

Job No. 1

SCHEDULE OF QTY

Name of Work:-Providing Lift Water Supply Scheme to NC/PC habitations (CAP 2003) under LWSS Gindpur Maloun and Kharoh Tehsil Amb in Distt.Una.(SH- S/E of 2 Nos. submersible pumping sets alongwith allied accessories for 2nd R/main).

Estimated cost:- 105088
 Earnest money:- 2102
 Time limit:- 3 months

<u>S.No.</u>	<u>Sub head and item of work.</u>	<u>Specification offerd.</u>	<u>Qty.</u>	<u>Rate.</u>	<u>Unit.</u>	<u>Amount.</u>
1.	2.	3.	4.	5.	6.	7.
1.	Supply of submersible pumping set of reputed make such as KSB/Calama/BS/ Oswal	a. PUMPS :				
	Johnston / Amrut,conforming to latest relevent BIS . The pump should be fitted with free fine impellers of suitable alloys as per BIS ;5659-1978 with upto date amendments, suitable for raw / clear water having greased packed bearing and shell with wound stator on motor side and with shaft protection on pump side ensuring better liffe for shaft conforming to BIS specifications.The pump shall be directly coupled to subersible motor of same make as that of offered submersible pump conforming to BIS ;9283-1979 with upto date amendments, totally dust and water proof for submersible pump, duly isolated from the pump by intermediate casing with double mechanical seal in oil chamber and grease packed,lubricated bearing and provided with stainless steel thrust bearing plate to withstand non vertical loads with minimum wear and tear.It should also be fitted with a device to make up expansion of water with heating of motor. The pumpset should include cable ,errection clamps, cable clips etc.and suitable for opertion on data given below.	Specifications: i) Make. ii) Model. iii) No. of Stages. iv) Manufacturer's certificate to be attached Performance i) Discharge. ii) Head. iii) Efficiency of Pump a) Duty Head. b) (+) 10% Duty Head. c) (-) 25% Duty Head. v) performance curve to be attached.	2 set		Each	
	i) Discharge,(Q) 2.80 LPS					
	ii.) Total Head (H) 54.58 Mts.					
	a) SWL in Tubewell 808.81 mtr. bgl.					
	c) R.L. point of discharge 853.29 mtr. R.L of pump house. 850.29 mtr.					
	d) Seasonal fluctuation + draught condition + bowl assembly. 9 mtrs.					
	e) Drawdown 10.00 mtrs.					
	f) R.L of lowest point of pumpset installation mtrs.					
	g) Static head mtrs.					
	iii) Rising main.	Column Pipe.				
	Length 60 mtrs.	Length 46.48mtr.				
	Dia meter.50 mm	Dia 65 mm				
	Class GMS PIPE	Class GMS.				
	iv) Pumping hours hours					
	v) Altitude of installations above M.S.L. _____mtr.					
	vi) Characteristic of water.					
	a) Temperature _____ Deg Cel.					
	b) Turbidity _____JTU.					
	c) Allkanity. _____mg/ l Ca Co3					
	d) Size of solids _____mm					
	e) others					
		b) Motors:				
		Specification.				
		i) Make.				
		ii) Model				
		iii)B.H.P.				
		iv) Speed.				
		v) Insulation.				

- vii) Depth of T/well 150 mtr.
- viii) Dia of T/ well assembly 200 mm.
- ix) Length of assembly pipe.
- x) Dia of housing pipe 300 mm.
- xi) Length of housing pipe

OPERATING CONDITIONS.

- I) Type of Current; A.C.Three Phase.
- ii) Frequency: 50 Cycles /Sec.
- iii) Rated Voltage 415 +/- 15 % Volts.
- iv) System of earthing: Double Loop earthing as per BIS 3843-1987 Latest.
- v) Speed of Revolution _____ RPM 2900

MOTOR.

- i) Ref. to BIS code BIS 9283-1979 with upto date amendments.
- ii) Type of enclosure of motor: As per BIS ; 4691-1985 (latest)
- iii) Mechanical out put in H.P.
- iv) Class of insulation :Class B
The motor should be able to withstand initial current of 2.5 times the rated current for two minutes without suffering damages of permanent deformations.

PUMP

- i) Ref. to BIS code ; BIS ;5659-1978 with upto date amendments.
- ii) Drive Type: Electric driven.
- iii) Operating Range: -25 %to+10 % of Total head at duty point.
- iv) Deliver size of Pump : _____ (To be quoted by tenderer.)

- 2 Providing ICTP Main Switch with HRC fuses of L&T/ Havells make and having capacity extra of the operational rating as per IS ;4864:1978 with upto date amendments.
- 3 Providing MS Sheet steel fabricated floor mounted switch board including angle iron post of suitable height and size ISA 40x40x6 mm duly painted with sheet of 16 gauge comprising and capable of mounting the following accessories with all internal connections.
- a) MCCB of L&T make of suitable capacity on incoming feeder with or without initial oil filling as the case may be with neutral linked under voltage releases as per IS ; 2516-1985 with upto date amendments.
- ii) ELCB of recommended L&T make as per IS ;2516-1985 with up to date amendments, and of suitable range which should have control box , operating handle and trip / reset bush button on / off of indicators, reindicating off spring

I ICTP Switch:

- I i) Make :
- I ii) Type :
- I iii) Capacity :15Amp.

I Panel /Switch Board.

- I i) Drawing. 1 each
- I ii) layout Plan. No.

I MCCB .

- I 1) Make.
- I ii) Type 1. each.
- I iii) Range.32Amp. No.
- I iv) Capacity.

I ELCB..

- I I) MAKE.
- I II) Type. 1.00

<p>condition of the circuit breaker for over current protection. The circuit should be equipped with magnet thermal release with metallic tape CTS. It should also be fitted with earth fault for tripping of breaker on occurrence of Earth fault.</p>	<p> iii) Range.25AMP.</p>	<p>No.</p>	<p>each</p>
<p>iii) The voltage monitor Relay 3 phase with all protection and usual indicator and electric siren against single phasing, low voltage, high voltage,reverse phasing,overloading and phase voltage difference as per IS; 3842 (Latest Edition)</p>	<p> Voltage Monitor Relay. i) Make ii) Type iii) Rang</p>	<p>1 No.</p>	<p>each</p>
<p>b) A.C. supply,voltmeter of recommended make IMP/Havell/A.E of suitable range with selector switches as per IS ;1248-1983 with latest amendments.</p>	<p> Voltmeter i) Make ii) Type</p>	<p>1 No.</p>	<p>each</p>
<p>c) AC supply ammeter of IMP/ Havells/A.E make of suitable range with selector switches and CIS operated as per IS :1248 (P-I&II) -1983 with upto date amendments.</p>	<p> Ammeter. i) Make ii) Type.63Amp.</p>	<p>1 No.</p>	<p>each</p>
<p>d) Bus bar chamber having three bars of suitable rating for full length equal to the width of the board for three live phases and suitable for induced current, one copper bar of half the rating of full length for neutral phase as per IS ;8084-1976 and IS :11353-1985 read with BIS ; 5578 -1985 with upto date amendments including. Three phase indicator lamps complete with toggle switches for individual motors as per IS 3452 (P- I&II) with upto date amendments.</p>	<p> Bus Bar Chamber i) Type. ii) Make. iii) Rating.</p>	<p>1 No.</p>	<p>each.</p>
<p>e) Capacitor of BHEL/GEC/ L&T make as per IS ; 2834-1968 with upto date amendme-nts,to raise the power factor at site to 0.95 for direct connections to induction motor individually of required KVA rating according to H.P. offered including cables as per relevent ISI code (of Seimens / Glocter/IEC make) from bus bar chamber to capacitor as per IS : 4064-1978 with upto date amendments . Rating of capacitor will be approved by HPSEB.</p>	<p> 3 Phase indicators Capacitor i) Type. ii) Make iii) Range.7 KVAR</p>	<p>1 No.</p>	<p>each</p>
<p>4 Providing suitable D.O.L. starter of L&T/Havell's/IMP/BHELmake as per IS : 8544-1979 with upto date 'amendments for Squirrel cage / Slipring motor mounted on panel board with magnetic 'type overload release and dashpot, time lag, , under voltage release with or without 'initial oil filling as the case may be with single phase prventor as per IS ;1248 (P-V) 1983 with up to date amendments.</p>	<p> Starter. i) Type ii) Make Single Phase Preventor i) Type</p>	<p>10.00 HP 1 No.</p>	<p>each Per HP each</p>
<p>5 Providing double flange Cast Iron Sliuce valve of Leader / Kirloskar/BHEL GLAD/FOURSES/Kartar make for the delivery line of pump and capable of withstanding the</p>	<p> Sluice Valve i) Make</p>	<p>1 No.</p>	<p>each</p>

	normal seat pressure and as per IS 780-1984(Cast Iron) with latest ammendments PN 0.60 65 mm dia.		ii) Class PN 0.6	
6	Providing double flanged swing type cast iron Reflux valve of Kirloskar/Kartar/BHEL GLAD/FOURSES/Kartar make having Bye pass arrangement on the delivery line of the of the Pump and capable of 'withstanding normal Seat Pressure as per IS:5312-1984 (P-I) (Cast Iron) with latest ammendment PN 0.60 in R/main. 50 mm dia.		RefluX Valve i) Make ii) Class.PN 0.60 iv) Material C.I	1 No. each
7	Providing pressure gauge of Prega / Precision make complete with all accessories such as stop cock, copper tubing as per IS ; 3624-1987 with upto date amendements		Pressure Gauge i) Make	1 No. Each.
8	Supply of PVC jointless, flat water proof cable as per BIS 694-1998 latest with upto date amendements, suitable for the pumpsets offered from MCCB to motor including all other electrical equipments/ accessories such as thimble, flexible pipe,solder, nuts and bolts, cable glands, clips etc, laid in pipes or trenches under floor . The type, size and make shall be subject to approval of HPSEB authorities.		Submersible Cable i) Make.Finolex. ii) Size.10mm ² .	212.00 mtrs 2x106 Per mtrs.
9	Providing and lowering GMS Column pipefor assembly 125 mm dia including MS flanges'of Table 17 as per IS : 6392-1971 with upto date amendments, rubber/asbestos gasket of min. 3mm thickness as per IS 2712-1979 and required numbers of nuts and bolts as per IS ;1364-1983 . The Column pipe shall be as per relevent IS Code and to withstand 1.5 times total head stipulated under item No. 1 . The Column pipe should be extended upto 5 mtr. beyond the outer wall of the pump house in the direction of Rising main . The Column pipe should be properly jointed with the Rising main including all necessary accessories like increaser / reducer, flanges, bends etc, including supporting clamps (2Nos.) at the top of T/well assembly, and as per the direction of Engineer - in - Charge.		Column Pipe i) Size 65 mm dia ii) Class (GMS) iii) length.	46.48 mtrs Mtrs.
10	Installation of all items appearing at S.No 1 to 9 as per the systematic drawing attached with the documents or as per the direction of Engineer - in- charge.			Job
11	Providing and laying copper PVC insulated armoured power cable (one cable carrying all the three phases) of suitable size and capacity to motors and all other electrical equipments as per IS ;1554 (P-I) 1988 or latest with upto date amendments of Seimen /Gloster/IEC/ICC/EICO/National / Grandlay make including all othe accessor-ies such as thimble, flexible pipes, solder nuts and bolts,cable glands etc. laid in pipes of trenches under floor.		Armoured Power Cable A) Motor side. From Switch to Starter. i) Size 10mm ² ii) Make.Finolex/Havells. iii) Type iv) Capacity v) Core3. B) Supply Side From meter of HPSEB to	Job

- Bus Bar and Switch)
i) Size 10mm²
ii) Make Finolex/Havells.
iii) Type
iv) Capacity
v) Core3.

- 12 Providing and fixing double earthing with G.I.wire/ flat of suitable thickness bolts,charcoal,salt, as per IS ; 3043-1987 with upto date amendments for motors and other electrical equipments and digging of pits etc. complete in all respect as per the direction of the Engineer - in - Charge.
i) G.I. wire 6SWG upto 15H.P
ii) G.I.flat 25x3mm15 to 50HP
iii) G.I.flat 32x6mmabove 50HP

Job. -----
Total:- -----

**Executive Engineer,
IPH Divn No-II Una**