

**SCHEDULE OF QUANTITY**

<b>Name of work :- Providing LWSS to NC/PC Habitations of G.P Shilli, Gamog, Lot, Durah, Nither, Dehra, Palehi in Nirmand &amp; Anni Block Distt Kullu (H.P) (SH: Supplying and Erection of Pumping Machinery with allied accessories 20 HP.)</b>	<b>ESTIMATED COST</b>	<b>375000</b>
	<b>EARNEST MONEY</b>	<b>7500</b>
	<b>TIME LIMIT:</b>	<b>3 MONTHS</b>

Sr. No	Description of items.	Quantity	Unit	Rate		Amount.
				In Fig.	In Words	
1	2	3	4	5	6	7
	<b>PUMPING MACHIANRY</b>					
1	Providing, of horizontal spindle, horizontal/radial spilt casing/end suction (back pullout arrangement) single/double/Multi stage centrifugal or combination or pumps in series/parrallel or recommended make such as Mather and Platt/KSB/Becone Weir/Kirloskar/BE/Jyori as per BIS 1520-1980 with upto date amendments, read with BIS 9137-1978 or latest edition suitable for fittings wate with under mentioned characteristics with bronze, impellers/priming funnels, casing ring and shaft sleeves of bronze, shaft of steel grade 45805 FN8 with cast iron casing coupled directly through a flexible coupling on a common MS/cast steel base plate (base plate to be from the manufacturing of the pumping unit only) to slup ring/squirrel cage screen protected drip proof induction motormotors of standard makesuch as Kirloskar/BHEL/Cromption/NGEF/GEC/Siemens/Jyoti/AB and suitable for operation on 400(+/-)10% volts, 50 cycles/second 3 phase AC electric supply. The power of electroic motor/motors should be at +10% in excess of the maximum power required by the pump/pumps in the operation range of (+) 10% and (-) 15% of the duty point heat. The motor/motors as per ISI: 325-1978 with upto date amendments read with IS:900-1972. It should include cost of bearing, nuts, bolts and painting etc. and should meet the following events.	1.00	Sets of 20BHP Each			
	a) Nos of pumps reqd. 2 Nos. pumps one will act as stand by.					
	i) Static Head 242 mts of 5th Stage					
	ii) Total head in Mts. 291.13 Mts for 5th Stage					
	iii) Discharge in liters 2.24 LPS					
	iv) Minimum depth of water 3.00 Mts.					
	v) Length of R/Main 1st Stage 936 Mts					
	vi) Dia of R/Main 50mm					
	vii) Limits of total head in which the pump house is reqd to operate = (-) 25% or (+) of total head.					
2	Supply of suitable oil immersed starter delta/direct on lineauto transformer/starter rotor starter of MEI/Kilburn/Jyoti/L&T/Siemens make as per IS 8544-1979 with upto date amendments for squirrel cage/slipring mortar mounted on pannel board with magnetic type over-load release and dashpot, time lag, under voltage release with or without initial of filling as the case may be with single phase preventor as per IS: 1248 (P-V) 1983 with upto date amendments.	2.00	Nos.			
3	Providing MS sheet steel febricated floor mounted closed (almirah type) swithch board including angle iron post of suitable height ans size IS size 40x40x6 duly painted with steel sheet of 16 guage comprising and capable of mounting the following accessories with in all internal connections. All the accessories should be suitable for the HPSEB authorities. The same shall have to be replaces with out extra cost if recommended by HPSEB authorities.	1.00	Nos.			
	a) Ammeter AC supply 10mm circular dial Auto electric/AR/IMP Havells make of suitable range for above motor with selector switches conforming to BIS 1248-1983 latest with upto date ammendments (0-100 Amps.)	2.00	Nos.			
	b) Voltmeter AC Supply 10mm circular dial Auto electric/AR/IMP/Havells make of suitable range for above motor with selector switches conforming to BIS 4064-1978 with upto date amendments (0-500V)	1.00	Nos.			
	c) ICTP swithes 63 Amp with HRC fuses unit of Kilbur/L&T/Siemens/Stand/Havells make and of suitable capacity as per IS: 4064-1978 with upto date amendments.	1.00	Set			
	d) Bus bar chamber having three copper bars of suitable rating 63 Amp for full length equal to the width of the board for three live phases and suitable for unducted current, one copper bar of half the rating of ull length for netural phase as per IS 8084-1976 and 11353-1985 read with BIS 5578-1978 with upto date amendments.	1.00	No			
	e) MCB/Oil circuit breaker of suitable cap. Of Kilburn/LT/LK/MEI/make rating 63 Amp and of suitable cap in commoing feeder for motors offered by the tenderer conforming to BIS 2516-1985 latest with upto dage mmendments.	1.00	No.			

	f) Three phase indicator lamps complete with toggle switches for individual motors as per IS: 3452 (P-I &II) with upto date amendment.	2.00	Sets			
	g) Earth leakage circuit breaker of recommended make (Kilurn/L&T/MEI/GEC) as per IS: 2516-1977 with upto date amendments of suitable range which should have controll box, operation, handle and trip/reset bush button on/off indicators, re-indicating off spring condition of the circuit breaking for cover current protection. The circuit should be equipped with magnet thermal release with metallic tap etc, it should also be fitted with earth fault for tripping of breaker on occurrence of earth fault on off breaker load side end.	1.00	No			
	h) Providing Digital hour run meter of recommended make and suitable capacity as per IS: 722 (latest edition)	2.00	Nos.			
	i) Providing Digital hour run meter of recommended make and suitable capacity as per IS: 722 (latest edition)	1.00	No.			
	J) Change over Switch of reputed make & suitable capacity.	1.00	No.			
4	a) Supply of Kirloska/Kilburn/IVC/Fources/Gled/BHEL/Leader of reputed make of suitable size cast iron steel double sluice valve having size equal to delivery pipe dia and capable of with standing nominal seat pressure of 52 Kg/cm2	2.00	Nos.			
	b) Supply of Kirloska/Kilburn/IVC/Fources/Gled/BHEL/Leader of reputed make of suitable size cast iron steel double lange swing type reflux valve having by pass arrangement & size equal to delivery pipe dia and capable of with standing nominal seat pressure of 52 Kg/cm2	2.00	Nos.			
	c) Supply of Kirloska/Kilburn/IVC/Fources/Gled/BHEL/Leader of reputed make of suitable size cast iron steel double lange swing type reflux valve having by pass arrangement & size equal size to dia of R/Main for withstanding nominal seat 52 Kg/cm2	2.00	Nos.			
	d) Supply of Kirloska/Kilburn/Jyoti/Standard/Kilburnmake cast iron flanged screwed type foot valve with strainer of dia equal of dia of suction pipe conforming to BIS 4038-1986 or latest with upto date ammendments.	2.00	Nos.			
5	a) P/L suitable size copper PVC insulated armoured power 3 1/2 core cable conforming to BIS 1554 (Part i) 1998 or latest with upto date ammedments Siemen/Gloster/ICC make from meter of HPSEB to OCB & form OCB to Busbar switch & starter (one cable carrying all three phases) including all other electrical equipments/accessories such as thimble, flexible pipe nuts & bolts cable gland etc laid in pipes or trenches under floor. The type suize & make will be subject to approval of HPSEB authorities. In case o non acceptance by HPSEB authorities have to be replaced by the tendrer free of cost.	1.00	Job			
	b) P/L jointless flat water proof cable as per BIS 694-1990 suitable nfor the pump set offered from OCB to motor, to starter i/c all other electrical equipments such as thimble, flexible pipe nuts & bolts cable gland etc laid in pipes or trenches under floor. The type suize & make will be subject to approval of HPSEB authorities.	1.00	Job			
	c) Providing and fixing double loop earthing with copper plate 600x600x32mm thick electrode complete materials such thimles and charcoal and common salt, 25x5mm copper strips as per IS 3043-1987 with upto date amendments for mortor and other electrical equipments and digging of pits etc. complete in all respect (For raw water stage & 1st Stage.)	1.00	Job			
	d) Capacitor of Mechneil/BHEL/GEC make as per IS: 2834-1986 with upto date amendmets, to raise the power factor at site to 0.95 for direct connections to induction mortor individually of required KVA rating accoding to H.P offered including cables as per relevant ISI code (of siemens/clocter, IEC make.) from bus bar chamber to capacitor and also including ICTP switches of appropriate range as per IS: 4064-1978 with upto date amendments.	2.00	Nos.			
6	Providing 50mm dia circlucar dial analog pressure guage of suitable range of Fiebig/Border/PREGA/Precision make complete within all accessories such as stock cock, copper tubing etc as per IS 3624-1987 with upto amendments.	2.00	Nos.			
7	P/L Suction, deliveru pipe condidering site requirement, NHPS required & available & common header having area equal to two times the area of delivery branch of pump including tappers, flanges, rubber, gaskets 3mm thick as per BIS 2712-1978 nuts & bolts as per 1364-1983 & special upto 5 Mtrs away from the outer wall or pump housee as per drawings approved byu Engineer in-Charge. The pipes shall be capable of withstanding 1.5 times the total preseure indicated in time No. 1 (i)	1.00	Job			
8	Supply of antibratation pads conforming to BIS 6337-1971 or latest wit uoto date ammendments.	1.00	Set			

