



**BIDDING DOCUMENT**  
**for**  
**Construction of Futsal Ground at Zemabawk**  
**Mitla Mual**

**VOLUME-II**  
(Price Bid)

**Issued on** : 4<sup>th</sup> December 2021  
**Invitation for Bids No** : No. B. 11030/144 (Proc-Gen)/2018-ASCL/140  
**Package No** : MIZ-AIZ-129A/FSG-ZM/13  
**Employer** : AIZAWL SMART CITY LIMITED, AIZAWL  
**State** : MIZORAM  
**Country** : INDIA



# Price Bid

This Section contains the forms which are to be completed by the Bidder and submitted as part of his Price Bid.

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# Letter of Price Bid

Date: .....

Contract Package No.: .....

Invitation for Bid No.: .....

To:.....

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) 8;
- (b) We offer to execute in conformity with the Bidding Documents and the Technical Bid submitted for the following Works:
- (c) The total price of our Bid, excluding any discounts offered in item (d) below is:
- (d) The discounts offered and the methodology for their application are:
- (e) Our Bid shall be valid for a period of . . . . . days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) If our Bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (g) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and
- (h) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Name .....

In the capacity of .....

Signed .....

Duly authorized to sign the Bid for and on behalf of .....

Date .....

# Schedules

## Bill of Quantities

### Preamble

#### (A) General

1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, Conditions of Contract, Specifications and Drawings.
2. For the construction of works, the quantities given in the Bill of Quantities are estimated quantities, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the agreed individual item rates. Bills will be raised monthly. The method of measurement shall be as per norms laid out by the Bureau Of Indian Standard's publication IS: 1200 (Latest Editions with updated amendments).
3. A rate or price shall be entered against each item in the Priced Bill of Quantities, whether quantities are stated or not. The cost of items against which the Contractor has failed to enter a price or rate shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
4. The whole cost of complying with the provisions of the contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of work.
5. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. Reference to relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
6. The rates and prices tendered in the priced Bill of Quantities shall, except in so far as it is otherwise provided under the Contract, include all constructional plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out in the Contract. Import duty and excise duty on materials and goods to be imported shall not be included in the Unit Rates
7. Arithmetic errors will be corrected by the Employer as follows:
  - a. if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;
  - b. if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
  - c. if there is a discrepancy between words and figures, the Amount (In INR) in words shall prevail, unless the Amount (In INR) expressed in words is related to an arithmetic error, in which case the Amount (In INR) in figures shall prevail subject to (a) and (b) above.
8. Rock is defined as all materials that, in the opinion of the Engineer, require blasting, or the use of metal wedges and sledgehammers, or the use of compressed air drilling for their removal, and that cannot be extracted by ripping with a tractor of at least 150 brake hp with a single, rear-mounted, heavy-duty ripper.

**(B) Work Items**

The Bill of Quantities contains Schedules as below:

Construction of Futsal Ground at Zemabawk, Mitla Mual

**ABSTRACT COST**

The quoted rate and amount should be inclusive of taxes, duties and cess including all cost payable by the Bidders in executing the subjected contract package.

<b>S. No.</b>	<b>Description</b>		<b>AMOUNT</b>
<b>A</b>	<b>CIVIL WORK</b>		
1	Earth work		
2	Concrete work		
3	Reinforced cement concrete		
4	Brick work		
5	Marble and granite works		
6	Wood work		
7	Steel work		
8	Flooring		
9	Finishing		
10	Dismantling and demolishing		
11	Aluminium work		
12	Water proofing		
13	Horticulture works		
14	Fencing		
15	Road work		
16	Septik tank (50 users)		
17	UG tank & rainwater storage tank		
18	Retaining wall		
18	Market Rate Items		
	<b>Subtotal</b>	<b>A</b>	
<b>B</b>	<b>SERVICES</b>		
19	1. Electrical Works - External		
20	2. Electrical Works - Internal		
21	3. Plumbing Works		
22	4. Fire Protection Works		
	<b>Subtotal</b>	<b>B</b>	
<b>C</b>	<b>Total Amount</b>	<b>C=A+B</b>	
<b>D</b>	Contingency	<b>D</b>	19,00,000.00
<b>E</b>	Power Supply from external (To be out Sourced)	<b>E</b>	35,77,000.00
<b>F</b>	Water Supply from external (To be out Sourced)	<b>F</b>	1,85,900.00
	<b>GRAND Total Amount (C+D+E+F)</b>		

### Detailed Bill of Quantities

The quoted rates and amount s are inclusive of taxes, duties and cess including all cost payable by the Bidders in executing the subjected contract package.

<b>CONSTRUCTION OF MITLA MUAL PLAYGROUND, AIZAWL, MIZORAM</b>					
<b>A. CIVIL WORKS</b>					
Sl. No.	Particulars/Items	Unit	Qty	Rate (Rs.)	Amount (Rs.)
<b>1. EARTH WORK</b>					
1	Clearing and grubbing road land including uprooting rank vegetation, grass, brush shurubs, saplings and tree of girth upto 300mm, removal of stumps, disposal of serviceable material upto 100 metres from road boundary.				
	By Mechanical means. (for all classes of jungle).				
	For External Area except Ground taking lump sum area				
	From Autocad Polyline	Sqm	2608.67		
2	Felling trees of girth (measured at height of 1m above ground level) including cutting of trunks and branches and removing the roots and stacking of serviceable material and disposal of unserviceable material with all lifts and upto a lead of 100 metres and earth filling in the depression/pit.				
	Girth from 30 cm to 60 cm	No	10.00		
	Girth from 60 cm to 120 cm	No	2.00		
	Girth from 120 cm to 240 cm	No	2.00		
3	Earth work in excavation by mechanical means (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by engineer-in-charge.				
	All kinds of soil (excluding ordinary & hard rock)				
	<b>Block A</b>				
		Cum	752.04		
	<b>Block B</b>				
		Cum	588.63		
	<b>External Development</b>				

		Cum	1441.67		
4	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.				
	<b>Block A</b>				
		Cum	629.36		
	<b>Block B</b>				
		Cum	485.95		
	<b>External Development</b>				
		Cum	1190.81		
5	Extra for every additional lift of 1.5 m or part thereof in excavation/banking excavated or stacked materials				
	All kinds of soil				
	<b>Block A</b>				
		Cum	214.87		
	<b>Block B</b>				
		Cum	168.18		
6	Providing and filling approved river sand in trenches, plinth, etc. in layers not exceeding 20 cms in depth, consolidating each layer by ramming and watering and dressing complete.				
	<b>Block A</b>				
		cum	7.31		
	<b>Block B</b>				
		cum	5.92		
			11.84		
	<b>External Development</b>				
			42.89		
7	Diluting and injecting chemical emulsion for post constructional anti termite treatment with Chlorphyriphos/Lindane emulsifiable chemical 20% with 1% concentration				
	Treatment of soil under existing floor using chemical emulsion @ 1 litre per hole, 300 mm apart including drilling 12mm diameter holes and plugging with cement mortar 1:2 (1 cement: 2 coarse sand) to match the existing floor.				
	<b>Block A</b>				



	Same as sand filling	Sqm	83.00		
	<b>Block B</b>				
	Same as sand filling	Sqm	98.56		
				<b>Total =</b>	
<b>2. CONCRETE WORK</b>					-
8	Providing and laying in position cement concrete of specified grade excluding cost of centring and shuttering -All work upto plinth level				
	1:3:6( 1cement:3course sand:6 stone aggregate 20mm nominal size )				
	<b>Block A</b>				
		Cum	26.73		
	<b>Block B</b>				
		<b>Cum</b>	24.65		
	<b>External Development</b>				
		Cum	26.95		
9	Providing and laying in position cement concrete of specified grade excluding cost of centering and shuttering - All work upto plinth level:				
	1:2:4 (1 Cement : 2 course sand : 4 stone aggregate 20mm nominal size)				
	Provisional for External Development	Cum	1.00		
10	Providing and laying cement concrete in retaining wall, return wall, walls (any thickness) including pilasters, piers, columns, abutments, pillars, posts, plain window sills, sunken floors, etc. upto floor five level excluding the cost of centering, shuttering and finishing:				
	1 : 2: 4 (1 cement : 2 course sand :4 stone aggregate 40 mm)				
	Provisional Qty for Sunken , Window cills etc.				
	Block A		0.20		
	Block B		0.20		
11					
	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 course sand : 4 stone 12.5 mm size).				
	Block A				
	Ground Floor External B/W	sqm	1.00		
		<b>sqm</b>	1.00		

	Block B				
	Ground Floor External B/W	sqm	1.00		
		<b>sqm</b>	<b>1.00</b>		
12	Extra for providing and mixing water proofing material in doses by weight of cement as per manufacturer's specification				
	Qty Transfer From DPC Block A	Per Bag of Cement	1.00		
	Qty Transfer From DPC Block B	Per Bag of Cement	1.00		
13	Applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7 kg. per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.				
	Qty Transfer From DPC Block A	Sqm	1.00		
	Qty Transfer From DPC Block B	Sqm	1.00		
14	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement :3 coarse sand : 6 graded stone aggregate 20mm nominal size) over 75 mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.				
	<b>Provisional Block A</b>	Sqm	2.00		
	<b>Provisional Block B</b>	Sqm	2.00		
				<b>Total =</b>	
<b>3. REINFORCED CEMENT CONCRETE</b>					-

15	Providing and laying in position machine batched and machine mixed design mix M-20 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS:9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. "(Note:Cement content considered in this item is @ 330 kg/cum." Excess/less cement used as per design mix is payable/recoverable separately).				
	All works upto plinth level				
	<b>Block A</b>				
		<b>Cum</b>	95.95		
	<b>Block B</b>				
		<b>Cum</b>	78.04		
	<b>External development</b>				
		<b>Cum</b>	223.91		
	All work form plinth level upto floor V level				
	<b>Block A</b>				
		<b>Cum</b>	73.28		
	<b>Block B</b>				
		<b>Cum</b>	69.53		
	<b>External Development</b>				
		<b>Cum</b>	22.53		
16	Extra for providing richer or leaner mixes respectively at all floor levels.				
	Providing M-25 grade concrete instead of M-20 grade BMC/RMC. (Note:- Cement content considered in M-25 is @ 330 Kg/cum)				
	<b>Block A</b>				
	Qty same as item no. 5.28 a + 5.28 b	<b>Cum</b>	169.23		
	<b>Block B</b>				
	Qty same as item no. 5.28 a + 5.28 b	<b>Cum</b>	147.57		
	<b>External Development</b>				
	Qty same as item no. 5.28 a + 5.28 b	<b>Cum</b>	246.44		

17	Centering and shuttering including strutting, propping etc. And removal of form for all heights				
	Foundation, footings, bases of column etc. for mass concrete.				
	<b>Block A</b>				
		<b>Sqm</b>	114.45		
	<b>Block B</b>				
		<b>Sqm</b>	91.64		
	<b>External Development</b>				
		<b>Sqm</b>	197.93		
18	Walls including attached pillasters, buttresses, string course, etc.				
	<b>Block A</b>				
	Provisional	Sqm	2.00		
		<b>Sqm</b>	2.00		
	<b>Block B</b>				
	Provisional	Sqm	2.00		
		<b>Sqm</b>	2.00		
	<b>External development</b>				
	Retaining wall	Sqm	379.80		
		<b>Sqm</b>	379.80		
19	Suspended floors, roofs, landings, shelves and their support, balconies and chajjaj, etc.				
	<b>Block A</b>				
		Sqm	221.08		
	<b>Block B</b>				
		Sqm	219.27		
20	lintels, beams, plinth beams, girders, bressumers & cantilevers, etc.				
	<b>Block A</b>				
		<b>Sqm</b>	313.86		
	<b>Block B</b>				
		<b>Sqm</b>	181.05		
	<b>External Development</b>				
		<b>Sqm</b>	383.58		
21	Columns, pillars, piers, abutments, posts and struts.				
	<b>Block A</b>				
		<b>Sqm</b>	238.54		
	<b>Block B</b>				
		<b>Sqm</b>	195.60		
	<b>External Development</b>				

		<b>Sqm</b>	195.84			
22	Staircases (except spiral staircase) excluding landings.					
	<b>Block A</b>					
	Provisional	Sqm	2.00			
		<b>Sqm</b>	2.00			
	<b>Block B</b>					
	Provisional	Sqm	2.00			
		<b>Sqm</b>	2.00			
23	Steel reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete.					
	Thermo-Mechanically Treated bars of grade Fe-500 or more					
	<b>Block A</b>					
		Kg	29295.87			
	<b>Block B</b>					
		Kg	25212.26			
	<b>External</b>					
		Kg	32957.54			
				<b>TOTAL</b>		
<b>4. BRICK WORK</b>						
	-					
1	First class Brickwork in foundation and plinth in :					
	In cement mortar 1:6 (1 cement : 6 coarse sand)					
	Add For Plinth beam at -500					
		Grid (01A-02A/B)+ (02A/A-B)+(3a/A-B)+(05A/A-B)+(07A/A-B)	cum	2.26		
		Provisional For Misc Works	cum	1.00		
		For External Chambers	cum	1.00		
2	First class brick in superstructure above plinth level upto floor V level in :					
	In cement mortar 1:6 (1 cement : 6 coarse sand)					
		<b>Block A</b>				
			cum	115.18		
		<b>Block B</b>				
			<b>cum</b>	114.66		
	<b>External Work</b>					
		cum	75.28			
3	Half brick masonry with first class brick in foundation and plinth in :					
	in cement mortar 1:4 (1 cement : 4 coarse sand)					
		<b>Block A</b>				
	provisional	Sqm	2.00			

	<b>Block B</b>				
	provisional	Sqm	2.00		
	<b>External Work</b>				
	provisional	Sqm	2.00		
4	Half Brick Masonry with first class brick in superstructure above plinth level upto floor V level:				
	In cement mortar 1:4 (1 cement : 4 Course sand)				
	<b>Block A</b>				
		Sqm	63.23		
	<b>Block B</b>				
		Sqm	67.87		
	<b>External Work</b>				
	Provisional For Misc Works/Planters etc.	Sqm	10.50		
		Sqm	10.50		
5	Extra for providing and placing in position 2 Nos. 6mm dia.M.S. bars at every third course of half brick masonry.				
	Qty Same as Half B/w Block A	Sqm	63.23		
	Qty Same as Half B/w Block B	Sqm	67.87		
				<b>TOTAL =</b>	
<b>5. MARBLE &amp; GRANITE WORK</b>					-
2	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar location, of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.				
	Granite (galaxy black)				
		sqm	3.98		
	<b>Block B</b>				
		sqm	6.43		
3	Providing edge moulding to 18 mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.				
	Granite work				

	<b>Block A</b>				
		Rm	5.69		
	<b>Block B</b>				
		Rm	9.18		
4	Extra for fixing marble/granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based (Araldite or equivalent) adhesive including cleaning etc. complete.				
	<b>Block A</b>				
	Qty Same As 8.03 b	Rm	5.69		
	<b>Block B</b>				
	Qty Same As 8.03 b	Rm	9.18		
5	Extra for providing opening of required size and shape for wash basins/kitchen sink in kitchen platform, vanity counters and similar location in marble/stone work including necessary holes for pillar taps etc. including rubbing and polishing of cut edges etc. compledte.				
	<b>Block A</b>				
		Per Opening	6.00		
	<b>Block B</b>				
		Per Opening	8.00		
8	Providing and fixing stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the case with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 course sand : 4 graded stone aggregate 6mm nominal size) as per direction of Engineer-in-charge and finished smooth.				
	Granite Stone of approved shade				
	<b>Block A</b>				
		sqm	3.00		
				<b>TOTAL =</b>	
<b><u>6. WOOD WORK &amp; ALUMINIUM FITTINGS</u></b>					-

1	Providing 1st class local wood dressed in frames of chaukat for doors, window, clerestory windows fixed in position.				
	<b>Block A</b>				
		Cum	0.74		
	<b>Block B</b>				
		Cum	0.56		
2	Providing and fixing 1st class local wood panelled shutters for doors etc. including M.S. butt hinges with necessary screws, etc. complete.				
	35 mm thick				
	<b>Block A</b>				
		sqm	33.31		
	<b>Block B</b>				
		sqm	16.38		
	Providing and fixing aluminium sliding door bolts (aldrops) anodised transparent or dyed to required colour or shade with nuts and screws etc. complete.				
	300x16 mm				
	<b>Block A</b>				
		No	20		
	<b>Block B</b>				
		No	16		
3	Providing and fixing Aluminium Tower Bolts (Socket Bolts anodised transparent or dyed to required colour or shade with necessary screws etc. complete.				
	250 mm				
	<b>Block A</b>				
		No	15.00		
	<b>Block B</b>				
		No	10.00		
	150 mm				
	<b>Block A</b>				
	Qty Same as 14.51 a	No	15.00		
	<b>Block B</b>				
	Qty Same as 14.51 a	No	10.00		
4	Providing and fixing Aluminium handles anodised transparent or dyed to required colour or shade with necessary screws, etc. complete.				
	125mm				
	<b>Block A</b>				
		Each	10.00		



	<b>Block B</b>				
	D3	Each	16.00		
5	Providing and fixing Imex window fittings including necessary screws complete. Friction hinges for Aluminium windows etc.				
	<b>Block A</b>				
		No	2		
	<b>Block B</b>				
	W3	No	1		
6	Providing and fixing bright finished brass two lever mortise door lock with necessary screws, etc. complete.				
	Knob type				
	<b>Block A</b>				
		No	4		
	<b>Block B</b>				
		No	2		
				<b>TOTAL</b> =	
<b><u>7. STEEL WORK</u></b>					
<b>1</b>	Supplying and fixing steel rolling shutter of approved make, made of required size of M.S. laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete including the cost of providing and fixing necessary wire spring and M.S. top cover.	-	-	-	
-	Block B				
-	DG Room	Sqm	6		
-					
<b>2</b>	Providing and fixing ball bearing for rolling shutters.	Nos	1		
-					
<b>3</b>	Extra for providing mechanical device, chain and crank operation for operating rolling shutters.-				
-	Exceeding 10.00 sqm and upto 16.80 sqm in area. (average say 14.00 sqm)	Sqm	6		
5	Steel work welded in built up sections/framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				

	In a grating, frames, guard bar, ladders, railings, brackets, gates & similar works.				
	For Revolving gate, DG , Substation etc. foundation, Main Gates	Kg	2000.00		
				<b>TOTAL</b>	
<b>8. FLOORING</b>					-
1	52 mm thick Cement concrete flooring with concrete hardener topping under laayer 40 mm cement concrete 1:2:4 (1 cement : 2 sand : 4 well graded stone aggregate 20mm size)and top layer 12 mm thick cement hardener consisting of mix 1:2 by volume hardening compound moxed @ 2 litre per 50kg of cement.This includes cost of cement slurry but excluding the cost of nosing of steps etc. complete.				
	<b>Block A</b>				
		Sqm	331.58		
	<b>Block B</b>				
			325.67		
3	Providing and fixing glass strips 40 MM wide and 4 mm thick in joints of terrzi/cement concrete floors.				
	For Cement Flooring				
	<b>Block A</b>				
	Horizontal	Rm	64.00		
	Vertical	Rm	96.40		
	<b>Block B</b>				
	Horizontal	Rm	64.00		
	Vertical	Rm	99.20		
4	Chequered precast cement concrete tiles 22mm thick with marble chips of size upto 6mm in floor, treads of step, landing, foothpath and courtyard jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and cleaning etc. complete on 20mm thick bed of cement mortar 1 : 4 .				
	medium shade using 50% white cement & 50% ordinary cement				
	<b>Block A</b>				
		<b>Sqm</b>	63.21		
	<b>Block B</b>				
		<b>Sqm</b>	19.82		
	<b>External Development</b>				
		<b>Sqm</b>	284.08		

5	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08 and conforming to IS:15622, of approved make, in all colours and shares, laid on bed of 20mm thick cement mortar 1:4 (1 cement : 4 Course sand), including the joints with white cement and matching pigments etc. complete. as per design colours.				
	Double Charge				
	<b>Block A</b>				
		<b>Sqm</b>	24.92		
	<b>Block B</b>				
		<b>Sqm</b>	15.79		
6	Providing and laying vitrified tiles in different sizes (thickness to be specified by the the manufacturer) with water absorption less than 0.08 and conforming to IS:15622, of approved make, in all colours and shades, in skirting/dado, riser of steps, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS:15477, in average 6mm thickness, including grouting of joints (Payment for grouting of joints to be made separately).				
	Double Charge				
	<b>Block A</b>				
		<b>Sqm</b>	4.22		
	<b>Block B</b>				
	Louge	<b>Sqm</b>	2.39		
7	Grouting the joints of flooring tiles having joints of 3 mm width using epoxy grout mix of 0.70 kg. of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg. of resin per kg) grouting and finishing complete as per direction of Engineer-in-charge.				
	<b>Block A</b>				
		<b>Sqm</b>	29.14		
	<b>Block B</b>				
		<b>Sqm</b>	18.18		

12	Providing and laying Precast interlocking Paver tiles (CDI pattern) of approved make locally available at Aizawl over a sand cushion and 100 mm thick PCC bed of 1:2:4 including supplying, placing and cleaning, etc., complete (Cost of dressing of soil and PCC to be paid separately).				
	<b>External development</b>				
		<b>sqm</b>	144.85		
13	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 course sand) and jointing with cement slurry @ 3.3 kg per sqm. including pointing in white cement mixed with pigment of matching shade complete.				
	<b>Block A</b>				
			161.16		
	<b>Block B</b>				
		<b>Sqm</b>	172.34		
14	Providing and ceramic glazed floor tiles of size 300x300mm or more (thickness to be specified by manufacturer) of 1st quality conforming to IS:15622 of approved make in all colours, shades, except white, ivory, grey, fume red brown, laid on 20 mm thick cement mortar 1:4 (1 cement : 4 course sand) including pointing the joints with white cement and matching pigments etc. complete as per designed colour.				
	Gloss Finish				
	<b>Block A</b>				
		<b>Sqm</b>	47.51		
	<b>Block B</b>				
		<b>Sqm</b>	68.55		
				<b>TOTAL</b>	
<b>9 FINISHING</b>					
1	12 mm cement plaster 1:6 (1 cement : 6 fine sand)				
	<b>Block A</b>				

		Sqm	420.99		
	<b>Block B</b>				
		Sqm	566.39		
	<b>External Work</b>				
		<b>Sqm</b>	1.00		
2	15 mm cement plaster 1:6 (1 cement : 6 fine sand)				
	<b>Block A</b>				
		<b>Sqm</b>	420.99		
	<b>Block B</b>				
		<b>Sqm</b>	566.39		
	<b>External Development</b>				
	Qty Same as 12 mm plaster	<b>Sqm</b>	1.00		
3	20 mm cement plaster 1:4 (1 cement : 4 fine sand)				
	<b>Block A</b>				
		<b>Sqm</b>	286.02		
	<b>Block B</b>				
		<b>Sqm</b>	301.05		
	<b>External Development</b>				
		<b>Sqm</b>	900.09		
4	6 mm cement plaster to ceiling 1:4 (1 cement : 4 fine sand)				
	<b>Block A</b>				
		Sqm	223		
	<b>Block B</b>				
		Sqm	221		
5	Extra for providing and mixing water proofing materials in proportion recommended by manufacturer in				
	20mm cement plaster 1 : 4 (1cement : 4 sand)				
	Block A	Sqm	286.02		
	Block B	Sqm	301.05		
	External Development	Sqm	900.09		
6	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plasterd wall surface to prepare the surface even and smooth complete.				
	<b>Block A</b>				
		<b>Sqm</b>	842		
	<b>Block B</b>				
		<b>Sqm</b>	1,133		

7	Finishing walls with exterior emulsion of required shade on new work (three or more coats) to give an even shade.				
	Premium exterior emulsion like weather shield, weathercote etc.				
	<b>Block A</b>				
	Qty Same as 20 mm Plaster	<b>Sqm</b>	286		
	<b>Block B</b>				
	Qty Same as 20 mm Plaster	<b>Sqm</b>	301		
	<b>External Development</b>				
	Boundary Wall Plaster	Sqm	900		
		<b>Sqm</b>	900		
8	Applying one coat of Efflorescence resistant penetrating primer for Raincoat, Newcoat & Heatshield of approved brand and manufacture on wall surface, cement primer of approved brand and manufacture on wall surface.				
	<b>Block A</b>				
	Provisonal	<b>Sqm</b>	10		
	<b>Block B</b>				
	Provisonal	<b>Sqm</b>	10		
	<b>External Development</b>				
	Provisonal	<b>Sqm</b>	10		
9	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications.				
	On steel work				
	Provisonal	Sqm	100		
	On concrete work				
	Provisonal	Sqm	100.00		
10	White washing with lime to give an even shade: New work (Three of more coats)				
	Provisonal for Block A	Sqm	50.00		
	Provisonal for Block B	Sqm	50.00		
11	Painting with silicon and acrylic emulsion based water thinnable sealer of approved brand and manufacture on wet or patchy portion of plastered surfaces: Two coats				
	<b>Block A</b>				
	Qty Same as Putty	<b>Sqm</b>	841.98		
	<b>Block B</b>				

	Qty Same as Putty	Sqm	1,132.78		
12	French spirfit polishing (two or more coats) on new works including a coat of wood filler:				
	<b>Block A</b>				
	For Both Sides of Doors				
		<b>Sqm</b>	39.97		
	<b>Block B</b>				
		<b>Sqm</b>	27.22		
13	Applying priming coat with ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood) and Plywood.				
	<b>Block A</b>				
	Qty Same As Polish 20.77	Sqm	39.97		
	<b>Block B</b>				
	Qty Same As Polish 20.77	Sqm	27.22		
14	Applying priming coat with ready mixed red oxidized zinc chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	Sqm			
	<b>Block A</b>				
	Provisional	Sqm	100.00		
	<b>Block B</b>				
	Provisional	Sqm	50.00		
	<b>External Development</b>				
	Provisional	Sqm	100.00		
				<b>TOTAL</b>	
<b>10. DISMANTLING &amp; DEMOLITION</b>					
1	Demolishing cement concrete manually/by mechanical means including disposal of material within 50 metres lead as per direction of Engineer-in-charge.				
	Nominal concrete 1:4:8 or leaner mix				
	Provisional	Cum	5.00		
2	Demolishing R.C.C. work manually/by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 meters lead as per direction of Engineer-incharge.				
	Provisional	<b>Cum</b>	5.00		
3	Extra tor cutting reinforcement bars in R.C.C. or R.B. work (Payment shall be made on the cross sectional area of R.C.C. or R.B.work)				

	Provisional	<b>Sqm</b>	10.00		
4	Extra for scrapping, cleaning and straightening reinforcement from R.C.C. or R.B. work				
	Provisional	kg	100.00		
5	Demolishing brick work manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead:				
	In cement mortar				
	Provisional	Cum	5.00		
				<b>TOTAL</b>	
<b><u>11. ALUMINIUM WORK</u></b>					
1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular and other sections of approved make conforming to IS:733 and IS:1285, anodised transparent or dyed to required shade according to IS:1868. (Minimum anodic coating of grade AC 15), fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC/neoprene flt etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing/panelling, C.P. brass/ stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing and panelling to be paid for separately). <b>For fixed portion</b>				
	Powder coated				
	<b>Block A</b>				
		<b>Sqm</b>	7.74		
	<b>Block B</b>				
		<b>Sqm</b>	4.92		



2	For shutters of doors, windows and ventilators including providing and fixing hinges/pivots and making provision for fixing of fittings wherever required including the cost of PVC/ neoprene gasket required. (Glazing to be paid for separately).				
	Powder coated				
	<b>Block A</b>				
	Qty Same as item No.11.03 c	Sqm	7.74		
	<b>Block B</b>				
	Qty Same as item No.11.03 c	Sqm	4.92		
3	Providing and fixing glazing in aluminium door, window, ventilator , shutters and partitions etc. With PVC/neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer-in-charge.				
	With glass panes of 5.50 thickness				
	<b>Block A</b>				
	Qty Same as item No.11.03 c	Sqm	2.40		
	<b>Block B</b>				
	Qty Same as item No.11.03 c	Sqm	3.84		
4	Frosted glass of 4.00 mm thickness				
	<b>Block A</b>				
	Qty Same as item No.11.03 c	Sqm	0.54		
	<b>Block B</b>				
	Qty Same as item No.11.03 c	Sqm	1.08		
5	Filling the gap in between aluminium frame & adjacent RCC/Brick/Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and directions of Engineer-in-charge complete. Upto 5mm depth and 5 mm width.				
	<b>Block A</b>				
		<b>Metre</b>	25.80		
	<b>Block B</b>				
		<b>Metre</b>	16.40		
				<b>TOTAL</b>	
<b>12. WATER PROOFING</b>					

1	Applying double coated cement slurry with water proofing chemical (SUPER latex chemical ) in proportion 1 : 4 : 7 (1latex : 4water : 7 cement) including cleaning the treated surface with brushes etc. @ 0.158kg/sqm.				
	<b>Block A</b>				
		<b>sqm</b>	73.72		
	<b>Block B</b>				
		<b>sqm</b>	40.69		
				<b>TOTAL</b>	
<b>13 HORTICULTURE WORKS</b>					
1	Trenching in ordinary soil upto a depth of 60 cm including removal and stacking of serviceable materials and then disposing off by spreading and neatly levelling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge and/or manure before and after floding trench with water (excluding coat of imported earth, sludge or manure).				
	<b>Footsal Ground</b>	cum	885.6		
	less Turf	cum	-684		
	Traingle area	cum	5.772		
	At entrance	cum	1.77		
	At entrance	cum	1.05		
	At entrance	cum	0.39		
	<b>Total Green Area</b>	Cum	210.582		
2	Supplying and stacking of good earth at site including royalty and carriage upto 1 km (earth measured in s tacks will be reduced by 20% for payment).				
		cum	70.194		
3	Supplying and stacking at site dump manure from approved source, including carriage upto 5 km lead complete (manure measured in stacks will be reduced by8% for payment).				
	Screened through sleve of I. S. designation 4.75 mm				
		<b>Cum</b>	<b>35.097</b>		
4	Rough dressing the trenched ground includinjg breaking clods.				
		100 Sqm	7.02		
5	Fine dressing the ground				
	Qty Same as Rough Dressing	100 sqm	7.02		

		100 Sqm	7.02		
6	Spreading of sludge, dump manure or/and good earth in required thickness (Cost of sludge, dump manure or/and good earth to be paid separately).				
	Green Area	Cum	0.70194		
		Cum	0.70194		
7	Grassing with selection No.1 grass including watering and maintenance of the lawn for 60 days or more till the grass forms thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the grass and good earth shall be paid for separately).				
	In rows 5 cm apart in both direction				
	Green Area	100 Sqm	0.07		
		100 Sqm	0.07		
8	Making tree guard 53 cm dia. And 1/3 high as per design from empty coal tar drums supplied free by the department or any other source including providing and fixing 2 nos.M.S. sheet rings 50x0.5 mm with rivets complete in all respects including painting inside and outside of tree guard with:				
	A coat of coal tar				
	For Trees provisional	No	20		
		No	20		
				<b>TOTAL</b>	
<b>14. FENCING</b>					
1	Providing, fabricating and fixing in position at all height "Y" shaped barbed wire fencing, comprising of mild steel angle 40x40x8mm thick "Y" shaped posts, approximately 1.75m long, placed at 2.5m intervals and welded with angle iron post already placed in position including providing 9-horizontal rows and 6 - diagonals, interwoven with horizontal lines, of 12 gauge, 2 ply, 4 points galvanised iron barbed wire approved make, equally spaced and properly aligned, fixed and fitted with GI staples or tiled with binding wire including necessary welding for fixed angle iron post, complete in all respects as per drawings and direction of Engineer-in-charge (measurement shall be taken for the pattern length as a whole) .				
	Boundary Wall	Rm	136.4		
		Rm	136.4		
				<b>TOTAL</b>	
<b>15. Road Work</b>					
1	Compacting Original Ground				
	Compacting original ground supporting subgrade (Loosening of the ground upto a level of 500mm below the subgrade level, watered, graded and compacted in layers to meet requirement of table 300-2 for subgrade construction)				
		Cum	285.58		

	Granular Sub-Base (Table:- 400-1)				
2	Planter Mix method (Construction of granular sub-base by providing the material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401)				
	for Grading-I Material				
		Cum	193.99		
3	Providing and laying in position cement concrete of specified grade excluding cost of centring and shuttering -All work upto plinth level				
	1:3:6( 1cement:3course sand:6 stone aggregate 20mm nominal size )				
		Cum	95.19		
5	Cement Concrete Pavement (Construction of un-reinforced, 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 )				
	Road Area				
		Cum	139.79		
6	Cast in Situ Cement Concrete M20 kerb (Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine, foundation concrete laid manually, all complete as per clause 408)				
	Using Concrete Mixer				
		Metre	365.00		
					<b>TOTAL</b>
<b>16. SEPTIK TANK (50 Users)</b>					
	Size = 2 nos x 5 x 2 x 1.69 m				
1	Earth work in excavation by mechanical means (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by engineer-in-charge.				
	All kinds of soil (excluding ordinary & hard rock)				
		Cum	52.61		

2	Providing and laying in position cement concrete of specified grade excluding cost of centring and shuttering -All work upto plinth level				
	1: 4 :8 (1 cement : 4 course sand : 8 stone aggregate 40 mm nominal size)				
		Cum	1.73		
3	Providing and laying in position machine batched and machine mixed design mix M-20 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS:9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. "(Note:Cement content considered in this item is @ 330 kg/cum." Excess/less cement used as per design mix is payable/recoverable separately).				
	All work upto foundation & plinth level.				
		Cum	2.29		
4	Extra for providing richer or leaner mixes respectively at all floor levels.				
	Providing M-25 grade concrete instead of M-20 grade BMC/RMC. (Note:- Cement content considered in M-25 is @ 330 Kg/cum)				
	Qty Same as RCC	Cum	2.29		
5	Suspended floors, roofs, landings, shelves and their support, balconies and chajjaj, etc.				
	Septik Tank Slab	Sqm	10.00		
		Sqm	0.81		
		Sqm	10.81		
6	Steel reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete.				
	Thermo-Mechanically Treated bars of grade Fe-500 or more				
	RCC Qty x 100 Kg/Cum	Kg	229.218		
		Kg	229.218		
7	First class Brickwork in foundation and plinth in :				
	In cement mortar 1:6 (1 cement : 6 coarse sand)				
8	Half brick masonry with first class brick in foundation and plinth in :				

	in cement mortar 1:4 (1 cement : 4 coarse sand)				
	Internal Wall	Sqm	4.96		
9	12 mm cement plaster 1:3 (1 cement : 3 fine sand)				
	Internal	Sqm	30.42		
10	15 mm cement plaster 1:6 (1 cement : 6 fine sand)				
	External Walls	Sqm	29.78		
				<b>TOTAL</b>	
<b>17. UG Tank &amp; Rainwater Storage Tank</b>					
1	Earth work in excavation by mechanical means (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by engineer-in-charge.				
	All kinds of soil (excluding ordinary & hard rock)				
		Cum	356.15		
2	Providing and laying in position cement concrete of specified grade excluding cost of centring and shuttering -All work upto plinth level				
	1: 4 :8 (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size)				
		Cum	8.82		
3	Providing and laying in position machine batched and machine mixed design mix M-20 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS:9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. "(Note:Cement content considered in this item is @ 330 kg/cum." Excess/less cement used as per design mix is payable/recoverable separately).				
	All work upto foundation & plinth level.				
		Cum	68.69		
4	Extra for providing richer or leaner mixes respectively at all floor levels.				
	Providing M-25 grade concrete instead of M-20 grade BMC/RMC. (Note:- Cement content considered in M-25 is @ 330 Kg/cum)				
	Qty Same as RCC	Cum	68.69		

5	Centering and shuttering including strutting, propping etc. And removal of form for all heights				
	Foundation, footings, bases of column etc. for mass concrete.				
		Sqm	14.16		
6	Walls including attached pillasters, buttresses, string course, etc.				
		Sqm	361.44		
7	Suspended floors, roofs, landings, shelves and their support, balconies and chajjaj, etc.				
	Slab				
		Sqm	63.36		
8	Steel reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete.				
	Thermo-Mechanically Treated bars of grade Fe-500 or more				
	RCC Qty x 100 Kg/Cum	Kg	6868.8		
		Kg	6868.8		
8	Applying double coated PIDIFIN-2K or equivalent on the surface of cement concrete for prevention of water infiltration and dampness in water tanks, basement, terraces, etc. ) @1.85kg per sqm.				
		Sqm	422.24		
				<b>TOTAL</b>	
<b><u>18 Retaining Wall</u></b>					
1	Regular coursed rubble masonry with hard stone in foundation upto one storey above & below ground level including curing , etc.complete.				
	in cement mortar 1:4 ( 1 cement : 4 fine sand )	Cum	38		
				<b>TOTAL</b>	

**24 MARKET RATE ITEMS**

1	Designing, Fabricating, supplying and fixing Ferrari/Sioen 1000+ Gsm, Type 3, PVDF including complete steel structure with Duco painted surface MS structure as per analysis/technical specifications/ Architechral , as per the approved shop drawings, as specific and as directed by Engineer-in-Charge. (Note:- RCC Structure work shall be paid extra if any)				
	Block A	Sqm	344.89		

	Block B	Sqm	313.47		
2	Supplying and installation of 60mm Pile height Synthetic Artificial Turf with silica sand filling including adhesive materials hard base, drainage etc. as per FIFA guidelines all complete as per direction of Engineer-In-Charge.				
	Footsal Grounds	Sqm	2280.00		
3	Providing & Fixing HDPE floor Mounted Seat of back Width 440 mm, Seat Width 440 mm Back Height 400 mm & Seat Depth 465 mm as per direction of Engineer-in-charge.				
	Block A	Nos	342.00		
	Block B	Nos	344.00		
4	Providing, fixing and installation of Acrylic/Synthetic Sports flooring in 5 layers system. All work should be completed as per requirement, Manufacturer's specifications and complete satisfaction of Engineer-In-charge. Note - Warranty of the product should be 1.0 years				
	Longer Sides	Sqm	265.00		
	Shorter Sides	Sqm	177.41		
	Turning Points	Sqm	49.44		
			491.85		
				<b>TOTAL</b>	
				<b>GRANT TOTAL</b>	

Rupees \_\_\_\_\_ only



**B1. ELECTRICAL WORK (EXTERNAL)****WORK FOR SUPPLYING, INSTALLATION, TESTING & COMMISSIONING OF EXTERNAL ELECTRICAL WORK**

S. No.	Description of Item	Unit	QTY	Rate (Rs.)	Amount (Rs.)
	<b>Sub head : - I - LT Panel</b>				
<b>1</b>	<b>Main LT Panel</b>				
	Assembling, loading, unloading, shifting, erecting, testing and commissioning of 415V, 3 Phase, 50 Hz., 4 wire system, sheet steel clad, dust and vermin proof cubical and Indoor type floor mounted, free standing extendible type <b>Main LT Auto Load Management Panel</b> compartmentalized design and fabricated out of 2 mm CRCA sheet steel complete with suitable size of Aluminium Bus bars, Electrical interlocks as per the various status of all the equipments indicated on the drawings. Providing & Fixing of base plate / channel, P/F the following Switchgears, complete with earth Bus bar throughout the length of the panel, terminal arrangement for Incomings / Outgoings cables and also outgoing terminations for various sizes of cables, The incoming and outgoing feeders shall be accommodated in a modular multi-tier arrangement, adequate size bus duct/ cable alley, Painting, Earthing, Numbering, Danger plate etc. complete as required as per specifications and drawing attached. (Panel should have proper arrangements for future expansion, etc. complete as required.)				
	<b>Main Incomer (Supply From State Electricity Board:</b>				
	<b>Incoming:</b>				
a)	1 No. of 160Amp 4P MCCB microprocessor release of 35 kA Breaking capacity with On Indicating Lamp with 2A SP MCB back-up.				
b)	Set of Digital flush type class - 1 accuracy multifunction meters (with RS485 port) 0- 160A, showing V, A, PF, Hz, KW, KWH, KVAR, etc. with 3 Nos. cast resin current transformers of 160/5 Amp ratio, 15 VA Class 1 metering.				
c)	1 Set of three phase R,Y,B indicating lamps along with 2A SP MCB backup protection.				
d)	All necessary Control MCB'S, control terminals & control wiring, interlocking etc. required with FRLS copper wires ISI marked complete as required.				
e)	Under/ Over voltage, earth fault ,Master trip relays along with current transformers of 160/5A ratio, 15 VA class-5P10 protection - 1 set				
f)	Suitable arrangement to receive incoming armoured XLPE aluminium cables.				

	<b>D.G. Incomer:</b>				
	<b>Incoming:</b>				
a)	1 No. of 160Amp 4P MCCB Microprocessor based release of 35 kA Breaking capacity with On Indicating Lamp with 2A SP MCB back-up.				
b)	Set of Digital flush type class - 1 accuracy multifunction meters (with RS485 port) 0- 160A, showing V, A, PF, Hz, KW, KWH, KVAR, etc. with 3 Nos. cast resin current transformers of 160/5 Amp ratio, 15 VA Class 1 metering.				
c)	1 Set of three phase R,Y,B indicating lamps along with 2A SP MCB backup protection.				
d)	All necessary Control MCB'S, control terminals & control wiring, interlocking etc. required with FRLS copper wires ISI marked complete as required.				
e)	Under/ Over voltage, earth fault ,RPR relays along with current transformers of 160/5A ratio, 15 VA class-5P10 protection - 1 set				
f)	Suitable arrangement to receive incoming armoured XLPE aluminium cables.				
	<b>Busbar :</b>				
	TPN aluminium extensible type main bus bars of minimum of 200 Amps. capacity & auxiliary Bus Bars of suitable capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc. for withstanding fault level of 35ka capacity.				
	<b>Outgoings:</b>				
	100 Amp. 25ka four pole Thermal release, MCCB (Ics=Icu) with O/L, S/C & modular earth fault protection. - 2 Nos. <b>(1no. Spare)</b>				
	63 Amp. 25ka four pole Thermal release, MCCB (Ics=Icu) with O/L, S/C & modular earth fault protection. - 3 Nos. <b>(1no. Spare)</b>				
	63A 4P MCB '10kA' - 3 nos. <b>(1no. Spare)</b>				
	63A DP MCB '10kA' - 2 nos. <b>(1no. Spare)</b>				
	<b>Each outgoing breaker shall have the following accessories-</b>				
	a) 1 No. - 96 sq.mm. flush pattern digital type multifunction meter (with RS485 port) showing V, A, PF, Hz, KW, KWH, KVAR, etc. with three nos. cast resin suitable rating of CT's, class 0.5 accuracy & 15 VA burden, protection MCB's etc.				
	b) LED indication lamps with 2Amp back up control MCB for RYB, breaker 'ON/ OFF/ TRIP', spring charged, DC control supply healthy, test terminal block set, circuits as per standard practice etc. as required for all ACB's.				
	c) Extended rotary operating mechanism, terminal extension spreaders, LED indication lamps with 2Amp control MCB for breaker 'ON/OFF' for all MCCB's.				

	<b>PLC Cubicle Section :</b>				
	PLC based <b>Auto ON, auto OFF, auto Load management Panel</b> for operation of <b>1no. 62.5 KVA D.G.</b> Sets complete as required and as per Schematic drawings including main incoming supply ( <b>from State electricity Board</b> ) and with following components (with manual operation facility) etc. complete as required.				
a.	Selector switches, Auto / Manual switches as required.				
b.	Push buttons for Test, Accept, Reset, Fault Reset, Engine Start, Engine stop, MCCB close, MCCB Trip Emergency stop.				
c.	PLC Hardwares as required (Allen Bradley / Siemens).				
d.	Auxiliary relays as required .				
e.	230V AC/24V DC, 10A, stabilized power supply with voltage trimmer and maintenance free battery Power Pack as required.				
f.	Annunciators as required and as described.				
g.	Minimum 12 Window annunciation panel (for each D.G. Set) for following indications/ alarms : (Located in PLC Panel)				
h.	Set fails to start, Engine overheat, Excitation failure (optional), High temperature, Low Lube oil pressure, Over speed, Low fuel oil level, Cooling water flow failure, Breaker Trip, DC control supply failure, etc. & Spares.				
	Necessary interlocking with PLC auto controls, necessary hardwares & software to be provided with one UPS of required capacity for the system controls etc.				
	<b>MLTP PLC Load Management Panel as above &amp; as per Drawing.</b>	Set	1		
<b>2</b>	<b>UPS Output Panel</b>				
	Supplying, Installation, Testing and Commissioning of dust, damp and vermin proof free floor standing / wall mounted factory built sheet steel enclosed modular construction extendable panel, suitable for operation on 240 ± 10% volts, 50 Hz AC single phase 3 wire system fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 1.6mm thick CRCA sheet, duly painted complete with aluminium bus bars, interconnection with solid copper conductor wires / aluminium strips, neutral links, earth bus etc. necessary metering protections & indications and mounted with the following as per drawing and technical specifications attached etc. complete as required.				
	<b>Incoming:</b>				
	1 Nos. 63 Amp 240 volts, DP, 10KA MCB as incomer breaker				
	1 Nos. 0 to 60 Amp ammeter with selector switch with 60/5A CTs				
	<b>Bus Bars:</b>				

	60Amps including in different sections of the panel for connection to various outgoing feeders as per drawing.				
	<b>Outgoing:</b>				
	63A DP MCB '10kA' - 4 Nos. (2 No. Spare)				
	<b>UPS Panel Described as above</b>	Set	1		
	<b>Total</b>				
	<b>Sub Head- II- LT Cables</b>				
<b>1</b>	<b>Laying of UG/XLPE cables</b>				
	Supplying, unrolling & Laying of different sizes of underground cables XLPE in the existing excavated Earth, masonry duct, RCC/Hume/metal pipe etc, including commission etc.				
1.1	3 core X 10 Sq.mm	Meter	138		
1.2	XLPE/PVC Power Aluminium cable <b>6sqmm 4 core</b> as per IS:1554 Part-II	Meter	2		
1.3	XLPE/PVC Power Aluminium cable <b>10sqmm 4 core</b> as per IS:1554 Part-II	Meter	230		
1.4	XLPE/PVC Power Aluminium cable <b>16sqmm 4 core</b> as per IS:1554 Part-II	Meter	46		
1.5	XLPE/PVC Power Aluminium cable <b>25sqmm 3.5 core</b> as per IS:1554 Part-II	Meter	2		
1.6	XLPE/PVC Power Aluminium cable <b>35sqmm 3.5 core</b> as per IS:1554 Part-II	Meter	2		
1.7	XLPE/PVC Power Aluminium cable <b>50sqmm 3.5 core</b> as per IS:1554 Part-II	Meter	46		
1.8	XLPE/PVC Power Aluminium cable <b>70sqmm 3.5 core</b> as per IS:1554 Part-II	Meter	2		
1.9	XLPE/PVC Power Aluminium cable <b>95sqmm 3.5 core</b> as per IS:1554 Part-II	Meter	2		
<b>2</b>	<b>Cable Joining Kit</b>				
	Supplying, fixing & commissioning of cable end Joint for Underground Cable XLPE including commission etc.				
2.1	3 core X 10 Sq.mm	Each	6		
2.2	XLPE/PVC Power Aluminium cable Termination end Jointing Kit <b>6sqmm</b>	Each	1		
2.3	XLPE/PVC Power Aluminium cable Termination end Jointing Kit <b>10sqmm</b>	Each	10		
2.4	XLPE/PVC Power Aluminium cable Termination end Jointing Kit <b>16sqmm</b>	Each	2		
2.5	XLPE/PVC Power Aluminium cable Termination end Jointing Kit <b>25/35sqmm</b>	Each	1		
2.6	XLPE/PVC Power Aluminium cable Termination end Jointing Kit <b>50sqmm</b>	Each	2		
2.7	XLPE/PVC Power Aluminium cable Termination end Jointing Kit <b>70sqmm</b>	Each	1		

2.8	XLPE/PVC Power Aluminium cable Termination end Jointing Kit <b>95sqmm</b>	Each	1		
	<b>LV/MV Cable Trenches Laying</b>				
<b>3</b>	Laying of one number PVC insulated and PVC sheathed/XLPE Power cables of 1.1/11/33 grade of different sizes direct in ground including excavation, sand cushioning, protective covering and refilling the trench/RCC/Hume/Masonry/Metal Pipe etc.				
3.1	Laying of one number PVC insulated and PVC sheathed/XLPE Power cables of 1.1 grade of size not exceeding 25 Sqmm direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc.	Each	418		
3.2	Laying of one number PVC insulated and PVC sheathed/XLPE Power cables of 1.1 grade of size exceeding 25 Sqmm but not exceeding 120 Sqmm direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc.	Each	52		
	<b>TOTAL</b>				
	<b>Sub Head - III- Cable Tray</b>				
<b>1</b>	Supplying and installing following size of perforated painted with powder coating M.S. cable trays Tee with perforation not more than 17.5%, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
1.1	900 mm width X 62.5 mm depth X 2.0 mm thickness	Mtr	5		
1.2	750 mm width X 62.5 mm depth X 2.0 mm thickness	Mtr	5		
1.3	600 mm width X 62.5 mm depth X 2.0 mm thickness	Mtr	5		
1.4	450 mm width X 62.5 mm depth X 2.0 mm thickness	Mtr	5		
1.5	300 mm width X 62.5 mm depth X 2.0 mm thickness	Mtr	10		
1.6	150 mm width X 50 mm depth X 1.6 mm thickness	Mtr	20		
1.7	100 mm width X 50 mm depth X 1.6 mm thickness	Mtr	30		
	<b>TOTAL</b>				
	<b>Sub Head - IV - External Lighting &amp; Accessories</b>				
<b>1</b>	<b>External Lighting Feeder Pillars:</b>				

	Supply, assembly, erection, connecting, testing & commissioning of LT weather proof dust and vermin proof, outdoor feeder pillar, fabricated out of suitable sized angle iron and flats and covered with 3mm thick CRCA sheet steel including canopy, duly stove enamel painted, both sides (front and rear) openable with locking arrangement, rubber gasket cable glands, etc. Bakelite phase separators and bus bar supports including RCC 1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 20mm nominal size) foundation, 450 mm deep and 150 mm above the ground. The feeder pillars shall be complete with 3 phase and neutral bus bars of capacities as described below and moulded case circuit breakers (MCCBs) with adjustable overload relay, copper FRLS control wiring with 1.5sq.mm, complete in all respects as per specifications as required.				
	<b>Incoming</b>				
	100A FP MCCB - 1 No.				
	70A, 4P Contactor - 1 No.				
	Time Switch with daily dial suitable for operation on 230V single phase 50Hz AC supply - 1 No.				
	Auto Manual Selector Switch - 1 No.				
	<b>Bus Bars</b>				
	TPN bus bar of 125A rating				
	<b>Outgoings</b>				
	63A FP MCB - 1 Nos.				
	40A FP MCB - 1 Nos.				
	25A DP MCB - 5 Nos.(1no. Spare)				
	10A DP MCB - 3 Nos. (1no. Spare)				
	16A DP MCB - 2 Nos. Spare				
	<b>External Lighting Feeder Pillars Described as above.</b>	Sets	1		
2	<b>SITC of LED Post Top</b> : Body made of die cast aluminium fixture should have designed with a very small surface exposed to wind.fixture Diffuser in extra-clear tempered glass, resistant to thermal shocks and impacts,minimum system lumen package should be 5500-5600 lm at 6500k, CRI is 80, minimum ,System wattage should be maximum 40-44W LED: Power factor ≥0.9.Luminous flux maintenance 80%: 50.000h (L80B20).Beam should be Wide .Fixture voltage range would be100-300V/AC 50/60Hz,Fixture should have reputaed LED like lumiled, cree or Nichia.	Nos.	6		

4	SITC of surface mounted Facade Light Housing is made of in die-cast aluminium with cooling fins. colour temperature of the fixture 5700K. Fixture protection level IP66/IK08 rating. Fixture Diffuser: tempered glass, 4 mm thick, System wattage should be maximum 200W, Lumen output should be minimum 20000lm, System efficacy should be 100lm/W, L80B20 80% 50000hrs, CRI should be 70 or Higher and should have power factor > 0.9, Fixture should be available with LM79 & LM80 reports. Chinese Product will not be considered. Fixture should have LED of lumiled, cree or Nichia or any other reputed LED manufacturer.	Nos.	6		
5	SITC of 9000 mm high hot dip GI step Pole with 1.0 mtr single/double arm arm bracket as shown in attached drawing. The bottom section of the pole not less than 140mm dia x2000mm long mm and Top Section of the Pole is of 89mm dia x 7000mm long Including bracket. The thickness of the pole sections shall be as per Medium class as per IS:1161. A service window with proper strengthening to cut out door shall be provided to accommodate a 6 amp SP MCB and 32 amp heavy duty connector for mains connections in the bottom part of the pole. The bottom part and the top part of the pole shall be joined together by using MS. flanges & shall be welded properly. Cast Aluminium embellishments shall be fitted and sealed by grub screw fixing. A mild steel base plate of 350 mm x350mm x15mm thick with stiffeners shall be welded at the bottom of the pole . The pole shall be hot dip galvanised after fabrication and duly pre treated and painted in U.V. ray resistant P.U. coating in approved colour shade. single arm 4nos double arm 08 nos.	Nos.	6		
6	Supplying and drawing following sizes of PVC insulated PVC sheathed copper conductor unarmoured multicore cable in the existing poles and bracket from cable termination connector to the fitting i/c providing suitable copper lugs connections etc. as reqd.				
6.1	3 core 1.5 sq.mm.	meter	150		
7	marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc..direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc., complete as required.				
7.1	90 mm dia (OD-90 mm & ID-76 mm nominal)	meter	100		
8	Supply of following size of 1.1KV grade multicore aluminium conductor XLPE insulated and PVC sheathed armoured cable in existing trenches/ hume pipe/in ground as per IS : 7098:1988 with upto date amendments.				
8.1	3c x 16 sq.mm	Meter	50		

8.2	3c x 10 sq.mm	Meter	50		
8.3	3c x 6 sq.mm	Meter	100		
8.4	3c x 4 sq.mm	Meter	80		
<b>9</b>	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
9.1	3c x 16 sq.mm	Each	4		
9.2	3c x 10 sq.mm	Each	10		
9.3	3c x 6 sq.mm	Each	20		
9.4	3c x 4 sq.mm	Each	10		
<b>10</b>	Providing, laying and fixing following dia RCC pipe NP 2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc. as required.				
10.1	150 mm dia.	Meter	100		
<b>11</b>	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	Each	4		
<b>12</b>	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/submain wiring/ cable as required.	meter	250		
	<b>TOTAL</b>				
	<b>Sub Head - V - Earthing</b>				
	<b>Earthing and Loop Earthing</b>				
<b>1</b>	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and water pipe etc. with charcoal/ coke and salt as required.	Each	2		
<b>2</b>	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and water pipe etc. with charcoal/ coke and salt as required.	Each	4		
<b>3</b>	Providing & fixing of 6 SWG G.I. wire on surface /Recess for Loop earthing etc. as required.	Mtr.	500		
<b>4</b>	Providing and fixing 25 x 5 mm G.I. Strip in 40 mm dia. G.I. pipe from earth electrode etc. as required.	Mtrs.	100		
<b>5</b>	Providing, laying, fixing, connecting and testing of undernoted sizes of copper strip/ GI strip/ wire from earth electrode to equipment loop and earthing system, in trenches, on surfaces, along pole or along M.S. support, etc. including excavation where required for laying the copper strip/ GI strip and filling back complete, conforming to relevant IS and all as specified.				
5.1	GI strip 50mm x 6mm on surface or in recess etc.	Mtr.	30		



5.2	CU strip 32mm x 6mm on surface or in recess etc.	Mtr.	5		
5.3	GI strip 32mm x 6mm on surface or in recess etc.	Mtr.	5		
5.4	CU strip 25mm x 3mm on surface or in recess etc.	Mtr.	100		
5.5	GI strip 25mm x 5mm on surface or in recess etc.	Mtr.	100		
5.6	80mm dia GI pipe 'B' under floors/ paving area's etc.	Mtr.	5		
5.7	50mm dia GI pipe 'B' under floors/ paving area's etc.	Mtr.	20		
	<b>TOTAL</b>				
	<b>Sub Head - VI - Miscellaneous (Sub-Station Equipment)</b>				
1	Supply and fixing in position 1000mm wide checkered rubber matting of 1.1KV grade as per electricity rules, with thickness not less than 12mm.	Sqm.	20		
2	Supply and fixing in position 1000mm wide checkered rubber matting of 11KV grade as per electricity rules,with thickness not less than 12mm.	Sqm	10		
3	Supply and fixing in position the best quality L.T. Danger Notice plate of 200mm x 150mm,made of mild steel atleast 2mm thick and vitreous enamelled, white on both sides and with inscription in signal red colour on front side written in English & Hindi as required.	Nos	2		
4	Supply and fixing in position the best quality H.T. Danger Notice plate of 250mm x 200mm made of mild steel atleast 2mm thick and vitreous enamelled, white on both sides and with inscription in signal red colour on front side written in English & Hindi as required.	Nos	2		
5	Supply and fixing in position the approved shock treatment / restoration charts written in Hindi and English duly framed in teak wood frame and covered with 2.8mm glass as required.	Nos	2		
6	Supply,Installation,Testing and Commissioning of following size of FRLS PVC insulated armoured copper control cable.				
6.1	6C X 1.5 sqmm	Mtr.	100		
7	Supplying and fixing of fire buckets 5 Nos.in each set of approved quality, red painted from outside and white from inside conforming to IS : 2546/1974 with additional handle at the bottom, filled with fine sand and fixed on an angle iron frame as per the requirement of local authorities.	Sets	2		
8	Supplying and fixing of MS pedestal stand suitable for supporting four buckets as required.	Nos	3		
9	Supplying and fixing First Aid Box of 18 S.W.G. M.S sheet,painted as approved & prescribed by Indian Red Cross Society & as per attached specifications.	No	2		

10	Supplying and fixing of caution Boards of 16 S.W.G. , M.S. sheet of 300 mm x 150mm size, duly painted & having "MAN ON LINE' & "DO NOT SWITCH ON' written in Red complete with hanging arrangement as required.	Nos	2		
11	Supply and fixing in position the approved single line diagram framed in 1000 x 800 mm size glass framed and installed in main switch room.	Nos	2		
12	Supply of tool kit with 1 pair,11KV rubber hand gloves of aproved make.	Set	3		
13	Supply and fixing of Insectcuters for Kitchen.	Nos	5		
15	Supply and laying of GI pipe under road / paved area crossing etc. including excavation, back filling, ramming and making good.				
15.1	150 mm dia pipe	Mtr	10		
15.2	200 mm dia pipe	Mtr	10		
16	Supply and installation of following RCC (NP-2 class) Hume pipe under paved areas , including providing 75mm thick cement concrete all around pipe 1:3:6 ( 1 cement, 3 coarse sand and 6 crushed stone aggregate )				
16.1	100 mm dia ID	Mtr	10		
16.2	150 mm dia ID	Mtr	10		
17	Supplying and laying of RCC (NP-2 class)pipe in ground for cable protection as required.				
17.1	100 mm dia	Mtr	10		
17.2	200 mm dia	Mtr	10		
17.3	300 mm dia pipe	Mtr	10		
	<b>TOTAL</b>				
	<b>Sub Head - VII - Automatic Fire Suppression System</b>				
1	Supply, fixing, testing and commissioning of automatic Linear pneumatic Tube Detection based Novec 1230 System for Electrical Panels (Linear Pnuematic Heat Detection Tube Panel Protection System), consisting of the Mentioned components				
1.1	4 Kg capacity Novec 1230 , DLP Assembly with automatic valve, push in connector for tube, 4Kg Novec 1230 gas , mounting bracket, End of Line adopter and low pressure switch for monitoring system activation.	Nos	2		
1.2	Linear pneumatic heat Detection Tube with all necessary fittings & supports.	Mtr	100		

1.3	Master Control Unit for controlling each system, complete with pressure switches, buzzers and electronic hooters, including all necessary accessories + electrical wiring to make each entire system functional.	Nos	2		
	<b>TOTAL</b>				
	<b>Grant Total</b>				

Rupees \_\_\_\_\_ only

<b>B2. ELECTRICAL WORK (INTERNAL)</b>					
<b>WORK FOR PROVIDING, INSTALLATION, TESTING &amp; COMMISSIONING OF INTERNAL ELECTRICAL WORK</b>					
<b>S. No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Qty.</b>	<b>RATE (Rs.)</b>	<b>AMOUNT (Rs.)</b>
	<b>Sub Head - I - Point Wiring</b>				
	<b>Recess FRLS-PVC Conduit wiring (Grade-I)</b>				
<b>1</b>	<b>Light Point, Ceiling fan Point, Exhaust fan point Etc.(Modular Type)</b> Wiring in Looping System With PVC wire Sheathed standard copper conductor/wires as per IS:694 (1990) and Halogen free fire retardant (HFFR) 1100 Voltage graded copper flexible wire standard copper 1.5 Sqmm running inside FRLS-PVC Conduit pipe(Heavy duty) 20mm dia Fixed, recess inside the wall/ceiling/floor as per convenience including junction box having required numbers of ways from control switch to the light point/fan point/exhaust fan point etc as required:-				
1.1	Short point (Modular)	Point	44		
1.2	Medium point (Modular)	Point	24		
1.3	Long point (Modular)	Point	68		
1.4	Very Long point (Modular)	Point	1		
<b>2</b>	<b>Light Plug/Socket point 5/6 Amperes(Modular Type)</b> Wiring in Looping System With PVC wire Sheathed standard copper conductor/wires as per IS:694 (1990) and Halogen free fire retardant (HFFR) 1100 Voltage graded copper flexible wire standard copper 2.5 Sqmm running inside FRLS-PVC Conduit pipe(Heavy duty) 20mm dia Fixed, recess inside the wall/ceiling/floor as per convenience including junction box having required numbers of ways from DB to the light plug/Socket 5/6A point etc as required:-				
2.1	Short point (Modular)	Point	3		
2.2	Medium point (Modular)	Point	9		
2.3	Long point (Modular)	Point	1		
2.4	Very Long point (Modular)	Point	1		
<b>3</b>	<b>Power Plug/Socket point 15/16 Amperes (Modular Type)</b> Wiring in Looping System With PVC wire Sheathed standard copper conductor/wires as per IS:694 (1990) and Life shield-zero halogen low smoke (ZHLS) 1100 Vopltage graded copper flexible wire stranded copper 4 Sqmm running inside FRLS-PVC conduit pipe(Heavy duty) 20 mm dia fixed,recess inside the wall/ceiling/floor as per convenience including junction box having required numberts of ways from DB to the power plug/Socket 15/16A point etc as required:-				
3.1	Short point (Modular)	Point	1		

3.2	Medium point (Modular)	Point	7		
3.3	Long point (Modular)	Point	6		
3.4	Very Long point (Modular)	Point	1		
4	<b>Power Plug/Socket Point 20/32 Amperes (Modular type)</b> Wiring in Looping System With PVC wire Sheathed standard copper conductor/wires as per IS:694 (1990) and Halogen free fire retardant (HFFR) 1100 Voltage graded copper flexible wire standard copper 6 Sqmm running inside FRLS-PVC Conduit pipe(Heavy duty) 20mm dia Fixed, recess inside the wall/ceiling/floor as per convenience including junction box having required numbers of ways from DB to power plug/Socket 20/32A point etc as required:-				
4.1	Short point (Modular)	Point	1		
4.2	Medium point (Modular)	Point	2		
4.3	Long point (Modular)	Point	1		
4.4	Very Long point (Modular)	Point	1		
5	<b>Main To Sub-Main in Copper Wire Grade-I(Single Phase Two Wires)</b> Wiring in Looping System With PVC wire Sheathed standard copper conductor/wires as per IS:694 (1990) and Halogen free fire retardant (HFFR) 1100 Voltage graded copper flexible wire standard copper of different sizes as mentioned below running inside FRLS-PVC conduit pipe(Heavy Duty) of all available sizes dia Fixed recess inside the wall/ceiling/floor as per convenience including junction box having required numbers of ways from Main to Sub-main/DB/Sub- main/DB to SDB/Switch Boards/SDB to switch boards as required:-				
5.1	2x2.5 Sqmm Copper conductor/cable+ 1x2.5 Sqmm earth wire	Metre	80		
5.2	2x4 Sqmm Copper conductor/cable+ 1x4.0 Sqmm earth wire	Metre	190		
5.2	2x10 Sqmm Copper conductor/cable+ 1x10 Sqmm earth wire	Metre	70		
6	<b>Main To Sub-Main in Copper Wire Grade-I (Three Phase Four Wires)</b> Wiring in Looping System With PVC wire Sheathed standard copper conductor/wires as per IS:694 (1990) and Halogen free fire retardant (HFFR) 1100 Voltage graded copper flexible wire standard copper of different sizes as mentioned below running inside FRLS-PVC Conduit pipe (Heavy Duty) of all available sizes dia Fixed,recess inside the wall/ceiling/floor as per convenience including junction box having required numbers of ways from Main to Sub-main/DB, Sub- main/DB to SDB/Switch Boards/SDB to switch boards as required:-				
6.1	4x6 Sqmm Copper conductor/cable+ 2x6 Sqmm earth wire	Metre	10		
6.2	4x10Sqmm Copper conductor/cable+ 2x10 Sqmm earth wire	Metre	70		
6.3	4x16Sqmm Copper conductor/cable+ 2x16 Sqmm earth	Metre	20		

	wire	e			
<b>7</b>	<b>Supplying and Fixing Of ISI Marked PVC Conduit (Heavy Duty)</b>				
	Supplying and fixing of following size of ISI Marked PVC conduit(Heavy Duty) along with accessories in surface/recess including painting in case of surface conduit,or cutting the wall and making good the same in case of recess, conduit as required.				
7.1	20 mm dia ISI marked PVC conduit pipe( Heavy Duty)	Metre	20		
7.2	25 mm dia ISI marked PVC conduit pipe( Heavy Duty)	Metre	360		
7.3	30 mm dia ISI marked PVC conduit pipe( Heavy Duty)	Metre	10		
7.4	40 mm dia ISI marked PVC conduit pipe( Heavy Duty)	Metre	1		
	<b>TOTAL</b>				
	<b>Sub Head - II - Switch Boards</b>				
<b>1</b>	<b>Supplying And Fixing of Switch Boards( Modular Type) (Deco-1) grade-1</b>				
	Supplying and fixing of Modular switch board (Decorative Type) round mechanism of following sizes/modules on surface/recess including PVC/Steel boxes, modular plate and necessary switches, plug/ socket, and fan regulators etc. with necessary painting if necessary				
1.1	<b>Two Modules Switch Board ( Modular)</b>				
	2S	Each	4		
1.2	<b>Three Modules Switch Board (Modular)</b>				
	3S	Each	1		
1.3	<b>Four Modules Switch Board (Modular)</b>				
	4S	Each	3		
1.4	<b>Six Modules Switch Board (Modular)</b>				
	6S	Each	4		
1.5	<b>Eight Modules Switch Board (Modular)</b>				
	8S	Each	1		
1.6	<b>Twelve Modules Switch Board (Modular)</b>				
	12S	Each	1		
<b>2</b>	<b>Supplying And Fixing Of Switch Boards</b>				
	Supplying and fixing of FT metal box with phenolic laminated/ Sunmica sheet cover of the following sizes of surface/recess including necessary switches, plug/socket and fan regulators etc. with necessary painting if necessary:-				
2.1	<b>4"X4" Switch board (Ordinary)</b>				
	2S	Each	4		
	3S	Each	1		
2.2	<b>6"X4" Switch Board(Ordinary)</b>				

	4S	Each	3		
	6S	Each	4		
2.3	<b>8"X6" Switch Board(Ordinary)</b>				
	8S	Each	1		
2.4	<b>8"X12" Switch Board(Ordinary)</b>				
	12S	Each	1		
	<b>TOTAL</b>				
	<b>Sub Head - III -Distribution Board</b>				
	<b>Distribution Boards</b>				
<b>1</b>	Supplying, fitting, & fixing of 4-ways MCB DB single door in sheet steel, Phosphatised powder painted MCB DBs with Bus Bar, Neutral Link, earth bar and din rail conforms to IS:13032, IS:8623, BS:5486 240 Volts 50 Hz, on surface/recess including inter-connection, painting etc, as required.				
1.1	8-way MCB DB SP&N Double door Acrylic door	Each	2		
1.2	12-way MCB DB SP&N Double door Acrylic door	Each	1		
1.3	4-way (4+12), MCB DB TP&N Double door Acrylic door	Each	1		
1.4	6 way (4+18), MCB DB TP&N Double door Acrylic door	Each	1		
1.5	8 way (4+24), MCB DB TP&N Double door Acrylic door	Each	2		
1.6	12 way (4+36), MCB DB TP&N Double door Acrylic door	Each	1		
	<b>MCBs/RCCBs/ELCBs/MCCBs/Earth Fault Relay SP/SPN/DP/&amp;N/TP/TP&amp;N/FP</b>				
<b>2</b>	Supplying and fixing of all types and rating MCBs, RCCBs, ELCBs, etc, 240/415 volts 50 Hz AC supply in the existing MCB DB complete with connections, testing & commissioning etc in completed:				
2.1	5 to 32 Amps, SP, MCB B-series	Each	54		
2.2	40 amps,SP, MCB B-series	Each	1		
2.3	63 amps'DP, MCB Isolator	Each	2		
2.3	63 amps'FP, MCB Isolator	Each	2		
<b>3</b>	Supplying and fixing following rating 240/415 volts, Residual current circuit breaker (RCCB) of different breaking current and different poles in the existing MCB DB including testing & commissioning etc. in completed.				
3.1	63 amps' FP, RCCB 30mA	Each	6		
<b>4</b>	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	10		
	<b>TOTAL</b>				
	<b>Sub Head - IV - Supply And Installation of light Fixture</b>				

1	The rates shall include all components that may be required to make the supply and installation complete in all respects such as :				
a	All lamps				
b	Internal wiring between accessories				
c	Earthing terminal				
d	Complete provision for installation				
e	Suitable length of GI down rod, hanger and connecting wires where called for.				
f	Wires for connecting the fixtures to the point through connector block.				
g	All metal blocks to serve as base of fixtures				
h	Bonding with earth wires.				
2	Drilling holes in supports wherever required				
3	Fixing clamps, GI bolts and nuts, brass screws, saddles, rawl bolts and other fixing accessories as required.				
4	All recessed type fixture shall be considered with suitable length of flexible G.I. conduit.				
5	Testing of all fixtures & fans before and after installation.				
<b>A</b>	<b>Supply of lighting Fixturte</b>				
	Supply of the following lighting fixtures with all fixing accessories etc. as required.				
1	9W Surface mounted light fixtures made of powder coated, elegantly designed pressure diecast aluminium body with micro prismatic diffuser delivering UGR<19. P.F>0.95, THD<10%., Lumen>1000Lm, Efficacy is 110lm/w., Product Life 50000 Hr@L70. Digital Addressable Lighting Interface Dimmable.	Nos.	1		
2	11W Surface mounted light fixtures made of powder coated, elegantly designed pressure diecast aluminium body with micro prismatic diffuser delivering UGR<19. P.F>0.95, THD<10%., Lumen>1100Lm, Efficacy is 110lm/w., Product Life 50000 Hr@L70. Digital Addressable Lighting Interface Dimmable.	Nos.	1		
3	12W Surface mounted light fixtures made of powder coated, elegantly designed pressure diecast aluminium body with micro prismatic diffuser delivering UGR<19. P.F>0.95, THD<10%., Lumen>1300Lm, Efficacy is 110lm/w., Product Life 50000 Hr@L70. Digital Addressable Lighting Interface Dimmable.	Nos	25		
4	15W LED Surface mounted light fixtures made of powder coated, elegantly designed pressure diecast aluminium body with micro prismatic diffuser delivering UGR<19. P.F>0.95, THD<10%., Lumen>1600Lm, Efficacy is 110lm/w., Product Life 50000 Hr@L70. Digital Addressable Lighting Interface Dimmable.	Nos	2		



5	20W LED linear surface / wall mounted 4ft light fixture Made of ultra slim co-extruded aluminium channel with housing part in white finish & diffuser part in reeded opal finish,. Lumen >2100, Efficacy is 110 lm/w Product Life 50000 Hr@L70.	Nos	2		
6	20W LED linear surface / wall mounted 4ft light fixture Made of ultra slim co-extruded aluminium channel with housing part in white finish & diffuser part in reeded opal finish,. Lumen >2100, Efficacy is 110 lm/w Product Life 50000 Hr@L70.	Nos	3		
7	34W (600X600MM)LED recessed mounted 2 X 2 light fixtures made of CRCA powder coated white with micro prismatic diffuser delivering UGR<19. P.F>0.95, THD<10%.,High transmittance polystyrene opal diffuser .Lumen>3600, Efficacy is 120 lm/w, Product Life 50000 Hr@L70. Dimmable.	Nos	7		
8	40W LED Surface mounted light fixtures made of powder coated, elegantly designed pressure diecast aluminium body with micro prismatic diffuser delivering UGR<19. P.F>0.95, THD<10%., Lumen>4000Lm, Efficacy is 110lm/w., Product Life 50000 Hr@L70. Digital Addressable Lighting Interface Dimmable.	Nos	1		
9	10W LED Foot light fixture amde of oval shaped pressure die-cast aluminium housing & ring for sturdiness & corrosion resistant,Epoxy powder coated white after phosphochromate treatment.High quality polycarbonate diffuser in opal finish. Lumen> 1000, Efficacy is >100 lm/w, IP66, IK 07.	Nos	64		
10	10W BRACKET LIGHT Waterproof for outdoor lighting with 5 KV Surge Protection, CRI>80, pf> 0.9, 900 lumens complete with accessories	Nos	3		
11	10W LED bulkhead light fixture amde of oval shaped pressure die-cast aluminium housing & ring for sturdiness & corrosion resistant,Epoxy powder coated white after phosphochromate treatment.High quality polycarbonate diffuser in opal finish. Lumen> 1000, Efficacy is >100 lm/w, IP65, IK 06.	Nos	1		
12	9W LED linear surface / wall mounted 2ft light fixture Made of ultra slim co-extruded aluminium channel with housing part in white finish & diffuser part in reeded opal finish,. Lumen >1100, Efficacy is 110 lm/w Product Life 50000 Hr@L70.	Nos	15		
13	Ceiling Fan- 1200MM	Nos.	1		
14	Ceiling Fan- 900MM	Nos.	2		
15	Exhaust Fan : 450 mm sweep	Nos.	4		
<b>B</b>	<b>Lighting Fixtures (Surface/Recess)</b>				
	<b>Lighting Fixtures ceiling/wall mounted:-</b>				

1	Installation, testing & commissioning of pre-wired, LED fitting of all types, with all accessories and tubes etc., directly on ceiling/ wall, including supplying and fixing of ball and socket arrangement, 2 nos' down rod of 20mm diameter X1.6 mm thick steel conduit pipe upto 30 cm length, painting and wiring the down rod and connection with 1.5 sqmm PVC insulated copper conductor single core cable etc, as required.	Each	125		
2	Installation, testing and commissioning of ceiling fan and regulator, including wiring the down rod of standard length (upto 30 cm) with 2 X 1.5 sq.mm PVC insulated copper conductor single core cable etc. as required.	Each	7		
3	Installation of exhaust fan up-to 450mm sweeps in the existing opening, including making holes to suit the size of the above Exhaust fan, and making good the damage, connection, testing and commisioning etc, as required.	Each	4		
<b>TOTAL</b>					
<b>Sub Head -V - Data and TV points</b>					
1	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed Steel/ PVC conduit as required.				
1.1	1 run of cable	Metre	80		
2	<b>Telephone Inter-Connection</b>				
	Wiring in Parallel system with PVC Insulated Telephone cables for indoor applications conforming to TEC specifications G/WIR06/02 of different sizes as mentioned below running inside PVC conduit pipe(Heavy Duty) of different dia' fixed, recess inside the wall/ceiling/floor as per convenience including junction box having required numbers of ways inside the wall/ceiling/floor as per convenience Main to Sub-Main/DB, Sub-Main/DB to SDB/ Switch boards/SDB to switch boards as required:-				
2.1	0.5mm Two Pairs un armoured Telephone Cable Indoor type	Metre	40		
2.2	0.5mm Four Pairs un armoured Telephone Cable Indoor	Metre	1		
3	<b>Cable TV Inter Connection</b>				
	Wiring in parallel system with CATV co-axial cables- 75 Ohms(Jelly flooded, alluminium foil and alluminium wire braided) for indoor applications of different sizes as mentioned below running inside FRLS-PVC conduit pipe (Heavy Duty) 20mm dia' fixed, recess inside the wall/ceiling/floor as per convenience including junction box having required numbers of ways inside the wall/ceiling/floor as per convenience Main to Sub-Main/DB, Sub-Main/DB to SDB/ Switch boards/SDB to switch boards as required:-				
3.1	RG 6 (Foam) AL. FOIL + AL. BRAID	Metre	25		

3.2	RG 11 (Foam) AL. FOIL + AL. BRAID	Metr e	3		
<b>4</b>	<b>Supplying And Fixing Of Switch Boards( Modular Type) (Deco-II) Grade-I</b>				
	Supplying and fixing of modular switch board (Decorative Type) square/round mechanism of following sizes/modules on surface/recess including PVC/Steel boxes, modular plate and necessary switch plug/socket, and fan regulators etc. with necessary painting if necessary:-				
4.1	telephone socket 2 points	Each	2		
4.2	Information socket 6 UTP	Each	4		
4.3	1 TV socket	Each	1		
<b>5</b>	<b>Supplying And Fixing Of Switch Boards</b>				
	Supplying and fixing of FT metal box with Phenolic laminated/ Sunmica sheet cover of the following sizes on surface/ recess including necessary switches, plug/socket and fan regulators etc. with necessary painting if necessary:-				
	<b>4"X4" Switch Board (Ordinary)</b>				
5.1	1S	Each	7		
<b>6</b>	<b>Telephone/EPABX Junction Box</b>				
	Supplying, fittings of Telephone & EPABX Junction Boxes of different pairs as required:-				
6.1	Telephone & EPABX Junction Boxes 10Pairs with connector	Each	1		
<b>7</b>	<b>Supply, erection, testing and commissioning of following tap off / splitter as per specification in 1.6mm thick CRCA sheet steel enclosure for CATV system.</b>				
7.1	4 way splitter box	Each	1		
<b>8</b>	<b>Supplying and Fixing Of ISI Marked PVC Conduit (Heavy Duty)</b>				
	Supplying and fixing of following size of ISI Marked PVC conduit(Heavy Duty) along with accessories in surface/recess including painting in case of surface conduit,or cutting the wall and making good the same in case of recess, conduit as required.				
8.1	20 mm dia ISI marked PVC conduit pipe( Heavy Duty)	Metr e	5		
8.2	25 mm dia ISI marked PVC conduit pipe( Heavy Duty)	Metr e	15		
	<b>TOTAL</b>				
	<b>Sub Head -VI- Ups</b>				

1	Supply, installation, testing & commissioning of UPS system comprising of 1 Nos. 3 kVA ( 1 Phase input & 1 Phase output) units .The UPS should be double conversion; online DSP Technology based IGBT Rectifier and inverter with 30 min backup. The UPS should have internally fitted with SNMP interface that will provide real time status information. The batteries should be sealed maintenance free The package shall include battery bank, stands, cables between UPS and battery bank, interconnecting links and related accessories as per specifications				
1.1	3 kVA ( 1 Phase input & 1 Phase output) with 30 min backup	Set	1		
	<b>TOTAL</b>				
	Grant Total				

Rupees \_\_\_\_\_ only

**B3. PLUMBING**

<b>WORKS FOR PLUMBING WORKS</b>					
<b>Sl. No</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT</b>
<b>CHAPTER 1: SANITARY FIXTURES AND ALLIED REQUISITES</b>					
1.1	Providing and fixing vitreous china pedestal type water closet (EWC European type wc pan) with seat and lid, 10 litres low level flushing cistern including flash pipe with manually controlled device ( handle over ) confirming to is: 7231 with all fittings & fixtures complete ,including cutting & making good the walls wherever required .				
	White	Each	13		
1.2	Providing and fixing vitreous china Urinal flat back large 59 x 39 x 37.5cm of Parryware/ Hindware/ Cera and equivalent make with flush valve/spray with C.I or R.S brackets standard size of G.I flush pipe and C.P brass spreaders with brass unions and G.I clamps complete including painting of fittings and brackets, cutting and making good the walls and floors wherever required.				
	White	Each	8		
1.3	providing & fixing vitreous division plate 69*30cm size for urinals.				
	White	Each	8		
1.4	providing & fixing health faucet with flexible tube upto 1 meter long & holder of quality & make asapproved by engineer in charge.	Each	13		
1.5	Providing and fixing white vitreous china wash basin standard of parryware /hindware/cera & equivalent make with R,S OR C.I brackets ,15mm c.p brass pillars taps , c.p brass chain with rubber plugs,32mm c.p brass waste of standard pattern ,32mm c.p brass taps & union complete including painting & brackets cutting & making good the walls wherever required.				
	White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C. P. brass pillar taps.				
	White	Each	1		
1.6	providing & fixing CP brass 32mm size bottle trap of approved quality & make & as per the direction of engineer in charge.	Each	15		

1.7	Providing and fixing vitreous china Vanity Basins of size 56x45 (Under Counter) of Parryware/ Hindware/ Cera and equivalent make with R.S. or C.I. brackets, 15mm C.P. brass pillar taps, C.P. brass chain with rubber plugs, 32mm C.P. brass waste of standard pattern, 32mm C.P. brass traps and union complete including painting of fittings and brackets, cutting and making good the walls wherever required.				
	White				
	Vanity Basin of size 56x45 (Under Counter) with central hole basin mixer.	Each	15		
1.8	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS ;13983 with c.i brackets & stainless plug 40mm including painting of fitting & brackets ,cutting & marking good the walls wherever required :( hindware & equivalent)				
	Single Sink 610x510 mm with bowl depth of 200mm.	Each	1		
1.9	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing:	Each	15		
1.10	Providing and fixing anodised aluminium towel rail complete with brackets fixed to wooden cleats with c.p brass screws.				
	600x20mm size.	Each	13		
1.11	Providing and fixing toilet paper holder:				
	C.P. brass toilet paper holder of standard size.	Each	13		
1.12	Providing and fixing liquid soap container with C.P brass lid and brackets fixed to wooden cleats with c.p brass screws.				
	Soap dish chromium plated with brackets.	Each	15		
1.13	Providing & fixing soap dish fixed with c.p brass screws.	Each	13		
1.14	Providing and fixing chromium plated long neck pillar cock of approved quality.				
	15mm nominal bore .classik	Each	7		
1.15	Providing and fixing 15mm nominal bore c.p brass angle stop cock for basin mixer & gyser points of approved quality confirming to IS:8931.				
	Class 2	Each	51		
1.16	Providing and fixing chromium plated brass shower rose with 15 or 20mm inlet.				
	150mm dia CP brass shower rose.	Each	4		
1.17	Providing and fixing chromium plated brass close basin mixer pillar tap 15mm nominal bore for basin and geyser points of approved quality.				
	central hole basin mixer round spout without popup waste system	Each	8		

1.18	Providing and fixing chromium plated brass wall mixer 15mm nominal bore of approved make with necessary fittings including cutting & making good the wall .				
	Wall mixer non telephonic	Each	0		
1.19	Supply, installation, testing and commissioning of C.P.cast brass <b>twin coat hooks</b> fixed to wooden cleats with C.P.brass screws.	Each	13		
1.2	Supply, installation, testing and commissioning of C.P. brass <b>towel ring</b> fixed to Wooden / PVC cleats with C.P. brass screws	Each	15		
	<b>Sub-Total</b>				
	<b>CHAPTER 2: INTERNAL DRAINAGE</b>				
2.1	Providing and fixing on wall face SWR PVC soil, waste and vent pipes including jointing with rubber lubricant/cement solvent complete.				
	110mm dia.	mtr.	80		
2.2	Providing and fixing SWR PVC plain bend of required degree (87.50°) including jointing with rubber lubricant/cement solvent complete.				
	110 mm dia.	Each	21		
2.3	Providing and fixing SWR PVC plain bend of required degree (45°) including jointing with rubber lubricant/cement solvent complete.				
	110 mm dia.	Each	2		
2.4	Providing and fixing SWRPVC bend with access door of required degree including jointing with rubber lubricant/cement solvent complete.				
	110mm dia SWRPVC bend with access door.	Each	11		
2.5	Providing and fixing single equal SWR PVC plain junction of required degree with access door (T-junction)				
	110x110x110mm.	Each	2		
2.6	Providing and fixing SWRPVC plain junction of required degree (Y-junction) including jointing with rubber lubricant/cement solvent.				
	110 mm Y-junction.	Each	2		
2.7	Providing and fixing SWRPVC socket including jointing with rubber lubricant/cement solvent.				
	110mm dia socket.	Each	27		
2.80	Providing and fixing ventilation cowl including jointing with rubber lubricant/cement solvent complete.				
	110mm SWRPVC vent cowl	Each	2		
2.9	Providing and fixing W.C. connection bend type (siphon) (SWRPVC) including jointing with rubber lubricant/ solvent cement.	Each	13		

2.10	Providing and fixing upvc multi floor trap with floor trap grating including jointing with rubber lubricant/solvent cement.	Each	19		
2.11	Supplying, fixing, testing and commissioning of Heavy class <b>SS grating with Cockroach proof SS strainer</b> of approved design including setting in floor with cement motor to match with floor finish as per architect requirement suitable for FD and FT. a) Size 100mm x 100mm	each	19		
2.12	Supplying, fixing, testing and commissioning of <b>cast brass Floor Clean Out plug</b> with suitable insert keys for opening, male threaded joint with G.I. socket drip seal to soil pipe / waste pipe of C.I. pipe as required complete as per drawing, approved sample and direction by Engineer-in-charge.				
	100 mm dia	Each	4		
2.13	Supplying, fixing, testing and commissioning of Floor drain pvc 110x63od as required complete as per drawing, approved sample and direction by Engineer-in-charge.				
	100 mm dia	Each	8		
	<b>Sub-Total</b>				
	<b>CHAPTER 3: WATER SUPPLY</b>				
3.1	Providing and fixing on terrace (at all floor levels) Polyethylene storage tank of approved brand and manufacture with cover and suitable locking arrangement and making necessary connections for inlet, outlet and overflow pipes but without the fittings & the base support for tank.				
	sintex & equivalent	Lit.	2000		
3.2	Fixing water meter and stop cock in G.I. pipe line including cutting and threading the pipe and making long screws etc. complete (cost of water meter and stop cock to be paid separately).	Each	1		
3.3	Providing and fixing brass ball valve of approved quality complete with plastic floats complete.				
	20mm nominal bore	Each	2		
3.4	providing & fixing chlorinated polyvinyl chloride pipes having thermal stability for hot & cold water supply , including all cpvc plain & brass threaded fittings including bfixing the pipe with clamps at 1.00m spacing . This includes jointing of pipes & fittings with one step cpvc solvent cement & testing of joints complete as per direction of engineer in charge. (Internal Works - Exposed on wall)				
	15mm dia normal bore	mtr.	40		
	20mm dia normal bore	mtr.	95		
	25mm dia normal bore	mtr.	25		
	32mm dia normal bore	mtr.	11		



	40mm dia normal bore	mtr.	5		
	50mm dia normal bore	mtr.	230		
3.5	extra for concealed in brick & RCC works by making chases up to 7.5* 7.5 cm in walls & making good the same after housing pipes , etc.	mtr.	183		
3.6	Providing and fixing CPVC pipes having thermal stability for hot & cold water supply including all cpvc plain & brass threaded fittings . This includes jointing of pipes & fittings with one step cpvc cement solvent trenching refilling & testing of joints complete as per direction of engineer in charge. (External Works)				
	25mm dia nominal bore	mtr.	20		
	50mm dia nominal bore	mtr.	40		
3.7	Providing & Fitting Powder coated metal Strap/ holding clamps/ Clips with necessary metal fasteners and screws etc. complete				
	15/20/25 mm dia	Each	80		
	32/ 40/ 50mm dia.	Each	123		
3.8	Cutting holes upto 15*15 cm in rcc floors & roofs for passing drain pipe etc. & repairing the hole after insertion of drain pipe etc. with cement concrete ( 1cement: 2 coarse sand : 4 graded stone aggregate 20 mm nominal size aggregate ) including finishing complete so as to make it leak proof.	Each	40		
3.9	Providing & fixing in position 25 mm dia lawn hydrants consisting of 25 mm dia Ball valve, GI nipple and threaded hose receiver complete as required.	Each	12		
	<b>Sub-Total</b>				
	<b>CHAPTER 4: EXTERNAL STORM WATER AND SEWER</b>				
4.1	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality				
	H D - 20				
	Rectangular shape 600x600mm	each	10		
4.3	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
	200 mm diameter	metre	125		
	300 mm diameter	metre	15		
	<b>Sub-Total</b>				
	<b>CHAPTER 5: PUMPS AND ALLIED</b>				

5.1	<p>Supply, installation , testing &amp; commissioning Single/multistage monoblock pumping set with stainless steel CI stage casing and SS-304 impellers with stainless steel shaft and suction &amp; discharge casing as per IEC standards , connected to TEFC ventilated induction motor of 2 pole, 2900 RPM, suitable for 400/440 Volts, 3 phase, 50 Hz A.C. supply with glycerin filled pressure gauge and with gunmetal isolation valves, vibration elimination pads etc. complete with base and frame, nuts and bolts.</p> <p>All valves, RCC foundations and foundation bolts shall be paid seperately under relevant heads as per requirement and as per instructions . The vender shall submit performance curve and technical data sheet to the consultant prior to installation. The head versus discharge curve shall be on the rising side. including termination of cables on motor.</p> <p>Nos. of Pumps : 2Nos (1w+1s) : Transfer Pumps Flow Rate : 2 LPS Head : 30 mtr.</p>	Set	1		
	<p>Nos. of Pumps : 2 Nos (1w+1s) : Irrigation Pumps Flow Rate : 5 LPS Head : 30 mtr.</p>	Set	1		
5.2	<p>Supply, installation, testing and commissioning of continuous duty submersible centrifugal non-clogging drainage/sewage pumps complete with 3 phase motor with all necessary protection and mechanical seal etc. complete with all ancillaries including float type level controllers, electrical control panels fabricated from 14 gauge CRCA sheet volt meter ammeter with selector switch, TPMCB, 5 VA CL : CTs, phase indicating lamps protected by 2 amp SP MCB, DOL starter, necessary wiring, cable alleys, earthing, interlocking, starter with Automatic float type level controller, provision of high level alarm, sequence timer, potential free contact to starter for connection to BAS, both pumps may run simultaneously at pre determind level.</p>				
	<p>Nos. of Pumps : 2 Nos (1w+1s) : Irrigation Pumps in RWHP Flow Rate : 5 LPS Head : 25 mtr.</p>	Set	1		
	<b>Sub-Total</b>				

**Total**

Rupees \_\_\_\_\_ only

**B4. FIRE PROTECTION**

<b>Work Requirement for Fire Protection Works</b>					
<b>Sl. No</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT</b>
	<b>CHAPTER 1: PUMPS</b>				
1.1	Supply, installation, testing and commissioning of jockey pump (pressurisation pump) comprising of the following:				
	Horizontal mono-block Pumps, suitable for operation on 415 volts $\pm$ 6%, 3 phase, 50 HZ A.C supply. The installation shall be complete with Flexible coupling and coupling guard, complete as required. Jockey pump shall be of stainless steel construction. The pump head and base shall be CI GG20 construction and impellers, diffusers, shaft sleeve, seal bush & pump shaft shall be in SS 304 material. The pump shall be provided with mechanical seal The system shall be complete with necessary pressure gauge with gun metal shut off cock on delivery side (The pump should meet the condition and shall be gotten approved by the Local fire Authority).				
	Squirrel cage induction motor TEFC type for operation on 415 V, 3 phase 50 HZ AC supply for the above pump with a synchronous speed of 2900 R.P.M. with flexible coupling and coupling guard etc. as required. Base Plate for Pump and motor to be common base plate of MS channel of required size. The assembly to be mounted on spring isolator assembly. Capacity : 900 LPM Head : 45 mtr.	Set	1		
	<b>Sub-Total</b>				
	<b>CHAPTER 2: FIRE HYDRANT PIPING AND ACCESSORIES</b>				
2.1	Providing, laying, jointing, testing and commissioning of following sizes of pipes conforming to IS-1239 with all accessories like all fittings (standard MS fitting with welded joint shall be used on the pipes) including tees, elbows, reducers, union, flanges, rubber gaskets, GI nuts bolts, washer including supporting/fixing the pipe on floor / wall /ceiling with clamps, hangers (using anchor fastners) and painting of two coats of synthetic enamel paint over two coats of primer as per specification. G.I. pipe sleeve of suitable higher size shall be provided wherever the pipes are crossing the walls/floors and sealing the sleeves with glass wool in between & fire sealant compound at either end all as per Project Manager's / Consultants requirements including cutting holes and chases in brick, RCC work and making good the same to original conditions complete in all respects. All hangers, clamps, brackets etc. shall be of galvanized iron unless specified otherwise and then supply of the same shall also be included for rates under this head.				

	For wet riser System - MS 'C' Heavy class pipe				
	80 mm dia	mtr.	10		
	100 mm dia	mtr.	10		
	150 mm dia	mtr.	150		
2.3	Providing & fixing butterfly valve conforming to IS 13095 PN 16 (Body : Grey Cast Iron, Shaft : SS, Disc : SS, Liner : HT - EPDM) (upto 150mm dia with hand lever operation & above with gear box operation). Including rubber gasket, flanges nuts, bolts, washers & painting complete as required as per specification.(suitable for test pressure of 24 kg / sqcm)				
	150 mm dia	Each	5		
2.4	Providing, fixing, testing and commissioning of dual plate check valve (Body : Grey Cast Iron, Closure plate, bracket, hinge pin, washer, spring, set screw and plate : SS, seat : HT - EPDM) of pressure 16 Kg/sq.cm with flanges ( test pressure of 24 kg / sqcm), Nut,bolts & washers, painting etc. complete as required.				
	150 mm dia	Each	2		
2.5	Providing, fixing, testing and commissioning of CI 'Y' strainer for pressure of 16 kg / sq.cm with bronze perforated sheet basket including rubber gasket, flanges ( test pressure of 24 kg / sqcm), nuts, bolts and washers, panting of the same complete as required and suitable for system pressure.				
	150 mm dia	Each	1		
2.6	Providing, fixing, testing and commissioning of Stainless steel fire hydrant single landing valve with 80 NB flanged inlet, brass spindle controlled 63 mm dia female instantaneous outlet type. G.M coupling, blank cap, chain, twist release type lug & all accessories. Conforming to IS:5290. Including fixing with anchor fastner and flanged tapping from wet riser and providing pressure gauge with ball valve with all accessories, nuts, bolts, gaskets, painting complete as required.	Each	2		
2.7	Providing, fixing, testing & commissioning of swinging type First Aid hose reel in red colour drum ( LPCB approved) with 36.5 mts. long and 20 mm dia heavy duty rubber water hose, 20 mm dia Ball valve stop cock, terminating with G.M coupling & nozzle of 6mm outlet with shut off valve conforming to IS 8090 - 1976 complete with MS socket for tap-off, drum and brackets (including painting) for fixing on wall with anchor fastner, bolts & nuts conforming to IS:884-1969 complete as required.	Each	2		

2.8	Providing, fixing, testing & commissioning of Perlocating, hose pipe (as per IS : 8423) of 63 mm dia and length as described below. The hose shall be rated for burst pressure of 35.7 Kg/sqcm. Hose shall be complete with ISI marked brass male & female coupling (IS:903) bound & rivetted to hose pipe with copper rivets & 1.5 mm copper wire. (Internal fire hydrant)	Each	4		
2.9	Providing, fixing, testing & commissioning of 63 mm dia instantaneous pattern branch short Gun metal pipe, 19 mm dia nozzle conforming to IS 903, suitable for inter connection to hose pipe coupling complete as required.	Each	2		
2.10	Providing, fixing, testing & commissioning of standard firemans axe with heavy rubber handle.	Each	2		
2.11	Providing, fixing, testing & commissioning of dial type (100 mm) pressure gauge with isolation ball valve suitable for rating 0 to 250 PSI with no Syphon. Cost shall be inclusive of providing any short pieces, nipples, elbows etc as required.	Each	2		
2.12	Providing, fixing, testing & commissioning of Fire Cabinet fabricated from 40 x 40 x 5 angle iron sections and 14 gauge MS sheet with full front glass door, suitable to accommodate landing valves, 15 m long hoses, first-aid hose reel and branch pipe nozzle, fire extingui & fire mans' axe. The shutter shall be painted with one coat of primer and two or more coats of synthetic enamel paint of approved make and shade, as required (Approx 2.1 m (high) x 0.9 m (wide)x 0.6m (deep).				
	(Cost shall be inclusive of providing break glass box containing key for the cabinet along with hamer).	Each	2		
2.13	Providing, fixing, testing & commissioning of automatic Air release valve with 15mm dia stop cock, flanged inlet connection, pressure gauge with gun metal stop cock complete with all accessories as required and conforming to IS IS : 12992 (Part 1).	Each	2		
2.14	Providing and fixing of SS fire brigade 2-way connection (suction collecting head) consisting of 4 No. 63 mm dia instantaneous type male couplings with built-in swing check valves, 1 No. 150 mm dia Butterfly valve, 1 No. 150 mm dia non-return valve and 150 mm dia flanged outlet complete with bolts, nuts and rubber insertions as required and as per IS:904-1963.	Each	2		
2.15	Providing & fixing MS cabinet (to enclose above FB connection) fabricated from 16g MS sheet with full front glass door and locking arrangement duly painted with one coat of primer and two or more coats of stove enamel paint of approved make and shade and suitably mounted on a raised masonry platform as required (Approx 0.6m x 0.6m x 0.45m)	Each	2		
	<b>Sub-Total</b>				

<b>CHAPTER 3: FIRE EXTINGUISHERS</b>					
3.1	Providing & fixing ISI marked portable chemical fire extinguisher, water (gas pressure) type capacity 9 litres conforming to IS: 2878 with gun metal cap and nozzle and complete in all respects including initial fill and wall suspension brackets	Each	2		
3.2	Providing & fixing ISI marked (IS:2878) portable CO2 type fire extinguisher type 4.5 kg capacity. Including valve, discharge hose of not less than 10 mm dia & 1 M long complete in all respects including initial filled with CO2 gas conforming to IS:307-1966 & filled to a filling rate of not more than 0.667 and wall suspension bracket.	Each	2		
3.3	Providing & fixing of ABC Type, Portable Fire Extinguisher, dry powder type (Gas Cartridge) conforming to IS: 15683 : 2006 with cylinder initially fully charged with dry powder, ISI marked conforming to IS:15683 : 2006 complete with standard discharge valve with tube, CI bracket for wall mounting.				
	9 Kg	Each	2		
3.4	Mechanical Foam type Fire Extinguisher. In HP Mild Steel Cylinders ISI marked / approved fitted with pressure indicating gauge, internal tube, squeeze lever type valve fully charged complete in all respects including wall suspension bracket / trolley mounted and conforming to IS:910				
	9 Litres	Each	1		
	50 Litres (trolley mounted)	Each	1		
	<b>Sub-Total</b>				
	<b>Grant Total</b>				

Rupees \_\_\_\_\_ only

The Work of External Power Supply amounting to Rs. 35,77,000/- is to be out sourced to Power & Electricity Department, Government of Mizoram

The Work of External Water Supply (External Connection) amounting to Rs. 1,85,900/- is to be out sourced to Public Health Engineering Department, Government of Mizoram