

No.: PHE/MDNS/DB/ 4231-38.
Dated: 30-08-2023

M/s Jay Dee Enterprises
Industrial Estate Kanthbagh Baramulla
GST No: 01AFAPW6260K1ZE
Cell No: 9149902203

Adv. Cost:	Rs 116.63 Lacs
Allotted Cost:	Rs 123.841 Lacs

Subject: Electro-Mechanical works to be carried out at WSS Wadoora (Stage 1st and Stage 2nd).

- Reference:
1. This office e-NIT No.: e-NIT No. 28 of 2022-23, S. No. 03 issued under endorsement No.: PHE/MDNS/DB/4525-37, dated: 23-11-2022.
 2. Authorization awarded by Member Secretary DJJM Superintending Engineer Jal Shakti (PHE) Hydraulic Circle Baramulla/Bandipore HQ at Sopore issued vide No. SE/Hyd/DB/2135-49, dated: 30-05-2023.
 3. Corrigendum issued by Superintending Engineer Jal Shakti (PHE) Hydraulic Circle Baramulla/Bandipore HQ at Sopore issued vide No. SE/Hyd/DB/4351-64, dated: 17-07-2023

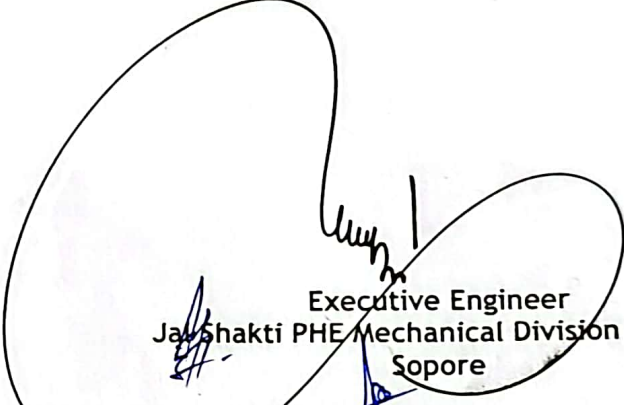
Dear Sir,

For and on behalf of Lt. Governor of J&K U.T contract for execution of "Electro-Mechanical works to be carried out at WSS Wadoora (Stage 1st and Stage 2nd)" is hereby awarded to your firm on the quoted/negotiated rates, as per 'General Terms & Conditions' and 'Schedule of cost and quantities' annexed herewith as under:

Annexure A: General Terms & Conditions.

Annexure B: Schedule of cost and quantities.

Encl. leaves


Executive Engineer
Jal Shakti PHE Mechanical Division (North)
Sopore

Copy to the:

1. Chief Engineer Jal Shakti (PHE) Department Kashmir, Srinagar for favour of information.
2. District Development Commissioner Bola, for favour of information.
3. Superintending Engineer Jal Shakti (PHE) Mechanical Circle (North) Srinagar, for favour of information.
4. Superintending Engineer Jal Shakti (PHE) Hydraulic Circle Mal P/PTV HQ at S/PTV, for favour of information.
5. Executive Engineer Jal Shakti (PHE) Division S/PTV, for favour of information.
6. Provisional Head, TPIA JJM Kashmir, (WAPCOS Limited) Corporate Office 76-C Institutional area Sector-18 Gurugram-122015 (Haryana) for favour of information.
7. Assistant Executive Engineer Jal Shakti (PHE) Mechanical Sub-Division S/PTV for information & necessary action.
8. File concerned.

Name of work: Electro-Mechanical works to be carried out at WSS Wadoora (Stage 1st and Stage 2nd) under JJM

Sl.No	Description of Work / Item(s)	No. of Qty	Units	Rate	Amount
1	Stage 1st				
1.01	<p>Design, supply, providing, installation, successful testing and commissioning of vertical turbine pumping unit as per IS 1710 driven by VT motor for pumping water at Stage 1st of following parameters.</p> <p>*Site Condition Altitude = 1580 Meters/Greater (AMSL) Ambient Temperature = +40°C to - 15°C Relative Humidity = 60% Discharge of the Pump = 15000 GPH Dynamic Head = 48 M Speed = 1450 RPM</p> <p>*Type of water = Raw water having specific gravity of unity average. *Quality of water = Raw water with silt having medium to coarse sand. *Sump/liner Bed Level = 8m/otherwise specified below from Machine floor level *Water column in liner/sump = 2 m/as specified otherwise above from sump/liner bed level</p> <p>A.PUMP 1.Discharge = As per requirement 2.Type = Self water lubricated, VT pump, open line shaft. 3.Liquid to be handled = Raw Water</p> <p>4.RPM = 1450 5.Head = As per requirement 6.Efficiency = Not less than 50% 7.Impeller = Semi-enclosed mixed flow all bronze/stainless steel 8.Line shaft/head shaft = Stainless steel 9.Length of each line shaft = 1 m maximum 10.Total length of line shaft = 10 m/as specified (excluding Head shaft) 11.Impeller shaft = Stainless steel 12.Line shaft bearing = Cut less rubber/ Neoprene rubber 13.Line shaft coupling = Stainless steel 14.Suction Strainer = MS fabricated 15.Suction Bowl/Bell mouth= Cast Iron 16.Pump Bowl = Cast iron 17.Column pipe = Mild Steel of wall thickness not less than 8mm flanged type in assorted lengths 18.VT Pump to be designed with minimum number of stages.</p> <p>B.Prime Mover 1.Type = Vertical hollow shaft, AC squirrel cage Induction motor 2.Power Supply = 03 Phase, 415V+ 15% AC 3.Frequency = 50Hz + 3% 4.RPM = 1450 Synchronous 5.Efficiency = Not less than 90% 6.Rating = Corresponding to the head and discharge not less than 25 HP. 7.Class of insulation = F or above</p> <p>8.Type of duty = Continuous 9.Type of rotor = suitable among single squirrel cage / double squirrel cage, single or double skewed squirrel cage. 10.GD2 = suitable for above parameters. 11.Motor thrust bearing = Anti friction ball /roller bearing 12.Method of starting = star/delta The motor should be able to withstand fluctuations in voltage and should be conforming to latest IS specifications.</p> <p>C.Accessories *Each pump unit shall be provided with suitable discharge head with proper stiffening box arrangement, non-reverse ratchet, coupling etc as per standard specification besides all other accessories required for satisfactory performance and mechanical works required for installation of pumping unit at site are included in the job. Note: Providing of test certificate & Characteristic Curve of pumping equipment is compulsory and pumping unit is to be approved from the concerned authority before procuring.</p>	2	Job	6,60,000.00	13,20,000.00
1.02	<p>Providing/supplying and fitting of G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, class-C conforming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) for Y junction and washout. The flanges shall be double welded both from inside and outside of the pipe using standard electrode of reputed make.</p> <p>Size : 150 Class: C (Heavy) Flanges (as per IS 6392/1997 Table:17) Thickness shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint.</p> <p>Welding Electrode DC Arc Welding using welding electrode having diameter not less than 4mm.</p> <p>Nuts and Bolts Nuts and Bolts (conforming to IS:1363 Part 1st) Rubber Insertion Gaskets Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.</p>	30	Meters	3,075.00	92,250.00
1.03	<p>Cutting of hot dip galvanized G.I, C-Class pipe across the section by dint of pipe cutter/ gas cutter. The job also includes Providing and welding of M.S flanges to the two ends of pipe. The Thickness of flange shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using Advani/Esab/L&T- SS Bond make electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints</p> <p>Dia: 150'</p>	30	Job	2,059.00	61,770.00

1.04	6392/1997 Table 17 (Rating PN16) fasteners with includes Providing and welding of M.S flanges to the ends of each arm. The flange shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints. Dia: 150 mm	1	Job	7,299.00	
1.05	Providing and fitting of, Ductile Iron double flanged, non-rising spindle soft seated glandless gate/ sluice valves as per IS14846 for regulating the water supply outside the pumping units . The body and bonnet of the valve shall be of ductile iron, wedge with fully vulcanized EPDM rubber(Approved for drinking water) and NBR seal. The Gate/Sluice valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions It shall have electrostatic epoxy coating(approved for drinking water) both inside and outside of the valve. The valve shall be supplied along with hand wheel. Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work. The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job. Size: DN150 PN:1.6/16	3	No	25,977.00	77,931.00
1.06	Providing and fitting of Ductile Iron double flanged, Slanted seat swing check valve(NRV) as per IS 5312. The body shall be of ductile cast iron with fully encapsulated vulcanized EPDM rubber(Approved for drinking water). The valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions. It shall have electrostatic epoxy coating (approved for drinking water) both inside and outside of the valve. Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work. The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with Rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job. Size: 150mm PN: 1.6/16	2	No	32,205.00	64,410.00
1.07	Providing and fitting of 150 mm dia flanged flanged bends/elbolw to delivery mainfold and washout, including nuts and bolts and rubber gaskets as per requirement. Fabrication, providing and fitting of 90-120 degree bend/elbow to be fabricated out of Class B and C GI pipe, 1 m length and flanged on both ends and to make it leak proof. The flanges shall be M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) and welded on both sides. The job includes nuts, bolts, gaskets etc. as per site requirement.	7	job	5,728.00	40,096.00
1.08	Fabrication, providing and fitting of washout Tee 150 mm 150 mm with arm length 1.2 feet each (Approx.). The Tee shall be fabricated out of G.I C-class pipe with M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) fastened with weld joints on three ends.	1	Job	7,036.00	7,036.00
1.09	Supply , installation , commissioning of level II HT Transformer and creation of pole mounted, outdoor type Electric Sub Station as per the technical specifications given here under - Specifications conforming to IS: 1180 (Part 1) 2014 with latest amendments. Capacity: 100 KvA Type: HT/LT Transformer Type of cooling: ONAN. Operating conditions: Input =11000 volts Output =433 volts AC supply in 3- phase. Terminals: Input=3 No. HT bush rods with insulators, washer, nuts etc. Output=4 No. LT bush rods switch insulators, washers, nuts etc. Core: The core shall be of high permeability to reduce core losses and the strips shall be of suitable size and gauge. Transformer Coils: Suitable number of HT and LT coils in each leg of the core. The transformer coils shall be fabricated out of superior quality aluminum wire/strips, properly wound. The HT transformer is completely filled with suitable grade transformer oil up to required level. The job includes carriage, and all leads and lifts involved. The HT transformer shall be of reputed make from an ISO certified company as per relevant standards and a test certificate shall be provided before installation. The transformer shall also be provided with breather fill with silica jel crystals, conservator with oil level indicator, explosion vet and adequate radiator fins/ Tubes. The impedance of transformer shall be as per IS: 1180 (Part 1) 2014 with latest amendments. NOTE: The scope of the work shall include obtaining of necessary inspection/clearance certificate from the concerned department for all the required equipment. The testing and commissioning shall be completed only after obtaining above certificate.	2	Job	2,09,945.00	4,19,890.00
1.10	Supply, installation, erection of 9 m Long ST-410 SP33 pole H.T pole of specifications ST- 410 (sp-33) . The job further includes drilling of holes for installation of various accessories .wherever required the job further includes G.I wire earthing of pole as per REC standard.	10	Nos	20,686.00	2,06,860.00
1.11	Cement Bottoming 1:2:4 mix as per REC standards 0.5 cum/pole	10	Job	4,582.00	45,820.00

7,299.00

Sl No	Description of Work / Item(s)	No. of Qty	Units	Rate	Amount
1.12	G.I V cross with top Bracket including clamps Supply, installation, erection of 9 mtrs long H.T pole of specifications ST- 410 (sp-33) . The job further includes drilling of holes for installation of various accessories, wherever required the job further includes G.I wire earthing of pole as per REC standard.	186.1	Kgs	212.00	39,453.20
1.13	Supply and fitting of 11 KV polymeric composite pin insulator 12 KV, 5KN, Lighting impulse 75KV Positive, and 80 KV Negative, creepage distance 320 mm	36	Nos	347.00	12,492.00
1.14	P/F of Galvanized nuts and bolts (1kg/pole) of various sizes as per site requirement.	19	Kgs	142.00	2,698.00
1.15	P/F Danger Plate with clamps	10	Nos	153.00	1,530.00
1.16	Providing and fixing G.I Barbed wire for anti-climbing/ anti-climbing devices	10	Nos	136.00	1,360.00
1.17	Earthing complete by GI Pipe 40 mm or GI Rod 20 mm 2.5 mtr long through GI Strip	11	Nos	2,559.00	28,149.00
1.18	Painting of poles Red Oxide coating	10	Ltr	306.00	3,060.00
1.19	Painting of poles Aluminum paint	10	Ltr	510.00	5,100.00
1.20	Stone pad (300mm x300mm x75mm)	10	Nos	244.00	2,440.00
1.21	PG Clamps to 50 sqmm ACSR conductor	13	Nos	421.00	5,473.00
1.22	Providing and fitting of ACSR as per IS 398 (part-2) 1996 for 50 sq.mm ACSR (Galvanised steel reinforced) for fitment of various accessories	900	m	60.00	54,000.00
1.23	GI Channel/Angle/Flat of sizes including clamps	352	Kgs	212.00	74,624.00
1.24	11 kVA GOD , AB Switch 3 Phase, 3 Pole, 200 A, Vertical Type Supply, Installation, Testing and commissioning of Polymeric Gang operated Air break switch, outdoor type, triple pole, suitable for vertical installation, single break provided with locking arrangement at both ON and OFF position consisting of HT post double insulator, copper or copper alloy high pressure heavy contact assembly, rod with bearings, operating handle and 2 length of 32mm dia. GI pipe conforming to IS 1818 1961, 06 No. of insulators, rated voltage 11KV 200A complete as per IS specs.	2	Set	11,730.00	23,460.00
1.25	11 KV polymeric composite Disc Insulator 12 kV, Min falling load 45kN, Lighting Impulse 75kV Positive and 80 kV Negative, creepage distance 320mm	6	Nos	357.00	2,142.00
1.26	Supply, Installation, Testing and commissioning of DO & Gapless Surge arrester station class, 10KA, 9KV, LA With polymer housing, Station Type.	1	No	7,754.00	7,754.00
1.27	50 sq mm (2 Ckt) 1.1 kV Grade, PVC Insulated Stranded Conductor FRLS Type	44	Meter	532.00	23,408.00
1.28	P/I of earthing station for electric substation, LT panel and stabilizer comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards. Safe earthing electrode size : 65/80 mm dia (As specified), Length : 2000 mm Back fill compound : 30 kg	3	Nos	10,462.00	31,386.00
1.29	Providing and fitting of LT Distribution Box for 100 kVa DTR with 4 pole MCCB for incomer & SFU's for Outgoing circuits	1	Nos	39,422.00	39,422.00
1.30	Providing and fitting of Galvanized stay set with 50 X 8 mm Stay Clamp , Guy insulator (2no.), Anchor plate (200X200X6mm) , nuts and bolts , 2 NO- turn buckle , 1.8 m long , 16 mm diameter solid G.I stay rod & 7/3.15 mm dia. G.I stranded wire complete.	4	Set	5,018.00	20,072.00
1.31	Wedge connectors / PG Clamps Providing and fitting of Galvanized stay set with 50 X 8 mm Stay Clamp , Guy insulator (2no.), Anchor plate (200X200X6mm) , nuts and bolts , 2 NO- turn buckle , 1.8 m long , 16 mm diameter solid G.I stay rod & 7/3.15 mm dia. G.I stranded wire complete.	6	Nos	434.00	2,604.00
1.32	Providing, installation, testing and commissioning of outdoor type HT Trivectometer as per IEE Rule. Job includes grouting of legs in cement concrete as per site requirement. All cabling, earthing and allied accessories required to be provided by the firm. Moreover firm responsible for completing all sealing of PDD department and testing on load and no-load at site	1	Nos	1,36,500.00	1,36,500.00
1.33	Sundry items like Aluminium Lugs , Jumprs, binding Tape	1	LS /	1,105.00	1,105.00
1.34	P/F of 11 KV cable termination kit for connecting 35 sq mm AB(HT) Cable (3x35+1x70 sqmm) XLPE (11 kV , 3C+Earth) with the existing HT line near tapping point and HT transformer.35 sq mm AB(HT) Cable (3x35+1x70 sqmm) XLPE (11 kV , 3C+Earth)	30	m	818.00	24,540.00
1.35	Heat Shrinkable Outdoor cable termination Kit Providing ridges or hips of width 60 cm overall with plain G.S sheets fixed with polymer coated J- Or L- hooks , Bolts and nuts 8 mm dia. G.I limpet and bitumen washers complete 0.63 mm thick with zinc coating not less than 275 gram/sq.m	2	Nos	8,994.00	17,988.00
1.36	Providing & Fitting of 35 sq mm Single Core Copper Conductor (Flexible) PVC Insulated Heavy Duty Industrial Cables (Unsheathed), 1100 Volts Conforming to IS: 694- for connecting motors from panel , stabilizers in rubber conduit . Job includes providing & laying of flexible conduit for cu cable with lugs as per requirement Heat Shrinkable Outdoor cable termination Kit Providing ridges or hips of width 60 cm overall with plain G.S sheets fixed with polymer coated J- Or L- hooks , Bolts and nuts 8 mm dia. G.I limpet and bitumen washers complete 0.63 mm thick with zinc coating not less than 275 gram/sq.m	270	M	546.00	1,47,420.00

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Sl.No	Description of Work / Item(s)	No. of Qty	Units	Rate	
1.37	<p>Providing, installation, testing of power service cable for working voltage up to and including 1100 volts; 70 sq mm armored aluminum 3.5 core XLPE conforming to IS: 7098 part 1st as service line from the HT transformer to control panel including necessary thimbling, crimping, taping etc. cable as service line from output terminals of HT/LT transformer to cubical panel. Cost includes laying of cable in trenches in Pvc conduit where ever it is to be laid underground as per site requirement included is termination of ends with suitable Aluminum tube terminals dully crimped & taped.</p> <p>NOTE:- The cable terminal ends for connection to switchgear at various requisite points shall be Al. Thimbles of reputed make and of appropriate size and connected by hydraulic crimp tool only.</p>	60	M	637.00	
1.38	<p>Providing and fitting of 3-Core flat submersible copper cable conforming to IS: 694 (Part 1st) - 1964 & IS: 694 (Part 2nd) - 1964 for Submersible Pumping Unit and other electrical Equipment. The cable connections terminal shall be fitted with copper thimbles of required size. The main specification of the cable is given below: Size: 16 sq mm</p>	90	M	711.00	63,990.00
1.39	<p>Providing, fitting, testing and commission of heavy duty de-silting pumping unit complete unit of capacity 25000 GPH head 25 m and motor including complete cabling, starter- 2nos(one as standby), Sluice valves, agitator function, delivery pipe minimum 50 m with MS supports with all joints and accessories. Complete Job</p> <p>Job includes fabrication, providing, fitting and testing of gantry system for fabricated out of ISCM/ISMB below machine floor of circular shape approx. 7 m dia. The gantry system should be fabricate in such a way that desilting pumping unit should move in all directions. Job includes providing and fitting of 2 MT chain pulley block (chain lift 10 m) and monorail of induff/globe make. the de-silting pumping have.</p> <p>Job also includes making of hole and covering of the same with 8 mm thick MS sheet & ISA. Job also includes fabrication of Ladder and plate form at middle in ISA, ISMC for handling of the system</p>	1	Job	7,87,500.00	7,87,500.00
1.40	<p>Providing, fitting, testing and commissioning of 100 KVA voltage stabilizer as per specifications below: Type of voltage controller: Manually operated copper wound, 3-phase, AC power supply multi step. Type of Regulator : Double plate type with electrolytic copper contacts. Input voltage :250-400 volts.(3 phase) Output voltage :400 ±10% volts. Frequency :50 ±3 C/S. Windings : Electrolytic grade copper of adequate section, vacuum impregnated and Oven-dried. Insulation : Fiber glass insulations to tested parameters. Cooling :Naturally, Oil cooled Temp. Rise (Max):30°C above ambient Mounting :On Uni-directional wheels. Correction rate :30 volts per step Wave form distortion :virtually nil Duty cycle :100% continuous. Enclosure : MS sheet enclosure in pressed CGR Sheet powder coated with radiators.</p> <p>Core laminates : High grade, low eddy loss, grain oriented silicon steel laminations. Load : Three phase induction motor load. Load Amperes (continuous) Overload in 24-hours operation: 10% above continuous Ampere rating. The voltage stabilizer shall have T-oil level indicator gauge preferably glass type tube or otherwise visible to naked eye. The top of the container to have a display panel for housing 02 numbers Digital voltmeters (0-500V) along with 4-way selector switch and set of neon indicators for incoming and outgoing phases (06 No's). Insulating media (T. Oil) of 11 KVA grade to be provided and filled up to top level, with dielectric strength of 5 KV at 4m air gap. The T-Oil of specific grade should be provided in separate barrels and filled at site up to top level. The voltage Stabilizer shall be accepted with manufacturers dully stamped test certificate and shall have name plate with specifications.</p>	2	Job	1,96,466.00	3,92,932.00
1.41	<p>Fabrication Providing and fitting of 3 phase modular control panel. The technical details/ Ratings of various components of Modular Control Panel are given Below</p> <p>b. Main Circuit Breaker = 250 A c. Changeover Switch = 200 A d. Motor Breakup Protection MCCB = 200 A e. FASD starter - 2 units with rating Line contactor _AC3 110 A , Delta Contactor- AC3 110 A Star Contractor- AC3 90A Timer- Star Delta Electronic Thermal overload relay- with relay range 35-75 direct/CT operated suitable-range Aux coil voltage Wide Band fitted with separate stabilization unit min 1KW Aux wiring f). Auxillary MCCB =63 Amp With S.C. Breaking Capacity of 36kA g). Motor Protection Relay suitable i) M-Power module for mobile starter & Earth fault relay j) Water level controller</p> <p>Rest Specifications Fabrication, Providing and fitting of Modular motor control panel of appropriate size fabricated out of 14 SWG sheet having required openings/vents and protection Class : IP-55 & fitted with accessories as under: a) Bus bar Chamber: The bus bar chamber shall be fitted at the top of the panel horizontally throughout the length. There shall be 3 Nos. of phase bus bar and 1 No neutral bus bar and 1 No earthing bus bar. The bus bars shall be air insulated and made-up of high conductivity COPPER with current density of suitable rating for 200 Ampere. All panel compartments shall be provided with suitable cable</p>	1	Job	3,55,811.00	3,55,811.00

Sl No	Description of Work / Item(s)	No. of Qty	Units	Rate	Amount
	<p>Suitable segregation shall be provided in between bus bar chamber and adjoining compartments. The bus bar shall be PVC sleeved with color strips of red, yellow, blue and black and the same be arranged in accordance with IS 175 specs. Electrical clearances shall be maintained between phases, neutral and body as per standards.</p> <p>b) Main Circuit Breaker (Incomer MCCB): Qty = 02 No. of poles = 4 Pole Current Rating = As per requirement. Rated operational voltage = 415 V + 15 % Rated frequency = 50 +/- 3% Hz Ambient temperature = 40C° Ultimate S.C Breaking Cap. at (415V AC, 50 Hz) = As per requirement Type of release = Thermal-Magnetic Overload protection = 0.8 - 1 x In adjustable Short-circuit protection = 6-10 x In adjustable. Current rating = As per requirement</p> <p>c) Change over Switch: Qty = 01 No. Rating = As per requirement Type = Front operated, on load, 4 pole, 400 + 15%V, 50 + 3%Hz.</p> <p>d) Motor Back-up Protection MCCB: Qty = 2 No No. of poles = 3P</p>				
	<p>Current Rating = As per requirement Rated operational voltage = 415 V + 15 % Rated frequency = 50 + 3% Hz Ambient temperature = 40C° Ultimate S.C Breaking Cap. at (415V AC, 50 Hz) = As per requirement current rating = 200 A</p> <p>e. Submersible starters := Fully automatic star delta/DOL starters. Capacity = As per requirement Power Specs = 3 Φ, 415 + 15% V, 50 + 3 % Hz. Relay range = As per requirement. Coil Voltage = preferably 220/240 v with separate stabilization unit. Protection = single phasing, phase Reversal, phase unbalance (55 ± 5 V) .</p> <p>Rated insulation voltage = 690V Terminal capacity = 120 Sq. mm with lug Or above Conformity to standard = IS/IES 60947-4-1 Qty. = 2 No's</p> <p>f) Auxiliary MCCB for Heating/Lighting: Circuit Breaker = MCCB (Outgoing) Qty. = 1 No. No. of poles = 4P Current Rating = As per requirement. Rated operational voltage = 415 V + 15 % Ultimate S.C Breaking Cap. at (415V AC, 50 Hz) = As per requirement</p>				
	<p>g) Motor Protection Relay: Digital Motor Protection Relay with LCD Display for 3-phase supply with following protections suitable for the Modular Control Panel:- Protections = Thermal Overload with pre-alarm, Short Circuit, Phase Loss, Unbalance, Phase reversal, Under Current, over current, Prolong starting, Locked Rotor, Under voltage, over voltage & Earth fault. h.M-power module for mobile starter for submersible motor 1P/3P 3 wire IVRS Languages - English, Hindi, Suitable Region- North India</p> <p>The panel shall be provided with phase indicators (03 NO) and digital ammeter of range 0-60 A, digital voltmeter of range 0-500 V, and digital frequency meter (01 No for each starter). The enclosure of the panel shall be of excellent fit and finish, corrosion resistant and powder coated gliding hinges for smooth and noiseless movement of windows and advanced locking arrangement.</p>				
1.42	<p>Providing, installation and testing of Heavy Duty manual type triple spur gear chain pulley block along with monorail geared travelling trolley having following features Gears:- The hoist shall have precision machine case Hardened alloy steel gear mounted on bearings and housed in a dust proof gear box. The lubrication of gears should be of high viscosity and temperature for longer life of gears. Load Chain:- The load chain be made of high tensile alloy steel having wear resistance and greatest mobility. The chain should be accurately collaborated, tested and have adequate in built factor of safety for safer operation. Load chain wheel:- the load chain well should be double ball bearing supported and Specially designed, perfectly machined wheel providing correct grip of load chain to makes the hoist most safe and reliable against any failure. The main specifications of C.P Block are given below :</p> <p>i. Make = Reputed make ii. Capacity = 3 ton (P) iii. No. Of load chain falls = 2 or above iv. Min. Height of lift = 6 M</p>	2	Job	62,972.00	1,25,944.00

Sl.No	Description of Work / Item(s)	No. of Qty	Units	Rate	
1.43	<p>Illumination of Premises: Providing and erection of 9 Mtr long Hot Dip Galvanized octagonal pole (single Section) with bottom 150mm, top 75mm wide, thickness 3mm with 70 Microns Zinc coating having inside arrangement for providing of power connection along with following items. 1)3 Way Terminal Connector 20 Amp. 2)3 No MCB 8 Amp.</p> <p>The job includes fabrication, providing and fitting of three arm GI structure at the top having 120° angle between arms and each arm having 15° inclination with respect to horizontal plane. Each arm should be of 2' length and size and shape appropriate as per requirement of the luminary.</p> <p>The job also includes providing and fitting of required length of flexible multi strand 2 mm copper wire from each terminal connector to each holding arm.</p> <p>The pole is mounted on 1:2:4 Cement concreting of size not less than 2'x2'x6" (cost of concreting not included in the job) using 04 No anchor bolts of required size not less than 7" in length. The complete job includes earthing In GI Electrode as per relevant IS Code</p>	2	Job	22,226.00	
1.44	<p>Providing, installation, testing and commissioning of area lighting 120 Watt LED (Street Light Type) on top of octagonal pole vide Including MCB fitted in box 10Aitem No.36 Having following specs: Input: 90-240 V 50 Hz Power Factor: >0.9 Colour Temperature: 4k - 6.5k Beam Angle: 120° - 170° Lumens: >12000 Operating Temperature: -20°C to 60°C</p> <p>The LED is pressure die cast aluminum housing with power coated finish and having Ingress Protection up to IP-68.</p> <p>The LED is properly fitted on the arm of the pole and connected to the copper wire as provided in the high mast pole</p>	6	Job	9,486.00	56,916.00
1.45	<p>Providing and installation of Junction Box with DP 32 A MCB to serve as Main switch for LED Lighting including complete wiring min 20-30 m from panel board.. The job includes making of electric connection to the circuit.</p>	1	job	2,227.00	2,227.00
1.46	<p>Providing, Installation and testing of 2KVA fully automatic voltage stabilizer including wiring with input voltage 70-240 V and output 220 V. The stabilizer shall be installed and connected to the electric circuit as per location provided by site in charge.</p>	1	Job	8,154.00	8,154.00
1.47	<p>Providing & fitting of lighting points for (machine room , operators room,) as per site requirement in 1.5 mm² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit pipe by way, switches, socket modules , regulators ,indicators, 08/10 watt LED lamps Surface light Make. .Included is cost on account of modular switch boards with the wooden frames as per site requirements</p>	10	Job	1,680.00	16,800.00
1.48	<p>Providing fitting of heating points in 2.5mm² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit by way of p / f of 15 Amp switches, 6 pin socket on modular fitting as per site requirements. Heating points are to be connected from main control panel. All accessories required is to be provided by the firm</p>	2	Job	1,470.00	2,940.00
1.49	<p>Providing and fitting of 9" x 9" exhaust fan with complete wiring in 1.5 mm cu wire through conduit and 6 A modular control complete job. Make Providing and fitting of 9" x 9" exhaust fan with complete wiring in 1.5 mm cu wire through conduit and 6 A modular control complete job.</p>	1	Job	2,625.00	2,625.00
1.50	<p>Providing, fitting of Distribution Board of reputed make 4 way S P N single door powder coated sheet steel enclosure for surface mounting fitted with bus bar, DIN channel, neutral link and incoming contact. the above DB is to be provided /fitted with double pole 40 amp MCB for Main. 32 A for heating circuit & rest 3 of 16/6 amps each for premises luminary, auxiliary circuit of reputed make. Further job includes providing / fitting 4 mm² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit as service line from main panel as per site requirements. Connections should be made in such a way Lighting points is to be connected via automatic transformer by way of p/f switch socket arrangement with allied fixtures & and heating points to main panel. Job includes dismantling of existing damaged conduit , wires, conduit and cleaning the surface properly</p>	1	Job	5,775.00	5,775.00
1.51	<p>Earthing of Panel board, stabilizer, Motors, heating points, lighting points, D.G sets</p> <p>P/I of earthing station for electric substation, LT panel and stabilizer comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards. Safe earthing electrode size : 65/80 mm dia (As specified), Length : 2000 mm Back fill compound : 30 kg</p>	6	Job	10,462.00	62,772.00
1.52	<p>Painting on steel structure/pipe with synthetic enamel paint of approved brand and manufacturer of required colour to give an even shade on new work(Two or more coats) including a coat of approved steel primer but excluding a coat of mordant solution. (ref 13.61) schedule2021</p>	150	sqm	147.00	22,050.00

Capacity = 62.5 KVA
 Providing, installation, Testing & commissioning of Diesel Generator (cooled) water cooled Diesel Generator (2018) and ISO 9001:2002 for an fitted in a pollution free group Environment protection measures. Besides the above work fitted and tested on load. The job also includes charger of required make fitted. The job also includes D.G set for site.

Sl.No	Description of Work / Item(s)	No. of Qty	Units	Rate	Amount
1.53	<p>Capacity =62.5 kVA Providing, installation, Testing & commissioning of 415 ±15%V (output), 3 phase air cooled/water cooled Diesel Generator set as per Specification of approved make and IS 8528 (2018) and ISO 3046 (2002) for engine and IEC/IS 60034-1 for alternator suitably assembled and fitted in a pollution free acoustic enclosure / canopy of required size as per Ministry of Environment protection rule 1986 read with latest amendments. The DG Set is required to be fitted and tested on load at site. The D.G Set shall have the following technical specification. Besides the above works the D.G set shall be provided with 12 V, 150 AH Lead acid battery of reputed make fitted inside the D.G set Canopy along with necessary accessories and battery charger of required capacity. The job also includes the cost on account of HSD and skilled operator required for operation of D.G set for a period of 10 hours continuously during its testing and commissioning of D.G set at site.</p>	1	Job	8,15,670.00	8,15,670.00
1.54	Providing, installation, testing of power service cable for working voltage up to and including 1100 volts: 95 sq mm armored aluminum 3.5 core XLPE Armored Aluminum Cable conforming to IS: 7098 part 1st as service line from the HT transformer to control panel including necessary thimbling, crimping, taping etc. cable as service line from output terminals of HT/LT transformer to cubical panel. Cost includes laying of cable in trenches in Pvc conduit where ever it is to be laid underground as per site requirement. Included is termination of ends with suitable Aluminum tube terminals dully crimped & taped. NOTE:- The cable terminal ends for connection to switchgear at various requisite points shall be Al. Thimbles of reputed make and of appropriate size and connected by hydraulic crimp tool only.	50	m	837.00	41,850.00
1.55	Fabrication, providing, fitting of base frame for pumping units, covering of holes, fabrication of gantry, ladder, DG set covering, HT/Lt transformer Bed with gantry fabricated out of ISMC/ISMB/ISA/Bars/MS Pipe/MS plain-chequered Sheets. Including making of holes in concrete, including metal primer 1 coat and two coats of approved shade. The works is to be executed as per site requirement and as per dimensions of Pumping unit and as per directions of site engineer. The job includes Fabrication of Structural steel in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete welded	6000	kgs	135.00	8,10,000.00
1.56	Providing and laying in position cement concrete of specified grade including curing but excluding the cost of centring and shuttering. All work upto plinth level 1:2:4 with stone aggregate 20 mm nominal size. For DG Set foundation /concrete beds for rising-main as per requirement	20	cum	6,756.00	1,35,120.00
1.57	Centering and shuttering including strutting, propping etc and removal of form work for foundation, footing, base	10	sqm	303.00	3,030.00
1.58	Earth work in excavation by manual means in trenches for foundations, drains, pipes, cables etc (Not exceeding 1.5 m in width) and ramming of bottoms lift 1.5 m, including getting out excavated earth and disposal of surplus excavated earth as directed (All kinds of soil) (2.81 schedule)	30	cum	291.00	8,730.00
1.59	Providing and laying of soling stone	3	cum	713.00	2,139.00
1.60	Cement plaster in find sand in 1:3 mix finished with a coat of neat cement and curing complete 18 mm thick. (s-11.8)	5	sqm	588.00	2,940.00
1.61	Supply, installation, Testing & commissioning of 1000VA Full Sine wave power inverter including Providing / Installation of 12V, 180AH Tubular inverter Battery with trolley and cover. with 2-core 4 mm ² Cu (25 m) wiring as per site requirement along with other accessories like SS-Combine (02 No's), 3-pin plugs etc of reputed make for proper fitment and installation of the item.	1	job	34,053.00	34,053.00
1.62	Providing, laying & fixing with adhesive/bonding material of insulation rubber mats on the floor of the pump house, covering area around electro-mechanical machinery for safeguarding the life & limb of the workmen due to possible leakage of current & short circuit. The floor surface shall be made good & shall be free from dust, grease, foreign material & moisture free. The mats shall be as per IS 15652:2006 & shall have the following specifications: - Composition: Rubber (synthetic mats for electrical purpose) Thickness: - 2.5mm Size: - 1M wide. The rubber mats shall be accepted with manufacturers test certificate.	10	M	1,205.00	12,050.00
1.63	TOOL KIT For Maintenance: - The Tool Kit for maintenance shall comprise of the following and all the items as mentioned below shall be of Providing of tool kit consists of following items i. Double ended Spanner (Chrome plated) 02 sets complete ii. Double ended Ring spanners chrome plated 02 sets complete iii. Allen key set black finish 02 sets complete iv. Combination Pliers insulated with thick C.A sleeve; size in mm 165, 210, 255 each - 02 No. v. Long nose plier insulated with thick C.A sleeve; size in mm 165, 205 each - 02 No. vi. Side cutting plier insulated with thick C.A sleeve; size in mm 165, 205 make - 02 No. vii. Insulated screw Drivers Blade length in mm Blade dia. in mm Tip dimensions in mm Quantity 50 3 1.6 x 0.4 02 75 3 1.6 x 0.4 02 100 3 3 x 0.4 02 125 3.5 3.5 x 0.5 02 150 3.5 3.5 x 0.5 02 200 4 4 x 0.6 02 300 5 5 x 0.8 02 viii. Hammer with handle weight - 110 mg, 340 gm, 600 gm -each - 1No. . ix. Heavy duty pipe Wrench length in mm - 200, 300, 600 each - 01 No. x. Electric Multimeter=1No xi. Digital multimeter - 1No. xii. Digital Clamp tester capable to measure up to 400A - 1 No. xiii. Hack saw frame with hack saw blade - 01 no. xiv. S-16 MXL, S- 16 H X L Socket Set (19 sockets + 6 Accessories) - 01 No.	1	Job	28,840.00	28,840.00

Sl.No
Size : 1
Class:
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2.0

Sl.No	Description of Work / Item(s)	No. of Qty	Units	Rate	Amount
1.64	<p>a) Providing of good quality convenience and utility items and bedding for night stay/Shift consisting of: -</p> <p>i) Mattress with warm cover size 6'x3' (6Kg)- 02 No's</p> <p>ii) Quilt with warm cover size 5'x8' (6Kg)- 02 No's</p> <p>iii) Pillows with covers - 02 No's</p> <p>iv) Single bed warm blankets with one sided Fur- 02 No's</p> <p>The filling material for mattress, quilt and pillow shall be of good quality cotton</p> <p>b) The job also includes providing of pressure cooker 5ltr 02 No's, Steel patella (utensil) 5ltrs 02 No's, cooking heater 01 No., room heater 01 No., steel buckets 10 litre capacity 01 No., Plastic bucket 10 litre capacity with Mug 02 No's each, steel glasses 06 No's, steel Plates with large spoons and bowls 03 No's each, Cup and Saucer set (01 No. Set) and, 5kg Gas cylinder with burner/ stove. The job also includes providing of thermo-cool 15'x12' along with excel matting of 15'x12' size. The job also includes providing of unbreakable Plastic Chair table set consisting of chairs 04 No's, extra heavy Table 01 No. The job also includes providing of good quality safety Door locks (03 No's) of Godrej, Link locks,</p>	1	Job	39,619.00	39,619.00
1.65	Fabrication of 6' x 6' angle iron bed for operators by way of providing and fitting of Structural steel in built up sections, trusses and framed work, Including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete welded	94.75	Kg	114.00	10,801.50
1.66	Providing and fitting of 19 mm thick multilayered ply sheet of size 6 x 3 feet, 2 no's including cutting, fixing all complete including painting of the play sheet by one coat of primer and two coats of enamel paint	36	sft	150.00	5,400.00
1.67	Providing of solar/electrical lantern chargeable on both solar & electrical 220v supply.	1	Job	1,911.00	1,911.00
1.68	Providing of bamboo ladders 18 feet long along with 15 feet long Link rods and HT Glove pair (01 No each)	1	Job	7,350.00	7,350.00
1.69	Providing of 1 KW heat convector for operators for winter season.	1	Job	1,205.00	1,205.00
1.70	Providing and fitting of 01 No. LED (scroll type) sign board fabricated out of stainless steel and metal showing the names of water supply scheme and the Department. Size: 6'x1'6" = 9 sft	9	Sft	3,998.00	35,982.00
1.71	Providing and fitting of 01 No. angle iron/sheet metal board duly painted showing various specifications of the mechanical and electrical equipment installed at site of appropriate sizes. The legs are to be grouted in cement concrete.	24	sft	224.00	5,376.00
1.72	Providing corrugated G.S Sheet roofing including vertical/ curved surface fixed with polymer coated J or L Hooks, bolts and nuts 8 mm dia for DG Set and overhead gantry . diameter with bitumen and G.I limpet washers filled with white lead, including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (upto any pitch in horizontal /vertical or curved surface) excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required. 1.25 mm thick with zinc coating not less than 350 gram/m2	42	Sqm	1,799.00	75,558.00
2	Stage 2nd				
2.01	<p>Providing, fitting, Supply, installation, testing and commissioning of Horizontal pumping unit of approved make with following specifications: at Stage 2nd</p> <p>Discharge of the Pump = 14000 GPH</p> <p>Dynamic Head = 36 M, with head range 25-50</p> <p>Speed = 1450 RPM</p> <p>Working Voltage = 380 ± 15 V, 03 phase</p> <p>Rating = Corresponding to the head and discharge not less than 20 HP as per IS 1520 with following specification:-</p> <p>Pump:-</p> <p>1.Type :- Horizontal split casing /Multi stage with priming arrangement</p> <p>Material of construction</p> <p>1.Impeller:- Stainless steel</p> <p>2.Shaft:- SS410</p> <p>3.Pump casing:- Cast Iron</p> <p>The pump shall confirm to IS-1520 code</p> <p>MOTOR :-</p> <p>A) Type :- Horizontal squirrel cage Induction Type</p> <p>B) No of phases: 415 ± 15%, 03 phase, 50 Hz, AC supply</p> <p>C) Winding:-Copper wound squirrel cage</p> <p>D) Type of enclosure:-SPDP/TEFC</p> <p>E) Method of cooling:- Air cooled with fan mounted</p> <p>F) Method of Starting: star delta</p>	2	job	2,09,196.00	4,18,392.00
	<p>The pump-motor should be mounted on a common base frame fabricated out of M.S channel of suitable size and duly fitted with T- type foundation bolts /nuts and washers to make the pumping unit vibration free. The pump and motor should be coupled through suitable coupling. The coupling faces checked for both angular and axial alignment with the help of tapered gauges/feeler gauges or dial indicator. Job includes testing and commissioning of pumping unit on full load at site.</p> <p>Note: Test certificate having the Serial No. of the Pumping Unit along with the performance curve in duplicate from the Manufacturer must be produced on delivery of the item and pumping unit is to be approved from the concerned Sub Divisional office before procuring.</p>				

Sl.No	Description of Work / Item(s)	No. of Qty	Units	Rate	Amount
2.02	<p>Size : 150 Class: C (Heavy) Providing/supplying and fitting of G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, class C conforming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) for Y junction and washout. The flanges shall be double welded both from inside and outside of the pipe using standard electrode of reputed make. Flanges (as per IS 6392/1997 Table:17) Thickness shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint. Welding Electrode DC Arc Welding using welding electrode having diameter not less than 4mm. Nuts and Bolts Nuts and Bolts (conforming to IS:1363 Part 1st) Rubber Insertion Gaskets Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.</p>	30	Meters	3,075.00	92,250.00
2.03	<p>Cutting of hot dip galvanized G.I, C-Class pipe across the section by dint of pipe cutter/ gas cutter. The job also includes Providing and welding of M.S flanges to the two ends of pipe. The Thickness of flange shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using Advani/Esab/L&T- SS Bond make electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints</p>	18	Job	2,059.00	37,062.00
2.04	<p>Providing and fitting of, Ductile Iron double flanged, non-rising spindle soft seated glandless gate/ sluice valves as per IS14846 for regulating the water supply outside the pumping units . The body and bonnet of the valve shall be of ductile iron, wedge with fully vulcanized EPDM rubber(Approved for drinking water) and NBR seal. The Gate/Sluice valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions It shall have electrostatic epoxy coating(approved for drinking water) both inside and outside of the valve. The valve shall be supplied along with hand wheel. Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work. The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job.</p>	3	No	25,977.00	77,931.00
2.05	<p>Size: 150mm PN: 1.6/16 Providing and fitting of Ductile Iron double flanged, Slanted seat swing check valve(NRV) as per IS 5312. The body shall be of ductile cast iron with fully encapsulated vulcanized EPDM rubber(Approved for drinking water). The valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions. It shall have electrostatic epoxy coating (approved for drinking water) both inside and outside of the valve. Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work. The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with Rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job.</p>	2	No	32,205.00	64,410.00
2.06	<p>Fabrication, providing and fitting of 150 mm dia flanged bends/elbow to delivery manifold and washout, including nuts and bolts and rubber gaskets as per requirement also 90-120 degree bend/elbow to be fabricated out of Class B GI pipe, 1 m length and flanged on both ends and to make it leak proof. The flanges shall be M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) and welded on both sides. The job includes nuts, bolts, gaskets etc. as per site requirement.</p>	7	job	5,728.00	40,096.00
2.07	<p>Fabrication, providing and fitting of flanged Washout Tee 150 mm , including nuts,bolts and gasket as per site requirement. washout Tee with arm length 1.2 feet each (Approx.). The Tee shall be fabricated out of G.I C-class pipe with M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) fastened with weld joints on three ends.</p>	1	Job	2,933.00	2,933.00
2.08	<p>Size : 100 mm Class: C (Heavy) Providing/supplying and fitting of G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, class C conforming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) for suction. The flanges shall be double welded both from inside and outside of the pipe using standard electrode of reputed make. Flanges (as per IS 6392/1997 Table:17) Thickness shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint. Welding Electrode DC Arc Welding using welding electrode having diameter not less than 4mm. Nuts and Bolts Nuts and Bolts (conforming to IS:1363 Part 1st) Rubber Insertion Gaskets Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.</p>	18.3	Meters	2,189.00	40,058.70

Sl.No	Description of Work / Item(s)	No. of Qty	Units	Rate	Amount
2.09	Dia: 100' mm Cutting of hot dip galvanized G.I. C-Class pipe across the section by dint of pipe cutter/ gas cutter. The job also includes Providing and welding of M.S flanges to the two ends of pipe. The Thickness of flange shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using Advani/Esab/L&T-SS Bond make electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS-1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints	4	Job	1,544.00	6,176.00
2.10	Fabrication, providing and fitting of 100 mm dia flanged bends/elbow to suction side/at site, including nuts and bolts and rubber gaskets as per requirement also 90-120 degree bend/elbow to be fabricated out of Class B GI pipe, 1 m length and flanged on both ends and to make it leak proof. The flanges shall be M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) and welded on both sides. The job includes nuts, bolts, gaskets etc. as per site requirement.	2	job	3,614.00	7,228.00
2.11	Size: 100mm PN: 1.6/16 Providing and fitting of Ductile Iron double flanged, Slanted seat swing check valve(NRV) as per IS 5312. The body shall be of ductile cast Iron with fully encapsulated vulcanized EPDM rubber(Approved for drinking water). The valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions. It shall have electrostatic epoxy coating (approved for drinking water) both inside and outside of the valve. Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work. The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with Rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job.	2	No	20,581.00	41,162.00
2.12	Capacity: 100 KVA level II HT Transformer Supply, installation, commissioning and creation of pole mounted, outdoor type Electric Sub Station as per the technical specifications given here under - Specifications conforming to IS: 1180 (Part 1) 2014 with latest amendments. Type: HT/LT Transformer Type of cooling: ONAN. Operating conditions: Input =11000 volts Output =433 volts AC supply in 3- phase. Terminals: Input=3 No. HT bush rods with insulators, washer, nuts etc. Output=4 No. LT bush rods switch insulators, washers, nuts etc. Core: The core shall be of high permeability to reduce core losses and the strips shall be of suitable size and gauge. Transformer Coils: Suitable number of HT and LT coils in each leg of the core. The transformer coils shall be fabricated out of superior quality aluminum wire/strips, properly wound. The HT transformer is completely filled with suitable grade transformer oil up to required level. The job includes carriage, and all leads and lifts involved. The HT transformer shall be of reputed make from an ISO certified company as per relevant standards and a test certificate shall be provided before installation. The transformer shall also be provided with breather fill with silica jel crystals, conservator with oil level indicator, explosion vet and adequate radiator fins/ Tubes. The impedance of transformer shall be as per IS: 1180 (Part 1) 2014 with latest amendments. NOTE: The scope of the work shall include obtaining of necessary inspection/clearance certificate from the concerned department for all the required equipment. The testing and commissioning shall be completed only after obtaining above certificate.	2	Job	2,09,945.00	4,19,890.00
2.13	Supply, installation, erection of 9 mtrs long H.T pole of specifications ST- 410 (sp-33) . The job further includes drilling of holes for installation of various accessories .wherever required the job further includes G.I wire earthing of pole as per REC standard.	8	Nos	20,686.00	1,65,488.00
2.14	Cement Bottoming 1:2:4 mix as per REC standards 0.5 cum/pole	8	Job	4,582.00	36,656.00
2.15	G.I V cross with top Bracket including clamps	155.68	Kgs	212.00	33,004.16
2.16	Supply and fitting of 11 KV polymeric composite pin insulator 12 KV, 5KN , Lighting impulse 75 kV Positive and 80 kV Negative with creepage distance 320mm	30	Nos	347.00	10,410.00
2.17	P/F of Galvanized nuts, bolts of various sizes as per site requirement. (1kg/pole)	17	Kgs	142.00	2,414.00
2.18	P/F Danger Plate with clamps	8	Nos	153.00	1,224.00
2.19	Providing and fixing G.I Barbed wire for anti-climbing/ anti-climbing devices	8	Nos	136.00	1,088.00
2.20	Earthing complete by GI Pipe 40 mm or GI Rod 20 mm 2.5 mtr long through GI Strip	9	Nos	2,559.00	23,031.00
2.21	Painting of poles Red oxide	8	Ltr	306.00	2,448.00
2.22	Painting of poles Aluminum paint coating	8	Ltr	510.00	4,080.00
2.23	Stone pad (300mm x300mm x75mm)	8	Nos	244.00	1,952.00
2.24	PG Clamps fo 50 sqmm ACSR conductor	11	Nos	421.00	4,631.00
2.25	Providing and fitting of ACSR conductor 50 sqmm as per IS 398 (part-2) 1996 for 50 sq.mm ACSR (Galvanised steel reinforced) for fitment of various accessories	720	m	60.00	43,200.00
2.26	GI Channel/Angle/Flat of sizes including clamps	352	Kgs	212.00	74,624.00
2.27	11 KVA GOD, AB Switch 3 Phase, 3 Pole, 200 A, Vertical Type Supply, Installation, Testing and commissioning of Polymeric Gang operated Air break switch, outdoor type, triple pole, suitable for vertical installation, single break provided with locking arrangement at both ON and OFF position consisting of HT post double Insulator, copper or copper alloy high pressure heavy contact assembly, rod with bearings , operating handle and 2 length of 32mm dia. GI pipe conforming to IS 1818 1961, 06 No. of insulators, rated voltage 11KV 200A complete as per IS specs.	2	Set	11,730.00	23,460.00

Sl. No	Description of Work / Item(s)	No. of Qty	Units	Rate	Amount
2.28	11 KV polymeric composite Disc Insulator 12 kV, Min failing load 45kN, Lighting Impulse 75kV Positive and 80 kV Negative, creepage distance 320mm	6	Nos	357.00	2,142.00
2.29	Supply, Installation, Testing and commissioning of DO & Gapless Surge arrester station class, 10KA, 9KV, LA With polymer housing, Station Type.	1	No	7,754.00	7,754.00
2.30	50 sq mm (2 Ckt) 1.1 kV Grade, PVC Insulated Stranded Conductor FRLS Type	44	Meter	532.00	23,408.00
2.31	Earthing of substation- P/I of earthing station for electric substation, LT panel and stabilizer comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards. Safe earthing electrode size : 65/80 mm dia (As specified), Length : 2000 mm Back fill compound : 30 kg	3	Nos	10,462.00	31,386.00
2.32	LT Distribution Box for 100 kVa 4 pole MCCB outdoor type for incomer & for Outgoing circuits	1	Nos	39,422.00	39,422.00
2.33	Galvanised stay set with 50x8mm stay clam, guy insulators(2No's), anchor plate (200x200x6mm), nuts and bolts, 2 Nos; turn-buckles, 1.8m long, 16mm dia meter solid GS stay rod & 7/3.15 mm dia GI Stranded wire complete	4	Set	5,018.00	20,072.00
2.34	Wedge connectors / PG Clamps Providing and fitting of Galvanized stay set with 50 X 8 mm Stay Clamp, Guy Insulator (2no.), Anchor plate (200X200X6mm), nuts and bolts, 2 NO- turn buckle, 1.8 m long, 16 mm diameter solid G.I stay rod & 7/3.15 mm dia. G.I stranded wire complete.	6	Nos	434.00	2,604.00
2.35	Providing, installation, testing and commissioning of outdoor type HT Trivectometer as per IEE Rule. Job includes grouting of legs in cement concrete as per site requirement. All cabling, earthing and allied accessories required to be provided by the firm. Moreover firm responsible for completing all sealing of PDD department and testing on load and no-load at site	1	Nos	1,36,500.00	1,36,500.00
2.36	Sundry items like Aluminium Lugs, Jumprs, binding Tape	1	LS	1,105.00	1,105.00
2.37	P/F of 11 KV cable termination kit for connecting 35 sq mm AB(HT) Cable (3x35+1x70 sqmm) XLPE (11 KV, 3C+Earth) XLPE cable (ABC type) with the existing HT line near tapping point and HT transformer.	30	m	818.00	24,540.00
2.38	Heat Shrinkable Outdoor cable termination Kit Providing ridges or hips of width 60 cm overall with plain G.S sheets fixed with polymer coated J- Or L- hooks, Bolts and nuts 8 mm dia. G.I limpet and bitumen washers complete 0.63 mm thick with zinc coating not less than 275 gram/sq.m	2	Nos	8,994.00	17,988.00
2.39	Providing & Fitting of 35 sq mm Single Core Copper Conductor (Flexible) PVC Insulated Heavy Duty Industrial Cables (Unsheathed), 1100 Volts conforming to IS: 694- for connecting motors from panel, stabilizers in rubber conduit. Job includes providing & laying of flexible conduit for cu cable with lugs as per requirement Heat Shrinkable Outdoor cable termination Kit Providing ridges or hips of width 60 cm overall with plain G.S sheets fixed with polymer coated J- Or L- hooks, Bolts and nuts 8 mm dia. G.I limpet and bitumen washers complete 0.63 mm thick with zinc coating not less than 275 gram/sq.m	270	M	546.00	1,47,420.00
2.40	Providing, installation, testing of power service cable for working voltage up to and including 1100 volts; 70 sq mm armored aluminum 3.5 core XLPE conforming to IS: 7098 part 1st as service line from the HT transformer to control panel including necessary thimbling, crimping, taping etc. cable as service line from output terminals of HT/LT transformer to cubical panel. Cost includes laying of cable in trenches in Pvc conduit where ever it is to be laid underground as per site requirement included is termination of ends with suitable Aluminum tube terminals dully crimped & taped. NOTE:- The cable terminal ends for connection to switchgear at various requisite points shall be Al. Thimbles of reputed make and of appropriate size and connected by hydraulic crimp tool only.	90	M	637.00	57,330.00
2.41	Providing, fitting, testing and commissioning of 75 KVA Voltage Stabilizer r as per specifications below: Type of voltage controller: Manually operated copper wound, 3-phase, AC power supply multi step. Type of Regulator : Double plate type with electrolytic copper contacts. Input voltage :250-400 volts.(3 phase) Output voltage :400 ±10% volts. Frequency :50 ±3 C/S. Windings : Electrolytic grade copper of adequate section, vacuum impregnated and Oven-dried. Insulation : Fiber glass insulations to tested parameters. Cooling :Naturally, Oil cooled Temp. Rise (Max):30°C above ambient Mounting :On Uni-directional wheels. Correction rate :30 volts per step Wave form distortion :virtually nil Duty cycle :100% continuous. Enclosure : MS sheet enclosure in pressed CGR Sheet powder coated with radiators. Core laminates : High grade, low eddy loss, grain oriented silicon steel laminations. Load : Three phase induction motor load. Load Amperes (continuous)	2	Job	1,63,721.00	3,27,442.00

	Description of Work / Item(s)	No. of Qty	Units	Rate	Amount
	<p>Motor Protection Relay: Digital Motor Protection Relay with LCD Display for 3-phase supply with following protections available for the Modular Control Panel:- Protections = Thermal Overload with pre-alarm, Short Circuit, Phase Loss, Unbalance, Phase reversal, Under Current, over current, Prolong starting, Locked Rotor, Under voltage, over voltage & Earth fault. A.M power module for mobile starter for submersible motor 1P/3P 3 wire IVRS Languages – English, Hindi, Suitable Region- North India</p> <p>The panel shall be provided with phase indicators (03 NO) and digital ammeter of range 0-60 A, digital voltmeter of range 0-500 V, and digital frequency meter (01 No for each starter). The enclosure of the panel shall be of excellent fit and finish, corrosion resistant and powder coated gliding hinges for smooth and noiseless movement of windows and advanced locking arrangements</p>				
2.43	<p>Providing, installation and testing of Heavy Duty manual type triple spur gear chain gear chain pulley block along with monorail geared travelling trolley having following features Gears:- The hoist shall have precision machine case Hardened alloy steel gear mounted on bearings and housed in a dust proof gear box. The lubrication of gears should be of high viscosity and temperature for longer life of gears. Load Chain:- The load chain be made of high tensile alloy steel having wear resistance and greatest mobility. The chain should be accurately collaborated, tested and have adequate in built factor of safety for safer operation. Load chain wheel:- the load chain well should be double ball bearing supported and Specially designed, perfectly machined wheel providing correct grip of load chain to makes the hoist most safe and reliable against any failure. The main specifications of C.P Block are given below :</p> <p>i. Make = Reputed make ii. Capacity = 3 ton (P) iii. No. Of load chain falls = 2 or above iv. Min. Height of lift = 6 M</p>	2	Job	62,972.00	1,25,944.00
2.44	<p>illumination of Premises: Providing and erection of 9 Mtr long Hot Dip Galvanized octagonal pole (single Section) with bottom 150mm, top 75mm wide, thickness 3mm with 70 Microns Zinc coating having inside arrangement for providing of power connection along with following items. 1) 3 Way Terminal Connector 20 Amp. 2) 3 No MCB 8 Amp. The job includes fabrication, providing and fitting of three arm GI structure at the top having 120° angle between arms and each arm having 15° inclination with respect to horizontal plane. Each arm should be of 2' length and size and shape appropriate as per requirement of the luminary. The job also includes providing and fitting of required length of flexible multi strand 2 mm copper wire from each terminal connector to each holding arm. The pole is mounted on 1:2:4 Cement concreting of size not less than 2'x2'x6" (cost of concreting not included in the job) using 04 No anchor bolts of required size not less than 7" in length. The complete job includes earthing in GI Electrode as per relevant IS Code</p>	2	Job	22,226.00	44,452.00
2.45	<p>Providing, installation, testing and commissioning of area lighting 120 Watt LED (Street Light Type) on top of octagonal pole including MCB fitted in box 10A vide item No.36 Having following specs: Input: 90-240 V 50 Hz Power Factor: >0.9 Colour Temperature: 4K - 6.5K Beam Angle: 120° - 170° Lumens: >12000 Operating Temperature: -20°C to 60°C The LED is pressure die cast aluminum housing with power coated finish and having Ingress Protection up to IP-68. The LED is properly fitted on the arm of the pole and connected to the copper wire as provided in the high mast pole</p>	6	Job	9,486.00	56,916.00
2.46	<p>Providing and installation of Junction Box with DP 32 A MCB to serve as Main switch for LED lighting including complete wiring min 20-30 m from panel board. . The job includes making of electric connection to the circuit.</p>	1	job	2,227.00	2,227.00
2.47	<p>Providing, installation and testing of 2KVA fully automatic voltage stabilizer including wiring with input voltage 70-240 V and output 220 V. The stabilizer shall be installed and connected to the electric circuit as per location provided by site in charge.</p>	1	Job	8,154.00	8,154.00
2.48	<p>Providing & fitting of lighting points for (machine room , operators room,) as per site requirement in 1.5 mm² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit pipe by way, switches, socket modules , regulators , indicators, 08/10 watt LED lamps Surface light Make. .Included is cost on account of modular switch boards with the wooden frames as per site requirements</p>	10	Job	1,680.00	16,800.00
2.49	<p>Providing fitting of heating points in 2.5mm² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit by way of p / f of 15 Amp switches, 6 pin socket on modular fitting as per site requirements. Heating points are to be connected from main control panel. All accessories required is to be provided by the firm</p>	2	Job	1,470.00	2,940.00
2.50	<p>Providing and fitting of 9" x 9" exhaust fan with complete wiring in 1.5 mm cu wire through conduit and 6 A modular control complete job. Make Providing and fitting of 9" x 9" exhaust fan with complete wiring in 1.5 mm cu wire through conduit and 6 A modular control complete job.</p>	1	Job	2,625.00	2,625.00

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