of the high lift unit (exterior and interior), operator and adimin rooms, three layers as instructions of ICRC engineer.	Sq.m	2000		0
4,16	Providing of technicians and skilled worker and remove partition wall 40cm thick of both room inside the WTP between the rooms and pumps hall, the work contains remove the walls size 2 x (2m height x5 wide) and re-plastered the removed wall in order to extend the area to be as an electrical control board place. all civil work required	LS	2		0
4,17	Providing materials and manpower and fabricate checker plate 4mm thick. Braced on angle iron 1.5" with dimension of each piece of the plate almost (1.5x1)m. The work includes Civil work required under the plates and using partition inside the trench with angle iron 1.5" , open the closed drainage pipes inside the trench & oil paint three layers according to instructions of ICRC engineer.	ML	35		0
4,18	Providing of technicians and skilled worker in order to make renovation of electrical room (4 x 5) m beside Farancy CU and inside the WTP the work includes. Treating the walls by using cement plastering and cast the floor 20cm after remove the old cast & replace the main metal gate (2m x 1,25m), all work as directed by ICRC engineer	LS	1		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
4,19	Providing materials, manpower and supply of strand power low tension cable, size (3x50mm ² +35mm ²) for the new extension CU with Farise CU, best quality Turkish or Jordanian, standard bran to be measured by Vernier measurement tool, terminals, bolts and all accessories required.	ML	75		0
4,20	Supplying and installing new main electrical distribution board (1.2 x 0.8 x 0.6 depth)m & 2mm thickness, for extension CU, Double door, Turkish made floor standing, the control board containing, main circuits breakers (MCCB) ABB type as following: 1-The main MCCB 250A. 2-Busbar 300 A complete set (3m length, size 2cm x 1cm). 3-Busbar 200 A complete set (2m length, size 2cm x 0.5 cm). 4-Digital gages multi readings. 5-MCCB 160 A (2 pieces) sand filter pumps. 6-MCB 63 A (2 pieces).services (Alum, lighting, etc.) 7-Cover all non isolated part by using isolated sheet signal lights, gages multi readings, ampere transformer (C.T) 600/5 (3 No). -Automatic fan cooling & lighting systems. All inlet outlet connection should be from bottom of the board All connections needed should be by using only Busbar & all accessories, metal frame of installation as to instructions of ICRC engineer.	No	1		0
4,21	Supplying materials and skilled technicians for fixing new control panel Y-Δ 55 kw for the sand filter of extension compact unit pump with metal painted cabinet double door (60cm x 80cm x 40cm x 2mm thick), delta star connection. Including: 1-Main circuit breaker 200A. 2-Contactors (3x150A). 3-Thermal overload (40-70). 4-Automatic fan cooling system 5-Automatic lighting system. 6-Cover all non isolated part by using isolated sheet 7- Ampere transformer C-T 200 / 5 A (3 No). 8-Isolated Bus Bar 100 A complete set (4m length, size 2cm x 0.5 cm). the power connection should be with Bus Bar and the control by wires phase failure sequence, push button, Digital Ampere& voltmeter and testing, all the supplied items should be of ABB, original as to instructions of ICRC engineer..	No	2		0
4,22	Supplying materials and fixing 250W sodium type outdoor projectors with transformer and suitable length of cable size(4x4)mm ² . The work includes the installation of new photocell and circuit breaker.	No	14		0
4,23	Providing materials, manpower and supply of strand power low tension cable, size (4x16mm ²) for sand filter pump connection, Turkish or Jordanian made standard bran to be measured by Vernier measurement tool, terminals, bolts and all accessories required.	ML	60		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
4,24	Providing materials, manpower and supply of power low tension cable size (3x240+180)mm ² to connect the M.D.B and control panels hall, Turkish or best available made in the local market, terminals, bolts and all accessories required.	ML	100		0
4,25	Supplying and installing new main electrical distribution board (1.8 x1.8x0.6depth)m & 2mm thickness, for the treatment plant pumps house, Double door, Turkish made floor standing, the control board containing, main circuits breakers (MCCB) ABB type or equivalent as following: 1-The main MCCB1600A (one piece). 2-Busbar 1600 A complete set (6m length, size 8cm x 1 cm). 3-Busbar 600 A complete set (2m length, size 3cm x 1 cm). 4-Digital gages multi readings. 3-Digital gages multi readings. 4-MCCC 630 A (5 pieces).. 7-MCC 63 A (3 pieces). signal lights, gages multi readings, ampere transformer (C.T) 1600/5 (3 No) All inlet outlet connection should be from bottom of the board All connections needed should be by using only Bas Bar & all accessories, metal frame of installation as to instructions of ICRC engineer	No	1		0
4,26	Supplying materials and skilled technicians for fixing new control panel Y-Δ 250kw for the boosting pumps with metal painted cabinet double door (160cm x 80cm x 60cm x 2mm thick), delta star connection. Including: 1-Main circuit breaker 630A. 2-Contactors (3x600A). 3-Thermal overload (250-400). 4-Automatic fan cooling system 5-Automatic lighting system. 6-Cover all non isolated part by using isolated sheet. 7- Ampere transformer C-T 630 / 5 A (3 No). 8--Isolated Bas Bar 400 A complete set (4m length, size 2cm x 1 cm). the power connection should be with Bas Bar and the control by wires phase failure sequence, push button, Digital Ampere& voltmeter and testing, all the supplied items should be of ABB, original as to instructions of ICRC engineer.	No	4		0
4,27	providing of materials and technicians and supply projector indoor 55W, reflector, one lamp white colour with cable 1 x 2.5mm ² suitable length to allow laying light inside the hall pump with rooms, inside conduit pvc pipe, with switches 13 A , 15A , Boiler switch control .. Etc...with Body circuit 18 line.	No	15		0
4,28	Providing materials, manpower and supply of strand power low tension cable armoured type, size (3x95mm ² +50mm ²) from Turkish or Jordanian made standard bran to be measured by Vernier measurement tool, terminals, bolts and all accessories required.	ML	60		0
4,29	Providing materials, manpower and supply of strand power low tension cable armoured type, size (3x70mm ² +16mm ²)Turkish or Jordanian made standard bran to be measured by Vernier measurement tool, terminals, bolts and all accessories required.	ML	50		0

Shura / WTP / Rehabilitation
Shura / Musel / Ninawa

Item	Description	Unit	Qty	Unit Price (USD)	Total Price (USD)
4,30	Providing materials, manpower and supply of strand power low tension cable, size (3x35mm ² +25mm ²)Turkish or Jordanian made standard bran to be measured by Vernier measurement tool, terminals, bolts and all accessories required.	ML	60		0
4,31	Providing of materials and manpower and clean and paint all pumps 250kW inside the WTP, HP section steel crane holder, oil paint. The work includes providing of crane 10 ton capacity for the hall with metallic chain 10 ton load 20m length	LS	1		0
4,32	Providing of materials and technicians and repair all metal windows inside the project with the doors	Sq.m	20		0
4,33	Providing of metallic door prefabricated size (2 x 1) China made with installation.	No	6		0
4,34	Providing of materials and technicians and supply and install coupling Johnson size DN350 epoxy paint with bolts and nuts and suitable size pipe to fix any broken pipe on the network appears.	No	20		0
4,35	Providing of materials and complete mechanics tool set with box (spanner size 13-60), socket size (13-63), adjustable wrench (6-15)inches, screw spanner (6-35) inches, etc....to maintain all high lift pumps and other machines	No	2		0
4,36	Installing existing Chlorinator equipment, type piston diaphragm dosing pump, Aldos type, for chlorine powder feeding, capacity (1-260) l/h, 50Hz, 220-240V, motor capacity (0.55) kw, duplex pump, connection pvc pipes, dosing tank agitator, suction pulsation dumper, suction lines, loading and controlling valves, injection unit with measuring pipes. The work contains supply, install new starter, cables with plugs for power connections,UPVC network connection to the concrete storage tank, testing and operating.	No	2		0
Total					0
Grand Total					0

Estimated duration	n° of calendar days
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