

OFFICE OF THE MUNICIPAL COMMITTEE, VEHARI

No: /MO(I)/MC-VR Dated:26/07/2024 Phone Number (067)-3362650,33-61308,33,64262) Email Address. mcvehari1@gmail.com

(AMENDED WORK ORDER)

To

M/S Wahab 3P Grace Jv.

SF.10, DG Commercial Arcade, Divine Gardens, New Airport Road Lahore.

Ph. # 0323-4176685

Subject: <u>SOLARIZATION OF TUBE WELLS AND DISPOSAL STATION IN</u>

VEHARI CITY"ESTIMATED COST 16,18,04,170/.

(Under Punjab Cities Program)

Reference: - Your bid dated 19-01-2024

The rate your Bid/Tender for the scheme cited as subject as approved by competent authority amounting to **Rs. 15,37,18,893/- (One Hundred Fifty-three Million Seven Hundred Eighteen Thousand Eight Hundred Ninety-three)** with the completion period of 06 Months construction phase + 12 Months O&M (DLP) starting from the date of issuance of this work order as per following items of work & rates subject to strict Technical/Financial Regularities & Codal Formalities, Drawings, General Terms & Condition of the contract agreement including conditions herein after.

1.DISPOSAL WORKS AT CHAK# 9/11 VEHARI

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	95,000	Wp	112	1,06,40,000.00
1.2	Inverter (Grid-Tied) 95 KW	1	Set	15,50,000	15,50,000.00
1.3	PV-Genset Controller	1	Job	2,50,000	2,50,000.00
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	4,00,000	4,00,000.00
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	2,50,000	2,50,000.00
2	AC Termination & Accessories				-
2.1	LT Termination				-
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	50,000	50,000.00
2.1.2	Low Voltage Switchgear Cabinet	1	Set	50,000	50,000.00
2.1.3	AC Combiner Breakers for MCCB	1	Set	50,000	50,000.00
2.1.4	AC Combiner Breakers for ACB	1	Set	50,000	50,000.00
3	Fabricated Items				-
3.1	Mounting Structure	166	Job	16,000	26,56,000.00
3.2	Cable Tray	1	Job	50,000	50,000.00
3.3	Distribution Boxes	1	Job	50,000	50,000.00
4	Cable & Accessories				-
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored	1	Set	4,00,000	4,00,000.00

4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	4,00,000	4,00,000.00
4.3	Installation Material (cable Ducts etc.)	1	Set	2,00,000	2,00,000.00
5	Earthing/ Grounding System / ATS Panels				-
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing copper wires and cables (Yellow/Green) from the PV system components to the electrode to complete the system as specifications and supervisor engineer instructions and approval. Earthing System For Inverter / WAPDA /	1	Job	1,50,000	1,50,000.00
5.2	Generator Set Neutral Complete independent earthing system for Inverter / WAPDA / Generator Set Neutral must be separated of the main earthing system to obtain 2-ohm max resistance. the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 50 mm2 flexible earthing copper wires and cables from the Neutral bus bar in the Main Distribution box to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000.00
5.3	Surge protection device of appropriate short circuit capacity to secure the overall AC system (data and power) against lightnings and surges strikes, including connecting the device to earthing system and all needed accessories	12	Set	12,000	1,44,000.00
5.4	Grounding Flat Iron, Grounding Network for the plant Area, Power distribution Room, HV power Distribution room	1	Job	1,00,000	1,00,000.00
5.5	Automatic Transfer Switch (ATS) 3 phase system. The ATS consist of two 4 poles contactors of appropriate capacity complete with (Mechanical & electrical Interlock) all needed ACU control fittings such timers, relays, under voltage. with all needed fittings and accessories to get job ready.	1	Job	50,000	50,000.00
5.6	Phase Failure Protection 3ph. Failure, loss of phase, under voltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed protection devices, control devices and accessories	1	Job	1,00,000	1,00,000.00
6	Remote Monitoring & Data Acquisition System				-
6.1	Contractor Shall Provide the access of Remote Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring, Data Logging	1	Job	50,000	50,000.00
7	Services				-
7.1	Project Design & Execution	1	Job	4,25,000	4,25,000.00
7.2	Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of	1	Job	1,90,000	1,90,000.00
7.3	Solar System Operations and Maintenance "O&M" Services	1	Job Job	1,00,000	1,00,000.00
7.4	(1 Year) Load Flow Study (Required for Net- Metering)	1	Job	10,000	10,000.00
7.6	Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection)	1	Job	1,20,000	1,20,000.00

	Amount of PV system complete in all respect S		1,87,35,000		
8					
Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
26/46	Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter	900.00	Per Rft	591.15	5,32,035.00
26/47	Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	7,200.00	Per Sft	487.30	35,08,560.00
	Sub Total (B)				40,40,595.00
	Total (A+B)				2,27,75,595.00

2. Disposal Works at 32 Quarters Vehari

Sr. No.	Description	Quanti ty	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	1,15,000	Wp	112	1,28,80,000
1.2	Inverter (Grid-Tied) 115 KW	1	Set	15,50,000	15,50,000
1.3	PV-Genset Controller	1	Job	2,50,000	2,50,000
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	4,00,000	4,00,000
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	2,50,000	2,50,000
2	AC Termination & Accessories				_
2.1	LT Termination				_
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	2,50,000	2,50,000
2.1.2	Low Voltage Switchgear Cabinet	1	Set	2,50,000	2,50,000
2.1.3	AC Combiner Breakers for MCCB	1	Set	2,50,000	2,50,000
2.1.4	AC Combiner Breakers for ACB	1	Set	2,50,000	2,50,000
3	Fabricated Items				-
3.1	Mounting Structure	200	Job	16,000	32,00,000
3.2	Cable Tray	1	Job	2,00,000	2,00,000
3.3	Distribution Boxes	1	Job	2,50,000	2,50,000
4	Cable & Accessories				-
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored	1	Set	2,00,000	2,00,000
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	2,00,000	2,00,000
4.3	Installation Material (cable Ducts etc.)	1	Set	2,00,000	2,00,000
5	Earthing/ Grounding System / ATS Panels				=

					1
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing copper wires and cables (Yellow/Green) from the PV system components to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.2	Earthing System For Inverter / WAPDA / Generator Set Neutral Complete independent earthing system for Inverter / WAPDA / Generator Set Neutral must be separated of the main earthing system to obtain 2-ohm max resistance. the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 50 mm2 flexible earthing copper wires and cables from the Neutral bus bar in the Main Distribution box to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.3	Surge protection device of appropriate short circuit capacity to secure the overall AC system (data and power) against lightnings and surges strikes, including connecting the device to earthing system and all needed accessories	12	Set	12,000	1,44,000
5.4	Grounding Flat Iron, Grounding Network for the plant Area, Power distribution Room, HV power Distribution room	1	Job	3,50,000	3,50,000
5.5	Automatic Transfer Switch (ATS) 3 phase system. The ATS consist of two 4 poles contactors of appropriate capacity complete with (Mechanical & electrical Interlock) all needed ACU control fittings such timers, relays, undervoltage. with all needed fittings and accessories to get job ready.	1	Job	50,000	50,000
5.6	Phase Failure Protection 3ph. Failure, loss of phase, under voltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed protection devices, control devices and accessories	1	Job	4,50,000	4,50,000
6	Remote Monitoring & Data Acquisition System				-
6.1	Contractor Shall Provide the access of Remote Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring, Data Logging	1	Job	50,000	50,000
7	Services				-
7.1	Project Design & Execution	1	Job	4,00,000	4,00,000
7.2	Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System	1	Job Job	2,30,000 3,50,000	2,30,000 3,50,000
7.4	Operations and Maintenance "O&M" Services	1	Job	2,00,000	2,00,000
7.5	(1 Year) Load Flow Study (Required for Net- Metering)	1	Job	10,000	10,000
7.6	Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection)	1	Job	1,20,000	1,20,000
0	Amount of PV system complete in all	respect Sub	total A		2,32,34,000
8	Fencing	0		TT24	
Sr. No.	Description	Quanti ty	Unit	Unit Rate	Total Price (Rs.)
26/46	Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded	850	Per Rft	591	502477.5

	horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge.(ii) 18 " diameter				
26/47	Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	6800	Per Sft	487	3313640
	Sub Total (B)				38,16,118
	Total (A+B)				2,70,50,117.50

3.Disposal Works at People's Colony Connection No. 02 Vehari.

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	1,10,000	Wp	112	1,23,20,000
1.2	Inverter (Grid-Tied) 115 KW	1	Set	15,50,000	15,50,000
1.3	PV-Genset Controller	1	Job	2,50,000	2,50,000
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	4,00,000	4,00,000
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	2,50,000	2,50,000
2	AC Termination & Accessories				-
2.1	LT Termination				-
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	2,50,000	2,50,000
2.1.2	Low Voltage Switchgear Cabinet	1	Set	2,50,000	2,50,000
2.1.3	AC Combiner Breakers for MCCB	1	Set	2,50,000	2,50,000
2.1.4	AC Combiner Breakers for ACB	1	Set	2,50,000	2,50,000
3	Fabricated Items				-
3.1	Mounting Structure	192	Job	16,000	30,72,000
3.2	Cable Tray	1	Job	2,00,000	2,00,000
3.3	Distribution Boxes	1	Job	2,50,000	2,50,000
4	Cable & Accessories				-
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored	1	Set	2,00,000	2,00,000
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	2,00,000	2,00,000
4.3	Installation Material (cable Ducts etc.)	1	Set	2,00,000	2,00,000
5	Earthing/ Grounding System / ATS Panels				-

8 Sr. No.	Fencing Description	Quantity	Unit	Unit Rate	7 Total Price (Rs.)
7.0	Approvals, Documentation, Inspection) Amount of PV system complete in all respect Society.		300	1,20,000	2,26,36,000
7.5 7.6	Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee,	1	Job Job	10,000	10,000
7.4	Operations and Maintenance "O&M" Services (1 Year)	1	Job	2,00,000	2,00,000
7.3	Installation, testing and Commissioning of Solar System	1	Job	4,50,000	4,50,000
7.2	Erecting of Mechanical Mounting Structure	1	Job	2,20,000	2,20,000
7.1	Project Design & Execution	1	Job	4,00,000	4,00,000
7	Services				-
6.1	Contractor Shall Provide the access of Remote Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring, Data Logging	1	Job	50,000	50,000
6	and accessories Remote Monitoring & Data Acquisition System				-
5.6	Phase Failure Protection 3ph. Failure, loss of phase, under voltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed protection devices, control devices	1	Job	4,50,000	4,50,000
5.5	Automatic Transfer Switch (ATS) 3 phase system. The ATS consist of two 4 poles contactors of appropriate capacity complete with (Mechanical & electrical Interlock) all needed ACU control fittings such timers, relays, undervoltage. with all needed fittings and accessories to get job ready.	1	Job	50,000	50,000
5.4	Grounding Flat Iron, Grounding Network for the plant Area, Power distribution Room, HV power Distribution room	1	Job	3,50,000	3,50,000
5.3	Surge protection device of appropriate short circuit capacity to secure the overall AC system (data and power) against lightnings and surges strikes, including connecting the device to earthing system and all needed accessories	12	Set	12,000	1,44,000
5.2	Earthing System For Inverter / WAPDA / Generator Set Neutral Complete independent earthing system for Inverter / WAPDA / Generator Set Neutral must be separated of the main earthing system to obtain 2-ohm max resistance. the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 50 mm2 flexible earthing copper wires and cables from the Neutral bus bar in the Main Distribution box to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing copper wires and cables (Yellow/Green) from the PV system components to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000

26/46	Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter	650	Per Rft	591	384247.5
26/47	Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	5200	Per Sft	487	2533960
	Sub Total (B)				29,18,208
	Total (A+B)				2,55,54,207.50

4.Disposal Works at People's Colony Connection No-1 Vehari

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	50,000	Wp	112	56,00,000
1.2	Inverter (Grid-Tied) 50 KW	1	Set	10,00,000	10,00,000
1.3	PV-Genset Controller	1	Job	2,50,000	2,50,000
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	4,00,000	4,00,000
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	2,50,000	2,50,000
2	AC Termination & Accessories				-
2.1	LT Termination				-
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	1,25,000	1,25,000
2.1.2	Low Voltage Switchgear Cabinet	1	Set	1,25,000	1,25,000
2.1.3	AC Combiner Breakers for MCCB	1	Set	1,25,000	1,25,000
2.1.4	AC Combiner Breakers for ACB	1	Set	1,25,000	1,25,000
3	Fabricated Items				-
3.1	Mounting Structure	87	Job	16,000	13,92,000
3.2	Cable Tray	1	Job	1,15,000	1,15,000
3.3	Distribution Boxes	1	Job	1,15,000	1,15,000
4	Cable & Accessories				-
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored	1	Set	1,00,000	1,00,000
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	1,00,000	1,00,000

4.3	Installation Material (cable Ducts etc.)	1	Set	70,000	70,000
5	Earthing/ Grounding System / ATS Panels				-
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing copper wires and cables (Yellow/Green) from the PV system components to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.2	Earthing System For Inverter / WAPDA / Generator Set Neutral Complete independent earthing system for Inverter / WAPDA / Generator Set Neutral must be separated of the main earthing system to obtain 2-ohm max resistance. the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 50 mm2 flexible earthing copper wires and cables from the Neutral bus bar in the Main Distribution box to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.3	Surge protection device of appropriate short circuit capacity to secure the overall AC system (data and power) against lightnings and surges strikes, including connecting the device to earthing system and all needed accessories	10	Set	12,000	1,20,000
5.4	Grounding Flat Iron, Grounding Network for the plant Area, Power distribution Room, HV power Distribution room	1	Job	2,50,000	2,50,000
5.5	Automatic Transfer Switch (ATS) 3 phase system. The ATS consist of two 4 poles contactors of appropriate capacity complete with (Mechanical & electrical Interlock) all needed ACU control fittings such timers, relays, undervoltage. with all needed fittings and accessories to get job ready.	1	Job	50,000	50,000
5.6	Phase Failure Protection 3ph. Failure, loss of phase, under voltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed protection devices, control devices and accessories	1	Job	3,25,000	3,25,000
6	Remote Monitoring & Data Acquisition System				-
6.1	Contractor Shall Provide the access of Remote Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring, Data Logging	1	Job	50,000	50,000
7	Services				-
7.1	Project Design & Execution	1	Job	1,00,000	1,00,000
7.2	Erecting of Mechanical Mounting Structure	1	Job	1,00,000	1,00,000
7.3	Installation, testing and Commissioning of Solar System	1	Job	1,00,000	1,00,000
7.4	Operations and Maintenance "O&M" Services (1 Year)	1	Job	2,00,000	2,00,000
7.5	Load Flow Study (Required for Net- Metering)	1	Job	10,000	10,000
7.6	Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection)	1	Job	1,20,000	1,20,000
	Amount of PV system complete in a	all respect S	ub total A		1,16,17,000
8	Fencing				

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
26/46	Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter	300	Per Rft	591	177345
26/47	Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	2400	Per Sft	487	1169520
	Sub Total (B)				13,46,865
	Total (A+B)				1,29,63,865

5. Water Works at Chak# 9/11 WB Vehari

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	85,000	Wp	112	95,20,000
1.2	Inverter (Grid-Tied) 85 KW	1	Set	15,50,000	15,50,000
1.3	PV-Genset Controller	1	Job	2,50,000	2,50,000
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	4,00,000	4,00,000
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	2,50,000	2,50,000
2	AC Termination & Accessories				-
2.1	LT Termination				-
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	1,50,000	1,50,000
2.1.2	Low Voltage Switchgear Cabinet	1	Set	1,50,000	1,50,000
2.1.3	AC Combiner Breakers for MCCB	1	Set	1,50,000	1,50,000
2.1.4	AC Combiner Breakers for ACB	1	Set	1,50,000	1,50,000
3	Fabricated Items				-
3.1	Mounting Structure	148	Job	16,000	23,68,000
3.2	Cable Tray	1	Job	2,00,000	2,00,000
3.3	Distribution Boxes	1	Job	2,50,000	2,50,000
4	Cable & Accessories				-
4.1	AC Cables for Inverter Interconnection xx sqmm,4	1	Set		

	core, Armored			2,00,000	2,00,000
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	2,00,000	2,00,000
4.3	Installation Material (cable Ducts etc.)	1	Set	2,00,000	2,00,000
5	Earthing/ Grounding System / ATS Panels				-
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing copper wires and cables (Yellow/Green) from the PV system components to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.2	Earthing System For Inverter / WAPDA / Generator Set Neutral Complete independent earthing system for Inverter / WAPDA / Generator Set Neutral must be separated of the main earthing system to obtain 2-ohm max resistance. the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 50 mm2 flexible earthing copper wires and cables from the Neutral bus bar in the Main Distribution box to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.3	Surge protection device of appropriate short circuit capacity to secure the overall AC system (data and power) against lightnings and surges strikes, including connecting the device to earthing system and all needed accessories	12	Set	12,000	1,44,000
5.4	Grounding Flat Iron, Grounding Network for the plant Area, Power distribution Room, HV power Distribution room	1	Job	3,50,000	3,50,000
5.5	Automatic Transfer Switch (ATS) 3 phase system. The ATS consist of two 4 poles contactors of appropriate capacity complete with (Mechanical & electrical Interlock) all needed ACU control fittings such timers, relays, undervoltage. with all needed fittings and accessories to get job ready.	1	Job	50,000	50,000
5.6	Phase Failure Protection 3ph. Failure, loss of phase, under voltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed protection devices, control devices and accessories	1	Job	4,50,000	4,50,000
6	Remote Monitoring & Data Acquisition System				
6.1	Contractor Shall Provide the access of Remote Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring, Data Logging	1	Job	50,000	50,000
7	Services				-
7.1	Project Design & Execution	1	Job	3,00,000	3,00,000
7.2	Erecting of Mechanical Mounting Structure	1	Job	1,70,000	1,70,000
7.3	Installation, testing and Commissioning of Solar System	1	Job	3,00,000	3,00,000
7.4	Operations and Maintenance "O&M" Services (1 Year)	1	Job	2,00,000	2,00,000
7.5	Load Flow Study (Required for Net- Metering)	1	Job		

				10,000	10,000
7.6	Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection)	1	Job	1,20,000	1,20,000
	Amount of PV system complete in all respect Sub to				1,84,32,000
8	Fencing				
Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
26/46	Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter	600	Per Rft	591	354690
26/47	Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	4800	Per Sft	487	2339040
	Sub Total (B)				26,93,730
_	Total (A+B)				2,11,25,730

6. Water Works at H Block Connection No-1 Vehari

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	35,000	Wp	112	39,20,000
1.2	Inverter (Grid-Tied) 35 KW	1	Set	6,50,000	6,50,000
1.3	PV-Genset Controller	1	Job	2,50,000	2,50,000
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	4,00,000	4,00,000
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	2,50,000	2,50,000
2	AC Termination & Accessories				-
2.1	LT Termination				-
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	50,000	50,000
2.1.2	Low Voltage Switchgear Cabinet	1	Set	50,000	50,000
2.1.3	AC Combiner Breakers for MCCB	1	Set	50,000	50,000
2.1.4	AC Combiner Breakers for ACB	1	Set	50,000	50,000
3	Fabricated Items				-
3.1	Mounting Structure	61	Job	16,000	9,76,000
3.2	Cable Tray	1	Job	50,000	50,000
3.3	Distribution Boxes	1	Job	50,000	50,000
4	Cable & Accessories				-
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored	1	Set	50,000	50,000
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	50,000	50,000
4.3	Installation Material (cable Ducts etc.)	1	Set	50,000	50,000
5	Earthing/ Grounding System / ATS Panels				-
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing	1	Job	1,50,000	1,50,000

	copper wires and cables (Yellow/Green) from the				
	PV system components to the electrode to				
	complete the system as specifications and				
	supervisor engineer instructions and approval.				
	,				
	Earthing System For Inverter / WAPDA /				
	Generator Set Neutral				
	Complete independent earthing system for Inverter				
	/ WAPDA / Generator Set Neutral must be				
	separated of the main earthing system to obtain 2-				
	ohm max resistance. the item includes (2 copper				
5.2	electrodes 15mm2 driven into ground, manholes	1	Job	1,50,000	1,50,000
3.2	with iron cover, earth joints, clamps, ducts,	1	300	1,50,000	1,50,000
	conduits and 50 mm2 flexible earthing copper				
	wires and cables from the Neutral bus bar in the				
	Main Distribution box to the electrode to complete				
	the system as specifications and supervisor				
	engineer instructions and approval.				
	Surge protection device of appropriate short				
	circuit capacity to secure the overall AC system				
5.3	(data and power) against lightnings and surges	1	Set	12,000	12,000
3.3	strikes, including connecting the device to earthing	•	Set	12,000	12,000
	system and all needed accessories				
	Grounding Flat Iron, Grounding Network for the				
5.4	plant Area, Power distribution Room, HV power	1	Job	50,000	50,000
3.1	Distribution room	•	300	30,000	50,000
	Automatic Transfer Switch (ATS)				
	3 phase system. The ATS consist of two 4 poles				
	contactors of appropriate capacity complete with				
5.5	(Mechanical & electrical Interlock) all needed	1	Job	50,000	50,000
3.3	ACU control fittings such timers, relays,	•	•00	30,000	20,000
	undervoltage. with all needed fittings and				
	accessories to get job ready.				
	Phase Failure Protection				
	3ph. Failure, loss of phase, under voltage, over				
	voltage and phase sequence relay (LRST),				
5.6	adjustable type with four poles contactor 4*100A	1	Job	1,25,000	1,25,000
	and all needed protection devices, control devices				
	and accessories				
6	Remote Monitoring & Data Acquisition System				-
	Contractor Shall Provide the access of Remote				
6.1	Monitoring Mobile App and Server from the				
0.1		1	T 1.	50,000	5 0.000
1	Inverter Manufacturer for real time monitoring,	1	Job	50,000	50,000
	Inverter Manufacturer for real time monitoring, Data Logging	1	Job	50,000	50,000
7		1	Job	50,000	50,000
	Data Logging	1	Job Job	50,000	50,000
7	Data Logging Services Project Design & Execution			,	- -
7.1 7.2	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure	1 1	Job Job	1,50,000 70,000	1,50,000 70,000
7 7.1	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar	1	Job	1,50,000	1,50,000
7 7.1 7.2 7.3	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System	1 1 1	Job Job	1,50,000 70,000 1,50,000	1,50,000 70,000 1,50,000
7.1 7.2	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar	1 1	Job Job	1,50,000 70,000	1,50,000 70,000
7 7.1 7.2 7.3	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1	1 1 1	Job Job	1,50,000 70,000 1,50,000	1,50,000 70,000 1,50,000
7 7.1 7.2 7.3 7.4 7.5	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering)	1 1 1 1	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000	1,50,000 70,000 1,50,000 2,00,000 10,000
7 7.1 7.2 7.3	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year)	1 1 1	Job Job Job	1,50,000 70,000 1,50,000 2,00,000	1,50,000 70,000 1,50,000 2,00,000
7 7.1 7.2 7.3 7.4 7.5	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee,	1 1 1 1 1 1	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000	1,50,000 70,000 1,50,000 2,00,000 10,000
7 7.1 7.2 7.3 7.4 7.5	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection)	1 1 1 1 1 1	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000
7 7.1 7.2 7.3 7.4 7.5 7.6	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sufferences	1 1 1 1 1 1 b total A	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000
7 7.1 7.2 7.3 7.4 7.5 7.6	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Su	1 1 1 1 1 1	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000
7 7.1 7.2 7.3 7.4 7.5 7.6	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sufficiency Fencing Description	1 1 1 1 1 1 to total A Quantit	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price
7 7.1 7.2 7.3 7.4 7.5 7.6	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sufficient Fencing Description Providing and fixing anti climb high security	1 1 1 1 1 1 to total A Quantit	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price
7 7.1 7.2 7.3 7.4 7.5 7.6	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sufficiency Fencing Description	1 1 1 1 1 1 to total A Quantit	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price
7 7.1 7.2 7.3 7.4 7.5 7.6	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sufering Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four	1 1 1 1 1 1 to total A Quantit	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price
7 7.1 7.2 7.3 7.4 7.5 7.6	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sufering Description Providing and fixing anticlimb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm	1 1 1 1 1 1 to total A Quantit	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price
7 7.1 7.2 7.3 7.4 7.5 7.6 8 Sr. No.	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect SuFencing Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S	1 1 1 1 1 1 to total A Quantit	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price
7 7.1 7.2 7.3 7.4 7.5 7.6	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Su Fencing Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base	1 1 1 1 1 1 to total A Quantit	Job Job Job Job	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price
7 7.1 7.2 7.3 7.4 7.5 7.6 8 Sr. No.	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sulfering Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of	1 1 1 1 1 to total A Quantit y	Job Job Job Job Job Unit	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 Unit Rate	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price (Rs.)
7 7.1 7.2 7.3 7.4 7.5 7.6 8 Sr. No.	Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sul Fencing Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle	1 1 1 1 1 to total A Quantit y	Job Job Job Job Job Unit	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 Unit Rate	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price (Rs.)
7 7.1 7.2 7.3 7.4 7.5 7.6 8 Sr. No.	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sufering Fencing Description Providing and fixing anticlimb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts , binding wire, painting of posts, etc.	1 1 1 1 1 to total A Quantit y	Job Job Job Job Job Unit	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 Unit Rate	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price (Rs.)
7 7.1 7.2 7.3 7.4 7.5 7.6 8 Sr. No.	Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Su Fencing Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts , binding wire, painting of posts, etc. complete in all respects as approved and directed by	1 1 1 1 1 to total A Quantit y	Job Job Job Job Job Unit	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 Unit Rate	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price (Rs.)
7 7.1 7.2 7.3 7.4 7.5 7.6 8 Sr. No.	Data Logging Services Project Design & Execution Erecting of Mechanical Mounting Structure Installation, testing and Commissioning of Solar System Operations and Maintenance "O&M" Services (1 Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sufering Fencing Description Providing and fixing anticlimb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts , binding wire, painting of posts, etc.	1 1 1 1 1 to total A Quantit y	Job Job Job Job Job Unit	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 Unit Rate	1,50,000 70,000 1,50,000 2,00,000 10,000 1,20,000 81,83,000 Total Price (Rs.)

26/47	Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	3200	Per Sft	487	1559360
	Sub Total (B)				17,95,820
	Total (A+B)				99,78,820.00

7. Water Works at H Block Connection No-2 Vehari

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	15,000	Wp	112	16,80,000
1.2	Inverter (Grid-Tied) 15 KW	1	Set	3,50,000	3,50,000
1.3	PV-Genset Controller	1	Job	1,50,000	1,50,000
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	40,000	40,000
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	1,00,000	1,00,000
2	AC Termination & Accessories				-
2.1	LT Termination				-
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	25,000	25,000
2.1.2	Low Voltage Switchgear Cabinet	1	Set	25,000	25,000
2.1.3	AC Combiner Breakers for MCCB	1	Set	20,000	20,000
2.1.4	AC Combiner Breakers for ACB	1	Set	20,000	20,000
3	Fabricated Items				-
3.1	Mounting Structure	27	Job	16,000	4,32,000
3.2	Cable Tray	1	Job	40,000	40,000
3.3	Distribution Boxes	1	Job	40,000	40,000
4	Cable & Accessories				
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored	1	Set	15,000	15,000
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	15,000	15,000
4.3	Installation Material (cable Ducts etc.)	1	Set	15,000	15,000
5	Earthing/ Grounding System / ATS Panels				-
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing copper wires and cables (Yellow/Green) from the PV system components to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000

	Earthing System For Inverter / WAPDA /				
5.2	Generator Set Neutral Complete independent earthing system for Inverter / WAPDA / Generator Set Neutral must be separated of the main earthing system to obtain 2-ohm max resistance. the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 50 mm2 flexible earthing copper wires and cables from the Neutral bus bar in the Main Distribution box to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.3	Surge protection device of appropriate short circuit capacity to secure the overall AC system (data and power) against lightnings and surges strikes, including connecting the device to earthing system and all needed accessories	2	Set	12,000	24,000
5.4	Grounding Flat Iron, Grounding Network for the plant Area, Power distribution Room, HV power Distribution room	1	Job	50,000	50,000
5.5	Automatic Transfer Switch (ATS) 3 phase system. The ATS consist of two 4 poles contactors of appropriate capacity complete with (Mechanical & electrical Interlock) all needed ACU control fittings such timers, relays, undervoltage. with all needed fittings and accessories to get job ready.	1	Job	50,000	50,000
5.6	Phase Failure Protection 3ph. Failure, loss of phase, under voltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed protection devices, control devices and accessories	1	Job	1,00,000	1,00,000
6	Remote Monitoring & Data Acquisition System				_
6.1	Contractor Shall Provide the access of Remote Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring, Data Logging	1	Job	25,000	25,000
7	Services				-
7.1	Project Design & Execution	1	Job	6,00,000	6,00,000
7.2	Erecting of Mechanical Mounting Structure	1	Job	30,000	30,000
7.3	Installation, testing and Commissioning of Solar System	1	Job	25,000	25,000
7.4	Operations and Maintenance "O&M" Services (1 Year)	1	Job	2,00,000	2,00,000
7.5	Load Flow Study (Required for Net- Metering)	1	Job	10,000	10,000
7.6	Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection)	1	Job	1,20,000	1,20,000
	Amount of PV system complete in all respect Su	btotal A			45,01,000
8	Fencing				,
Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)

26/46	Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter	300	Per Rft	591	177345
26/47	Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	2400	Per Sft	487	1169520
	Sub Total (B)				13,46,865
	Total (A+B)				58,47,865.00

8. Water Works at People's Colony Vehari

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	60,000	Wp	112	67,20,000
1.2	Inverter (Grid-Tied) 60 KW	1	Set	10,00,000	10,00,000
1.3	PV-Genset Controller	1	Job	2,50,000	2,50,000
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	4,00,000	4,00,000
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	2,50,000	2,50,000
2	AC Termination & Accessories				-
2.1	LT Termination				-
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	1,50,000	1,50,000
2.1.2	Low Voltage Switchgear Cabinet	1	Set	1,50,000	1,50,000
2.1.3	AC Combiner Breakers for MCCB	1	Set	1,50,000	1,50,000
2.1.4	AC Combiner Breakers for ACB	1	Set	1,50,000	1,50,000
3	Fabricated Items				-
3.1	Mounting Structure	105	Job	16,000	16,80,000
3.2	Cable Tray	1	Job	1,50,000	1,50,000
3.3	Distribution Boxes	1	Job	1,50,000	1,50,000
4	Cable & Accessories				-
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored	1	Set	1,50,000	1,50,000
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	1,50,000	1,50,000
4.3	Installation Material (cable Ducts etc.)	1	Set	1,00,000	1,00,000
5	Earthing/ Grounding System / ATS Panels			, ,	<u> </u>
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing copper wires and cables (Yellow/Green) from the PV system components to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.2	Generator Set Neutral Complete independent earthing system for Inverter / WAPDA / Generator Set Neutral must be separated of the main earthing system to obtain 2-ohm max resistance. the item includes (2 copper electrodes	1	Job	1,50,000	1,50,000

	15 0.11 1.1 1.11				
	15mm2 driven into ground, manholes with iron cover,				
	earth joints, clamps, ducts, conduits and 50 mm2				
	flexible earthing copper wires and cables from the				
	Neutral bus bar in the Main Distribution box to the				
	electrode to complete the system as specifications and				
	supervisor engineer instructions and approval.				
	Surge protection device of appropriate short circuit				
	capacity to secure the overall AC system (data and				
5.3	power) against lightnings and surges strikes, including	7	Set	12,000	84,000
0.0	connecting the device to earthing system and all	,	500	12,000	01,000
	needed accessories				
- 1	Grounding Flat Iron, Grounding Network for the plant		T 1	2.00.000	2 00 000
5.4	Area, Power distribution Room, HV power	1	Job	3,00,000	3,00,000
	Distribution room				
	Automatic Transfer Switch (ATS)				
	3 phase system. The ATS consist of two 4 poles				
5.5	contactors of appropriate capacity complete with	1	Job	50,000	50,000
5.5	(Mechanical & electrical Interlock) all needed ACU	1	300	30,000	30,000
	control fittings such timers, relays, undervoltage. with				
	all needed fittings and accessories to get job ready.				
	Phase Failure Protection				
	3ph. Failure, loss of phase, under voltage, over				
5.6	voltage and phase sequence relay (LRST), adjustable	1	Job	3,00,000	3,00,000
3.0	type with four poles contactor 4*100A and all needed	1	300	3,00,000	3,00,000
	protection devices, control devices and accessories				
6	Remote Monitoring & Data Acquisition System				-
	Contractor Shall Provide the access of Remote			- 0.000	# 0.000
6.1	Monitoring Mobile App and Server from the Inverter	1	Job	50,000	50,000
	Manufacturer for real time monitoring, Data Logging				
7	Services				-
7.1	Project Design & Execution	1	Job	6,00,000	6,00,000
7.2	Erecting of Mechanical Mounting Structure	1	Job	1,20,000	1,20,000
	Installation, testing and Commissioning of Solar	_			
7.3	System	1	Job	2,00,000	2,00,000
	Operations and Maintenance "O&M" Services (1				
7.4	operations and maintenance occivi betvices (1		T . 1.	2 00 000	
/ • •		1	Job	2,00,000	2,00,000
	Year)				
7.5	Year) Load Flow Study (Required for Net- Metering)	1	Job	10,000	10,000
	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee,				
7.5	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection)	1	Job	10,000	10,000
7.5	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total	1 1	Job	10,000	10,000
7.5 7.6 8	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total	1	Job	10,000	10,000 1,20,000 1,39,34,000
7.5 7.6 8 Sr.	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total Fer	1 1 A ncing	Job Job	10,000 1,20,000 Unit	10,000 1,20,000 1,39,34,000 Total Price
7.5 7.6 8	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description	1 1	Job	10,000	10,000 1,20,000 1,39,34,000
7.5 7.6 8 Sr.	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security	1 1 A ncing	Job Job	10,000 1,20,000 Unit	10,000 1,20,000 1,39,34,000 Total Price
7.5 7.6 8 Sr.	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description	1 1 A ncing	Job Job	10,000 1,20,000 Unit	10,000 1,20,000 1,39,34,000 Total Price
7.5 7.6 8 Sr.	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security	1 1 A ncing	Job Job	10,000 1,20,000 Unit	10,000 1,20,000 1,39,34,000 Total Price
7.5 7.6 8 Sr.	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-	1 1 A ncing	Job Job	10,000 1,20,000 Unit	10,000 1,20,000 1,39,34,000 Total Price
7.5 7.6 8 Sr.	Year) Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total Ferman Description Providing and fixing anti-climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high	1 1 A ncing	Job Job	10,000 1,20,000 Unit	10,000 1,20,000 1,39,34,000 Total Price
7.5 7.6 8 Sr.	Year) Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total Ferman Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified	1 1 A ncing	Job Job	10,000 1,20,000 Unit	10,000 1,20,000 1,39,34,000 Total Price
7.5 7.6 8 Sr. No.	Year) Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total Ferman Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr.	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC	1 1 A ncing	Job Job	10,000 1,20,000 Unit	10,000 1,20,000 1,39,34,000 Total Price
7.5 7.6 8 Sr. No.	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Year) Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts,	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Year) Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total Fer Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Year) Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total Ferman Providing and fixing anti-climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Year) Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total Ferman Description Providing and fixing anti-climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge.	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Year) Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total Ferman Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four Ushaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Year) Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter Providing and fixing hot dipped Galvanized Iron	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Vear	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total Fee	1 1 1 Ancing Quantity 400	Job Job Vnit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub total Fee Description	1 1 Ancing Quantity	Job Job Unit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota	1 1 1 Ancing Quantity 400	Job Job Vnit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Load Flow Study (Required for Net-Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota	1 1 1 Ancing Quantity 400	Job Job Vnit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge	1 1 1 Ancing Quantity 400	Job Job Vnit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	1 1 1 Ancing Quantity 400	Job Job Vnit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge	1 1 1 Ancing Quantity 400	Job Job Vnit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)
7.5 7.6 8 Sr. No.	Load Flow Study (Required for Net- Metering) Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Amount of PV system complete in all respect Sub tota Fer Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	1 1 1 Ancing Quantity 400	Job Job Vnit	10,000 1,20,000 Unit Rate	10,000 1,20,000 1,39,34,000 Total Price (Rs.)

9. Water Works at Madina Colony Vehari

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	40,000	Wp	112	44,80,000
1.2	Inverter (Grid-Tied) 40 KW	1	Set	7,50,000	7,50,000
1.3	PV-Genset Controller	1	Job	2,50,000	2,50,000
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	4,00,000	4,00,000
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	2,50,000	2,50,000
2	AC Termination & Accessories				-
2.1	LT Termination				-
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	50,000	50,000
2.1.2	Low Voltage Switchgear Cabinet	1	Set	50,000	50,000
2.1.3	AC Combiner Breakers for MCCB	1	Set	50,000	50,000
2.1.4	AC Combiner Breakers for ACB	1	Set	50,000	50,000
3	Fabricated Items				-
3.1	Mounting Structure	70	Job	16,000	11,20,000
3.2	Cable Tray	1	Job	50,000	50,000
3.3	Distribution Boxes	1	Job	50,000	50,000
4	Cable & Accessories				-
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored	1	Set	50,000	50,000
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	50,000	50,000
4.3	Installation Material (cable Ducts etc.)	1	Set	50,000	50,000
5	Earthing/ Grounding System / ATS Panels				-
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing copper wires and cables (Yellow/Green) from the PV system components to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.2	Earthing System For Inverter / WAPDA / Generator Set Neutral Complete independent earthing system for Inverter / WAPDA / Generator Set Neutral must be separated of the main earthing system to obtain 2-ohm max resistance. the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 50 mm2 flexible earthing copper wires and cables from the Neutral bus bar in the Main Distribution box to the electrode to complete the system as specifications and supervisor engineer instructions and approval. Surge protection device of appropriate short	1	Job	1,50,000	1,50,000
5.3	circuit capacity to secure the overall AC system (data and power) against lightnings and surges strikes, including connecting the device to earthing system and all needed accessories	1	Set	12,000	12,000

5.4	Grounding Flat Iron, Grounding Network for the plant Area, Power distribution Room, HV power Distribution room	1	Job	50,000	50,000
5.5	Automatic Transfer Switch (ATS) 3 phase system. The ATS consist of two 4 poles contactors of appropriate capacity complete with (Mechanical & electrical Interlock) all needed ACU control fittings such timers, relays, undervoltage. with all needed fittings and accessories to get job ready.	1	Job	50,000	50,000
5.6	Phase Failure Protection 3ph. Failure, loss of phase, under voltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed protection devices, control devices and accessories	1	Job	1,50,000	1,50,000
6	Remote Monitoring & Data Acquisition System				-
6.1	Contractor Shall Provide the access of Remote Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring, Data Logging	1	Job	50,000	50,000
7	Services				-
7.1	Project Design & Execution	1	Job	6,00,000	6,00,000
7.2	Erecting of Mechanical Mounting Structure	1	Job	80,000	80,000
7.3	Installation, testing and Commissioning of Solar System	1	Job	1,50,000	1,50,000
7.4	Operations and Maintenance "O&M" Services (1 Year)	1	Job	2,00,000	2,00,000
7.5	Load Flow Study (Required for Net- Metering)	1	Job	10,000	10,000
7.6	Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection)	1	Job	1,20,000	1,20,000
	Amount of PV system complete in all respect St	ıb total A			94,72,000
8	Fencing				
Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
26/46	Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire,	400	Per Rft	591	236460
	painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter				
26/47	painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge.	3200	Per Sft	487	1559360
26/47	painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge	3200	Per Sft	487	1559360 17,95,820

10. Water Works at Sharqi Colony Vehari

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	30,000	Wp	112	33,60,000
1.2	Inverter (Grid-Tied) 30 KW	1	Set	6,00,000	6,00,000
1.3	PV-Genset Controller	1	Job	2,50,000	2,50,000
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	4,00,000	4,00,000
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	2,50,000	2,50,000
2	AC Termination & Accessories				-
2.1	LT Termination				-
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	40,000	40,000
2.1.2	Low Voltage Switchgear Cabinet	1	Set	40,000	40,000
2.1.3	AC Combiner Breakers for MCCB	1	Set	40,000	40,000
2.1.4	AC Combiner Breakers for ACB	1	Set	40,000	40,000
3	Fabricated Items				-
3.1	Mounting Structure	53	Job	16,000	8,48,000
3.2	Cable Tray	1	Job	50,000	50,000
3.3	Distribution Boxes	1	Job	50,000	50,000
4	Cable & Accessories				-
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored	1	Set	45,000	45,000
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	45,000	45,000
4.3	Installation Material (cable Ducts etc.)	1	Set	45,000	45,000
5	Earthing/ Grounding System / ATS Panels				-
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing copper wires and cables (Yellow/Green) from the PV system components to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.2	Earthing System For Inverter / WAPDA / Generator Set Neutral Complete independent earthing system for Inverter / WAPDA / Generator Set Neutral must be separated of the main earthling system to obtain 2-ohm max resistance. the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 50 mm2 flexible earthling copper wires and cables from the Neutral bus bar in the Main Distribution box to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000

5.3	Surge protection device of appropriate short circuit capacity to secure the overall AC system (data and power) against lightning's and surges strikes, including connecting the device to earthling system and all needed accessories	2	Set	12,000	24,000
5.4	Grounding Flat Iron, Grounding Network for the plant Area, Power distribution Room, HV power Distribution room	1	Job	50,000	50,000
5.5	Automatic Transfer Switch (ATS) 3 phase system. The ATS consist of two 4 poles contactors of appropriate capacity complete with (Mechanical & electrical Interlock) all needed ACU control fittings such timers, relays, undervoltage. with all needed fittings and accessories to get job ready.	1	Job	50,000	50,000
5.6	Phase Failure Protection 3ph. Failure, loss of phase, under voltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed protection devices, control devices and accessories	1	Job	1,00,000	1,00,000
6	Remote Monitoring & Data Acquisition System				-
6.1	Contractor Shall Provide the access of Remote Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring, Data Logging	1	Job	50,000	50,000
7	Services				-
7.1	Project Design & Execution	1	Job	6,00,000	6,00,000
7.2	Erecting of Mechanical Mounting Structure	1	Job	60,000	60,000
7.3	Installation, testing and Commissioning of Solar System	1	Job	1,25,000	1,25,000
7.4	Operations and Maintenance "O&M" Services (1 Year)	1	Job	2,00,000	2,00,000
7.5	Load Flow Study (Required for Net- Metering)	1	Job	10,000	10,000
7.6	Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection)	1	Job	1,20,000	1,20,000
	Amount of PV system complete in all respect S	ubtotal A			77,92,000
8	Fencing				
Sr. No.	Description	Quantity	y Unit	Unit Rate	Total Price (Rs.)
26/46	Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter	300	Per Rft	591	177345
26/47	Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	2400	Per Sft	487	1169520
	Sub Total (B)				13,46,865
	Sub Total (B) Total (A+B)				13,46,865 91,38,865.00

11. Water Works at Anwarabad Vehari

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
1	PV Modules & Power Generation System				
1.1	Solar Modules(2094×1038×35 mm 545W)	30,000	Wp	112	33,60,000
1.2	Inverter (Grid-Tied) 35 KW	1	Set	6,00,000	6,00,000
1.3	PV-Genset Controller	1	Job	2,50,000	2,50,000
1.4	Cable for Interconnection (DC)(UV Protected XLPE)	1	Job	4,00,000	4,00,000
1.5	PV Combiner Boxes with DC Breakers / Fuses , SPD's etc. for string protections	1	Job	2,50,000	2,50,000
2	AC Termination & Accessories				-
2.1	LT Termination				-
2.1.1	Secondary Comprehensive Protection Cabinet	1	Set	40,000	40,000
2.1.2	Low Voltage Switchgear Cabinet	1	Set	40,000	40,000
2.1.3	AC Combiner Breakers for MCCB	1	Set	40,000	40,000
2.1.4	AC Combiner Breakers for ACB	1	Set	40,000	40,000
3	Fabricated Items				-
3.1	Mounting Structure	53	Job	16,000	8,48,000
3.2	Cable Tray	1	Job	50,000	50,000
3.3	Distribution Boxes	1	Job	50,000	50,000
4	Cable & Accessories				-
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored	1	Set	45,000	45,000
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored	1	Set	45,000	45,000
4.3	Installation Material (cable Ducts etc.)	1	Set	45,000	45,000
5	Earthing/ Grounding System / ATS Panels				-
5.1	Earthing for PV Solar System complete independent earthing system for PV solar system, must be separated of the main earthing system to obtain 2-ohm max resistance the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 25 mm2 flexible earthing copper wires and cables (Yellow/Green) from the PV system components to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.2	Generator Set Neutral Complete independent earthing system for Inverter / WAPDA / Generator Set Neutral must be separated of the main earthing system to obtain 2-ohm max resistance. the item includes (2 copper electrodes 15mm2 driven into ground, manholes with iron cover, earth joints, clamps, ducts, conduits and 50 mm2 flexible earthing copper wires and cables from the Neutral bus bar in the Main Distribution box to the electrode to complete the system as specifications and supervisor engineer instructions and approval.	1	Job	1,50,000	1,50,000
5.3	Surge protection device of appropriate short circuit capacity to secure the overall AC system (data and power) against lightnings and surges strikes, including connecting the device to earthing system	2	Set	12,000	24,000

Grounding Flat Iron, Grounding Network for the Distribution Toom 1 Job 50,000 50,000 50,000		and all needed accessories				
Automatic Transfer Switch (ATS) 3 phase system: The ATS consist of two 4 poles contactors of appropriate capacity complete with Control fittings such timers, relays, undervoltage, with all needed fitter class and needed fitter of the control fittings such timers, relays, undervoltage, with all needed fittored laterlocky all needed of the control fittings such timers, relays, undervoltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed fittored or devices on a decessories 6 Remote Monitoring & Data Acquisition System 6.1 Remote Monitoring & Data Acquisition System 6.1 Inverter Maurifacturer for real time monitoring, Data Logging 7 Services 7.1 Project Design & Execution 1 Job 50,000 50,000 50,000 50,000 6.00,000 6,00,000 7.2 Erecting of Mechanical Mounting Structure 1 Job 6,00,000 6,00,000 6.00,000 6,00,000 7.3 System Operations and Maintenance "O&M" Services (1 Job 2,00,000 2,0	5.4	Grounding Flat Iron, Grounding Network for the plant Area, Power distribution Room, HV power	1	Job	50,000	50,000
39h. Failure, loss of phase, under voltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed protection devices, control devices and accessories 6	5.5	Automatic Transfer Switch (ATS) 3 phase system. The ATS consist of two 4 poles contactors of appropriate capacity complete with (Mechanical & electrical Interlock) all needed ACU control fittings such timers, relays, undervoltage. with all needed fittings and accessories to get job ready.	1	Job	50,000	50,000
Contractor Shall Provide the access of Remote Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring, Data Logging 7 Services 7.1 Project Design & Execution 1 Job 6,00,000 6,00,000 7.2 Erecting of Mechanical Mounting Structure 1 Job 6,00,000 6,00,000 7.3 Installation, testing and Commissioning of Solar System 1 Job 50,000 50,000 7.4 Operations and Maintenance "O&M" Services (1 Year) Job 10,000 10,000 7.5 Load Flow Study (Required for Net- Metering) 1 Job 10,000 10,000 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) Job 1,20,000 1,20,000 8 Fencing Sr. Description Quantity Unit Unit Note Rate Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced © 33 mm c/c cladded over 2.5 mm dish high ensile Core wire making coil fencing of specified diameter © 4" c/c fixed on 2".3" high M/S 26/46 alph tensile Core wire making coil fencing of specified diameter © 4" c/c fixed on 2".3" high M/S 26/46 alph tensile Core wire making coil fencing of specified diameter © 4" c/c fixed on 2".3" high M/S 26/46 alph tensile Core wire making coil fencing of specified diameter © 4" c/c fixed on 2".3" high M/S 26/46 alph tensile Core wire making coil fencing of specified diameter © 4" c/c fixed on 2".3" high M/S 300 Pcr (1124) (4"x4"x9") @ 4" apart i/c the cost of 2 No. hars 38" dia welded horizontally with angle iron post 8, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18" diameter G pipes (medium quality) erected @ 8 ft CC duly embedded in PCC(1124) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	5.6	3ph. Failure, loss of phase, under voltage, over voltage and phase sequence relay (LRST), adjustable type with four poles contactor 4*100A and all needed protection devices, control devices	1	Job	1,00,000	1,00,000
Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring, Data Logging 1 Job 50,000 50,000	6	Remote Monitoring & Data Acquisition System				-
7.1 Project Design & Execution 7.2 Erecting of Mechanical Mounting Structure 1 Job 60,000 60,000 7.3 Installation, testing and Commissioning of Solar System 7.4 Operations and Maintenance "O&M" Services (1 Year) 7.5 Load Flow Study (Required for Net-Metering) 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 8 Fencing 8. Pencing 8. Pencing 8. Description 9. Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmxl5 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2"-3" high M/S of PCC (1:2-4) (4"x4"y") @ 4" apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron post 1y"-1y"-1y"-1y"-1y"-1y"-1y"-1y"-1y"-1y"-	6.1	Monitoring Mobile App and Server from the Inverter Manufacturer for real time monitoring,	1	Job	50,000	50,000
7.2 Erecting of Mechanical Mounting Structure 1 Job 60,000 60,000 7.3 Installation, testing and Commissioning of Solar System 1 Job 50,000 50,000 7.4 Operations and Maintenance "O&M" Services (1 1 Job 2,00,000 2,00,000 2,00,000 7.5 Load Flow Study (Required for Net-Metering) 1 Job 10,000 10,000 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 1 Job 1,20,000 1,20,000 8 Fencing 7 Sr. Description Quantity Unit Unit Unit Unit Ushaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2".3" high M/S of PCC (1:2:4) (4"x4"x9") @ 4" apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron post 1,19" 14" x3/6" 6" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4" apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron post 1,5 linding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 "diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1" x1/8" of patti, Gil. Clamps and screws, it the cost of 2 minimal mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1" x1/8" of patti, Gil. Clamps and screws, it the cost of 2 minimal mesh/fence of 2"x2" mesh made of wire of specified gauge, with the help of 1" x1/8" of Stit and battom, fixed on vertical posts of 2" 2400 diameter of pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC (1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG						-
7.3 Installation, testing and Commissioning of Solar System 7.4 Operations and Maintenance "O&M" Services (1 1 Job 2,00,000 2,00	7.1	Project Design & Execution	1	Job	6,00,000	6,00,000
7.4 Operations and Maintenance "O&M" Services (1 1 Job 2,00,000 2,00,000 7.5 Load Flow Study (Required for Net- Metering) 1 Job 10,000 10,000 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 1 Job 1,20,000 1,20,000 8 Fencing	7.2		1	Job	60,000	60,000
7.5 Load Flow Study (Required for Net-Metering) 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 7.6 Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 8 Fencing 8 Fencing 8.	7.3	System	1	Job	50,000	50,000
Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection) 1 Job 1,20,000 1,20,000	7.4		1	Job	2,00,000	2,00,000
Amount of PV system complete in all respect Sub total A Fencing Sr. No. Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2"-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4" apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG Sub Total (B) 13,46,865	7.5		1	Job	10,000	10,000
Sr. Description No. Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart 1/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts b inding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, 1/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG Sub Total (B) Total Price (Rs.) Unit Unit Unit Varie (Rs.)	7.6		1	Job	1,20,000	1,20,000
Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2"-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4" apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts , binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG		Approvais, Documentation, Inspection)				
Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts , binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG Sub Total (B) Per Sft 487 1169520			Sub total A			77,17,000
galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts , binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 "diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG Sub Total (B) Per Rft 591 177345 Per Rft 591 177345 177345 Per Rft 591 177345 Sub Total (B) Per Rft 591 177345		Amount of PV system complete in all respect	Sub total A			
chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG Sub Total (B) Per Sft 487 1169520 13,46,865	Sr.	Amount of PV system complete in all respect Fencing Description		Unit		Total Price
	Sr. No.	Amount of PV system complete in all respect Fencing Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter	Quantity	Per	Rate	Total Price (Rs.)
	Sr. No.	Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge	Quantity 300	Per Rft	Rate 591	Total Price (Rs.)
	Sr. No.	Fencing Description Providing and fixing anti climb high security galvanized razor cut wire having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c cladded over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1½"x1½"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter Providing and fixing hot dipped Galvanized Iron chain link mesh/fence of 2"x2"mesh made of wire of specified gauge, with the help of 1"x1/8" GI patti, GI. Clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top, middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embedded in PCC(1:2:4) etc. complete in all respect as approved and directed by the Engineer Incharge (i) 8 SWG	Quantity 300	Per Rft	Rate 591	Total Price (Rs.) 177345

Environmental and Social Mitigation Plan Implementation Cost

Sr. No.	Description	Quantity	Unit	Unit Rate	Total Price (Rs.)
A	PPEs for Health and Safety of Labor/Workers				
1	Face Masks (3 PLY) - box	8		300	2,400
2	Safety Hard Helmets	28		2,500	70,000
3	Harness belts	28		2,500	70,000
4	Safety Shoes (Steel, Shoes +Long Shoes)	28		2,000	56,000
5	Hand Gloves	28		800	22,400
6	Ear Plugs	28		300	8,400
7	Reflective Safety Vest	28		700	19,600
8	Safety Goggles	28		300	8,400
9	Safety Signage	7		5,000	35,000
9	Plantation cost	1		10,000	10,000
	Amount of Environmental and Social Mitigation Implementation Cost	on Plan			3,02,200

	Summary of Cost				
Sr. No.	Description	M/S Wahab 3P GRACE JV			
51.110.	Description	Cost (Rs.)			
1	Disposal Works at Chak# 9/11 Vehari	2,27,75,595			
2	Disposal Works at 32 Quarters Vehari	2,70,50,118			
3	Disposal Works at People's Colony Connection No-2 Vehari	2,55,54,208			
4	Disposal Works at People's Colony Connection No-1 Vehari	1,29,63,865			
5	Water Works at Chak# 9/11 WB Vehari	2,11,25,730			
6	Water Works at H Block Connection No-1 Vehari	99,78,820			
7	Water Works at H Block Connection No-2 Vehari	58,47,865			
8	Water Works at People's Colony Vehari	1,57,29,820			
9	Water Works at Madina Colony Vehari	1,12,67,820			
10	Water Works at Sharqi Colony Vehari	91,38,865			
11	Water Works at Anwarabad Vehari	90,63,865			
	Sub-Total	17,04,96,570			
	Environment & Social Management Plan (ESMP) Implementation Cost	3,02,200			
	Total	17,07,98,770			
10% Disc JV	ount as per Letter of Financial Bid. Offered by M/S WAHAB 3P GRACE	(1,70,79,877)			
	Grand Total	15,37,18,893			

Note: The above bid rate is 5% below than the estimated cost.

TERMS & CONDITIONS:

1. The contractor has to submit copy of memorandum / partnership deed attested by a competent authority and Power of Attorney in Original in favor of the authorized partner if any, to sign the agreement, receive the payment on your behalf and carry out instructions of the Engineer in-Charge.

The contract has to submit Performance Security 10% of contract amount on prescribed form PS-1 in shape of Bank Guarantee from any scheduled Bank in favor of Chief Officer, MC, Vehari.

- The work shall be carried out strictly according to the provision made in the technically sanctioned estimate.
- No claim/payment of increased in the rate of material or above in the market due to any reason will be claimed/entertained.
- The Municipal Committee, Vehari will not accept any responsibility for loss accrued due to interruption of work as result shortage or delay in supply of material and or other imput required for completion of work.
- You will have to complete the work within time limit otherwise the penalty shall be imposed as recommended by Engineer incharge. This will however not affect the other conditions of your tender agreement.
- 6. No premium on Non schedule items is allowed and decision of the competent authority in this respect will be final and binding upon you.
- 7. If any amount remains outstanding against this work or of the other contract the same will be recovered from you through civil suit as arrears of land revenue.
- The rates approved are for this specific project only There are not to be applied on other work anywhere else.
- No deviation of quantities of items to be executed by the contractor shall be made without prior approval of the competent authority.
- It will be exclusive responsibility of the contractor to complete the work according to specifications.
- 11. If any recovery pointed out by audit or other agency, the contractor will be bound to refund the recovery or will be made through Revenue Department.
- 12. As you accept the above cost of bid according to quoted rates, terms and conditions, you should contact the concerned Sub-Engineer for getting demarcation for the commencement of work immediately.
- 13. You shall execute the agreement in the office of undersigned and, shall be signed by you within a week positively, failing which no payment for the work done will be made.
- 14. Payment will be made after clearance of the consultants as per policy in vogue and no secured advance / Advance payment will be made as per clause approved bid document.
- 15. The contractor is liable to submit a detailed statement showing the deployment of your supervisory staff as per condition of this contract along with CVs of the Project in-Charge of your firm.
- 16. The contractor is liable to keep the entire site of work clean and tidy during the execution of work to ensure intended finishing. The debris shall be removed on daily basis from the site as per instructions of the Engineer incharge.
- 17. You are liable to abide by all forms and condition contained in Bid/ Contract from work rules and also instructions issued time by time as per Local Govt. Department Govt. of the Punjab

Municipal Officer (Infrastructure)

Municipal Committee,

Vehari

No. & Date even:-

A copy is forwarded for information to:-

- 1. The ADC(3)/Administrator, MC Vehari.
- 2. The Chief Officer, MC Vehari.
- 3. The Director Project (PCP), PMDFC, Lahore.
- 4. The Program Officer-ID PCP PMDFC, Lahore
- 5. Team Leader Asian Consultancy Engineers (Pvt.) Ltd.
- The concerned Sub-Engineer with direction to get start the work at site through contractor as per approved estimate.