

RAJKOT MUNICIPAL CORPORATION

e-TenderNo.: /DRN PROJECT/WZ/03/2023-24



Bid Documents For

Rajkot Municipal Corporation.

**AUGMENTATION OF ELECTRO- MECHANICAL & INSTRUMENTATION WORKS
FOR EXISTING VAVDI(OLD), PUNITNAGAR(OLD) AND MAVDI SEWAGE
PUMPING STATIONS OF RMC**

SEPTEMBER-2023

Volume-III

Price Bid

::Milestone dates of e-Tendering::	
1 Downloading of e-Tender documents	Dt.13.09.2023 to Dt.03.10.2023 up to 17:00 Hrs.
2.Pre-bid Meeting in Office of the City Engineer, RMC. at West Zone Office	Dt.22.09.2023 at 11:00 hr At Central Zone, Room no-5 (If bidder have any query mail on hpparmar@rmc.gov.in before 21.09.2023 upto 11:00 Hrs.)
3.Online submission of e-Tender	Dt.03.10.2023 up to 18:00 Hrs.
4.Submission of EMD, Tender fee, Documents required for pre- qualification and other necessary documents by Hand Delivery/Regd. Post.A.D./ Speed Post.	Dt.06.10.2023 up to 18:00 Hrs.
5.Opening of online Primary Bid (Technical Bid)	Dt.06.10.2023 at 18:00 Hrs. (If Possible)
6.Verification of submitted documents (EMD, Tender fee, Documents required for pre-qualification and other necessary)	Dt.07.10.2023 to Dt.10.10.2023 up to 18:00 Hrs. (If Possible)
7. Opening of online Commercial Bid (Price Bid) for technically qualified bidders only	Dt.11.10.2023 at 10:30 Hrs. onwards (If Possible)
8.Bid Validity	One eighty (180) calendar days

**CITY ENGINEER DRAINAGE PROJECT DEPARTMENT
RAJKOT MUNICIPAL CORPORATION
SHRI HARISINHJI GOHIL ZONAL OFFICE WEST ZONE,
ROOM NO.3(G.F.), 150 FEET RING ROAD, RAJKOT- 360005**

RAJKOT MUNICIPAL CORPORATION

AUGMENTATION OF ELECTRO- MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING VAVDI(OLD), PUNITNAGAR(OLD) AND MAVDI SEWAGE PUMPING STATIONS OF RMC		
S U M M A R Y		
SR. NO.	ITEM DESCRIPTION	AMOUNT
A.	MECHANICAL & INST. WORK FOR VAVDI(OLD)	44,63,232.00
B.	MECHANICAL & INST. WORK FOR PUNIT NAGAR (OLD)	44,63,232.00
C.	MECHANICAL & INST. WORK FOR MAVADI	44,63,232.00
D.	ELECTRICAL WORK FOR VAVDI(OLD)	8,53,769.00
E.	ELECTRICAL WORK FOR PUNIT NAGAR(OLD)	8,53,769.00
F.	ELECTRICAL WORK FOR MAVADI	8,53,769.00
J	Total Capital Expenditure	1,59,51,003.00
G.	Comprehensive O&M for VAVDI(OLD) 2 years	28,15,431.00
H.	Comprehensive O&M for PUNIT NAGAR(OLD) 2 years	28,15,431.00
I.	Comprehensive O&M for MAVADI 2 years	28,15,431.00
K	Total Tender Amount	84,46,293.00
T.	Total amount	2,43,97,296.00

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SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING VAVDI OLD SEWAGE PUMPING STATION OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.1.1	MECHANICAL WORK SUBMERGED SEWAGE NON CLOG VERTICAL PUMP SET Supply, installation, testing and commissioning of , vertical Non Clog sewage submersible Pump for sewage suitable for 3 Phase, 415 V +/- 10% , , 50 Hz +/- 3% , AC supply 1000 rpm synchronous speed with 3 core flat copper cable from pump to starter panel with cable end termination, all supports, clamps, pipe fittings, along with mechanical seal , bush bearing , strainer etc. Complete set and following M.O.C. : casing : CI , Impeller : SS CF8M , Wearing ring and bearing bush : bronze, TC mechanical seal, CS/SS bearings , SS shaft with sleeve , SS strainer, and MS motor body. Pump Capacity : 350 m3 / hr., Head : 18 m Cable length :20 mtr. Motor Rating: 30 kW min. / 40 HP (or higher rating as reco. by pump manufacturer) Pump efficiency : mini. 72 % , Motor Efficiency : 88.90% (Note: The work to be carried out in existing PS and with Minimum Shut-down.)	4	Set	6,67,927	26,71,708
1.1.2	SUBMERSIBLE DRY MOTOR DREDGING PUMP PUMP- MOTOR SET Main Pump Capacity : 50 m3 / hr., Head : 15m	1	set	331,327.64	331,327
2.1.1	VALVES Supply, installation, testing and commissioning of CI Double Flanged, rising spindle type, Sluice Valve conforming to IS 14846 PN 1.0 with SS 304 seat rings and SS spindle with all hot dipped galvanised hardwares, bolts, nuts & washers, gaskets, & fixing of valve etc. and as per specifications. The scope also includes providing required valve support . Size: 250 mm NB (gear operated rising stem valve at delivery of each pump)	4	nos.	19,589	78,356
2.2.1	Supply, installation, testing & commissioning of Non slam, flanged, single door, swing type Non Return Valve conforming to IS 5312, Part 1 having pressure rating PN 1.0, having CI body and door, CF8M seat rings along with all hot dipped galvanised hardwares, bolts, nuts & washers, gaskets & fixing of valve etc. and as per specifications. The scope also includes providing required valve support. Size : 250 mm NB (at Delivery side of each pump)	4	nos.	26,759	1,07,036

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3.1.1	DI PIPE SPECIALS AND FITTINGS Supply, installation, testing, commissioning of double flanged DI Pipes confirming to IS 8329-2000, class K9 with connections complete for suction, delivery and header lines and as per specifications. The scope also includes connection with main header. Size: 250 mm and above	2500	kg	145	3,62,500
SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING VAVDI OLD SEWAGE PUMPING STATION OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
3.2.1	Supply, installation, connection with suction, delivery & header testing and commissioning of Flanged DI Fittings and Specials like 90 deg. Bend, Drilled / Blind Flanges, Reducer / enlarger, TEE, etc. as required to complete the piping and connection of pumps conforming to IS 9523. Size: 250 mm and above	1000	kg	145	1,45,000
3.3.1	Supply, Fabrication, laying, welding, testing and commissioning of MS pipe Electric Resistance welded (ERW) having beveled ends plate confirming to IS 3589-2001 or its latest revision / ammendment & MS specials conforming to IS 1239 / 3589, fabricated from MS.plate with necessary supports & anchoring and including required internal & external painting of two coats of red oxide primer and two coats of epoxy over it and as per IS and as per specifications. (note: Qty. shall be on pro rata basis per m rate for increase or decrease in length for this item as consumed) Size : 250 mm NB X 5.6 mm thk (or actual Pump delivery size as require)	4	m	3,823	15,292
3.3.2	Item Description as per 3.3.1 and of following size complete in all respect. Size : 400 mm NB X 7.1 mm thk (for pump delivery line as require)	2	m	9,748	19,496
3.4.1	Supply, cutting, machining,drilling, welding,etc. and installation, testing, and commissioning of M.S. flanges of following sizes, conforming to IS 6392/1538, PN 1.0 with flat face, off center bolt holes as required and including painting of two coats of red oxide primer as per specifications. Size: 250 mm NB-Drilled-approx. Size: 400 mm NB-Drilled-approx.	8 2	No. No.	1100 2750	8800 5500

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SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING VAVDI OLD SEWAGE PUMPING STATION OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4.1.1	Supply, installation, testing and commissioning of Flange ends Expansion Bellow (PN 1.0) as per EJMA standards and as per specs. and complete in all respect. Size : 250 mm dia. x 300 mm (L) (On Delivery of each pump) Size : 400 mm dia. x 300 mm (L) (On Header main line)	4	nos.	7,745	30,980
		1	nos.	16,500	16,500
5.1.1	PORTABLE DEWATERING FOR DRYWELL Supply and testing of Submersible non clog Portable Dewatering Pumpset with C.I. casing & CF8M impeller, 30 m flexible PVC delivery hose pipe of pump delivery size, rated for 6.0 kg / cm ² pressure, 15 mtr SS lifting chain, 20m pair of cable for motor to starter panel, suitable for 3Phase, 415 V, 50 Hz AC supply and min. motor rating as indicated here below, Switch-Starter panel with PMU suitable inter lock for winding protection, moisture controller for fault detection and auto stop facility, with built-in level switch for dry run protection and auto stop facility, 20 m suitable size power supply cable to starter panel, GI/CI pump stool and other required accessories for wet well. Capacity : 25 m ³ / hr. Head : 20 m Motor Rating: Mini. 5.5 kW (or higher rating as reco. by pump manufacturer)	1	NO.	179,562	179,562
5.2.1	Providing, Supply of Structure Steel at site of work with freight, loading, unloading carting, etc. including all taxes and duties complete such as joints, channels, angles, Iron Rails, ISA/ISMC/ISMB/MS flat, Plates, MS Grill, Chequered plates (below 10mm thickness) for cable trench etc. required for support structure of all Electro-mechanical equipment, piping, etc. for support on floor / wall / beam / brackets etc. as per tender and IS.	1500	kg.	65.01	97,515.00
5.2.2	Labour Charges for lowering, laying, Fixing with fabrication various size section of MS such as joints, Grill, channels, angles, Iron Rails, ISA/ISMC/ISMB/MS flat, Plates, Chequered plates, for cable trench etc Complete with two coats of red oxide and two coats of approved colour shade of epoxy paint as per relevant IS and as per specification.	1500	kg.	12.18	18,270.00

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6.1.1	PRESSURE MEASURING SYSTEM Supply, installation, testing & commissioning of Diaphragm Type pressure guage having 150 mm dial with necessary fittings/accessories in SS 316, manifold valve, snubber, nipples etc. complete. Range :0 - 6 Kg/cm2 (at each pump's delivery side and header main)	5	NOS.	1,214	6,070
7.1.1	MISCELLANEOUS WORK Dismantling existing electro-mechanical equipments like pump-motor sets, Electric motors, valves, dismantaling joints / expansion bellows, suction- delivery pipes & specials etc. from its place carefully without damaging them and taking away scrap from pump house / compound as directed by Engg. In. of Charge of RMC complete in all respects and to permit the installation of new pump sets, other electro-mech equipment including instrument items and other associated items of this tender scope / BOQ.	1	Lot	43,200	43200
SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING VAVDI OLD SEWAGE PUMPING STATION OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
7.1.2	Constructing/casting New RCC Foundation block work for New Pump-Motor Set as per manufacturer's recommendation including cement, sand, grit, kapachi, water, steel bars, scaffolding materials, curing, finishing, plastering, epoxy painting & complete in all respect.	4	NOS.	10,000	40,000
7.1.3	All miscellaneous Civil Work including modification / minor repairing / finishing works / providing cut-outs etc. providing RCC support of valves, pipes & fittings, grouting work, Required civil works including modification in existing pump house flooring, etc. in pump house and any other unforeseen / emergency work during dismantling of existing pumps & during installation in existing pump house etc. and all other as required to complete the work in all respects and as required for installation and satisfactory operation of all electro-mech. equipment's and instruments items as per the tender scope / BOQ.	1	Lot	75,000	75,000
8.1.1	ELECTROMAGNETIC FLOWMETER Supply, installation, testing and commissioning of remote type Full Bore Electromagnetic flow meter comprising of IP-68 Sensor, IP-65/66 remote transmitter with 20m cable between sensor and transmitter along with all mounting accessories, hardware, etc. complete in all respect and as per specification and shall have following size and measurement range. The scope also includes necessary connection with header pipe. Meter Size : 400 mm (For Header for 4 nos. pump) Pipe size : 400 mm Flow Measurement Range : 1045-4180 M3/hr. Pipe Material : DI	1	No.	2,11,120	2,11,120
A	TOTAL OF MECHANICAL & INST. WORKS				44,63,232.00

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SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING PUNITNAGAR OLD SEWAGE PUMPING STATION OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.1.1	MECHANICAL WORK SUBMERGED SEWAGE NON CLOG VERTICAL PUMP SET Supply, installation, testing and commissioning of , vertical Non Clog sewage submersible Pump for sewage suitable for 3 Phase, 415 V +/- 10% , 50 Hz +/- 3% , AC supply 1000 rpm synchronous speed with 3 core flat copper cable from pump to starter panel with cable end termination, all supports, clamps, pipe fittings, along with mechanical seal , bush bearing , strainer etc. Complete set and following M.O.C. : casing : CI , Impeller : SS CF8M , Wearing ring and bearing bush : bronze, TC mechanical seal, CS/SS bearings , SS shaft with sleeve , SS strainer, and MS motor body. Pump Capacity : 350 m3 / hr., Head : 18 m Cable length :20 mtr. Motor Rating: 30 kW min. / 40 HP (or higher rating as reco. by pump manufacturer) Pump efficiency : mini. 72 % , Motor Efficiency : 88.90% (Note: The work to be carried out in existing PS and with Minimum Shut-down.)	4	Set	6,67,927	26,71,708
1.1.2	SUBMERSIBLE DRY MOTOR DREDGING PUMP PUMP- MOTOR SET Main Pump Capacity : 50 m3 / hr., Head : 15m	1	set	331,327.64	331,327
2.1.1	VALVES Supply, installation, testing and commissioning of CI Double Flanged, rising spindle type, Sluice Valve conforming to IS 14846 PN 1.0 with SS 304 seat rings and SS spindle with all hot dipped galvanised hardwares, bolts, nuts & washers, gaskets, & fixing of valve etc. and as per specifications. The scope also includes providing required valve support . Size: 250 mm NB (gear operated rising stem valve at delivery of each pump)	4	nos.	19,589	78,356
2.2.1	Supply, installation, testing & commissioning of Non slam, flanged, single door, swing type Non Return Valve conforming to IS 5312, Part 1 having pressure rating PN 1.0, having CI body and door, CF8M seat rings along with all hot dipped galvanised hardwares, bolts, nuts & washers, gaskets & fixing of valve etc. and as per specifications. The scope also includes providing required valve support. Size : 250 mm NB (at Delivery side of each pump)	4	nos.	26,759	1,07,036

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3.1.1	DI PIPE SPECIALS AND FITTINGS Supply, installation, testing, commissioning of double flanged DI Pipes confirming to IS 8329-2000, class K9 with connections complete for suction, delivery and header lines and as per specifications. The scope also includes connection with main header. Size: 250 mm and above	2500	kg	145	3,62,500
SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING PUNITNAGAR OLD SEWAGE PUMPING STATION OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
3.2.1	Supply, installation, connection with suction, delivery & header testing and commissioning of Flanged DI Fittings and Specials like 90 deg. Bend, Drilled / Blind Flanges, Reducer / enlarger, TEE, etc. as required to complete the piping and connection of pumps conforming to IS 9523. Size: 250 mm and above	1000	kg	145	1,45,000
3.3.1	Supply, Fabrication, laying, welding, testing and commissioning of MS pipe Electric Resistance welded (ERW) having beveled ends plate confirming to IS 3589-2001 or its latest revision / ammendment & MS specials conforming to IS 1239 / 3589, fabricated from MS.plate with necessary supports & anchoring and including required internal & external painting of two coats of red oxide primer and two coats of epoxy over it and as per IS and as per specifications. (note: Qty. shall be on pro rata basis per m rate for increase or decrease in length for this item as consumed) Size : 250 mm NB X 5.6 mm thk (or actual Pump delivery size as require)	4	m	3,823	15,292
3.3.2	Item Description as per 3.3.1 and of following size complete in all respect. Size : 400 mm NB X 7.1 mm thk (for pump delivery line as require)	2	m	9,748	19,496
3.4.1	Supply, cutting, machining,drilling, welding,etc. and installation, testing, and commissioning of M.S. flanges of following sizes, conforming to IS 6392/1538, PN 1.0 with flat face, off center bolt holes as required and including painting of two coats of red oxide primer as per specifications. Size: 250 mm NB-Drilled-approx. Size: 400 mm NB-Drilled-approx.	8 2	No. No.	1100 2750	8800 5500

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<p style="text-align: center;">SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING PUNITNAGAR OLD SEWAGE PUMPING STATION OF RMC</p>					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4.1.1	Supply, installation, testing and commissioning of Flange ends Expansion Bellow (PN 1.0) as per EJMA standards and as per specs. and complete in all respect. Size : 250 mm dia. x 300 mm (L) (On Delivery of each pump) Size : 400 mm dia. x 300 mm (L) (On Header main line)	4	nos.	7,745	30,980
		1	nos.	16,500	16,500
5.1.1	PORTABLE DEWATERING FOR DRYWELL Supply and testing of Submersible non clog Portable Dewatering Pumpset with C.I. casing & CF8M impeller, 30 m flexible PVC delivery hose pipe of pump delivery size, rated for 6.0 kg / cm ² pressure, 15 mtr SS lifting chain, 20m pair of cable for motor to starter panel, suitable for 3Phase, 415 V, 50 Hz AC supply and min. motor rating as indicated here below, Switch-Starter panel with PMU suitable inter lock for winding protection, moisture controller for fault detection and auto stop facility, with built-in level switch for dry run protection and auto stop facility, 20 m suitable size power supply cable to starter panel, GI/CI pump stool and other required accessories for wet well. Capacity : 25 m ³ / hr. Head : 20 m Motor Rating: Mini. 5.5 kW (or higher rating as reco. by pump manufacturer)	1	NO.	179,562	179,562
5.2.1	Providing, Supply of Structure Steel at site of work with freight, loading, unloading carting, etc. including all taxes and duties complete such as joints, channels, angles, Iron Rails, ISA/ISMC/ISMB/MS flat, Plates, MS Grill, Chequered plates (below 10mm thickness) for cable trench etc. required for support structure of all Electro-mechanical equipment, piping, etc. for support on floor / wall / beam / brackets etc. as per tender and IS.	1500	kg.	65.01	97,515.00
5.2.2	Labour Charges for lowering, laying, Fixing with fabrication various size section of MS such as joints, Grill, channels, angles, Iron Rails, ISA/ISMC/ISMB/MS flat, Plates, Chequered plates, for cable trench etc Complete with two coats of red oxide and two coats of approved colour shade of epoxy paint as per relevant IS and as per specification.	1500	kg.	12.18	18,270.00
6.1.1	PRESSURE MEASURING SYSTEM Supply, installation, testing & commissioning of Diaphragm Type pressure gauge having 150 mm dial with necessary fittings/accessories in SS 316, manifold valve, snubber, nipples etc. complete. Range :0 - 6 Kg/cm ² (at each pump's delivery side and header main)	5	NOS.	1,214	6,070

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7.1.1	MISCELLANEOUS WORK Dismantling existing electro-mechanical equipments like pump-motor sets, Electric motors, valves, dismantling joints / expansion bellows, suction- delivery pipes & specials etc. from its place carefully without damaging them and taking away scrap from pump house / compound as directed by Engg. In. of Charge of RMC complete in all respects and to permit the installation of new pump sets, other electro-mech equipment including instrument items and other associated items of this tender scope / BOQ.	1	Lot	43,200	43200
SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING PUNTNAGAR OLD SEWAGE PUMPING STATION OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
7.1.2	Constructing/casting New RCC Foundation block work for New Pump-Motor Set as per manufacturer's recommendation including cement, sand, grit, kapachi, water, steel bars, scaffolding materials, curing, finishing, plastering, epoxy painting & complete in all respect.	4	NOS.	10,000	40,000
7.1.3	All miscellaneous Civil Work including modification / minor repairing / finishing works / providing cut-outs etc. providing RCC support of valves, pipes & fittings, grouting work, Required civil works including modification in existing pump house flooring, etc. in pump house and any other unforeseen / emergency work during dismantling of existing pumps & during installation in existing pump house etc. and all other as required to complete the work in all respects and as required for installation and satisfactory operation of all electro-mech. equipment's and instruments items as per the tender scope / BOQ.	1	Lot	75,000	75,000
8.1.1	ELECTROMAGNETIC FLOWMETER Supply, installation, testing and commissioning of remote type Full Bore Electromagnetic flow meter comprising of IP-68 Sensor, IP-65/66 remote transmitter with 20m cable between sensor and transmitter along with all mounting accessories, hardware, etc. complete in all respect and as per specification and shall have following size and measurement range. The scope also includes necessary connection with header pipe. Meter Size : 400 mm (For Header for 4 nos. pump) Pipe size : 400 mm Flow Measurement Range : 1045-4180 M3/hr. Pipe Material : DI	1	No.	2,11,120	2,11,120
A	TOTAL OF MECHANICAL & INST. WORKS				44,63,232.00

RAJKOT MUNICIPAL CORPORATION

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAVDI SEWAGE PUMPING STATION OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.1.1	MECHANICAL WORK SUBMERGED SEWAGE NON CLOG VERTICAL PUMP SET Supply, installation, testing and commissioning of , vertical Non Clog sewage submersible Pump for sewage suitable for 3 Phase, 415 V +/- 10% , 50 Hz +/- 3% , AC supply 1000 rpm synchronous speed with 3 core flat copper cable from pump to starter panel with cable end termination, all supports, clamps, pipe fittings, along with mechanical seal , bush bearing , strainer etc. Complete set and following M.O.C. : casing : CI , Impeller : SS CF8M , Wearing ring and bearing bush : bronze, TC mechanical seal, CS/SS bearings , SS shaft with sleeve , SS strainer, and MS motor body. Pump Capacity : 350 m3 / hr., Head : 18 m Cable length :20 mtr. Motor Rating: 30 kW min. / 40 HP (or higher rating as reco. by pump manufacturer) Pump efficiency : mini. 72 % , Motor Efficiency : 88.90% (Note: The work to be carried out in existing PS and with Minimum Shut-down.)	4	Set	6,67,927	26,71,708
1.1.2	SUBMERSIBLE DRY MOTOR DREDGING PUMP PUMP- MOTOR SET Main Pump Capacity : 50 m3 / hr., Head : 15m	1	set	331,327.64	331,327
2.1.1	VALVES Supply, installation, testing and commissioning of CI Double Flanged, rising spindle type, Sluice Valve conforming to IS 14846 PN 1.0 with SS 304 seat rings and SS spindle with all hot dipped galvanised hardwares, bolts, nuts & washers, gaskets, & fixing of valve etc. and as per specifications. The scope also includes providing required valve support . Size: 250 mm NB (gear operated rising stem valve at delivery of each pump)	4	nos.	19,589	78,356

RAJKOT MUNICIPAL CORPORATION

2.2.1	Supply, installation, testing & commissioning of Non slam, flanged, single door, swing type Non Return Valve conforming to IS 5312, Part 1 having pressure rating PN 1.0, having CI body and door, CF8M seat rings along with all hot dipped galvanised hardwares, bolts, nuts & washers, gaskets & fixing of valve etc. and as per specifications. The scope also includes providing required valve support. Size : 250 mm NB (at Delivery side of each pump)	4	nos.	26,759	1,07,036
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3.1.1	DI PIPE SPECIALS AND FITTINGS Supply, installation, testing, commissioning of double flanged DI Pipes confirming to IS 8329-2000, class K9 with connections complete for suction, delivery and header lines and as per specifications. The scope also includes connection with main header. Size: 250 mm and above	2500	kg	145	3,62,500
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SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAVDI SEWAGE PUMPING STATION OF RMC

SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
3.2.1	Supply, installation, connection with suction, delivery & header testing and commissioning of Flanged DI Fittings and Specials like 90 deg. Bend, Drilled / Blind Flanges, Reducer / enlarger, TEE, etc. as required to complete the piping and connection of pumps conforming to IS 9523. Size: 250 mm and above	1000	kg	145	1,45,000
3.3.1	Supply, Fabrication, laying, welding, testing and commissioning of MS pipe Electric Resistance welded (ERW) having beveled ends plate confirming to IS 3589-2001 or its latest revision / ammendment & MS specials conforming to IS 1239 / 3589, fabricated from MS.plate with necessary supports & anchoring and including required internal & external painting of two coats of red oxide primer and two coats of epoxy over it and as per IS and as per specifications. (note: Qty. shall be on pro rata basis per m rate for increase or decrease in length for this item as consumed) Size : 250 mm NB X 5.6 mm thk (or actual Pump delivery size as require)	4	m	3,823	15,292
3.3.2	Item Description as per 3.3.1 and of following size complete in all respect. Size : 400 mm NB X 7.1 mm thk (for pump delivery line as require)	2	m	9,748	19,496

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3.4.1	Supply, cutting, machining, drilling, welding, etc. and installation, testing, and commissioning of M.S. flanges of following sizes, conforming to IS 6392/1538, PN 1.0 with flat face, off center bolt holes as required and including painting of two coats of red oxide primer as per specifications. Size: 250 mm NB-Drilled-approx. Size: 400 mm NB-Drilled-approx.	8 2	No. No.	1100 2750	8800 5500
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SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAVDI SEWAGE PUMPING STATION OF RMC					
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5.1.1	PORTABLE DEWATERING FOR DRYWELL Supply and testing of Submersible non clog Portable Dewatering Pumpset with C.I. casing & CF8M impeller, 30 m flexible PVC delivery hose pipe of pump delivery size, rated for 6.0 kg / cm ² pressure, 15 mtr SS lifting chain, 20m pair of cable for motor to starter panel, suitable for 3Phase, 415 V, 50 Hz AC supply and min. motor rating as indicated here below, Switch-Starter panel with PMU suitable inter lock for winding protection, moisture controller for fault detection and auto stop facility, with built-in level switch for dry run protection and auto stop facility, 20 m suitable size power supply cable to starter panel, GI/CI pump stool and other required accessories for wet well. Capacity : 25 m ³ / hr. Head : 20 m Motor Rating: Mini. 5.5 kW (or higher rating as reco. by pump manufacturer)	1	NO.	179,562	179,562
5.2.1	Providing, Supply of Structure Steel at site of work with freight, loading, unloading carting, etc. including all taxes and duties complete such as joints, channels, angles, Iron Rails, ISA/ISMC/ISMB/MS flat, Plates, MS Grill, Chequered plates (below 10mm thickness) for cable trench etc. required for support structure of all Electro-mechanical equipment, piping, etc. for support on floor / wall / beam / brackets etc. as per tender and IS.	1500	kg.	65.01	97,515.00
5.2.2	Labour Charges for lowering, laying, Fixing with fabrication various size section of MS such as joints, Grill, channels, angles, Iron Rails, ISA/ISMC/ISMB/MS flat, Plates, Chequered plates, for cable trench etc Complete with two coats of red oxide and two coats of approved colour shade of epoxy paint as per relevant IS and as per specification.	1500	kg.	12.18	18,270.00

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6.1.1	PRESSURE MEASURING SYSTEM Supply, installation, testing & commissioning of Diaphragm Type pressure guage having 150 mm dial with necessary fittings/accessories in SS 316, manifold valve, snubber, nipples etc. complete. Range :0 - 6 Kg/cm2 (at each pump's delivery side and header main)	5	NOS.	1,214	6,070
7.1.1	MISCELLANEOUS WORK Dismantling existing electro-mechanical equipments like pump-motor sets, Electric motors, valves, dismantaling joints / expansion bellows, suction- delivery pipes & specials etc. from its place carefully without damaging them and taking away scrap from pump house / compound as directed by Engg. In. of Charge of RMC complete in all respects and to permit the installation of new pump sets, other electro-mech equipment including instrument items and other associated items of this tender scope / BOQ.	1	Lot	43,200	43200
SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAVDI SEWAGE PUMPING STATION OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
7.1.2	Constructing/casting New RCC Foundation block work for New Pump-Motor Set as per manufacturer's recommendation including cement, sand, grit, kapachi, water, steel bars, scaffolding materials, curing, finishing, plastering, epoxy painting & complete in all respect.	4	NOS.	10,000	40,000
7.1.3	All miscellaneous Civil Work including modification / minor repairing / finishing works / providing cut-outs etc. providing RCC support of valves, pipes & fittings, grouting work, Required civil works including modification in existing pump house flooring, etc. in pump house and any other unforeseen / emergency work during dismantling of existing pumps & during installation in existing pump house etc. and all other as required to complete the work in all respects and as required for installation and satisfactory operation of all electro-mech. equipment's and instruments items as per the tender scope / BOQ.	1	Lot	75,000	75,000
8.1.1	ELECTROMAGNETIC FLOWMETER Supply, installation, testing and commissioning of remote type Full Bore Electromagnetic flow meter comprising of IP-68 Sensor, IP-65/66 remote transmitter with 20m cable between sensor and transmitter along with all mounting accessories, hardware, etc. complete in all respect and as per specification and shall have following size and measurement range. The scope also includes necessary connection with header pipe. Meter Size : 400 mm (For Header for 4 nos. pump) Pipe size : 400 mm Flow Measurement Range : 1045-4180 M3/hr. Pipe Material : DI	1	No.	2,11,120	2,11,120
A	TOTAL OF MECHANICAL & INST. WORKS				44,63,232.00

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SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT VAVDI OLD OF RMC					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
1.1	<p>ELECTRICAL WORK</p> <p>LOW VOLTAGE (LT) PANEL BOARD (PMCC) :</p> <p>SITC of PMCC Panel (50kA), compartmentalised, floor mounted, operating height maximum 1800/1900 mm, 400A, EC grade AL Main busbars. (Busbars size as per 50KA fault level and Temperature rise with Minimum current density 0.8A/Sq.mm) Extensible on both ends, suitable for Manual & Auto operation -Local & through PLC/SCADA operation as per site conditions complete in all respects as per Tender SLD / Specification / IS and including following as minimum:</p> <p>(1) INCOMER : 400 A, 4 Pole, Air Break Fixed MCCB conforms to IS / IEC 60947-2 with trip free mechanism, currentlimiting type with Thermal Magnetic/ Microprocessor release (O / C, S / C & E / F) with adjustable settings & having minimum 2NO+2NCpotential free auxiliary contacts with all necessary Electro Mechanical protections & interlocks etc. MCCB module, when used as Incommer/ Bus Coupler, shall have enclosure dimensions- 2000 (H) x 650 (W) x 600 (D) & following technical features:</p> <p>Digital Voltmeter with VSS, Digital PF Meter, Digital Ammeter with ASS, Resin Cast CT- Cl : 0.5,10VA, MFM Cl. 0.5, Breaker Control Switch (TNC), A/M, L/R switch, Indicating lamps, Push buttons etc., with electrical & mechanical interlocking between Incomers and buscoupler.Load sensing CT in Incomer &Busbar for APFC panel along with 2 nos. Resin cast Summation CT 5A+5A/5A, Cl.-0.5.</p> <p>(2) DG INCOMER : 400 A, 4 Pole, Air Break Fixed MCCB conforms to IS / IEC 60947-2 with trip free mechanism, currentlimiting type with Thermal Magnetic/ Microprocessor release (O / C, S / C & E / F) with adjustable settings & having minimum 2NO+2NCpotential free auxiliary contacts with all necessary Electro Mechanical protections & interlocks etc. MCCB module, when used as Incommer/ Bus Coupler, shall have enclosure dimensions- 2000 (H) x 650 (W) x 600 (D) & following technical features:</p> <p>Digital Voltmeter with VSS, Digital PF Meter, Digital Ammeter with ASS, Resin Cast CT- Cl : 0.5,10VA, MFM Cl. 0.5, Breaker Control Switch (TNC), A/M, L/R switch, Indicating lamps, Push buttons etc., with electrical & mechanical interlocking between Incomers and buscoupler.Load sensing CT in Incomer &Busbar for APFC panel along with 2 nos. Resin cast Summation CT 5A+5A/5A, Cl.-0.5.</p> <p>(3)AUTO TRANSFORMER STARTER FOR 30 KW MOTOR : 3 NOS:</p> <p>Auto Transformer Starter with MCCB, Contactor, O/L relay, cast resin type CT, Digital MFM, digital Ammeter, SPP, Timer etc. also provide PMU slot and control wiring for it as per company standard which comes with pump motor set.</p> <p>(4) 50 KVAR APFC POWER FEEDER: 1 NOS:</p> <p>Each feeder comprising of 125A TPN MP MCCB, 50kA (LSIG) with with Digital Ammeter, ASS, CT, Indicating lamp, etc.complete in all respects.</p> <p>(5) 63A TPN TM MCCB FEEDER : 4 Nos. (2 nos. Spare,1 nos. DG room, 1 nos. PDB) Each feeder comprising of 63A TPN Thermal Magnetic (TM) MCCB, with indicating lamp etc.</p>	1	Set	4,17,472.00	4,17,472.00

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	<p>(6) 100A TPN TM MCCB FEEDER : 1 Nos.(Portable Dewatering Pump)</p> <p>Each feeder comprising of 100A TPN Thermal Magnetic (TM) MCCB, with indicating lamp etc.</p> <p>(7) 63A TPN TM MCCB FEEDER FOR ALL MCB FEEDERS: 1 sets:</p> <p>Incomer: 63A TPN Thermal Magnetic (TM) MCCB, with indicating lamp etc.</p> <p>7.1) 5 nos. 32A 'C' curve 4P MCB feeders (for 1no. Ind LDB, 2 nos for DG sensing & Charging, 2 nos. spare feeders)</p> <p>NOTE: 1). All MCCB shall be 50KA, Ics = 100% Icu, inbuilt protection with adj O/L and Adj.S/c (LSIG for MP MCCB),Extended rotary handle, Terminal spreader, Auxiliary Change over contact and trip contact as required.2)</p> <p>(PMCC Panel Items costing as per GWSSB E&M SOR & R&B SOR)</p>				
1.2	<p>SITC of 50 KVAR APFC Panel,at 415Vcompartmentalised, Floor mounted, extensible type on both sides with Horizontal bus bar arrangement as per site requirement & complete in all respects as per SLD / Specification / IS and including following as minimum:</p> <p>(1) INCOMER:</p> <p>1.1 125A, TPN, 50 KA TM MCCB LSIG with Digital Voltmeter with VSS, Digital Ammeter with ASS, Resin Cast CT- Cl : 1.0,10VA, A/M, L/R switch, Indicating lamps, Push buttons etc.</p> <p>1.2 Microprocessor based APFC Relay,144sq.mm, 10 STEP with RS 485 with minimum operating current 10mA.</p> <p>(2) OUTGOING CAPACITOR FEEDER:</p> <p>Capacitor feeder of following rating comprising of TP MCCB/MCB, Capacitor duty contactor, 415V Heavy duty MPP / gas filled capacitor unit, A/M Switch, ON Delay timer,ON / OFF Push button, ON Indication lamp etc. as per Tender SLD& Specification</p> <p>2.1 15 KVAR FEEDER: 1 NOS</p> <p>2.2 10 KVAR FEEDER: 2 NOS</p> <p>2.3 5 KVAR FEEDER: 3 NOS</p> <p>2.4 Two nos. Vacant feeder suitable for 1-15KVA and 1-10KVA to be provided.</p> <p>NOTE: 1. Heavy duty 8" cooling/exhaust fan : 2 nos Minimum or higher as required at the top of the panel with canopy/hood.</p>	1	Set	1,63,292.00	1,63,292.00
1.3	<p>400A, TPN MP-MCCB UNIT Wall Mounted, with Enclosure For Power Supply Incomer</p>	1	Nos.	34,870.00	34,870.00
1.4	<p>SITC of Lighting Distribution Board (LDB) as under:</p> <p>SITC of 3 Phase 4 Wire 4P, double door Prewired LDB each for Indoor Lighting & Outdoor Lighting Suitable to house :</p> <p>Incoming: 32A FP, ELMCB (30mA)</p> <p>Outgoing: 20A SP MCB (9 nos.) & 16A SP MCB (9 nos.)</p>	1	Nos.	7,640.00	7,640.00
2.1	<p>LOW VOLTAGE (LT) CABLES</p> <p>Supply, laying, testing and commissioning of 1.1 kV, A2XFY(X)/2XWY(X) XLPE insulated (IS 7098) AL / Cu stranded conductor, Extruded innersheath cables as per specification & IS.</p>	30	Mtr.	783.00	23,490.00

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	<p>The cable when laid outside the building shall be laid underground in trench with brick & sand protection/in DWC pipes as per specified method and shall be laid in prepared trench/ on cable tray when laid inside the building.</p> <p>SITC of 3.5C x 240 sq. mm. A2XFY Cable (in Comer to PMCC Pane)</p>				
2.2	3.5C x 95 sq. mm. A2XFY Cable (PMCC Panel to APFC panel & DG)	50	Mtr.	405.00	20,250.00
2.3	4C x 6 sq. mm. A2XFY(X) Cable (For 1nos. Indoor LDB, etc)	30	Mtr.	83.00	2,490.00
2.4	2C x 2.5 sq. mm. Multi strand 2XWY(X) Cable (for 2 nos. APFC CT)	50	Mtr.	78.00	3,900.00
3.1	<p>CABLE END TERMINATION AND CONNECTION:</p> <p>SITC of Double compression Ni-Plated brass cable glands and crimping type Bimetallic lugs / sockets with necessary tools and equipments as specified in specifications and IS. The glands and lugs / sockets shall be suitable for cable size and type mentioned below & as per specifications.</p> <p>1) Earthing the glands and armouring with earthing clamp and jumper and also connecting to common earth bar.</p> <p>2) The job also includes, if necessary, supply & fixing of extension busbar of same material on MCCB or panel board terminal / connector to connect more than one no. of parallel cables or to connect higher size cable to lower size unit. The job also includes earthing the glands and armour of the cable with common earth bar or flexible copper mesh.(Cable termination qty. shall be as per site requirement)</p> <p>3.5C x 240 sq. mm. A2XFY Cable (In Comer to PMCC & APFC panel)</p>	4	Nos.	701.00	2,804.00
3.2	3.5C x 95 sq. mm. A2XFY Cable (PMCC Panel to APFC panel & DG)	4	Nos.	505.00	2,020.00
3.3	4C x 6 sq. mm. A2XFY(X) Cable (For Indoor LDB, WR-DB etc.)	15	Nos.	131.00	1,965.00
3.4	2C x 2.5 sq. mm. Multi strand 2XWY(X) Cable (For APFC CT)	24	Nos.	98.00	2,352.00
4.1	<p>CABLE TRAY</p> <p>SITC of G.I. (hot dip galvanised)Ladder type medium duty (2mm thick) Cable Tray with necessary bends, tees, reducers, covers and clamps for fixing. All material shall be Hot dip galvanised as per Specification. And including all accessories.</p> <p>450 x 75 mm - Ladder type</p>	5	Mtr.	518.00	2,590.00
4.2	300 x 75 mm - Ladder type	10	Mtr.	458.00	4,580.00
4.3	150 x 50 mm - Ladder type	10	Mtr.	396.00	3,960.00
5.1	CHEMICAL EARTHING SYSTEM	2	Set	11,050.00	22,100.00

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5.1 (a)	<p>SITC of Maintenance free chemical earthing with earthing pit of minimum bore size dia. 225mm Safe Earthing Electrode consisting Pipe-in-Pipe Technology as per IS3043:1987 /Tech spec. made of corrosion free Hot dip Galvanised (min 150 Microns) Pipes having Outer pipe dia of 76 mm , Inner corrosion free Hot dip galvanised (80 to 100 micron) pipe dia of 26 mm with copper flat strip type connection terminal 14mm dia with constant ohmic value surrounded by highly conductive corrosion resistant chemical compound with high charge dissipation suitable for electrical installation & 3Mtr. length of Pipe with two nos. 25Kg. bag of Back filling compound. (PMCC& all elect. Equipments)</p> <p>NOTE: Earthing Resistance value & date shall be painted on the chamber cover.</p> <p>Supply, laying and erection of 25mm(w) x 3mm(T) etc. sizes as required, HOT dip galvanized GI Strip including supply & fixing using GI spacers, saddles when laid inside the building and inclusive of excavation & refilling of earth when laid outside the building & interconnection with earth pit & all electro-mechanical equipments. (25X3 G.I Strip, 0.6 Kg/m, 0.6x20Mt.=12Kg.)</p>	12	Kg.	90.00	1,080.00
6.1	<p>INTERNAL WIRING</p> <p>SITC of Mains & outlet points wiring with 1.1 kV grade FRLS PVC insulated ISI marked flexible stranded copper conductor wires with medium class min. 25mm. dia. Electrical grade PVC pipe and accessories to be erected concealed in / to be run on surface / wall / ceiling with following sizes as mentioned below. The unit rate wirings shall be with connector, PVC junction box, wires, holder, ceiling rose, angle holder, switch, sockets, switch board, brass chromium / cadmium plated machine screws, phase and neutral wires, green Earth continuity wires etc. as required to complete wiring from LDB panel to the final outlet termination points. The wiring shall be as per IS:732, IS:4648 and as per tender specification / IS.</p> <p>(a)SITC of Mains wiring with 3 wire 1.5 sq.mm.</p>	100	Mtr.	80.00	8,000.00
6.2	<p>As per Sr. No.-9.1 (b)SITC of Mains wiring with 3 wire 2.5 sq.mm as per tender specification & IS.</p>	50	Mtr.	100.00	5,000.00
6.3	<p>SITC of Point wiring for Light / fan / Bell / Primary Point with 2nos. 1.5 sq. mm & earth wire of 1.5 sq. mm (green) both are of ISI marked 1.1 kv grade FRLS PVC insulated multistrand copper wires , pipe to be erected concealed in flushed on wall / ceiling, complete with 6A Tissino Type ISI marked flush type switch / bell push & accessories erected on metal / PVC Box covered with 3 mm thick PC (Polycarbonate) / Acrylic sheet with necessary lamp holder / ceiling Rose / H. D.</p> <p>connector as directed with medium class Rigid PVC pipe & accessories.</p>	20	Nos.	330.00	6,600.00
6.4	<p>SITC of 6A independent Plug with 2nos. 1.5 sq.mm Cu. Mains size wiring & earthwire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires with medium class Rigid PVC pipe and accessories to be erected on wall / ceiling, complete with ISI marked 3 / 5 Pin socket and tissino type switch erected with earth continuity connection erected on Metal / PVC box covered with 3 mm thick PC(Polycarbonet) / Acrylic sheet. (1 no. HT Room, 2 nos. LT Room cum Pump House)</p>	2	Nos.	290.00	580.00

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7.1	LED LIGHT FIXTURES & LIGHTING: SITC of Indoor wall mounting 20Watt or up to 25% higher wattage LED 4 feet Tube Light indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA polyester powder coated and high U.V. & corrosion resistance with diffuser and/or Polycarbonate optics with company mark/name 120 to 300 V, Power Factor more than 0.9, THD < 20 %, CCT 4000 K to 6500K, Uniformity ratio >0.7, Luminaries efficacy > 85 lumens/watt , LED driver efficiency > 85 % (Each fitting required LM-79 & LM-80 Certificates) Tube Light with integral / non-integral driver, Surge-4KV, IP-20, 4 feet, Cat-III	6	Nos.	594.00	3,564.00
7.2	SITC of 380mm sweep 1400 R.P.M exhaust fan , capacitor type, having double ball bearing, M.S.blades, mounting frame, forearms, suitable to operate on 230V, 50 HZ AC supply conforming to IS: 2312. Fan shall be painted with epoxy grey colour controlled by one 6 A flush type switch on board and 6A plug point near Ex. fan. (3 nos. LT Room cum Pump House)	2	Nos.	3,600.00	7,200.00
7.3	SITC of 40W LED Surface / Wall mounted LED Flood Light fittings with High power White LEDs wattage of 1Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/ lenses with company mark/name engraved or embossed 120 to 300 V, Power Factor more than 0.95, THD < 20 %, CCT 5000 K to 5700K, Uniformity ratio >0.45, Luminaries efficacy > 85 lumens/watt . LED driver efficiency > 85 %. (Each fittings required LM-79 & LM-80 certificates) (IP-65), Surge -4KV Cat-III For Indoor use: (8 nos. at LT Room cum P.H.) (R&B SOR Circular for revised rate of current R&B SOR, MOM held on dtd. 26/06/2019, Item no. 14-02(B)(a) Cat.III)	6	Nos.	8,370.00	50,220.00
7.4	SITC of 'B' class galvanised iron pipe Bracket 32 mm outside dia 45 cms long duly welded on 20 cms x 20 cms x 3 mm thick M.S. base plate, erected on wall or corner for mounting luminaries with necessary hardware materials duly painted for wall mounting indoor flood light fixtures on Wall of Buildings & post top lantern.	6	Nos.	650.00	3,900.00
8.1	SAFETY ACCESSORIES SITC of following safety accessories complete with necessary fixing brackets, other accessories and tools etc. as required to complete the job. Supply & Erecting carbon dioxide (CO2) fire extinguisher of 6.5kg capacity with necessary clamps made from 50 x 6 mm M.S. Flat with nut & bolts grouted in wall complete.	2	Nos.	10,130.00	20,260.00
8.2	Supplying of standard first AID box with antiseptic cream, medicine for use on wounds due burn, crepe bandage, guage bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal user, scissors, antiseptic solution (Savlon or similar) etc. (All above contents shall be of standard makes)	1	No.	350.00	350.00

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8.3	Supply & fixing of printed instruction (First Aid) Chart both in English and Gujarati and duly framed with front glasses, for treatment of person suffering from electric shock. (For 1 no. For LT Room cum P.H.)	2	No.	150.00	300.00
8.4	Supply and laying of Synthetic Insulating Mat of Class - A of min. thickness 2mm as per IS:15652 and with good electrical insulation property for 1.1KV/3.3KV as per site requirement. (For LT Panel, APFC Panel)	6	Sq.mtr	990.00	5,940.00
9.1	Dismantaling of Existing working PMCC, APFC, etc. Panels, Power & control cables, tray, fixtures & shifting at location directed by Enng. in charge of RMC. All necessary cable trench civil rectification / modification work required for installation of new HT Panel, PMCC, APFC etc. Panels & required for power & control cables installation as per existing room size / location / condition requirements & as per statutory requirements as per instruction of Enng. in charge of RMC.	1	Lot	25,000.00	25,000.00
B	TOTAL OF ELECTRICAL WORKS				8,53,769.00
	SAY				8,53,769.00

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SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT PUNITNAGAR OLD OF RMC					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
1.1	<p>ELECTRICAL WORK</p> <p>LOW VOLTAGE (LT) PANEL BOARD (PMCC) :</p> <p>SITC of PMCC Panel (50kA), compartmentalised, floor mounted, operating height maximum 1800/1900 mm, 400A, EC grade AL Main busbars. (Busbars size as per 50KA fault level and Temperature rise with Minimum current density 0.8A/Sq.mm) Extensible on both ends, suitable for Manual & Auto operation -Local & through PLC/SCADA operation as per site conditions complete in all respects as per Tender SLD / Specification / IS and including following as minimum:</p> <p>(1) INCOMER : 400 A, 4 Pole, Air Break Fixed MCCB conforms to IS / IEC 60947-2 with trip free mechanism, currentlimiting type with Thermal Magnetic/ Microprocessor release (O / C, S / C & E / F) with adjustable settings & having minimum 2NO+2NCpotential free auxiliary contacts with all necessary Electro Mechanical protections & interlocks etc. MCCB module, when used as Incommer/ Bus Coupler, shall have enclosure dimensions- 2000 (H) x 650 (W) x 600 (D) & following technical features:</p> <p>Digital Voltmeter with VSS, Digital PF Meter, Digital Ammeter with ASS, Resin Cast CT- Cl : 0.5,10VA, MFM Cl. 0.5, Breaker Control Switch (TNC), A/M, L/R switch, Indicating lamps, Push buttons etc., with electrical & mechanical interlocking between Incomers and buscoupler.Load sensing CT in Incomer &Busbar for APFC panel along with 2 nos. Resin cast Summation CT 5A+5A/5A, Cl.-0.5.</p> <p>(2) DG INCOMER : 400 A, 4 Pole, Air Break Fixed MCCB conforms to IS / IEC 60947-2 with trip free mechanism, currentlimiting type with Thermal Magnetic/ Microprocessor release (O / C, S / C & E / F) with adjustable settings & having minimum 2NO+2NCpotential free auxiliary contacts with all necessary Electro Mechanical protections & interlocks etc. MCCB module, when used as Incommer/ Bus Coupler, shall have enclosure dimensions- 2000 (H) x 650 (W) x 600 (D) & following technical features:</p> <p>Digital Voltmeter with VSS, Digital PF Meter, Digital Ammeter with ASS, Resin Cast CT- Cl : 0.5,10VA, MFM Cl. 0.5, Breaker Control Switch (TNC), A/M, L/R switch, Indicating lamps, Push buttons etc., with electrical & mechanical interlocking between Incomers and buscoupler.Load sensing CT in Incomer &Busbar for APFC panel along with 2 nos. Resin cast Summation CT 5A+5A/5A, Cl.-0.5.</p> <p>(3)AUTO TRANSFORMER STARTER FOR 30 KW MOTOR : 3 NOS:</p> <p>Auto Transformer Starter with MCCB, Contactor, O/L relay, cast resin type CT, Digital MFM, digital Ammeter, SPP, Timer etc. also provide PMU slot and control wiring for it as per company standard which comes with pump motor set.</p> <p>(4) 50 KVAR APFC POWER FEEDER: 1 NOS:</p> <p>Each feeder comprising of 125A TPN MP MCCB, 50kA (LSIG) with with Digital Ammeter, ASS, CT, Indicating lamp, etc.complete in all respects.</p> <p>(5) 63A TPN TM MCCB FEEDER : 4 Nos. (2 nos. Spare,1 nos. DG room, 1 nos. PDB) Each feeder comprising of 63A TPN Thermal Magnetic (TM) MCCB, with indicating lamp etc.</p> <p>(6) 100A TPN TM MCCB FEEDER : 1 Nos.(Portable Dewatering Pump)</p>	1	Set	4,17,472.00	4,17,472.00

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	<p>Each feeder comprising of 100A TPN Thermal Magnetic (TM) MCCB, with indicating lamp etc.</p> <p>(7) 63A TPN TM MCCB FEEDER FOR ALL MCB FEEDERS: 1 sets:</p> <p>Incomer: 63A TPN Thermal Magnetic (TM) MCCB, with indicating lamp etc.</p> <p>7.1) 5 nos. 32A 'C' curve 4P MCB feeders (for 1no. Ind LDB, 2 nos for DG sensing & Charging, 2 nos. spare feeders)</p> <p>NOTE: 1). All MCCB shall be 50KA, Ics = 100% Icu, inbuilt protection with adj O/L and Adj.S/c (LSIG for MP MCCB),Extended rotary handle, Terminal spreader, Auxiliary Change over contact and trip contact as required.2)</p> <p>(PMCC Panel Items costing as per GWSSB E&M SOR & R&B SOR)</p>				
1.2	<p>SITC of 50 KVAR APFC Panel,at 415Vcompartmentalised, Floor mounted, extensible type on both sides with Horizontal bus bar arrangement as per site requirement & complete in all respects as per SLD / Specification / IS and including following as minimum:</p> <p>(1) INCOMER:</p> <p>1.1 125A, TPN, 50 KA TM MCCB LSIG with Digital Voltmeter with VSS, Digital Ammeter with ASS, Resin Cast CT- CI : 1.0,10VA, A/M, L/R switch, Indicating lamps, Push buttons etc.</p> <p>1.2 Microprocessor based APFC Relay,144sq.mm, 10 STEP with RS 485 with minimum operating current 10mA.</p> <p>(2) OUTGOING CAPACITOR FEEDER:</p> <p>Capacitor feeder of following rating comprising of TP MCCB/MCB, Capacitor duty contactor, 415V Heavy duty MPP / gas filled capacitor unit, A/M Switch, ON Delay timer,ON / OFF Push button, ON Indication lamp etc. as per Tender SLD& Specification</p> <p>2.1 15 KVAR FEEDER: 1 NOS</p> <p>2.2 10 KVAR FEEDER: 2 NOS</p> <p>2.3 5 KVAR FEEDER: 3 NOS</p> <p>2.4 Two nos. Vacant feeder suitable for 1-15KVA and 1-10KVA to be provided.</p> <p>NOTE: 1. Heavy duty 8" cooling/exhaust fan : 2 nos Minimum or higher as required at the top of the panel with canopy/hood.</p>	1	Set	1,63,292.00	1,63,292.00
1.3	<p>400A, TPN MP-MCCB UNIT Wall Mounted, with Enclosure For Power Supply Incomer</p>	1	Nos.	34,870.00	34,870.00
1.4	<p>SITC of Lighting Distribution Board (LDB) as under:</p> <p>SITC of 3 Phase 4 Wire 4P, double door Prewired LDB each for Indoor Lighting & Outdoor Lighting Suitable to house :</p> <p>Incoming: 32A FP, ELMCB (30mA)</p> <p>Outgoing: 20A SP MCB (9 nos.) & 16A SP MCB (9 nos.)</p>	1	Nos.	7,640.00	7,640.00
2.1	<p>LOW VOLTAGE (LT) CABLES</p> <p>Supply, laying, testing and commissioning of 1.1 kV, A2XFY(X)/2XWY(X) XLPE insulated (IS 7098) AL / Cu stranded conductor, Extruded innersheath cables as per specification & IS.</p> <p>The cable when laid outside the building shall be laid underground in trench with brick & sand protection/in DWC pipes as per specified method and shall be laid in prepared trench/ on cable tray when laid inside the building.</p>	30	Mtr.	783.00	23,490.00

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	SITC of 3.5C x 240 sq. mm. A2XFY Cable (in Comer to PMCC Pane)				
2.2	3.5C x 95 sq. mm. A2XFY Cable (PMCC Panel to APFC panel & DG)	50	Mtr.	405.00	20,250.00
2.3	4C x 6 sq. mm. A2XFY(X) Cable (For 1nos. Indoor LDB, etc)	30	Mtr.	83.00	2,490.00
2.4	2C x 2.5 sq. mm. Multi strand 2XWY(X) Cable (for 2 nos. APFC CT)	50	Mtr.	78.00	3,900.00
3.1	CABLE END TERMINATION AND CONNECTION: SITC of Double compression Ni-Plated brass cable glands and crimping type Bimetallic lugs / sockets with necessary tools and equipments as specified in specifications and IS. The glands and lugs / sockets shall be suitable for cable size and type mentioned below & as per specifications. 1) Earthing the glands and armouring with earthing clamp and jumper and also connecting to common earth bar. 2) The job also includes, if necessary, supply & fixing of extension busbar of same material on MCCB or panel board terminal / connector to connect more than one no. of parallel cables or to connect higher size cable to lower size unit. The job also includes earthing the glands and armour of the cable with common earth bar or flexible copper mesh.(Cable termination qty. shall be as per site requirement) 3.5C x 240 sq. mm. A2XFY Cable (In Comer to PMCC & APFC panel)	4	Nos.	701.00	2,804.00
3.2	3.5C x 95 sq. mm. A2XFY Cable (PMCC Panel to APFC panel & DG)	4	Nos.	505.00	2,020.00
3.3	4C x 6 sq. mm. A2XFY(X) Cable (For Indoor LDB, WR-DB etc.)	15	Nos.	131.00	1,965.00
3.4	2C x 2.5 sq. mm. Multi strand 2XWY(X) Cable (For APFC CT)	24	Nos.	98.00	2,352.00
4.1	CABLE TRAY SITC of G.I. (hot dip galvanised)Ladder type medium duty (2mm thick) Cable Tray with necessary bends, tees, reducers, covers and clamps for fixing. All material shall be Hot dip galvanised as per Specification. And including all accessories. 450 x 75 mm - Ladder type	5	Mtr.	518.00	2,590.00
4.2	300 x 75 mm - Ladder type	10	Mtr.	458.00	4,580.00
4.3	150 x 50 mm - Ladder type	10	Mtr.	396.00	3,960.00
5.1	CHEMICAL EARTHING SYSTEM	2	Set	11,050.00	22,100.00

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5.1 (a)	<p>SITC of Maintenance free chemical earthing with earthpit of minimum bore size dia. 225mm Safe Earthing Electrode consisting Pipe-in-Pipe Technology as per IS3043:1987 /Tech spec. made of corrosion free Hot dip Galvanised (min 150 Microns) Pipes having Outer pipe dia of 76 mm , Inner corrosion free Hot dip galvanised (80 to 100 micron) pipe dia of 26 mm with copper flat strip type connection terminal 14mm dia with constant ohmic value surrounded by highly conductive corrosion resistant chemical compound with high charge dissipation suitable for electrical installation & 3Mtr. length of Pipe with two nos. 25Kg. bag of Back filling compound. (PMCC& all elect. Equipments)</p> <p>NOTE: Earthing Resistance value & date shall be painted on the chamber cover.</p> <p>Supply, laying and erection of 25mm(w) x 3mm(T) etc. sizes as required, HOT dip galvanized GI Strip including supply & fixing using GI spacers, saddles when laid inside the building and inclusive of excavation & refilling of earth when laid outside the building & interconnection with earth pit & all electro-mechanical equipments. (25X3 G.I Strip, 0.6 Kg/m, 0.6x20Mt.=12Kg.)</p>	12	Kg.	90.00	1,080.00
6.1	<p>INTERNAL WIRING</p> <p>SITC of Mains & outlet points wiring with 1.1 kV grade FRLS PVC insulated ISI marked flexible stranded copper conductor wires with medium class min. 25mm. dia. Electrical grade PVC pipe and accessories to be erected concealed in / to be run on surface / wall / ceiling with following sizes as mentioned below. The unit rate wirings shall be with connector, PVC junction box, wires, holder, ceiling rose, angle holder, switch, sockets, switch board, brass chromium / cadmium plated machine screws, phase and neutral wires, green Earth continuity wires etc. as required to complete wiring from LDB panel to the final outlet termination points. The wiring shall be as per IS:732, IS:4648 and as per tender specification / IS.</p> <p>(a)SITC of Mains wiring with 3 wire 1.5 sq.mm.</p>	100	Mtr.	80.00	8,000.00
6.2	<p>As per Sr. No.-9.1 (b)SITC of Mains wiring with 3 wire 2.5 sq.mm as per tender specification & IS.</p>	50	Mtr.	100.00	5,000.00
6.3	<p>SITC of Point wiring for Light / fan / Bell / Primary Point with 2nos. 1.5 sq. mm & earth wire of 1.5 sq. mm (green) both are of ISI marked 1.1 kv grade FRLS PVC insulated multistrand copper wires , pipe to be erected concealed in flushed on wall / ceiling, complete with 6A Tissino Type ISI marked flush type switch / bell push & accessories erected on metal / PVC Box covered with 3 mm thick PC (Polycarbonate) / Acrylic sheet with necessary lamp holder / ceiling Rose / H. D.</p> <p>connector as directed with medium class Rigid PVC pipe & accessories.</p>	20	Nos.	330.00	6,600.00
6.4	<p>SITC of 6A independent Plug with 2nos. 1.5 sq.mm Cu. Mains size wiring & earthwire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires with medium class Rigid PVC pipe and accessories to be erected on wall / ceiling, complete with ISI marked 3 / 5 Pin socket and tissino type switch erected with earth continuity connection erected on Metal / PVC box covered with 3 mm thick PC(Polycarbonet) / Acrylic sheet. (1 no. HT Room, 2 nos. LT Room cum Pump House)</p>	2	Nos.	290.00	580.00

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7.1	LED LIGHT FIXTURES & LIGHTING: SITC of Indoor wall mounting 20Watt or up to 25% higher wattage LED 4 feet Tube Light indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA polyester powder coated and high U.V. & corrosion resistance with diffuser and/or Polycarbonate optics with company mark/name 120 to 300 V, Power Factor more than 0.9, THD < 20 %, CCT 4000 K to 6500K, Uniformity ratio >0.7, Luminaries efficacy > 85 lumens/watt , LED driver efficiency > 85 % (Each fitting required LM-79 & LM-80 Certificates) Tube Light with integral / non-integral driver, Surge-4KV, IP-20, 4 feet, Cat-III	6	Nos.	594.00	3,564.00
7.2	SITC of 380mm sweep 1400 R.P.M exhaust fan , capacitor type, having double ball bearing, M.S.blades, mounting frame, forearms, suitable to operate on 230V, 50 HZ AC supply conforming to IS: 2312. Fan shall be painted with epoxy grey colour controlled by one 6 A flush type switch on board and 6A plug point near Ex. fan. (3 nos. LT Room cum Pump House)	2	Nos.	3,600.00	7,200.00
7.3	SITC of 40W LED Surface / Wall mounted LED Flood Light fittings with High power White LEDs wattage of 1Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/ lenses with company mark/name engraved or embossed 120 to 300 V, Power Factor more than 0.95, THD < 20 %, CCT 5000 K to 5700K, Uniformity ratio >0.45, Luminaries efficacy > 85 lumens/watt . LED driver efficiency > 85 %. (Each fittings required LM-79 & LM-80 certificates) (IP-65), Surge -4KV Cat-III For Indoor use: (8 nos. at LT Room cum P.H.) (R&B SOR Circular for revised rate of current R&B SOR, MOM held on dtd. 26/06/2019, Item no. 14-02(B)(a) Cat.III)	6	Nos.	8,370.00	50,220.00
7.4	SITC of 'B' class galvanised iron pipe Bracket 32 mm outside dia 45 cms long duly welded on 20 cms x 20 cms x 3 mm thick M.S. base plate, erected on wall or corner for mounting luminaries with necessary hardware materials duly painted for wall mounting indoor flood light fixtures on Wall of Buildings & post top lantern.	6	Nos.	650.00	3,900.00
8.1	SAFETY ACCESSORIES SITC of following safety accessories complete with necessary fixing brackets, other accessories and tools etc. as required to complete the job. Supply & Erecting carbon dioxide (CO2) fire extinguisher of 6.5kg capacity with necessary clamps made from 50 x 6 mm M.S. Flat with nut & bolts grouted in wall complete.	2	Nos.	10,130.00	20,260.00
8.2	Supplying of standard first AID box with antiseptic cream, medicine for use on wounds due burn, crepe bandage, guage bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal user, scissors, antiseptic solution (Savlon or similar) etc. (All above contents shall be of standard makes)	1	No.	350.00	350.00

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8.3	Supply & fixing of printed instruction (First Aid) Chart both in English and Gujarati and duly framed with front glasses, for treatment of person suffering from electric shock. (For 1 no. For LT Room cum P.H.)	2	No.	150.00	300.00
8.4	Supply and laying of Synthetic Insulating Mat of Class - A of min. thickness 2mm as per IS:15652 and with good electrical insulation property for 1.1KV/3.3KV as per site requirement. (For LT Panel, APFC Panel)	6	Sq.mtr	990.00	5,940.00
9.1	Dismantaling of Existing working PMCC, APFC, etc. Panels, Power & control cables, tray, fixtures & shifting at location directed by Enng. in charge of RMC. All necessary cable trench civil rectification / modification work required for installation of new HT Panel, PMCC, APFC etc. Panels & required for power & control cables installation as per existing room size / location / condition requirements & as per statutory requirements as per instruction of Enng. in charge of RMC.	1	Lot	25,000.00	25,000.00
B	TOTAL OF ELECTRICAL WORKS				8,53,769.00
	SAY				8,53,769.00

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SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT MAVDI OF RMC					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
1.1	<p>ELECTRICAL WORK</p> <p>LOW VOLTAGE (LT) PANEL BOARD (PMCC) :</p> <p>SITC of PMCC Panel (50kA), compartmentalised, floor mounted, operating height maximum 1800/1900 mm, 400A, EC grade AL Main busbars. (Busbars size as per 50KA fault level and Temperature rise with Minimum current density 0.8A/Sq.mm) Extensible on both ends, suitable for Manual & Auto operation -Local & through PLC/SCADA operation as per site conditions complete in all respects as per Tender SLD / Specification / IS and including following as minimum:</p> <p>(1) INCOMER : 400 A, 4 Pole, Air Break Fixed MCCB conforms to IS / IEC 60947-2 with trip free mechanism, currentlimiting type with Thermal Magnetic/ Microprocessor release (O / C, S / C & E / F) with adjustable settings & having minimum 2NO+2NCpotential free auxiliary contacts with all necessary Electro Mechanical protections & interlocks etc. MCCB module, when used as Incommer/ Bus Coupler, shall have enclosure dimensions- 2000 (H) x 650 (W) x 600 (D) & following technical features:</p> <p>Digital Voltmeter with VSS, Digital PF Meter, Digital Ammeter with ASS, Resin Cast CT- Cl : 0.5,10VA, MFM Cl. 0.5, Breaker Control Switch (TNC), A/M, L/R switch, Indicating lamps, Push buttons etc., with electrical & mechanical interlocking between Incomers and buscoupler.Load sensing CT in Incomer &Busbar for APFC panel along with 2 nos. Resin cast Summation CT 5A+5A/5A, Cl.-0.5.</p> <p>(2) DG INCOMER : 400 A, 4 Pole, Air Break Fixed MCCB conforms to IS / IEC 60947-2 with trip free mechanism, currentlimiting type with Thermal Magnetic/ Microprocessor release (O / C, S / C & E / F) with adjustable settings & having minimum 2NO+2NCpotential free auxiliary contacts with all necessary Electro Mechanical protections & interlocks etc. MCCB module, when used as Incommer/ Bus Coupler, shall have enclosure dimensions- 2000 (H) x 650 (W) x 600 (D) & following technical features:</p> <p>Digital Voltmeter with VSS, Digital PF Meter, Digital Ammeter with ASS, Resin Cast CT- Cl : 0.5,10VA, MFM Cl. 0.5, Breaker Control Switch (TNC), A/M, L/R switch, Indicating lamps, Push buttons etc., with electrical & mechanical interlocking between Incomers and buscoupler.Load sensing CT in Incomer &Busbar for APFC panel along with 2 nos. Resin cast Summation CT 5A+5A/5A, Cl.-0.5.</p> <p>(3)AUTO TRANSFORMER STARTER FOR 30 KW MOTOR : 3 NOS:</p> <p>Auto Transformer Starter with MCCB, Contactor, O/L relay, cast resin type CT, Digital MFM, digital Ammeter, SPP, Timer etc. also provide PMU slot and control wiring for it as per company standard which comes with pump motor set.</p> <p>(4) 50 KVAR APFC POWER FEEDER: 1 NOS:</p> <p>Each feeder comprising of 125A TPN MP MCCB, 50kA (LSIG) with with Digital Ammeter, ASS, CT, Indicating lamp, etc.complete in all respects.</p> <p>(5) 63A TPN TM MCCB FEEDER : 4 Nos. (2 nos. Spare,1 nos. DG room, 1 nos. PDB) Each feeder comprising of 63A TPN Thermal Magnetic (TM) MCCB, with indicating lamp etc.</p> <p>(6) 100A TPN TM MCCB FEEDER : 1 Nos.(Portable Dewatering Pump)</p>	1	Set	4,17,472.00	4,17,472.00

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	<p>Each feeder comprising of 100A TPN Thermal Magnetic (TM) MCCB, with indicating lamp etc.</p> <p>(7) 63A TPN TM MCCB FEEDER FOR ALL MCB FEEDERS: 1 sets:</p> <p>Incomer: 63A TPN Thermal Magnetic (TM) MCCB, with indicating lamp etc.</p> <p>7.1) 5 nos. 32A 'C' curve 4P MCB feeders (for 1no. Ind LDB, 2 nos for DG sensing & Charging, 2 nos. spare feeders)</p> <p>NOTE: 1). All MCCB shall be 50KA, Ics = 100% Icu, inbuilt protection with adj O/L and Adj.S/c (LSIG for MP MCCB),Extended rotary handle, Terminal spreader, Auxiliary Change over contact and trip contact as required.2)</p> <p>(PMCC Panel Items costing as per GWSSB E&M SOR & R&B SOR)</p>				
1.2	<p>SITC of 50 KVAR APFC Panel,at 415Vcompartmentalised, Floor mounted, extensible type on both sides with Horizontal bus bar arrangement as per site requirement & complete in all respects as per SLD / Specification / IS and including following as minimum:</p> <p>(1) INCOMER:</p> <p>1.1 125A, TPN, 50 KA TM MCCB LSIG with Digital Voltmeter with VSS, Digital Ammeter with ASS, Resin Cast CT- CI : 1.0,10VA, A/M, L/R switch, Indicating lamps, Push buttons etc.</p> <p>1.2 Microprocessor based APFC Relay,144sq.mm, 10 STEP with RS 485 with minimum operating current 10mA.</p> <p>(2) OUTGOING CAPACITOR FEEDER:</p> <p>Capacitor feeder of following rating comprising of TP MCCB/MCB, Capacitor duty contactor, 415V Heavy duty MPP / gas filled capacitor unit, A/M Switch, ON Delay timer,ON / OFF Push button, ON Indication lamp etc. as per Tender SLD& Specification</p> <p>2.1 15 KVAR FEEDER: 1 NOS</p> <p>2.2 10 KVAR FEEDER: 2 NOS</p> <p>2.3 5 KVAR FEEDER: 3 NOS</p> <p>2.4 Two nos. Vacant feeder suitable for 1-15KVA and 1-10KVA to be provided.</p> <p>NOTE: 1. Heavy duty 8" cooling/exhaust fan : 2 nos Minimum or higher as required at the top of the panel with canopy/hood.</p>	1	Set	1,63,292.00	1,63,292.00
1.3	<p>400A, TPN MP-MCCB UNIT Wall Mounted, with Enclosure For Power Supply Incomer</p>	1	Nos.	34,870.00	34,870.00
1.4	<p>SITC of Lighting Distribution Board (LDB) as under:</p> <p>SITC of 3 Phase 4 Wire 4P, double door Prewired LDB each for Indoor Lighting & Outdoor Lighting Suitable to house :</p> <p>Incoming: 32A FP, ELMCB (30mA)</p> <p>Outgoing: 20A SP MCB (9 nos.) & 16A SP MCB (9 nos.)</p>	1	Nos.	7,640.00	7,640.00
2.1	<p>LOW VOLTAGE (LT) CABLES</p> <p>Supply, laying, testing and commissioning of 1.1 kV, A2XFY(X)/2XWY(X) XLPE insulated (IS 7098) AL / Cu stranded conductor, Extruded innersheath cables as per specification & IS.</p> <p>The cable when laid outside the building shall be laid underground in trench with brick & sand protection/in DWC pipes as per specified method and shall be laid in prepared trench/ on cable tray when laid inside the building.</p>	30	Mtr.	783.00	23,490.00

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	SITC of 3.5C x 240 sq. mm. A2XFY Cable (in Comer to PMCC Pane)				
2.2	3.5C x 95 sq. mm. A2XFY Cable (PMCC Panel to APFC panel & DG)	50	Mtr.	405.00	20,250.00
2.3	4C x 6 sq. mm. A2XFY(X) Cable (For 1nos. Indoor LDB, etc)	30	Mtr.	83.00	2,490.00
2.4	2C x 2.5 sq. mm. Multi strand 2XWY(X) Cable (for 2 nos. APFC CT)	50	Mtr.	78.00	3,900.00
3.1	CABLE END TERMINATION AND CONNECTION: SITC of Double compression Ni-Plated brass cable glands and crimping type Bimetallic lugs / sockets with necessary tools and equipments as specified in specifications and IS. The glands and lugs / sockets shall be suitable for cable size and type mentioned below & as per specifications. 1) Earthing the glands and armouring with earthing clamp and jumper and also connecting to common earth bar. 2) The job also includes, if necessary, supply & fixing of extension busbar of same material on MCCB or panel board terminal / connector to connect more than one no. of parallel cables or to connect higher size cable to lower size unit. The job also includes earthing the glands and armour of the cable with common earth bar or flexible copper mesh.(Cable termination qty. shall be as per site requirement) 3.5C x 240 sq. mm. A2XFY Cable (In Comer to PMCC & APFC panel)	4	Nos.	701.00	2,804.00
3.2	3.5C x 95 sq. mm. A2XFY Cable (PMCC Panel to APFC panel & DG)	4	Nos.	505.00	2,020.00
3.3	4C x 6 sq. mm. A2XFY(X) Cable (For Indoor LDB, WR-DB etc.)	15	Nos.	131.00	1,965.00
3.4	2C x 2.5 sq. mm. Multi strand 2XWY(X) Cable (For APFC CT)	24	Nos.	98.00	2,352.00
4.1	CABLE TRAY SITC of G.I. (hot dip galvanised)Ladder type medium duty (2mm thick) Cable Tray with necessary bends, tees, reducers, covers and clamps for fixing. All material shall be Hot dip galvanised as per Specification. And including all accessories. 450 x 75 mm - Ladder type	5	Mtr.	518.00	2,590.00
4.2	300 x 75 mm - Ladder type	10	Mtr.	458.00	4,580.00
4.3	150 x 50 mm - Ladder type	10	Mtr.	396.00	3,960.00
5.1	CHEMICAL EARTHING SYSTEM	2	Set	11,050.00	22,100.00

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5.1 (a)	<p>SITC of Maintenance free chemical earthing with earthing pit of minimum bore size dia. 225mm Safe Earthing Electrode consisting Pipe-in-Pipe Technology as per IS3043:1987 /Tech spec. made of corrosion free Hot dip Galvanised (min 150 Microns) Pipes having Outer pipe dia of 76 mm , Inner corrosion free Hot dip galvanised (80 to 100 micron) pipe dia of 26 mm with copper flat strip type connection terminal 14mm dia with constant ohmic value surrounded by highly conductive corrosion resistant chemical compound with high charge dissipation suitable for electrical installation & 3Mtr. length of Pipe with two nos. 25Kg. bag of Back filling compound. (PMCC& all elect. Equipments)</p> <p>NOTE: Earthing Resistance value & date shall be painted on the chamber cover.</p> <p>Supply, laying and erection of 25mm(w) x 3mm(T) etc. sizes as required, HOT dip galvanized GI Strip including supply & fixing using GI spacers, saddles when laid inside the building and inclusive of excavation & refilling of earth when laid outside the building & interconnection with earth pit & all electro-mechanical equipments. (25X3 G.I Strip, 0.6 Kg/m, 0.6x20Mt.=12Kg.)</p>	12	Kg.	90.00	1,080.00
6.1	<p>INTERNAL WIRING</p> <p>SITC of Mains & outlet points wiring with 1.1 kV grade FRLS PVC insulated ISI marked flexible stranded copper conductor wires with medium class min. 25mm. dia. Electrical grade PVC pipe and accessories to be erected concealed in / to be run on surface / wall / ceiling with following sizes as mentioned below. The unit rate wirings shall be with connector, PVC junction box, wires, holder, ceiling rose, angle holder, switch, sockets, switch board, brass chromium / cadmium plated machine screws, phase and neutral wires, green Earth continuity wires etc. as required to complete wiring from LDB panel to the final outlet termination points. The wiring shall be as per IS:732, IS:4648 and as per tender specification / IS.</p> <p>(a)SITC of Mains wiring with 3 wire 1.5 sq.mm.</p>	100	Mtr.	80.00	8,000.00
6.2	<p>As per Sr. No.-9.1 (b)SITC of Mains wiring with 3 wire 2.5 sq.mm as per tender specification & IS.</p>	50	Mtr.	100.00	5,000.00
6.3	<p>SITC of Point wiring for Light / fan / Bell / Primary Point with 2nos. 1.5 sq. mm & earth wire of 1.5 sq. mm (green) both are of ISI marked 1.1 kv grade FRLS PVC insulated multistrand copper wires , pipe to be erected concealed in flushed on wall / ceiling, complete with 6A Tisino Type ISI marked flush type switch / bell push & accessories erected on metal / PVC Box covered with 3 mm thick PC (Polycarbonate) / Acrylic sheet with necessary lamp holder / ceiling Rose / H. D.</p> <p>connector as directed with medium class Rigid PVC pipe & accessories.</p>	20	Nos.	330.00	6,600.00
6.4	<p>SITC of 6A independent Plug with 2nos. 1.5 sq.mm Cu. Mains size wiring & earthwire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires with medium class Rigid PVC pipe and accessories to be erected on wall / ceiling, complete with ISI marked 3 / 5 Pin socket and tissino type switch erected with earth continuity connection erected on Metal / PVC box covered with 3 mm thick PC(Polycarbonet) / Acrylic sheet. (1 no. HT Room, 2 nos. LT Room cum Pump House)</p>	2	Nos.	290.00	580.00

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7.1	LED LIGHT FIXTURES & LIGHTING: SITC of Indoor wall mounting 20Watt or up to 25% higher wattage LED 4 feet Tube Light indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA polyester powder coated and high U.V. & corrosion resistance with diffuser and/or Polycarbonate optics with company mark/name 120 to 300 V, Power Factor more than 0.9, THD < 20 %, CCT 4000 K to 6500K, Uniformity ratio >0.7, Luminaries efficacy > 85 lumens/watt , LED driver efficiency > 85 % (Each fitting required LM-79 & LM-80 Certificates) Tube Light with integral / non-integral driver, Surge-4KV, IP-20, 4 feet, Cat-III	6	Nos.	594.00	3,564.00
7.2	SITC of 380mm sweep 1400 R.P.M exhaust fan , capacitor type, having double ball bearing, M.S.blades, mounting frame, forearms, suitable to operate on 230V, 50 HZ AC supply conforming to IS: 2312. Fan shall be painted with epoxy grey colour controlled by one 6 A flush type switch on board and 6A plug point near Ex. fan. (3 nos. LT Room cum Pump House)	2	Nos.	3,600.00	7,200.00
7.3	SITC of 40W LED Surface / Wall mounted LED Flood Light fittings with High power White LEDs wattage of 1Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/ lenses with company mark/name engraved or embossed 120 to 300 V, Power Factor more than 0.95, THD < 20 %, CCT 5000 K to 5700K, Uniformity ratio >0.45, Luminaries efficacy > 85 lumens/watt . LED driver efficiency > 85 %. (Each fittings required LM-79 & LM-80 certificates) (IP-65), Surge -4KV Cat-III For Indoor use: (8 nos. at LT Room cum P.H.) (R&B SOR Circular for revised rate of current R&B SOR, MOM held on dtd. 26/06/2019, Item no. 14-02(B)(a) Cat.III)	6	Nos.	8,370.00	50,220.00
7.4	SITC of 'B' class galvanised iron pipe Bracket 32 mm outside dia 45 cms long duly welded on 20 cms x 20 cms x 3 mm thick M.S. base plate, erected on wall or corner for mounting luminaries with necessary hardware materials duly painted for wall mounting indoor flood light fixtures on Wall of Buildings & post top lantern.	6	Nos.	650.00	3,900.00
8.1	SAFETY ACCESSORIES SITC of following safety accessories complete with necessary fixing brackets, other accessories and tools etc. as required to complete the job. Supply & Erecting carbon dioxide (CO2) fire extinguisher of 6.5kg capacity with necessary clamps made from 50 x 6 mm M.S. Flat with nut & bolts grouted in wall complete.	2	Nos.	10,130.00	20,260.00
8.2	Supplying of standard first AID box with antiseptic cream, medicine for use on wounds due burn, crepe bandage, guage bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal user, scissors, antiseptic solution (Savlon or similar) etc. (All above contents shall be of standard makes)	1	No.	350.00	350.00

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8.3	Supply & fixing of printed instruction (First Aid) Chart both in English and Gujarati and duly framed with front glasses, for treatment of person suffering from electric shock. (For 1 no. For LT Room cum P.H.)	2	No.	150.00	300.00
8.4	Supply and laying of Synthetic Insulating Mat of Class - A of min. thickness 2mm as per IS:15652 and with good electrical insulation property for 1.1KV/3.3KV as per site requirement. (For LT Panel, APFC Panel)	6	Sq.mtr	990.00	5,940.00
9.1	Dismantaling of Existing working PMCC, APFC, etc. Panels, Power & control cables, tray, fixtures & shifting at location directed by Enng. in charge of RMC. All necessary cable trench civil rectification / modification work required for installation of new HT Panel, PMCC, APFC etc. Panels & required for power & control cables installation as per existing room size / location / condition requirements & as per statutory requirements as per instruction of Enng. in charge of RMC.	1	Lot	25,000.00	25,000.00
B	TOTAL OF ELECTRICAL WORKS				8,53,769.00
	SAY				8,53,769.00

RAJKOT MUNICIPAL CORPORATION

RAJKOT MUNICIPAL CORPORATION DRAINAGE PROJECT						
Name of Work:- Comprehensive Operation & Maintenance of Vavadi OLD Sewage Pumping Station for Period 02 Years.						
Sr. No.	No	Desription				
			Rate	Unit	Total Amt in Rs.	Remark
1	3	Plant / Pump Operator Semi Skilled person. (1 person x 3 Shift = 3 Person per day)	462.00	Shift	1,386.00	Minimum Wages as per the Order No: RMC/Esta/ 15 Dt.05.04.2023
2	3	Helper / Mali / Sweeper Un Skilled. (1 person x 3 Shift = 3 Person per day)	452.00	Shift	1,356.00	
3	1	General Labour For screen cleaning Un Skilled. (1 person General Shift = 1 Person per day)	452.00	Shift	452.00	
		Total Manpower cost for 1 Day of entire package			3,194.00	
		Total cost for 365 day's			11,65,810.00	
		Insurance / P.F / E.S.I / Labour liscence / Labour cess / Levie etc. Approx @15% of - A			1,74,871.50	
A		Total amount for 1st Year			13,40,681.50	
		Price escalation in min wages & O&M cost approx @ 10% for 2nd year			1,34,068.15	Price escalation 10% taken on amount of Remarks "A"
B		Total amount for 2nd Year			14,74,749.65	
		Total (A+B)			28,15,431.15	
		(Say)			28,15,431.00	
Rs. Twenty Eight Lacs Fifteen Thousand four Hundred thirty one Only						

RAJKOT MUNICIPAL CORPORATION

RAJKOT MUNICIPAL CORPORATION DRAINAGE PROJECT						
Name of Work:- Comprehensive Operation & Maintenance of Punit Nagar OLD Sewage Pumping Station for Period 02 Years.						
Sr. No.	No	Desription	Rate	Unit	Total Amt in Rs.	Remark
1	3	Plant / Pump Operator Semi Skilled person. (1 person x 3 Shift = 3 Person per day)	462.00	Shift	1,386.00	Minimum Wages as per the Order No: RMC/Esta/ 15 Dt.05.04.2023
2	3	Helper / Mali / Sweeper Un Skilled. (1 person x 3 Shift = 3 Person per day)	452.00	Shift	1,356.00	
3	1	General Labour For screen cleaning Un Skilled. (1 person General Shift = 1 Person per day)	452.00	Shift	452.00	
		Total Manpower cost for 1 Day of entire package			3,194.00	
		Total cost for 365 day's			11,65,810.00	
		Insurance / P.F / E.S.I / Labour liscence / Labour cess / Levie etc. Approx @15% of - A			1,74,871.50	
A		Total amount for 1st Year			13,40,681.50	
		Price escalation in min wages & O&M cost approx @ 10% for 2nd year			1,34,068.15	Price escalation 10% taken on amount of Remarks "A"
B		Total amount for 2nd Year			14,74,749.65	
		Total (A+B)			28,15,431.15	
		(Say)			28,15,431.00	
Rs. Twenty Eight Lacs Fifteen Thousand four Hundred thirty one Only						

RAJKOT MUNICIPAL CORPORATION

RAJKOT MUNICIPAL CORPORATION DRAINAGE PROJECT						
Name of Work:- Comprehensive Operation & Maintenance of Mavadi Sewage Pumping Station for Period 02 Years.						
Sr. No.	No	Description	Rate	Unit	Total Amt in Rs.	Remark
1	3	Plant / Pump Operator Semi Skilled person. (1 person x 3 Shift = 3 Person per day)	462.00	Shift	1,386.00	Minimum Wages as per the Order No: RMC/Esta/ 15 Dt.05.04.2023
2	3	Helper / Mali / Sweeper Un Skilled. (1 person x 3 Shift = 3 Person per day)	452.00	Shift	1,356.00	
3	1	General Labour For screen cleaning Un Skilled. (1 person General Shift = 1 Person per day)	452.00	Shift	452.00	
		Total Manpower cost for 1 Day of entire package			3,194.00	
		Total cost for 365 day's			11,65,810.00	
		Insurance / P.F / E.S.I / Labour liscence / Labour cess / Levie etc. Approx @15% of - A			1,74,871.50	
A		Total amount for 1st Year			13,40,681.50	
		Price escalation in min wages & O&M cost approx @ 10% for 2nd year			1,34,068.15	Price escalation 10% taken on amount of Remarks "A"
B		Total amount for 2nd Year			14,74,749.65	
		Total (A+B)			28,15,431.15	
		(Say)			28,15,431.00	
Rs. Twenty Eight Lacs Fifteen Thousand four Hundred thirty one Only						

RAJKOT MUNICIPAL CORPORATION

PAYMENT SCHEDULE

(For EMI Works)

Schedule of Payment % Break-up of payment for each component of the Pumping Machinery during Supply, Installation, Trial Run & Commissioning.

Sr.No.	Break-Up	% of quoted Amount
1.	On supply of equipment at site	65%
2.	On erection of equipment	15%
3.	On testing and commissioning	15%
4.	After satisfactory running of plant/machinery & start of O&M	02%
5.	After three months of successful trial run & O&M	03%
	TOTAL	100%