

No.: PHE/MDNS/DB/
Dated:

411-18
28-08-2023

M/s Sajid Engineering Works
Azad Gunj Baramulla
GST No: 01AMNPB2204J1ZP
Cell No: 7889358598

Adv. Cost:	Rs 97.026 Lacs
Allotted Cost:	Rs 91.204 Lacs

Subject: Electrical and mechanical works to be carried at WSS Sagipora Razakpora (Production well) under JJM.

- Reference: 1. This office e-NIT No.: e-NIT No. 02 of 2023-24, S. No. 03 issued under endorsement No.: PHE/MDNS/DB/117-30, dated: 10-04-2023.
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/4268-01, dated: 15-07-2023.

Dear Sir,

For and on behalf of Lt. Governor of J&K U.T contract for execution of "Electrical and mechanical works to be carried at WSS Sagipora Razakpora (Production well) under JJM" 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 _____, for favour of information.
3. Superintending Engineer Jal Shakti (PHE) Mechanical Circle (North) Srinagar, for favour information.
4. Superintending Engineer Jal Shakti (PHE) Hydraulic Circle _____ HQ at _____, for favour of information.
5. Executive Engineer Jal Shakti (PHE) Division _____, for favour of information.
6. Provisional Head, TPIA JJM Kashmir, (WAPCOS Limited) Corporate Office 76-C Institutional Sector-18 Gurugram-122015 (Haryana) for favour of information.
7. Assistant Executive Engineer Jal Shakti (PHE) Mechanical Sub-Division _____ for information necessary action.
8. File concerned.

Annexure "B" Schedule of cost and quantities
to this office Allotment Order No: PHE/MDNS/DB/_____, dated: _____

Name of work: **Electrical and mechanical works to be carried at Water supply Scheme Saglpora Razakpora (Production well) under JJM**

S. No.	Item of work	Unit	Quantity	Rate	Amount
1	Saglpora Production Well				
1.01	<p>Providing, fitting, installation, testing and commissioning of Submersible pumping unit of approved make with following specifications: at Stage 1st Discharge of the Pump = 4000 GPH at 75M Dynamic Head Range = 70-85 M Speed = 2900 RPM Working Voltage = 415 ± 15 V, 03 phase Rating = Corresponding to the head and discharge not less than 15 HP. as per IS 8034 with following specification are as under: PUMP: Efficiency = Not less than 50% Speed = 2900 Rpm Type of pump = Mixed flow. Type of fluid to be handled = Clear Water MATERIAL OF CONSTRUCTION: Impeller = Stainless Steel Pump Shaft = Stainless Steel SS 410. Pump Casing = Cast Iron/Stainless steel IMPELLER: Impeller is of the enclosed or semi – enclosed type and properly balanced. Enclosed Impellers equipped with seal rings on their hubs. COUPLING: A suitable coupling arrangement provided with pump set. Non-Return Valve: - Non Return Valve of the suitable size provided above the pump discharge case. Method of starting = Star – Delta/DOL (as specified) Speed = 3000 (Sync). Frequency = 50 ± 3 % Hz Working Voltage = 415 ± 15%, 03 phase Efficiency = Not less than 90% Class of insulation = F/Suitable for above parameters Submersible motor should be water filled water lubricated squirrel cage type having capacity for above pumping parameters and working on 3 phase; AC supply ranging from 380 to 415 volts, 50Hz. The motor should be sealed by radial rings to avoid mixing of well water with motor filled water. a) The job includes providing and fitting of interlocking arrangement against any failure of coupling. It must be fabricated out of MS strips of suitable size and length. b) The job includes providing and fitting of appropriate size MS nipple 2 feet long threaded on one end and welded to same size MS flange of thickness (as per Table-17) at another end for column pipe as per site requirement. The threaded portion should be as per size of pumping out let for proper fixing. The job includes providing and fitting of R. I. cloth joints/rubber washers with nuts, bolts and washers for all joints of column pipe. The job also includes lowering of pumping unit in the well then proper testing and commissioning of pumping unit on full load at site. Note: Providing of test certificate & Characteristic Curve of pumping equipment is compulsory and pumping unit is to be approved from the concerned Sub Divisional office before procuring.</p>	Job	2	1,01,386.00	2,02,772.00
1.02	<p>Fabrication, providing, fitting and lowering of C Class column pipe conforming to IS: 1239 of length 10 Rft into the 250 mm casing dia. production well up to the desired depth; The job includes Providing and welding of flanges conforming to IS: 6392, Table-17 and PN 16 to these pipes and welding of flanges in two layers to make the flanged joint strong and leak proof. Each Flanges to be U grooved on both side to avoid damage to cable. Also MS triangular plates to be welded to each flange with pipe . P/ R.I. cloth ,nuts and bolts as per site requirement) Nominal Dia:65 mm (DN65C Heavy) pipe .The pipe of 10 ft length is to be weld on both sides with flanges using welding rod of reputed make. The job includes all types of skilled labours, arrangement of power supply/ diesel Generator set etc required for the job including P/F of suitable size nuts bolts and R.I Gasket in the flanged joints of column pipes. The job further includes cutting of 2 no. rectangular cable slots in each flange.</p>	Meter	30.48	4,300.00	1,31,064

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S. No.	Item of work	Unit	Quantity	Rate	Amount
1.03	Fabrication, providing and fitting of split type MS clamps 10 mm thick, 2 ft long and 3 inch wide for lowering and holding of pumping unit fitted. The job includes the cost of required size of nuts and bolts. Size: 65 mm	Set	2	1,801.00	3,602.00
1.04	Dia = 80/65 Fabrication, providing and fitting of flanged flanged to delivery mainfold 90-120 degree bend/elbow to be fabricated out of Class 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.	Job	2	2,797.00	5,594.00
1.05	Fabrication, providing and fitting of washout Tee 80mm including nuts, bolts and gasket as per site requirement. 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.	Job	1	4,050.00	4,050.00
1.06	Dia: 80 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 tabular flanges. The flange welding shall be carried out in double layers using Advanl/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	Job	6	1,340.00	8,040.00
1.07	Dia =80 mm DN80C(Heavy Class) Pipe Providing/supplying and fitting of G.I flanged Rising Main/washout at site. The Pipe shall be hot dip Galvanized, class C confirming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16). 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.	Meter	30.49	1,485.00	45,277.60
1.08	Size: 80 mm 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.	No	1	17,489.00	17,489.00

S. No.	Item of work	Unit	Quantity	Rate	Amount
1.09	<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 .</p> <p>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</p> <p>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.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>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>	job	2	15,497.00	30,994.00
1.10	<p>S/I/T & C of Portable Handheld Clamp-On Ultrasonic Flow meter complete with all accessories with following specifications as under :</p> <p>Linearity: Better than 1%</p> <p>Repeatability: 0.5%</p> <p>Accuracy: ±1% of velocity reading or ±10mm/s, whichever is bigger.</p> <p>Response Time: 0-999 seconds, user-configurable</p> <p>Velocity: (-10m/s ~ +10m/s), bi-directional</p> <p>For Pipe Size: ND50mm ~ ND600mm</p> <p>Pipe Material: All metals, most plastics, lined pipe</p> <p>Units: Metric, British and US units selectable from list / free unit.</p> <p>Totalizer: 7-digit totalizers for totalizing net, positive and negative flows</p> <p>Liquid Types: Virtually all liquids (full pipe)</p> <p>Operating Temp: (-10°C ~ 50°C) depending on transducer type</p> <p>Security: Setup Modification Lockout. Access code needed for unlocking</p> <p>Display: 4x16 letters English letters, 240 x 200 pixel backlit LCD graphic display.</p> <p>Digital Interface: OCT digital output, can be configured as frequency or pulse output RS-232C: serial communication port with simplified flow meter protocol. Windows PC software for data download and real-time data acquisition</p> <p>Transducers: Standard medium size transducer for V-method type (magnetic/Non-Magnetic with clamp-on fixture).For Pipe size: (DN50 ~ DN600mm).</p> <p>Sensor mounting method: V method</p> <p>Transducer Cord: Standard 2x15' (2x5m).</p> <p>Power Supply: Rechargeable Battery type/AAA built-in batteries</p> <p>rechargeable. When fully recharged, it will last over 10 hours of operation. 100V-240VAC for the charger.</p> <p>Data Logger: Built-in data logger can store over 2,000 lines of data.</p> <p>Housing Material: Protective case suitable for normal and harsh environment.</p> <p>Acoustic Coupler: Silicone free-grease/Silicone grease</p>	Job	1	4,73,340.00	4,73,340.00
1.11	<p>Providing and fitting of 10-12 mm Dia Steel wire rope for holding of Pump/motor unit & column pipes in hanging position at top over Well casing as a safety measure/precaution to avoid detachment of Pumping unit inside well .Includes providing & fitting of D clamps as per site requirement.</p>	Meter	35	150.00	5,250.00

No.	Item of work	Unit	Quantity	Rate	
12	<p>Construction of (10'-0"x8'-0"x4'-0") gravel pack holding , control chamber and watering mechanism involves following:</p> <p>a) Earth work excavation for foundation trenches in all kinds of soil, including dressing of sides and ramming of bottom with all leads and lefts.</p> <p>b) Cost in situ/ providing and laying of M20 (12 inch thick wall) grade cement concrete in stone aggregate (quarry) including shattering, centering, removal of shuttering and curing complete. (1.5 cum)</p> <p>c) Fab. P/grouting in above concrete work ISMC 100 angle iron frame of (10'-0"x8'0") with side holding cleats. 10'x9 No, 4'x11 no's, 4'x10 nos' for vertical supports, ISA 50x50x5mm=40'</p> <p>d) Fabrication, providing, fitting of top cover in four halves out of 8mm thick MS chequered sheet of 10'x8' (2.5'x8'x4') for covering of the above gravel pack chamber and control valve chamber from the top including the cast of flushing hole for column pipe, lift holes for wire rope. The halves should be fixed with heavy duty hinges minimum 4 for each pieces.</p> <p>d) Painting by primary coat of red oxide steel primer and then black paint. (1 Job)</p> <p>e) Proving and fitting of pressure guage at delivery line.</p> <p>f) Providing and fitting of water mechanism in PPR fitting for gravel</p> <p>g) Providing and filling of pea-gravel for production well. 200 Sft</p> <p>The above job executed at site by Shifting of desired tools, tackles & machinery done by skilled labor.</p>	Job	1	1,50,000.00	1,50,000.00
13	<p>Capacity: 63 KVA Supply installation , testing and commissioning of level II HT Transformer which includes 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 jell 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.</p>	Job	2	1,71,963.00	3,43,926.00
	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.				
	Supply, installation, erection of 9 mtrs 9 +B96:C118m Long pole H.T 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.	Nos	6	20,686.00	1,24,116.00
	Cement Bottoming 1:2:4 mix as per REC standards 0.5 cum/pole	Job	6	4,364.00	26,184.00
	G.I V cross with top Bracket Including clamps				
	Supply, installation, erection of 9 mtrs long H.T pope 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.	Kgs	125.26	202.00	25,302.52
	Supply and fitting of 11 KV polymeric composite pin insulator 12 KV, SKN, Lighting impulse 75KV Positive, and 80 KV Negative , creepage distance 320 mm	Nos	24	347.00	8,328.00
	P/F of Galvanized nuts, bolts of various sizes as per site requirement.	Kgs	15	142.00	2,130.00
	P/F Danger Plate with clamps	Nos	6	153.00	918.00
	Providing and fixing G.I Barbed wire for anti-climbing/ anti-climbing devices	Nos	6	315.00	1,890.00
	Earthing complete by GI Pipe 40 mm or GI Rod 20 mm 2.5 mtr long through GI Strip	Nos	7	2,437.00	17,059.00
	Painting of poles Red oxide	Liter	6	306.00	1,836.00

of poles Aluminum paint
Sh. pad (500mm x300mm x25mm)
1.25 PC Clamps to 50 sqmm ACSR conductor
1.26 Providing and fitting of ACSR conductor
1.27 GI Channel for fitting of ACSR at
Signs

No.	Item of work	Unit	Quantity	Rate	Amount
1.23	Painting of poles Aluminum paint	Liter	6	510.00	3,060.00
1.24	Steel pad (300mm x300mm x75mm)	Nos	6	232.00	1,392.00
1.25	PG Clamps for 50 sqmm ACSR conductor	Nos	9	421.00	3,789.00
1.26	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	Meter	300	56.00	16,800.00
1.27	GI Channel/Angle/Flat of sizes including clamps	Kgs	352	202.00	71,104.00
1.28	Supply, Installation, Testing and commissioning of Polymeric Gang operated Air break switch 3 Phase, 3 Pole, 200 A, Vertical Type, 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.	Set	2	11,730.00	23,460.00
1.29	11 kV polymeric composite Disc Insulator 12 kV, Min failing load 45kN, Lighting Impulse 75kV Positive and 80 kV Negative, creepage distance 320mm	Nos	6	340.00	2,040.00
1.30	Supply, Installation, Testing and commissioning of Gapless Surge arrestor station class, 10KA, 9KV, LA With polymer housing, Station Type.Stn type	No	1	7,754.00	7,754.00
1.31	Supply, Installation, Testing and commissioning of 11KV polymer fuses Set Horn Gap 3-phase 200 A suitable for vertical installation.	Set	1	4,983.00	4,983.00
1.32	50 Sq mm (2 Ckt) 1.1 kV Grade, PVC Insulated Stranded Conductor FRLS Type	Meter	44	507.00	22,308.00
1.33	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	Nos	3	10,462.00	31,386.00
1.34	Providing and fitting of LT Distribution box FITTED with 200 A 4 pole MCCB for incomer and SFU for outgoing circuits.	Nos	1	39,422.00	39,422.00
1.35	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.	Set	4	4,922.00	19,688.00
1.36	Wedge connectors / PG Clamps	Nos	6	413.00	2,478.00
1.37	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	Nos	1	1,30,000.00	1,30,000.00
1.38	Sundry items like Aluminium Lugs , Jumpers, binding Tape	LS	1	1,052.00	1,052.00
1.39	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.	Meter	30	818.00	24,540.00
1.40	Heat Shrinkable Outdoor cable termination Kit	Nos	2	8,994.00	17,988.00
1.41	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.	Meter	90	546.00	49,140.00
1.42	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	Meter	180	711.00	1,27,980.00
1.43	Providing, installation ,testing of power service cable for working voltage up to and including 1100 volts; 70 sq mm armored aluminum 3.5 core 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 hvdraulic crimp tool only.	Meter	100	668.00	66,800.00

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S. No.	Item of work	Unit	Quantity	Rate	Amount
1.44	<p>Providing, fitting, testing and commissioning of 50 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.</p> <p>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) Overload in 24-hours operation: 10% above continuous Ampere rating. The voltage stabilizer shall have T-oil level indicator gauge preferably glass</p> <p>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>	Job	2	1,07,401.00	2,14,802.00
1.45	<p>Design, manufacturing , providing , fitting, testing & commissioning of Star-delta Motor control gear Panel. The Star-delta Motor control gear Panel shall be fabricated out of 14 SWG CRCA Sheets Modular, compartmentalized, Free Standing, Floor Mounting, Front hinged doors for indoor use, removable bottom gland plates for incoming cables, dust and vermin proof (IP: 55 protection) with TP Copper Buses as per load , complete with connection, internal wiring, neon indicators for each phase ,starter buttons, name plates, painting ,vents etc. generally as per details furnished below: Rated Voltage of the Panel — 440 Volts Frequency — 50 HZ No of Phases — Three Enclosure Details — Free Standing, Floor mounted, Compartmentalized Design. Material — CRS Thickness of sheet steel used — 02mm Application — Indoor Cable Entry — Bottom Painting — Shade Siemens grey. a) Mian Circuit Breaker incoming combined Type — On load 4 pole MCCB Rating : 160A</p>	Job	1	2,34,676.00	2,34,676.00

Item of work	Unit	Quantity	Rate	Amount
<p>----- 2 Nos (for Main and Standby/DG Set Supply) No. of poles ----- 4 Rated operational voltage----- 415 V AC \pm 15% Rated frequency ----- 50 \pm 3% Hz Ultimate S.C Breaking cap at (415 volt A C , 50 Hz) ----- 50kA</p> <p>b) Distribution bus bar Type -----Electric grade Cu with red, blue & yellow tapings of adequate section. Rating ----- 200 Amp</p> <p>c) Change over Switch Qty ----- One Type----- Front Operated on load 4 pole (open execution) Rating -----160 Amp</p> <p>d) Circuit Breaker units Type ----- MCCB Qty ----- 2 Nos No. of poles-----3 Rated current -----100 Amp Thermal release range- Rated operational voltage----- 415 V \pm 15% Rated frequency ----- 50 \pm 3% Hz Ultimate S.C Breaking capacity at (415 volt A C , 50 Hz) -----50kA</p>				
<p>e) Starters (FASD) Power Specification -----3 phase, 415 \pm 15% v & 50 Hz Contactors : Line Contactor ----- AC3 70 A Delta Contactor --- AC3 70 A Star Contactor ----- AC3 50 A Timer ----- Star Delta Electronic Thermal overload relay – direct/CT operated Suitable/available range Coil Voltage : 220/240V Qty ----- 2 No's</p> <p>f) Aux. panel Circuit breaker—MCCB Qty—01 no. No. of poles—04 Rated operational Voltage—415+15% Ultimate S.C. Breaking Capacity—35 KA at (415AC,50 Hz)</p> <p>g) Stabilization unit for both starters Qty—02 no Rating— 1 KvA single phase automatic voltage stabilizer Input :90V-300 Out Put : 220/240 (as per coil voltage of contractors) Enclosure— to be housed within the cubical panel in separated chamber with additional meter , LED fitted outer side MCB DP —10A—1nos</p>				

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S. No.	Item of work	Unit	Quantity	Rate	Amount
	<p>h) Protection Details: Compact Motor Protection Relay including other related accessories like single phase preventer relay, timer relay, overload-under load, phase difference etc. Display ----- LED/LCD and all setting is to be done at display Compact motor protection relay Qty :01 nos) Protections : • Flush Mounting with display • Last trip data recording • Protections: - Thermal Overload with pre- alarm - Short Circuit - Earth fault - Phase loss, Unbalance, Phase reversal - Under Current - Prolong starting, Locked Rotor. -Single phase protection- Single Phasing condition- Phase Reversal condition- Phase Unbalance condition-Modes of Operation i) M-Power module for mobile starters and Earth fault relay as Auxiliary Protection Earth Fault Relay -----3 phase Earth fault, ground fault module Range as per requirement MCB ----- MCB SP , 10A (10 Ka)</p>				
	<p>j) Water level control relay for including wiring and capsules required at site keeping depth of sump 10 meters in consideration: 01 unit complete (not for production wells) g) Metering Details: •Incomers (Panel Mounted) (a) Multi-Function Meters LCD Display (1 No) Voltage of each phase , Current of each phase 3ø power (Active, Apparent) , 3ø Power factor Frequency , Energy (b) Analog voltmeter S/S operated (1 No) - Rishabh make. •(b) Outgoing (Analog voltmeter (0-500) S/S operated (1Nos) . Analog Ammeters 0-100 Amp (2Nos) for both starters Each outgoing with S/S CT operated (Rishabh make) h)M-power module for mobile starter for submersible motor suitable region north India. Note: Name of Scheme ; Allotment No ; should be imprinted on the machine with capital letters</p>				
.46	<p>Providing, installation and testing of Heavy Duty manua 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 = 2 ton (P) iii.No. Of load chain falls = 2 or above iv.Min. Height of lift = 6 M</p>	Job	2	44,473.00	88,946.00

No.	Item of work	Unit	Quantity	Rate	Amount
1.47	<p>Capacity= 3 Ton</p> <p>Supply, Installation and testing of motorized chain hoist with hook suspension along travelling trolley of proper specifications having following features</p> <p>The chain hoist shall also have the following characteristics:-</p> <p>Motor: The basic drive of the hoist be provided with 3 phase squired cage totally enclosed induction motor having a high starting torque with class "F" insulation. The make of the motor be NGEF / SEIMNS / GEC/ Crompton and conform to IS : 325 (RPM-1500)</p> <p>Brake: The hoist shall have instant action, Fail to safe electromagnetic disc brake mounted on the end of the motor to ensure minimum safety and reliability when the load is held in its position as soon as the supply to the motor is switched off internally or accidentally. The adjustment & maintenance of break shall be quick and simple.</p> <p>Gears: The hoist shall have precision cut super and helical gears made of alloy steel mounted on bearings and housed in a dust proof gear box. The lubrication of gears be of high viscosity and temperature for longer life of gears.</p> <p>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.</p> <p>Load chain wheel: Specially designed, perfectly machined wheel providing correct grip of load chain made of malleable cast iron makes the hoist most safe and reliable against any failure.</p> <p>Lifting Hook: The lifting hook shall be forged with provision for free swiveling.</p> <p>Limit Switch: The limit switch shall have snap action, shunt type prevent over hoisting or over lowering to ensure maximum safety of operation.</p> <p>Control: The unit shall be controlled by heavy duty air break direction reversing type bidders and electrically inter – locked for safety. Contactors relay, fuses, low voltage transformer be fitted for control voltage and are to be housed in fabricated / pressed sheet steel box dust proof.</p> <p>Push button pendent: The contactors shall be operated by a pendent push button station suspended from hoist by a rope / dog chain to prevent any damage to the pendent cable and for easy operation.</p> <p>Test: The hoist supplied is to be tested at 25% overload and the test certificate of the same be provided at the time of installation. The complete unit as specified above is required to be fitted / tested at site.</p> <p>Besides the above works the job Includes Providing and fitting 3-Core 6 sq. mm ,50 m submersible cable for providing power supply to motor of chain Hoist including P/F protection device of suitable capacity. The main specifications of the chain Hoist are given below:</p> <p>Make = reputed make Capacity = 3 ton Hoisting speed = 2.4 M/Min Hoist motor H.P = as per requirement No. Of chain falls = 4 Min. Height of lift = 6 M</p>	Job	1	1,61,700.00	1,61,700.00
1.48	<p>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 dimention of Pumping unit and as per directions of site engineer.</p>	Kgs.	5000	132.00	6,60,000.00
1.49	<p>Providing and fitting of 1"x1" MS Mesh (10 no guage) for sides of DG Set and other MS structure as per site requirement by arc welding. Induded painting with one coat of red oxide and two coats of enamel paint of approved shade.</p>	Sqm	50	850.00	42,500.00
1.50	<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>	Sqm	200	150.00	30,000.00
1.51	<p>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 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</p>	Sqm	45	1,800.00	81,000.00
1.52	<p>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 concrete grouting of MS pipe/ foundation /concrete beds for rising-main as per requirement</p>	Cum	20	6,434.00	1,28,680.00

	Item of work	Unit	Quantity	Rate	
0.	Centering and shuttering including strutting, propping etc and removal of form work for foundation, footing, base	Sqm	20	289.00	
3	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)	Cum	10	277.00	
4	Providing and laying of soling stone	Cum	5	679.00	
5	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)	Sqm	20	560.00	
6	Providing, laying & fixing of shock proof rubber mats with adhesive/bonding material 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.	Meter	6	1,205.00	7,230.00
58	Supply, installation of 6 kg CO2 type fire extinguisher manufactured as per IS: 15683 of 2006 with IS mark and comply with DGMS (Approval). The co2 extinguisher should be suitable for class B & C fire and also for fire involving electrical equipment. The cylinder used for fire extinguisher shall be approved by petroleum and explosive safety organization (PESO) as per gas cylinder rules 2004 and as per IS: 7285 of 2004. The body should be made of seamless steel (manganese) confirming to IS: 7285 with IS mark and should be provided with squeeze grip nozzle and should be filled with co2 confirming to IS: 15222 of 2002 with certificate. The extinguisher shall be provided with manufactures test certificate and hydraulic test certificate by BIS from PESO.	Job	2	6,447.00	12,894.00
59	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	Job	4	22,226.00	88,904.00
	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	Job	4	8,866.00	35,464.00
	Providing and installation of Junction Box with DP 32Amp MCB to serve as a main switch or LED lighting including complete wiring min 20-30 m from panel board. The job includes making of electric connection to the circuit.	Job	4	2,162.00	8,648.00
	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.	Job	1	8,154.00	8,154.00

	Item of work	Unit	Quantity	Rate	Amount
1.63	Providing & fitting of lighting points for (machine room , operators room,) as per site requirement in 1.5 mm ² 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	Job	15	1,600.00	24,000.00
1.64	Providing fitting of heating points in 2.5mm ² 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	Job	4	1,400.00	5,600.00
1.65	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.	Job	1	2,500.00	2,500.00
1.66	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 mm ² 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	Job	2	5,500.00	11,000.00
1.67	P/I of Earthing station of Panel board, stabilizer, Motors, heating points, lighting points, D.G sets 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	Job	5	10,462.00	52,310.00
1.68	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.	Job	1	34,053.00	34,053.00

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S. No.	Item of work	Unit	Quantity	Rate																																	
1.69	<p>TOOL KIT For Maintenance: The Tool Kit for maintenance shall comprise of the following and all the Items as mentioned below shall be of:</p> <p>Providing of tool kit consists of following items</p> <p>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</p> <table border="1"> <thead> <tr> <th>Blade length in mm</th> <th>Blade dia. in mm</th> <th>Tip dimensions in mm</th> <th>Qty</th> </tr> </thead> <tbody> <tr> <td>50</td> <td>3</td> <td>1.6 x 0.4</td> <td>02</td> </tr> <tr> <td>75</td> <td>3</td> <td>1.6 x 0.4</td> <td>02</td> </tr> <tr> <td>100</td> <td>3</td> <td>3 x 0.4</td> <td>02</td> </tr> <tr> <td>125</td> <td>3.5</td> <td>3.5 x 0.5</td> <td>02</td> </tr> <tr> <td>150</td> <td>3.5</td> <td>3.5 x 0.5</td> <td>02</td> </tr> <tr> <td>200</td> <td>4</td> <td>4 x 0.6</td> <td>02</td> </tr> <tr> <td>300</td> <td>5</td> <td>5 x 0.8</td> <td>02</td> </tr> </tbody> </table> <p>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.</p>	Blade length in mm	Blade dia. in mm	Tip dimensions in mm	Qty	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	Job	1	28,840.00	28,840.00
Blade length in mm	Blade dia. in mm	Tip dimensions in mm	Qty																																		
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																																		
1.70	<p>a) Providing of good quality convenience and utility items bedding for night stay/Shift consisting of: - i) Mattress with warm cover size 6'x3' (6Kg)- 02 No's ii) Quilt with warm cover size 5'x8' (6Kg)- 02 No's iii) Pillows with covers - 02 No's iv) Single bed warm blankets with one sided Fur- 02 No's 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>	Job	1	39,619.00	39,619.00																																
71	Fabrication of 6' x 6' angle iron bed 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	Kg	94.75	93.00	8,811.75																																
72	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	Sft	36	140.00	5,040.00																																
73	Providing of solar/electrical lantern chargeable on both solar & electrical 220v supply.	Job	1	1,911.00	1,911.00																																
74	Providing of bamboo ladders 18 feet long along with 15 feet long Link rods and HT Glove pair (01 No each)	Job	1	7,350.00	7,350.00																																
75	Providing of 1 KW heat convector for operators for winter season.	Job	1	1,205.00	1,205.00																																
76	Providing and fitting of 01 No. angle iron/sheet metal board duly painted showing various specifications of the mechanical and electrical equipments installed at site. The legs are to be grouted in cement concrete.	Sft	24	250.00	6,000.00																																

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	Item of work	Unit	Quantity	Rate	Amount
1.77	<p>Capacity = 25 KVA</p> <p>Providing, installation, Testing & commissioning of 415 ±15%V (output), 3 phase air cooled/water cooled Diesel Generator set Specification of approved make as per latest guide line as per 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.</p> <p>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.</p> <p>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>	Job	1	6,17,206.00	6,17,206.00
2	<p>Retro-fitting of WSS Panipora</p>				
2.01	<p>Providing, fitting, installation, testing and commissioning of Submersible pumping unit of 5000GPH at 90 Meter head of approved make with following specifications: at Stage 1st Well casing 200 mm dia</p> <p>Dynamic Head Range = 75-100 M</p> <p>Rating = Corresponding to the head and discharge not less than 17.5 HP. specification are as under:</p> <p>PUMP:</p> <p>Efficiency = Not less than 50%</p> <p>Speed=2900 Rpm</p> <p>Type of pump=Mixed flow.</p> <p>Type of fluid to be handled = Clear Water</p> <p>MATERIAL OF CONSTRUCTION:</p> <p>Impeller = Stainless Steel</p> <p>Pump Shaft = Stainless Steel SS 410.</p> <p>Pump Casing = Cast Iron/Stainless steel</p> <p>IMPELLER:</p> <p>Impeller is of the enclosed or semi – enclosed type and properly balanced. Enclosed Impellers equipped with seal rings on their hubs.</p> <p>COUPLING:</p> <p>A suitable coupling arrangement provided with pump set.</p> <p>Non-Return Valve: -</p> <p>Non Return Valve of the suitable size provided above the pump discharge case.</p> <p>MOTOR:</p> <p>Method of starting – Star – Delta/DOL (as specified)</p> <p>Speed=3000 (Sync).</p> <p>Frequency = 50 ± 3 % Hz</p> <p>Working Voltage = 415 ± 15%v, 03 phase</p> <p>Efficiency = Not less than 90%</p> <p>Class of insulation = F/Suitable for above parameters</p> <p>Submersible motor should be water filled water lubricated squirrel cage type having capacity for above pumping parameters and working on 3 phase; AC supply ranging from 380 to 415 volts, 50Hz. The motor should be sealed by radial rings to avoid mixing of well water with motor filled water.</p> <p>a) The job includes providing and fitting of interlocking arrangement against any failure of coupling. It must be fabricated out of MS strips of suitable size and length.</p> <p>b) The job includes providing and fitting of appropriate size MS nipple 2 feet long threaded on one end and welded to same size MS flange of thickness (as per Table-17) at another end for column pipe as per site requirement. The threaded portion should be as per size of pumping out let for proper fixing.</p> <p>The job includes providing and fitting of R. I. cloth joints/rubber washers with nuts, bolts and washers for all joints of column pipe. The job also includes lowering of pumping unit in the well then proper testing and commissioning of pumping unit on full load at site.</p> <p>Note: Providing of test certificate & Characteristic Curve of pumping equipment is compulsory and pumping unit is to be approved from the concerned Sub Divisional office before procuring.</p>	Job	2	1,06,727.00	2,13,454.00

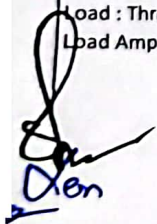
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S. No.	Item of work	Unit	Quantity	Rate	Amount
2.02	<p>Nominal Dia:65 mm (DN65C Heavy) pipe Fabrication, providing, fitting and lowering of B and C Class column pipe conforming to IS: 1239 of length 10 Rft into the 200/ 250/300 mm casing dia. production well up to the desired depth; The job includes Providing and welding of flanges conforming to IS: 6392, Table-17 and PN 16 to these pipes and welding of flanges in two layers to make the flanged joint strong and leak proof. Each Flanges to be U grooved on both side to avoid damage to cable. Also MS triangular plates to be welded to each flange with pipe . P/ R.I. cloth ,nuts and bolts as per site requirement). The pipe of 10 ft length is to be weld on both sides with flanges using welding rod of reputed make. The job includes all types of skilled labours, arrangement of power supply/ diesel Generator set etc required for the job including P/F of suitable size nuts bolts and R.I Gasket in the flanged joints of column pipes. The job further includes cutting of 2 no. rectangular cable slots in each flange.</p>	Meter	30.48	4,300.00	1,31,064.00
2.03	<p>Fabrication, providing and fitting of split type MS clamps 10 mm thick, 2 ft long and 3 inch wide for lowering and holding of pumping unit fitted. The job includes the cost of required size of nuts and bolts. Size: 65 mm</p>	Set	2	1,801.00	3,602.00
2.04	<p>Dia = 80/65 Fabrication, providing and fitting of flanged to delivery manifold 90-120 degree bend/elbow to be fabricated out of Class 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.</p>	Job	2	2,797.00	5,594.00
2.05	<p>Fabrication, providing and fitting of washout Tee 80mm ncluding nuts,bolts and gasket as per site requirement. 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>	Job	1	4,050.00	4,050.00
2.06	<p>Dia: 80 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 tabular flanges. 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>	Job	6	1,340.00	8,040.00
2.07	<p>Dia =80 mm DN80C(Heavy Class) Pipe Providing/supplying and fitting of G.I flanged Rising Main/washout at site. The Pipe shall be hot dip Galvanized, class C confirming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16). 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>	Meter	24.39	1,485.00	36,219.15

	Unit	Quantity	Rate	Amount
<p>2.08</p> <p>size 80 mm PN: 1.6/16</p> <p>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.</p> <p>It shall have electrostatic epoxy coating (approved for drinking water) both inside and outside of the valve.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>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>	No	1	17,489.00	17,489.00
<p>2.09</p> <p>Dia = 80 mm</p> <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 .</p> <p>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</p> <p>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.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>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>	Job	2	15,497.00	30,994.00
<p>2.10</p> <p>S/I/T & C of Portable Handheld Clamp-On Ultrasonic Flow meter complete with all accessories with following specifications as under :</p> <p>Linearity: Better than 1%</p> <p>Repeatability: 0.5%</p> <p>Accuracy: ±1% of velocity reading or ±10mm/s, whichever is bigger.</p> <p>Response Time: 0-999 seconds, user-configurable</p> <p>Velocity: (-10m/s ~ +10m/s), bi-directional</p> <p>For Pipe Size: ND50mm ~ ND600mm</p> <p>Pipe Material: All metals, most plastics, lined pipe</p> <p>Units: Metric, British and US units selectable from list / free unit.</p> <p>Totalizer: 7-digit totalizers for totalizing net, positive and negative flows</p> <p>Liquid Types: Virtually all liquids (full pipe)</p> <p>Operating Temp: (-10°C ~ 50°C) depending on transducer type</p> <p>Security: Setup Modification Lockout. Access code needed for unlocking</p> <p>Display: 4x16 letters English letters, 240 x 200 pixel backlit LCD graphic display.</p> <p>Digital Interface: OCT digital output, can be configured as frequency or pulse output RS-232C: serial communication port with simplified flow meter protocol. Windows PC software for data download and real-time data acquisition</p> <p>Transducers: Standard medium size transducer for V-method type (magnetic/Non-Magnetic with clamp-on fixture). For Pipe size: (DN50 ~ DN600mm).</p> <p>Sensor mounting method: V method</p> <p>Transducer Cord: Standard 2x15' (2x5m).</p> <p>Power Supply: Rechargeable Battery type/AAA built-in batteries</p> <p>rechargeable. When fully recharged, it will last over 10 hours of operation. 100V-240VAC for the charger.</p> <p>Data Logger: Built-in data logger can store over 2,000 lines of data.</p> <p>Housing Material: Protective case suitable for normal and harsh environment.</p> <p>Acoustic Coupler: Silicone free-grease/Silicone grease</p>	Job	1	4,73,340.00	4,73,340.00
<p>Providing and fitting of 10-12 mm Dia Steel wire rope for holding of Pump/motor unit & column pipes in hanging position at top over Well casing as a safety measure/precaution to avoid detachment of Pumping unit inside well .Includes providing & fitting of D clamps as per site requirement.</p>	Meter	35	150.00	5,250.0

S. No.	Item of work	Unit	Quantity	Rate	Amount
2.12	Providing and filling of pea-gravel for production well. 180 Sft	Sft	120	270.00	
2.13	<p>Capacity: 63 KVA Supply installation, testing and commissioning of level II HT Transformer which includes 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</p> <p>provided before installation. The transformer shall also be provided with breather fill with silica jell 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.</p>	Job	1	1,71,963.00	1,71,963.00
2.14	Supply, installation, erection of 9 mtrs 9 +B96:C118m Long pole H.T 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.	Nos	6	20,686.00	1,24,116.00
2.15	Cement Bottoming 1:2:4 mix as per REC standards 0.5 cum/pole	Job	6	4,364.00	26,184.00
2.16	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.	Kgs	125.26	202.00	25,302.52
2.17	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	Nos	24	347.00	8,328.00
2.18	P/F of Galvanized nuts, bolts of various sizes as per site requirement (1kg/pole).	Kgs	15	142.00	2,130.00
2.19	P/F Danger Plate with clamps	Nos	6	153.00	918.00
2.20	Providing and fixing G.I Barbed wire for anti-climbing/ anti-climbing devices	Nos	6	315.00	1,890.00
2.21	Earthing complete by GI Pipe 40 mm or GI Rod 20 mm 2.5 mtr long through GI Strip	Nos	7	2,437.00	17,059.00
2.22	Painting of poles Red oxide	Liter	6	306.00	1,836.00
2.23	Painting of poles Aluminum paint	Liter	6	510.00	3,060.00
2.24	Stone pad (300mm x300mm x75mm)	Nos	6	232.00	1,392.00
2.25	PG Clamps for 50 sqmm ACSR conductor	Nos	9	421.00	3,789.00
2.26	Providing and fitting of ACSR as per IS 398 (part-2) 1996 for 50 sq.mm ACSR (Galvanised steel reinforced) for fitting of various accessories	Meter	300	56.00	16,800.00
2.27	GI Channel/Angle/Flat of sizes including clamps	Kgs	352	202.00	71,104.00
2.28	Supply, Installation, Testing and commissioning of Polymeric Gang operated Air break switch 3 Phase, 3 Pole, 200 A, Vertical Type, 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.	Set	2	11,730.00	23,460.00
2.29	11 kV polymeric composite Disc Insulator 12 kV, Min failing load 45kN, Lighting Impulse 75kV Positive and 80 kV Negative, creepage distance 320mm	Nos	6	340.00	2,040.00
2.30	Supply, Installation, Testing and commissioning of Gapless Surge arrester station class, 10KA, 9KV, LA With polymer housing, Station Type.	No	1	7,754.00	7,754.00
2.31	Supply, Installation, Testing and commissioning of 11KV polymer fuses Set Horn Gap 3-phase 200 A suitable for vertical installation	Set	1	4,983.00	4,983.00

Item of work	Unit	Quantity	Rate	Amount
35 mm (2 Ckt) 1.1 kV Grade, PVC Insulated Stranded Conductor FRLS Type	Meter	44	507.00	22,308.00
2.33 Providing 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	Nos	3	10,462.00	31,386.00
2.34 Providing and fitting of LT Distribution box FITTED with 200 A 4 pole MCCB for incomer and SFU for outgoing circuits.	Nos	1	39,422.00	39,422.00
2.35 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	Set	4	4,922.00	19,688.00
2.36 Wedge connectors / PG Clamps	Nos	6	413.00	2,478.00
2.37 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	Nos	1	1,30,000.00	1,30,000.00
2.38 Sundry items like Aluminium Lugs, Jumps, binding Tape	LS	1	1,052.00	1,052.00
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	Meter	90	546.00	49,140.00
2.40 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	Meter	180	711.00	1,27,980.00
2.41 Providing, installation, testing of power service cable for working voltage up to and including 1100 volts; 70 sq mm armored aluminum 3.5 core 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.	Meter	100	668.00	66,800.00
42 Providing, fitting, testing and commissioning of 50 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. Core laminates : High grade, low eddy loss, grain oriented silicon steel laminations. Load : Three phase induction motor load. L _{oad} Amperes (continuous)	Job	2	1,07,401.00	2,14,802.00


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S. No.	Item of work	Unit	Quantity	Rate	
	<p>Overload in 24-hours operation: 10% above continuous Ampere rating.</p> <p>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).</p> <p>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.</p> <p>The voltage Stabilizer shall be accepted with manufacturers dully stamped test certificate and shall have name plate with specifications.</p>				
2.43	<p>Design, manufacturing , providing , fitting, testing & commissioning of Star-delta Motor control gear Panel.</p> <p>The Star-delta Motor control gear Panel shall be fabricated out of 14 SWG CRCA Sheets Modular, compartmentalized, Free Standing, Floor Mounting, Front hinged doors for indoor use, removable bottom gland plates for incoming cables, dust and vermin proof (IP: 55 protection) with TP Copper Buses as per load , complete with connection, internal wiring, neon indicators for each phase ,starter buttons, name plates, painting ,vents etc. generally as per details furnished below:</p> <p>Rated Voltage of the Panel ---- 440 Volts Frequency ---- 50 HZ No of Phases ---- Three Enclosure Details ---- Free Standing, Floor mounted, Compartmentalized Design. Material ---- CRS Thickness of sheet steel used ---- 02mm Application ---- Indoor Cable Entry ---- Bottom Painting ---- Shade Siemens grey.</p> <p>a) Mian Circuit Breaker incoming combined Type ---- On load 4 pole MCCB Rating : 160A</p>	Job	1	2,34,676.00	2,34,676.00
	<p>Qty ---- 2 Nos (for Main and Standby/DG Set Supply) No. of poles ---- 4 Rated operational voltage---- 415 V AC \pm 15% Rated frequency ---- 50 \pm 3% Hz Ultimate S.C Breaking cap at (415 volt A C , 50 Hz) ---- 50kA</p> <p>b) Distribution bus bar Type ----Electric grade Cu with red, blue & yellow tapings of adequate section. Rating ---- 200 Amp</p> <p>c) Change over Switch Qty ---- One Type---- Front Operated on load 4 pole (open execution) Rating ----160 Amp</p> <p>d) Circuit Breaker units Type ---- MCCB Qty ---- 2 Nos No. of poles----3 Rated current ----100 Amp Thermal release range- Rated operational voltage---- 415 V \pm 15% Rated frequency ---- 50 \pm 3% Hz Ultimate S.C Breaking capacity at (415 volt A C , 50 Hz) ----50kA</p>				

2.30	9KV, LA With polymeric ...
2.31	Supply, Installation, Testing and commissioning of ... 200 A suitable for vertical Installation

Starters (FA)
 Power Specif
 Contactors :
 Line Contacto
 Delta Contacto
 Star Con...

Item of work	Unit	Quantity	Rate	Amount
<p>Starters (FASD)</p> <p>Power Specification -----3 phase, 415 ± 15% v & 50 Hz</p> <p>Contactors :</p> <p>Line Contactor ----- AC3 70 A</p> <p>Delta Contactor --- AC3 70 A</p> <p>Star Contactor ----- AC3 50 A</p> <p>Timer ----- Star Delta Electronic</p> <p>Thermal overload relay – direct/CT operated Suitable/available range</p> <p>Coil Voltage : 220/240V</p> <p>Qty ----- 2 No's</p> <p>f) Aux. panel</p> <p>Circuit breaker---MCCB</p> <p>Qty---01 no.</p> <p>No. of poles---04</p> <p>Rated operational Voltage---415+15%</p> <p>Ultimate S.C. Breaking Capacity---35 KA at (415AC,50 Hz)</p> <p>g) Stabilization unit for both starters</p> <p>Qty---02 no</p> <p>Rating--- 1 kVA single phase automatic voltage stabilizer</p> <p>Input :90V-300</p> <p>Out Put : 220/240 (as per coil voltage of contractors)</p> <p>Enclosure--- to be housed within the cubical panel in separated chamber with additional meter , LED fitted outer side</p> <p>MCB DP ---10A---1nos</p>				
<p>h) Protection Details:</p> <p>Compact Motor Protection Relay including other related accessories like single phase preventer relay, timer relay , overload-under load, phase difference etc.</p> <p>Display ----- LED/LCD and all setting is to be done at display</p> <p>Compact motor protection relay</p> <p>Qty :01 nos)</p> <p>Protections :</p> <ul style="list-style-type: none"> • Flush Mounting with display • Last trip data recording • Protections: - Thermal Overload with pre- alarm - Short Circuit - Earth fault - Phase loss, Unbalance, Phase reversal - Under Current - Prolong starting, Locked Rotor. -Single phase protection- Single Phasing condition- Phase Reversal condition- Phase Unbalance condition-Modes of Operation <p>i) M-Power module for mobile starters and Earth fault relay as Auxiliary Protection</p> <p>Earth Fault Relay -----3 phase Earth fault, ground fault module</p> <p>Range as per requirement</p> <p>MCB ----- MCB SP , 10A (10 Ka)</p>				
<p>j) Water level control relay for including wiring and capsules required at site keeping depth of sump 10 meters in consideration: 01 unit complete (not for production wells)</p> <p>g) Metering Details:</p> <ul style="list-style-type: none"> •Incomers (Panel Mounted) (a) Multi-Function Meters LCD Display (1 No) Voltage of each phase , Current of each phase 3ø power (Active, Apparent) , 3ø Power factor Frequency , Energy (b) Analog voltmeter S/S operated (1 No) - Rishabh make. •(b) Outgoing (Analog voltmeter (0-500) S/S operated (1Nos) . Analog Ammeters 0-100 Amp (2Nos) for both starters Each outgoing with S/S CT operated (Rishabh make) <p>h)M-power module for mobile starter for submersible motor suitable region north India.</p> <p>Note: Name of Scheme ; Allotment No ; should be imprinted on the machine with capital letters</p>				

S. No.	Item of work	Unit	Quantity	Rate	Amount
2.44	<p>Providing, installation and testing of Heavy Duty manua 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 = 2 ton (P) iii.No. Of load chain falls = 2 or above iv.Min. Height of lift = 6 M</p>	Job	2	44,473.00	88,946.00
2.45	<p>Capacity= 3 Ton Supply, Installation and testing of motorized chain hoist with hook suspension along travelling trolley of proper specifications having following features The chain hoist shall also have the following characteristics:- Motor: The basic drive of the hoist be provided with 3 phase squired cage totally enclosed induction motor having a high starting torque with class "F" insulation. The make of the motor be NGEF / SEIMNS / GEC/ Crompton and conform to IS : 325 (RPM-1500) Brake: The hoist shall have instant action, Fail to safe electromagnetic disc brake mounted on the end of the motor to ensure minimum safety and reliability when the load is held in its position as soon as the supply to the motor is switched off internally or accidentally. The adjustment & maintenance of break shall be quick and simple. Gears: The hoist shall have precision cut super and helical gears made of alloy steel mounted on bearings and housed in a dust proof gear box. The lubrication of gears 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: Specially designed, perfectly machined wheel providing correct grip of load chain made of malleable cast iron makes the hoist most safe and reliable against any failure. Lifting Hook: The lifting hook shall be forged with provision for free swiveling. Limit Switch: The limit switch shall have snap action, shunt type prevent over</p> <p>hoisting or over lowering to ensure maximum safety of operation. Control: The unit shall be controlled by heavy duty air break direction reversing type bidders and electrically inter – locked for safety. Contactors relay, fuses, low voltage transformer be fitted for control voltage and are to be housed in fabricated / pressed sheet steel box dust proof. Push button pendent: The contactors shall be operated by a pendent push button station suspended from hoist by a rope / dog chain to prevent any damage to the pendent cable and for easy operation. Test: The hoist supplied is to be tested at 25% overload and the test certificate of the same be provided at the time of installation. The complete unit as specified above is required to be fitted / tested at site. Besides the above works the job includes Providing and fitting 3-Core 6 sq. mm ,50 m submersible cable for providing power supply to motor of chain Hoist including P/F protection device of suitable capacity. The main specifications of the chain Hoist are given below:</p> <p>i.Make = reputed make Capacity = 2 ton Hoisting speed = 2.4 M/Min Hoist motor H.P = as per requirement No. Of chain falls = 4 Min. Height of lift = 6 M</p> <p>ii.Make = reputed make Capacity = 3 ton Hoisting speed = 2.4 M/Min Hoist motor H.P = as per requirement No. Of chain falls = 4 Min. Height of lift = 6 M</p>	Job	1	1,61,700.00	1,61,700.00

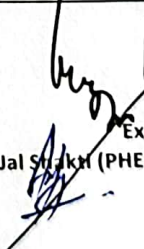
	Item of work	Unit	Quantity	Rate	Amount
2.46	Installation, providing, fitting of base frame for pumping units, covering of holes, fabrication of gantry, ladder, DG set covering, HT/Lt transformer Bed with gantry fabricated out of ISMC/ISMB/ISA/Bars/MS Pipe/MS plain-chequered Sheets. Including making of 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.	Kgs	5000	132.00	6,60,000.00
2.47	Providing and fitting of 1"x1" MS Mesh (10 no gauge) for sides of DG Set and other MS structure as per site requirement by arc welding. Included painting with one coat of red oxide and two coats of enamel paint of approved shade.	Sqm	50	850.00	42,500.00
2.48	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) schedule 2021	Sqm	200	150.00	30,000.00
2.49	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 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	Sqm	45	1,800.00	81,000.00
2.50	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 concrete grouting of MS pipe/ foundation /concrete beds for rising-main as per requirement	Cum	20	6,434.00	1,28,680.00
2.51	Centering and shuttering including strutting, propping etc and removal of form work for foundation, footing, base	Sqm	20	289.00	5,780.00
2.52	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)	Cum	10	277.00	2,770.00
2.53	Providing and laying of soling stone	Cum	5	679.00	3,395.00
2.54	Cement plaster in fine sand in 1:3 mix finished with a coat of neat cement and curing complete 18 mm thick. (s-11.8)	Sqm	20	560.00	11,200.00
2.55	Providing, laying & fixing of shock proof rubber mats with adhesive/bonding material 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.	Meter	6	1,205.00	7,230.00
2.56	Supply, installation of 6 kg CO2 type fire extinguisher manufactured as per IS: 15683 of 2006 with IS mark and comply with DGMS (Approval). The CO2 extinguisher should be suitable for class B & C fire and also for fire involving electrical equipment. The cylinder used for fire extinguisher shall be approved by petroleum and explosive safety organization (PESO) as per gas cylinder rules 2004 and as per IS: 7285 of 2004. The body should be made of seamless steel (manganese) conforming to IS: 7285 with IS mark and should be provided with squeeze grip nozzle and should be filled with CO2 conforming to IS: 15222 of 2002 with certificate. The extinguisher shall be provided with manufacturers test certificate and hydraulic test certificate by BIS from PESO.	Job	2	6,447.00	12,894.00

S. No.	Item of work	Unit	Quantity	Rate	Amount
2.57	<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>	Job	2	22,226.00	44,452.00
2.58	<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>	Job	2	8,866.00	17,732.00
2.59	<p>Providing and installation of Junction Box with DP 32 A MCB to serve as Main switch for LED Lighting ncluding complete wiring min 20-30 m from panel board. The job includes making of electric connection to the circuit.</p>	Job	2	2,162.00	4,324.00
2.60	<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>	Job	1	8,154.00	8,154.00
2.61	<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>	Job	15	1,600.00	24,000.00
62	<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>	Job	4	1,400.00	5,600.00
3	<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>	Job	1	2,500.00	2,500.00
	<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>	Job	2	5,500.00	11,000.00

	Item of work	Unit	Quantity	Rate	Amount
2.65	Supply of Earthing station of Panel board, stabilizer, Motors, heating points, lighting points, Distribution boxes 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	Job	5	10,462.00	52,310.00
2.66	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.	Job	1	34,053.00	34,053.00
2.67	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 5031.6 x 0.402 7531.6 x 0.402 10033 x 0.402 1253.53.5 x 0.5 02 1503.53.5 x 0.502 20044 x 0.602 30055 x 0.802 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.	Job	1	28,840.00	28,840.00
2.68	a) Providing of good quality convenience and utility items bedding for night stay/Shift consisting of:- i) Mattress with warm cover size 6'x3' (6Kg)- 02 No's ii) Quilt with warm cover size 5'x8' (6Kg)- 02 No's iii) Pillows with covers - 02 No's iv) Single bed warm blankets with one sided Fur- 02 No's The filling material for mattress, quilt and pillow shall be of good quality cotton 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,	Job	1	39,619.00	39,619.00
2.69	Fabrication of 6' x 6' angle iron bed 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	Kg	94.75	93.00	8,811.75
2.70	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	Sft	36	140.00	5,040.00

S. No.	Item of work	Unit	Quantity	Rate	Amount
2.71	Providing of solar/electrical lantern chargeable on both solar & electrical 220v supply.	Job	1	1,911.00	1,911.00
2.72	Providing of bamboo ladders 18 feet long along with 15 feet long Link rods and HT Glove pair (01 No each)	Job	1	7,350.00	7,350.00
2.73	Providing of 1 KW heat convector for operators for winter season	Job	2	1,205.00	2,410.00
2.74	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.	Sft	24	250.00	6,000.00
2.75	<p>Capacity =30 Kva Providing, installation, Testing & commissioning of 415 ±15%V (output), 3 phase air cooled/water cooled Diesel Generator Specification of approved make as per latest guide liner set as per 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.</p> <p>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.</p> <p>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>	Job	1	6,38,597.00	6,38,597.00

	Unit	Quantity	Rate	Amount
<p>2.76</p> <p>Providing / construction / installation / commissioning of Pre cast, Reinforced concrete constructed / Fiber Reinforced Plastic constructed toilet block with Bio digesters with super structure for pump house and official complex shall have the General specifications.</p> <ul style="list-style-type: none"> • On site constructed / Factory made • Single unit / panelled form as per site requirement • Easy to maintain and clean • All weather protection • Well ventilated • Shall have no effect on natural climaty with regard to Effluent drawn out • Shall be feasible for operation under -15-degree Celsius temperature. • Shall be provided with tyres. <p>Technical Specifications for onsite constructed / Pre cast RCC toilet super structure Toilet Block Size – 4ft x 4ft x 8ft Material – Precast concrete M25, on site – brick masonry or Fiber Reinforced Plastic</p> <p>Desired Features of toilet block:</p> <ul style="list-style-type: none"> • Tiles –up to 3ft on inside walls or as material of construction • Floor – Tiles or as material of construction • Paint on outside walls & inside walls as per material of construction <ul style="list-style-type: none"> • Western Toilet Seat I all made of ceramic (as per requirement) • Taps & Flushing system - Water tap at a nominal height of minimum 13 inches for Orissa Pan. • Flushing system • Electric Wire to connect the bulb • Stand for water tank – Mild Steel of ISA 40 x 40 x 5 mm with CGI roof and proper frost protection during winter. • Door – PVC / AL / FRP any other water proof material. • Water tank Capacity -300 litres of HDPE (with an openable lid) for the supply of water. To be placed on top with suitable frame • Hand washing basin with Tap etc <p>Technical Specifications for Sanitation Unit for Solid waste management (Bio Digester)</p> <ul style="list-style-type: none"> • Capacity of Bio digester- 900 Ltr • Design - With four chambers to ensure long hydraulic retention time <ul style="list-style-type: none"> • Construction of Bio Digester – UPVC / On site concrete constructed / any other chemically inactive material • Catalyst – Highly effective Bio Catalyst. • Inoculum - The cocktail of bacteria duly certified by DRDE of 30 % of the volume of the digester • Bio digester Lining – Inert vulcanized 1.0mm thick Butyl/EPDM rubber CE Marked and non-woven geo textile for bacteria retention • Thickness of Lining – 2mm • Material of Portion waffle – concrete / any other chemically inactive material • Lifting – lugs • 3 – 4 people usage <p>Further job includes all types of works like earth work excavation for bio digester, carriage, transportation, handling, pipes for inlet connection for tank, other pipes etc. for disposal of effluents as per latest Govt norms, electric connection, lock etc</p>	Job	1	1,40,000.00	1,40,000.00
Total advertised/estimated cost:				97,02,650.34
Percentage quoted by L1 firm				-6.00%
Total allotted cost: Rupees Ninty One Lakh Twenty Thousand Four Hundred and Ninty One Only				91,20,491.00


 Executive Engineer
 Jal Shakti (PHE) Mechanical Division (North)
 Sopore