

PRICE PROPOSALS- SUMMARY OF BID PRICES (PRICE SCHEDULE) REVISED AS PER ADDENDUM 1 ON 23.5.18			
Name of the project		Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)	
Name of Employer:		Bihar Urban Infrastructure Development Corporation Limited (BUIDCo)	
Contract Title:		Improvement of Water Supply System in Bhagalpur Municipal Corporation	
Contract Package No:		BH/WS/02	
Bidder's Name:			
S.No.	Price Schedule No	Item Description	AMOUNT to be Quoted by Bidder (Foreign Currency/Local Currency)
PART A: DESIGN BUILD COMPONENTS			
1	Schedule No. 1	Schedule 1: Plant and mandatory spare parts supplied from abroad	Foreign Currency Portion: Local Currency Portion:
2	Schedule No. 2	Schedule 2: Plant and mandatory spare parts supplied from within the Employer's country	Foreign Currency Portion: Not Applicable Local Currency Portion:
3	Schedule No.3	Schedule 3: Design services	Foreign Currency Portion: Local Currency Portion:
4	Schedule No. 4	Schedule 4: Installation and other services	Foreign Currency Portion: Local Currency Portion:
5	Schedule No. 5	Schedule 5: Grand Summary (sum of Schedule 1 to Schedule 4)	Foreign Currency Portion: Local Currency Portion:

S.No.	Price Schedule No	Item Description	AMOUNT to be Quoted by Bidder (Foreign Currency/Local Currency)
6	Schedule No. 6	Recommended Spare parts	Foreign Currency Portion: Local Currency Portion:
Total of Part A Amount of Schedule No. 5)			Foreign Currency Portion: Local Currency Portion:
PART B: ITEM RATE COMPONENTS - CONSTRUCTION WORKS			
7	Schedule No. 7	Raw Water Main	Local Currency Portion (INR):
8	Schedule No. 8	Clear Water Rising main	Local Currency Portion (INR):
Total of Part B (Sum of schedule 7 and 8)			Local Currency Portion (INR):
PART C: OPERATION SERVICES			
9	Schedule No. 9	Operation and Maintenance of water supply system	Local Currency Portion (INR):
PART D: PROVISIONAL SUM			
10	Schedule No. 10	Provisional Sum	INR 50,000,000

S.No.	Price Schedule No	Item Description	AMOUNT to be Quoted by Bidder (Foreign Currency/Local Currency)
GRAND TOTAL OF PART A + PART B + PART C) excluding Provisional Sum		In Figures	Foreign Currency Portion:
			Local Currency Portion:
		In words	Foreign Currency Portion:
			Local Currency Portion:
GRAND TOTAL OF PART A + PART B + PART C +PART D) including Provisional Sum		In Figures	Foreign Currency Portion:
			Local Currency Portion:
		In words	Foreign Currency Portion:
			Local Currency Portion:

PRICE PROPOSALS- PART A DESIGN BUILD COMPONENTS REVISED AS PER ADDENDUM 1 ON 23.5.18							
Name of the project			Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)				
Name of Employer:			Bihar Urban Infrastructure Develoment Corporation Limited (BUIDCo)				
Contract Title:			Improvement of Water Supply System in Bhagalpur Municipal Corporation				
Contract Package No:			BH/WS/02				
Bidder's Name:							
Schedule No.1 PLANT AND MANDATORY SPARE PARTS SUPPLIED FROM ABORAD							
Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.1	Supply and delivery of the Raw water pumps including all machineries and connecting pipes and specials etc for Raw water Pumping station.						
1.1.1	Vertical Turbine pumpset 1027 m3/hr, at an approximate head of 29m (the head shall be designed as per actual site condition, 980 rpm as per specifications.(4W + 2S), and Vertical Solid Shaft Motor suitable for the above pump 980 RPM ,including Soft starter suitable for the above motor. and pipe connections		6 set				
1.1.2	Supply and delivery of power actuated and manually operated CI D/F Sluice valves of reputed make (IS:14846 amended up to date) PN 1.0 class of following dia complete (including jointing material) including CI Dismantling joints all material as per Technical Specifications and as per direction of Engineer.						
1.1.2.1	500 mm Sluice valve		6 No				
1.1.2.2	900 mm Sluice valve		1 No				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.2	Supply and delivery of dual plate check valves as per API:594 and API:598 of PN 1.0 rating of following dia (including jointing material), including all material as per Technical Specifications and as per direction of Engineer. NRV 500mm		6 No				
1.3	Supply and delivery of C.I. D/F electrically actuated long body butterfly valves (IS: 13095) PN-1.0 class of following dia complete (including jointing material) including CI Dismantling joints, all material as per Technical Specifications and as per direction of Engineer. Butterfly Valves 500mm		6 No				
1.4	Supply and delivery of glycerin filled Pressure gauge of following ranges - 0 to 0.6 kg/cm ² with isolation valve and tap off pipe complete in all respect as per technical specification and as per direction of Engineer. 150mm Diameter		6 No				
1.5	Supply and delivery of Electromagnetic Flow Meter etc. including Dismantling joints, all materials, CI/DI fittings etc. complete in all respect as per technical specification and as per direction of Engineer. 600 mm		2 No				
1.6	Supplying and delivery of Electrically Operated Travelling Crane (EOT) .Main girder & End Carriage fabricated from Rolled Steel Section, Gear Box for all motion, Electro Magnetic Friction Disc Type Brakes, all safety limit switches, LT wheels EN 9, Double Flanged 4No, with Sq. Cage motor of adequate rating (kW), duly painted mechanical cleaning and one coat of primer and two coat of synthetic paint and as per the direction of the Engineer. EOT Crane with sufficient capacity to lift the raw water pumpsets with 9 m span and required lift.		2 No				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.7	Supply delivery at site with necessary packing, receiving, unloading, shifting, storing of Non clog submersible pumping set of 2% Ni CI Cascading, Impeller CF 8M, Shaft SS 410, mechanical seal with 10M Power & Control cable , 5M Galvanized Chain, 10M, 50mm MS galvanized Guide pipe, Duck Foot Bend, with Guide wire SS 304 etc. complete with all respect as per specification - Discharge 160 cum/hr and head 8 to 10 M 15 HP Drainage submersible pump for removal of silt in the intake sump.		2 No				
1.8	Supply and delivery of Air Compressor and accessories required for cleaning of Conveyance pipe. The capacity of the compressor shall be adequate to clean the deposited silt in the connecting pipe.		1 No				
1.9	S S Air line for Air compressor 50mm		327.6 kg				
1.10	Perforated air pipe for compressed air 50 mm dia		302.4 m				
1.11	Supply and delivery of CI screwed Air valves class PN-1.0 single ball of approved make, including screw down isolation valve of following dia, jointing material i.e. bolts, nuts, rubber insertions etc. complete including all material as per Technical Specifications and as per direction of Engineer. 50 mm screwed ends		2 No				
1.12	Supply and delivery of anti-vibration pads for foundation of motors		6 No				
1.13	Supply and delivery of clamps for column pipe with rubber bush to control the vibration of bowl assembly		6 No				
1.14	Electrical Substation and system at Intake works						

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
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1	2	3	4	5	6	7=4x6	8
1.14.1	Supply and delivery of underground cable IS:7098 Part-II as per SBPDC specifications and of approved make suitable for working voltage up to and including 33 kV in aluminium conductors XLPE armoured category-I including excavation of 30cm x 150cm size trench as per IS:1255, 24cm thick under layer, refill earth in the remaining portion, making necessary connections including testing etc. as required of size given below and providing & making heat shrinkable type indoor/outdoor/straight through terminations for 33kV XLPE cables with required components.						
	Supply and delivery of 33kV Cable Tapping line from WTP to Raw Water Intake substation - 33kV 3Core 300Sq.mm cable.		2500 m				
1.15	Supply and delivery of the following equipment						
1.15.1	33 KV /0.433 KV substation at Raw Water Intake works						
1.15.1.1	33 KV VCB Panel- Supply and delivery of 800 A, 33 KV indoor type, triple pole metal clad truck mounted horizontal draw out type circuit breaker enclosed in cubicle made of CRCA sheet steel of minimum 3 mm thickness, comply with IS-13118, IEC-56 and confirming to M-2 class. The cubicle panel shall be vermin proof and dust-tight and shall be of folded type construction. The switchgear and control gears complete with all necessary supporting framework, nuts and bolts etc for securing the same to the floor conforming to IEC62271/100-200 with ingress protection as IP-5X. The Indoor panel switch gear (circuit breakers -3 Nos, CTs, -6 NosPTs-3 Nos etc) and control gear (relays, meters etc) shall be mounted on the same panel with principal parameters as under: No. of Poles - 3		1 Set				

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1	2	3	4	5	6	7=4x6	8
	<p>Rated Voltage - 33 KV Rated Insulation Level Lightning Impulse voltage - 170 kV(Peak) One minute Power Frequency withstand voltage - 70 kV(rms)</p> <p>Frequency - 50 Hz Rated normal current - 800 A Short circuit breaking capacity - 25 kA Short circuit withstand current - 25 kA for 3 secs Max. operating time - less than 3 cycles Minimum operations at full rated short circuit breaking currents - 100 Rated Breaking capacity Symmetrical - 25 kA Asymmetrical - As per relevant standards Rated making capacity - 2.5x25 kA Operating mechanism - motor operated spring charged closing mechanism Heater/lamp/socket - 240V Control voltage - 110 VDC Vacuum Circuit Breakers with three interrupters mounted on same carriage having fixed & moving contacts in sealed envelope with vacuum below 10⁻⁶ torr. Complete as per technical specifications and/or as directed by Engineer.</p> <p>The VCB shall include specified cubicle panel, Aluminium / Copper bus bars, Insulator, sleeves, PT, CT etc complete in all respect.</p>						

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.15.1.2	Supply and delivery of 33kV Control & Relay Panel duly mounted with protective relays, metering equipment etc. required for the satisfactory operation of 33kV side of 33/0.4kV Power Transformers. The C/R cubicles of folded type construction with front base frame and door frame fabricated from CRCA sheet steel 10 SWG (3mm) thickness, while the side, roof & doors fabricated out of 14 SWG (2mm) thick CRCA sheet steel. The height of panel inclusive of base channel height of 102 mm of not more than 2312 mm, width of 750 mm or suitable to accommodate equipments and panel of depth 610 mm with dust & vermin proof and suitable for tropical use. The complete panel incorporates all necessary meters, instruments relays, control switches, indicating lamps, mimic buses, audible & visual alarms. The enclosure provide minimum degree of protection equivalent to IP-51 as per IS 2147. The relays offered conforming to latest issue of IS: 3231 & IS-8686. For over current & earth fault numerical relays be provided. In three phase protection relay, the setting for over current element be 50-200% (in steps of 10%)		1 Set				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
	and for earth fault element from 10 to 80% (in steps of 10%). Relay should also have features of self diagnosis, minimum last five abnormal events recording over current & earth fault including fault level & phase along with date & time, on line display of current and communicable with open protocol having RS-485 port. The panel be equipped with Annunciation scheme for indicating all annunciations equipped for the trip & non trip alarms. All indicating instruments of Switch Board type back connected suitable for flush mounting and provided with dust & vermin proof case for tropical use. All indicating instruments conforming to latest edition of IS-2419/1963. complete as per technical specifications and /or as directed by engineer. 33 kV Relay Panel						
1.16	Supply and delivery of required no. of lightening arrester set complete with 600mm x 600mm x 6mm thick G.I. earthing plate, G.I. strip of size 25mmx5mm thick, G.I. Finial made of GI bar 25mm dia and 2m long. Lightning Impulse voltage - 170 kV(Peak)		1 Set				
1.17	Supply and delivery of HT metering cubical panel as approved By DISCOMs fabricated out of 14 SWG CRCA sheet steel in two compartment & MS angle of size 60mmX6mm having provision for Following: (i) Provision for fixing Trivector Meter (To be supplied by DISCOMs) (ii) Provision for fixing of combined CT PT Set (To be supplied by DISCOMs) (iii) TT Block (iv) 6mm Bakelite sheet on all sides.		1 Set				

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				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.18	Supply and delivery of Earthing materials for all substation equipment as per IS:3043 as per IEEE Standard 80-2000 (IEEE Guide for safety in AC Substation Grounding)		5 Set				
1.19	SF Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV, 25 mm thick		12 Sq.m				
1.20	Transformer Supply and delivery of following rating out door type oil filled off circuit tap changer transformer with the following specification and confirming to IS 1180(Part 1 -2014) Thickness of transformer Tank (rolling tolerance as per IS) No Load Voltage ratio : 33/0.433 kV No. of phases / frequency : 3 Phases/ 50 Hz Type : Core type, double copper wound Cooling : ONAN Vector Group : DYN11 Temparature rise (OIL/WINDING) : 40/50 deg C Off circuit Taps on HV side in the steps of 2.5%,+5 % to -10% Termiantion (HV) : Air filled cable end box suitable for 33 kV of adequate cable size Termiantion (LV) : Air filled cable end box suitable for 1.1 kV of adequate cable size The transformer shall be supplied with following fittings: (i)Bochholz Relay (ii)Conservator with drain valve (iii)Magnetic Level Indicator (iv)Silica gel breather with oil seal (v) First filling of filtered oil as per IS : 335 including make up fill during installation of transformer plus 10% extra oil (vi) off circuit switch		2 Set				

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	(vii) Lifting lugs (viii) Earthing terminal- 2 nos. (ix) Thermometer pocket (x) Air release plug (xi) Inspection cover (xii) Top filter valve - 1 no. (xiii) Radiator with top & bottom shut off valves (xiv) 100 mm dial magnetic oil level guage with max. pointer & with alarm contacts (xv) Rating & Diagram plate (xvi) Bi-directional Plain/ Flanged Rollers (xvii) 150 mm dial Winding temperature indicator with max pointer and alarm & trip contacts (xviii) 150 mm dial Oil temperature indicator with max pointer and alarm & trip contacts (xix) Disconnecting facility of HV Cable box Transformers descibed as above and as per the following continuous rating 1250kVA Transformer (1250KVA capacity of transformer is minimum, however if the design indicates a higher capacity shall be considered).						
1.21	Supply and delivery of Automatic Power factor Improvement Panel to improve the power factor up to 0.95 lagging. This will include panel cubical, Microprocessor based intelligent power factor correction relay complete in all respect.		1 Set				
1.22	Supply and delivery of Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV, 25 mm thick		15 Sq.m				
	LT Panel RWPS						

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				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.23	<p>Supply and delivery of wall/free standing floor mounted dust and vermin proof compartmentalized cubical panel for 0.415kV including the suitable size of electrolytic grade Copper Bus Bars, insulators etc., for the following feeders:</p> <p>1. 2 Nos. Incoming ACB from the transformer- This will be provided with (but not limited to) Digital Multifunction meter compatible to SCADA, metering, Protection CT's, IDMT 3O/C&1 E/F, indicating lamps, control fuse , wiring etc. complete in all respect</p> <p>2. 1No. ACB for Bus Coupler. This will be provided with (but not limited to) without release Protection CT's, IDMT 3 O/C & 1 E/F, Indicating Lamps, Control Fuses and wiring etc. complete in all respect.</p> <p>3. MCCB panels for APFC Panel, Pumping plant, Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.8)</p> <p>4.MCCB panels for auxiliary and spare (Minimum No.6)</p> <p>Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.8)</p> <p>MCCB shall be provided with shunt release, Under voltage release and Earth fault module.</p>		1 Set				

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				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.24	Supply and delivery of Bus Trunking arrangement in convenient sections complete with housing of galvanized sheet steel of minimum 1.5mm thickness, Copper bus bar for use of 3phase-4Wire 415Volt A.C supply with degree of protection ip-42 for the minimum 2000A rating including jointing of Section, flexible joints, expansion joints and earthing with 2 runs of aluminum strips,etc. From Transformer LT to incoming of LT Panel.		1 Lot				
1.25	Supply and delivery of XLPE insulated sheathed cable of 1.1 kV grade with aluminium conductor Armoured of IS:7098-I/1554-1 approved make in ground as per IS:1255		1 Lot				
1.26	Supply and delivery of Battery Charger, battery bank of min 150 AH capacity comprising SMF/VRLA batteries, MS / Teakwood battery stand, interconnect wiring etc. as required complete in all respect.		1 set				
1.27	Supply and delivery of Earthing materials of all equipment as per IS:3043. and requirement of IER.		1 Job				
1.28	Supply and delivery of the settled water pumping station machineries and connected pipes and specials etc for settled water sedimentation Pumping station.						
1.28.1	Vertical Turbine pumpset 1027 m3/hr, at an approximate head of 8m (the head shall be designed as per actual site condition, 980 rpm as per specifications.(4W + 2S) and Vertical Solid Shaft Motor suitable for the above pump 980 RPM including soft starter for the pumps, and MS pipe connections		6 set				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.28.2	Providing, lowering, laying, aligning, fixing in position in pipe line, power actuated and manually operated CI D/F Sluice valves of reputed make (IS:14846 amended up to date) PN 1.0 class of following dia complete (including jointing material) including CI Dismantling joints all material, labour, testing and commissioning along with pipe line as per Technical Specifications and as per direction of Engineer. 450mm		6 No				
1.28.3	Supply and delivery of dual plate check valves as per API:594 and API:598 of PN 1.0 rating of following dia (including jointing and jointing material), including all material, as per Technical Specifications and as per direction of Engineer. NRV 450mm		6 No				
1.28.4	Supply and delivery of DI D/F electrically actuated long body butterfly valves (IS: 13095) PN-1.0 class of following dia complete (including jointing material) including all material Dismantling joints as per Technical Specifications and as per direction of Engineer.						
1.28.4.1	450mm		6 No				
1.28.4.2	900mm		1 No				
1.28.5	Providing, installation, testing and commissioning of glycerin filled Pressure gauge of following ranges with isolation valve and tap off pipe complete in all respect as per technical specification and as per direction of Engineer. Glycerine filled Pressure Gauge 0 to 6.0 kg/cm ² 150mm dia.		6 No				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.28.6	Supply and delivery of Electrically Operated Travelling Crane (EOT) .Main girder & End Carriage fabricated from Rolled Steel Section, Gear Box for all motion, Electro Magnetic Friction Disc Type Brakes, all safety limit switches, LT wheels EN 9, Double Flanged 4No, with Sq. Cage motor of adequate rating (kW), duly painted mechanical cleaning and one coat of primer and two coat of synthetic paint and as per the direction of the Engineer. EOT Crane with sufficient capacity to lift the settled water pumpsets with 9 m span and required lift		1 No				
1.28.7	Supply and delivery of wall/free standing floor mounted dust and vermin proof compartmentalized cubical panel for 0.415kV including the suitable Supply and delivery of wall /free standing floor mounted dust and vermin proof compartmentalized cubical panel for 0.415kV including the suitable size of electrolytic grade Copper Bus Bars, insulators etc., for the following feeders: 1. 1 No. Incoming MCCB -This shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampere meter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. 2. MCCB panels for Pumping plant Automatic Star Delta Starter 6 Nos. Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampere meter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.8) 3.MCCB panels for auxiliary and spare-		1 Set				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
	Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampere meter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.3) MCCB shall be provided with shunt release, Under voltage release and Earthfault module.						
1.28.8	Supply and delivery of Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV, 25 mm thick for the Panel		1 set				
1.28.9	Supply and delivery of XLPE insulated sheathed cable of 1.1 kV grade with aluminium conductor Armoured of IS:7098-I/1554-1 approved make in ground as per IS:1255 etc. of required size and length for the pumping stations.		1 Lot				
1.28.10	Supply and delivery of Earthing of all equipment as per IS:3043 and requirement of IER.		1 Set				
1.28.11	Supply and delivery of charged ABC type fire extinguisher with nut, bolts etc as required.5 KG		4 No				
1.29	Supply and delivery of the Clear water pumping station machineries including connected pipes and specials etc complete at WTP						
1.29.1	Vertical Turbine pumpset 978 m3/hr, at an approximate head of 38m (the head shall be designed as per actual site condition, 980 rpm as per specifications. (5W + 2S) and Vertical solid shaft Motor suitable for the pumps including the soft starter suitable for the motor of the pump and connecting pipes		7 set				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.29.2	Supply and delivery of power actuated and manually operated DI D/F Sluice valves of reputed make (IS:14846 amended up to date) PN 1.0 class of following dia complete (including jointing material) including CI Dismantling joint and all material as per Technical Specifications and as per direction of Engineer.						
1.29.2.1	450mm						
1.29.1.2	450mm		7 No				
1.29.2.3	700mm		1 No				
1.29.3	Supply and delivery of DI dual plate check valves as per API:594 and API:598 of PN 1.0 rating of following dia with jointing material including DI Dismantling joint all material, as per Technical Specifications and as per direction of Engineer.						
1.29.3.1	NRV 450mm		7 No				
1.29.3.2	NRV 700mm		2 No				
1.29.4	Supply and delivery of DI D/F electrically operated long body butterfly valves (IS: 13095) PN-1.0 class of following dia complete (including jointing material) including DI Dismantling joint, all material as per Technical Specifications and as per direction of Engineer.						
1.29.4.1	450mm		7 No				
1.29.4.2	700mm		2 No				
1.29.5	Supply and delivery of glycerin filled Pressure gauge of following ranges with isolation valve and tap off pipe complete in all respect as per technical specification and as per direction of Engineer. Glycerine filled Pressure Gauge 0 to 10kg/cm² 150mm diameter		7 No				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
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1	2	3	4	5	6	7=4x6	8
1.29.6	Supply and of Electromagnetic Flow Meter etc. including all materials and making connection with pipeline required for Electromagnetic Flow Meter as per technical specification and as per direction of Engineer.						
1.29.6.1	EMF 600 mm		2 No				
1.29.6.2	EMF 400 mm		22 No				
1.29.6.3	EMF 300 mm		20 No				
1.29.6.4	EMF 200 mm		2 No				
1.29.6.5	EMF 150 mm		1 No				
1.29.7	Supply and delivery of Electrically Operated Travelling Crane (EOT). Main girder & End Carriage fabricated from Rolled Steel Section, Gear Box for all motion, Electro Magnetic Friction Disc Type Brakes, all safety limit switches, LT wheels EN 9, Double Flanged 4No, with Sq. Cage motor of adequate rating (kW), duly painted mechanical cleaning and one coat of primer and two coat of synthetic paint and as per the direction of the Engineer. Add extra for additional per metre lift. EOT Crane 10T, 9m span, 9m lift.		1 No				
1.30	Electrical Substation and system						
1.30.1	33kV Single Circuit Lattice Structure The 33kV power will be made available by 33kV double Circuit underground cable from Sabour Grid Sub Staion to Barari by Bhagalpur Electricity Distribution Company Pvt. Ltd.		1 set				

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				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.30.2	<p>Supply and delivery of 33 kV Double Pole structure made of two nos. 10 m long PCC poles & 7 nos. MS Channel size 100x50x6mm with GO switch, DO fuse set and lightning arrestors with following specifications. GO: Off load type gang operated three pole Horizontal type switch suitable for 33kV, 800A, 3phase central post rotating double break isolator complete with MS Hardware, copper moving & fixed contacts, assembly of 9 Nos. Post Insulators, GI pipe of suitable length for operation. DO: 3 Nos. Horizontal/Vertical mounted 33kV Horn Gap fuse set / Drop Out fuse set, 33kV barrel fuses mounted on 6 Nos. Post insulators. LA: 3 piece non linear resistor type lightening arrestor of approved make suitable for 3 wire, 33kV oh line with rated voltage 30kV rms & nominal discharge current rating of 10 kA & complete with galvanized clamping arrangement, GI bolts, nuts, washers etc. as required. Jumpers:3 Nos. ACSR Dog Conductor mounted on post type insulators as required.</p> <p>The GO shall be operated by hand operated liver properly earthed with provision for locking mounted at 3'. Complete as per technical specifications and /or as directed by the Engineer.</p>		2 set				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.30.3	36 KV VCB Panel- Supply and delivery of 800 A, 36 KV indoor type, triple pole metal clad truck mounted horizontal draw out type circuit breaker enclosed in cubicle made of CRCA sheet steel of minimum 3 mm thickness, comply with IS-13118, IEC-56 and confirming to M-2 class. The cubicle panel shall be vermin proof and dust-tight and shall be of folded type construction. The switchgear and control gears complete with all necessary supporting framework, nuts and bolts etc for securing the same to the floor conforming to IEC62271/100-200 with ingress protection as IP-5X. The Indoor panel switch gear (circuit breakers-3 Nos, CTs-6 Nos, PTs -3 Nos etc) and control gear (relays, meters etc) shall be mounted on the same panel No. of Poles - 3 Rated Voltage - 36 KV Rated Insulation Level Lightning Impulse voltage - 170 kV(Peak) One minute Power Frequency withstand voltage - 70 kV(rms) Frequency - 50 Hz Rated normal current - 800 A Short circuit breaking capacity - 25 kA Short circuit withstand current - 25 kA for 3 secs Max. operating time - less than 3 cycles Minimum operations at full rated short circuit breaking currents - 100 Rated Breaking capacity Symmetrical - 25 kA Asymmetrical - As per relevant standards Rated making capacity - 2.5x25 kA		1 Set				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
	<p>Operating mechanism - motor operated spring charged closing mechanism Heater/lamp/socket - 240V</p> <p>Control voltage - 110 VDC</p> <p>Vacuum Circuit Breakers with three interrupters mounted on same carriage having fixed & moving contacts in sealed envelop with vacuum below 10-6 torr. complete as per technical specifications and/or as directed by Engineer.</p> <p>The VCB shall include specified cubicle panel, Aluminium / Copper bus bars, Insulator, sleeves, PT, CT</p>						
1.30.4	Supply, installation, testing & commissioning of 33kV Control & Relay Panel duly mounted with protective relays, metering equipment etc. required for the satisfactory operation of 33kV side of 33/0.4kV Power Transformers.		1 No				
1.30.5	<p>Supply and delivery of HT metering cubical panel as approved By DISCOMs fabricated out of 14 SWG CRCA sheet steel in two compartment & MS angle of size 60mmX6mm having provision for Following:</p> <p>(i) Provision for fixing Trivector Meter (To be supplied by DISCOMs)</p> <p>(ii) Provision for fixing of combined CT PT Set (To be supplied by DISCOMs)</p> <p>(iii) TT Block</p> <p>(iv) 6mm Bakelite sheet on all sides.</p> <p>Metering Cubicle</p>		1 No				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.30.6	Supply and delivery of lightening arrester set complete with 600mm x 600mm x 6mm thick G.I. earthing plate, G.I. strip of size 25mmx5mm thick Lightning Impulse voltage - 170 kV(Peak)		1 set				
1.30.7	Supply and delivery of of all substation equipment as per IS:3043 as per IEEE Standard 80-2000 (IEEE Guide for safety in AC Substation Grounding)		1 Job				
1.30.8	Supply and delivery of following size earth wire/strip in horizontal or vertical run in ground/surface/recess 25mm x 3mm G.I.Strip Frequency - 50 Hz		250 m				
1.30.9	Supply and delivery of SF Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV Rated normal current - 800 A		12 Sq.m				
1.31	Transformer		2 set				
1.31.1	Supply and delivery of following rating out door type oil filled off circuit tap changer transformer with the following specification and confirming to IS 1180(Part 1 -2014) Thickness of transformer Tank (rolling tolerance as per IS) No Load Voltage ratio : 33/0.433 kV No. of phases / frequency : 3 Phases/ 50 Hz Type : Core type, double copper wound Cooling : ONAN Vector Group : DYN11 Temparature rise (OIL/WINDING) : 40/50 deg C Off circuit Taps on HV side in the steps of 2.5%,+5 % to -10%						

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
	Termiantion (HV) : Air filled cable end box suitable for 33 kV of adequate cable size Termiantion (LV) : Air filled cable end box suitable for 1.1 kV of adequate cable size The transformer shall be supplied with following fittings: (i)Bochholz Relay (ii)Conservator with drain valve (iii)Magnetic Level Indicator (iv)Silica gel breather with oil seal (v) First filling of filtered oil as per IS : 335 including make up fill during installation of transformer plus 10% extra oil (vi) off circuit switch (vii) Lifting lugs (viii) Earthing terminal- 2 nos. (ix) Thermometer pocket (x) Air release plug (xi) Inspection cover (xii) Top filter valve - 1no. (xiii) Radiator with top & bottom shut off valves (xiv) 100 mm dial magnetic oil level guage with max. pointer & with alarm contacts (xv) Rating & Diagram plate (xvi) Bi-directional Plain/ Flanged Rollers (xvii) 150 mm dial Winding temperature indicator with max pointer and alarm & trip contacts (xviii) 150 mm dial Oil temperature indicator with max pointer and alarm & trip contacts (xix) Disconnecting facility of HV Cable box Transformers described as above and as per the following continuous rating						

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
	2000kVA Transformer (2000KVA capacity of transformer is minimum, however if the design indicates a higher capacity shall be considered).						
1.31.2	Supply and delivery of Automatic Power factor Improvement Panel to improve the power factor up to 0.95 lagging. This will include panel cubical, Microprocessor based intelligent power factor correction relay complete in all respect.		1 Set				
1.31.3	Supply and delivery of SF Rubber matting with one side corrugated as per IS specification 15652/2006 Rated making capacity - 2.5x25 kA		12 Sq.m				
1.32	LT Panel CWPS		1 Set				
1.32.1	Supply and delivery of wall/free standing floor mounted dust and vermin proof compartmentalised cubical panel for 0.415kV including the suitable size of electrolytic grade Copper Bus Bars, insulators etc., for the following feeders: 1. 2 Nos. Incoming ACB from the transformer- This will be provided with (but not limited to) Digital Multifunction meter compatible to SCADA, metering, Protection CT's, IDMT 3O/C&1 E/F, indicating lamps, control fuse , wiring etc. complete in all respect 2. 1No. ACB for Bus Coupler. This will be provided with (but not limited to) without release Protection CT's, IDMT 3 O/C & 1 E/F, Indicating Lamps, Control Fuses and wiring etc. complete in all respect. 3. MCCB panels for APFC Panel, Pumping plant, Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to scada, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.9)						

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
	4.MCCB panels for auxiliary and spare (Minimum No.6) Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to scada, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. MCCB shall be provided with shunt release, Under voltage release and Earth fault module.						
1.32.2	Supply and delivery of Bus Trunking arrangement in convenient sections complete with housing of galvanized sheet steel of minimum 1.5mm thickness, Copper bus bar for use of 3phase-4Wire 415Volt A.C supply with degree of protection ip-42 for the minimum 2000A rating and earthing with 2 runs of aluminum strips,etc. From Transformer LT to incoming of LT Panel.		1 Job				
1.31.3	Supply and delivery of XLPE insulated sheathed cable of 1.1 kV grade with aluminium conductor Armoured of IS:7098-I/1554-1 approved make in ground as per IS:1255 of required size and length for the pumping stations.		1 Job				
1.32.4	Supply and delivery of Battery Charger, battery bank of min 150 AH capacity comprising SMF/VRLA batteries, MS / Teakwood battery stand, interconnect wiring etc. as required complete in all respect.		1 set				
1.32.5	Supply and delivery of internal and external lighting of all campus including Raw water pumping station, Sedimentation Pumping Station, Clear Water pumping Station and all other buildings to be constructed under this tender. The illumination level to be provided shall be in accordance to the lux level mentioned elsewhere in technical specifications. All lights shall be LED.		1 Job				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.32.6	Supply and delivery of 3pin 5Amp, and 6 pin15Amp light and power points as per requirement to be decided by the Engineer In charge for all buildings under this tender.		1 Job				
1.32.7	Supply and delivery of Ceiling fans as per requirement to be decided by the Engineer Incharge for all buildings under this tender.		1 Lot				
1.32.8	Supply and delivery of Ventilation arrangement for all the buildings proposed under this tender according to requirement narrated in technical Specifications and decided by the engineer In charge.		1 Lot				
1.32.9	Supply and delivery of spares , tools and other equipment for the Raw water pumping station, settled water pump house and clear water pump house		1 lot				
1.33	Automation and equipment						
	Supply and delivery of the SCADA system with the following equipment						
	For Raw water Pump House						
1.33.1	PLC Panel with required hardware & software		1 Lot				
1.33.2	UPS with batteries		1 Lot				
1.33.3	Level Instruments		2 Nos				
1.33.4	Temperature Instruments		6 Nos				
1.33.5	Vibration monitoring System		6 Nos				
1.33.6	Pressure Transmitter		7 Nos				
1.33.7	Flow Instruments		1 Nos				
1.33.8	Control and Instrumentation cables		1 Lot				
1.33.9	Instrumentation Earthing materials with accessories		1 Lot				
1.33.10	Cable trays/supports for cable laying of requires size		1 Lot				
1.33.11	Equipment for Data transmission via Radio frequency		1 Lot				
	WTP						
1.33.12	Sedimentation Pump house						
1.33.13	PLC Panel with required hardware & software		1 Lot				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.33.14	UPS with batteries		1 Lot				
1.33.15	Level Instruments		2 Nos				
1.33.16	Pressure Transmitter		7 Nos				
1.33.17	Flow Instruments		1 Nos				
1.33.18	Instrumentation Earthing materials with accessories		1 Lot				
	Clarifier Area						
1.33.19	PLC Panel with required hardware & software		1 Lot				
1.33.20	UPS with batteries		1 Lot				
1.33.21	Level Instruments		1 Nos				
1.33.22	Flow Instruments		1 Nos				
1.33.23	Instrumentation Earthing materials with accessories		1 Nos				
	Filter Area						
1.33.24	PLC Panel with required hardware & software		1 Lot				
1.33.25	UPS with batteries		1 Lot				
1.33.26	Remote Filter PLC(2 Nos) with hardware & software accessories		2 Lot				
1.33.27	Level Instruments		13 Nos				
1.33.28	Pressure Instruments includes differential pressure instruments		11 Nos				
1.33.29	Flow Instruments		2 Nos				
1.33.30	Instrumentation Earthing materials with accessories		1 Lot				
	Chemical Area						
1.33.31	PLC Panel with required hardware & software		1 Lot				
1.33.32	UPS with batteries		1 Lot				
1.33.33	Flow Instruments		3 Nos				
1.33.34	Level Instruments		9 Nos				
1.33.35	Pressure Transmitter		6 Nos				
1.33.36	Instrumentation Earthing materials with accessories		1 Lot				
	Sludge Area						

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.33.37	PLC Panel with required hardware & software		1 Lot				
1.33.38	UPS with batteries		1 Lot				
1.33.39	Flow Instruments		4 Nos				
1.33.40	Level Instruments		6 Nos				
1.33.41	Pressure Transmitter		4 Nos				
1.33.42	Instrumentation Earthing materials with accessories		1 Lot				
	Chlorine Area						
1.33.43	PLC Panel with required hardware & software		1 Lot				
1.33.44	UPS with batteries		1 Lot				
1.33.45	Flow Instruments		2 Nos				
1.33.46	Pressure Transmitter		12 Nos				
1.33.47	Instrumentation Earthing materials with accessories		1 Lot				
	Clear water pump house						
1.33.48	PLC Panel with required hardware & software		1 Lot				
1.33.49	UPS with batteries		1 Lot				
1.33.50	Level Instruments		4 Nos				
1.33.51	Temperature Instruments		7 Nos				
1.33.52	Vibration monitoring System		7 Nos				
1.33.53	Pressure Transmitter		9 Nos				
1.33.54	Flow Instruments		2 Nos				
1.33.55	Instrumentation Earthing materials with accessories		1 Lot				
1.33.56	Equipment for Data transmission via Radio frequency		1 Lot				
1.33.57	Control and Instrumentation cables for WTP(includes accessories like glands, lugs, etc)		1 Lot				
1.33.58	Communication Cables inside WTP(fiber optic cable)		1 Lot				
1.33.59	Cable trays/supports for cable laying of requires size		1 Lot				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.33.60	2 no's of SCADA operator station(Required Hard ware & Software Licensed) of WYP with control desk and its accessories		2 Lot				
1.33.61	2 no's of SCADA server station(Required Hard ware & Software Licensed) WTP with control desk and its accessories		2 Lot				
1.33.62	2 no's of SCADA operator station(Required Hard ware & Software Licensed) for BMC with control desk and its accessories		2 Lot				
1.33.63	Online water quality analyzers like Turbidity, pH, chlorine etc.		1 Lot				
	Distribution system (Phase 1)						
1.33.64	PLC Panel with required hardware & software		48 Lot				
1.33.65	UPS with batteries		48 Lot				
1.33.66	Level Transmitter		48 Nos				
1.33.67	Equipment for Data transmission via Radio frequency		48 Lot				
	WTP						

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.34	Supply and delivery of Equipment such as pipe connection to all the components of WTP including suitable valves and ,measuring devices, chemical dosing pipe lines etc complete pumps, motors, scrapping equipment's, suitable capacity of Filter Bach wash pumps, Air Blowers for filter back wash, suitable capacity of vacuum type chlorinators with motive water pumps for pre and post chlorination, Emergency tonner leakage control kit, exhaust equipment, scrubbing system with working and standby suction fan, absiration tower, scrubbing media tank, working and standby scrubbing media circulation pumps, EOT of suitable capacity where required, submerged mixers, solid bowl type centrifuge for sludge dewatering unit , agitator laboratory equipment etc complete suitable for 90 MLD Treatment Plant etc complete and as directed by Engineer						
1.34.1	Motorised 1300 mm dia DI Butterfly valves at inlet		1 No				
1.34.2	Motorised 800 mm DI Butterfly valves at Flash Mixer to Flocullator		2 Nos				
1.34.3	Motorised 400 mm DI Butterfly valves at Filter out let		12 Nos				
1.34.4	Motorised 400 mm DI Butterfly valves at Flow Restrictor valve		12 Nos				
1.34.5	Motorised 500 mm DI Butterfly valves at Wash water inlet		12 Nos				
1.34.6	200 mm sluice valve for Drain valve for manual operation		12 Nos				
1.34.7	Motorised 250 mm DI Butterfly valves at scour Air inlet		12 Nos				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.34.8	400 mm Globe valve for Air Purge line		12 Nos				
1.34.9	Motorised 500 mm DI Sluice valves at Wash water line from OHT		2 Nos				
1.34.10	Motorised 250 mm DI Butterfly valves at Air Line from Air Blower		6 Nos				
1.34.11	Motorised 300 mm DI Butterfly valves at Back wash Pump		2 Nos				
1.34.12	300 mm DI Isolation valve at Back wash Pump		2 Nos				
	Motorised Gates						
1.34.13	400 mm x 400 mm at Filter inlet		12 Nos				
1.34.14	600mm x 600 mm at Flash Mixer		2 Nos				
1.34.15	600 mm x 600 mm at Floculator		4 Nos				
1.34.16	800 mm x 800 mm at Wash water outlet		6 Nos				
	Chlorine Dosing Pipelines						
1.34.17	PP Ball Valves - 400 mm dia at Line for Alum/PAC Dosing		6 Nos				
1.34.18	PP Ball Valves - 400 mm dia at Line for Poly Electrolyte Dosing		6 Nos				
1.34.19	PP Ball Valves - 400 mm dia at Line for Dewatering Poly		2 Nos				
1.34.20	PP Ball Valves - 400 mm dia at Line for Line for coagulating Poly in Waste recovery system		4 Nos				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
	Pipes						
1.34.21	900 mm dia MS pipes -for Flash Mixer to Flocculator		20 m				
1.34.22	900 mm dia MS pipes -for Flash Mixer to Flocculator		30 m				
1.34.23	400 mm DI K9 pipe for Filtered water outlet		64 m				
1.34.24	200 mm DI K9 pipe for Air inlet		200 m				
1.35	Major Equipment in Water Treatment Plant Supply and Delivery of Major Equipment suitable for WTP components						
1.35.1	Slow speed Motor with Pedal arrangement for Flash Mixer		2 Set				
1.35.2	Flocculation and sludge scarping arrangement for Plate Settler and Flocculation/Clarifier Units		4 Set				
1.35.3	Filter Back wash pumps with required capacity		2 Nos				
1.35.4	Twin Lobe type Air Blowers for filter backwash with required capacity		2 Nos				
1.35.5	Monorail Hoist		2 Nos				
1.35.6	Filter Media (Sand & Gravel)		2610.14 Tonne				
	Chlorination System						

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.35.7	Vaccum Type Chlorinator for pre Chlorination Capacity 12 kg/hour each complete with motive water pumps and all other accessories Vaccum Type Chlorinator for post Chlorination Capacity 12 kg/hour each complete with motive water pumps and all other accessories -2 Nos Chlorine room safety kit- 5 Set Emergency tonner leakage control Kit - 1 No Exhaust Equipmet - 1 set Scrubbing system with working and stand by suction fan, absorption tower, scrubbing media tank, working and standby scrubbing media circulation pumps etc- 1 Set		1 set				
1.36.8	EOT- 2 TONNE		2 Nos				
	Dirty Back wash Holding Tank						
1.36.9	Submerged Mixers		2 Nos				
1.36.10	Motor Submersible type pumps of 430 cu. m/hour capacity at 15 m head		3 Nos				
1.36.11	Mixers for coagulation polyelectrolyte solution preparation tank		2 Nos				
1.36.12	Coagulation Polyelectrolyte dosing (metering) Pumps		2 Nos				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
	Thickner						
1.36.13	Equipment for mixing, flocculation coagulation, sludge scrapping and clarification		3 Set				
	Thickned sludge Tank						
1.36.14	Rotating Screw type positive displacement pumps for transferring sludge to dewatering units Capacity 25 Cu. M /hour at 30 m head with stand by		1 set				
1.36.15	Chain Pulle Block for Sludge Transfer Pumps		1 No				
	Centrifuge , Sludge Dewatering						
1.36.16	Solid Bowl Type Centrifuge Capacity 25Cu.M /hour slurry basis and 20 Ton dry solids per daywith standby		1 set				
	Dewatering Poly Solution Preparation & Dosing						
1.36.17	Agitator for solution preparation Tank		2 Nos				
1.36.18	Polyelectrolyte dosing (metering) Pumps rang 0.25lit/min to 2.5 lit /min		2 Nos				
1.36.19	Polyelectrolyte Solution Tanks (2000 Lit Capacity)		2 Nos				
	Coagulating Polyelectrolyte Solution Preparation and Dosing						
1.36.20	Agitator for solution preparation Tank		2 Nos				
1.36.21	Polyelectrolyte dosing (metering) Pumps rang 0.25lit/min to 2.5 lit /min		2 Nos				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.36.22	Polyelectrolyte Solution Tanks (2000 Lit Capacity)		2 Nos				
	Alum/ PAC Dosing						
1.36.23	Agitator for solution preparation Tanks (replacement of Existing Mixers)		2 Nos				
1.36.24	Metering Pumps for ALUM/PAC dosing pump range 2.5lit/min to 25 lit/min at 10 m head		2 Nos				
	Polyelectrolyte Dosing						
1.36.25	Agitator for solution preparation Tanks (replacement of Existing Mixers)		2 Nos				
1.36.26	Metering Pumps for Polyelectrolyte dosing dosing range 0.25 lit/min to 2.5 lit/min		2 Nos				
1.36.27	Poly solution tanks 10000 lit cap.		2 Nos				

Item	Description	Country of origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7=4x6	8
1.36.28	Laboratory Equipment		1 Set				
1.36.29	Supply and delivery of any other Equipment required to complete this project other than specified above. The contractor has to submit the list of such equipment along with cost of each equipment		1 set				
TOTAL Column 7 to be carried forward to Schedule No. 5: Grand Summary							

Name of Bidder _____

Signature of Bidder _____

Specify currencies in accordance with ITB 15.1 of the BDS. Create additional columns for up to a maximum of three foreign currencies if so required.

Country of Origin Declaration Form (as per ITB 15)☐

Item	Description	Country

1. For a particular item, the bidder shall quote rate either in Schedule 1 or Schedule 2. If the bidder quotes rates for a item in both these Schedules then minimum rate mentioned in schedule 1 or schedule 2 shall be considered for evaluation.

2. The Rates shall include all shipment, freight, loading and unloading charges up to the site.

PRICE PROPOSALS- PART A DESIGN BUILD COMPONENTS

REVISED AS PER ADDENDUM 1 ON 23.5.18

Name of the project	Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)
Name of Employer:	Bihar Urban Infrastructure Development Corporation Limited (BUIDCo)
Contract Title:	Improvement of Water Supply System in Bhagalpur Municipal Corporation
Contract Package No:	BH/WS/02
Bidder's Name:	

Schedule No.2 PLANT AND MANDATORY SPARE PARTS SUPPLIED FROM WITHIN EMPLOYER'S COUNTRY

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.1	Supply and delivery of the Raw water pumps including all machineries and connecting pipes and specials etc for Raw water Pumping station.					
2.1.1	Vertical Turbine pumpset 1027 m3/hr, at an approximate head of 29m (the head shall be designed as per actual site condition, 980 rpm as per specifications.(4W + 2S), and Vertical Solid Shaft Motor suitable for the above pump 980 RPM ,including Soft starter suitable for the above motor. and pipe connections	6 set				
2.1.2	Supply and delivery of power actuated and manually operated CI D/F Sluice valves of reputed make (IS:14846 amended up to date) PN 1.0 class of following dia complete (including jointing material) including CI Dismantling joints all material as per Technical Specifications and as per direction of Engineer.					
2.1.2.1	500 mm Sluice valve	6 No				
2.1.2.2	900 mm Sluice valve	1 No				
2.2	Supply and delivery of dual plate check valves as per API:594 and API:598 of PN 1.0 rating of following dia (including jointing material), including all material as per Technical Specifications and as per direction of Engineer.	6 No				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	NRV 500mm					
2.3	Supply and delivery of C.I. D/F electrically actuated long body butterfly valves (IS: 13095) PN-1.0 class of following dia complete (including jointing material) including CI Dismantling joints, all material as per Technical Specifications and as per direction of Engineer. Butterfly Valves 500mm	6 No				
2.4	Supply and delivery of glycerin filled Pressure gauge of following ranges - 0 t 0 6.0kg/cm ² with isolation valve and tap off pipe complete in all respect as per technical specification and as per direction of Engineer. 150mm Diameter	6 No				
2.5	Supply and delivery of Electromagnetic Flow Meter etc. including Dismantling joints, all materials, CI/DI fittings etc. complete in all respect as per technical specification and as per direction of Engineer. 600 mm	2 No				
2.6	Supplying and delivery of Electrically Operated Travelling Crane (EOT) .Main girder & End Carriage fabricated from Rolled Steel Section, Gear Box for all motion, Electro Magnetic Friction Disc Type Brakes, all safety limit switches, LT wheels EN 9, Double Flanged 4No, with Sq. Cage motor of adequate rating (kW), duly painted mechanical cleaning and one coat of primer and two coat of synthetic paint and as per the direction of the Engineer. EOT Crane with sufficient capacity to lift the raw water pumpsets with 9 m span and required lift.	2 No				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.7	Supply delivery at site with necessary packing, receiving, unloading, shifting, storing of Non clog submersible pumping set of 2% Ni Cl Cascading, Impeller CF 8M, Shaft SS 410, mechanical seal with 10M Power & Control cable , 5M Galvanized Chain, 10M, 50mm MS galvanized Guide pipe, Duck Foot Bend, with Guide wire SS 304 etc. complete with all respect as per specification - Discharge 160 cum/hr and head 8 to 10 M 15 HP Drainage submersible pump for removal of silt in the intake sump.	2 No				
2.8	Supply and delivery of Air Compressor and accessories required for cleaning of Conveyance pipe. The capacity of the compressor shall be adequate to clean the deposited silt in the connecting pipe.	1 No				
2.9	S S Air line for Air compressor 50mm	327.6 kg				
2.10	Perforated air pipe for compressed air 50 mm dia	302.4 m				
2.11	Supply and delivery of CI screwed Air valves class PN-1.0 single ball of approved make, including screw down isolation valve of following dia, jointing material i.e. bolts, nuts, rubber insertions etc. complete including all material as per Technical Specifications and as per direction of Engineer. 50 mm screwed ends	2 No				
2.12	Supply and delivery of anti-vibration pads for foundation of motors	6 No				
2.13	Supply and delivery of clamps for column pipe with rubber bush to control the vibration of bowl assembly	6 No				
2.14	Electrical Substation and system at Intake works					

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.14.1	Supply and delivery of underground cable IS:7098 Part-II as per SBPDC specifications and of approved make suitable for working voltage up to and including 33 kV in aluminium conductors XLPE armoured category-I including excavation of 30cm x 150cm size trench as per IS:1255, 24cm thick under layer, refill earth in the remaining portion, making necessary connections including testing etc. as required of size given below and providing & making heat shrinkable type indoor/outdoor/straight through terminations for 33kV XLPE cables with required components.					
	Supply and delivery of 33kV Cable Tapping line from WTP to Raw Water Intake substation - 33kV 3Core 300Sq.mm cable.	2500 m				
2.15	Supply and delivery of the following equipment					
2.15.1	33 KV /0.433 KV substation at Raw Water Intake works					
2.15.1.1	33 KV VCB Panel- Supply and delivery of 800 A, 33 KV indoor type, triple pole metal clad truck mounted horizontal draw out type circuit breaker enclosed in cubicle made of CRCA sheet steel of minimum 3 mm thickness, comply with IS-13118, IEC-56 and confirming to M-2 class. The cubicle panel shall be vermin proof and dust-tight and shall be of folded type construction. The switchgear and control gears complete with all necessary supporting framework, nuts and bolts etc for securing the same to the floor conforming to IEC62271/100-200 with ingress protection as IP-5X. The Indoor panel switch gear (circuit breakers -3 Nos, CTs, -6 NosPTs-3 Nos etc) and control gear (relays, meters etc) shall be mounted on the same panel with principal parameters as under: No. of Poles - 3 Rated Voltage - 33 KV Rated Insulation Level	1 Set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	Lightning Impulse voltage - 170 kV(Peak) One minute Power Frequency withstand voltage - 70 kV(rms) Frequency - 50 Hz Rated normal current - 800 A Short circuit breaking capacity - 25 kA Short circuit withstand current - 25 kA for 3 secs Max. operating time - less than 3 cycles Minimum operations at full rated short circuit breaking currents - 100 100 Rated Breaking capacity Symmetrical - 25 kA Asymmetrical - As per relevant standards Rated making capacity - 2.5x25 kA Operating mechanism - motor operated spring charged closing mechanism Heater/lamp/socket - 240V Control voltage - 110 VDC Vacuum Circuit Breakers with three interrupters mounted on same carriage having fixed & moving contacts in sealed envelope with vacuum below 10 ⁻⁶ torr. Complete as per technical specifications and/or as directed by Engineer. The VCB shall include specified cubicle panel, Aluminium / Copper bus bars, Insulator, sleeves, PT, CT etc complete in all respect.					

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.15.1.2	<p>Supply and delivery of 33kV Control & Relay Panel duly mounted with protective relays, metering equipment etc. required for the satisfactory operation of 33kV side of 33/0.4kV Power Transformers. The C/R cubicles of folded type construction with front base frame and door frame fabricated from CRCA sheet steel 10 SWG (3mm) thickness, while the side, roof & doors fabricated out of 14 SWG (2mm) thick CRCA sheet steel. The height of panel inclusive of base channel height of 102 mm of not more than 2312 mm, width of 750 mm or suitable to accommodate equipments and panel of depth 610 mm with dust & vermin proof and suitable for tropical use. The complete panel incorporates all necessary meters, instruments relays, control switches, indicating lamps, mimic buses, audible & visual alarms. The enclosure provide minimum degree of protection equivalent to IP-51 as per IS 2147. The relays offered conforming to latest issue of IS: 3231 & IS-8686. For over current & earth fault numerical relays be provided. In three phase protection relay, the setting for over current element be 50-200% (in steps of 10%)</p> <p>and for earth fault element from 10 to 80% (in steps of 10%). Relay should also have features of self diagnosis, minimum last five abnormal events recording over current & earth fault including fault level & phase along with date & time, on line display of current and communicable with open protocol having RS-485 port. The panel be equipped with Annunciation scheme for indicating all annunciations equipped for the trip & non trip alarms. All indicating instruments of Switch Board type back connected suitable for flush mounting and provided with dust & vermin proof case for tropical use. All indicating instruments conforming to latest edition of IS-2419/1963. complete as per technical specifications and /or as directed by engineer.</p>	1 Set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	33 kV Relay Panel					
2.16	Supply and delivery of required no. of lightening arrester set complete with 600mm x 600mm x 6mm thick G.I. earthing plate, G.I. strip of size 25mmx5mm thick, G.I. Finial made of GI bar 25mm dia and 2m long. Lightning Impulse voltage - 170 kV(Peak)	1 Set				
2.17	Supply and delivery of HT metering cubical panel as approved By DISCOMs fabricated out of 14 SWG CRCA sheet steel in two compartment & MS angle of size 60mmX6mm having provision for Following: (i) Provision for fixing Trivector Meter (To be supplied by DISCOMs) (ii) Provision for fixing of combined CT PT Set (To be supplied by DISCOMs) (iii) TT Block (iv) 6mm Bakelite sheet on all sides.	1 Set				
2.18	Supply and delivery of Earthing materials for all substation equipment as per IS:3043 as per IEEE Standard 80-2000 (IEEE Guide for safety in AC Substation Grounding)	5 Set				
2.19	SF Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV, 25 mm thick	12 Sq.m				
2.20	Transformer Supply and delivery of following rating out door type oil filled off circuit tap changer transformer with the following specification and confirming to IS 1180(Part 1 -2014) Thickness of transformer Tank (rolling tolerance as per IS) No Load Voltage ratio : 33/0.433 kV No. of phases / frequency : 3 Phases/ 50 Hz Type : Core type, double copper wound Cooling : ONAN Vector Group : DYN11 Temparature rise (OIL/WINDING) : 40/50 deg C	2 Set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	Off circuit Taps on HV side in the steps of 2.5%,+5 % to -10% Termiantion (HV) : Air filled cable end box suitable for 33 kV of adequate cable size Termiantion (LV) : Air filled cable end box suitable for 1.1 kV of adequate cable size The transformer shall be supplied with following fittings: (i)Bochholz Relay (ii)Conservator with drain valve (iii)Magnetic Level Indicator (iv)Silica gel breather with oil seal (v) First filling of filtered oil as per IS : 335 including make up fill during installation of transformer plus 10% extra oil (vi) off circuit switch (vii) Lifting lugs (viii) Earthing terminal- 2 nos. (ix) Thermometer pocket (x) Air release plug (xi) Inspection cover (xii) Top filter valve - 1no. (xiii) Radiator with top & bottom shut off valves (xiv) 100 mm dial magnetic oil level guage with max. pointer & with alarm contacts (xv) Rating & Diagram plate (xvi) Bi-directional Plain/ Flanged Rollers (xvii) 150 mm dial Winding temparature indicator with max pointer and alarm & trip contacts (xviii) 150 mm dial Oil temparature indicator with max pointer and alarm & trip contacts (xix) Disconnecting facilty of HV Cable box Transformers descibed as above and as per the following continuous rating					

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	1250kVA Transformer (1250KVA capacity of transformer is minimum, however if the design indicates a higher capacity shall be considered).					
2.21	Supply and delivery of Automatic Power factor Improvement Panel to improve the power factor up to 0.95 lagging. This will include panel cubical, Microprocessor based intelligent power factor correction relay complete in all respect.	1 Set				
2.22	Supply and delivery of Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV, 25 mm thick	15 Sq.m				
	LT Panel RWPS					
2.23	Supply and delivery of wall/free standing floor mounted dust and vermin proof compartmentalized cubical panel for 0.415kV including the suitable size of electrolytic grade Copper Bus Bars, insulators etc., for the following feeders: 1. 2 Nos. Incoming ACB from the transformer- This will be provided with (but not limited to) Digital Multifunction meter compatible to SCADA, metering, Protection CT's, IDMT 3O/C&1 E/F, indicating lamps, control fuse , wiring etc. complete in all respect 2. 1No. ACB for Bus Coupler. This will be provided with (but not limited to) without release Protection CT's, IDMT 3 O/C & 1 E/F, Indicating Lamps, Control Fuses and wiring etc. complete in all respect. 3. MCCB panels for APFC Panel, Pumping plant, Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.8) 4.MCCB panels for auxiliary and spare (Minimum No.6)	1 Set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.8) MCCB shall be provided with shunt release, Under voltage release and Earth fault module.					
2.24	Supply and delivery of Bus Trunking arrangement in convenient sections complete with housing of galvanized sheet steel of minimum 1.5mm thickness, Copper bus bar for use of 3phase-4Wire 415Volt A.C supply with degree of protection ip-42 for the minimum 2000A rating including jointing of Section, flexible joints, expansion joints and earthing with 2 runs of aluminum strips,etc. From Transformer LT to incoming of LT Panel.	1 Lot				
2.25	Supply and delivery of XLPE insulated sheathed cable of 1.1 kV grade with aluminium conductor Armoured of IS:7098-I/1554-1 approved make in ground as per IS:1255	1 Lot				
2.26	Supply and delivery of Battery Charger, battery bank of min 150 AH capacity comprising SMF/VRLA batteries, MS / Teakwood battery stand, interconnect wiring etc. as required complete in all respect.	1 set				
2.27	Supply and delivery of Earthing materials of all equipment as per IS:3043. and requirement of IER.	1 Job				
2.28	Supply and delivery of the settled water pumping station machineries and connected pipes and specials etc for settled water sedimentation Pumping station.					

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.28.1	Vertical Turbine pumpset 1027 m3/hr, at an approximate head of 8m (the head shall be designed as per actual site condition, 980 rpm as per specifications.(4W + 2S) and Vertical Solid Shaft Motor suitable for the above pump 980 RPM including soft starter for the pumps, and MS pipe connections	6 set				
2.28.2	Providing, lowering, laying, aligning, fixing in position in pipe line, power actuated and manually operated CI D/F Sluice valves of reputed make (IS:14846 amended up to date) PN 1.0 class of following dia complete (including jointing material) including CI Dismantling joints all material, labour, testing and commissioning along with pipe line as per Technical Specifications and as per direction of Engineer. 450mm	6 No				
2.28.3	Supply and delivery of dual plate check valves as per API:594 and API:598 of PN 1.0 rating of following dia (including jointing and jointing material), including all material, as per Technical Specifications and as per direction of Engineer. NRV 450mm	6 No				
2.28.4	Supply and delivery of DI D/F electrically actuated long body butterfly valves (IS: 13095) PN-1.0 class of following dia complete (including jointing material) including all material Dismantling joints as per Technical Specifications and as per direction of Engineer.					
2.28.4.1	450mm	6 No				
2.28.4.2	900mm	1 No				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.28.5	<p>Providing, installation, testing and commissioning of glycerin filled Pressure gauge of following ranges with isolation valve and tap off pipe complete in all respect as per technical specification and as per direction of Engineer.</p> <p>Glycerine filled Pressure Gauge 0 to 6.0 kg/cm² 150mm dia.</p>	6 No				
2.28.6	<p>Supply and delivery of Electrically Operated Travelling Crane (EOT) .Main girder & End Carriage fabricated from Rolled Steel Section, Gear Box for all motion, Electro Magnetic Friction Disc Type Brakes, all safety limit switches, LT wheels EN 9, Double Flanged 4No, with Sq. Cage motor of adequate rating (kW), duly painted mechanical cleaning and one coat of primer and two coat of synthetic paint and as per the direction of the Engineer.</p> <p>EOT Crane with sufficient capacity to lift the settled water pumpsets with 9 m span and required lift</p>	1 No				
2.28.7	<p>Supply and delivery of wall/free standing floor mounted dust and vermin proof compartmentalized cubical panel for 0.415kV including the suitable Supply and delivery of wall /free standing floor mounted dust and vermin proof compartmentalized cubical panel for 0.415kV including the suitable size of electrolytic grade Copper Bus Bars, insulators etc., for the following feeders:</p> <p>1. 1 No. Incoming MCCB -This shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampere meter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect.</p> <p>2. MCCB panels for Pumping plant Automatic Star Delta Starter 6 Nos.</p> <p>Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampere meter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.8)</p>	1 Set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	<p>3.MCCB panels for auxiliary and spare- Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampere meter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.3)</p> <p>MCCB shall be provided with shunt release, Under voltage release and Earthfault module.</p>					
2.28.8	Supply and delivery of Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV, 25 mm thick for the Panel	1 set				
2.28.9	Supply and delivery of XLPE insulated sheathed cable of 1.1 kV grade with aluminium conductor Armoured of IS:7098- I/1554-1 approved make in ground as per IS:1255 etc. of required size and length for the pumping stations.	1 Lot				
2.28.10	Supply and delivery of Earthing of all equipment as per IS:3043 and requirement of IER.	1 Set				
2.28.11	Supply and delivery of charged ABC type fire extinguisher with nut, bolts etc as required.5 KG	4 No				
2.29	Supply and delivery of the Clear water pumping station machineries including connected pipes and specials etc complete at WTP					
2.29.1	Vertical Turbine pumpset 978 m3/hr, at an approximate head of 38m (the head shall be designed as per actual site condition, 980 rpm as per specifications. (5W + 2S) and Vertical solid shaft Motor suitable for the pumps including the soft starter suitable for the motor of the pump and connecting pipes	7 set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.29.2	Supply and delivery of power actuated and manually operated DI D/F Sluice valves of reputed make (IS:14846 amended up to date) PN 1.0 class of following dia complete (including jointing material) including CI Dismantling joint and all material as per Technical Specifications and as per direction of Engineer.					
2.29.2.1	450mm					
2.29.2.2	450mm	7 No				
2.29.2.3	700mm	1 No				
2.29.3	Supply and delivery of DI dual plate check valves as per API:594 and API:598 of PN 1.0 rating of following dia with jointing material including DI Dismantling joint all material, as per Technical Specifications and as per direction of Engineer.					
2.29.3.1	NRV 450mm	7 No				
2.29.3.2	NRV 700mm	2 No				
2.29.4	Supply and delivery of DI D/F electrically operated long body butterfly valves (IS: 13095) PN-1.0 class of following dia complete (including jointing material) including DI Dismantling joint, all material as per Technical Specifications and as per direction of Engineer.					
2.29.4.1	450mm	7 No				
2.29.4.2	700mm	2 No				
2.29.5	Supply and delivery of glycerin filled Pressure gauge of following ranges with isolation valve and tap off pipe complete in all respect as per technical specification and as per direction of Engineer. Glycerine filled Pressure Gauge 0 to 10kg/cm² 150mm diameter	7 No				
2.29.6	Supply and of Electromagnetic Flow Meter etc. including all materials and making connection with pipeline required for Electromagnetic Flow Meter as per technical specification and as per direction of Engineer.					

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.29.6.1	EMF 600 mm	2 No				
2.29.6.2	EMF 400 mm	22 No				
2.29.6.3	EMF 300 mm	20 No				
2.29.6.4	EMF 200 mm	2 No				
2.29.6.5	EMF 150 mm	1 No				
2.29.7	Supply and delivery of Electrically Operated Travelling Crane (EOT). Main girder & End Carriage fabricated from Rolled Steel Section, Gear Box for all motion, Electro Magnetic Friction Disc Type Brakes, all safety limit switches, LT wheels EN 9, Double Flanged 4No, with Sq. Cage motor of adequate rating (kW), duly painted mechanical cleaning and one coat of primer and two coat of synthetic paint and as per the direction of the Engineer. Add extra for additional per metre lift. EOT Crane 10T, 9m span, 9m lift.	1 No				
2.30	Electrical Substation and system					
2.30.1	33kV Single Circuit Lattice Structure The 33kV power will be made available by 33kV double Circuit underground cable from Sabour Grid Sub Staion to Barari by Bhagalpur Electricity Distribution Company Pvt. Ltd.	1 set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.30.2	<p>Supply and delivery of 33 kV Double Pole structure made of two nos. 10 m long PCC poles & 7 nos. MS Channel size 100x50x6mm with GO switch, DO fuse set and lightning arrestors with following specifications. GO: Off load type gang operated three pole Horizontal type switch suitable for 33kV, 800A, 3phase central post rotating double break isolator complete with MS Hardware, copper moving & fixed contacts, assembly of 9 Nos. Post Insulators, GI pipe of suitable length for operation. DO: 3 Nos. Horizontal/Vertical mounted 33kV Horn Gap fuse set / Drop Out fuse set, 33kV barrel fuses mounted on 6 Nos. Post insulators. LA: 3 piece non linear resistor type lightening arrestor of approved make suitable for 3 wire, 33kV oh line with rated voltage 30kV rms & nominal discharge current rating of 10 kA & complete with galvanized clamping arrangement, GI bolts, nuts, washers etc. as required. Jumpers:3 Nos. ACSR Dog Conductor mounted on post type insulators as required.</p> <p>The GO shall be operated by hand operated liver properly earthed with provision for locking mounted at 3'. Complete as per technical specifications and /or as directed by the Engineer.</p>	2 set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.30.3	36 KV VCB Panel- Supply and delivery of 800 A, 36 KV indoor type, triple pole metal clad truck mounted horizontal draw out type circuit breaker enclosed in cubicle made of CRCA sheet steel of minimum 3 mm thickness, comply with IS-13118, IEC-56 and confirming to M-2 class. The cubicle panel shall be vermin proof and dust-tight and shall be of folded type construction. The switchgear and control gears complete with all necessary supporting framework, nuts and bolts etc for securing the same to the floor conforming to IEC62271/100-200 with ingress protection as IP-5X. The Indoor panel switch gear (circuit breakers-3 Nos, CTs-6 Nos, PTs -3 Nos etc) and control gear (relays, meters etc) shall be mounted on the same panel No. of Poles - 3 Rated Voltage - 36 KV Rated Insulation Level Lightning Impulse voltage - 170 kV(Peak) One minute Power Frequency withstand voltage - 70 kV(rms) Frequency - 50 Hz Rated normal current - 800 A Short circuit breaking capacity - 25 kA Short circuit withstand current - 25 kA for 3 secs Max. operating time - less than 3 cycles Minimum operations at full rated short circuit breaking currents - 100 Rated Breaking capacity Symmetrical - 25 kA Asymmetrical - As per relevant standards Rated making capacity - 2.5x25 kA Operating mechanism - motor operated spring charged closing mechanism Heater/lamp/socket - 240V	1 Set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	Control voltage - 110 VDC Vacuum Circuit Breakers with three interrupters mounted on same carriage having fixed & moving contacts in sealed envelop with vacuum below 10-6 torr. complete as per technical specifications and/or as directed by Engineer. The VCB shall include specified cubicle panel, Aluminium / Copper bus bars, Insulator, sleeves, PT, CT					
2.30.4	Supply, installation, testing & commissioning of 33kV Control & Relay Panel duly mounted with protective relays, metering equipment etc. required for the satisfactory operation of 33kV side of 33/0.4kV Power Transformers.	1 No				
2.30.5	Supply and delivery of HT metering cubical panel as approved By DISCOMs fabricated out of 14 SWG CRCA sheet steel in two compartment & MS angle of size 60mmX6mm having provision for Following: (i) Provision for fixing Trivector Meter (To be supplied by DISCOMs) (ii) Provision for fixing of combined CT PT Set (To be supplied by DISCOMs) (iii) TT Block (iv) 6mm Bakelite sheet on all sides. Metering Cubicle	1 No				
2.30.6	Supply and delivery of lightening arrester set complete with 600mm x 600mm x 6mm thick G.I. earthing plate, G.I. strip of size 25mmx5mm thick Lightning Impulse voltage - 170 kV(Peak)	1 set				
2.30.7	Supply and delivery of of all substation equipment as per IS:3043 as per IEEE Standard 80-2000 (IEEE Guide for safety in AC Substation Grounding)	1 Job				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.30.8	Supply and delivery of following size earth wire/strip in horizontal or vertical run in ground/surface/recess 25mm x 3mm G.I.Strip Frequency - 50 Hz	250 m				
2.30.9	Supply and delivery of SF Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV Rated normal current - 800 A	12 Sq.m				
2.31 2.31.1	Transformer Supply and delivery of following rating out door type oil filled off circuit tap changer transformer with the following specification and confirming to IS 1180(Part 1 -2014) Thickness of transformer Tank (rolling tolerance as per IS) No Load Voltage ratio : 33/0.433 kV No. of phases / frequency : 3 Phases/ 50 Hz Type : Core type, double copper wound Cooling : ONAN Vector Group : DYN11 Temperature rise (OIL/WINDING) : 40/50 deg C Off circuit Taps on HV side in the steps of 2.5%,+5 % to -10% Termiantion (HV) : Air filled cable end box suitable for 33 kV of adequate cable size Termiantion (LV) : Air filled cable end box suitable for 1.1 kV of adequate cable size The transformer shall be supplied with following fittings: (i)Bochholz Relay (ii)Conservator with drain valve (iii)Magnetic Level Indicator (iv)Silica gel breather with oil seal (v) First filling of filtered oil as per IS : 335 including make up fill during installation of transformer plus 10% extra oil	2 set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	(vi) off circuit switch (vii) Lifting lugs (viii) Earthing terminal- 2 nos. (ix) Thermometer pocket (x) Air release plug (xi) Inspection cover (xii) Top filter valve - 1no. (xiii) Radiator with top & bottom shut off valves (xiv) 100 mm dial magnetic oil level guage with max. pointer & with alarm contacts (xv) Rating & Diagram plate (xvi) Bi-directional Plain/ Flanged Rollers (xvii) 150 mm dial Winding temperature indicator with max pointer and alarm & trip contacts (xviii) 150 mm dial Oil temperature indicator with max pointer and alarm & trip contacts (xix) Disconnecting facility of HV Cable box Transformers described as above and as per the following continuous rating 2000kVA Transformer (2000KVA capacity of transformer is minimum, however if the design indicates a higher capacity shall be considered).					
2.31.2	Supply and delivery of Automatic Power factor Improvement Panel to improve the power factor up to 0.95 lagging. This will include panel cubical, Microprocessor based intelligent power factor correction relay complete in all respect.	1 Set				
2.31.3	Supply and delivery of SF Rubber matting with one side corrugated as per IS specification 15652/2006 Rated making capacity - 2.5x25 kA	12 Sq.m				
2.32	LT Panel CWPS	1 Set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.32.1	<p>Supply and delivery of wall/free standing floor mounted dust and vermin proof compartmentalised cubical panel for 0.415kV including the suitable size of electrolytic grade Copper Bus Bars, insulators etc., for the following feeders:</p> <p>1. 2 Nos. Incoming ACB from the transformer- This will be provided with (but not limited to) Digital Multifunction meter compatible to SCADA, metering, Protection CT's, IDMT 3O/C&1 E/F, indicating lamps, control fuse , wiring etc. complete in all respect</p> <p>2. 1No. ACB for Bus Coupler. This will be provided with (but not limited to) without release Protection CT's, IDMT 3 O/C & 1 E/F, Indicating Lamps, Control Fuses and wiring etc. complete in all respect.</p> <p>3. MCCB panels for APFC Panel, Pumping plant, Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to scada, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.9)</p> <p>4.MCCB panels for auxiliary and spare (Minimum No.6)</p> <p>Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to scada, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect.</p> <p>MCCB shall be provided with shunt release, Under voltage release and Earth fault module.</p>					
2.32.2	<p>Supply and delivery of Bus Trunking arrangement in convenient sections complete with housing of galvanized sheet steel of minimum 1.5mm thickness, Copper bus bar for use of 3phase-4Wire 415Volt A.C supply with degree of protection ip-42 for the minimum 2000A rating and earthing with 2 runs of aluminum strips,etc. From Transformer LT to incoming of LT Panel.</p>	1 Job				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.32.3	Supply and delivery of XLPE insulated sheathed cable of 1.1 kV grade with aluminium conductor Armoured of IS:7098-I/1554-1 approved make in ground as per IS:1255 of required size and length for the pumping stations.	1 Job				
2.32.4	Supply and delivery of Battery Charger, battery bank of min 150 AH capacity comprising SMF/VRLA batteries, MS / Teakwood battery stand, interconnect wiring etc. as required complete in all respect.	1 set				
2.32.5	Supply and delivery of internal and external lighting of all campus including Raw water pumping station, Sedimentation Pumping Station, Clear Water pumping Station and all other buildings to be constructed under this tender. The illumination level to be provided shall be in accordance to the lux level mentioned elsewhere in technical specifications. All lights shall be LED.	1 Job				
2.32.6	Supply and delivery of 3pin 5Amp, and 6 pin15Amp light and power points as per requirement to be decided by the Engineer In charge for all buildings under this tender.	1 Job				
2.32.7	Supply and delivery of Ceiling fans as per requirement to be decided by the Engineer Incharge for all buildings under this tender.	1 Lot				
2.32.8	Supply and delivery of Ventilation arrangement for all the buildings proposed under this tender according to requirement narrated in technical Specifications and decided by the engineer In charge.	1 Lot				
2.32.9	Supply and delivery of spares , tools and other equipment for the Raw water pumping station, settled water pump house and clear water pump house	1 lot				
2.33	Automation and equipment					
	Supply and delivery of the SCADA system with the following equipment					
	For Raw water Pump House					
2.33.1	PLC Panel with required hardware & software	1 Lot				
2.33.2	UPS with batteries	1 Lot				
2.33.3	Level Instruments	2 Nos				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.33.4	Temperature Instruments	6 Nos				
2.33.5	Vibration monitoring System	6 Nos				
2.33.6	Pressure Transmitter	7 Nos				
2.33.7	Flow Instruments	1 Nos				
2.33.8	Control and Instrumentation cables	1 Lot				
2.33.9	Instrumentation Earthing materials with accessories	1 Lot				
2.33.10	Cable trays/supports for cable laying of requires size	1 Lot				
2.33.11	Equipment for Data transmission via Radio frequency	1 Lot				
	WTP					
2.33.12	Sedimentation Pump house					
2.33.13	PLC Panel with required hardware & software	1 Lot				
2.33.14	UPS with batteries	1 Lot				
2.33.15	Level Instruments	2 Nos				
2.33.16	Pressure Transmitter	7 Nos				
2.33.17	Flow Instruments	1 Nos				
2.33.18	Instrumentation Earthing materials with accessories	1 Lot				
	Clarifier Area					
2.33.19	PLC Panel with required hardware & software	1 Lot				
2.33.20	UPS with batteries	1 Lot				
2.33.21	Level Instruments	1 Nos				
2.33.22	Flow Instruments	1 Nos				
2.33.23	Instrumentation Earthing materials with accessories	1 Nos				
	Filter Area					
2.33.24	PLC Panel with required hardware & software	1 Lot				
2.33.25	UPS with batteries	1 Lot				
2.33.26	Remote Filter PLC(2 Nos) with hardware & software accessories	2 Lot				
2.33.27	Level Instruments	13 Nos				
2.33.28	Pressure Instruments includes differential pressure instruments	11 Nos				
2.33.29	Flow Instruments	2 Nos				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.33.30	Instrumentation Earthing materials with accessories	1 Lot				
	Chemical Area					
2.33.31	PLC Panel with required hardware & software	1 Lot				
2.33.32	UPS with batteries	1 Lot				
2.33.33	Flow Instruments	3 Nos				
2.33.34	Level Instruments	9 Nos				
2.33.35	Pressure Transmitter	6 Nos				
2.33.36	Instrumentation Earthing materials with accessories	1 Lot				
	Sludge Area					
2.33.37	PLC Panel with required hardware & software	1 Lot				
2.33.38	UPS with batteries	1 Lot				
2.33.39	Flow Instruments	4 Nos				
2.33.40	Level Instruments	6 Nos				
2.33.41	Pressure Transmitter	4 Nos				
2.33.42	Instrumentation Earthing materials with accessories	1 Lot				
	Chlorine Area					
2.33.43	PLC Panel with required hardware & software	1 Lot				
2.33.44	UPS with batteries	1 Lot				
2.33.45	Flow Instruments	2 Nos				
2.33.46	Pressure Transmitter	12 Nos				
2.33.47	Instrumentation Earthing materials with accessories	1 Lot				
	Clear water pump house					
2.33.48	PLC Panel with required hardware & software	1 Lot				
2.33.49	UPS with batteries	1 Lot				
2.33.50	Level Instruments	4 Nos				
2.33.51	Temperature Instruments	7 Nos				
2.33.52	Vibration monitoring System	7 Nos				
2.33.53	Pressure Transmitter	9 Nos				
2.33.54	Flow Instruments	2 Nos				
2.33.55	Instrumentation Earthing materials with accessories	1 Lot				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.33.56	Equipment for Data transmission via Radio frequency	1 Lot				
2.33.57	Control and Instrumentation cables for WTP(includes accessories like glands, lugs, etc)	1 Lot				
2.33.58	Communication Cables inside WTP(fiber optic cable)	1 Lot				
2.33.59	Cable trays/supports for cable laying of requires size	1 Lot				
2.33.60	2 no's of SCADA operator station(Required Hard ware & Software Licensed) of WYP with control desk and its accessories	2 Lot				
2.33.61	2 no's of SCADA server station(Required Hard ware & Software Licensed) WTP with control desk and its accessories	2 Lot				
2.33.62	2 no's of SCADA operator station(Required Hard ware & Software Licensed) for BMC with control desk and its accessories	2 Lot				
2.33.63	Online water quality analyzers like Turbidity, pH, chlorine etc.	1 Lot				
	Distribution system (Phase 1)					
2.33.64	PLC Panel with required hardware & software	48 Lot				
2.33.65	UPS with batteries	48 Lot				
2.33.66	Level Transmitter	48 Nos				
2.33.67	Equipment for Data transmission via Radio frequency	48 Lot				
	WTP					

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.34	Supply and delivery of Equipment such as pipe connection to all the components of WTP including suitable valves and ,measuring devices, chemical dosing pipe lines etc complete pumps, motors, scrapping equipment's, suitable capacity of Filter Bach wash pumps, Air Blowers for filter back wash, suitable capacity of vacuum type chlorinators with motive water pumps for pre and post chlorination, Emergency tonner leakage control kit, exhaust equipment, scrubbing system with working and standby suction fan, absiration tower, scrubbing media tank, working and standby scrubbing media circulation pumps, EOT of suitable capacity where required, submerged mixers, solid bowl type centrifuge for sludge dewatering unit , agitator laboratory equipment etc complete suitable for 90 MLD Treatment Plant etc complete and as directed by Engineer					
2.34.1	Motorised 1300 mm dia DI Butterfly valves at inlet	1 No				
2.34.2	Motorised 800 mm DI Butterfly valves at Flash Mixer to Flocullator	2 Nos				
2.34.3	Motorised 400 mm DI Butterfly valves at Filter out let	12 Nos				
2.34.4	Motorised 400 mm DI Butterfly valves at Flow Restrictor valve	12 Nos				
2.34.5	Motorised 500 mm DI Butterfly valves at Wash water inlet	12 Nos				
2.34.6	200 mm sluice valve for Drain valve for manual operation	12 Nos				
2.34.7	Motorised 250 mm DI Butterfly valves at scour Air inlet	12 Nos				
2.34.8	400 mm Globe valve for Air Purge line	12 Nos				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.34.9	Motorised 500 mm DI Sluice valves at Wash water line from OHT	2 Nos				
2.34.10	Motorised 250 mm DI Butterfly valves at Air Line from Air Blower	6 Nos				
2.34.11	Motorised 300 mm DI Butterfly valves at Back wash Pump	2 Nos				
2.34.12	300 mm DI Isolation valve at Back wash Pump	2 Nos				
	Motorised Gates					
2.34.13	400 mm x 400 mm at Filter inlet	12 Nos				
2.34.14	600mm x 600 mm at Flash Mixer	2 Nos				
2.34.15	600 mm x 600 mm at Flocculator	4 Nos				
2.34.16	800 mm x 800 mm at Wash water outlet	6 Nos				
	Chlorine Dosing Pipelines					
2.34.17	PP Ball Valves - 400 mm dia at Line for Alum/PAC Dosing	6 Nos				
2.34.18	PP Ball Valves - 400 mm dia at Line for Poly Electrolyte Dosing	6 Nos				
2.34.19	PP Ball Valves - 400 mm dia at Line for Dewatering Poly	2 Nos				
2.34.20	PP Ball Valves - 400 mm dia at Line for Line for coagulating Poly in Waste recovery system	4 Nos				
	Pipes					
2.34.21	900 mm dia MS pipes -for Flash Mixer to Flocculator	20 m				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.34.22	900 mm dia MS pipes -for Flash Mixer to Flocculator	30 m				
2.34.23	400 mm DI K9 pipe for Filtered water outlet	64 m				
2.34.24	200 mm DI K9 pipe for Air inlet	200 m				
2.35	Major Equipment in Water Treatment Plant Supply and Delivery of Major Equipment suitable for WTP components					
2.35.1	Slow speed Motor with Pedal arrangement for Flash Mixer	2 Set				
2.35.2	Flocculation and sludge scarpping arrangement for Plate Settler and Flocculation/Clarifier Units	4 Set				
2.35.3	Filter Back wash pumps with required capacity	2 Nos				
2.35.4	Twin Lobe type Air Blowers for filter backwash with required capacity	2 Nos				
2.35.5	Monorail Hoist	2 Nos				
2.35.6	Filter Media (Sand & Gravel)	2610.14 Tonne				
	Chlorination System					
2.35.7	Vaccum Type Chlorinator for pre Chlorination Capacity 12 kg/hour each complete with motive water pumps and all other accessories Vaccum Type Chlorinator for post Chlorination Capacity 12 kg/hour each complete with motive water pumps and all other accessories -2 Nos Chlorine room safety kit- 5 Set	1 set				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	Emergency tonner leakage control Kit - 1 No Exhaust Equipmet - 1 set Scrubbing system with working and stand by suction fan, absorption tower, scrubbing media tank, working and standby scrubbing media circulation pumps etc- 1 Set					
2.36.8	EOT- 2 TONNE	2 Nos				
	Dirty Back wash Holding Tank					
2.36.9	Submerged Mixers	2 Nos				
2.36.10	Motor Submersible type pumps of 430 cu. m/hour capacity at 15 m head	3 Nos				
2.36.11	Mixers for coagulation polyelectrolyte solution preparation tank	2 Nos				
2.36.12	Coagulation Polyelectrolyte dosing (metering) Pumps	2 Nos				
	Thickner					
2.36.13	Equipment for mixing, flocculation coagulation, sludge scrapping and clarification	3 Set				
	Thickned sludge Tank					
2.36.14	Rotating Screw type positive displacement pumps for transferring sludge to dewatering units Capacity 25 Cu. M /hour at 30 m head with stand by	1 set				
2.36.15	Chain Pulle Block for Sludge Transfer Pumps	1 No				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
	Centrifuge , Sludge Dewatering					
2.36.16	Solid Bowl Type Centrifuge Capacity 25Cu.M /hour slurry basis and 20 Ton dry solids per daywith standby	1 set				
	Dewatering Poly Solution Preparation & Dosing					
2.36.17	Agitator for solution preparation Tank	2 Nos				
2.36.18	Polyelectrolyte dosing (metering) Pumps rang 0.25lit/min to 2.5 lit /min	2 Nos				
2.36.19	Polyelectrolyte Solution Tanks (2000 Lit Capacity)	2 Nos				
	Coagulating Polyelectrolyte Solution Preparation and Dosing					
2.36.20	Agitator for solution preparation Tank	2 Nos				
2.36.21	Polyelectrolyte dosing (metering) Pumps rang 0.25lit/min to 2.5 lit /min	2 Nos				
2.36.22	Polyelectrolyte Solution Tanks (2000 Lit Capacity)	2 Nos				
	Alum/ PAC Dosing					
2.36.23	Agitator for solution preparation Tanks (replacement of Existing Mixers)	2 Nos				
2.36.24	Metering Pumps for ALUM/PAC dosing pump range2.5lit/min to 25 lit/min at 10 m head	2 Nos				
	Polyelectrolyte Dosing					
2.36.25	Agitator for solution preparation Tanks (replacement of Existing Mixers)	2 Nos				
2.36.26	Metering Pumps for Polyelectrolyte dosing dosing range 0.25 lit/min to 2.5 lit/min	2 Nos				

Item	Description	Quantity	Unit Price ^a		Total EXW Price ^a	GST & other Taxes
			Local currency	EXW price	Local currency	Local currency
1	2	3	4	5	6=3 x 5	7
2.36.27	Poly solution tanks 10000 lit cap.	2 Nos				
2.36.28	Laboratory Equipment	1 Set				
2.36.29	Supply and delivery of any other Equipment required to complete this project other than specified above. The contractor has to submit the list of such equipment along with cost of each equipment	1 set				
TOTAL Column 7 to be carried forward to Schedule No. 5: Grand Summary						

Name of Bidder

Signature of Bidder

a Specify currency in accordance with ITB 15.1 of the BDS.

b Column 5 EXW Price shall include all customs duties and sales and other taxes already paid or payable on the components and raw materials used in the manufacture or assembly of the item or the customs duties and sales and other taxes already paid on previously imported items.

Note:

1. For a particular item, the bidder shall quote rate either in Schedule 1 or Schedule 2. If the bidder quotes rates for a item in both these Schedules then minimum rate mentioned in schedule 1 or schedule 2 shall be considered for evaluation.
2. The Rates shall include all shipment, freight, loading and unloading charges up to the site.

PRICE PROPOSALS- PART A: DESIGN BUILD COMPONENTS REVISED AS PER ADDENDUM 1 ON 23.5.18						
Name of the project			Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)			
Name of Employer:			Bihar Urban Infrastructure Develoment Corporation Limited (BUIDCo)			
Contract Title:			Improvement of Water Supply System in Bhagalpur Municipal Corporation			
Contract Package No:			BH/WS/02			
Bidder's Name:						
Schedule No.3 DESIGN SERVICES						
Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
	Design of following components including topographical survey, Soil bearing capacity test at the required places, testing of water samples, any other survey required for designing the components including Architectural design, Hydraulic design and Strutural design of all the componets including preparation of ready built drawings for all the components and final as build drawings etc complete.					
3.1	Design of Approach Channel for 141 MLD capacity of water to enter in the Intake well. The bank protection works, Ghat development shall be included in the design.	1				
3.2	Design of Intake well for the capacity of 141 MLD near vickram shela Bridge	1				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
3.3	Design of connecting pipe for connecting Intake well and Jack well for a capacity of 141 MLD of water to be entered in to the Jack well from intake well	1				
3.4	Design of Jack well cum pump house to hold 141 MLD of water and to erect Turbine pumpsets suitable for 141 MLD capacity of water with 50% standby pumpsets. Development of Jack well site, road works, shall be included in the design	1				
3.5	Design of Water Treatment Plant of capacity 135 MLD in two modules (90 MLD and 45 MLD), with all the components required including sludge management plan and Pipe connections and its electro mechanical items to treat the raw water to meet the drinking water standards specified by the CPHEEO standards. The land development, staff quarters, security cabin, upgradation of existing sedimentation Tanks Transformer yard and control room for intake and at barari water works shall be included in the design (The design includes survey works, soil bearing capacity test for all the components, hydraulic design, Architectural design and structural design of all the components)	1				
	Design of Electrical and Electro Mechanical Equipments and pipe connections required for this project	1				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
3.6	Design of SCADA system and Equipments to remote control the entire water supply system including the Treatment plant, intake well, Jack well cum pump house, raw water main, clear water mains and all the components proposed under this package	1				
TOTAL Column 6 and column7 to be carried forward to Schedule No. 5: Grand Summary						

Name of Bidder _____

Signature of Bidder _____

a Specify currency in accordance with ITB 15.1 of the BDS.

PRICE PROPOSALS- PART A: DESIGN BUILD COMPONENTS REVISED AS PER ADDENDUM 1 ON 23.5.18						
Name of the project			Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)			
Name of Employer:			Bihar Urban Infrastructure Development Corporation Limited (BUIDCo)			
Contract Title:			Improvement of Water Supply System in Bhagalpur Municipal Corporation			
Contract Package No:			BH/WS/02			
Bidder's Name:						
Schedule No.4: INSTALLATION AND OTHER SERVICES						
Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.1	Approach Channel in River Ganga to feed 141 MLD of water to Intake well					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
	Formation of Approach channel for diverting 141 MLD of water into the intake well to be constructed in the Bank of River Ganga and Forming of approach channel in the River Ganga to entry of 141 MLD of water into the intake well even during dry season and maintain the channel throughout the project period as per the employer requirement and as specified in the technical specification by engaging the Dredging unit including cost of all surveys required for dredging, hire charges of dredging unit, boats and other accessories including cost of all labour and fuel for the machineries and bailing out of water. The dredged sand shall be disposed off 8 km away from the site and as directed by the Engineer. The contractor shall provide sufficient number of pinger instrument (noise emitting device to keep the Dolphins away from the dredged area during dredging. The contractor shall also employ one nodal Environment Expert for protection Environment health and safety of aquatic life and for workers. He shall also observe the monitoring and mitigation as per IEE and IMP reports	1 No				
4.2	Bank Protection works					
	Construction of Bank Protection work in the form of piling and revetment for 15m length on either side of the intake well including earth work excavation in the needed area and construction of embankment with borrow pits and laying of biaxial P.V.C knitted coated polyster subgrade as a separator cum reinforcing agent including filling of sand wherever required and laying pitching on the slopes with cement concrete grade M30 and Construction of Ghat for a length of 110 m with reinforced cement concrete of grade M 30 including providing & installation of SS304 railing with chains, sheet piles at toe beam and including cost of reinforcement etc complete and as directed by the Engineer as directed by the Engineer	1 Job				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.3	141 MLD capacity Intake well near Vickram shela Bridge					
	Construction of RCC intake well by Sinking of Well capable of receiving raw water 141 MLD on the bank of the River Ganga by Caisson method or any other suitable method up to the required depth below the scour depth with required size and shape and providing the required number of openings at two or more levels with screen for entry of water alone without any silt and fish etc even during summer and winter and necessary sluice gate arrangement to be provided to close the openings whenever not required. The sluice gate shall be operated manually and as well as by electric motors, inside access ladder from the top of intake to bottom floor level for inspection. The cost shall include the cost of survey and soil investigation for confirming the location of intake well and cutting edge and boring with 100 mm dia casing pipe for anchor bars including cost of anchor bars required, hire charges of cranes and form work required for construction etc complete and as directed by Engineer.	1 No				
4.4	Connecting pipe between Intake well and Jack well for 141 MLD of water					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
	Providing, laying and fabricating and testing of MS pipe/ of required diameter with internal epoxy lining and outer side tape lining as per the technical specification to convey the ultimate requirement of Raw water of 141 MLD from intake well to jack well by gravity, by trenchless method adopting any suitable technology about 13 m below the ground at required depth as per the direction of competent authority including carrying out survey work at the job site for determining underground cable trenches like telephone, power cable, water & sanitary lines and resistivity tests for finding the soil strata using necessary equipment for completion of work, mobilizing of machineries and specialized crew at the job site, etc. complete in all respects, including excavation of drive pit and exit pit (up to required depth), necessary de-watering and providing concrete foundations at the base of the Drive pit, crane for handling of pipes, and any other machinery, tool & tackles required, construction of temporary works as per requirement and as approved by IWAI authorities complete in all respect with all lead and lifts, as per specification and the direction of the Engineer. In all type of soils and Extra for excavation of driven pit/ exit pit / intermediate pit beyond 3 metre depth, required for pushing/ pulling of MS pipe in trenchless technology, with proper protection at three sides with shoring sheets and ISMB's, maintaining during pushing/ pulling of pipe, back filling, necessary de-watering including all machinery, tools, and tackles required, including welding, lining of pipes, etc complete as per specification and the direction of the Engineer	1 No				
4.5	141 MLD capacity Jack well					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
	Construction of RCC Jack well with required shape and size to hold the water of 141 MLD and to accommodate the pumps for operation by well sinking method or any other suitable method up to the depth below the scour depth and 2 to 3 m below the invert level of the connecting pipe. The pump house shall be on the floor slab level of the well above the maximum flood level to house the required number of pumps for intermediate and ultimate stage requirement. The cost include the cost of survey and soil investigation and cost of boring with casing pipe for anchor bars and the cost of cranes, dewatering charges, fuel charges and other machinery and manpower required for well sinking including safety arrangement for under water works and disposing the surplus earth, bricks, bats etc from site and disposing 8 km away from the site etc. The pump house shall be equipped with sufficient ventilation and entry arrangements for the bringing the heavy duty pumpsets including proper electrification. Necessary Gantry girders and Electrically operated trolley shall be provided to lift the pumps for erection and operation and maintenance and including providing of suitable surge protection device near the pump house for the Raw water main, internal roads, including the electrification, water supply and sanitary arrangements etc complete and as per the direction of Engineer.	1 No				
4.6	90 MLD capacity Treatment Plant at Barari water works					
4.6.1	Up gradation of Existing Sedimentation Tanks					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.6.1.1	Up gradation of four sedimentation tanks by removing the central walls connecting the four tanks and convert it into two tanks for improving the performance of the tanks including cleaning of sludge and silt accumulated in the tanks and disposal of surplus earth, bricks, bats etc 8 km away from the site, providing laying and jointing of inlet and outlet M.S pipes and DI K9 pipes of suitable size to carry 141 MLD water with baffle arrangement on inlet and out let side with necessary valve arrangements on both sides and repair to the existing masonry embankment by cement mortar including testing and commissioning the sedimentation tank after up gradation etc complete and the work shall be carried out in lean season when the turbidity is low and without affecting the existing water supply and as directed by Engineer.	1 No				
4.6.1.2	RCC Settled water sump of capacity 1200 cum and settled water pump house of size 20 x 7.50 m	1 No				
4.6.2	Construction of water Treatment Plant with the following components suitable producing 90 MLD of potable water as per CPHEEO standards at Intermediate stage and Provision for 45 MLD plant for future expansion including topographical survey of site, soil investigation for ascertaining soil bearing capacity, Equipment required for all the components of WTP, electrification , lighting, sanitation and disposal arrangement for sludge etc including testing and commissioning of the water treatment plant etc complete and as directed by the Engineer. The layout of the existing and proposed WTP shall be accommodated in the available land at Barari water works					
4.6.2.1	Units for 90 MLD capacity WTP					
4.6.2.2	Inlet chamber, Parshall Flume and Flash Mixer 2 Nos	1 LS				
4.6.2.3	Flocculator - 4 Nos	1 LS				
4.6.2.4	Plate Settler- 2 Nos	1 LS				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.6.2.5	Filtration units with Filter Beds 12 Nos including Bye pass arrangements	1 LS				
4.6.2.6	Back wash Tank	1 LS				
4.6.2.7	Back wash Pipe line	1 LS				
4.6.2.8	Chlorine Contact Tank- 2 Nos	1 LS				
4.6.2.9	Chemical Building	1 LS				
4.6.2.10	Chlorine Building - 2 Nos	1 LS				
4.6.2.11	Administrative Building and Laboratory double storied building with each floor having a plinth area of 250 sq.m including electrification, sanitation and water supply arrangements	1 LS				
4.6.2.12	Clear water Reservoir of required capacity to supply 135 MLD potable water (with minimum of 2 hour storage capacity,) ultrasonic level sensors, water level indicators, ladder, inlet and over flow DI pipes of suitable diameter	1 LS				
4.6.2.13	Clear Water Pump House to accommodate Intermediate vertical Turbine pumps and future provision for accommodating ultimate stage pumps including electrification, sanitation and water supply arrangements	1 LS				
	Sludge Treatment					
4.6.2.14	Sludge Balancing Tank	1 LS				
4.6.2.15	Sludge gravity Thickener -3 Nos	1 LS				
4.6.2.16	Thicken sludge sump	1 LS				
4.6.2.17	Supernatant sump	1 LS				
4.6.2.18	Centrifuge Building /Sludge dewatering unit	1 LS				
4.6.3	Bank Protection works					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.6.3.1	River Bank Protection works at WTP area on the right bank of River Ganga by revetment and Gabion wall below the toe beam for a length of about 500 m including surveying construction as per the technical specification and as per the drawings approved by the Engineer etc complete	1 LS				
4.6.4	Miscellaneous					
4.6.4.1	Construction of security cabin including electrification, sanitation and water supply arrangements	1 LS				
4.6.4.2	Construction of 4 staff quarters of 50 sqm plinth area to accommodate the pump operators, filter bed operators, watchmen, and other staffs and to be located in one three storied building with parking at basement including electrification, sanitation and water supply arrangements	1 LS				
4.6.4.3	Construction of Internal Bitumen Road of width 3.75 m for a length of 1 KM	1 LS				
4.6.5	Switch Yard at Head works and Barari water Works					
4.6.5.1	Construction of Control room of size 20 x 10 m for housing the HT and LT meters and Transformer yard for housing the transformer including providing fencing and gates etc complete at Barai water works and Head works- 2 Nos	1 No				
4.7	Electrical and Electro Mechanical Equipements for all the componets under this project					
4.7.1	Installation, testing and commissioning of the Raw water pumps including all machineries and connecting pipes and specials etc for Raw water Pumping station.					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.1.1	Vertical Turbine pumpset 1027 m ³ /hr, at an approximate head of 29m (the head shall be designed as per actual site condition, 980 rpm as per specifications.(4W + 2S), and Vertical Solid Shaft Motor suitable for the above pump 980 RPM ,including Soft starter suitable for the above motor. and pipe connections	6 set				
4.7.1.2	Installation, lowering, laying, aligning, fixing in position in pipe line, power actuated and manually operated DI D/F Sluice valves of reputed make (IS:14846 amended up to date) PN 1.0 class of following dia complete (including jointing material) including DI Dismantling joints all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer.					
4.7.1.2.1	500 mm Sluice valve	6 No				
4.7.1.2.2	900 mm Sluice valve	1 No				
4.7.1.3	Installation, lowering, laying, aligning, fixing in position and jointing in pipe line, DI dual plate check valves as per API:594 and API:598 of PN 1.0 rating of following dia (including jointing material), including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer. NRV 500mm	6 No				
4.7.1.4	Installation, lowering, laying, aligning, fixing in position D.I. D/F electrically actuated long body butterfly valves (IS: 13095) PN-1.0 class of following dia complete (including jointing material) including DI Dismantling joints, all material, labour, testing along with pipe line and commissioning as per Technical Specifications and as per direction of Engineer. Butterfly Valves 500mm	6 No				
4.7.1.5	Installation, testing and commissioning of glycerin filled Pressure gauge of following ranges - 0 t 0 6.0kg/cm ² with isolation valve and tap off pipe complete in all respect as per technical specification and as per direction of Engineer. 150mm Diameter	6 No				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.1.6	Installation, testing and commissioning of Electromagnetic Flow Meter etc. including Dismantling joints, all materials, DI fittings and making connection with pipeline required for Electromagnetic Flow Meter including cutting the pipe line etc. complete in all respect as per technical specification and as per direction of Engineer. 600 mm	2 No				
4.7.1.7	Installation, testing & commissioning of Electrically Operated Travelling Crane (EOT) .Main girder & End Carriage fabricated from Rolled Steel Section, Gear Box for all motion, Electro Magnetic Friction Disc Type Brakes, all safety limit switches, LT wheels EN 9, Double Flanged 4No, with Sq. Cage motor of adequate rating (kW), duly painted mechanical cleaning and one coat of primer and two coat of synthetic paint and as per the direction of the Engineer. EOT Crane with sufficient capacity to lift the raw water pumpsets with 9 m span and required lift.	2 No				
4.7.1.8	Installation, testing and commissioning of Non clog submersible pumping set of 2% Ni Cl Cascading, Impeller CF 8M, Shaft SS 410, mechanical seal with 10M Power & Control cable , 5M Galvanized Chain, 10M, 50mm MS galvanized Guide pipe, Duck Foot Bend, with Guide wire SS 304 etc. complete with all respect as per specification - Discharge 160 cum/hr and head 8 to 10 M 15 HP Drainage submersible pump for removal of silt in the intake sump.	2 No				
4.7.1.9	Installation, testing and commissioning of Air Compressor and accessories required for cleaning of Conveyance pipe. The capacity of the compressor shall be adequate to clean the deposited silt in the connecting pipe.	1 No				
4.7.1.9.1	S S Air line for Air compressor 50mm	327.6 kg				
4.7.1.9.2	Perforated air pipe for compressed air 50 mm dia	302.4 m				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.1.10	Installation, laying, aligning, fixing in position and jointing in pipe line, DI screwed Air valves class PN-1.0 single ball of approved make, including screw down isolation valve of following dia including cost of all labour, jointing material i.e. bolts, nuts, rubber insertions etc. complete including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer. 50 mm screwed ends	2 No				
4.7.1.11	Installation, aligning, testing and commissioning of anti-vibration pads for foundation of motors	6 No				
4.7.1.12	Installation, aligning and fixing clamps on column pipe with rubber bush to control the vibration of bowl assembly and testing and commissioning etc complete	6 No				
4.7.2	Electrical Substation and system at Intake works					
4.7.2.1	Installation, laying underground cable IS:7098 Part-II as per SBPDC specifications and of approved make suitable for working voltage up to and including 33 kV in aluminium conductors XLPE armoured category-I including excavation of 30cm x 150cm size trench as per IS:1255, 24cm thick under layer, refill earth in the remaining portion, making necessary connections including testing etc. as required of size given below and providing & making heat shrinkable type indoor/outdoor/straight through terminations for 33kV XLPE cables with required components. Preparation of cable ends, testing and commissioning etc. as required					
4.7.2.2	Installation, Laying and jointing of 33kV Cable Tapping line from WTP to Raw Water Intake substation to be laid by the Contractor - 33kV 3Core 300Sq.mm cable.	2500 m				
4.7.3	Installation , testing and commissioning of the following equipment					
4.7.3.1	33 KV /0.433 KV substation at Raw Water Intake works					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.3.1.1	<p>36 KV VCB Panel- Installation, testing & commissioning of 800 A, 36 KV indoor type, triple pole metal clad truck mounted horizontal draw out type circuit breaker enclosed in cubicle made of CRCA sheet steel of minimum 3 mm thickness, comply with IS-13118, IEC-56 and confirming to M-2 class. The cubicle panel shall be vermin proof and dust-tight and shall be of folded type construction. The switchgear and control gears complete with all necessary supporting framework, nuts and bolts etc for securing the same to the floor conforming to IEC62271/100-200 with ingress protection as IP-5X. The Indoor panel switch gear (circuit breakers -3 Nos, CTs, -6 NosPTs-3 Nos etc) and control gear (relays, meters etc) shall be mounted on the same panel excluding civil works with principal parameters as under:</p> <p>No. of Poles - 3</p> <p>Rated Voltage - 36 KV</p> <p>Rated Insulation Level</p> <p>Lightning Impulse voltage - 170 kV(Peak)</p> <p>One minute Power Frequency withstand voltage - 70 kV(rms)</p> <p>Frequency - 50 Hz</p> <p>Rated normal current - 800 A</p> <p>Short circuit breaking capacity - 25 kA</p> <p>Short circuit withstand current - 25 kA for 3 secs</p> <p>Max. operating time - less than 3 cycles</p> <p>Minimum operations at full rated short circuit breaking currents - 100</p> <p>Rated Breaking capacity</p> <p>Symmetrical - 25 kA</p> <p>Asymmetrical - As per relevant standards</p> <p>Rated making capacity - 2.5x25 kA</p> <p>Operating mechanism - motor operated spring charged closing mechanism Heater/lamp/socket - 240V</p> <p>Control voltage - 110 VDC</p>	1 Set				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
	<p>Vacuum Circuit Breakers with three interrupters mounted on same carriage having fixed & moving contacts in sealed envelope with vacuum below 10⁻⁶ torr. Complete as per technical specifications and/or as directed by Engineer.</p> <p>The VCB shall include specified cubicle panel, Aluminium / Copper bus bars, Insulator, sleeves, PT, CT etc complete in all respect.</p>					
	<p>Installation, testing & commissioning of 33kV Control & Relay Panel duly mounted with protective relays, metering equipment etc. required for the satisfactory operation of 33kV side of 33/0.4kV Power Transformers. The C/R cubicles of folded type construction with front base frame and door frame fabricated from CRCA sheet steel 10 SWG (3mm) thickness, while the side, roof & doors fabricated out of 14 SWG (2mm) thick CRCA sheet steel. The height of panel inclusive of base channel height of 102 mm of not more than 2312 mm, width of 750 mm or suitable to accommodate equipments and panel of depth 610 mm with dust & vermin proof and suitable for tropical use. The complete panel incorporates all necessary meters, instruments relays, control switches, indicating lamps, mimic buses, audible & visual alarms. The enclosure provide minimum degree of protection equivalent to IP-51 as per IS 2147. The relays offered conforming to latest issue of IS: 3231 & IS-8686. For over current & earth fault numerical relays be provided. In three phase protection relay, the setting for over current element be 50-200% (in steps of 10%)</p>	1 Set				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
	and for earth fault element from 10 to 80% (in steps of 10%). Relay should also have features of self diagnosis, minimum last five abnormal events recording over current & earth fault including fault level & phase along with date & time, on line display of current and communicable with open protocol having RS-485 port. The panel be equipped with Annunciation scheme for indicating all annunciations equipped for the trip & non trip alarms. All indicating instruments of Switch Board type back connected suitable for flush mounting and provided with dust & vermin proof case for tropical use. All indicating instruments conforming to latest edition of IS-2419/1963. complete as per technical specifications and /or as directed by engineer. 33 kV Relay Panel					
4.7.3.1.2	Installation, fixing in position of required no. of lightening arrester set complete with 600mm x 600mm x 6mm thick G.I. earthing plate embedded below ground in earthing pit at 3.5 metre depth, G.I. strip of size 25mmx5mm thick from earthing plate to top of Over head tank, G.I. Finial made of GI bar 25mm dia and 2m long fixed on top of OH tank and connected to GI strip. The earthing set shall comply of IS:3043 complete in all respect as per specification and testing and commissioning as per the direction of the Engineer. Lightning Impulse voltage - 170 kV(Peak)	1 Set				
4.7.3.1.3	Installation, Testing & Commissioning of HT metering cubical panel as approved By DISCOMs fabricated out of 14 SWG CRCA sheet steel in two compartment & MS angle of size 60mmX6mm having provision for Following: (i) Provision for fixing Trivector Meter (To be supplied by DISCOMs) (ii) Provision for fixing of combined CT PT Set (To be supplied by DISCOMs) (iii) TT Block (iv) 6mm Bakelite sheet on all sides.	1 Set				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.3.1.4	Installation, testing and commissioning of Earthing of all substation equipment as per IS:3043 as per IEEE Standard 80-2000 (IEEE Guide for safety in AC Substation Grounding)	5 Set				
4.7.3.1.5	Installation, testing and commissioning of SF Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV, 25 mm thick	12 Sq.m				
4.7.4	Transformer	2 Set				
4.7.4.1	Installing in correct aligned position, effecting proper connections, testing and commissioning of following rating out door type oil filled off circuit tap changer transformer with the following specification and confirming to IS 1180(Part 1 -2014) Thickness of transformer Tank (rolling tolerance as per IS)					
	No Load Voltage ratio : 33/0.433 kV					
	No. of phases / frequency : 3 Phases/ 50 Hz					
	Type : Core type, double copper wound					
	Cooling : ONAN					
	Vector Group : DYN11					
	Temperature rise (OIL/WINDING) : 40/50 deg C					
	Off circuit Taps on HV side in the steps of 2.5%,+5 % to -10%					
	Termination (HV) : Air filled cable end box suitable for 33 kV of adequate cable size					
	Termination (LV) : Air filled cable end box suitable for 1.1 kV of adequate cable size					
	The transformer shall be supplied with following fittings:					
	(i)Buchholz Relay					
	(ii)Conservator with drain valve					
	(iii)Magnetic Level Indicator					
	(iv)Silica gel breather with oil seal					
	(v) First filling of filtered oil as per IS : 335 including make up fill during installation of transformer plus 10% extra oil					
	(vi) off circuit switch					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
	(vii) Lifting lugs					
	(viii) Earthing terminal- 2 nos.					
	(ix) Thermometer pocket					
	(x) Air release plug					
	(xi) Inspection cover					
	(xii) Top filter valve - 1no.					
	(xiii) Radiator with top & bottom shut off valves					
	(xiv) 100 mm dial magnetic oil level guage with max. pointer & with alarm contacts					
	(xv) Rating & Diagram plate					
	(xvi) Bi-directional Plain/ Flanged Rollers					
	(xvii) 150 mm dial Winding temperature indicator with max pointer and alarm & trip contacts					
	(xviii) 150 mm dial Oil temperature indicator with max pointer and alarm & trip contacts					
	(xix) Disconnecting facility of HV Cable box					
	Transformers descibed as above and as per the following continuous rating					
	1250kVA Transformer (1250KVA capacity of transformer is minimum, however if the design indicates a higher capacity shall be considered).					
4.7.4.2	Automatic Power factor Improvement Panel to improve the power factor up to 0.95 lagging. This will include panel cubical, Microprocessor based intelligent power factor correction relay complete in all respect.	1 Set				
4.7.4.3	Instalation, testing and commissioning of Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV, 25 mm thick	15 Sq.m				
4.7.5	LT Panel RWPS					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.5.1	<p>Installation, testing and commissioning of wall/free standing floor mounted dust and vermin proof compartmentalized cubical panel for 0.415kV including the suitable size of electrolytic grade Copper Bus Bars, insulators etc., for the following feeders:</p> <p>1. 2 Nos. Incoming ACB from the transformer- This will be provided with (but not limited to) Digital Multifunction meter compatible to SCADA, metering, Protection CT's, IDMT 3O/C&1 E/F, indicating lamps, control fuse , wiring etc. complete in all respect</p> <p>2. 1No. ACB for Bus Coupler. This will be provided with (but not limited to) without release Protection CT's, IDMT 3 O/C & 1 E/F, Indicating Lamps, Control Fuses and wiring etc. complete in all respect.</p> <p>3. MCCB panels for APFC Panel, Pumping plant,</p> <p>Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.8)</p> <p>4.MCCB panels for auxiliary and spare (Minimum No.6)</p> <p>Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.8)</p> <p>MCCB shall be provided with shunt release, Under voltage release and Earth fault module.</p>	1 Set				
4.7.5.2	<p>Installation, testing and commissioning of Bus Trunking arrangement in convenient sections complete with housing of galvanized sheet steel of minimum 1.5mm thickness, Copper bus bar for use of 3phase-4Wire 415Volt A.C supply with degree of protection ip-42 for the minimum 2000A rating including jointing of Section, flexible joints, expansion joints and earthing with 2 runs of aluminum strips,etc. From Transformer LT to incoming of LT Panel.</p>	1 Lot				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.5.3	Installation, Laying and jointing, testing and commissioning of XLPE insulated sheathed cable of 1.1 kV grade with aluminium conductor Armoured of IS:7098-I/1554-1 approved make in ground as per IS:1255 including excavation of 30cmx75cm size trench, 25 cm thick under layer of sand, IInd class bricks covering, refilling earth, compaction of earth, making necessary connection, testing etc. as required of size for the pumping station.	1 Lot				
4.7.5.4	Installation, testing and commissioning of Battery Charger, battery bank of min 150 AH capacity comprising SMF/VRLA batteries, MS / Teakwood battery stand, interconnect wiring etc. as required complete in all respect.	1 set				
4.7.5.5	Installation, testing and commissioning of Earthing of all equipment as per IS:3043. and requirement of IER.	1 Job				
4.7.6	Installation, erection, testing and commissioning of the settled water pumping station machineries and connected pipes and specials etc for settled water sedimentation Pumping station.					
4.7.6.1	Vertical Turbine pumpset 1027 m3/hr, at an approximate head of 8m (the head shall be designed as per actual site condition, 980 rpm as per specifications.(4W + 2S) and Vertical Solid Shaft Motor suitable for the above pump 980 RPM including soft starter for the pumps, and MS pipe connections	6 set				
4.7.6.2	Installation, lowering, laying, aligning, fixing in position in pipe line, power actuated and manually operated DI D/F Sluice valves of reputed make (IS:14846 amended up to date) PN 1.0 class of following dia complete (including jointing material) including DI Dismantling joints all material, labour, testing and commissioning along with pipe line as per Technical Specifications and as per direction of Engineer.	6 No				
	450mm					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.6.3	<p>Installation, lowering, laying, aligning, fixing in position and jointing in pipe line, DI dual plate check valves as per API:594 and API:598 of PN 1.0 rating of following dia (including jointing and jointing material), including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer.</p> <p>NRV 450mm</p>	6 No				
4.7.6.4	<p>Installation, lowering, laying, aligning, fixing in position DI D/F electrically actuated long body butterfly valves (IS: 13095) PN-1.0 class of following dia complete (including jointing material) including all material, DI Dismantling joints, labour, testing along with pipe line and commissioning as per Technical Specifications and as per direction of Engineer.</p>					
4.7.6.4.1	450mm	6 No				
4.7.6.4.2	900mm	1 No				
4.7.6.5	<p>Installation, testing and commissioning of glycerin filled Pressure gauge of following ranges with isolation valve and tap off pipe complete in all respect as per technical specification and as per direction of Engineer.</p> <p>Glycerine filled Pressure Gauge 0 to 6.0 kg/cm² 150mm dia.</p>	6 No				
4.7.6.6	<p>Installation erecting, testing & commissioning of Electrically Operated Travelling Crane (EOT) .Main girder & End Carriage fabricated from Rolled Steel Section, Gear Box for all motion, Electro Magnetic Friction Disc Type Brakes, all safety limit switches, LT wheels EN 9, Double Flanged 4No, with Sq. Cage motor of adequate rating (kW), duly painted mechanical cleaning and one coat of primer and two coat of synthetic paint and as per the direction of the Engineer.</p> <p>EOT Crane with sufficient capacity to lift the settled water pumpsets with 9 m span and required lift</p>	1 No				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.6.6	<p>Installation, testing and commissioning of wall/free standing floor mounted dust and vermin proof compartmentalized cubical panel for 0.415kV including the suitable instalation, testing and commissioning of wall /free standing floor mounted dust and vermin proof compartmentalized cubical panel for 0.415kV including the suitable size of electrolytic grade Copper Bus Bars, insulators etc., for the following feeders:</p> <p>1. 1 No. Incoming MCCB -This shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampere meter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect.</p> <p>2. MCCB panels for Pumping plant Automatic Star Delta Starter 6 Nos.</p> <p>Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampere meter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.8)</p> <p>3.MCCB panels for auxiliary and spare-</p> <p>Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to SCADA, Ampere meter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.3)</p> <p>MCCB shall be provided with shunt release, Under voltage release and Earthfault module.</p>	1 Set				
4.7.6.7	Installation, testing and commissioning of Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV, 25 mm thick for the Panel	1 set				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.6.8	Installation, Laying, jointing, testing and commissioning of XLPE insulated sheathed cable of 1.1 kV grade with aluminium conductor Armoured of IS:7098-I/1554-1 approved make in ground as per IS:1255 including excavation of 30cmx75cm size trench, 25 cm thick under layer of sand, 11nd class bricks covering, refilling earth, compaction of earth, making necessary connection, testing etc. of required size and length for the pumping stations.	1 Lot				
4.7.6.9	Installation, testing and commissioning of Earthing of all equipment as per IS:3043 and requirement of IER.	1 Set				
4.7.6.10	Installation, testing and commissioning of charged ABC type fire extinguisher including the cost of fixing with nut, bolts etc as required. 5 KG	4 No				
4.7.7	Installation, erection, testing and commissioning of the Clear water pumping station machineries including connected pipes and specials etc complete at WTP					
4.7.7.1	Vertical Turbine pumpset 978 m ³ /hr, at an approximate head of 38m (the head shall be designed as per actual site condition, 980 rpm as per specifications. (5W + 2S) and Vertical solid shaft Motor suitable for the pumps including the soft starter suitable for the motor of the pump and connecting pipes	7 set				
4.7.7.2	Installation, lowering, laying, aligning, fixing in position in pipe line, testing and commissioning of power actuated and manually operated DI D/F Sluice valves of reputed make (IS:14846 amended up to date) PN 1.0 class of following dia complete (including jointing material) including DI Dismantling joint and all material, labour, testing and commissioning along with pipe line as per Technical Specifications and as per direction of Engineer.					
4.7.7.2.1	450mm					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.7.2.2	450mm	7 No				
4.7.7.2.3	700mm	1 No				
4.7.7.3	Installation, lowering, laying, aligning, fixing in position and jointing in pipe line, testing and commissioning of DI dual plate check valves as per API:594 and API:598 of PN 1.0 rating of following dia (including jointing material), including DI Dismantling joint all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer.					
4.7.7.3.1	NRV 450mm	7 No				
4.7.7.3.2	NRV 700mm	2 No				
4.7.7.4	Installation, lowering, laying, aligning, fixing in position, testing and commissioning of DI. D/F electrically operated long body butterfly valves (IS: 13095) PN-1.0 class of following dia complete (including jointing material) including DI Dismantling joint, all material, labour, testing along with pipe line and commissioning as per Technical Specifications and as per direction of Engineer.					
4.7.7.4.1	450mm	7 No				
4.7.7.4.2	700mm	2 No				
4.7.7.5	Installation, testing and commissioning of glycerin filled Pressure gauge of following ranges with isolation valve and tap off pipe complete in all respect as per technical specification and as per direction of Engineer. Glycerine filled Pressure Gauge 0 to 10kg/cm ² 150mm diameter	7 No				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.7.6	Installation, testing and commissioning of Electromagnetic Flow Meter etc. including all materials and making connection with pipeline required for Electromagnetic Flow Meter including cutting the pipe line etc. complete in all respect as per technical specification and as per direction of Engineer.					
4.7.7.6.1	EMF 600 mm	2 No				
4.7.7.6.2	EMF 400 mm	22 No				
4.7.7.6.3	EMF 300 mm	20 No				
4.7.7.6.4	EMF 200 mm	2 No				
4.7.7.6.5	EMF 150 mm	1 No				
4.7.7.7	Installation, erecting, testing & commissioning of Electrically Operated Travelling Crane (EOT). Main girder & End Carriage fabricated from Rolled Steel Section, Gear Box for all motion, Electro Magnetic Friction Disc Type Brakes, all safety limit switches, LT wheels EN 9, Double Flanged 4No, with Sq. Cage motor of adequate rating (kW), duly painted mechanical cleaning and one coat of primer and two coat of synthetic paint and as per the direction of the Engineer. EOT Crane 10T, 9m span, 9m lift.	1 No				
4.7.8	Electrical Substation and system					
4.7.8.1	33kV Single Circuit Lattice Structure	1 set				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.8.2	<p>Installation, testing and commissioning of 33 kV Double Pole structure made of two nos. 10 m long PCC poles & 7 nos. MS Channel size 100x50x6mm with GO switch, DO fuse set and lightning arrestors with following specifications. GO: Off load type gang operated three pole Horizontal type switch suitable for 33kV, 800A, 3phase central post rotating double break isolator complete with MS Hardware, copper moving & fixed contacts, assembly of 9 Nos. Post Insulators, GI pipe of suitable length for operation. DO: 3 Nos. Horizontal/Vertical mounted 33kV Horn Gap fuse set / Drop Out fuse set, 33kV barrel fuses mounted on 6 Nos. Post insulators. LA: 3 piece non linear resistor type lightening arrester of approved make suitable for 3 wire, 33kV oh line with rated voltage 30kV rms & nominal discharge current rating of 10 kA & complete with galvanized clamping arrangement, GI bolts, nuts, washers etc. as required. Jumpers:3 Nos. ACSR Dog Conductor mounted on post type insulators as required.</p> <p>The GO shall be operated by hand operated liver properly earthed with provision for locking mounted at 3'. Complete as per technical specifications and /or as directed by the Engineer.</p>	2 set				
4.7.8.3	<p>33 KV VCB Panel- Installation, testing & commissioning of 800 A, 33 KV indoor type, triple pole metal clad truck mounted horizontal draw out type circuit breaker enclosed in cubicle made of CRCA sheet steel of minimum 3 mm thickness, comply with IS-13118, IEC-56 and confirming to M-2 class. The cubicle panel shall be vermin proof and dust-tight and shall be of folded type construction. The switchgear and control gears complete with all necessary supporting framework, nuts and bolts etc for securing the same to the floor conforming to IEC62271/100-200 with ingress protection as IP-5X. The Indoor panel switch gear (circuit breakers-3 Nos, CTs-6 Nos, PTs -3 Nos etc) and control gear (relays, meters etc) shall be mounted on the same panel excluding civil works with principal parameters as under</p> <p>No. of Poles - 3</p> <p>Rated Voltage - 33 KV</p>	1 Set				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
	Rated Insulation Level					
	Lightning Impulse voltage - 170 kV(Peak)					
	One minute Power Frequency withstand voltage - 70 kV(rms)					
	Frequency - 50 Hz					
	Rated normal current - 800 A					
	Short circuit breaking capacity - 25 kA					
	Short circuit withstand current - 25 kA for 3 secs					
	Max. operating time - less than 3 cycles					
	Minimum operations at full rated short circuit breaking currents - 100					
	Rated Breaking capacity					
	Symmetrical - 25 kA					
	Asymmetrical - As per relevant standards					
	Rated making capacity - 2.5x25 kA					
	Operating mechanism - motor operated spring charged closing mechanism Heater/lamp/socket - 240V					
	Control voltage - 110 VDC					
	Vacuum Circuit Breakers with three interrupters mounted on same carriage having fixed & moving contacts in sealed envelop with vacuum below 10 ⁻⁶ torr. complete as per technical specifications and/or as directed by Engineer.					
	The VCB shall include specified cubicle panel, Aluminium / Copper bus bars, Insulator, sleeves, PT, CT					
4.7.8.4	Supply, installation, testing & commissioning of 33kV Control & Relay Panel duly mounted with protective relays, metering equipment etc. required for the satisfactory operation of 33kV side of 33/0.4kV Power Transformers.	1 No				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.8.5	Installation, Testing & Commissioning of HT metering cubical panel as approved By DISCOMs fabricated out of 14 SWG CRCA sheet steel in two compartment & MS angle of size 60mmX6mm having provision for Following: (i) Provision for fixing Trivector Meter (To be supplied by DISCOMs) (ii) Provision for fixing of combined CT PT Set (To be supplied by DISCOMs) (iii) TT Block (iv) 6mm Bakelite sheet on all sides. Metering Cubicle	1 No				
4.7.8.6	Installation, fixing in position, testing and commissioning of lightening arrester set complete with 600mm x 600mm x 6mm thick G.I. earthing plate embedded below ground in earthing pit at 3.5 metre depth, G.I. strip of size 25mmx5mm thick from earthing plate Lightning Impulse voltage - 170 kV(Peak)	1 set				
4.7.8.7	Installation, testing and commissioning of Earthing of all substation equipment as per IS:3043 as per IEEE Standard 80-2000 (IEEE Guide for safety in AC Substation Grounding)	1 Job				
4.7.8.8	Installation, Laying , jointing, testing and commissioning of following size earth wire/strip in horizontal or vertical run in ground/surface/recess including riveting, soldering, saddles, making connection etc. as required. 25mm x 3mm G.I.Strip Frequency - 50 Hz	250 m				
4.7.8.9	Installation, testing and commissioning of SF Rubber matting with one side corrugated as per IS specification 15652/2006 - 11 kV Rated normal current - 800 A	12 Sq.m				
4.7.9	Transformer	2 set				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.9.1	Installing in correct aligned position, effecting proper connections, testing and commissioning of following rating out door type oil filled off circuit tap changer transformer with the following specification and confirming to IS 1180(Part 1 -2014) Thickness of transformer Tank (rolling tolerance as per IS)					
	No Load Voltage ratio : 33/0.433 kV					
	No. of phases / frequency : 3 Phases/ 50 Hz					
	Type : Core type, double copper wound					
	Cooling : ONAN					
	Vector Group : DYN11					
	Temparature rise (OIL/WINDING) : 40/50 deg C					
	Off circuit Taps on HV side in the steps of 2.5%,+5 % to -10%					
	Termiantion (HV) : Air filled cable end box suitable for 33 kV of adequate cable size					
	Termiantion (LV) : Air filled cable end box suitable for 1.1 kV of adequate cable size					
	The transformer shall be supplied with following fittings:					
	(i)Bochholz Relay					
	(ii)Conservator with drain valve					
	(iii)Magnetic Level Indicator					
	(iv)Silica gel breather with oil seal					
	(v) First filling of filtered oil as per IS : 335 including make up fill during installation of transformer plus 10% extra oil					
	(vi) off circuit switch					
	(vii) Lifting lugs					
	(viii) Earthing terminal- 2 nos.					
(ix) Thermometer pocket						
(x) Air release plug						
(xi) Inspection cover						
(xii) Top filter valve - 1no.						

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
	(xiii) Radiator with top & bottom shut off valves (xiv) 100 mm dial magnetic oil level guage with max. pointer & with alarm contacts (xv) Rating & Diagram plate (xvi) Bi-directional Plain/ Flanged Rollers (xvii) 150 mm dial Winding temperature indicator with max pointer and alarm & trip contacts (xviii) 150 mm dial Oil temperature indicator with max pointer and alarm & trip contacts (xix) Disconnecting facility of HV Cable box Transformers described as above and as per the following continuous rating 2000kVA Transformer (2000KVA capacity of transformer is minimum, however if the design indicates a higher capacity shall be considered).					
4.7.9.2	Installation, testing and commissioning of Automatic Power factor Improvement Panel to improve the power factor up to 0.95 lagging. This will include panel cubical, Microprocessor based intelligent power factor correction relay complete in all respect.	1 Set				
4.7.9.3	Installation, testing and commissioning of SF Rubber matting with one side corrugated as per IS specification 15652/2006 Rated making capacity - 2.5x25 kA	12 Sq.m				
4.7.10	LT Panel CWPS	1 Set				
4.7.10.1	Installation, testing and commissioning of wall/free standing floor mounted dust and vermin proof compartmentalised cubical panel for 0.415kV including the suitable size of electrolytic grade Copper Bus Bars, insulators etc., for the following feeders: 1. 2 Nos. Incoming ACB from the transformer- This will be provided with (but not limited to) Digital Multifunction meter compatible to SCADA, metering, Protection CT's, IDMT 3O/C&1 E/F, indicating lamps, control fuse , wiring etc. complete in all respect					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
	<p>2. 1No. ACB for Bus Coupler. This will be provided with (but not limited to) without release Protection CT's, IDMT 3 O/C & 1 E/F, Indicating Lamps, Control Fuses and wiring etc. complete in all respect.</p> <p>3. MCCB panels for APFC Panel, Pumping plant,</p> <p>Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to scada, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect. (Minimum No.9)</p> <p>4.MCCB panels for auxiliary and spare (Minimum No.6)</p> <p>Above panels shall be provided with- (but not limited to) metering CTs, multi function meter compatible to scada, Ampermeter with SS, Voltmeter with SS, Indicating Lamps, Control Fuse, wiring etc. complete in all respect.</p> <p>MCCB shall be provided with shunt release, Under voltage release and Earth fault module.</p>					
4.7.10.2	Installation, testing and commissioning of Bus Trunking arrangement in convenient sections complete with housing of galvanized sheet steel of minimum 1.5mm thickness, Copper bus bar for use of 3phase-4Wire 415Volt A.C supply with degree of protection ip-42 for the minimum 2000A rating including jointing of Section, flexible joints, expansion joints and earthing with 2 runs of aluminum strips,etc. From Transformer LT to incoming of LT Panel.	1 Job				
4.7.10.3	Installation, Laying, jointing, testing and commissioning of XLPE insulated sheathed cable of 1.1 kV grade with aluminium conductor Armoured of IS:7098-I/1554-1 approved make in ground as per IS:1255 including excavation of 30cmx75cm size trench, 25 cm thick under layer of sand, 11nd class bricks covering, refilling earth, compaction of earth, making necessary connection, testing etc. as required of size and length for the pumping stations..	1 Job				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.7.10.4	Installation, testing and commissioning of Battery Charger, battery bank of min 150 AH capacity comprising SMF/VRLA batteries, MS / Teakwood battery stand, interconnect wiring etc. as required complete in all respect.	1 set				
4.7.11	Installation, testing and commissioning of internal and external lighting of all campus including Raw water pumping station, Sedimentation Pumping Station, Clear Water pumping Station and all other buildings to be constructed under this tender. The illumination level to be provided shall be in accordance to the lux level mentioned elsewhere in technical specifications. All lights shall be LED.	1 Job				
4.7.12	Installation, testing and commissioning of 3pin 5Amp, and 6 pin15Amp light and power points as per requirement to be decided by the Engineer In charge in all buildings under this tender.	1 Job				
4.7.13	Installation, testing and commissioning of Ceiling fans as per requirement to be decided by the Engineer Incharge in all buildings under this tender.	1 Lot				
4.7.14	Installation , testing and commissioning of Ventilation arrangements in all the buildings proposed under this tender according to requirement narrated in technical Specifications and decided by the engineer In charge.	1 Lot				
4.8	Automation and equipment					
	Installation, testing and commissioning of the SCADA system with the following equipment					
4.8.1	For Raw water Pump House					
4.8.2	PLC Panel with required hardware & software	1 Lot				
4.8.3	UPS with batteries	1 Lot				
4.8.4	Level Instruments	2 Nos				
4.8.5	Temperature Instruments	6 Nos				
4.8.6	Vibration monitoring System	6 Nos				
4.8.7	Pressure Transmitter	7 Nos				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.8.8	Flow Instruments	1 Nos				
4.8.9	Control and Instrumentation cables	1 Lot				
4.8.10	Instrumentation Earthing materials with accessories	1 Lot				
4.8.11	Cable trays/supports for cable laying of requires size	1 Lot				
4.8.12	Equipment for Data transmission via Radio frequency	1 Lot				
	WTP					
4.8.13	Sedimentation Pump house					
4.8.14	PLC Panel with required hardware & software	1 Lot				
4.8.15	UPS with batteries	1 Lot				
4.8.16	Level Instruments	2 Nos				
4.8.17	Pressure Transmitter	7 Nos				
4.8.18	Flow Instruments	1 Nos				
4.8.19	Instrumentation Earthing materials with accessories	1 Lot				
	Clarifier Area					
4.8.20	PLC Panel with required hardware & software	1 Lot				
4.8.21	UPS with batteries	1 Lot				
4.8.22	Level Instruments	1 Nos				
4.8.23	Flow Instruments	1 Nos				
4.8.24	Instrumentation Earthing materials with accessories	1 Nos				
	Filter Area					
4.8.25	PLC Panel with required hardware & software	1 Lot				
4.8.26	UPS with batteries	1 Lot				
4.8.27	Remote Filter PLC(2 Nos) with hardware & software accessories	2 Lot				
4.8.28	Level Instruments	13 Nos				
4.8.29	Pressure Instruments includes differential pressure instruments	11 Nos				
4.8.30	Flow Instruments	2 Nos				
4.8.31	Instrumentation Earthing materials with accessories	1 Lot				
	Chemical Area					
4.8.32	PLC Panel with required hardware & software	1 Lot				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.8.33	UPS with batteries	1 Lot				
4.8.34	Flow Instruments	3 Nos				
4.8.35	Level Instruments	9 Nos				
4.8.36	Pressure Transmitter	6 Nos				
4.8.37	Instrumentation Earthing materials with accessories	1 Lot				
	Sludge Area					
4.8.38	PLC Panel with required hardware & software	1 Lot				
4.8.39	UPS with batteries	1 Lot				
4.8.40	Flow Instruments	4 Nos				
4.8.41	Level Instruments	6 Nos				
4.8.42	Pressure Transmitter	4 Nos				
4.8.43	Instrumentation Earthing materials with accessories	1 Lot				
	Chlorine Area					
4.8.44	PLC Panel with required hardware & software	1 Lot				
4.8.45	UPS with batteries	1 Lot				
4.8.46	Flow Instruments	2 Nos				
4.8.47	Pressure Transmitter	12 Nos				
4.8.48	Instrumentation Earthing materials with accessories	1 Lot				
	Clear water pump house					
4.8.49	PLC Panel with required hardware & software	1 Lot				
4.8.50	UPS with batteries	1 Lot				
4.8.51	Level Instruments	4 Nos				
4.8.52	Temperature Instruments	7 Nos				
4.8.53	Vibration monitoring System	7 Nos				
4.8.54	Pressure Transmitter	9 Nos				
4.8.55	Flow Instruments	2 Nos				
4.8.56	Instrumentation Earthing materials with accessories	1 Lot				
4.8.57	Equipment for Data transmission via Radio frequency	1 Lot				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.8.58	Control and Instrumentation cables for WTP(includes accessories like glands, lugs, etc)	1 Lot				
4.8.59	Communication Cables inside WTP(fiber optic cable)	1 Lot				
4.8.60	Cable trays/supports for cable laying of requires size	1 Lot				
4.8.61	2 no's of SCADA operator station(Required Hard ware & Software Licensed) of WYP with control desk and its accessories	2 Lot				
4.8.62	2 no's of SCADA server station(Required Hard ware & Software Licensed) WTP with control desk and its accessories	2 Lot				
4.8.63	2 no's of SCADA operator station(Required Hard ware & Software Licensed) for BMC with control desk and its accessories	2 Lot				
4.8.64	Online water quality analyzers like Turbidity, pH, chlorine etc.	1 Lot				
	Distribution system (Phase 1)					
4.8.65	PLC Panel with required hardware & software	48 Lot				
4.8.66	UPS with batteries	48 Lot				
4.8.67	Level Transmitter	48 Nos				
4.8.68	Equipment for Data transmission via Radio frequency	48 Lot				
	WTP					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.9	Installation, testing and commissioning of Equipment such as pipe connection to all the components of WTP including suitable valves and ,measuring devices, chemical dosing pipe lines etc complete pumps, motors, scrapping equipment's, suitable capacity of Filter Bach wash pumps, Air Blowers for filter back wash, suitable capacity of vacuum type chlorinators with motive water pumps for pre and post chlorination, Emergency tonner leakage control kit, exhaust equipment, scrubbing system with working and standby suction fan, absiration tower, scrubbing media tank, working and standby scrubbing media circulation pumps, EOT of suitable capacity where required, submerged mixers, solid bowl type centrifuge for sludge dewatering unit , agitator laboratory equipment etc complete suitable for 90 MLD Treatment Plant including procuring, installation, testing and commissioning etc complete and as directed by Engineer					
4.9.1	Motorised 1300 mm dia DI Butterfly valves at inlet	1 No				
4.9.2	Motorised 800 mm DI Butterfly valves at Flash Mixer to Flocullator	2 Nos				
4.9.3	Motorised 400 mm DI Butterfly valves at Filter out let	12 Nos				
4.9.4	Motorised 400 mm DI Butterfly valves at Flow Restrictor valve	12 Nos				
4.9.5	Motorised 500 mm DI Butterfly valves at Wash water inlet	12 Nos				
4.9.6	200 mm sluice valve for Drain valve for manual operation	12 Nos				
4.9.7	Motorised 250 mm DI Butterfly valves at scour Air inlet	12 Nos				
4.9.8	400 mm Globe valve for Air Purge line	12 Nos				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.9.9	Motorised 500 mm DI Sluice valves at Wash water line from OHT	2 Nos				
4.9.10	Motorised 250 mm DI Butterfly valves at Air Line from Air Blower	6 Nos				
4.9.11	Motorised 300 mm DI Butterfly valves at Back wash Pump	2 Nos				
4.9.12	300 mm DI Isolation valve at Back wash Pump	2 Nos				
	Motorised Gates					
4.9.13	400 mm x 400 mm at Filter inlet	12 Nos				
4.9.14	600mm x 600 mm at Flash Mixer	2 Nos				
4.9.15	600 mm x 600 mm at Flocculator	4 Nos				
4.9.16	800 mm x 800 mm at Wash water outlet	6 Nos				
	Chlorine Dosing Pipelines					
4.9.17	PP Ball Valves - 400 mm dia at Line for Alum/PAC Dosing	6 Nos				
4.9.18	PP Ball Valves - 400 mm dia at Line for Poly Electrolyte Dosing	6 Nos				
4.9.19	PP Ball Valves - 400 mm dia at Line for Dewatering Poly	2 Nos				
4.9.20	PP Ball Valves - 400 mm dia at Line for Line for coagulating Poly in Waste recovery system	4 Nos				
	Pipes					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.9.21	900 mm dia MS pipes -for Flash Mixer to Flocullator	20 m				
4.9.22	900 mm dia MS pipes -for Flash Mixer to Flocullator	30 m				
4.9.23	400 mm DI K9 pipe for Filtered water outlet	64 m				
4.9.24	200 mm DI K9 pipe for Air inlet	200 m				
4.10	Major Equipment in Water Treatment Plant Installation, Erection, Testing and commissioning of the Major Equipment suitable for WTP components					
4.10.1	Slow speed Motor with Pedal arrangement for Flash Mixer	2 Set				
4.10.2	Flocculation and sludge scarpping arrangement for Plate Settler and Flocculation/Clarifier Units	4 Set				
4.10.3	Filter Back wash pumps with required capacity	2 Nos				
4.10.4	Twin Lobe type Air Blowers for filter backwash with required capacity	2 Nos				
4.10.5	Monorail Hoist	2 Nos				
4.10.6	Filter Media (Sand & Gravel)	2610.14 Tonne				
4.10.7	Chlorination System					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.10.8	Vaccum Type Chlorinator for pre Chlorination Capacity 12 kg/hour each complete with motive water pumps and all other accessories 1.Vaccum Type Chlorinator for post Chlorination Capacity 12 kg/hour each complete with motive water pumps and all other accessories -2 Nos 2.Chlorine room safety kit- 5 Set 3.Emergency tonner leakage control Kit - 1 No 4.Scrubbing system with working and stand by suction fan, absorption tower, scrubbing media tank, working and standby scrubbing media circulation pumps etc- 1 Set 5.Exhaust Equipmet - 1 set	1 set				
4.10.9	EOT- 2 TONNE	2 Nos				
	Dirty Back wash Holding Tank					
4.10.10	Submerged Mixers	2 Nos				
4.10.11	Motor Submersible type pumps of 430 cu. m/hour capacity at 15 m head	3 Nos				
4.10.12	Mixers for coagulation polyelectrolyte solution preparation tank	2 Nos				
4.10.13	Coagulation Polyelectrolyte dosing (metering) Pumps	2 Nos				
	Thickner					
4.10.14	Equipment for mixing, flocculation coagulation, sludge scrapping and clarification	3 Set				
	Thickned sludge Tank					

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.10.15	Rotating Screw type positive displacement pumps for transferring sludge to dewatering units Capacity 25 Cu. M /hour at 30 m head with stand by	1 set				
4.10.16	Chain Pulle Block for Sludge Transfer Pumps	1 No				
	Centrifuge , Sludge Dewatering					
4.10.17	Solid Bowl Type Centrifuge Capacity 25Cu.M /hour slurry basis and 20 Ton dry solids per daywith standby	1 set				
	Dewatering Poly Solution Preparation & Dosing					
4.10.18	Agitator for solution preparation Tank	2 Nos				
4.10.19	Polyelectrolyte dosing (metering) Pumps rang 0.25lit/min to 2.5 lit /min	2 Nos				
4.10.20	Polyelectrolyte Solution Tanks (2000 Lit Capacity)	2 Nos				
	Coagulating Polyelectrolyte Solution Preparation and Dosing					
4.10.21	Agitator for solution preparation Tank	2 Nos				
4.10.22	Polyelectrolyte dosing (metering) Pumps rang 0.25lit/min to 2.5 lit /min	2 Nos				
4.10.23	Polyelectrolyte Solution Tanks (2000 Lit Capacity)	2 Nos				
	Alum/ PAC Dosing					
4.10.24	Agitator for solution preparation Tanks (replacement of Existing Mixers)	2 Nos				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.10.25	Metering Pumps for ALUM/PAC dosing pump range 2.5 lit/min to 25 lit/min at 10 m head	2 Nos				
	Polyelectrolyte Dosing					
4.10.26	Agitator for solution preparation Tanks (replacement of Existing Mixers)	2 Nos				
4.10.27	Metering Pumps for Polyelectrolyte dosing dosing range 0.25 lit/min to 2.5 lit/min	2 Nos				
4.10.28	Poly solution tanks 10000 lit cap.	2 Nos				
4.10.29	Laboratory Equipment	1 Set				
4.11	Any other items to be included. The contractor has to list the items that are to be carried out along with break up cost details for each item	1 Set				
4.11.1	River, Nallah and road Crossings for raw water main	1 lot				
4.11.2	River, Nallah and road Crossings for clear water main	1 lot				
4.11.3	Railway/NH Crossings by Trench less Technology for clear water main and Raw water main	300 m				
4.11.4	Coarse sand bedding below pipeline for clear water main	8000 cum				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
4.11.5	Constructing Masonry Chamber in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab M 30 Grade concrete , including necessary excavation, RCC foundation over cement concrete 1:4:8 (1 cement : 4 fine sand : 8 graded stone aggregate 40 mm nominal size) as per drawing and 12 mm inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design With common burnt clay F.P.S. (non modular) bricks of class designation 100A all complete as per drawing, technical specification and direction of Engineer-In-charge 1000x1200x1500 mm size valve chamber suitable for 250-300 mm dia Valves	3 Nos				
4.11.6	Thrust blocks including shuttering, centring, PCC, M30 concrete and required steel including design of thrust blocks for Raw water main	1 lot				
4.11.7	Thrust blocks including shuttering, centring, PCC, M30 concrete and required steel including design of thrust blocks for clear water main	1 lot				
4.11.8	Surge protection arrangement in clear water main	1 lot				
4.11.9	Rooms with required size with Air conditioning arrangement to accommodate PLCs where ever required	1 lot				
4.12	Provisional Sum for STI. STD and HIV/AIDS alleviation program ^c	1 lot				

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6=3 x 4	7 = 3 x 5
TOTAL Column 6 and 7 to be carried forward to Schedule No. 5: Grand Summary						

Name of Bidder _____

Signature of Bidder _____

PRICE PROPOSALS- PART A: DESIGN BUILD COMPONENTS REVISED AS PER ADDENDUM 1 ON 23.5.18	
Name of the project	Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)
Name of Employer:	Bihar Urban Infrastructure Development Corporation Limited (BUIDCo)
Contract Title:	Improvement of Water Supply System in Bhagalpur Municipal Corporation
Contract Package No:	BH/WS/02
Bidder's Name:	
Schedule No.5: GRAND SUMMARY	

Schedule No.	Title	Total Price ^a	
		Foreign	Local
1	Plant and Mandatory Spare Parts Supplied from Abroad ^b		
2	Plant and Mandatory Spare Parts Supplied from Within the Employer's Country ^b		
3	Design Services		
4	Installation and other services		
Grand Total			
Grand Total to be carried forward to Letter of Bid			

Name of Bidder

Signature of Bidder

- a Specify currency in accordance with ITB 15.1 of the BDS. Create additional columns for up to a maximum of three foreign currencies if so required.
- b Taxes and/or duties from Schedules 1 and 2 may be added to the contract price in accordance with GCC Clause 14 but excluded from Bid evaluation in accordance with ITB 34

PRICE PROPOSALS- PART A: DESIGN BUILD COMPONENTS REVISED AS PER ADDENDUM 1 ON 23.5.18						
Name of the project			Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)			
Name of Employer:			Bihar Urban Infrastructure Development Corporation Limited (BUIDCo)			
Contract Title:			Improvement of Water Supply System in Bhagalpur Municipal Corporation			
Contract Package No:			BH/WS/02			
Bidder's Name:						
Schedule No.6: RECOMMENDED SPARE PARTS						
Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			EXW Local Parts Local Currency Portion	CIP Imported parts Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6= 3 x 4	7 = 3 x 5

Name of Bidder _____

Signature of Bidder _____

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			EXW Local Parts Local Currency Portion	CIP Imported parts Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6= 3 x 4	7 = 3 x 5

a Specify currency in accordance with ITB 15.1 of the BDS.

PRICE PROPOSALS- PART B: ITEM RATE COMPONENTS -CONSTRUCTION WORKS-						
Name of the project		Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)				
Name of Employer:		Bihar Urban Infrastructure Development Corporation Limited (BUIDCo)				
Contract Title:		Improvement of Water Supply System in Bhagalpur Municipal Corporation				
Contract Package No:		BH/WS/02				
Bidder's Name:						
Schedule. 07: RAW WATER MAIN						
Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
7.1	Clearing and Grubbing Road Land .(Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 meters including removal and disposal of top organic soil not exceeding 150 mm in thickness.) In area of light jungle	hectare	1.02			
7.2	Dismantling of Roads					
7.2.1	Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 8 KM). Bituminous course (by mechanical means)	cum	267.26			
7.2.2	Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials up to a lead of 8 KM.	cum	351.9			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
7.3	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50m and lift up to 1.5m, disposed earth to be levelled and neatly dressed. All Kinds of soil					
	From RW Bridge to Sedimentation Tank					
	By-pass line					
7.3.1	Depth from 0m to 1.5m	cum	8877.83			
7.3.2	Depth beyond 1.5m to 3m	cum	5924.47			
7.3.3	Supplying and Filling in plinth with local sand and under floors including, watering, ramming consolidating and dressing complete.	cum	591.86			
7.3.4	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead	cum	10715.53			
7.3.5	Disposal of surplus earth, brick, bats, soft and hard rock pieces and dismantled materials of road by and 8km from site of work to out side the city including supply of all material, labour, T&P etc. Required for proper completion of the work.	cum	4,705.92			
7.4	Pumping out water caused by springs, tidal or river seepage, broken water mains or drains and the like.	KL	10000.00			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
7.5	Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete. (Measurements to be taken of the face area timbered):					
7.5.1	Depth not exceeding 1.5 m.	sqm	7650.00			
7.5.2	Depth exceeding 1.5 m but not exceeding 3 m.	sqm	5105.10			
7.5.3	Extra for planking, strutting and packing materials for cavities (in close timbering) if required to be left permanently in position (Face area of timber permanently left to be measured)	sqm	127.55			
7.6	Open timbering in trenches including strutting and shoring complete (Measurements to be taken of the face area timbered).					
7.6.1	Depth not exceeding 1.5 m.	sqm	7573.50			
7.6.2	Depth exceeding 1.5 m but not exceeding 3 m	sqm	5054.05			
7.7	BARRICADING					

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
7.7.1	Providing sal ballah barricading with departmental sal ballah average 150 dia. And 2M long sal ballah post at interval of 2.5M C/C fixed 0.5 M average below ground, packed with earth and Brick bats, well watered and rammed with three rows of average 100mm dia. Sal ballah horizontal runners fixed with iron spikes and wires, white washing one coat to exposed surface, dismantling the barricade after function, filling the holes, excluding carriage of sal ballah from and to godown up to 5K.M. lead, stacking them in countable stacks in godown including cost of all labour and materials and taxes all complete job as per specification and direction of E/l.	m	255			
7.8	Plain/Reinforced cement concrete in open foundation complete as per drawing and technical specifications PCC Grade M30	cum	86.00			
7.9	Providing, Laying & Jointing of M.S. Pipe:					

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
7.9.1	Providing m.s. plate welded/spirally welded mild steel pipes and specials. Fabricating the same for the pressure 15 Kg/cm ² . mild steel pipes and specials, Tee, bends, reducers, tail pieces, flanges, blank flange etc. as shown in drawings or as directed by the engineer using approved quality 10 mm thick MS plates conforming to I.S. 2062 including marking, cutting, rolling, bending and welding using approved quality of electrodes conforming to IS 6916:1978. Item includes providing at site, testing with radiography, as per technical specification and direction of E.I.C. (density of MS Plate assumed as 7850 kg/cum). (Rate is inclusive of all taxes)					
7.9.1.1	a) 1321 mm dia (10mm wall thickness)	m	2550.00			
7.9.1.2	b) 900 mm dia (10mm wall thickness)	m	180			
7.9.2	Laying & fixing of 1321mm dia M.S Steel pipes & specials including Lowering, laying in trenches/on chairs, lifting, lowering, cutting, braking, if required, joining, fitting excluding welding of mild steel pipes and specials of all sizes and shapes on site with the help of labour / crane pulley etc. as directed by the engineer in-charge etc. complete. The item includes all works required to fix in place the mild steel pipes and specials stacked at site to join all parts properly as directed by the engineer in-charge.					
7.9.2.1	a) 1321mm dia (10mm wall thickness)	kg	830735.04			
7.9.2.2	b) 900 mm dia (10mm wall thickness)	kg	39951.63			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
7.9.2.3	c) for specials, Tee, Bends, Chairs etc.	kg	87068.67			
7.9.3	Jointing m.s pipe by ARC welding using approved quality of electrodes including cutting the end of the pipe ,if required, by oxy-Acitaline Gas and the pipe end should be prepared carefully, a gap of 3.2 mm must be mentioned accurately all the way around the gap. No back up ring to be used. The root pass must penetrate into both pipes, cleaning each bead before starting the next bead etc. all complete as per specification in accordance with I S code 6916: 1978.					
7.9.3.1	a) 1321mm dia (10mm wall thickness)	No.	510.00			
7.9.3.2	b) 900 mm dia (10 mm wall thickness)	No.	36.00			
7.9.4	Hydraulic Testing of M.S. pipeline to specified pressure of 10 kg/cm² including cost of all materials and labor and water for testing for the length up to 1km, using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipment, labor, operation charges etc., required for testing. The rate under this item shall include cost of retesting, if necessary etc., complete as per specifications.	LS	1.00			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
7.9.5	External coating shall be provided with pre-fabricated polyolefin Tape to MS pipes and specials or LPE external coated pipe preferably factory made confirming to DIN -30670,1991 and DIN - 30678,1992. Protective coating shall consists of Primer, Inner tape, Wrap and outer wrap as per the Technical specification.	sqm	10582.61			
7.9.6						
7.9.7	Internal Epoxy lining and coatings shall be confirming to IS 3589 and AWWA C-210 and all the buried MS pipes and specials shall have internal Epoxy lining in 3 coats including primer coat with total DRY Film thickness (DFT) of minimum 430 micron as per Technical pecification and direction of Engineer.					
7.9.7.1	a) 1321 mm dia	sqm	10582.61			
7.9.7.2	b) 900 mm dia	sqm	508.94			
7.10	Providing and fixing C.I. sluice valves (with cap) complete with bolts,nuts, rubber insertions etc. (the tail pieces if required will be paid separately)					
	300 mm diameter PN 1.0 Class	each	3.00			
7.11						
7.12						
7.13	Centering and shuttering including strutting, propping etc. And removal of form for.:-					
	Foundations, footings, bases of columns etc. for mass concrete.					

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
	Above 20 cm width	sqm	72.80			
7.14	Road Restoration					
7.14.1	Bituminous Road					
7.14.1.1	Water Bound Macadam (Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with vibratory roller 8-10 tonnes / Smooth 3 wheeled Steel Roller in stages to proper grade and camber, applying and brooming requisite type of screening/ binding Materials to fill up the interstices of coarse aggregate, watering and compacting to the required density.) By Manual Means					
	Using Screening Crushable type such as Moorum or Gravel With Smooth 3 wheeled Steel Roller	cum	200.45			
7.14.1.2	Prime coat (Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means.)	sqm	1336.30			
7.14.1.3	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	sqm	1336.30			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
7.14.1.4	Bituminous Macadam (Providing and laying bituminous macadam with 100-120 TPH hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading premixed with bituminous binder, transported to site, laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction)					
	for Grading I (40 mm nominal size)	cum	53.45			
7.14.1.5	Bituminous Penetration Macadam (Construction of penetration macadam over prepared Base by providing a layer of compacted crushed coarse aggregate using chips spreader with alternate applications of bituminous binder and key aggregates and rolling with a smooth wheeled steel roller 8-10 tonne capacity to achieve the desired degree of compaction)					
	50 mm thick	sqm	1336.30			
7.14.2	CEMENT CONCRETE ROAD					
7.14.2.1	Sand Filling 100 mm in foundation trenches as per Drawing & Technical Specification.	cum	175.95			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
7.14.2.2	Dry Lean Cement Concrete Sub- base (Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per table 600-1, cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tones vibratory roller, finishing and curing.)					
	100 mm thick	cum	117.3			
7.14.2.3	Cement Concrete Pavement (Construction of unreinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form or slip form paver, spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, debonding strip, dowel bar, tie rod, admixtures as approved, curing compound, finishing to lines and grades as per drawing					

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
	CC Road	cum	234.60			
7.15	Surge protection by stand pipe 150mm dia flange 10m height etc. complete and as per direction of engineer in charge.	No.	2.00			
7.16	Providing Cathodic Protection arrangement in the entire length of Raw water main including Soil resistivity survey, Supply, installation, testing and commission of Transformer Rectifier unit, Anode ground bed, Anode junction Box, and cathode junction box. Supply and laying copper conductor cables of required size and required length . Supply, installation testing commissioning of Flange materials 2 Nos, reference cell 2 Nos and grounding cells 2 Nos and thermit welding cables of suitable size including supply , installation, testing commissioning of test stations etc complete	No.	1.00			
Subtotal for Schedule No.07		In Figures				
		In Words				

PRICE PROPOSALS- PART B: ITEM RATE COMPONENTS-CONSTRUCTION WORKS-						
Name of the project		Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)				
Name of Employer:		Bihar Urban Infrastructure Development Corporation Limited (BUIDCo)				
Contract Title:		Improvement of Water Supply System in Bhagalpur Municipal Corporation				
Contract Package No:		BH/WS/02				
Bidder's Name:						
Schedule. 08: CLEAR WATER RISING MAIN						
Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.1	DISMANTLING OF ROADS					
8.1.1	Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 8 KM). Bituminous course (by mechanical means)					
	Bituminous Road	cum	1204.14			
8.1.2	Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials up to a lead of 8 KM.					
	Cement Concrete (CC) Road	cum	16770.6			
8.2	EARTHWORK					
	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift up to 1.5m, disposed earth to be levelled and neatly dressed. All Kinds of soil					
8.2.1	Depth from 0 m to 1.5					

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.2.1.1	150	cum	222.30			
8.2.1.2	200	cum	838.25			
8.2.1.3	250	cum	0			
8.2.1.4	300	cum	1,370.52			
8.2.1.5	350	cum	9440.27			
8.2.1.6	400	cum	1477.26			
8.2.1.7	450	cum	3726.38			
8.2.2	Depth beyond 1.5m to 3m					
8.2.2.1	500	cum	559.55			
8.2.2.2	600	cum	3613.67			
8.2.2.3	700	cum	13507.20			
8.2.2.4	750	cum	0.00			
8.2.2.5	800	cum	4980.76			
8.2.2.6	900	cum	9885.33			
8.3	BACKFILLING					
8.3.1	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead	cum	40705.22			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.3.2	Disposal of surplus earth, brick, bats, soft and hard rock pieces and dismantled materials of road by and 8km from site of work to out side the city including supply of all material, labour, T&P etc. Required for proper completion of the work.	cum	8916.25			
8.4	OPEN TIMBERING					
	Open timbering in trenches including strutting and shoring complete (Measurements to be taken of the face area timbered). Depth not exceeding 1.5 m.					
8.4.1	Depth from 0 m to 1.5	sqm	7167			
8.4.2	Depth beyond 1.5m to 3m	sqm	7167			
8.5	BARRICADING					
8.5.1	Providing sal ballah barricading with departmental sal ballah average 150 dia. And 2M long sal ballah post at interval of 2.5M C/C fixed 0.5 M average below ground, packed with earth and Brick bats, well watered and rammed with three rows of average 100mm dia. Sal ballah horizontal runners fixed with iron spikes and wires, white washing one coat to exposed surface, dismantling the barricade after function, filling the holes, excluding carriage of sal ballah from and to godown up to 5K.M. lead, stacking them in countable stacks in godown including cost of all labour and materials and taxes all complete job as per specification and direction of E/I.	m	7167			
8.6	Pumping out water caused by springs, tidal or river seepage, broken water mains or drains and the like.	KL	5000			
8.7						

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.7.1						
8.7.1.1						
8.7.1.2						
8.8						
8.9	ROAD RESTORATION					
8.9.1	BITUMINOUS ROADS					
8.9.1.1	Water Bound Macadam: (Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with vibratory roller 8-10 tones / Smooth 3 wheeled Steel Roller in stages to proper grade and camber, applying and brooming requisite type of screening/ binding Materials to fill up the interstices of coarse aggregate, watering and compacting to the required density). Using Screening Crushable type such as Moorum or Gravel (with Vibratory Roller)					
8.9.1.1.1	Grading II: 100 mm thick	cum	1978.23			
8.9.1.1.2	Grading III: 100 mm thick	cum	1978.23			
8.9.1.2	Prime coat (Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means.)	sqm	13188.20			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.9.1.3	Tack Coat: Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	sqm	13188.20			
8.9.1.4	Bituminous Macadam (Providing and laying bituminous macadam with 100-120 TPH hot mix plant producing an average output of 75 tones per hour using crushed aggregates of specified grading premixed with bituminous binder, transported to site, laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction) for Grading I (40 mm nominal size); thickness 40 mm	cum	527.53			
8.9.1.5	Bituminous Penetration Macadam (Construction of penetration macadam over prepared Base by providing a layer of compacted crushed coarse aggregate using chips spreader with alternate applications of bituminous binder and key aggregates and rolling with a smooth wheeled steel roller 8-10 tone capacity to achieve the desired degree of compaction) 50 mm thick	sqm	13188.20			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.9.1.6	20mm thick Open-Graded Premix Carpet using Bituminous (penetration grade/modified bitumen) Binder: Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat of either Type A or Type B or Type C as per Technical Specification Clause 508.	sqm	13188.20			
8.9.2	CONCRETE ROADS					
8.9.2.1	Sand Filling 100 mm in foundation trenches as per Drawing & Technical Specification.	cum	286.68			
8.9.2.2	Dry Lean Cement Concrete Sub- base (Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per table 600-1, cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tones vibratory roller, finishing and curing.)					

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
	100 mm thick	cum	4285.82			
8.9.2.3	Cement Concrete Pavement (Construction of unreinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form or slip form paver, spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, deboning strip, dowel bar, tie rod, admixtures as approved, curing compound, finishing to lines and grades as per drawing).					
	200 mm thick	cum	8571.64			
8.10'	MISCELLANEOUS WORK					
8.10.1	Repairing of the existing house connections of water supply damaged during execution of work including supply of material eg. G.I pipe or any suitable pipe, its fittings etc. labour T&P etc. complete to required for proper completion of the work (It is assumed in every 100 m 1 house connection will be damaged during the execution)	No.	287.00			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.10.2	Provide cost of damaged existing water supply lines , electric and telephone cables during execution of work including supply of all labour, material T&P etc. required for proper completion of the work.	No.	60.00			
8.11	DUCTILE IRON (DI) K-9 PIPES - CLEAR WATER MAIN					
8.11.1	Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron pipe conforming to is : 8329 : including Hydraulic testing of the main in the field to the required pressure as per IS specification and Disinfecting water mains by flushing with water containing bleaching powder @ 0.5 gms per liter of water and cleaning the same with fresh water, operation to be repeated three times including getting the sample of water from the disinfected main tested in the municipal laboratory. Class K-9 pipes					
8.11.1.1	150 mm	RMT	285			
8.11.1.2	200 mm	RMT	958			
8.11.1.3	250 mm	RMT	0.00			
8.11.1.4	300 mm	RMT	1269.00			
8.11.1.5	350 mm	RMT	7933.00			
8.11.1.6	400 mm	RMT	1132			
8.11.1.7	450 mm	RMT	2615			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.11.1.8	500 mm	RMT	361			
8.11.1.9	600 mm	RMT	1991			
8.11.1.10	700 mm	RMT	6432			
8.11.1.11	750 mm	RMT	0			
8.11.1.12	800 mm	RMT	2071			
8.11.1.13	900 mm	RMT	3621			
8.12	DOUBLE FLANGED - DUCTILE IRON-K 9 PIPE FOR VALVE FITTING					
8.12.1	Providing and laying Double Flanged (Screwed/Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS : 8329 : including Hydraulic testing of the main in the field to the required pressure as per IS specification and Disinfecting water mains by flushing with water containing bleaching powder @ 0.5 gms per liter of water and cleaning the same with fresh water, operation to be repeated three times including getting the sample of water from the disinfected main tested in the municipal laboratory.					
8.12.1.1	100 mm	m	115			
8.12.1.2	150 mm	m	27.5			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.12.1.3	200 mm	m	35			
8.12.1.4	250 mm	m	0			
8.12.1.5	300 mm	m	15			
8.12.1.6	350 mm	m	85			
8.12.1.7	400 mm	m	12.5			
8.12.1.8	450 mm	m	27.5			
8.12.1.9	500 mm	m	5			
8.12.1.10	600 mm	m	20			
8.12.1.11	700 mm	m	65			
8.12.1.12	750 mm	m	0			
8.12.1.13	800 mm	m	20			
8.12.1.14	900 mm	m	40			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.13	Valves and Dismantling Joints					
8.13.1	VALVES LAYING					
8.13.1.1	Providing, lowering, laying, aligning, fixing in position in pipe line, power actuated and manually operated DI D/F Sluice valves of approved make (IS: 14846 amended up to date) PN 1.0 class of following dia complete (including jointing and jointing material) including Dismantling Joints and all material, labor, testing and commissioning along with pipe line as per Technical Specifications and as per direction of Engineer. Isolation & Scour Valve					
8.13.1.1.1	150 mm	No.	1			
8.13.1.1.2	200 mm	No.	2			
8.13.1.1.3	250 mm	No.	0			
8.13.1.1.4	300 mm	No.	3			
8.13.1.1.5	350 mm	No.	8			
8.13.1.1.6	400 mm	No.	1			
8.13.1.1.7	450 mm	No.	3			
8.13.1.1.8	500 mm	No.	0			
8.13.1.1.9	600 mm	No.	2			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.13.1.1.10	700 mm	No.	6			
8.13.1.1.11	750 mm	No.	0			
8.13.1.1.12	800 mm	No.	2			
8.13.1.1.13	900 mm	No.	4			
8.13.1.2	Providing, lowering, laying, aligning, fixing in position D.I D/F power actuated and manually operated long body butterfly valves (IS: 13095) PN-1.0 class of following dia complete (including jointing and jointing material) including Dismantling Joint and all material, labour, testing along with pipe line and commissioning as per Technical Specifications and as per direction of Engineer. Category "A"					
8.13.1.2.1	350 mm	No.	13			
8.13.1.2.2	400 mm	No.	2			
8.13.1.2.3	450 mm	No.	4			
8.13.1.2.4	500 mm	No.	1			
8.13.1.2.5	600 mm	No.	3			
8.13.1.2.6	700 mm	No.	10			
8.13.1.2.7	750 mm	No.	0			
8.13.1.2.8	800 mm	No.	3			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.13.1.2.9	900 mm	No.	6			
8.13.1.3	Providing, lowering, laying, aligning, fixing in position and jointing in pipe line Kinetic Double Air Valves as per IS:14845 of following dia (including jointing and jointing material), including Dismantling Joint and all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer.					
8.13.1.3.1	50 mm	No.	8			
8.13.1.3.2	80 mm	No.	10			
8.13.1.3.3	100 mm	No.	5			
8.13.1.3.4	150 mm	No.	5			
8.13.1.3.5	200 mm	No.	5			
8.14	SPECIALS					
8.14.1	Ductile Iron K - 12 specials suitable for push on jointing and Laying in position S&S or flanged D.I. special such as tees, bends, collars, tapers and caps etc.(including cost of specials) up to 600 mm dia	Qtl	107.2			
8.14.2	Ductile Iron K - 12 specials suitable for push on jointing and Laying in position S&S or flanged D.I. special such as tees, bends, collars, tapers and caps etc.(including cost of specials) over 600 mm dia	Qtl	115.98			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.15	Constructing Masonry Chamber in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab M 30 Grade concrete , including necessary excavation, RCC foundation over cement concrete 1:4:8 (1 cement : 4 fine sand : 8 graded stone aggregate 40 mm nominal size) as per drawing and 12 mm inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design With common burnt clay F.P.S. (non modular) bricks of class designation 100A all complete as per drawing, technical specification and direction of Engineer-In-Charge.					
8.15.1	900x1000x1400 mm size valve chamber suitable for 100-200 mm dia Valves	No.	36			
8.15.2	1000x1200x1500 mm size valve chamber suitable for 250-300 mm dia Valves	No.	3			
8.15.3	1550x1500x1750 mm size valve chamber suitable for 350-450 mm dia Valves	No.	31			

Item No	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				Figures	Words	
8.15.4	1650x1700x1900 mm size valve chamber suitable for 500-700 mm dia Valves:	No.	22			
8.15.5	2000x2250x2400 mm size valve chamber suitable for 800-900 mm dia valves	No.	15			
Subtotal for Schedule No.08		In Figures				
		In Words				

PRICE PROPOSALS- PART C: OPERATION SERVICES						
Name of the project			Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)			
Name of Employer:			Bihar Urban Infrastructure Develoment Corporation Limited (BUIDCo)			
Contract Title:			Improvement of Water Supply System in Bhagalpur Municipal Corporation			
Contract Package No:			BH/WS/02			
Bidder's Name:						
Schedule No. 09: OPERATION AND MAINTENANCE OF WATER SUPPLY SYSTEM						
S.No.	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT
				(INR)		Quoted by Bidder
				Figures	Words	(INR)
9	Operation and Maintenance of Water Supply System					
9.1	Operations, Maintenance and Management of Water Supply and all related infrastructure for approximate average production and supply to the reservoirs according to the projected water requirement for each year as mentioned in Technical specification for 10 years at Barari Water Works comprising of proposed intake well, Jackwell, raw water pumping system, Settled water pumping system and Full scale treatment Plant disposal of dehydrated sludge cakes , treated water pumping system up to the Service Reservoirs , water quality testing and monitoring, flow and pressure measurement including all necessary preventive and reactive maintenance of all civil, mechanical, electrical and instrumentation units, SCADA System, administration, transport, communications, management information systems, reporting, including cost of all wages, chemicals, consumables, administration, transport, spares, insurance, taxes levies etc., complete for producing and supplying potable water conforming to the relevant CPHEEO Standards but excluding cost of electricity charges . The quantity shall be measured at the inlet of the Service Reservoirs for payment.					
	The bidder shall separately provide the break-up of salaries and wages, consumables, preventive maintenance for civil, mechanical, electrical and instrumentation, insurance and all other costs in a separate sheet for analysis by Employer					

S.No.	Item Description	Unit	Quantity	Rate Quoted by Bidder		AMOUNT Quoted by Bidder
				(INR)		(INR)
				Figures	Words	
9.1.1	Operation and maintenance of 1 st year (minimum 60 MLD)	ML	21900			
9.1.2	Operation and maintenance of 2 nd year (minimum 63 MLD)	ML	22995			
9.1.3	Operation and maintenance of 3 rd year (minimum 66 MLD)	ML	24090			
9.1.4	Operation and maintenance of 4 th year (minimum 69 MLD)	ML	25185			
9.1.5	Operation and maintenance of 5 th year (minimum 72 MLD)	ML	26280			
9.1.6	Operation and maintenance of 6 th year (minimum 75 MLD)	ML	27375			
9.1.7	Operation and maintenance of 7 th year (minimum 78 MLD)	ML	28470			
9.1.8	Operation and maintenance of 8 th year (minimum 81 MLD)	ML	29565			
9.1.9	Operation and maintenance of 9 th year (minimum 84 MLD)	ML	30660			
9.1.10	Operation and maintenance of 10 th year minimum 87 MLD)	ML	31755			
Subtotal for Schedule No. 9		In Figures				
		In Words				

Note: The Bidder shall separately provide a break-up of salaries, wages, consumables, maintenance of civil, mechanical, electrical and instrumentation, training of BMC staff, administration, management, insurance and all other costs such as establishment and operation of offices in a separate sheet for analysis by the Employer.

PRICE PROPOSALS- PART D: PROVISIONAL SUM						
Name of the project		Bihar Urban Development Investment Program – Tranche 2 (ADB Loan: Applied for / Project No. IND-41603-023)				
Name of Employer:		Bihar Urban Infrastructure Development Corporation Limited (BUIDCo)				
Contract Title:		Improvement of Water Supply System in Bhagalpur Municipal Corporation				
Contract Package No:		BH/WS/02				
Bidder's Name:						
Schedule No. 10: PROVISIONAL SUM						
Sl. No.	Item Description	Unit	Quantity	Rate To be Quoted by Bidder		AMOUNT Quoted by Bidder
				(INR)		(INR)
				Figures	Words	
10.1	Provisional Sum	-	LS	Not to be quoted		
Subtotal for Schedule No. 10		In Figures		500,00,000.00		
		In Words		Fifty million only		