



**NAYA RAIPUR DEVELOPMENT AUTHORITY**

**Tender Document for the  
Construction of State Election Commission Building, at  
North Block, Sector 19, Naya Raipur**

**(Following Three-Envelope Tender Procedure)**

**Schedule – A  
Price Tender  
To be submitted in ENVELOPE-3**

**NIT No.: 87 /SEC /EEC-IV / CE (E) / NRDA / 2014-15, Raipur,**

**Dated: 16.07.2014**

**Issued by:** Chief Executive Officer,  
Naya Raipur Development Authority (NRDA)  
1st floor, Utility block, Capitol Complex, Sector-19,  
Naya Raipur 492 002, Chhattisgarh  
E-mail: ceo@nayarapur.com

## Tender Document Contains

- (a) Only schedule "A" and Section-I of schedule "D" are to be filled & signed by the tenderer  
 (b) All the certificates as per pre qualification criteria shall be appended with relevant forms of schedule "D"

### 1. PART ONE (NRDA F-1)-(Attached herewith, to be submit along the tender)

#### Part (A)

- a) Press Notice  
 b) Detailed NIT

#### Part (B)

##### a) Schedule-A

- (i) Cost Abstract  
 (ii) Bill of Quantities

- b) Schedule-B –NIL  
 c) Schedule-C –NIL  
 d) Schedule-D

##### Section-I..... Technical tender forms

- (i) Letter of Technical Tender  
 (ii) Tenderer's Information Sheet  
 (iii) Annual Turnover  
 (iv) Specific Construction Experience  
 (v) Declaration  
 (vi) Check list for Technical tender evaluation

##### Section –II .....Scope of work

##### Section –III..... Technical specifications of work

##### Section –IV..... Special Conditions of Contract

##### Section –V..... List of approved makes

##### Section –VI..... Drawings

- e) Schedule-E  
 f) Schedule-F

### 2. PART TWO (NRDA F-2/3 )-Standard form (Not Attached herewith, and not to be submitted along the tender) Important note: - Link site <http://nayarapur.com/documents/gcc.pdf>

1. General Guidelines
2. Tender
3. General rules and directions
4. Conditions of contract
5. Clauses of contract
6. Model rules relating to labour, water supply and sanitation in labour camps safety code
7. Contract forms
  - (a) Draft Format for Performance Security
  - (b) Earnest Money Deposit Form (Bank Guarantee)
  - (c) Format of Contract Agreement
  - (d) Draft Format for Performance Guarantee for Water Proofing and Anti-termite Works
  - (e) Indemnity Bond
  - (f) Indenture Bond
  - (g) Notice for Appointment of Arbitrator
8. Proforma of schedules (Schedule 'A' to Schedule 'F')

# Naya Raipur Development Authority (NRDA)

## Raipur, Chhattisgarh

### Document details

**Name of work:** Construction of State Election Commission Building, at North Block, Sector 19, Naya Raipur

**Name of Tenderer:**

### Details

- a) Cost of Tender Document : Rs
- b) EMD : Rs

Signature of Tenderer

Date: \_\_\_\_\_

Signature of Contractor.....

Signature of NRDA.....

**COST ABSTRACT**

CONSTRUCTION OF STATE ELECTION COMMISSION BUILDING, AT NORTH BLOCK ,  
SECTOR 19, NAYA RAIPUR

SI.No	Description	Amount in Figures (In INR)	Amount in Words ( In INR)
A	CIVIL WORKS	-	
B	PLUMBING AND FIRE FIGHTING WORKS	-	
C	ELECTRICAL WORKS	-	
D	AIRCONDITIONING WORKS	-	
E	LANDSCAPE WORKS	-	
<b>TOTAL OF ALL WORKS</b>		<b>-</b>	<b>-</b>

**BILL OF QUANTITY**

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>A</b>	<b>CIVIL WORKS</b>					
<b>A-1</b>	<b>EARTH WORK EXCAVATION</b>					
<b>1</b>	Excavation in all types and sizes of foundations, trenches and drains or for any other purpose with all lead and lift including seperation of usefull soil for refilling including stacking & levelling of same, and disposal of surplus excavated stuff and spoils beyond NRDA boundries or as directed by Engineer/Architect In-charge including soring, dewatering, surface dressing, etc., complete as per direction of Engineer/Architect In-charge.					
<b>(a)</b>	In all types of soil	Cu.m	6,090.00			-
<b>(b)</b>	In ordinary rock	Cu.m	10.00			-
<b>(c)</b>	In hard rock requiring blasting	Cu.m	10.00			-
<b>2</b>	Filling from available excavated stuff (Excluding rock) in trenches, plinth, sides of foundation etc. in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering from deposited stack spoils as per direction of Engineer/Architect-In-charge.	Cu.m	1,505.00			-
<b>3</b>	Providing and filling in plinth in under floor in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, including dressing etc. complete.					
<b>(a)</b>	With sand/ Crusher	Cu.m	18.27			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
(b)	With Hard Mooram	Cu.m	18.27			-
4	Supplying chlorpyriphos/ Lindane emulsifiable concentrate of 20% in sealed containers including delivery as specified.	Ltrs.	220.00			-
5	Diluting chemical emulsion (Chlorpyriphos/ lindane) in water as per manufacturers recommendation and injecting for pre-constructional curative cum preventive anti-termite treatment: (Five year service guarantee bond to be signed by contractor)					
	Surface treatment by spreading emulsion under floor, over the plinth area before laying base concrete @ 5 litres/ sqm.	Sqm	1,095.00			-
6	Treatment of inside of plinth masonry wall on using diluted chemical emulsion @ 1.5 litre per hole, including drilling 12 mm diameter holes in plinth wall below plinth protection at the intervals of 300 mm and plugging with cement mortar 1 :2 (1 cement : 2 Coarse sand).	metre	136.00			-
7	Treatment of outer side of plinth masonry wall using diluted chemical emulsion @ 1.5 litre per hole, including drilling 12 mm diameter holes in plinth wall at the junction of floor at the intervals of 300 mm and plugging with cement mortar 1 :2 (1 cement : 2 Coarse sand).	metre	136.00			-
<b>A-2</b>	<b>PLAIN CEMENT CONCRETE WORKS</b>					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8	Providing and laying nominal mix cement concrete 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) with crushed stone aggregate using concrete mixer in foundation, plinth and at ground level excluding cost of form work including cost of all materials, labour,HOM of machinery,loading,unloading,transportation,curing,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Cu.m	393.00			-
9	Providing and laying nominal mix cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) with crushed stone aggregate using concrete mixer in all works excluding cost of form work including cost of all materials, labour,HOM of machinery,loading,unloading,transportation,curing,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Cu.m	21.00			-
10	Providing and laying nominal mix cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size) with crushed stone aggregate using concrete mixer in foundation, plinth and at ground level excluding cost of form work including cost of all materials, labour,HOM of machinery,loading,unloading,transportation,curing,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Cu.m	14.00			-
11	Providing and laying nominal mix cement concrete 1:5:10 (1 cement : 5coarse sand : 10 graded stone aggregate 40mm nominal size) with crushed stone aggregate using concrete mixer in foundation, plinth and at ground level excluding cost of form work including cost of all materials, labour,HOM of machinery,loading,unloading,transportation,curing,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Cu.m	190.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>A-3</b>	<b>MASONRY WORKS</b>					
<b>12</b>	Random rubble masonry with hard stone in foundation and plinth in Cement Mortar 1:6 (1 Cement : 6 Coarse Sand) including leveling up with cement concrete 1:6:12 (1 cement : 6 coarse sand: 12 stone aggregate 20mm nominal size) at plinth level including cost of materials, labour,HOM of machinery, curing,lead and lift charges,and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Cu.m	15.00			-
<b>13</b>	Brick work with modular fly-ash lime bricks (FALG Bricks) confirming to IS:12894-2002 of class designation 40 in foundation and plinth in:Cement Mortar 1:6 (1 cement : 6 coarse sand)	Cu.m	10.00			-
<b>14</b>	<b>Half Brick Masonary</b>					
<b>(a)</b>	Providing and Construction of Half brick masonry with non modular fly ash lime (FALG) bricks of class designation 10 (i.e 100Kgf/Cm2), conforming to IS : 12894, in super structure above plinth and upto floor V level including cost of materials, labour charges,soaking of bricks, scaffolding, curing ,all lead and lift charges ,and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	790.00			-
<b>(b)</b>	Extra for providing and placing in position hopping 25x1.60 mm or 2 Nos 6mm dia MS bars reinforcement at every fifth course of half brick masonry.	Sq.m	790.00			-
<b>15</b>	Brick work with non modular fly ash lime bricks (FALG Bricks) conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in :					
<b>(a)</b>	Cement Mortar 1:4 (1 cement : 4 coarse sand)	Cu.m	800.00			-



SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
(b)	Cement Mortar 1:6 (1 cement : 6 coarse sand)	Cu.m	25.00			-
<b>A-4</b>	<b>REINFORCED CEMENT CONCRETE</b>					
16	Providing and laying design mix reinforcement cement concrete M-25 (using minimum cement 410 kg/cum Concrete) with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump, in all works upto floor five level excluding cost of reinforcement and form work etc including cost of all materials.labour,HOM of machinery,curing,and all other incidental charges etc., complete as per design drawing . The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.					
	M-25 (using minimum cement 410 kg/cum concrete)	Cu.m	1,931.00			-
17	Providing and laying design mix reinforcement cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump, in all works upto floor five level excluding cost of reinforcement and form work. etc including cost of all materials.labour,HOM of machinery,curing,lead and lift charges ,and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work. .All types M-20 (using minimum cement 390 kg/cum Concrete)					
	M-20 (using minimum cement 390 kg/cum concrete)	Cu.m	98.50			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
18	Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @24 kgs ,with 12mm and down size graded metal coarse aggregate @0.5175 Cu.m and fine aggregate @0.345 Cu.m ,with superplasticiser @0.225 lts ,machine mixed well compacted for plain chajja of 7.5 cms ,average thickness,upto ground floor level including cost of all materials.labour,HOM of machinery,curing,lead and lift charges ,and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	13.00			-
19	Cutting circular holes in RCC works including slabs, beams, walls, columns and all types of masonry works using core-cutting equipment including disposal of debris, repair of cut hole to required size and finish and sealing penetration with epoxy seal, waterproofing etc complete. Rates to consider holes upto 200mm diameter.					
	In slabs [max thickness 400mm]	No's	42.00			-
	In beams [max depth 1200mm]	No's	5.00			-
	In walls [max thickness 400mm]	No's	10.00			-
<b>A-5</b>	<b>STEEL &amp; FABRICATION</b>					
20	Providing and placing in position thermo-mechanically treated (TMT) steel reinforcement for RCC work including cutting, bending, binding etc. complete as per drawings including cost of binding wire and including all wastages etc. complete. cost of materials, labour, HOM of machinery complete, lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.					
(a)	Thermo-mechanically treated (TMT) steel reinforcement	MT	235.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
(b)	Providing and fixing tapered/ parallel threaded couplers conforming to IS code on " Reinforcement Couplers for Mechanical Splices of Bars for Concrete Reinforcement - Specification", to reinforcement bars including therading, enlargement at connection by forging, protecting the prepared reinforcement bars and related operations as required to complete the works as per directions of the Engineer-in-Charge. (The length of bars in which coupler is to be provided should not be less than 4 metre, no deduction for labour and binding wire saved for not providing lap length shall be made).					
(i)	Coupler for 16 mm dia reinforcement bar	Each	10.00			-
(ii)	Coupler for 20 mm dia reinforcement bar	Each	15.00			-
(iii)	Coupler for 25 mm dia reinforcement bar	Each	20.00			-
(iv)	Coupler for 28 mm dia reinforcement bar	Each	5.00			-
(v)	Coupler for 32 mm dia reinforcement bar	Each	5.00			-
<b>A-6</b>	<b>CENTERING AND SHUTTERING FOR CONCRETE WORKS</b>					
21	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for <b>Foundations, footings, base of columns and plinth beam</b> in any shape and size. including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	1,118.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
22	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for <b>Columns, Pillars, Piers</b> and likes- rectangular or square in shape including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	1,885.00			-
23	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for <b>Stair cases of all types excluding spiral and folded plate type</b> , including risers and landings including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	33.00			-
24	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for <b>Wall of any thickness including attached pilasters, buttresses</b> etc including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	1,637.00			-
25	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for <b>Weather shade, chhajja, Cornices and mouldings</b> etc including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	15.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
26	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for <b>Suspended floors, roofs, access platform, balconies</b> (plain surfaces) and shelves (cast in situ) including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	4,268.00			-
27	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for <b>Beams, lintels, cantilevers &amp; walls</b> including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	2,885.00			-
28	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for <b>Edge of slab, breaks in floor and walls</b> upto 200mm. including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	181.00			-
29	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for <b>Stair cases of all types Spiral / folded plate type stair cases</b> including risers and landings including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	141.00			-
30	Extra for additional height every 1m or part thereof where height of staging for formwork exceeds 4.0 m, with adequate bracing, propping etc at all levels, for suspended floor, roof, landing, beam and balcony. (only plan area is to be measured)	Sq.m	4,130.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>A-7</b>	<b>DOORS, WINDOWS AND WOOD WORKS</b>					
<b>31</b>	<b>Wood Door Frames</b>					
<b>(a)</b>	Providing Burma Teak wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fastners of required dia & length (Hold fast lugs or dash fastener shal be paid for seperately) but including cost of materials,labour,HOM of mechaneries,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Cu.m	0.85			-
<b>(b)</b>	Providing And Fixing expandable fasteners of 50mm long size with necessary plastic sleeves and galvanised M.S Screws including drilling holes in CC/RCC/Masonry Works And Making Good .etc Complete including cost of materials,labour,HOM of mechaneries,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	No's	114.00			-
<b>32</b>	Providing and fixing in position doors, windows and ventilators frames made of cold rolled pressed steel sheet framed profiles made from commercial M.S. Sheets conforming to IS: 513 of 1973 and as per general specifications of IS: 4351 including hinges jamb, lock jamb, steel butt hinges, base tie, joints mitred and welded with 10 cm long legs of size 15 x 3mm M.S. flat, embedded in cement concrete blocks 15 x 10 x 10cm size of grade M-10 or rawl plugs and screws or with fixing clips or with bolts and nuts including neatly compacted filling M-10 cement concrete in profile section applying a priming coat of red oxide zinc chromate primer.					
	Single rebate 100mm x 50mm size, 1.6mm thick sheet.	R.m	325.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
33	Providing and fixing exterior grade type & phenoformaldehyde bound flush door shutters decorative type, core of block board construction with frame of first class hard wood and well matched approved veneering with vertical grains or cross bands and face veneers on both faces with grooves of shutters excluding hinges.					
	35 mm. thick (single leaf)	Sq.m	177.00			-
34	Extra for providing lipping with second class teak wood battens 25 mm minimum depth on all edges of flush door shutters (Overall area of door shutter to be measured):	Sq.m	177.00			-
35	Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors ( cost of glass excluded) (overall area of shutter to be measured)					
	Rectangular or Square	Sq.m	90.00			-
36	Providing and fixing glass panes in glazed or panelled and glazed shutters of doors and window, clerestory windows etc (area of shutter to be measured in case of full glazed shutter).					
	5mm thick	Sq.m	90.00			-
37	Providing and fixing factory made P.V.C. door frame of size 50x47mm with a wall thickness of 5mm, made out of extruded 5mm rigid PVC foam sheet mitred at corners and joined with 2 Nos of 150mm long brackets of 15x15mm M.S. square tube, the vertical door profiles to be reinforced with 19x19mm M.S. square tube of 19 gauge, EPDM rubber gasket weather seal to be provided through out the frame. The door frame to be fixed to the wall using M.S. screws of 65/100mm size complete as per manufacturers specification and direction of Engineer/Architect-in-Charge	R.m	168.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
38	Providing and fixing 30mm thick factory made panel PVC door shutter consisting of frame made out of M.S. tubes of 19 gauge thickness and size of 19mm x 19mm for styles and 15x15mm for top & bottom rails. M.S. frame shall have a coat of steel primers of approved make and manufacture . M.S. frame covered with 5mm thick heat moulded PVC 'C' channel of size 30mm thickness, 70mm width out of which 50mm shall be flat and 20mm shall be tapered in 45degree angle on either side forming styles; and 5mm thick, 95mm wide PVC sheet out of which 75mm shall be flat and 20mm shall be tapered in 45 degree on the inner side to form top and bottom rail and 115mm wide PVC sheet out of which 75mm shall be flat and 20mm shall be tapered on both sides to form lock rail. Top, bottom and lock rails shall be provided either side of the panel.					
	10mm (5mm x 2 ) thick, 20mm wide cross PVC sheet be provided as gap insert for top rail & bottom rail. paneling of 5mm thick both side PVC sheet to be fitted in the M.S. frame welded/ sealed to the styles & rails with 7mm (5mm+2mm) thick x 15mm wide PVC sheet beading on inner side, and joined together with solvent cement adhesive.An additional 5mm thick PVC strip of 20mm width is to be stuck on the interior side of the 'C' Channel using PVC solvent adhesive etc. complete as per Manufacturer's specification including 3 nos ISI marked stainless steel hinges of size 100x58x1.9 mm complete and all necessary hardwares. (for W.C. and bathroom door shutter).Both side Pre-laminated panel PVC door shutter with front design	Sq.m	60.00			-
39	Supply and fixing 12 mm thick Toughened Glass door with pivoted on floor spring (BTS -75V) with complete accessories, like floor strike plate top patch PT Series with the following features, a) One set of 300mm long pull handles of DORMA make b) One number Corner lock US10 of DORMA make with EPC ,Keys And Locks. c) Floor spring BTS-75V of DORMA make d) Lock keeper plate stainless steel strip of DORMA at the bottom of doors. including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work.					



Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	<b>Double Leaf</b>	Sq.m	67.00			-
<b>40</b>	Providing and fixing aluminium work for doors, windows, ventilators and partitions made out of extruded aluminium standard sections (main section with minimum 1.5mm thickness) conforming to IS: 733, IS: 1285 mitred and jointed mechanically including aluminium cleats, neoprene weather stripping gasket beveled edge beading, Locks, and other necessary accessories and screws duly fixed in wall/ floor with fixing clips or hold fasteners or bolts and nuts as required aluminium sections shall be anodized transparent or dyed to approved shade according to IS: 1868, minimum anodic coating shall be of grade AC-15. (Glazing and panelling to be paid for separately)					
<b>(a)</b>	For shutter of doors, windows & ventilators including providing and making provision for fixing of fitting wherever required including the cost of PVC/ neoprene	Kg	3,087.00			-
<b>(b)</b>	Extra for polyester powder coated (minimum 50 micron) aluminium sections instead of anodized	Kg	3,087.00			-
<b>41</b>	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete.					
	With float glass panes of 5 mm thickness	Sq.m	602.00			-
<b>42</b>	Extra for providing and fixing 5mm tinted glass panes in aluminium door, window, ventilator shutters and partitions instead of float glass.	Sq.m	37.00			-
<b>43</b>	Providing and fixing stainless steel butt hinges with necessary stainless steel screws etc complete.					
<b>(a)</b>	125x2.5mm (heavy)	Each	298.00			-
<b>44</b>	Providing and fixing stainless steel tower bolts (Barrel type) with necessary stainless steel screws etc complete					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	250x10mm	Each	150.00			-
	150x10 mm	Each	59.00			-
45	Providing and fixing stainless steel fixed stopper with necessary stainless steel screws complete.					
	60 mm long	Each	75.00			-
46	Providing and fixing Stainless steel "D" shape door handles made of 10mm dia rod with necessary stainless steel screws etc complete.					
	200 mm	Each	150.00			-
47	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc. complete:					
	Twin rubber stopper	Each	75.00			-
48	Providing & fixing S.S. finished brass 100mm mortice latch with one dead bolt and a pair of lever handle with necessary S.S. finished MS screws complete.	Each	75.00			-
49	Providing and fixing aluminium tower bolts (Barrel type) with necessary nickle plated iron screws etc complete.					
	200 x10mm	Each	58.00			-
50	Providing and fixing aluminium handles ISI marked anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc. complete:					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	125 mm	Each	58.00			-
<b>51</b>	<b>Toughened Glass Partitions</b>					
	Providing and fixing in position frameless Toughned glass partition walls made out of 12mm thick toughened glass held in position by wall connecting profile (securely version) by DORMA Make with or without openable glass door made out of 12mm thick toughened glass held in place by Universal range of patch fittings by DORMA including cost of all materials,U channel at bottom,Sealent, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work.	Sq.m	29.50			-
<b>52</b>	<b>Curtain wall glazing</b>					
	Supplying and fixing of Curtain glazing using approved colour powder - coated Aluminium sections of approved make of 56.3 mm x 77mm including tip x 2.25mm @ weight of 1.751 kg/mt [Jindal Section No- 22703] with flat [53mm x 10mm x 2mm @0.434 kg/mt {Section Jindal Section No-22711} ] and cap system ,with 6mm thick heat strenghened glass of approved colour .The cap profile shall be approved as per the architectural requirement.the horizontal member shall be of approved profile like V shape or any other shape and profile for the vertical members shall be flat shape system.if any other profile required to suit elevation requirement and site requirement,contractor to provide the same.The cost of the curtain glazing shall include providing & fixing glass with required accessories such as EPDM gaskets, fire stops between floors, silicon sealants around the frame, anchor plate,anchor bolts, drilling & fixing the curtain glazing frame to either masonry or reinforced cement concrete as the case may be according to site conditions. Completing the work in all respects including all necessary accessories like spacers, weather seals, smoke seal, stainless riction stays, handles, etc.,Openable will shall be made with suitable section including hinges,locks,etc complete[10% of total area to be considered for openable type window].contracor make one bay sample and get it approved from client/architect before further execution.					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	including the cost of all material, cost of labour, cost of equipment and machinery, all lead and lift, loading and unloading, transportation and all other incidental charges etc complete as per design Drawing. The work shall be carried out as per directions of Architect in charge of works.	Sq.m	88.00			-
<b>53</b>	<b>Frameless Suspended Glazing With Spider Fittings</b>					
	Design, Supply and installation of frameless glazed façade as per IS 875-part 3 and AS 1288-2006, suspended from top of the opening incorporating [6+1.52+6 mm] thk laminated toughened glass panels as per approved drawings, and 15 thk Toughened glass fins as stabilizers, used at each vertical joint to provide lateral stiffness against wind loading, deflections and other specified loads expected including suspension brackets, spider fittings of Dorma "PFF" series with 4,2,1 arm point supports and Flat Head bolts/Flat Head Articulated Bolts as per design. Necessary U channel to be provided at bottom of glass fittings such as dorma s.s brackets, Dorma PFFG series and other dorma suitable fittings.					
	The DORMA "PFF" series spiders shall be Curvilinear in design to reduce					
	The FHB/FHAB bolts shall be shall be SS316 grade with all necessary accessories. The Articulated bolts shall be seven part design with safety lock for the Articulation Housing.					
	The Contact between glass surface and metal shall be protected by using EPDM washers, the glass hole shall be protected from direct contact with the Metal by Derlin bush. A spring washer conforming to SS316 acts as a locking mechanism to secure nut in place ensuring full tightness for long period of time. All necessary accessories to be considered while quoting including support to be given wherever required for holding glass.					
	All fasteners, sealants and weather elements such as flashing, coping etc. shall be approved by the Architect/consultant to make the system completely water proof. Design calculations for the façade shall be furnished for approval to client /consultant. The above work complete in all respect as per approved drawings and to the Satisfaction of Architect – In – charge .	Sq.m	137.00			-
	Glass Unit- [6+1.52+6 mm] thk. Laminated toughened glass. Glass Fins -15 thk Toughened glass.					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
54	<b>Portico With Spider Fitting</b>					
	Design, manufacture, supply and installation of Portico with spider fitting with finishing/shading as per Architect approval incorporating glass panes 6+1.52+6mm [6mm Plain glass+1.52+6mm Performance SGG NANO OLIVE KT 455 SERIES glass ] thick clear float laminated toughned glass on MS structure used at each vertical /Horizontal joint to provide lateral stiffness against wind loading, deflections and other specified loads expected including frame work structural supports wherever necessary. Hardware of DORMA spider fittings with stainless steel bolts, screws, all weather elements such as flashing, coping, approved Dow Corning sealants, etc to make the system completely waterproof. All spider fittings should be designed to support the weight of the glass by direct bearing on the bolts wherein the structure should be designed as per the relevant codes and should be able to withstand the relevant thermal impacts.	Sq.m	33.50			-
	including all accessories, hardware cost of labour, cost of materials, lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work. [Structural Steel Quantity Not included in this item. which shall be paid relevant item]					
<b>A-8</b>	<b>FLOORING AND CLADDING</b>					
55	<b>Staircase - Granite Flooring</b>					
	15 mm thick Table rubbed polished <b>Black Granite stone slab</b> in risers and treads of steps skirting dado and pillars laid on 12mm (average) thick base of cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement slurry including rubbing and polishing etc. complete (single stone is to be used for risers and treads of steps and width of stone for skirting and dado shall be equal to the height of skirting & dado and length of 1.0 m).	Sq.m	167.00			-
	3mm V Grooves Treads And Landing	R.m	340.00			-
	Extra for nosing in Granite stone for treads.	R.m	223.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>56</b>	<b>Granite Flooring For Corridor &amp; Entrance lobby Area</b>					
(a)	Providing and Laying 15 mm thick Table rubbed <b>polished Granite stone</b> slab flooring laid over 20mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing etc. complete. (Area of slab should be 0.50 sqm and above) including cost of labours, cost materials, lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work. Sample to be approved by Engineer/Architect before laying.	Sq.m	592.00			-
(b)	Extra for laying of any type of stone in flooring in strips: Above 100 mm and upto 150 mm	Sq.m	592.00			-
<b>57</b>	<b>Granite Skirting</b>					
	Providing and laying Granite approved by Engineer / Architect for skirting of 100mm ht in CM 1:3 and 12mm thick mortar and jointed with grey cement slurry including rubbing and polishing including half round bull nosing including cost of labours, cost materials, lead and lift charges, curing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work. Sample to be approved by Engineer/Architect before laying.	R.m	303.00			-
<b>58</b>	<b>Cement Flooring</b>					
	Providing And Laying 50 mm thick concrete flooring with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm) finished with a floating coat of neat cement including cost of labours, cost materials, lead and lift charges, curing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Sq.m	323.00			-
<b>59</b>	<b>Vitrified Tile Flooring</b>					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Providing and laying vitrified floor tiles 600mm x 600mm with double charge/ multi charge printing with water absorption less than 0.5% and conforming to IS : 15622 of approved make in all colours and shades and size -600mm x 600mm mentioned below (+/- 10mm), laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc , complete including all lead, lift , at all levels and curing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work.Sample to be approved by Engineer/Architect before laying. Make List:Kajaria/Naveen/Johnson	Sq.m	1,525.00			-
<b>60</b>	<b>Vitrified Tile Skirting</b>					
	Providing and laying Vitrified tile skirting of 100mm ht with above specification of item 61 in CM 1:3 and 12mm / 1/2" thick mortar with groove and flush to the wall including cost of labours,cost materials,lead and lift charges ,curing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.Sample to be approved by Architect before laying.	R.m	1,073.00			-
<b>61</b>	<b>Ceramic Flooring For Toilets</b>					
	Providing and laying rectified ceramic glazed floor tiles for toilets of size 300x300mm or any other size conforming to IS : 15622 of approved make, colour, shade laid on 20 mm thick Cement Mortar 1:4 (1 cement : 4 coarse sand) including pointing the joints with white cement mixed with matching pigment etc., complete including cost of labours,cost materials,lead and lift charges ,curing ,acid washing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work. Sample to be approved by Engineer/Architect before laying.Make List:Kajaria/Naveen/Johnson	Sq.m	143.00			-
<b>62</b>	<b>Ceramic Tile Cladding For Toilets Wall</b>					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Providing and fixing ceramic glazed wall tiles for toilet and kitchen conforming to IS : 15622 of approved make, colours, shades and size on wall and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with matching pigment.necessary corner beading provided complete including cost of labours,cost materials,lead and lift charges ,curing ,acid washing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work.Sample to be approved by Engineer/Architect before laying.Make List:Kajaria/Naveen/Johnson	Sq.m	520.00			-
<b>63</b>	<b>Granite Platform for Hand Wash Basin</b>					
<b>(a)</b>	Providing and fixing 19mm thick Black Granite work (machine cut, table rubbed & mirror polished) for kitchen platform, vanity counters, window sills and similar locations of required size laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) including joints treated with white cement mixed with matching pigment including rubbing and polishing to edge moulding to give high gloss finish. including the cost of all material, cost of labour,cost of equipment and machinery,all lead and lift,loading and unloading,transportation and all other incidental charges etc complete as per design drawing.The work shall be carried out as per directions of Engineer/Architect in charge of the work.Sample to be approved by Architect before laying.	Sq.m	70.75			-
<b>(b)</b>	Extra for providing edge moulding to 15mm thick stone counters, vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.	Rm	231.00			-
<b>(c)</b>	Extra for making opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including making necessary holes for pillar taps etc. including rubbing and polishing of cut edges etc. complete	No's	30.00			-
<b>64</b>	<b>Glass Reinforced Concrete Jalli Work</b>					



SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Providing and fixing decorative <b>Glass Reinforced Concrete Jallis</b> [Single Side Finish] as per architectural approved design,colour,size and pattern of approved make white GRC ( <b>Glass Fibre reinforced Cement</b> ) in required shape, size & thickness all as per manufacturers specifications , complete as specified and as per directions of the architect and Engineer in charge. GRC items can be fixed on RCC/steelframes/masonry wall etc. depends upon site conditions and good quality of Anchor fasteners, SS screws, SS cleat angles,Clamps etc.to be used of approved size as per site conditions.Contractor to submit shop drawings for approval as per actual site measurements.Any othe missing accessories which are required to complete the work to be suitably assumed for complete execution of work.					
	The properties of GRC are :made up of using high power spray machine, Cem-fil manufactured AR Glass fiber with minimum ZrO2 17%,to achieve correct dimensions, shape and desired finish of GRC components imported Reckli Rubber and high quality FRP materials to be used for preparation of Moulds.Imported Alkali Resistance (AR) Glass Fiber with High Zirconia content (ZR2) to be more than 15%.The Polymers & Additives used must eliminate thermal shrinkage and expansion of GRC components . The Pigments to be used are in-organic in nature and are resistant to alkali and UV light.The finish of GRC item shall be as per Architectural requirements.Dry Density (as per ASTM-948) - 1.8 to 2.2 t/cum,Compressive Strength(as per ASTM-472,28 days)-35 to 65 N/mm2;Flexural Strength- 4 to 11 MPA and othe specification to be followed as per Manufacturer's instructions. complete including cost of labours,cost materials,lead and lift charges ,curing ,acid washing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work.	Sq.m	410.00			
65	<b>Flooring For Parking Area</b>					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
(a)	Providing and laying 52 mm thick cement concrete flooring with under layer of 40mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) and top layer of 12 mm thick cement metallic hardener concrete mix 1:2 (1 cement hardener mix : 2 stone aggregate of 6 mm size by volume) with metallic hardening compound of approved quality mixed with cement in ratio of 4:1 (4 cement : 1 metallic floor hardening compound by weight) including finishing etc. complete Including the cost of all material, cost of labour, cost of equipment and machinery, all lead and lift, loading and unloading, transportation and all other incidental charges etc complete as per design drawing. The work shall be carried out as per directions Engineer/Architect in charge of the work.	Sq.m	1,150.00			-
(b)	Extra for making chequers of approved pattern on cement concrete flooring, landing, pavement etc.	Sq.m	1,150.00			-
<b>66</b>	<b>Paving Tiles</b>					
	Providing and laying Chequerred precast cement concrete tiles 25 mm thick cement concrete grade M15, over laid with pre-polished cement concrete floor tiles conform to IS 1237:1980 (Reaffirmed in 1996) for heavy duty tiles (Exterior Grade) of 22-25mm thick "Light shade using white cement in footpath & courtyard jointed with neat cement slurry mixed with pigment to match the shade of tile including cleaning of joint etc complete on 20 mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) : etc., complete including all lead, lift , at all levels and curing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work. Sample to be approved by Engineer/Architect before laying.	Sq.m	1,451.00			-
<b>67</b>	<b>Kerb stone</b>					
	Providing and fixing kerb stones 100 mm thick and 600 mm wide chiesel dressed cut stones fixed in CC 1:3:6 (block size 250 x 225 mm ) including all excavation.	Rm	406.00			-
<b>68</b>	<b>Granite Cladding for Lift Walls</b>					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Providing and laying 15mm thick Granite work (machine cut, table rubbed & mirror polished) for wall lining (veneer work) in cement mortar 1:3 (1 cement : 3 coarse sand) including pointing with cement mortar 1:2 (1 white cement: 2 marble dust) mixed with matching pigment including cost of labours, cost materials, Grooves, edge polish, lead and lift charges, curing, acid washing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work. Sample to be approved by Engineer/Architect before laying.	Sq.m	168.00			-
<b>69</b>	<b>Vitrified Tile Cladding For Corridor Area</b>					
	Providing and fixing vitrified floor tiles 600mm x 600mm with double charge/multi charge printing with water absorption less than 0.5% and conforming to IS : 15622 of approved make in all colours and shades and size -600mm x 600mm mentioned below (+/- 10mm), over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with matching pigment. necessary corner beading provided complete including cost of labours, cost materials, lead and lift charges, curing, acid washing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work. Sample to be approved by Engineer/Architect before laying. List: Kajaria/Naveen/Johnson	Sq.m	300.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
70	<p>Providing and Applying decorative Stone Texture Paint of Approved Make as per architectural approved design,colour,size and pattern with following specification</p> <p>1.surface to be cleaned, dry and free from all loose particles, chalk, grease, fungi/algae and any falking paint.</p> <p>2.Use a fungicidal solution to fungus affected areas.Wash with clean water afterwards and allow the surface to completely dry before painting or priming.</p> <p>3.All the leakages and moisture retained walls must be treated before application.</p> <p>4.Freshly plastered surface must be allowed to cure completely to avoid any alkali attacks usually about 30 days.</p> <p>5.Apply one coats of wall sealer or acribond primer for porous areas.Allow it to dry for at least 4-6 hours.</p> <p>6.Apply one coat of Decoratex by Trowel/Spray(as recommended).Allow at least 16-18 hours for drying before application of the second coat by spray.</p> <p>7.Apply One coats of clear by spray as per recommendation.</p>					
	and othe specification to be followed as per Manufacturer's instructions. complete including cost of labours,cost materials,lead and lift charges ,curing ,acid washing and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer in charge of the work.	Sq.m	865.00			-
<b>A-9</b>	<b>PLASTERING AND PAINTING</b>					
71	<b>Internal Plastering</b>					
	<p>Providing 15mm thick cement plaster on the rough side of single or half brick wall in In Cement Mortar 1:4 (1 cement : 4 fine sand) ,to masonry including rounding off corners wherever required; Providing and removing scaffolding including the cost of all material,cost of labour,cost of equipment and machinary ,all lead and lift ,loading and unloading ,transportation and all ohter incidental charges etc complete as per design drawing.The work shall be carried out as per directions of Engineer/Architect in charge of works.</p>	Sq.m	9,530.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
72	<b>Ceiling Plastering</b>					
	Providing 12mm thick cement plaster in single coat with cement Mortar 1:3 (1 cement : 3 fine sand) to ceiling including rounding off corners wherever required ; Providing and removing scaffolding including the cost of all material, cost of labour, cost of equipment and machinery ,all lead and lift ,loading and unloading ,transportation and all other incidental charges etc complete as per design drawing.The work shall be carried out as per directions of Engineer/Architect in charge of works.	Sq.m	3,942.00			-
73	<b>External Wall Plastering</b>					
(a)	Providing 18mm thick cement plaster in two coats with under layer of 12mm thick plaster 1:5 (1 cement : 5 fine sand) and top layer of 6mm thick with cement plaster 1:3 (1 cement : 3 fine sand) finished rough with sponge.; Providing and removing scaffolding including the cost of all material, cost of labour, cost of equipment and machinery ,all lead and lift ,loading and unloading ,transportation and all other incidental charges etc complete as per design drawing.The work shall be carried out as per directions of Engineer/Architect in charge of works.	Sq.m	2,855.00			-
(b)	Extra for plastering of exterior walls when height exceeds 10m above ground level for every additional height of 3.0m or part thereof.	Sq.m	1,520.00			-
74	<b>Rough Plastering</b>					
	Providing 15mm thick cement plaster on the rough side of single or half brick wall in In Cement Mortar 1:4 (1 cement : 4 fine sand) ,to masonry for base of dadoing works with approved quality ,providing and removing scaffolding including the cost of all material, cost of labour, cost of equipment and machinery ,all lead and lift ,loading and unloading ,transportation and all other incidental charges etc complete as per design drawing.The work shall be carried out as per directions of Engineer/Architect in charge of works.	Sq.m	988.00			-
75	<b>Emulsion Painting For Wall &amp; Ceiling</b>					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Wall painting with acrylic luxury emulsion (plastic) paint (top most approved branded quality) to give an even shade.On new work (two or more coats)	Sq.m	13,472.00			-
76	Applying one coat of cement primer on wall surface.	Sq.m	15,928.00			-
77	Providing and applying 2mm thick ready mix exterior grade putty (Birla wall care, Alltek Superfine W/R of (NCL), J.K. wall putty) on walls to make the surface smooth and even.	Sq.m	15,928.00			-
78	Painting new exterior surface (two or more coats) with PREMIUM TEXTURED paint as per manufacturer's specifications to give protective and decorative finish including cleaning washing of surface etc. complete with:	Sq.m	2456.00			-
79	Painting on new work (two or more coats) to give an even shade with:					
	Satin synthetic enamel paint (top most approved branded quality)	Sq.m	1,575.00			-
80	Providing and laying Melamine polish on new wood work (two or more coats) with spray machine after preparing surface by rubbing down smooth with sand papers, preparation of surface, applying 5 to 10 coats of french sprit polish, applying two coats of Melamine sealer and finally applying two coats of Melamine clear as per manufacturers specifications complete:	Sq.m	354.00			-
<b>A-10</b>	<b>WATER PROOFING WORKS</b>					
81	<b>Water Proofing for Toilet</b>					
	Providing and laying water proofing treatment in sunken portion of WCs, bathroom, kitchen etc., by applying cement slurry mixed with water proofing cement compound consisting of following applications including surface preparation:					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	i)First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours.					
	ii) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound@ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.					
	etc. complete including cost of all material,cost of labour,cost of equipment and machinery ,all lead and lift ,loading and unloading ,transportation and all ohter incidental charges etc complete as per design Drawing.The work shall be carried out as per directions of Engineer/Architect in charge of works	Sq.m	210.00			-
<b>82</b>	<b>Waterproofing for Sump Floor And Basement Floor</b>					
	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures using rough Kota stone and consisting of:					
	i) 1st layer of 22mm to 25mm thick approved rough Kota stone slab over a 25mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 over the levelling course (levelling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound.					
	ii) 2nd layer of 25mm thick cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound.iii) Finishing top with stone aggregate of 10mm to 12mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the 2nd layer.					
	etc. complete including cost of all material,cost of labour,cost of equipment and machinery ,all lead and lift ,loading and unloading ,transportation and all ohter incidental charges etc complete as per design Drawing.The work shall be carried out as per directions of Engineer/Architect in charge of works	Sq.m	1,180.00			-
<b>83</b>	<b>Waterproofing for Sump Walls And Basement Floor Retaining Walls</b>					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Providing and laying integral cement based treatment for water proofing on the vertical surface at all levels by fixing 22 mm to 25mm thick rough Kota stone slab with cement slurry mixed with water proofing compound conforming to IS:2645 with a gap of 20mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with 20mm thick cement mortar 1:3 (1 cement : 3 coarse sand) with neat cement punning mixed with water proofing compound complete					
	etc. complete including cost of all material, cost of labour, cost of equipment and machinery, all lead and lift, loading and unloading, transportation and all other incidental charges etc complete as per design Drawing. The work shall be carried out as per directions of Engineer/Architect in charge of works	Sq.m	715.00			-
<b>84</b>	<b>Water Proofing on Terrace</b>					
	Providing and laying integral cement based water proofing treatment on roofs, balconies, terraces etc with average thickness of 120mm and minimum thickness at khurra as 65 mm, consisting of following operations including surface preparation:					
	i) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement mixed with water proofing compound conforming to IS. 2645 over the RCC slab including adjoining walls upto 300mm height.					
	ii) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) mixed with water proofing compound conforming to IS : 2645 over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand ) mixed with water proofing compound conforming to IS : 2645 to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.					
	iii) After two days of proper curing applying a second coat of cement slurry using 2.75kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645.					



Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	iv) Finishing the surface with 20 mm thick joint less cement mortar of mix 1:4 (1 cement :4 coarse sand) mixed with water proofing compound conforming to IS : 2645 including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3mm deep.					
	v) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order:					
	etc. complete including cost of all material, cost of labour, cost of equipment and machinery, all lead and lift, loading and unloading, transportation and all other incidental charges etc complete as per design Drawing. The work shall be carried out as per directions of Engineer/Architect in charge of works. Mode of measurement ; Plan area shall be measured.	Sq.m	1,180.00			-
<b>85</b>	Providing and placing in position suitable PVC water stops conforming to IS : 12200 for construction/ expansion joints between RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete including cost of all material, cost of labour, cost of equipment and machinery, all lead and lift, loading and unloading, transportation and all other incidental charges etc complete as per design Drawing. The work shall be carried out as per directions of Engineer/Architect in charge of works					
<b>(a)</b>	Serrated with central bulb (225mm wide, 8-11 mm thick)	Metre	135.00			-
<b>(b)</b>	Dumb bell with central bulb (180 mm wide, 8 mm thick)	Metre	10.00			-
<b>(c)</b>	Kickers (320 mm wide, 5 mm thick)	Metre	10.00			-
<b>86</b>	Grading roof for water proofing treatment with					
<b>(a)</b>	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	Cu.m	115.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
(b)	Cement mortar 1:4 (1cement : 4 coarse sand)	Cu.m	57.00			-
87	Providing and laying 3mm thick APP (Atactic Polypropylene Polymer) modified prefabricated five layer 3mm thick water proofing membrane, black finished reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 ltr/sqm. by the same membrane manufacture of density at 25°C, 0.87-0.89 kg/ltr and viscosity 70-160 cps. Over the primer coat the layer of membrane shall be laid using Butane Torch and sealing all joints etc., and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under :Joint strength in longitudinal and transverse direction at 23°C as 650/450N/5cm. Tear strength in longitudinal and transverse direction as 300/250N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane etc. complete including cost of all material, cost of labour, cost of equipment and machinery, all lead and lift, loading and unloading, transportation and all other incidental charges etc complete as per design Drawing. The work shall be carried out as per directions of Engineer/Architect in charge of works.	Sq.m	1,140.00			-
88	Extra for covering top of membrane with Geotextile, 120gsm non woven, 100% polyester of thickness 1 to 1.25mm bonded to the membrane with intermittent touch by heating the membrane by Butane Torch as per manufactures recommendation	Sq.m	1,140.00			-
<b>A-11</b>	<b>FABRICATION WORK</b>					
89	<b>Structural Steel</b>					
	Structural steel work riveted or bolted or welded in built-up sections, trusses and frames work upto a height of 5m above plinth level, including cutting, hoisting, fixing in position and applying a priming coat of red oxide zinc chromate primer etc., complete as per design drawing and direction of Architect in charge. The quoted rate shall include necessary scaffolding, lifting, erection, transporting at all levels .	Kgs	16,035.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>90</b>	<b>M.S Railing</b>					
	Providing and fixing approved pipe hand rail to walls (ramps, stair cases) including cutting chases and repairing the same to original condition, applying a priming coat of red oxide zinc chromate primer.including the cost of all material,cost of labour,cost of equipment and machinery ,all lead and lift ,loading and unloading ,transportation and all ohter incidental charges etc complete as per design Drawing.Contractror to submit shop drawing as per drawing and as per site conditions.The work shall be carried out as per directions of Engineer/Architect in charge of works .					
	M.S Pipe	Kgs	780.00			-
<b>91</b>	<b>M.S.Grill</b>					
	Providing and fixing M.S. grill of approved pattern made of M.S. flats or square or round bars welded to steel frame of windows etc. including applying a priming coat of red oxide zinc chromate primer.including the cost of all material,cost of labour,cost of equipment and machinery ,all lead and lift ,loading and unloading ,transportation and all ohter incidental charges etc complete as per design Drawing.The work shall be carried out as per directions of Engineer/Architect in charge of works .	Kgs	11,950.00			-
<b>92</b>	<b>M.S.Hand Pipe Railing</b>					
	Providing and fixing approved pipe hand rail by welding to iron railing including applying a priming coat of red oxide zinc chromate primer.. including ,cost of labour,cost of materials,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Kgs	375.00			-
	M.S Pipe					
<b>93</b>	<b>Stainless steel Railing</b>					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Providing stainless steel railing/ grill made of S.S. flats, hollow S.S. pipe or square/ rectangular sections of approved design fixing in stair case, balcony or other places with metal fasteners and stainless steel bolts etc complete.including ,cost of labour,cost of materials,lead and lift charges and all other incidental charges etc., complete as per design drawing. The work shall be carried out as per the direction of the Engineer/Architect in charge of the work.	Kgs	2,850.00			-
94	Providing and fixing M.S. fan clamp/ hook for ceiling fan made out of 16 mm dia M.S. bar bent to shape with hooked ends in R.C.C. slabs, beams during laying including painting the exposed portion of loop.	Each	76.00			-
<b>A-12</b>	<b>ROOFING AND CEILING</b>					
95	Providing and fixing False ceiling at all hieghts including providing and fixing framework made of special sections, power pressed from MS sheets and galvanized zinc coating of 120 gms/sqm (both side inclusive) asper IS : 277 and consisting of angle cleats of size 25mm wide x 1.6 mm thick with flanges of 27 mm and 37 mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastner 12.5 mm dia x 50 mm long with 6 mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50mm of required length with nuts and bolts of required size and other end of angle hanger fixed with intermediate GI channel 45x15x0.9 mm running at the spacing of 1200 mm c/c, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm c/c, shall be fixed in direction perpendicular to GI intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long GI wire at every junction,					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	including fixing perimeter channels of 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help rawl plugs t 450 mm centre, with 25 mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm ar 230 mm c/c, including jointing and finishing to flush finish of tapered and square edges of the board with recommended jointing compound, jointing tapes, finishing with jointing coumpound in 3 layers covering uoto 150 mm on both sides of the joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and directions of Engineers-in-Charge but excluding the cost of painting with:					
	12.5 mm thick tapered edge gypsum fire resistant board conforming to IS : 2095-Part 1	Sq.m	800.00			-
96	Providing and fixing Heat Resistant Terrace Tiles (300 mm x 300 mm x 20 mm) with SRI (solar refractive index) > 78, solar reflection > 0.70 and initial emittance > 0.75 on waterproof and sloped surface of terrace with 6mm joints, laid on 20 mm thick cement sand mortar in the ratio of 1:4 (1 cement : 4 coarse sand), including rubbing and polishing of the surface upto 3 cuts complete, including providing skirting upto 150 mm height along the parapet walls in the same manner and terminating skirting with approved GI flashing screwed to the parapet.	Sq.m	1,205.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
97	Providing and Fixing 15 mm thick densified tegular edged eco friendly light weight calcium silicate false ceiling tiles of approved texture spintone/cosmos / Hexa or equivalent of size 595 x 595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanising @ 120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38 mm made from 0.33 mm thick (minimum) sheet, spaced 1200 mm centre to centre, and cross "T" of size 24x28 mm made out of 0.33 mm (Minimum) sheet, 1200 mm long spaced between main'T' at 600 mm centre to centre to form a grid of 1200x600 mm and secondary cross 'T' of length 600 mm and size 24 x28 mm made of 0.33 mm thick (Minimum) sheet to be interlocked at middle of the 1200x 600 mm panel to from grid of size 600x600 mm, resting on periphery walls /partitions on a Perimeter wall angle pre-coated steel of size(24x24X3000 mm made of 0.40 mm thick (minimum) sheet with the help of rawl plugs at 450 mm centre to centre with 25 mm long dry wall screws @ 230 mm interval and laying 15 mm thick densified edges calicum silicate ceiling tiles of					
	approved texture (Spintone / Cosmos/hexa) in the grid, including, cutting/ making opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc., wherever required. Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm G.I. adjustable rods with galvanised steel level clips of size 85 x 30 x 0.8 mm, spaced at 1200 mm centre to centre along main 'T' , bottom exposed with 24 mm of all T-sections shall be pre-painted with polyster baked paint, for all heights, as per specifications,drawings and as directed by engineer-in-charge.fasteners, 4 mm G.I. adjustable rods with galvanised steel level clips of size 85 x 30 x 0.8 mm, spaced at 1200 mm centre to centre along main 'T' , bottom exposed with 24 mm of all T-sections shall be pre-painted with polyster baked paint, for all heights, as per specifications,drawings and as directed by engineer-in-charge.					
	Note :- Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made for exposed frames/opening (cut outs) having area less than 0.30 sqm.The calcium silicate ceiling tile shall have NRC value of 0.50 (Minimum), light reflection > 85%, non - combustible as per B.S. 476 part IV, 100% humidity resistance and also having thermal conductivity <0.043 w/m 0 KC.	Sq.m	700.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
98	Providing & Fixing of Suspended Ceiling System with ARMGYP FB [Square edge] EDGE TILES WITH XL 24 mm EXPOSED GRID. The tiles should have Thermal Conductivity k = 0.24 w/m K, Colour White, Fire Performance Class 0/Class1 (BS 476 Part 6&7) in module size of 600 X 600 X 9 mm . The grid should be of make with XL 24 mm wide T - section flanges colour white having rotary stitching on all T sections i.e. the Main Runner, 1200 mm & 600 mm Cross Tees . The T Sections have a Galvanizing of 120 grams per M2 & passed through 500 hrs of Salt test.					
	INSTALLATION: To comprise main runner spaced at 1200mm centres securely fixed to the structural soffit using suspension system (specifications below) at 1200mm maximum centre. The First/Last suspension system at the end of each main runner should not be greater than 450mm from the adjacent wall. Flush fitting 1200mm long cross tees to be interlocked between main runners at 600mm centre to form 1200 x 600 mm module. Cut cross tees longer than 600mm require independent support. 600 x 600mm module to be formed by fitting 600mm long flush fitting cross tees centrally between the 1200 mm cross tees.Perimeter trim to be wall angles of size 3000x19x19mm, secured to walls at 450 mm maximum centres.					
	SUSPENSION SYSTEM accessories manufactured and supplied by consisting of M6 Anchor Fasteners with Vertical Hangers made of Galvanised steel of size 26 x 26 x 25 x 1.2mm with a Galvanised Thickness of 80grm/ sq.m, A pre Straightened Hanger wire of dia – 2.68 mm of 1.83 m length., thickness of 80 g/sq.m and a tensile strength of 344-413 MPa, along with Adjustable hook clips of 0.8mm thick, galvanised spring steel for 2.68 mm with a minimum pull strength of 110 kg. The adjustable clip also consists of a 3.5 mm aquiline wire to be used with the main runner.including cost of all materials, labour,lead and lift charges and all other incidental charges etc., complete as per design drawing and directions of Engineer/Architect in charge of works	Sq.m	144.00			-
	<b>SUB TOTAL OF ALL CIVIL WORKS</b>					-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]



**BILL OF QUANTITY**

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>B</b>	<b>PLUMBING AND FIRE FIGHTING WORKS</b>					
<b>B-1</b>	<b>SANITARY FIXURES &amp; C.P. BRASS FITTINGS</b>					
1.1	Providing and fixing 15 mm nominal bore C.P copper connection pipe with C.P brass nuts collar and PVC bush of approved quality					
1.1.a	45 CM length	Each	30.00			-
1.2	Providing and fixing vitreous china wash basin with C.I. brackets, 32 mm C.P. brass waste of standard pattern, including painting of brackets, cutting and making good the walls wherever required :					
1.2.a	White Oval or round size 560x410mm.	Each	30.00			-
1.3	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink with drain board as per IS 13983 with C.I. brackets and stainless steel plug 40 mm including painting of fittings and brackets, cutting and making good the walls wherever required :					
1.3.a	510x1040 mm bowl depth 200mm.	Each	4.00			-
1.4	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 :					
1.4.a	5mm thick mirror	Sqm	30.00			-
1.5	Providing and fixing 15 mm nominal bore C.P. brass fittings of approved make and conforming to IS:8931 including C.P. brass extension if required:					
1.5.a	Bib cock (450gms)	Each	3.00			-
1.5.b	Long body bib cock (500gms)	Each	4.00			-
1.5.c	Two way bib cock (800gms)	Each	22.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
1.5.d	Angle valve for basin mixer and geyser points (450gms)	Each	30.00			-
1.5.e	Bottle trap set with extension pipes	Each	30.00			-
1.5.f	Toilet paper holder	Each	22.00			-
1.6	Angle valve for basin mixer and geyser points (450gms)	Each	22.00			-
1.7	Providing and fixing of white vitreous china extended wall mounted water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3/6 litre (adjustable to 4/8 litre), including seat cover and cistern fittings, nuts, bolts and gasket etc complete.	Each	22.00			-
1.8	Providing and fixing vitreous china battery based infrared sensor operated of urinal approx. size 610x390x370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturer specifications and direction of Engineer-in-charge	Each	21.00			-
1.9	Providing and fixing of 15 mm C.P. brass pillar cock auto closing system pressmatic taps (Make Jaquar Cat No. 031 or equivalent) for wash basins complete including cutting and making good the walls wherever required.	Each	30.00			-
1.10	Providing and fixing of 15 mm C.P. brass health foucet (Make Jaquar Cat No. 563 or equivalent) with C.P. brass flange complete, including cutting and making good the wall wherever required.	Each	22.00			-
1.11	Providing and fixing of C.P. brass twin coat hooks (Make Jaquar Cat No. 1161 or equivalent) fixed on toilet door with C.P. brass screws complete in all respects.	Each	22.00			-
1.12	Providing and fixing of 600x16 mm C.P. grab bar (Make Jaquar Cat No. 1507 or equivalent) complete with brackets fixed to PVC rawl plugs with C.P.brass screws.	Each	3.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
1.13	Providing and keeping in stores, shifting, of CP brass <b>liquid soap dispenser (Jaquar Cat No: A CN-1137N)</b> fixed on wooden cleats with CP brass screws & washers including drilling hole in walls with drill gun and making good the walls.	Each	22.00			-
1.14	Providing and fixing white vitreous china urinal partition with expandable anchor fasteners with C.P. brass bolts and washers complete, including cutting and making good the walls where required.					
1.14.a	Division plate Parryware Cat No. 0571 size 810mm or approved equivalent.	Each	15.00			-
<b>B-2</b>	<b>SOIL, WASTE, VENT AND R.W PIPES &amp; FITTINGS</b>					
2.1	Providing and laying nominal mix cement concrete with crushed stone aggregate using concrete mixer in all works upto floor five level excluding cost of form work.					
2.1.a	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size).	Cum	8.00			-
2.2	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1mx1mx400micron, finished with 12mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement rounding the edge sand making and finishing the outlet complete.	Each	10.00			-
2.3	Providing lead caulked joints to sand cast iron/ centrifugally cast (spun) pipes and fittings of diameter.					
2.3.a	150 mm	Each	10.00			-
2.3.b	100 mm	Each	368.00			-
2.3.c	75 mm	Each	4.00			-
2.4	Providing and fixing MS stays and clamps for sand cast iron/ centrifugally cast (spun) pipes of diameter.					
2.4.a	150 mm	Each	9.00			-
2.4.b	100 mm	Each	7.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2.5	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with paint of any colour over a coat of primer (of approved quality) for new work :					
2.5.a	150 mm diameter pipe	Metre	20.00			-
2.5.b	100 mm diameter pipe	Metre	300.00			-
2.6	Providing and fixing stainless steel drain jali of approved make/quality.	Each	46.00			-
2.7	Providing and fixing soil, waste and vent pipes.					
2.7.a	150 mm dia Centrifugally cast (spun) Iron Socketed pipe as per IS: 3989	Metre	20.00			-
2.7.b	100 mm dia Centrifugally cast (spun) Iron Socketed pipe as per IS: 3989	Metre	300.00			-
2.8	Providing and fixing plain bend of required degree.					
2.8.a	100 mm dia Centrifugally cast (spun) Iron S&S as per IS: 3989	Each	85.00			-
2.8.b	75 mm dia Centrifugally cast (spun) Iron S&S as per IS: 3989	Each	8.00			-
2.9	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts & nuts complete.					
2.9.a	100x100x100 mm Centrifugally cast (spun) Iron S&S as per IS: 3989	Each	12.00			-
2.10	Providing and fixing single equal plain junction of required degree.					
2.10.a	100x100x100 mm Centrifugally cast (spun) Iron S&S as per IS: 3989	Each	44.00			-
2.11	Providing and fixing terminal guard.					
2.11.a	150 mm Centrifugally cast (spun) Iron S&S as per IS: 3989	Each	1.00			-
2.11.b	100 mm Centrifugally cast (spun) Iron S&S as per IS: 3989	Each	3.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2.12	Providing and fixing trap of self cleasing design with screwed down or hinged with or without vent arm complete, including cost of cutting and making good the walls and floors.					
2.12.a	100 mm inlet and 100 mm outlet Centrifugally cast (spun) Iron S&S.as per IS: 3989	Each	37.00			-
2.13	Providing and fixing collar.					
2.13.a	100 mm Centrifugally cast (spun) Iron S&S.as per IS: 3989	Each	44.00			-
2.14	Providing and fixing double equal plain junction of required degree.					
2.14.a	Sand cast iron S&S as per IS - 3989-100x100x100x100 mm	Each	7.00			-
2.15	Providing and fixing of uPVC agricultural pipes conforming to IS:4985 Class III (6 kg/sqcm) including all fittings, e.g. couplings, tees, bends, reducers and screwed adoptors, plugs, unoins etc. and jointing with solvent cement joint including cutting and making good the floors and walls where required complete as per site. (for Waste Connections & Rain Water Pipes) ( KML Classic /Equivalent)					
2.15.a	40 mm O.D.	Meter	75.00			-
2.15.b	63 mm O.D.	Meter	45.00			-
2.15.c	110 mm O.D.	Meter	5.00			-
2.15.d	160 mm O.D.	Meter	115.00			-
2.16	Providing and fixing of uPVC Plain Floor Trap jointing with solvent including setting with cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 stone aggregate 20 MM nominal size) the inlet from floor level to trap rim to be grouted and cemented neat manner including cutting and making good the floor & wall wherever required complete in all respects.( KML Classic /Equivalent)					
2.16.a	110 mm O.D inlet & 63 mm O.D outlet.	Each	9.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2.17	Providing and fixing cast brass clean out plug with suitable insert keys for opening, male threaded joint with G.I. socket caulked to HCl soil pipe or C.I.(LA) pipe including cost of lead /drip seal joint as required.					
2.17.a	100 mm dia	Each	15.00			-
2.18	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes on wall surface, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.(For Sump Risers); ( KML Classic /Equivalent)					
2.18.a	75 mm dia. nominal bore	Metre	15.00			-
2.19	Providing and fixing of GI clamps with EPDM rubber lining Zinc plated for support of vertical soil, waste, vent and rain water pipes, embedded in walls with anchor fastner etc. including cost of cutting holes and making good the walls complete in all respects.					
2.19.a	For Pipes 100 mm dia.	Each	9.00			-
2.19.b	For Pipes 150 mm dia.	Each	27.00			-
2.20	Providing and fixing GI clevis type hangers for pipes running horizontal along ceiling level including require length of GI treaded rod, nuts, a dash fastener including necessary drilling in RCC slabs and beams etc complete in all respects.					
2.20.a	For Pipes 100 mm dia. With 12 mm dia. GI Rod	Each	45.00			-
2.20.b	For Pipes 150 mm dia. With 16 mm dia. GI Rod.	Each	10.00			-
2.21	Providing and fixing G.I. inlet fitting with 1 or 2 inlets fabricated from 100 mm dia G.I. pipes and welded G.I. sockets fixed to C.I. trap with lead caulked joint and set in cement concrete as per drawing complete.	Each	28.00			-
<b>B-3</b>	<b>WATER SUPPLY SYSTEM</b>					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
3.1	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes in concealed in wall, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints including cutting chases and making good the walls etc complete as per direction of Engineer in Charge.( KML Classic /Equivalent)					
3.1.a	15 mm nominal outer dia pipes	Metre	260.00			-
3.1.b	20 mm nominal outer dia pipes	Metre	190.00			-
3.1.c	25 mm nominal outer dia pipes	Metre	75.00			-
3.1.d	32 mm nominal outer dia pipes	Metre	12.00			-
3.2	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes in trenches, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This included jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.(For External DWS)( KML Classic /Equivalent)					
3.2.a	32 mm dia. nominal bore	Metre	10.00			-
3.2.b	40 mm dia. nominal bore	Metre	25.00			-
3.2.c	50 mm dia. nominal bore	Metre	-			-
3.2.d	62.5 mm dia. nominal bore	Metre	30.00			-
3.2.e	75 mm dia. nominal bore	Metre	90.00			-
3.4	Providing and laying in trenches 3 layer PP-R (Poly propylene Random copolymer) pipes SDR 7.4 U V stabilized & anti - microbial fusion welded, having thermal stability for hot & cold water supply including all PP - R plain & brass threaded polypropylene random fittings including excavation of trenches, refilling the same and testing of joints complete(For External FWS)					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
3.4.a	50 mm dia. nominal bore	Metre	30.00			-
3.4.b	75 mm dia. nominal bore	Metre	90.00			-
3.5	Providing and filling fine sand or coarser grade all-round the G.I./CPVC/PPR pipes in external work.					
3.5.a	32 mm dia.	Metre	10.00			-
3.5.b	40 mm dia.	Metre	25.00			-
3.5.c	50 mm dia.	Metre	30.00			-
3.5.d	65 mm dia.	Metre	30.00			-
3.5.e	80 mm dia.	Metre	180.00			-
3.6	Providing and fixing enclosed type water meter (bulk type) conforming to IS : 2373 and tested by Municipal Board complete with bolts, nuts, rubber insertions etc. (The tail pieces if required will be paid separately) :					
3.6.a	80 mm dia nominal bore	Each	2.00			-
3.7	Cutting holes upto 30x30 cm in walls including making good the same :	Each	100.00			-
3.8	Cutting holes upto 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including finishing complete so as to make it leak proof.	Each	30.00			-



Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
3.9	Constructing masonry Chamber 60x60x75 cm, inside with non modular fly ash lime bricks (FALG Bricks) conforming to IS:12894, class designation 10 average compressive strength in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm. top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design :	Each	4.00			-
3.10	Providing and fixing Ball valve with hard chrome plated ball inside PTFE (Teflon) seat & ring with chrome plated centre handle with female BSP threads complete in all respects.					
3.10.a	15 mm dia	Each	7.00			-
3.10.b	20 mm dia.	Each	8.00			-
3.10.c	25 mm dia	Each	9.00			-
3.10.d	32 mm dia	Each	18.00			-
3.10.e	40 mm dia	Each	10.00			-
3.11	Providing and fixing cast iron wafer type butterfly valves (PN-16) complete with 2 nos. matching flanges (Table-E),bolts, nuts, 3.0 mm thick insertion neoprene gasket.					
3.11.a	50 mm dia	Each	5.00			-
3.11.b	65 mm dia	Each	2.00			-
3.11.c	80 mm dia	Each	2.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
3.12	Providing and fixing motorised butterfly valve, IP- 67, with float type sensors suitable for 240 volts with working pressure rating of not less than 5kg/cm <sup>2</sup> , torque of motor should be capable to open and close valve at 5 kg/sq.cm pressure, with control panel and sensors to open valve when water level is low in tanks and to close when water level is high in water tanks including 03 Nos butterfly valves along with bypass piping, necessary cables, conduits, upto junction box ( upto 6 mt qty approx) etc. complete.					
3.12.a	32 mm dia	Each	1.00			-
3.13	Providing and fixing of cast iron dual plate wafer type check valves (PN-10) including 2 nos. matching flanges ( Table-E), nuts, bolts, 3.0 mm thick compressed gasket complete.					
3.13.a	80 mm dia	Each	2.00			-
3.14	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes on wall surface, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.(DWS Vertical in shaft & Terrace) ; ( KML Classic /Equivalent)					
3.14.a	20 mm nominal outer dia pipes	Metre	45.00			-
3.14.b	25 mm nominal outer dia pipes	Metre	60.00			-
3.14.c	32 mm nominal outer dia pipes	Metre	65.00			-
3.14.d	40 mm dia. Nominal bore	Metre	80.00			-
3.14.e	50 mm dia. Nominal bore	Metre	40.00			-
3.14.f	63 mm dia. Nominal bore	Metre	20.00			-
3.14.g	75 mm dia. Nominal bore	Metre	25.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
3.15	Providing and fixing on wall surface 3 layer PP-R (Poly propylene Random copolymer) pipes SDR 7.4 U V stabilized & anti - microbial fusion welded, having thermal stability for hot & cold water supply including all PP - R plain & brass threaded polypropylene random fittings including fixing the pipe with clamps at 1.00 m spacing, testing of joints complete..(fWS Vertical in shaft & Terrace)					
3.15.a	20 mm nominal outer dia pipes	Metre	10.00			-
3.15.b	25 mm nominal outer dia pipes	Metre	10.00			-
3.15.c	32 mm nominal outer dia pipes	Metre	10.00			-
3.15.d	50 mm dia. Nominal bore	Metre	10.00			-
<b>B-4</b>	<b>GARDEN IRRIGATION SYSTEM</b>					
4.1	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes in trenches, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This included jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.( KML Classic /Equivalent)					
4.1.a	25 mm nominal outer dia pipe	Metre	50.00			-
4.1.b	75 mm nominal outer dia pipe	Metre	275.00			-
4.2	Constructing masonry Chamber 30x30x50 cm, inside with non modular fly ash lime bricks (FALG Bricks) conforming to IS:12894, class designation 10 average compressive strength in cement mortar 1:4 (1 cement : 4 coarse sand) for stop cock, with C. I. surface box 100x100 x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 ( 1 cement : 5 fine sand:10 graded stone aggregate 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick finished with a floating coat of neat cement complete as per standard design :	Each	16.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
4.3	Providing and filling fine sand or coarser grade all-round the G.I./CPVC pipes in external work.					
4.3.a	25 mm diameter pipe.	Metre	50.00			-
4.3.b	80 mm diameter pipe.	Metre	275.00			-
4.4	Providing and fixing Ball valve with hard chrome plated ball inside PTFE (Teflon) seat & ring with chrome plated centre handle with female BSP threads complete in all respects.					
4.4.a	25 mm dia	Each	16.00			-
4.5	Providing and fixing cast iron wafer type butterfly valves (PN-16) complete with 2 nos. matching flanges (Table-E),bolts, nuts, 3.0 mm thick insertion neoprene gasket.					
4.5.a	80 mm dia	Each	2.00			-
<b>B-5</b>	<b>SEWERAGE SYSTEM</b>					
5.1	Excavation for all types and sizes of foundations, trenches and drains or for any other purpose including disposal of excavated stuff upto 1.5 m lift and lead upto 50m (at least 5m away from the excavated area), including dressing and leveling of pits.					
5.1.a	In all types of soil	Cum	488.00			-
5.2	Extra for every additional lift of 1.5 m or part thereof.					
5.2a	All types of soil	Cum	778.00			-
5.3	Filling from available excavated stuff (Excluding rock) in trenches, plinth, sides of foundation etc. in layers not exceeding 20cm in depth consolidating each deposited layer by ramming and watering with a lead upto 50 M. and lift upto 1.5 M.	Cum	151.50			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
5.4	Providing,laying and jointing following P.V.C.-U pipes with solvent cement join for Non pressure gravity drain and sewer applications including testing of joints, cost of jointing materials etc. complete in all respect. [Conform to IS: 15328 : 2003, solvent cement shall Conform to IS 14182]. SN-8; ( KML Classic /Equivalent)					
5.4.a	160 mm dia.	Metre	15.00			-
5.4.b	250 mm dia.	Metre	75.00			-
5.5	Providing and laying Cement concrete grade M-5 (Nominal Mix) with 40 mm nominal size stone aggregate around S.W.pipe including bed concrete 15cm thick/c curing, testing etc. complete for 100mm dia.to 300mm dia pipe.(For type" Concrete Around") Drawing No. 8 (2)					
5.5.a	150 mm dia.	Metre	15.00			-
5.5.b	250 mm dia.	Metre	75.00			-
5.6	Providing and fixing SW gully trap complete with CI grating ,Brick masonry chamber in cement mortar 1:4 (1 cement: 4 fine sand) water tight CI cover with frame size of 30x30 cm size including necessary Excavation,cement concrete grade M-5 (NominalMix) with stone aggregate 40mm nominal size,fixing CI cover with frame in Cement concrete grade M-15 (Nominal Mix) with stone aggregate 20mm nominal size,12mm thick cement plaster 1:2(1 cement:2 coarse sand) finished with a floating coat of neat cement complete.					
5.6.a	180x150mm size "P" or "S" type	Each	9.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
5.7	Construction of circular type manhole 900 mm internal dia. at bottom, 560 mm dia at top total depth of manhole 900 mm in non modular fly ash lime bricks (FALG Bricks) conforming to IS:12894, class designation 10 average compressive strength masonry with 1:5 cement mortar (1 cement : 5 fine sand), 12 mm thick Cement plaster 1:3 (1 cement : 3 coarse sand ) finished with a floating coat of neat cement .22.5 cm foundation in cement concrete grade M-10 (Nominal Mix ) with stone aggregate 40 mm nominal size, RCC top slab cement concrete M-20 (Nominal Mix ) with stone aggregate 20 mm nominal size and making channel in cement concrete grade M-15 (Nominal Mix ) with stone aggregate 20 mm nominal size neatly finished, curing fixing of ISI marked heavy duty SFRC cover etc. complete as per standard design.	Each	21.00			-
5.8	Extra for increasing depth of manhole mentioned at Item No.23.5 from depth of 900 mm to 1650 mm.	Metre	7.50			-
5.9	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910 on 12mm dia steel bar conforming to IS : 1786 having minimum cross section as 23 mmx25mm and over all minimum length 263 mm and width as 165mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Each	147.00			-
5.10	Making connection of drain or sewer line with existing service lines manhole including breaking in to and making good the walls, floors etc. with cement concrete grade M-15 (Nominal Mix ) with stone aggregate 20 mm nominal size plastered with Cement Mortar 1:3 (1 Cement : 3 coarse sand ) finished with a floating coat of neat cement and making necessary channels etc. complete.					
5.10.a	For 250 to 300 mm dia pipes	Each	1.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
5.11	Excavating trenches of required width for pipes, cables etc. including excavation for sockets and dressing of sides, ramming of bottoms, depth upto 1.5 M including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cms in depth including consolidating each deposited layer by ramming, watering etc. and disposing of surplus excavated soil as directed, within a lead of 50 m. <b>All kinds of soil.</b>					
5.11.a	Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia. Metre	Metre	90.00			-
<b>B-6</b>	<b>EXTERNAL STORM WATER DRAINAGE SYSTEM</b>					
6.1	Making connection of drain or sewer line with existing service lines manhole including breaking in to and making good the walls, floors etc. with cement concrete grade M-15 (Nominal Mix ) with stone aggregate 20 mm nominal size plastered with Cement Mortar 1:3 (1 Cement : 3 coarse sand ) finished with a floating coat of neat cement and making necessary channels etc. complete.					
6.1.a	For pipes 350 to 450 mm diameter	Each	1.00			-
6.2	Road Gully Chambers:-Construction of Brick masonry road gully chambers with brick work in cement mortar1:5 (1 cemen t: 5 fine sand) and 12 mm plaster1:3 including foundation in cement concrete 1:5:10 (1 cement :5 fine sand : 10 stone aggregate 40mm nominal size).					
6.2.a	Chamber 50x45x60 cm with 500x450 mm CI Horizontal grating with frame.	Each	35.00			-
6.3	Excavating trenches of required width for pipes, cables etc. including excavation for sockets and dressing of sides, ramming of bottoms, depth upto 1.5 M including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cms in depth including consolidating each deposited layer by ramming, watering etc. and disposing of surplus excavated soil as directed, within a lead of 50 m. <b>All kinds of soil.</b>					
6.3.a	Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia. Metre	Metre	220.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
6.40	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) up to haunches of S.W. pipes including bed concrete as per standard design :					
6.10.a	150 mm dia. R.C.C. pipe	Metre	10.00			-
6.10.b	250 mm dia. R.C.C. pipe	Metre	210.00			-
6.10.c	300 mm dia. R.C.C. pipe	Metre	10.00			-
6.5	Providing and Laying non-pressure (NP3) RCC socket & spigot pipes with rubber gasket joint including testing of joints .[Conforming to IS ; 458-1988, ISI marked laying as per IS 783:1985)					
6.5.a	250 mm dia. R.C.C. pipe	Metre	210.00			-
6.5.b	300 mm dia. R.C.C. pipe	Metre	10.00			-
<b>B-7</b>	<b>RAIN WATER HARVESTING SYSTEM</b>					
7.1	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:					
7.1.a	Suspended floors, roofs, access platform, balconies (plain surfaces) and shelves (cast in situ)	Sqm	20.00			-
7.2	Providing and laying nominal mix cement concrete with crushed stone aggregate using concrete mixer in foundation, plinth and at ground level excluding cost of form work.					
7.2.a	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size).	Cum	25.00			-
7.2.b	1:2:4 ( 1cement : 2 Coarse sand : 4 graded stone aggregate 20 mm nominal size )	Cum	5.50			-
7.3	Providing and placing in position reinforcement for R.C.C. work including straightening, cutting, bending, binding etc. complete as per drawings including cost of binding wire all complete:					



Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
7.3.a	Thermo-Mechanically treated bars	Kg	1,275.00			-
7.4	Brick work with non modular fly ash lime bricks (FALG Bricks) conforming to IS:12894, class designation 10 average compressive strength in foundation and plinth in:					
7.4.a	Cement Mortar 1:4 (1 cement : 4 coarse sand)	Cum	80.00			-
7.5	Providing and fixing in position precast circular 560mm internal dia SFRC/R.C.C. manhole cover or cover and frame of approved quality:					
7.5.a	Cover and frame H D - 20	Each	4.00			-
7.6	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer –in-charge, upto 90 metre depth below ground level.					
7.6.a	All types of soil-400 mm dia.	Metre	160.00			-
7.70	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer –in-charge.					
7.7.a	200 mm nominal size dia.	Metre	20.00			-
7.8	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
7.8.a	200 mm nominal size dia.	Metre	140.00			-
7.9	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	Cum	12.00			-
7.1	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	Cum	12.00			-
7.11	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer –in-charge.	Cum	12.00			-
7.12	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	Cum	10.00			-
<b>B-8</b>	<b>WATER SUPPLY AND DRAINAGE PUMPS</b>					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8.1	Providing, installing, testing and commissining of factory assembled variable speed hydropneumatic system mounted on a common base plate comprising of Two Nos. vertical centrifugal pumping set with S.S body, stainless steel impeller and mechanical seal, shaft directly coupled to a TEFC induction motor suitable for 400/440 volts, 3 phase, 50 cycles AC supply with 150 mm dia pressure gauge with gunmetal isolation cock, vibration eliminating pads under foundation, one No. microprocessor based controller ( shall be listed by and bear the level of underwriters laboratory inc. ( UL), one No. variable frequency drives ( Make: Danfoss/ABB) transmitters, sequence running cotroller, dry running Protection,motor control centre, necessary power and control cabling from MCC to pumps including required rating of MCB, required capacity M.S diaphragam tank with interchangeable butyl rubber membrane,complete in all respects including stainless steel grade 316 suction and delivery headers with required dia pipe and valves					
<b>8.1.a</b>	<b>For Domestic Water Supply</b>					
	Set of two pumps (1 Working + 1 Standby)					
	Capacity - 3.5 LPS (Each)					
	Head - 40.0 M.	Set	1.00			-
<b>8.1.b</b>	<b>For Flushing Water Supply</b>					
	Set of two pumps (1 Working + 1 Standby)					
	Capacity - 4.5 LPS (Each)					
	Head - 40.0 M.	Set	1.00			-
8.3	Providing, installing, testing and commissining of Vertical centrifugal pumping set (Imported) with S.S body and stainless steel impeller, mech. seal, connected to a TEFC induction motor suitable for 400/440 volts, 3 phase 50 cycles AC supply with sequence running cotroller, dry running Protection, 150 mm dia pressure gauge with gunmetal isolation cock, vibration eliminating pads under foundations, 80x40 mm I section base plate bolted to cement concrete foundations complete.( Make : Grundfos/Equivalent)					
<b>8.3.a</b>	<b>Irrigation Pumps</b>					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Set of two pumps <b>(1 Working + 1 Standby)</b>					
	Capacity - 4.0 LPS					
	Head - 40.0 M.	Set	1.00			-
8.4	Providing, installing, testing and commissioning of submersible single stage single entry pumps with C.I.body and C.I. two vane enclosed type impeller connected to TEFC submersible motor for 415 volts, 3 phase, 50 cycles A.C. power supply with mechanical seal, pump connector unit with rubber diaphragm and bend, vertical discharge pipe, guide pipe and chain in built level controller, sequence running controller, dry running Protection complete in all respects. ( Make : Grundfos/Equivalent)					
	<b>(Pumps shall be installed in a set of two pumps One working and One standby)</b>					
8.4.a	<b>Basement Drainage Pumps</b>					
	(Pumps to be suitable to handle solids upto 10 mm size)					
	Capacity- 225 LPM (Each)					
	Head - 15 M					
	H.P. - 2 HP Approx.	Set	1.00			-
8.4.b	<b>Drainage Pumps at Pump Room</b>					
	(Pumps to be suitable to handle solids upto 10 mm size)					
	Capacity- 225 LPM (Each)					
	Head - 15 M					
	H.P. - 2HP Approx.	Set	1.00			-
8.5	Providing and fixing G.I.pipes to I.S. 1239 (Heavy class) with G.I. fittings, flanges & clamps, including cutting and making good the walls etc. complete.					
8.5.a	40 mm dia	Metre	25.00			-
8.5.b	50 mm dia	Metre	30.00			-
8.5.c	65 mm dia	Metre	50.00			-
8.5.d	80 mm dia	Metre	40.00			-
8.5.e	100 mm dia	Metre	60.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8.5.f	150 mm dia	Metre	20.00			-
8.6	Painting G.I. pipes (heavy class) with two or more coats of synthetic enamel paint of approved quality and shade over a coat of approved priming coat as directed by the Engineer-in-charge (shade as per pipe colour code).					
8.6.a	40 mm dia	Metre	25.00			-
8.6.b	50 mm dia	Metre	30.00			-
8.6.c	65 mm dia	Metre	50.00			-
8.6.d	80 mm dia	Metre	40.00			-
8.6.e	100 mm dia	Metre	60.00			-
8.6.f	150 mm dia	Metre	20.00			-
8.7	Providing and fixing cast iron water type butterfly valves (PN-16) complete with 2 nos. matching flanges (Table-E),bolts, nuts, 3.0 mm thick insertion neoprene gasket.					-
8.7.a	50 mm dia	Each	4.00			-
8.7.b	65 mm dia	Each	4.00			-
8.7.c	80 mm dia	Each	2.00			-
8.7.d	100 mm dia	Each	2.00			-
8.8	Providing and fixing of cast iron dual plate wafer type check valves (PN-16) including 2 nos. matching flanges ( Table-E), nuts, bolts, 3.0 mm thick thick insertion neoprene gasket.					
8.8.a	50 mm dia	Each	4.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8.9	Providing & fixing resilient rubber neoprene lined style arch vibration eliminators suitable for raw water upto pressure 20 kg/cm <sup>2</sup> .					
8.9.a	50 mm dia	Each	4.00			-
8.9.b	65 mm dia	Each	4.00			-
8.10	Providing and fixing CI Y type suction strainer with gunmetal or brass internal parts installed outside water tanks.					
8.10.a	100 mm dia	Each	2.00			-
8.11	Design, manufacture, Supply, Installation, Testing & Commissioning of following wall mounted Starter Panel fabricated from 14 gauge CRCA sheet for load bearing member & 16 gauge CRCA sheet for non-load bearing members, dust and vermin proof with galvanized hardware interconnection wiring complete in all respects.					
<b>8.11.a</b>	<b>For Sump Pump</b>					
	<b>Incoming:-</b>					
	One incoming main TPN MCB of 40 amp, 10 KA required rating.					
	Fully taped aluminum TPN 63 Amp. bus bar / copper wire of suitable size.					
	1 no. voltmeter with VSS.					
	3 Nos. LED type Phase indication lamps (R,Y,B) with 2A control MCB					
	one set of LED type ON, OFF indication lamps. (R,G)					
	<b>Outgoings:-</b>					
	02 Nos. TPN MCB of 20 A with 10 KA service breaking capacity for sump pump.					
	Two ampere meters one for each motor with ASS					
	02 Nos. Auto DOL Starter for 3.0 HP motor. Each shall have Auto/ Manual selector switch, over load relay, single phasing preventor, ON/OFF/ Trip indication lamps, ON/OFF push Buttons, contactor.					
	Space for one liquid level controllers.					
	All internal wiring colour coded from incoming mains to various switchgear, starter, meter, indicating lamp and bus bar. All the cable entry to the panel shall be from the top. (The shop drawing to be prepared and approved before fabrication)					
	Motor control centre as described above	Set	2.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>8.11.b</b>	<b>For Water Supply Pumps (At Pump Room)</b>					
	<b>Incomings:-</b>					
	One incoming main TPN MCCB of 100 amp, 25KA required rating.					
	200 Amps TPN Aluminium bus bars with heat coloured shrinkable insulation sleeve. - 1 Set					
	VAF digital electronic meter with inbuilt selector switch and 100/5 Amps suitable VA, CL 1 CTs . protected by MCB - 1 Set					
	Phase indicating light shall be protected by 2 Amps SP MCB's. - 1 Set					
	ON / OFF indicating lamps protected by MCB.					
	<b>Outgoings:-</b>					
	04 Nos. TPN MCB of 32 A with 10 KA service breaking capacity for irrigation pump & Sump Pump .					
	04 Nos. Amp meters with (0- 32 A) with required CT ratio and 2A control MCB, LED type ON/OFF/Trip indication lamps with auto manual selector switch.					
	02 Nos. TPN MCCB of 100 A with 25 KA service breaking capacity for domestic & flushing water hydropneumatic pumps. <b>(Only connection to inbuilt panel of domestic &amp; flushing water hydropneumatic system)</b>					
	01 Nos. Amp meters with (0-160 A) with required CT ratio and 2A control MCB, LED type ON/OFF/Trip indication lamps with auto manual selector switch.					
	04 Nos. Auto DOL Starter 5.0-7.5 HP motor. Each shall have Auto/ Manual selector switch, over load relay, single phasing preventor, ON/OFF/ Trip indication lamps, ON/OFF push Buttons, contactor and suitable No. of Potential free contacts for remote / local operations, indication & interlocking and Building Management system.					
	Space for two sets liquid level controllers.					
	All internal wiring colour coded from incoming mains to various switchgear, starter, meter, indicating lamp and bus bar. All the cable entry to the panel shall be from the top. (The shop drawing to be prepared and approved before fabrication)					
	Motor control centre as described above	Each	1.00			-
8.12	Controllers with low voltage relays, stainless steel probes and PVC shroud, wiring from tank top to probes of required length. (No of probes as required for function of each controller).					
<b>8.12.a</b>	<b>For Sump Pumps</b>					
	To start pump when sump is full and to stop when sump is at low level and both pumps are start when sump is overflow	Each	2.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8.13	Providing and fixing heavy duty PVC insulated copper armoured cables 1.1KVA grade including necessary support clamps at ceiling level and connection lugs complete in all respects.					
8.13.a	Control cable for liquid level controller 2 core 1.5 mm <sup>2</sup>	Metre	450.00			-
8.13.b	Power cable 3 core 4 mm <sup>2</sup>	Metre	100.00			-
8.13.c	Power cable 3 core 6 mm <sup>2</sup>	Metre	50.00			-
8.13.d	Power cable 3 core 10 mm <sup>2</sup>	Metre	50.00			-
<b>B-9</b>	<b>FIRE HYDRANT SYSTEM</b>					
9.1	Providing and fixing mild steel pipes including all fittings like anchor fastners, couplings, bends, elbows, tees, flanges etc. welding as required, application of anti-corrosive treatment to buried pipes by 4 mm thick multi layer PYPKOTE membrane applied over a coat of primer as per manufacture's recommendations, including necessary trenching, refilling etc. complete.					
	Pipes conforming to I.S.1239 (Heavy class)					
9.1.a	80 mm dia	Metre	10.00			-
9.1.b	150 mm dia	Metre	210.00			-
9.2	Providing and fixing mild steel pipes conforming to I.S.1239 (Heavy class) including all fittings like bends, elbows, tees, flanges, fastners, couplings, GI/MS hangers, clamps, supports (approved quality) as required etc. and painting of pipes and fittings with one coat of steel primer and two or more coats of synthetic enamel paint, welded or screwed joints as required, cutting holes and chases in brick or RCC walls and making good complete. (Internal work)					
9.2.a	25 mm dia	Metre	8.00			-
9.2.b	80 mm dia	Metre	20.00			-
9.2.c	150 mm dia	Metre	65.00			-



Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
9.3	Providing & fixing <b>SS fire hydrant landing valve</b> with 80 mm NB flanged inlet ( Table-E Flange) , SS spindle controlled 63 mm dia female instantaneous outlet type. SS coupling, blank cap, chain, twist release type lug & all accessories Conforming to IS standards. Including flanged tapping from wet rise complete as required.					
9.3.a	Single Landing Valve (For External Hydrants)	Each	5.00			-
9.4	Providing and fixing first aid fire hose reel wall mounting swinging type fitted with 20 mm dia 36.5 m long high pressure ( 10.2 Kg/cm <sup>2</sup> ) thermo plastic hose tube Type2, conforming to IS: 12585 Type II with 5 mm outlet stainless steel nozzle with shut off valve (I.S. 884-1969).	Each	4.00			-
9.5	Providing and fixing of Non-percolating flexible hose (RRL type-'B' with EPDM Lined) ISI marked (IS:636) 63 mm dia x 15 M long complete with instantaneous type stainless steel 63 mm dia. IS marked Male and female couplings (IS:903) bound and rivetted to hose pipe with copper rivets and 1.5 mm copper wire.	Each	10.00			-
9.6	Providing and fixing standard short size stainless steel branch pipe with SS nozzle 16 mm dia outlet with standard instantaneous type 63 mm dia coupling.(IS:903)	Each	5.00			-
9.7	Providing and fixing of gun metal Fire Brigade connection (Suction collecting head) consisting of 63 mm dia instantaneous type male coupling with built-in check valves and 150 mm dia.flanged outlet complete with bolts, nuts and rubber insertions as required as per IS:904-1983. (One for fire tank, One for sprinkler riser & One for wet riser connections)					
9.7.a	Four way	Each	1.00			-
9.8	Providing and fixing of gun metal fire Brigade Suction Hose coupling (Draw-out Connection) with nut for female coupling as per IS:902- 1974 complete with 100 mm dia. G.I. Suction pipe and 100 mm dia. 1No. C.I. Foot valve flanged (to be connected to static water tank).	Each	1.00			-
9.9	Providing and fixing single acting air valve with screwed inlet 25 mm dia.	Each	1.00			-
9.10	Providing and fixing forged brass ball valve of approved quality with tested pressure PN 1.5 MPa (screwed end) 25 mm nominal bore.	Each	4.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
9.11	Providing and fixing of Weather proof hose cabinets fabricated from 18 g M.S. Sheet with full glass door and mortise locking arrangement , suitable to accommodate one Hydrant landing valve, 2 nos. 15 M long hose and 1 No branch pipe. The cabinet shall be painted with one coat of primer and finished stove enamelled "Fire Red", "Fire Hose" written on front including suitably mounted on a raised masonry platform as required. (Approx 0.75mx0.6 m x 0.25 m).	Each	1.00			-
9.12	Providing and fixing MS partly glazed single/double hung lockable shutter fabricated from MS section as required with 5 mm thick glass for fire station complete including stove enamelled painting of door and frame and words "Fire Hydrant" written on glass, suitable to accommodate 2 Hydrant landing valves, 1 fire hose reel, 2 nos.15m long 63 mm dia hose,1-branch pipe, 1no. fire man's axe, fire extiguishers 2 nos, including suitably mounted on a raised masonry platform as required. (Approx.size 0.90 m x 2.1m )	Each	5.00			-
9.13	Providing and fixing dial type pressure gauge with isolation cock and pipe at hydrant station.					
9.13.a	Dial diameter 100 mm caliberation-0-15 kg	Each	5.00			-
9.14	Providing and fixing cast iron wafer type butterfly valves (PN-16) complete with 2 nos. matching flanges (Table-E),bolts, nuts, 3.0 mm thick insertion neoprene gasket.					
9.14.a	80 mm dia	Each	-			-
9.14.b	150 mm dia	Each	2.00			-
9.15	Providing and fixing of cast iron dual plate wafer type check valves (PN-16) including 2 nos. matching flanges ( Table-E), nuts, bolts, 3.0 mm thick thick insertion neoprene gasket.					
9.15.a	150 mm dia	Each	2.00			-
<b>10.0</b>	<b>FIRE SPRINKLER SYSTEM</b>					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
10.1	Providing and fixing mild steel pipes conforming to I.S.1239 (Heavy Class) including all fittings like bends,elbows,tees,flanges, fastners,couplings, GI/MS hangers, clamps, supports (approved quality) as required etc.and painting of pipes and fittings with one coat of steel primer and two or more coats of synthetic enamel paint,welded or screwed joints as required,cutting holes and chases in brick or RCC walls and making good complete. (Internal work)					
10.1.a	25 mm dia	Metre	225.00			-
10.1.b	32 mm dia	Metre	20.00			-
10.1.c	40 mm dia	Metre	30.00			-
10.1.d	50 mm dia	Metre	45.00			-
10.1.e	65 mm dia	Metre	45.00			-
10.1.f	80 mm dia	Metre	60.00			-
10.1.g	100 mm dia	Metre	15.00			-
10.1.h	150 mm dia	Metre	155.00			-
10.2	Providing and fixing mild steel pipes conforming to I.S.1239 (Medium Class) including making floor drain connection from FHC all fittings like bends,elbows,tees,flanges, fastners,couplings, GI/MS hangers, clamps, supports (approved quality) as required etc.and painting of pipes and fittings with one coat of steel primer and two or more coats of synthetic enamel paint,welded or screwed joints as required,cutting holes and chases in brick or RCC walls and making good complete. (Drain Pipe)					
10.2.a	80 mm dia	Metre	15.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
10.3	Providing and fixing 15 mm dia gunmetal sprinkler head with quartz bulb and set to operate at specified temperature.Temperature of operation 68 deg. C.					
10.3.a	Pendent/Upright type (For exposed location)	Each	114.00			-
10.3.b	Side wall type ( Normal Throw)	Each	20.00			-
10.3.c	Semi concealed type with two piece adjustable rosette plate.	Each	2.00			-
10.4	Providing and fixing flexible Sprinkler Hose Corrugated Unbraided Type for fire Sprinklers, with 1" Inlet Nipple BSPT, ½" Outlet Reducer BSPT, 0.7 m Square Support Bar & Brackets					
10.4.a	For 700 mm length flexible pipe	Each	1.00			-
10.4.b	For 1000 mm length flexible pipe	Each	1.00			-
10.4.c	For 1200 mm length flexible pipe	Each	1.00			-
10.4.d	For 1500 mm length flexible pipe	Each	1.00			-
10.5	Providing and fixing installation valve with turbine type automatic alarm to be connected with control valve drain and test valve as per manufacturer's design.					
10.5.a	150 mm dia.	Each	1.00			-
10.6	Providing and fixing 25 mm dia inspecting & testing assembly with built in bye pass arrangement and connection to drain line.	Each	1.00			-
10.7	Providing and fixing single acting air valve with screwed inlet 25 mm dia. Tested for 25 kg/sq.cm pressure.	Each	1.00			-
10.8	Providing and fixing cast brass ball valve of approved quality with tested pressure PN16 (screwed end) .					
10.8.a	25 mm nominal bore.	Each	1.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
10.8.b	32 mm nominal bore.	Each	1.00			-
10.8.c	40 mm nominal bore.	Each	1.00			-
10.9	Providing and fixing cast iron wafer type butterfly valves (PN-16) complete with 2 nos. matching flanges (Table-E),bolts, nuts, 3.0 mm thick insertion neoprene gasket.					
10.9.a	80 mm dia	Each	2.00			-
10.9.b	150 mm dia	Each	3.00			-
10.10	Providing and fixing of cast iron dual plate wafer type check valves (PN-16) including 2 nos. matching flanges ( Table-E), nuts, bolts, 3.0 mm thick thick insertion neoprene gasket.					
10.10.a	150 mm dia	Each	1.00			-
10.11	Providing and fixing electrically operated flow indicating switches System Sensor in sprinkler branch line on each floor with necessary junction box installed in accessible place. (Wiring from switches to panel not included)					
10.11.a	For 150 mm dia line	Each	1.00			-
10.12	Providing and fixing dial type pressure gauge with isolation cock and pipe.					
10.12.a	Dial diameter 100 mm caliberation 0-15 kg	Each	1.00			-
<b>B-11</b>	<b>FIRE PUMPS &amp; ACCESSORIES</b> (Factory assembled ,common skidd mounted pumpsets confirming to TAC,NBC/IS specifications.)					
11.1	Supply, installation, testing and commissioning of electrically driven high pressure centrifugal fire hydrant /sprinkler pump, suitable for automatic operation consisting of the following:					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
11.1.a	Horizontal centrifugal pump, suitable for operation on 415 volts $\pm$ 6%, 3 phase, 50 HZ AC supply. The installation shall be complete with flexible coupling and coupling guard as required. Fire pump shall have CI casing, CS diffusers, bronze impeller (hard finished and dynamically balanced) and SS (304) shaft with mechanical seal, capable for <b>delivering 2280 LPM at outlet head of 65 mts</b> to ensure a minimum pressure of 3.5 Kg/Sqcm at the farthest or topmost hydrant / sprinkler. The installation shall be complete with necessary pressure gauge on delivery side. ( Make : Grundfos/Equivalent)					
11.1.b	Squirrel cage induction motor, TEFC type suitable for operation on 415 volts, 3 phase 50 HZ A.C supply, for the above pump with synchronous speed of 2900 RPM, conforming to IP 55 protection & class F insulation. The motor shall conform to IS 325-1978 (up to date).					
11.1.c	Common base plate for (a) and (b) from M.S. Channel for required size.	Each	1.00			-
11.2	Supply, installation, testing and commissioning of <b>jockey pump</b> (pressurisation pump) ( Make : Grundfos/Equivalent) comprising of the following:					
11.2.a	Vertical centrifugal multi stage pump, 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.					
11.2.b	The pump casing shall be CI, shaft shall be SS & impeller/ shaft sleeve/casing wearing ring shall be SS-304. 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.					
11.2.c	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 <b>2900 RPM</b> as required.					
11.2.d	Common base plate for (a) and (c) from M.S. channel as required size.					
	For pump defined above & of duty as follows :					
	<b>Flow : 180 LPM</b>					
	<b>Head : 65 mts</b>	Each	1.00			-
11.3	Supply, installation, testing and commissioning of <b>Diesel Engine driven</b> fire pump suitable for automatic operation comprising of the following and conforming to BS 649/IS 10002 all amended upto date.					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
11.3.a	Horizontal centrifugal pump, suitable for operation on 415 volts $\pm$ 6%, 3 phase, 50 HZ AC supply. The installation shall be complete with flexible coupling and coupling guard as required. Fire pump shall have CI casing, CS diffusers, bronze impeller (hard finished and dynamically balanced) and SS (304) shaft with mechanical seal, capable for <b>delivering 2280 LPM at outlet head of 65 mts</b> to ensure a minimum pressure of 3.5 Kg/Sqcm at the farthest or topmost hydrant / sprinkler. The installation shall be complete with necessary pressure gauge on delivery side. ( Make : Grundfos/Equivalent)					
11.3.b	Heat exchanger cooled (secondary cooling) diesel engine of speed <b>1500 RPM</b> suitable for the above pump with automatic starting mechanism and other accessories including fuel tank (fabricated from 6mm MS sheet, painted with two coats of synthetic enamel paint over a coat of primer) of capacity adequate to sustain pump operation for 8 hours continuous working. The tank shall be fitted with Magnetic oil level indicator, MH with cover, drain valve, air vent including structural supports (painted with approved shade), 2 Nos. x 12 volt battery (alternator of engine and panel is suitable for 12 volt current rating) with stand heat exchanger with necessary piping connections & fittings complete as required.					
11.3.c	Common base plate for (a) and (b) from M.S. channel of required size.	Each	1.00			-
11.4	Providing & fixing 150 mm diameter MS Class 'B' for diesel engine exhaust pipe (including all fittings, clamps, steel support) of suitable dia for the diesel engine. The pipe shall be provided insulation with fibre glass wool and wrapped with 22g. aluminium sheet complete with all respect.	Metre	15.00			-
11.5	Supply, Installation, Testing & Commissioning of double flanged vertical air vessel fabricated shell from 10 mm thick & dished ends 10 mm thick M.S.plate, 450 mm dia and 2.00 m high common for fire and jockey pumps complete with four nos dual setting pressure switches to operate jockey and main pumps at drop of pressure as given in the specifications.	Each	1.00			-
11.6	Providing and fixing alarm system for fire pumps comprising audible hooter and red blinking lamp wired to pressure switch including cost of pressure switch mounted on air vessel complete in all respects.	Each	1.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
11.7	Providing and fixing heavy duty PVC insulated, PVC armoured conductor cables 1100 V grade including necessary support clamps and connection lugs complete in all respects.					
11.7.a	Power cable 3 core 95 sq mm aluminium conductor armoured cable	Metre	60.00			-
11.7.b	Power cable 3 core 10 sq mm copper conductor armoured cable.	Metre	50.00			-
11.8	Providing and fixing aprox. 9 M. long and 300 mm dia M.S. plate 8 mm thick rolled and welded pipe suction header with two inlets of 200 mm dia and two outlets of 150 mm dia, and two outlet of 80 mm dia, all outlets and ends with flanged connections blank flanges, painting with one coat of zinc chromate primer and two or more coats of synthetic enamel paint to give an even shade, structural supports as required common for fire hydrant and sprinkler systems.	Each	1.00			-
11.9	Providing and fixing aprox. 9 M. long and 250 mm dia delivery header fabricated from 8 mm thick M.S. plate rolled and welded, with two inlets of 150 mm dia, two inlet of 65 mm dia, two outlets of 150 mm dia, two outlets of 50 mm dia for pressure vessals, wafer type NRV gear operated butterfly valve of PN 1.6 rating including painting with one coat of zinc chromate primer and two or more coats of synthetic enamel paint to give an even shade and required structural supports. All outlets and inlets to be provided with MS flanges, the cost of which shall be included in the rate of header.	Each	1.00			-
11.10	Providing and fixing cast iron wafer type butterfly valves (PN-16) complete with 2 nos. matching flanges (Table-E),bolts, nuts, 3.0 mm thick insertion neoprene gasket.					
11.10.a	80 mm dia.	Each	2.00			-
11.10.b	100 mm dia	Each	6.00			-
11.10.c	150 mm dia	Each	4.00			-
11.10.d	200 mm dia.	Each	1.00			-



Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
11.11	Providing and fixing of cast iron dual plate wafer type check valves (PN-16) including 2 nos. matching flanges ( Table-E), nuts, bolts, 3.0 mm thick thick insertion neoprene gasket.					
11.11.a	80 mm dia.	Each	2.00			-
11.11.b	100 mm dia	Each	4.00			-
11.11.c	200 mm dia.	Each	1.00			-
11.12	Providing and fixing resilient rubber neoprene lined single arch vibration eliminators with unit control suitable for raw water upto 45°C temperature working pressure 12 kg and test pressure 20 kg/cm <sup>2</sup> .					
11.12.a	80 mm dia	Each	2.00			-
11.12.b	100 mm dia	Each	6.00			-
11.12.c	150 mm dia.	Each	4.00			-
11.13	Supply, installation, testing and commissioning of <b>Fire Pump</b> ( Make : Grundfos/Equivalent) comprising of the following:					
	Horizontal/ Vertical centrifugal pump, suitable for operation on 415 volts ± 6%, 3 phase, 50 HZ A.C supply. The installation shall be complete with Flexible coupling and coupling guard, complete as required.					
	The pump casing shall be CI, shaft shall be SS & impeller/ shaft sleeve/casing wearing ring shall be bronze. 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.					
	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 <b>2900 RPM</b> as required.					
	Common base plate for (a) and (b) from M.S. channel as required size.					
	For pump defined above & of duty as follows :					
<b>11.13.a</b>	<b>Terrace Pump at Terrace Level</b>					
	Flow : 900 LPM					
	Head : 35 mts	Each	1.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
11.14	Design, fabrication, assembling, wiring, supply, installation, testing and commissioning of dust and vermin proof cubicle type motor control centre fabricated from 14 g M.S. sheet with powder coat finish. The control panels should be comparable with H.P. of the motor as specified :-					
	<b>MCC for Fire Fighting Pumps at Terrace</b>					
	<b>Incoming</b>					
	100 amps 4 pole MCCB complete with the following					
	0-500 digital electronic voltmeter with selector switch shall be protected by 2 amps MCB's. - 1 Set					
	0-200 Amps digital electronic ammeter with selector switch and 600/5 amps 15 VA, CL 1 CTs 3 Nos. - 1 Set					
	Phase indicating light and shall be protected by 2 amps MCB's - 3 Sets					
	<b>Bus Bars</b>					
	100 amps TPN aluminium bus bars with heat shrinkable insulation sleeve.					
	<b>Outgoing:</b>					
	1 Nos. 40 amps TPN MCCB, 7.5/10 hp DOL starter with single phase preventer and outgoing feeder to terrace pump motor. The compartment shall contain CT operated ammeter of 0-40 amps and indicating lamps with MCBs for 'ON/OFF TRIP' status					
	Necessary cable alleys space for spare switches, internal wiring and earthing of all equipment shall also be included. All switch gears / control gears shall be motor duty rating.					
	<b>Note:</b> All MCCB's to be suitable for motor duty and shall be of 25 KA breaking capacity.					
	Provision shall be made for providing potential free contacts to all pumps starters for connection to building automation system.					
11.14.a	MCC as described above	Each	1.00			-
<b>B-12</b>	<b>HAND APPLIANCES</b>					
12.1	Providing and fixing carbon-di-oxide type fire extinguishers consisting of welded M.S. cylindrical body, squeeze lever discharge valve fitted with pressure indicating guage internal discharge tube 30 cms long high pressure discharge hose, discharge nozzle, suspension bracket conforming to IS:15683 finished externally with red enamel paint and fixed to wall with brackets complete with internal charge.					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
12.1.a	Capacity 4.5 Kg.	Each	10.00			-
12.2	Providing and fixing ABC Powder type fire extinguishers consisting of welded M.S. cylindrical body, squeeze lever discharge valve fitted with pressure indicating guage internal discharge tube 30 cms long high pressure discharge hose, discharge nozzle, suspension bracket conforming to IS:15683 finished externally with red enamel paint and fixed to wall with brackets complete with internal charge.					
12.2.a	Capacity 4.0 Kg.	Each	10.00			-
<b>SUB TOTAL OF ALL PLUMBING AND FIRE FIGHTING WORKS</b>						-

BILL OF QUANTITY						
SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>C</b>	<b>ELECTRICAL WORKS</b>					
<b>C-1</b>	<b>POINT WIRING</b>					
1.1	Wiring for light /fan point/exhaust fan point/call bell point with 1.5 sq. mm. FRLS PVC insulated,copper conductor single core cable in concealed steel conduit, with 5 amp Modular switch, Modular base and cover plate, suitable size GI box and earthing the point with same size cable as required. <b>(SURFACE)</b>					
1.1.1	Short Point	Point	15.00			-
1.1.2	Medium Point	Point	20.00			-
1.1.3	Long Point	Point	317.00			-
1.2	Wiring for light /fan point/exhaust fan point/call bell point with 1.5 sq. mm. FRLS PVC insulated,copper conductor single core cable in surface steel conduit, with 5 amp Modular switch, Modular base and cover plate, suitable size GI box and earthing the point with same size cable including painting as required. <b>(FALSE CEILING)</b>					
1.2.1	Short Point	Point	15.00			-
1.2.2	Medium Point	Point	20.00			-
1.2.3	Long Point	Point	309.00			-
1.3	Wiring for light plug point with 2 X 2.5 Sq. mm <b>FRLS</b> PVC insulated standard copper conductor cable in concealed Steel conduit alongwith modular type 6 Amp switch and 3 pin 6 amp socket outlet with modular base and cover plate, suitable size G.I box, earthing the switch box and socket outlet with same size cable etc as required.					
1.3.1	Short Point	Point	5.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
1.3.2	Medium Point	Point	5.00			-
1.3.3	Long Point	Point	30.00			-
1.4	Wiring for light plug point with 2 X 2.5 Sq. mm <b>FRLS</b> PVC insulated standard copper conductor cable in surface Steel conduit alongwith modular type 6 Amp switch and 3 pin 6 amp socket outlet with modular base and cover plate, suitable size G.I box, earthing the switch box and socket outlet with same size cable including paintin etc as required.					
1.4.1	Short Point	Point	5.00			-
1.4.2	Medium Point	Point	5.00			-
1.4.3	Long Point	Point	28.00			-
1.5	Wiring for power plug point with 2 X 4 Sq. mm <b>FRLS</b> PVC insulated copper conductor cable in concealed steel Conduit along with modular type 16 amp switch and 6 pin 16 amps socket outlet with modular base and cover plate, suitable size G.I box, earthing the switch box and socket outlet with same size cable etc as required.					
1.5.1	Short Point	Point	5.00			
1.5.2	Medium Point	Point	10.00			-
1.5.3	Long Point	Point	12.00			-
1.5.4	Extra Long Point I	Point	70.00			-
1.6	Wiring for power plug point with 2 X 4 Sq. mm <b>FRLS</b> PVC insulated copper conductor cable in surface steel Conduit along with modular type 16 amp switch and 6 pin 16 amps socket outlet with modular base and cover plate, suitable size G.I box, earthing the switch box and socket outlet with same size cable including painting etc as required.					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
1.6.1	Short Point	Point	5.00			
1.6.2	Medium Point	Point	10.00			-
1.6.3	Long Point	Point	12.00			-
1.6.4	Extra Long Point I	Point	70.00			-
1.7	Wiring for circuit/sub main wiring alongwith earth wire with the following sizes of <b>FRLS</b> PVC insulated copper conductor , single core cable in concealed steel conduit as required.					
1.7.1	3 X 1.5 Sq. mm in 20 mm conduit	Mtr	1,200.00			-
1.8	Wiring for circuit/sub main wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor , single core cable in surface steel conduit including painting etc as required.					
1.8.1	3 X 1.5 Sq. mm in 20 mm conduit	Mtr	1,300.00			-
1.9	Supplying and Fixing following modular switch, socket, other accessories on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
1.9.1	3 pin 5/6amp socket outlet	Each	250.00			-
1.9.2	6 pin 15/16amp socket outlet	Each	5.00			-
1.9.3	3 pin 5/6amp Switch	Each	93.00			-
1.9.4	6 pin 15/16amp Switch	Each	10.00			-
1.10	Supplying and fixing following size/modules, GI Box along with Modular Base & Cover Plate for Modular switches in recess etc as required.					
1.10.1	3 Module (100 mm X 75 mm)	Each	2.00			

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
1.10.2	4 Module (125 mm X 75 mm)	Each	2.00			-
1.10.3	6 Module (200 mm X 75 mm)	Each	29.00			-
1.10.4	8 Module (125 mm X 125 mm)	Each	64.00			-
1.11	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Each	93.00			-
1.12	Wiring for the following light points controlled by MCB in DB (Cost of MCB has been taken elsewhere in the tender) with 2 x 2.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/recessed steel conduits and earthing. The point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required. The rates include supply & laying of wiring as specified above.					
1.12.1	First point controlled by MCB in DB.	No's	42.00			-
1.13	Same as item No. 1.10 above but LOOP POINT i.e. wiring of point looped from first point with 2 x 2.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/recessed steel conduits and earthing. The point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required. (controlling switch in item no. 1.10).	No's	65.00			-
<b>C-2</b>	<b>TV &amp; TELEPHONE (WIRING, SOCKETS &amp; ACCESSORIES)</b>					
2.1	Supplying & drawing following pair, 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmoured telephone cable in existing surface/recessed steel/ PVC conduits as required.					
2.1.1	2 Pair	Mtr	2,700.00			-
2.1.2	4 Pair	Mtr	850.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2.2	Supplying and fixing of following sizes of steel conduit along with accessories in Surface/recess including painting complete as required.					
2.2.1	25mm. dia.	Mtr	4,200.00			-
2.2.2	32mm. dia.	Mtr	350.00			-
2.3	Supplying and Fixing following modular switch, socket, other accessories on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
2.3.1	Telephone socket outlet	Each	89.00			-
2.3.2	TV socket outlet	Each	4.00			-
2.4	Supplying and fixing following size/modules, GI Box along with Modular Base & Cover Plate for Modular switches in recess etc as required.					
2.4.1	1 or 2 Module (75mm X 75mm)	Each	93.00			-
2.5	Supplying and drawing co-axial TV cable PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ concealed steel / PVC conduit as required.					
2.5.1	RG - 6 grade, 0.7 mm solid copper conductor	RM	250.00			-
2.6	Providing and fixing in position 2mm thick M.S. Telephone junction box of size including following Krone Tag Block with key lock arrangement. Also provide clamps for fixing tag blocks.					
2.6.1	10 pair Telephone Tag Block	No's	1.00			-
2.6.2	30 pair Telephone Tag Block	No's	2.00			-
2.6.3	40 pair Telephone Tag Block	No's	1.00			-
2.6.4	100 pair Telephone Tag Block	No's	1.00			-



Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2.7	Supplying, laying, in ground/existing pipes/on wall and making connection and termination of multipair armoured PVC insulated copper conductor (ATC) telephone cable including supports with all accessories as required					
2.7.1	10 Pair Cable armoured, 0.61mm	Mtr	105.00			-
2.7.2	20 Pair Cable armoured, 0.61mm	Mtr	50.00			-
2.7.3	40 Pair Cable armoured, 0.61mm	Mtr	35.00			-
2.7.4	100 Pair Cable armoured, 0.61mm	Mtr	20.00			-
<b>C-3</b>	<b>LIGHTNING PROTECTION</b>					
3.1	Earthing with GI earth pipe 4.5 m 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.	Set	4.00			-
3.2	Providing and laying earth connection from earth electrode with 6 SWG dia G.I Wire in 15mm dia GI pipe from earth electrode at 0.5 Metre depth below ground leve including excavation and refiling the trench as required.	Metre	50.00			-
3.3	Providing and fixing of lightning conductor finial made of 25mm dia 300mm long GI tube having single prong at top with 85mm dia. 6mm thick GI base plate having 4 No's holes for fixing etc. complete as required.	Each	1.00			-
3.4	Providing and fixing of GI tape 20mmx3mm thick on parapet or surface of wall for lightning conductor as requeired (for horizontal run)	Metre	140.00			-
3.5	Providing and fixing of GI tape 20mmx3mm thick on parapet or surface of wall for lightning conductor as requeired (for vertical run)	Metre	40.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
3.6	Providing and fixing of testing joint made of 20mmx3mm thick GI strip, 125mm long with 4 No's of GI bolts, nuts, check nuts and spring washer etc. complete as required	Each	4.00			-
3.7	Providing & laying G.I. Tape , 32 mm X 6 mm from earth electrode directly in ground as required.	RM	200.00			-
<b>C-4</b>	<b>DISTRIBUTION BOARDS</b>					
4.1	Supplying and fixing on surface/recess following way, 240Volt,single pole and neutral, distribution board,of sheet steel phosphatised and powder painted complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, detachable gland plate,including interconnections, earthing etc. as required. (But without MCB/RCCB/Isolator).					
4.1.1	8 way, Double door	Each	3.00			-
4.1.2	16 way, Double door	Each	6.00			-
4.2	Supplying and fixing on surface / recess prewired horizontal type following ways 415Volt,TP & N, MCB Distribution boards of sheet steel ,phosphatised and powder painted complete with loose wire box,terminal box,tinned copper busbar,neutral link,earth bar,din bar,detachable gland plate,duly prewired with suitable size FRPVC insulated copper conductor upto terminal blocks including interconnections, earthing connections etc. (But without MCB/RCCB/Isolator).					
4.2.1	8 Way (4 + 24 ), Double door	Each	15.00			-
4.3	Supplying and fixing SP MCB ,240 Volts,B series suitable for lighting and other loads in the existing MCB DB, complete with connections, testing and commissioning, etc. as required.					
4.3.1	Single pole	Each	162.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
4.4	Supplying and fixing SP MCB ,240 Volts,C series suitable for inductive loads in the existing MCB DB, complete with connections, testing and commissioning, etc. as required.					
4.4.1	Single pole	Each	162.00			-
4.5	Supplying and fixing DP MCB ,240 Volts,C series suitable for inductive/motor loads in the existing MCB DB, complete with connections, testing and commissioning, etc. as required.	Each	9.00			-
4.6	Supply & fixing following rating,four pole, 415 V, isolator in the existing MCB DB complete with connections,testing & commissioning etc. as required					
4.6.1	40 amps	Each	6.00			-
4.6.2	63 amps	Each	9.00			-
4.7	S/F DP RCCB : Supply & fixing following rating,double pole (single phase & neutral) 240 volts,residual current circuit breaker (RCCB),having a sensitivity current upto 300 mA in the existing MCB DB complete with connections,testing & commissioning etc. as required					
4.7.1	40 amps	Each	54.00			-
4.8	Supplying and fixing 20 A, 240 V, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 A "C" series, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing & commissioning etc.as required.	Each	4.00			-
4.9	Wiring for circuit/sub main wiring alongwith earth wire with the following sizes of <b>FRLS</b> PVC insulated copper conductor , single core cable in surface steel conduit including painting etc as required.					
4.9.1	3 X 6 Sq. mm in25mm dia conduit	Mtr	100.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
C-5	<b>SUPPLY OF MDB, UMDB PANEL &amp; UPS INPUT PANEL</b>					
5.0	<b>MDB, UMDB PANEL &amp; UPS INPUT PANEL</b>					
	Manufacture, supply, installation, testing and commissioning of floor mounting free standing totally enclosed indoor cubical extensible compartmentalized front operational vertical dust and vermin proof (415 V) SUPPLY OF MDB, UMDB PANEL & UPS INPUT PANEL fabricated out of 2 mm thick CRCA sheet steel provided with hinged detachable lockable and front and back openable compartmentalised individual chamber doors including strengthening and stiffening complete as required and as per specifications. The panel shall be powder coated after proper treatment with 8 tank process and comprising of the following (Refer schematic diagram) All MCB to be C Curve, unless specified otherwise.					
	(Note : The panels shall be a FRONT operated, with cable entry from the top. Earth bus shall be part of the panel.)					
5.1	<b>MDB - BASEMENT FLOOR</b>					
	<b>Incoming</b>					
	1 No. 160A FP MCCB, 16 KA service breaking capacity, trip setting as required					
	<b>Indicating Panel</b>					
	The Indicating panel of incomer shall be provided with the following :					
5.1.1	Multifunction meter with CT's and RS 485 communication port					
5.1.2	3 No's phase indicating lamps; backed up with MCB.					
	<b>Bus Bar</b>					
	1 No. 200 amp TPN AI Bus bar of suitable length with current density of 1.3 sq.mm/amp.					
	<b>Outgoing</b>					
	<b>All MCCB outgoing feeders shall be provided with ON indication lamp.</b>					
	3 No's 63 A FP MCB, 10 KA breaking capacity					
	2 No's 40 A FP MPCB, 10 KA breaking capacity					
	2 no. of 63 A TP MCCB of 10 KA breaking capacity for (2 + 1 Spare) 12.5 HP motor along with following for each outgoing motor starter feeder.					
	<b>DOL Starter</b> with 18 A contactor with 2 NO and 2NC auxiliary contacts.					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Over load relay of rating 8 -12 A with in built single phasing preventer.					
	Ammeter of range 0-60A 1 No's of associated CT's of rating 60/5A. of accuracy CL-III, 5VA burden.					
	One set of AMBER indication with 2A SP MCB as back up, Start, Stop Push button illuminated type with remote control start, stop arrangement, Auto/ manual/ off selector switch.					
	3 no. of 63 A TP MCCB of 10 KA breaking capacity for (2 + 1 Spare) 12.5 HP motor along with following for each outgoing motor starter feeder.					
	<b>DOL Starter</b> with 25 A contactor with 2 NO and 2NC auxillary contacts.					
	Over load relay of rating 14-23 A with in built single phasing preventer.					
	Ammeter of range 0-60A 1 No's of associated CT's of rating 60/5A. of accuracy CL-III, 5VA burden.					
	One set of AMBER indication with 2A SP MCB as back up, Start, Stop Push button illuminated type with remote control start, stop arrangement, Auto/ manual/ off selector switch.					
	MDB - BASEMENT FLOOR described as above	Set	1.00			-
<b>5.2</b>	<b>MDB - 1 (GROUND FLOOR)</b>					
	<b>Incoming</b>					
	1 No. 160A FP MCCB, 16 KA service breaking capacity, trip setting as required					
	<b>Indicating Panel</b>					
	The Indicating panel of incomer shall be provided with the following :					
<b>5.2.1</b>	Multifunction meter with CT's and RS 485 communication port					
<b>5.2.2</b>	3 No's phase indicating lamps; backed up with MCB.					
	<b>Bus Bar</b>					
	1 No. 200 amp TPN <b>Al</b> Bus bar of suitable length with current density of 1.3 sq.mm/amp.					
	<b>Outgoing</b>					
	<b>All MCCB outgoing feeders shall be provided with ON indication lamp.</b>					
	1 No's 63 A FP MCB,10 KA breaking capacity alongwith 63 A FP Contactor.					
	7 No's 63 A FP MCB,10 KA breaking capacity					
	MDB - 1 (GROUND FLOOR) described as above	Set	1.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>5.3</b>	<b>MDB - 2 (FIRST FLOOR)</b>					
	<b>Incoming</b>					
	1 No. 250A FP MCCB, 16 KA service breaking capacity, trip setting as required					
	<b>Indicating Panel</b>					
	The Indicating panel of incomer shall be provided with the following :					
<b>5.3.1</b>	Multifunction meter with CT's and RS 485 communication port					
<b>5.3.2</b>	3 No's phase indicating lamps; backed up with MCB.					
	<b>Bus Bar</b>					
	1 No. 250 amp TPN AI Bus bar of suitable length with current density of 1.3 sq.mm/amp.					
	<b>Outgoing</b>					
	<b>All MCCB outgoing feeders shall be provided with ON indication lamp.</b>					
	2 No's 63 A FP MCB,10 KA breaking capacity alongwith 63 A FP Contactor.					
	7 No's 63 A FP MCB,10 KA breaking capacity					
	MDB - 2 (FIRST FLOOR) described as above	Set	1.00			-
<b>5.4</b>	<b>MDB - 3 (SECOND FLOOR)</b>					
	<b>Incoming</b>					
	1 No. 100A FP MCCB, 16 KA service breaking capacity, trip setting as required					
	<b>Indicating Panel</b>					
	The Indicating panel of incomer shall be provided with the following :					
<b>5.4.1</b>	Multifunction meter with CT's and RS 485 communication port					
<b>5.4.2</b>	3 No's phase indicating lamps; backed up with MCB.					
	<b>Bus Bar</b>					
	1 No. 100 amp TPN AI Bus bar of suitable length with current density of 1.3 sq.mm/amp.					
	<b>Outgoing</b>					
	<b>lamp.</b>					
	5 No's 63 A FP MCB,10 KA breaking capacity					
	MDB - 3 (SECOND FLOOR) described as above	Set	1.00			-
<b>5.5</b>	<b>UMDB - 1</b>					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
a.	<b>Incoming</b>					
	2 No's 100 amp TP MCCB 16 KA service breaking capacity and Trip setting as required with isolable heavy duty solid neutral link of double the rating as phase.					
b.	<b>Indicating Panel</b>					
	The Indicating panel of each incomer shall be provided with the following :					
	Multifunction meter with CT's and RS 485 communication port					
	3 No's phase indicating lamps; backed up with MCB.					
	One set of ON /OFF indication lamp with 2A SP MCB for protection					
c.	<b>Bus Bar</b>					
	1 No. 100 amp TPN <b>Copper</b> Bus bar of suitable length with current density of 1.0 sq.mm/amp with neutral bus bar double size of phase bus bar.					
d.	<b>Outgoing</b>					
	1 No's 100 amp TP MCCB of 16 KA service breaking capacity & Trip setting as required with heavy duty solid neutral link					
	4 No's 63 A FP MCB,10 KA breaking capacity., D curve					
	6 No's 40 A DP MCB,10 KA breaking capacity., D curve					
	UMDB - 1 described as above.	Set	1.00			-
<b>5.6</b>	<b>UPS Input Panel</b>					
	3 No's 100 Amp 3-pole MCCB,16 KA service breaking capacity trip setting as required with heavy duty solid neutral link for each installed in a floor mounted panel made of 2 mm thick CRCA sheet steel with separate cable alley for incoming Aluminium conductor cables, from top and separate cable alley for outgoing Copper conductor cables . Each MCCB shall have a separate compartment & shall be provided with ON indicating lamp..(For 2 No's 40 KVA & 1 No. 20 KVA UPS)					
	UPS Input Panel for (For 2 No's 40 KVA & 1 No. 20 KVA UPS) UPS described as above & complete as required.	Set	1.00			-
<b>C-6</b>	<b>CABLES</b>					
	<b>Supply and laying should be combined.</b>					
6.1	Supply of following LT-XLPE 1100 volts grade armoured cables complete as required and as per tender specifications.					
6.1.1	3.5 x 300 sq.mm AL.	RM	145.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
6.1.2	3.5 x 185 sq.mm AL.	RM	35.00			-
6.1.3	3.5 x 150 sq.mm AL.	RM	30.00			-
6.1.4	3.5 x 95 sq.mm AL.	RM	25.00			-
6.1.5	3.5 x 70 sq.mm AL.	RM	40.00			-
6.1.6	3.5 x 50 sq.mm AL.	RM	140.00			-
6.1.7	4 x 25 sq.mm AL.	RM	20.00			-
6.1.8	4 x 16 sq.mm AL.	RM	75.00			-
6.1.9	4 x 10 sq.mm AL.	RM	255.00			-
6.1.10	3 x 16 sq.mm AL.	RM	220.00			-
6.1.11	3 x 10 sq.mm AL.	RM	220.00			-
6.1.12	4 x 16 sq.mm Copper used AL	RM	230.00			-
6.1.13	4 x 10 sq.mm Copper used AL	RM	235.00			-
6.1.14	2 x 10 sq.mm Copper used AL	RM	210.00			-
6.1.15	2 x 6 sq.mm Copper used AL	RM	400.00			-
6.1.16	35 sq.mm Copper (Armoured) used AL	RM	400.00			-
6.1.17	35 sq.mm Copper (Unarmoured) used AL	RM	360.00			-
6.1.18	16 sq.mm Copper (Unarmoured) used AL	RM	265.00			-



Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
6.2	Supplying and making indoor end termination with brass compression gland and aluminium lugs for following size armoured Aluminium conductor cable of 1.1 KV grade as required.					
6.2.1	3.5 x 300 sq.mm AL.	No's	4.00			-
6.2.2	3.5 x 185 sq.mm AL.	No's	4.00			-
6.2.3	3.5 x 150 sq.mm AL.	No's	2.00			-
6.2.4	3.5 x 95 sq.mm AL.	No's	2.00			-
6.2.5	3.5 x 70 sq.mm AL.	No's	4.00			-
6.2.6	3.5 x 50 sq.mm AL.	No's	8.00			-
6.2.7	4 x 25 sq.mm AL.	No's	2.00			-
6.2.8	4 x 16 sq.mm AL.	No's	2.00			-
6.2.9	4 x 10 sq.mm AL.	No's	8.00			-
6.2.10	3 x 16 sq.mm AL	No's	8.00			-
6.2.11	3 x 10 sq.mm AL	No's	8.00			-
6.2.12	3 x 6 sq.mm AL.	No's	5.00			-
6.2.13	4 x 16 sq.mm Copper used AL	No's	18.00			-
6.2.14	4 x 10 sq.mm Copper used AL	No's	24.00			-
6.2.15	2 x 10 sq.mm Copper used AL	No's	14.00			-
6.2.16	2 x 6 sq.mm Copper used AL	No's	54.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
6.2.17	35 sq.mm Copper (Armoured) used AL	No's	12.00			-
6.2.18	35 sq.mm Copper (Unarmoured) used AL	No's	44.00			-
6.2.19	16 sq.mm Copper (Unarmoured) used AL	No's	32.00			-
6.3	Laying & fixing following sizes one number power cable of size up to 35 sq mm and 1.1 KV grade on surface / existing cable tray	RM	2,890.00			-
6.4	Laying & fixing following sizes one number power cable of 1.1 KV grade on surface / existing cable tray					
6.4.1	Size exceeding 35sq.mm but not exceeding 120 sq.mm	RM	205.00			-
6.4.2	Size exceeding 120sq.mm but not exceeding 185 sq.mm	RM	65.00			-
6.4.3	Size exceeding 185sq.mm but not exceeding 400 sq.mm	RM	145.00			-
6.5	Wiring along with earth wire with the following size FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit as required.					
6.5.1	6 sq. mm. dia pvc insulated copper conductor wire.	RM	30.00			-
<b>C-7</b>	<b>FITTINGS AND ACCESSORIES</b>					
7.1	Supplying, of the following pre-wired light fitting of approved make, complete with Electronic Ballast, Lamp / tube, internal connections, etc, as required complete as required.					
7.1.1	Wipro-WRF 20140 1 x 40 W FTL (T8)	No's	120.00			-
7.1.2	P-TKC-203/136 HF (EBW), 1X36W FTL	No's	33.00			-
7.1.3	1X11W Mirror Light Fitting (GECFLK 1X11W EAW )	No's	23.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
7.1.4	Philips FBH 250, 2 X 26 Watt Recessed Mounted Light Fixture	No's	15.00			-
7.1.5	Phililips Cat. No. FXC 101, 9W Bulk Head Light	No's	29.00			-
7.1.6	Philips TCW 450, 1x 36Watt Surface mounted Light Fixture	No's	34.00			-
7.1.7	Philips Cat.no. - TMC 055, 1 X 36W CFL	No's	10.00			-
7.1.8	Philips X-TEND,TBS 369, 2 X 36 Watt Recessed Light Fixture	No's	22.00			-
7.2	Supply of double ball bearing ceiling fan of approved make with ISI mark <b>and 3 star rating</b> , with regulator, 1200 mm sweep, and including wiring the down rod of standard length (upto 300 mm), with all accessories, as required, complete.	No's	36.00			-
7.3	Providing and fixing circular/hexagonal MS sheet ceiling fan box with clamp of internal dia 140 mm, 73 mm height, 3 mm thick rim, top and bottom lid of 1.4 mm MS sheet. Lids shall be screwed into MS box by means of 3 mm round headed screws, clamps shall be made of 12 mm dia MS bar, bent to shape as per standard drawing, with over all length as 80 cm.	No's	36.00			-
7.4	Installation, testing and commissioning of prewired, flourescent fitting/ compact flourescent fitting of all types, complete with all accessories and tubes etc. directly on ceiling / wall, including connections with 1.5 sq.mm <b>FRLS</b> PVC Insulated, copper conductor , single core cable and earthing etc as required .	Each	334.00			-
7.5	Installation, testing and commissioning of prewired, flourescent fitting/ compact flourescent fitting of all types, complete with all accessories and tubes etc. including supply and fixing metallic chain upto 60cm length,painting and wiring with with 1.5 sq.mm <b>FRLS</b> PVC Insulated, copper conductor , single core cable and earthing etc as required .	Each	334.00			-
7.6	Installation, testing and commissioning of ceiling fan, including wiring, the down rod of standard length (upto 30 cm) with 1.5 sq.mm <b>.FRLS</b> PVC insulated copper conductor, single core cable, including providing & fixing phenolic laminated sheet cover on the fan box etc. as required .	Each	36.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
C-8	<b>EXTERNAL LIGHTING</b>					
8.1	Laying of One number 1.1 KV grade PVC insulated and PVC sheathed/XLPE power cable of size up to 35 sq.mm direct in ground including excaution, sand cushioning, protective covering and refilling the trench as required. <b>Cable should be 25 sq.mm and layed in DWC pipe.</b>	RM	300.00			-
8.2	Supplying and making end termination with brass compression gland and aluminium lugs for following size of Aluminium conductor armoured power cable of 1.1 KV grade as required.					
8.2.1	2 Core, 6 sq. mm	No's	2.00			-
8.2.2	4 x 6sq,mm, cable termination	No's	6.00			-
8.2.4	4 x 16 sq,mm, cable termination	No's	2.00			-
8.3	Earthing with GI earth pipe 4.5 m 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.	Set	2.00			-
8.4	Providing and fixing 25mm x 5mm G.I strip in 40mm dia G.I pipe from Earth electrode including connection with GI nut bolt ,spring washer,excavation, refilling etc. as required.	RM	20.00			-
8.5	Providing and fixing 6 SWG GI wire on surface or in recess for loop earthing as required.	RM	300.00			-
8.6	Supply of following LT-XLPE 1100 volts grade Al. Conductor armoured cables complete as required and as per tender specifications.					
8.6.1	2 Core, 6 sq. mm	RM	60.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8.6.2	4 Core,6 sq. mm	RM	150.00			-
8.6.3	4 Core,16 sq. mm	RM	10.00			-
8.7	Supply,erection,testing and commissioning of 7.5M high pole with following specifications and components :-					
	Polygonal poles designed as per ILE TR7 & BS5649 for structural design & as per IS875 (Part III), 1987 for dynamic loading.The pole shaft shall be made of single piece MS structure continuously tapered having polygonal (8/12 sides) cross section and a single longitudinal welding. The welding will be done as per BS 5135 / IS 9595. No circumferential welding shall be allowed in the pole shaft. The MS shall conform to BSEN 100025/100027. The structure shall be single hot dip galvanized as per BS 729 / IS 2629. A suitably designed door shall be provided at 600mm height from the pole base. Foundation accessories will be as per IS 1367.					
	including supply and installation of 6 ways- 20A connector & 6A MCB mounted on 6mm thick painted M.S/GI plate, insulated, and fixed inside the pole suitable for termination of armoured aluminium cable as required and wiring to Luminaries from the 6A MCB, with 3x 2.5 sq.mm. PVC insulated copper, stranded conductor (P+N+PE) double sheathed wire including terminations.					
	7.0 meters high Octagonal pole with single arm of length 1.5 meter,smoothly curved making an angle of 10 deg to 15 deg with the horizontal plane complete as required.	No's	5.00			-
8.8	Supply, installation, testing & commissioning of external light fixtures complete as required with all accessories including control gear, lamps,ballast as required.					
	72 W LED Street Light Luminaire with Anodised aluminium reflector, integral control gear,glass protective cover ,IP-65 potection for optical compartment, luminaire of Keselec Z2 or Philips cat no CRP 330/150 or GE SR SP PT (GLASS) or WIPRO WST 27150 or BAJAJ BGEST or equivalent with <b>150 W</b> HPSV Tubular Lamp generally as shown on drawings and to be fixed on top of the 7.5 M high pole.	No's	5.00			-
8.9	FEEDER PILLARS					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Supply ,installation,testing and commissioning of following sizes of 2mm thick sheet metal enclosed outdoor type (IP 65) distribution pillars with water proof dust and vermin proof hinged and lockable doors complete with interconnections ,with aluminium wires ,tapes ,bonding to earth and painting complete as required .The feeder pillar shall consist of MCB as incoming and outgoing .The rate shall include brick foundation with plastering complete as required.					
	Feeder Pillar -1					
	Incoming					
	1 No. 100 Amp TP pole MCCB, 25 KA service breaking capacity, with thermal release having O/L and short circuit protection and Earth fault release and heavy duty solid neutral link.					
	Bus Bar					
	1 set. of 100 Amps TPN Aluminium Bus Bars of suitable length Bus bars shall be insulated by heat shrinkable sleeves & clip on shroud for joints					
	Outgoings					
	5 No's of 10 Amp TP MCB, 10 KA breaking capacity with solid neutral link controlled by 63A FP MCB, 10 KA breaking capacity, 65A AC3 duty contactor , daily clock time switch.					
	2 No's of 40 Amp DP MCB, 10 KA breaking capacity					
	1 No's of 63 Amp FP MCB, 10 KA breaking capacity					
	Feeder Pillar described as above	Set	1.00			-
<b>C-9</b>	<b>PUBLIC ADDRESS SYSTEM</b>					
9.1	Supply and laying in position the following sizes of conduits including providing all accessories complete as required.					
9.1.1	25 mm dia GI flexible pipe	RM	200.00			-
9.2	Supplying and fixing of following sizes of steel conduit along with accessories in Surface/recess including painting complete as required.					
9.2.1	25mm. dia.	Mtr	4,550.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
C-10	<b>FIRE DETECTION AND ALARM SYSTEM</b>					
10.1	Supply, installation, testing & Commissioning of Photo thermal multicriteria intelligent addressable detector with standard base etc.complete as required and as per specifications.	No's	200.00			-
10.2	Supply, installation, testing & Commissioning of Photo thermal multicriteria intelligent addressable detector with fault isolator base etc. as required and as per specifications.	No's	10.00			-
10.3	Supply, installation, testing & Commissioning of addressable manual push button to initiate audio alarm with a breakable glass cover/resettable , intelligent addressable type complete as required.and as per specifications.	No's	4.00			-
10.4	Supply, installation, testing & Commissioning of Fire Alarm Hooter, conventional, ( sound output of minimum 90 dB upto a distance of 10 feet) with strobe light of minimum 75 cd intensity with power supply arrangement complete as required and suitable for wall/ceiling mounting.and as per specifications.	No's	4.00			-
10.5	Supply, installation, fixing, testing and commissioning of addressable control module complete as required for control of A/C, Hooters ,output to PA system, for integration with Access Control etc. complete as required.and as per specifications.	No's	12.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
10.6	Supply, installation, testing & Commissioning of micro processor based 2 wire fault tolerant loop, 2loop networkable type (each loop accessing minimum 99 detectors and 99 modules ) fire alarm/detection control panel. The panel shall be able to give location of all fire/fault conditions of addressable units via the address codes. Further, the panel must be able to automatically switch ON /OFFrespective control module when ever any alarm is triggered. The panel shall have rectifier, Loop cards, L C D unit to indicate Fire/Fault Signal with address and analog output, external/inbuilt printer to log all fire or fault events complete in all respects.The panel shall have a built in power supply and battery charger along with maintenance free 24 AH, 2 x 12 volt SMF Lead acid batteries capable of running for a minimum of 8 hours with battery charger complete as required.and as per specifications. The panel shall have a facility to relay a pre- recorded message to the PA system.	Set	1.00			-
10.7	Supply, installation, testing & commissioning with proper connection & termination of 2core, 1.5 sq. mm. stranded copper conductor, pvc insulated PVC sheathed,aluminium myler tape shielded FRLS wire in existing conduit.	RM	3,200.00			-
10.8	Supply and laying in position the following sizes of conduits including providing all accessories complete as required.					
10.8.1	25 mm dia GI flexible pipe	RM	200.00			-
<b>C-11</b>	<b>IT NETWORKING WORKS</b>					
11.1	Supply & Installation of CAT 6 information outlets complying fully or exceeding with category 6 connecting hardware specifications for all pair combinations up to 250 MHz. Outlets shall use lead frame technology, non PCB pyramid type. (Yellow in Colour for Data) complete as required. (Data)	No's	130.00			-



SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
11.2	Supply & Installation of CAT 6 information outlets complying fully or exceeding with category 6 connecting hardware specifications for all pair combinations up to 250 MHz. Outlets shall be use lead frame technology, non PCB pyramid type. (Blue in Colour for Voice) complete as required.	No's	89.00			-
11.3	Supply & Installation of Dual Face Plates along with clearly printed labels and holders complete as required.	No's	142.00			-
11.4	Supply & Installation of Single Face Plates along with clearly printed labels and holders complete as required.	No's	29.00			-
11.5	Supply & Installation of Cat 6 Mounting Cords 1 meter length for the User End & Rack End Connectivity to the System, Both end shall be RJ 45 with snagless boots. (Yellow in colour for Data) complete as required.	No's	78.00			-
11.6	Supply & Installation of Cat 6 Mounting Cords 2 meter length for the User End & Rack End Connectivity to the System, Both end shall be RJ 45 with snagless boots. (Yellow in colour for Data) complete as required.	No's	104.00			-
11.7	Supply & Installation including termination of Cat6- 4 Pair 23 AWG UTP Cable, 305m with cross member pair seperator complete as required.	No's	43.00			-
11.8	Supply & Installation of Cat 6 Patch Panels for accommodating 24 port termination and shall facilitate cross-connection and inter-connection using modular patch cords and shall conform to EIA standard, 19-inch relay rack mounting requirements. Patch Panel shall come with preloaded information outlets of non PCB and pyramid type using lead frame technology.Panel shall have label holders and designation labels as part of the standard device.Shall also come with rear cable management metallic tray with velcro ties complete as required.	No's	9.00			-
11.9	Supply & Installation of Cat 6 Mounting Cords 1 meter length for the Patch Panel End Connectivity, Both end shall be RJ 45 with snagless boots complete as required.	No's	155.00			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
11.10	Supply & Installation of Cat 6 Mounting Cords 2 meter length for the Patch Panel End Connectivity, Both end shall be RJ 45 with snagless boots complete as required.	No's	65.00			-
11.11	Supply & installation of Cat3 25 Pair Multi Pair cable complete as required. <b>(From Rack to MDF in Item No. 13 &amp; 14)</b>	RM	50.00			-
11.12	Supply & Installation MDF 50 Pair for voice connectivity complete as required.	No's	1.00			-
11.13	Supply & Installation of Jumper wire Single pair (305m) complete as required. <b>(From MDF in Item No. 13 &amp; 14 to IDF provided by EPABX vendor)</b>	No's	3.00			-
11.14	Supply & Installation of Horizontal Wire Manager front, 1U panel with metal grooves at the back, plastic snap on cover complete as required.	No's	9.00			-
11.15	Documentation, testing certification with <b>Fluke Meter</b> included project management complete as required.	LS	1.00			-
11.16	Supply & Installation of 42 U open rack with Front Glass door, rear steel door, castors, 4 cooling fans with fan tray, power strips 2 Rack Tray, Vertical PDU complete as required.	No's	1.00			-
11.17	Supply & Installation of Blank Module complete as required.	No's	10.00			-
11.18	Supply & Installation (pulling) of 6 core OM3 multi mode outdoor (armoured) FIBRE OPTIC CABLE complete as required.	RM	50.00			-
11.19	Supply & termination of SC connector (multi mode )	No's	5.00			-
11.20	Supply and installtion of SC - SC fibre patch cords multi mode as required	No's	5.00			-
<b>C-12</b>	<b>SUPPLY &amp; INSTALLATION OF RACEWAYS</b>					

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
12.1	Supply and fixing of following sizes of painted MS channel made of 18 gauge sheet steel with all accessories as required including junction boxes, suspended from the <b>ceiling</b> including providing suspension arrangement with all accessories in an approved manner complete as required.					
12.1.1	300mm x 50mm	RM	700.00			-
12.2	Supply and fixing of following sizes of MS channel colour coded Orange for power, Blue for Data ,14 gauge, with openable cover and all accessories as required for fixing on <b>wall/column</b> complete as required including providing junction boxes,bends and tees as required.					
12.2.2	300 mm x 50 mm	RM	75.00			-
<b>C-13</b>	<b>PERFORATED TYPE CABLE TRAY</b>					
13.1	Supplying and installing following size of perforated pre-painted M.S cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S suspenders including bolts & nuts, painting suspenders etc as required.					
13.1.1	900 mm width x 62.5mm depth x 2.0 mm thickness	RM	30.00			-
13.1.2	750 mm width x 62.5mm depth x 2.0 mm thickness	RM	10.00			-
13.1.3	600 mm width x 62.5mm depth x 2.0 mm thickness	RM	40.00			-
13.1.4	450 mm width x 62.5mm depth x 2.0 mm thickness	RM	35.00			-
13.1.5	300 mm width x 62.5mm depth x 2.0 mm thickness	RM	45.00			-
13.1.6	150 mm width x 50mm depth x 1.6 mm thickness	RM	25.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	<b>SUB TOTAL OF ALL ELECTRICAL WORKS</b>					-

## BILL OF QUANTITY

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>D</b>	<b>AIRCONDITIONING WORKS</b>					
<b>D-1</b>	<b>AIR DISTRIBUTION SYSTEM</b>					
<b>1</b>	<b>Factory Fabricated Rectangular Duct</b>					
	Supply, fabrication, installation and testing of <b>G.S.S. sheet metal</b> ducting complete with Splitter Damper, vanes as required as per ISI & confirming to specification.					
	<b>Note : Main Duct Damper &amp; Splitter Shall be a part of ducting.</b>					
<b>i</b>	24 G (0.63 mm)	Sqm	150.00			-
<b>ii</b>	22 G (0.80 mm)	Sqm	30.00			-
<b>2</b>	Supply, installation and testing of 50micron Powder coated <b>Aluminium extruded grills with</b> 12.5mm pitch & 5mm nominal thickness of blade as per specification & Shop Drawing & of following sizes:					
<b>i</b>	Grille without VCD (150mm high)	Sqm	5.00			-
<b>3</b>	<b>Aluminium extruded Volume Control Dampers</b> to be provided in supply air registers / terminals.	Sqm	2.50			-
<b>4</b>	Supplying & fixing of <b>Fresh air intake louvers</b> with bird screen with dampers (Aluminium extruded only).	Sqm	0.50			-

Sl.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
5	Supplying , installation, testing & commissioning of external thermal insulation on ducts with <b>Closed Cell Cross Linked Polythylene (XLPE) Foam of density 33 Kg/m<sup>3</sup> with 12mm thick &amp; thermal Conductivity not exceeding 0.035 W/mK</b> at an average Temperature of 40°C. The Material Shall be rated as Class 1, As per BS476 Part7,The Smoke Density as per AS - 1530.3 Shall not exceed 1.The Material shall have Fire Approval from CBRI - Roorkee & no toxicity under flaming and non- flaming condition as per AITM 3.000 (1993) .Adhesive used for setting the insulation shall be non - flammable,Vapour Proof. All Joints should be sealed with 3 mm thick 50 mm wide PE tape and Flange to be overlapped by 6" width of the same material thickness. Finally Duct insulated should be strapped by 12mm PlasticPacking strip at every random meter & conforming to standard Spec.					
i	<b>12 mm thick</b> Closed Cell Cross Linked Polythylene( XLPE) Foam with Factory Laminated Al PE Foil for Supply Air Duct	Sqm	180.00			-
6	Supplying and fixing of <b>acoustic lining of duct</b> with fibre glass rigid board of density 48 Kg/m <sup>3</sup> sealed in fibre glass tissue paper and covered with 0.5 mm thick perforated aluminium sheet and conforming to standard specification.					
	12 mm thick fibre glass rigid board.	Sqm	10.00			-
	<b>SUB TOTAL OF ALL AIRCONDITIONING WORKS</b>					-
						-

## BILL OF QUANTITY

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
<b>E</b>	<b>HORICULTURE AND LANDSCAPE WORKS</b>					
1	Ploughing or trenching of existing ground to a depth of 15-25cms and watering the same of all kind of soil. Clearance of site including removal of bushes, vegetation etc.& disposal of same out side the project site as directed.					
	For Lawn And Ground Cover	100 Sqm	650.00			-
2	Rough dressing of the trenched ground including breaking clods	100 Sqm	650.00			-
3	Supplying and stacking of good earth at site by mechanical transport, loading-unloading including royalty and carriage with all lead and lifts (good earth measured in stacks will be reduced by 20% for payments) 0.15(6 Inch thick)					
	For Lawn And Ground Cover	Cum	98.00			-
4	Supplying and stacking of cowdung or sludge manure at site by mechanical transport, loading-unloading including royalty and carriage with all lead and lifts (cow dung manure measured in stacks will be reduced by 8% for payments) 0.0125 (½) for Lawn, 0.025 (1 Inch) for Ground Cover and 1/3 volume of pits					
		Cum	22.00			-
5	Supplying and stacking of river sand at site by mechanical transport loading/unloading including royalty and carriage with all lead and lifts 0.00625 (¼ Inch) for lawn and Ground Cover and 1/3 of volume of pits					
		Cum	14.00			-
6	Uprooting weeds form the trenched area after 10 to 15 days of its flooding with water including disposal of uprooted vegetation.					
		100 Sqm	650.00			-
7	Spreading of good earth, cowdung manure and river sand in required thickness (cost of good earth cowdung manure and sand to be paid separately.)					
		Cum	128.00			-

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8	Mixing earth and sludge or manure in proportion as specified.	Cum	128.00			-
9	Fine dressing of ground	100Sqm	400.00			-
10	Grassing with Pusa Selection-1 for any grass including watering and maintenance of the lawn till the grass form a thick lawn free from weeds and fit for mowing including supplying good earth, if needed (the good earth shall be paid for separately). In rows 5cm apart in either direction	100 Sqm	400.00			-
11	Supply and applying of chemical fertilizer before or after as per requirement					
a	Urea / Ammonium Sulphate (30gm/M <sup>2</sup> )	Kgs	20.00			-
b	Bone Meal (150gm/M <sup>2</sup> )	Kgs	98.00			-
c	Potassium Sulphate or Murate of Potash (20gm/M <sup>2</sup> )	Kgs	13.00			-
d	Provision of insecticides (10ml IN 10 ltr/M <sup>2</sup> )	Ltr	6.50			-
12	Trenching in ordinary soil upto a depth of 60cm including removal and stacking of serviceable material and then disposing of by spreading and neatly levelling with in a lead of 50m and making up the trenched area to a proper levels by filling earth or earth mixed with sludge or manure and insecticide before and after flooding trench with water (excluding cost of imported earth or sludge or manure. During planting Ground Cover area will be measured in Sqm., a carpet effect is required at the time of installation if not otherwise specified)					
	Please note, the specification for the item is 'Carpet Effect' i.e. on installation 80% of ground should be not visible due to plant cover. The spacing therein depends on the quality and the type of plant put in i.e. denser the habit more is the spacing to achieve the final effect thus 'spacing' is not a friction of the rate for the ground cover.	Cum	150.00			-



SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
13	Digging pits in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any with all leads and lifts. (Cost of manure sludge or extra good earth if needed to be paid for separately).					
a	Pits 1.0m dia and 1.0m deep for trees and palms	Nos	51.00			-
b	Pits 0.6m dia and 0.6 deep for shrubs and climbers	Nos	4.00			-
14	<b>Trees</b>					
	Procurement of various kinds of trees from source plant nurseries, and supply at site of work including loading packaging, transportation, damages during transit, unloading, stacking at site nursery, maintenance, watch and ward at site till final plantation at site of work, carriage from site of work and contractor's profit and over head charges complete, the rate also including cost of plantation and replacement of mortalities.Trees, 2.75 m & above, stout self with standard straight stem. Well branched, good natural grown in 10"-12" poly bags / katta (except mangolia floria and acacia species of ridge area.					
(a)	Azadirachta indica [Neem]	Each	11.00			-
(b)	Dalbergia sissoo [Shisham]	Each	10.00			-
(c)	Plumera Alba [Champa]	Each	30.00			-
15	Procurement of various kinds of Decorative plants/ dwarf / medium shrubs, 60 cm and above well spread, established in 8" earthen pots/Polythene Bag including loading packaging, transportation, damages during transit, unloading, stacking at site nursery, maintenance, watch and ward at site till final plantation at site of work, carriage from site of work and contractor's profit and over head charges complete, the rate also including cost of plantation and replacement of mortalities.a carpet effect is required at the time of installation if not otherwise specified.					

SI.No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Bougainvillea trinidad, Lantana depressa, Wedelia trilobata, Clerodendrum inerme, Nerium oleander-dwarf	Sq.m	250.00			-
	<b>SUB TOTAL</b>					-