

**VOL-3
BILL OF QUANTITIES
SRFDCL**

**NAME OF WORK:-CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND
PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS
CONNECTING RIVERFRONT FOR SRFDCL.**

RECAPITULATION SHEET

No.	Item of Works	Amount in Rs.
A	Civil Works + Plumbing Work	43,41,55,193.67
B	Electrical & ELV,ELV, & HVAC Work	6,03,93,331.17
C	Fire Protection Work	1,77,65,008.15
	Total Amount (Without GST)	51,23,13,532.99

PRICE BID
(VOLUME - 3 For Civil & PHE Works)

CLIENT:

Price Bid: Bill of Quantities (BOQ)

Name of Contractor : _____

Address :

Tender Amount : Rs.

Contractor's Quoted Rates :

..... % above Add Rs.

OR

..... % below deduct Rs.

.....

..... Only)

Ahmedabad Municipal Corporation

PLEASE NOTE : PLEASE DO NOT FILL PRICE BID IN HARD COPY.



SUMMARY

No.	Item of Works	Amount in Rs.
A	Civil Works + Plumbing Work	43,41,55,193.67
		43,41,55,193.67

**NAME OF WORK- CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA -
TAGORE HALL CAMPUS CONNECTING RIVERFRONT FOR SRFDCL.**

SCHEDULE OF QUANTITIES

Item No.	Description of Item	Unit	Total QTY	Rate(Rs.)	Amount(Rs.)
CIVIL WORK					
EARTH WORKS					
1	Clearing and grubbing road land including uprooting rank vegetation grass bushes,shrubs,sapling and trees girth up to 300 mm removal of stumps of trees cut earlier and disposal of unserviceable materials. (C) By mechanical means in area of light jungle	Sqm	12,500.00	2.81	35,125.00
2	Cutting and felling trees of girth as specified below (measured at a height of 1 m above ground level) including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable materials within campus at directed place etc complete all as per specifications and as directed by the Engineer-in-charge Girth beyond 30 cm, up to and including 60 cm girth.	Nos	5.00	451.00	2,255.00
2.1	Girth beyond 60 cm, up to and including 120 cm girth.	Nos	10.00	2,011.00	20,110.00
3	Excavation for foundation upto 1.5 m depth including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil	Cum	14,000.00	115.92	16,22,880.00
4	Excavation for foundation for depth from 1.5 m to 3.0 m including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil	Cum	13,777.50	128.52	17,70,684.30
5	Excavation for foundation for depth from 3.0 m to 5.0 m including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil	Cum	18,370.00	141.11	25,92,190.70
6	Extra for additional depth more than 5.0 m for excavation for foundation including sorting out and stacking of useful materials and disposing of the excavated stuff upto 50 m lead.(A) Loose or soft soil	Cum	13,777.00	162.02	22,32,149.54
7	Uncoursed Rubble Masonry with hard stone of approved quality in foundations and plinth in Cement Mortar 1:6 (1-cement : 6-coarse sand including levelling up etc. complete	Cum	50.00	2,475.26	1,23,763.00

8	Conveyance charges of earth lime, murrum, building rubbish, manure, garbage, sludge, excavated rock, fly ash, aggregate of any kind etc. comp. upto any lead. up to 1.0 km	Cum	1,000.00	256.16	2,56,160.00
8.1	Above 1.0km & up to 5 km	Cum	25,000.00	326.73	81,68,250.00
8.2	Above 5.0 km & up to 10.00 km	Cum	25,000.00	363.78	90,94,500.00
9	Filling available excavated earth (excluding rock) in trenches. plinth, sides of foundations etc. in layers not exceeding 20 cm. in depth consolidating each disposed layer by ramming and watering.	Cum	4,222.00	129.10	5,45,060.20
10	Filling in plinth with sand under floors including watering ramming, consolidating and dressing complete	Cum	250.00	455.63	1,13,907.50
11	Carring out plinth treatment to pre or post construction / existing structure by spraying chemical solution for termite control treatment including labour and material consistment with I.S.I specification. Using Chlordene and Chiorpurfiles 20 EC. As Per 6131_paret-II Consentration Weight one percent is recommended i.e one litre 20 EC chemical emulsion with 19 liter give 1 % concentration inclusive of one litre chemical emulsion appication at the rate of 5 Litre chemical / Sqm of surface is recommended as per I.S and as per directions of Clerk-of-Work. For all levels and leads.	Sqm	1,000.00	104.90	1,04,900.00
12	Demolition and disposal of unserviceable materials with all lead and lift.(i) Cement concrete.	Cum	100.00	603.23	60,323.00
13	Demolition including stacking of serviceable materilas and disposal of unserviceable materials with all lead and lift. (i) R.C.C. work	Cum	250.00	1,047.38	2,61,845.00
14	Dismantling barbed wire in fencing including making rolls and also including dismantling fencing posts including all earth work concrete in base and making good the disturbed ground stacking useful materials as directed and disposing as directed and disposing of the unserviceable materials with all lead and lift	Rmt	500.00	66.15	33,075.00
15	Demolition of Brick work and stone masonry including stacking of serviceable materilas and disposal of unserviceable materials with all lead and lift.(ii) In Cement Mortar.	Cum	500.00	544.95	2,72,475.00
16	Dismantling and stacking within 50 metres lead, fencing posts or struts including all earth work and dismantling of concrete etc. in base of : T' or 'L' iron or pipe	Nos	20.00	230.90	4,618.00
17	Dismantling steel work including distempering and stacking the materials with all lead and lift.	Kg	10,000.00	3.63	36,300.00

18	Scarifying gravelled macadam or bitumen macadam surface 6cm to 10cm .depth including stacking useful materials on roadside and disposing off remaining stuff.	Sqm	1,500.00	39.23	58,845.00
19	Dismantling barbed wire in fencing including making rolls and also including dismantling fencing posts including all earth work concrete in base and making good the disturbed ground stacking useful materials as directed and disposing as directed and disposing of the unserviceable materials with all lead and lift	Rmt	500.00	66.15	33,075.00
20	Dismantling kerb stone by manual means and disposal of dismantled material with all lifts and up to a lead of 1000 metre as per MoRT&H specification clause 202.	Rmt	500.00	30.00	15,000.00
21	Removing rough/ smooth finished interlocking paver blocks of 60/80 mm thickness for pavement in footpath / parking at required loactions including cleaning the surface, stacking and storing serviceale materials at directed place within campus and disposing off the debris at directed place within campus etc. complete all as per specification and as directed by the Engineer- in- Charge.	Sqm	320.00	48.00	15,360.00
				SUB TOTAL	2,74,72,851.24
PLAIN AND REINFORCED CEMENT CONCRETE					
22	Providing and laying cement concrete 1:2:4 (1-Cement:2-Coarse sand:4-graded stone aggregates 20mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	Cum	1,458.70	3,661.30	53,40,738.31
23	Bored cast-in-situ M30 grade R.C.C. pile excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m. (Pile diameter- 750 mm)	RMT	7,722.00	6,413.68	4,95,26,436.96
24	Providing and laying in position M- 250 grade concrete for reinforced cement conctere work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point of laying, excluding the cost of centering shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly (GRADE SLAB)	Cum	896.50	4,853.56	43,51,216.54

25	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point of laying, excluding the cost of centering shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (FOOTING)	Cum	3,894.70	5,043.66	1,96,43,542.60
26	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point of laying, excluding the cost of centering shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (RCC BEAM WITH SLAB DEPTH DEDUCTED)	Cum	3,144.50	5,043.66	1,58,59,788.87
27	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point of laying, excluding the cost of centering shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (RCC COLUMN)	Cum	813.90	5,043.66	41,05,034.87
28	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point of laying, excluding the cost of centering shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (RCC WALL)	Cum	459.90	5,043.66	23,19,579.23

29	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point of laying, excluding the cost of centering shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (RCC SLAB)	Cum	3,112.70	5,140.94	1,60,02,203.94
30	Providing and laying cushioning layer on R.C.C. Slab consisting of 75mm thick lime, concrete using brick aggregate of 20mm nominal size mortar comprising of 1-Lime : 2-fine sand	Sqm	9,185.00	234.68	21,55,535.80
31	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point of laying, excluding the cost of centering shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (STAIRCASE)	Cum	20.55	5,043.66	1,03,647.21
32	Providing TMT Bar FE 550D reinforcement for R.C.C. work including bending, binding and placing in position complete upto floor two level	Kg	15,91,960.45	75.46	12,01,29,335.56
33	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (A) Foundations Footings Bases of Columns etc. and Mass concrete.	Sqm	3,199.00	171.68	5,49,204.32
34	Providing, erecting, fixing, in position, striking/removing and cleaning shuttering & centering for formwork of with Sheathing Steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (G) Columns Pillars Posts and struts. (1) Square Rectangular Polygonal in plan. (2) Circular or curved in Plan.	Sqm	967.00	391.70	3,78,773.90

35	Extra for additional height of propping and centering where the height of propping and centering exceeds 4 .0 M between supporting floor to ceiling including temporary brick or stone pillars for supporting as required. (ii) Height more than 5.0M.and upto 6.0 M.	Sqm	36.00	776.03	27,937.08
36	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (C) Vertical surface such as walls (any thickness) partitions and the like including attached buttresses & string course & the like.	Sqm	4,950.00	229.95	11,38,252.50
37	Providing, erecting, fixing, in position, striking/removing and cleaning shuttering & centering for formwork of with Sheathing Steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (B) Flat surfaces such as soffits of supspened floors slabs Landings and the like. (1) Floors etc. upto 200 mm in thickness.	Sqm	20,751.50	346.02	71,80,434.03
38	Providing, erecting, fixing, in position, striking/removing and cleaning shuttering & centering for formwork of with Sheathing Steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (H) (1) Sides and soffits of Beams Beam Haunchings cantilevers Girders Bressumers and Lintels not exceeding 1 M. in Depth	Sqm	24,228.00	286.16	69,33,084.48
39	Providing, erecting, fixing, in position, striking/removing and cleaning shuttering & centering for formwork of with Sheathing Steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (B) Flat surfaces such as soffits of supspened floors slabs Landings and the like. (1) Floors etc. upto 200 mm in thickness. (Stair Case)	Sqm	139.78	346.02	48,366.68

40	<p>Expansion Joint Floor to Floor Applying and providing Expansion joint sealing System on 100 mm wide joint including cleaning of expansion joint by mechanical means provision of adhesive and flexible membrane with required bond length as per manufacturer specification and 4mm thick aluminium strip covering with one side slotted and bolted with suitable system, inclusive of all manpower, machinery and material as per specification and as directed.</p>	RMT	319.50	4,724.75	15,09,557.63
41	<p>Expansion Joint Floor to Floor at Terrace Applying and providing Expansion joint sealing System on 100 mm wide joint including cleaning of expansion joint by mechanical means provision of adhesive and flexible membrane with required bond length as per manufacturer specification and 4mm thick aluminium strip covering with one side slotted and bolted with suitable system, inclusive of all manpower, machinery and material as per specification and as directed.</p>	RMT	159.75	4,724.75	7,54,778.81
42	<p>Expansion Joint Wall to Wall Applying and providing Expansion joint sealing System on 100 mm wide joint including cleaning of expansion joint by mechanical means provision of adhesive and flexible membrane with required bond length as per manufacturer specification and 4mm thick aluminium strip covering with one side slotted and bolted with suitable system, inclusive of all manpower, machinery and material as per specification and as directed.</p>	RMT	50.00	4,724.75	2,36,237.50
43	<p>Earthwork for embankment including breaking clods, dressing with all lead and lift and including watering rolling and consolidation of subgrade in layers at O.M.C. to required dry density including filling the depression which occur during the process using power roller 8T to 10T.(E) From Borrow area within 3.0KM. lead</p>	Cum	637.50	167.76	1,06,947.00
44	<p>Construction of 300mm (as per IRC 37) Thick Granular sub base(GSB-I) by providing coarse graded material using B.T Metal 53 mm to 26.50 mm @ 35 % ,26.50 mm to 4.75mm 45% & Coarse sand below 2.36 mm 20 % in uniform layer with motor grader on prepared surface mixing by mix in place method with vibratory roller to achieve the desired density complete as per close 401</p>	Cum	335.01	1,143.27	3,83,006.88

45	Construction of Dry Lean Cement Concrete Sub-base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per table 600-1, cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing.	Cum	191.25	3,335.86	6,37,983.23
46	Construction of reinforced, dowel jointed, plain cement concrete of M40, pavement over a prepared sub base with Ordinary Portland Cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form or slip form paver, spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, debonding strip, dowel bar, tie rod, admixtures as approved, curing compound, finishing to lines and grades as per drawing.	Cum	382.50	7,491.00	28,65,307.50
47	Providing and laying cement concrete 1:2:4 (1-Cement:2-Coarse sand:4-graded stone aggregates 20mm nominal size) and curing complete excluding cost of formwork in Footpath.	Cum	15.18	3,661.30	55,578.53
SUB TOTAL					26,23,42,509.96
MASONRY WORK					
48	Masonry work using Aerated light weight concrete block having crushing strength not less than 35 kg/sqcm for super structure above plinth level in cement mortar 1:5 (1 cement : 5 fine sand) complete as per Technical Specification.	CUM	332.99	4,483.73	14,93,021.56
49	Brick work using common burnt clay building bricks having crushing strength not less than 35 kg./Sq.Cm. in Super Strucutre above plinth level in Cement Mortar 1:5. (1-Cement : 5 -fine sand)(A) Modular	CUM	1,085.10	4,607.37	49,99,435.07
SUB TOTAL					64,92,456.63
PLASTERING AND PAINTING					

50	<p>Internal Plaster Providing 15 mm. thick cement plaster in single coat on fair side of brick wall for interior plastering upto floor two level finished even and smooth in Cement mortar 1:4 (1 cement : 4 fine sand) For all levels, hights and leads of works. etc, complete for all floor heights as directed. Rate shall be inclusive of hexagonal chickenmesh at junction of concrete and brick work. Minimum width of the chicken mesh shall be 150 mm covering the brick / concrete surface equally, as directed by EIC.</p>	SQM	10,937.79	155.61	17,02,029.04
51	<p>Ceiling Plaster Providing 10mm thick cement plaster in single coat on brick/concrete ceilings and soffits of stairs upto floor two level and finished even and smooth in (ii) Cement mortar 1:4 (1-cement :4-sand)</p>	SQM	500.00	139.23	69,615.00
52	<p>External Plaster Providing and laying average 20 mm. thick double coat Sand face plaster on external walls upto any height above ground level and for all shapes consisting of average 14 mm. thick backing coat of CM 1:3 (1 cement: 3 coarse sand) and average 6 mm. thick uniform grained textured finish coat using wooden Gutka, in CM 1:1 (1 cement: 1 sand),with line , level & plumb, including scaffolding, forming grooves, drip moulds, pattas, hacking RCC surface, curing etc. complete. as directed by EIC. Rate shall be inclusive of hexagonal chickenmesh at junction of concrete and brick work. Minimum width of the chicken mesh shall be 150 mm covering the brick / concrete surface equally.</p>	SQM	454.79	297.68	1,35,380.85
53	<p>Putty & Primer Applying two coats of acrylic putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.</p>	SQM	69,927.31	40.19	28,10,378.67
54	<p>Internal Paint Providing and painting internal walls with two coats of plastic emulsion paint of approved make & of shade. The rate shall include for all ladders, scaffolding and supports and including complete surface preparation, including scraping the surface off existing surface paint, loose particles and cleaning and applying primer and putty as necessary to achieve a surface in perfect line and level. Wherever necessary, POP punning or cement plastering needs to be done as per site condition, if the plastered surface has chipped off. The final finished surface should be smooth and in perfect line and level without undulations on surface. etc. complete as directed by EIC.</p>	SQM	69,927.31	78.44	54,85,098.35

55	External Paint Providing, applying and finishing wall with weather proof exterior emulsion paint on wall surface (two coats) to give an required shape even shade after thoroughly brushing the surface to remove all dirt, and remains of loose powdered materials.etc complete. as directed by EIC.	SQM	454.79	113.40	51,572.79
SUB TOTAL					1,02,54,074.69
WATER PROOFING					
56	Providing & laying broken white china mosaic flooring for plain and curved surfaces, comprising of 12 to 20 mm. size broken pieces of white glazed tiles laid over water proofing using cement mortar 1:3 bedding, The flooring shall be tampered to bring the mortar cream up to the surface, including rounding of the junctions and extending them upto 30 cm. along the parapet wall. The rate shall include bands, if different colour is used, any pattern or design as per drawing and direction, curing, cleaning with water and oxalic acid, etc. complete. as directed by EIC.	Sqm	115.45	739.89	85,421.56

57	<p>Providing and laying integral cement based waterproofing treatment of the agency approved by department, including preparation of surface as required for treatment of roofs, terraces etc mixing with waterproofing compound as per IS:2645, with average thickness of 115mm and minimum thickness at drain point as 65 mm. Following works are included in above item</p> <p>(i) Applying and grouting a slurry coat of neat cement using 2.75 kg/sqm. of cement admixed with proprietary water proofing compound over the RCC slab including cleaning the surface before treatment.</p> <p>(ii) Laying cement concrete using broken bricks/brick bats 25 mm to 100 mm size with 50% of cement mortar 1:4 (1 cement : 4 coarse sand) using Ready mix mortar admixed with proprietary water proofing compound over 20 mm thick layer of cement mortar of mix 1:4 (1 cement : 4 coarse sand) using Ready mix mortar admixed with proprietary water proofing compound to required slope and treating similarly the adjoining walls up to 300 mm height including rounding of junctions of walls and slabs.</p> <p>(iii) After two days of proper curing applying a second coat of cement slurry admixed with proprietary waterproofing compound.</p> <p>(iv) Finishing the surfaces with 20 mm thick jointless cement mortar of mix 1:4 (1 cement : 4 coarse sand) using Ready mix mortar admixed with proprietary water proofing compound and finally finishing the surface to receive the China Mosaic waterproofing treatment.</p> <p>(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 and as directed and specified by the Engineer in Charge.</p>	Sqm	115.45	1,425.00	1,64,518.67
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58	<p>Providing and applying single component, solvent based liquid applied elastomeric seamless bitumen / tar free high solids polyurethane Membrane, of approved brand with necessary guarantee bonds for 10 years, by roller / squeegee with a total consumption of 2.3 kg /m2 to form a total system DFT of 1.5 mm thickness (Conforming to ASTM C 836). The membrane shall be applied on horizontal surfaces and on verticals up to 300mm height above the FFL, self-curing for 4 days, including application of one coat of single component polyurethane primer approved brand @ 0.20-0.25 lit/ m2 including cleaning and making necessary surface preparation to remove any dust and laitance etc., chasing open the construction joints, cracks and sealing the same to form a U shaped groove of approx. 5 mm width and 8 mm depth, using Epoxy mortar of approved make, carrying out injection grouting at the construction joints, honeycombs, etc, by injecting cement slurry grout admixed with expandable grout additive @ 330 gms per 50 kg bag of cement to full saturation wherever necessary, making wall and floor junction detailing with PU flashing reinforced with 40 gsm polyester scrim embedded between the two coats of polyurethane membrane, etc, complete.</p> <p>The Polyurethane membrane shall have following minimum properties:</p> <ol style="list-style-type: none"> 1. Solids > 85%, 2. Elongation > 600% as per ASTM D412, 3. Shore A Hardness > 40 as per ASTM D2240, 4. Crack bridging upto 3 mm as per ASTM C836, 5. Adhesion to primed concrete > 2 Mpa as per ASTM D 4541, 6. Tensile strength > 2 Mpa as per ASTM D412, 7. Hydrostatic head resistance NIL upto 50 M as per BS EN 12390-8 / DIN 1048 standard 	SQM	27,252.29	944.00	2,57,26,161.76
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59	<p>Water Proofing (Retaining wall) (Cleaning and Preparation of surface with help of wire brush or grinder, wash the slab with clean water. Remove all loose concrete, grease, oil using wire brush and scrubber. Repair and fill all cracks, joints and annular space is included) Supplying and installalling of 1.2 mm thick polyurethane single-component with coverage of 1.8kg/sqm having solid content > 87%, VOC: 190g/L: Tensile Strength > 12 Mpa, Elongation: 550%; Tear Strength; >40 N/mm; Flexibility at Low Temperature: -35°C, No crack; Water Impermeability (0.3MPa,120min) - Water Impermeability; Adhesion Strength Hardness : ≥ 2.8.0MPa, The cleaning and preparation of the substrate to which the pure polyurea is applied must be carried out thoroughly to leave a sound base for the application. Concrete and other cementitious substrates must have a minimum pull off strength of 2 N/mm2. Any laitance present on the surface must be removed mechanically. Release oil and other contaminants which may impair adhesion must be removed prior to the application of the primer, the system shall consist of filler epoxy based primer consumption of 350 grams with quartz sand broadcast for mechanical grip having density 1500 kg/m3, viscosity - 1100 MPa·s);,Covering this with a dimple board of around 8mm with closed cell.</p>	SQM	203.64	1,506.50	3,06,788.79
60	<p>Providing and laying at all levels, floors & loaction an elastic (300%), pasty, solvent-free and UV resistant synthetic Waterproofing system with excellent bonding to the substrate manufactured by approved manufacturer, the waterproofing system is brush applied in two coats, reinforced with Glass Fiber Mesh between each coat, which forms a highly flexible, water-tight and water permeable coating. including treating the joints such as construction joint and separation joint with High Strength Polymer Modified Mortar, cleaning etc to ensure an un-interrupted and even coating of waterproofing application, testing the water tightness by ponding water for 7 days etc complete all as per specifications and as directed by the Engineer-In-Charge. Note: No extra payment shall be made for arrangement of water for carrying out necessary water tightness test.</p>	SQM	6,699.67	1,100.00	73,69,633.43

61	<p>WET Areas - Sunk Slab, Bathroom, Kitchen, Podium, Terrace, OHT & UGT Water Proofing</p> <p>(Cleaning and Preparation of surface with help of wire brush or grinder, wash the slab with clean water. Remove all loose concrete, grease, oil using wire brush and scrubber. Repair and fill all cracks, joints and annular space is included)</p> <p>Supply and application of 2mm thick with a covergae of 3.2kg/sqm in 2 coats two-component, high flexible, elastic cementitious mortar made from cementitious binders, fine-grained selected aggregates, special admixtures and synthetic polymers in water dispersion with an elongation of 120% (DIN 53504), Static crack bridging ability of >2.5mm (EN 1062-7), Permeability to water vapour sD = 3.6 m, $\mu = 1800$ (EN ISO 7783-1), Impermeability to water < 0.05kg/m²·h0.5 (EN 1062-3), Permeability to CO₂ sDCO2 >50m (EN 1062-6), Reaction to fire (Euroclass): E (EN 13501-1), adhesion to concrete after 28 days: 1.3N/mm² (EN 1542) when applied @ 2mm thickness (in 2 coats) on the surface prepared for waterproofing to be carried out to ensure the mechanical properties of the product with Mapenet 150. The application of the product shall be carried out after the thorough preparation of the surface which includes cleaning, crack treatment, corner joint treatment, grouting and priming primer having Colour: opalescent Speci c gravity (kg/l): 1.01 Dry solids content (%): 15 Brook field Viscosity # 1, rpm 10 (mPa·s): 20 in dilution with water {1:1}.</p> <p>Additionally apply fiber net for reinforcing the waterproofing membrane and with Mapenet 150 tensile strength should be complied minimum 3.2 MPa after curing.</p> <p>1. Tensile Strength : 3.2 Mpa 2. Crack Bridging: 2.8 mm</p>	SQM	155.13	1,127.00	1,74,834.89
SUB TOTAL					3,38,27,359.10
PAVING AND FLOOR FINISHING					

62	<p>Granite Flooring(30mm thk,Leather Finish) Providing & laying machine cut & Leather finish 30 mm thick Granite Stone of Steel Grey / Sadarhalli / Brown or other approved colour at all floor & location in necessary cement mortar bedding /backing, close jointed & grouted with matching cement slurry and rounding of edges, finished to line, level,curing etc. as required, including cutting of stone slab, wastage, making cut outs, grooves wherever required, machine polishing/ hand polishing (where machine cannot have access) etc. complete all as per specifications, drawings and as directed by the Engineer in charge. Note: Top exposed surface on plan &exposed vertical finished face shall be measured for payment in Sqm.</p>				
62.1	<p>In flooring with Leather finished Granite stone of size 800mm x 800mm/ 1000mm x 1000mm / (and any other size and pattern as per drawing) laid over & including 20mm thick cement mortar1:4 (1 cement : 4 coarse sand) bedding. including cement slurry at 4.40 Kg/Sqm over bedding and matching slurry with white cement at 2.20 Kg/Sqm for grouting the joints..</p>	SQM	224.84	3,040.00	6,83,509.34
63	<p>Granite Flooring(18mm thk,Leather Finish) Providing & laying machine cut & Leather Finish 18mm - 20mm thick Granite Stone of Steel Grey /Sadarhalli / Z Brown / Brown or other approved colour at all floor & location in necessary cement mortar bedding /backing, close jointed & grouted with matching cement slurry and rounding of edges, finished to line, level,curing etc. as required, including cutting of stone slab, wastage, making cut outs, grooves wherever required, machine polishing/ hand polishing (where machine cannot have access) etc. complete all as per specifications, drawings and as directed by the Engineer in charge. Note: Top exposed surface on plan &exposed vertical finished face shall be measured for payment in Sqm.</p>				
63.1	<p>In flooring with machine Leather Finish Granite stone of size 800mm x 800mm/ 1000mm x 1000mm / (and any other size and pattern as per drawing) laid over & including 20mm thick cement mortar1:4 (1 cement : 4 coarse sand) bedding. (Using ready mix mortar) including cement slurry at 4.40 Kg/Sqm over bedding and matching slurry with white cement at 2.20 Kg/Sqm for grouting the joints.</p>	SQM	528.81	3,150.00	16,65,751.50
63.2	<p>Staircase Treads/riser 18 mm thick one side Leather finished granite stone of approved colour, shade and surface finish for dado/skirting/Tread/Riser stone slabs of various sizes in pattern including 12 mm thick 1:4 cement mortar (Using ready mix mortar) backing.</p>	SQM	622.49	3,600.00	22,40,973.00

64	<p>Granite Flooring Providing & laying machine cut & machine polished (mirror finish) 25mm thick Granite Stone of Steel Grey /Sadarhalli / Z Brown / Brown or other approved colour at all floor & location in necessary cement mortar bedding /backing, close jointed & grouted with matching cement slurry and rounding of edges, finished to line, level,curing etc. as required, including cutting of stone slab, wastage, making cut outs, grooves wherever required, machine polishing/ hand polishing (where machine cannot have access) etc. complete all as per specifications, drawings and as directed by the Engineer in charge. Note: Top exposed surface on plan &exposed vertical finished face shall be measured for payment in Sqm.</p>				
64.1	<p>Granite Jamb 18 mm thick one side machine polished granite stone of approved colour, shade and surface finish for door and window jamb /Facia/Top Ledge /Window sill with stone slabs of various sizes in pattern including 12 mm thick 1:4 cement mortar (Using ready mix mortar) backing, fixing of 6mm (approx.) size angular stone chips to the backside of granite after applying araldite to the unpolished surface of the granite to create a surface suitable for proper bond with backing and filling the space between granite and backing with cement slurry including adequate curing etc. complete as directed and including rounding & polishing all exposed edges in semicircle / chamfering / or as per drawing & as ditected.</p>	SQM	30.00	2,850.00	85,500.00
64.2	<p>For top of dwarf walls, parapets, seat wall, planter wall etc using machine polished Granite stone of approved colour, shade & size as per drawing laid over & including 20mm thick cement mortar1:4 (1 cement : 4 coarse sand) bedding. (Using ready mix mortar) including cement slirry at 4.40 Kg/Sqm over bedding and matching slurry with white cement at 2.20 Kg/Sqm for grouting the joints. including half round / semi circle / camfering moulding & polishing of exposed face etc complete.</p>	SQM	350.00	3,050.00	10,67,500.00
65	<p>Cobble Flooring Providing and fixing cobble stone of size 100 x 100 x 100 mm thick, in approved pattern and approved colour & shade, including providing & laying 20 mm thick bedding of cement mortar (using ready mix mortar having cement: sand, 1:4) finishing to line, level and slope, finally filling the joints with matching cement mortar and cleaning the surface etc. complete all as per specification and as directed by the Engineer- in- Charge.</p>	SQM	8,329.39	2,250.00	1,87,41,138.41

66	<p>Trimix flooring - BROOM / SMOOTH FINISH Providing and laying C.C. pavement of mix M-25 with batch mixed concrete from batching plant. The concrete shall be casted in panel and finished with screed board vibrator, vacuum dewatering (VDF) process and finally finished by floating, brooming with machine. Grooves to be made of size 5mm wide and one third of thickness of concrete within 48 Hours of concreting to form bay of 4 x 4 meters using heavy duty cutting machine with diamond cutting wheel and filling of the groove with appropriate sealant etc. complete as per specifications and as directed by the EIC. If trimix concrete shall be laid over on existing concrete surface, bonding agent shall be applied before laying of concrete at all basements floors. Reinforcement if required shall be paid in relevant tender item.</p>	Cum	1,515.90	6,043.00	91,60,586.96
67	<p>Parking Pavers Providing and fixing 80 mm thick (min.) factory made paver blocks of specified finish (shot blasted), approved make and colour, shade, size, shape laid in pattern manufactured with cement concrete grade not less than M-40 and conforming to IS:15658, including providing & laying 20 mm thick bedding of cement mortar (using ready mix mortar having cement: sand, 1:4) finishing to line, level and slope, finally filling the joints with matching cement mortar and cleaning the surface etc. complete all as per specification and as directed by the Engineer- in- Charge.</p>	SQM	1,189.86	1,600.00	19,03,770.96
68	<p>KERB Providing and fixing Pre cast Kerb blocks of various types (Half Batter, Bull nose, Flat, offlet, Transition, Dropper, etc.) and size of 600x450x150mm steel mould Vacuum wet pressed for connecting roads, pathway-promenade area and other area with true line & level, including grading, geometrical shapes in curves, circles etc. at respective finish level etc. completed as specified in drawing and specification. It shall be of CC- M25 grade of concrete and fitted and jointed in C:M 1:1 with thoroughly curing, rendering with cement slurry, cleaning the joints neatly etc. completed as directed by EIC. It allows to satisfy respective IS-codes for materials, manufacturing process and test results.</p>	RMT	1,323.02	1,762.00	23,31,161.24

69	<p>KOTA Providing and laying machine cut Leather Finish Kotah stone flooring, skirting, riser, treads at all floors, levels & location including cement mortar (using ready mix mortar) bedding / backing, close jointed & grouted with matching cement slurry and finished to line, level, curing etc. as required, including cutting of stone slab, wastage, making cut outs, wherever required, and including providing and laying 6 mm thick POP during construction period etc. complete all as per specifications, drawings and as directed by the Engineer in charge.</p>				
69.1	<p>In flooring with 25 mm minimum thickness Leather Finish kotah stone slab of size 600mm x 600mm / 575mm x 575mm / (and any other size and pattern as per drawing) laid over bedding of 20 mm Ready mix mortar having Cement: Sand (1:4)</p>	Sqm	8,329.20	1,032.83	86,02,642.83
69.2	<p>For top of dwarf walls, parapets, seat wall, planter wall, Coping etc using Leather Finish Kotah stone of approved colour, shade & size as per drawing laid over & including 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) bedding. (Using ready mix mortar) including cement slurry at 4.40 Kg/Sqm over bedding and matching slurry with white cement at 2.20 Kg/Sqm for grouting the joints. including half round / semi circle / camfering moulding & polishing of exposed face etc complete.</p>	Sqm	701.73	1,082.00	7,59,267.26
70	<p>Providing & laying at all floors & locations Homogeneous Full body Vitrified tile/ Glazed vitrified tile/ Anti Skid Vitrified tile double charge/ multi charge (Glossy /Matt/ Satin)/ approved manufacturers of sizes 600 mm X 600mm / 800mm X 800mm / 1000 mm X 1000 mm size or as per approved size and having minimum thickness 8.5 mm or as specified by approved manufacturer tiles conforming to IS:15622 having water absorption less than or equal to 0.08% (Group B I a), in flooring/ skirting/ dado/ cladding / staircase tread/ riser at all floors and location, heights/ levels and lead in approved pattern and colour, shade laid over cement mortar bedding/ backing/ adhesive backing, including cleaning and preparing the surface for bedding/backing, spreading the neat cement slurry, close jointed and grouted with matching coloured readymade cement grout and approved pigment as per manufacturer's specifications, finished to level, line, slope and plumb, cutting of tiles, wastage, making openings / cut out if necessary, final cleaning of surfaces, curing etc. all as per drawings, specifications & as directed by Engineer in charge.</p>				

70.1	In flooring using Glazed vitrified tile Matt / Anti Skid Finish of size 600 mm X 600 mm laid over 20 mm thick cement mortar 1:4 bedding (using red clay mix mortar) and spreading neat cement slurry by using minimum cement about 2 kg/sqm prior to bedding and spreading cement paste using minimum cement of about 4.50 kg/sqm over bedding,, and including Providing and laying Durafloor protector XF 3 mm thick sheet of approved make and brand over the whole vitrified tile / stone flooring area along with removing and cleaning the same before handing over without damaging the finished surface & making good the damages, if any etc and including Providing in flooring & skirting 3 mm thick and 8.5 mm deep grout line using PVC spacers for creating true alignment and gap between vitrified tile work, if shown in the drawing & the 3 mm spacer joints filled with approved cement based tile grout including all labour material, wastage complete.	SQM	162.89	1,383.99	2,25,437.65
70.2	In dado / skirting / cladding / sloped skirting laid over 12 mm thick CM 1:4 (1 cement : 4 sand, using red clay mix mortar) backing, including providing grooves as per drawing on top of skirting. (Using AntiSkid vitrified tiles or Double charge vitrified tiles)	SQM	508.75	1,575.00	8,01,274.95
71	Providing & laying machine cut machine polished natural stones as mentioned for the followings for kitchen / Basin platform topping, counter topping and fascia over and including necessary cement mortar for backing / bedding, close jointed and grouted with matching cement slurry and finished to line, slope, level, plumb, curing etc, as required including cutting of stone slabs, wastages, making cut outs wherever required etc all as per specifications and as directed by the Engineer in charge. Notes : 1) Verticals, shelves, platform shall be embedded minimum 25 mm in wall/ flooring. 2) Top exposed surface on plan & exposed vertical finished face shall be measured for payment in sqm.				
71.1	For kitchen / Basin platform top, Vertical support for Counter, upto 750 mm wide and maximum length upto 1.80 m in single piece consisting machine cut machine polished 35 mm thick cuddappah stone at bottom and mirror polished machine cut 18mm thick Jet black/ approved Granite stone at top fixed with 47 mm thick 1:3 cement mortar (Using ready mix mortar), between two stone slabs (Double stone slab sandwich type) including providing cut out if any, moulding and polishing the edges etc complete.	SQM	5.88	5,449.00	32,040.12
71.2	For kitchen platform horizontal & vertical fascia upto 100 mm wide machine cut machine polished on one side 18 mm thick Jet black/ approved Granite stone fixed with epoxy resin base (Araldite adhesive or equivalent) including round moulding and polishing the edges etc complete.	SQM	2.06	3,797.00	7,814.23

72	Providing and laying Riverwashed Kota stone slab flooring jointed with grey cement slurry including rubbing and polishing etc. complete. (B) 50 mm thick.	SQM	100.00	1,250.00	1,25,000.00
				SUB TOTAL	4,84,33,368.46
False Ceiling					
73	Providing and fixing tiled false ceiling of size (600x600)mm in true horizontal level suspended on inter locking metal grid of hot dipped galvanized steel sections. It consists of main "T" runner of size 24x32x0.3x3600mm, cross "T" of size 24x25x0.3x1200mm, secondary cross "T" of size 24x25x0.3x600mm and PPGI wall angle of size 24x24x0.4x3000mm. Bottom exposed capping of width 24 mm of all T-sections shall be of 0.25mm thick PPGI. PPGI wall angle 24x24x0.4x3000mm {Material-GI(IS513), YS-280Mpa, Finish-Galvanised 90GSM (IS277)} is fixed along the perimeter of the ceiling to Walls, partitions or columns etc., with wooden screws at 300mm centers or Hilti HPS 6x40mm placed at 600 mm c/c. soffit cleat 27x37x25x1.6mm {GI(IS513) YS-260Mpa, Finish-Galvanised 120GSM (IS277)} is fixed with Rawl Plug- Ø8x45mm {Material-IS 513 CR1 grade, Zinc coating (7 to 8 microns) pull out load- 6.8kN for M30 concrete grade} creating (1200x1200)mm grid. Main-T runners 24x32x0.3x3600mm are then suspended at 1200mm c/c from ceiling using 4mm zinc electroplated butterfly level clips of size 85x30x0.8mm spaced at maximum 1200mm center to center along main T and not more than 150mm from spliced joints. The last hanger at the end of each main runner should not be greater than 600mm from the adjacent wall. 24x25x0.3x1200mm cross T {Material-GI(IS513),YS-280Mpa, Finish-Galvanised 90GSM (IS277)} is interlocked between the main T at 600mm center to center to form a grid of 1200x600 mm and then secondary cross "T" 24x25x0.3x600mm {Material-GI(IS513), YS-280Mpa, Finish-Galvanised 90GSM(IS277)} is then interlocked at middle of the (1200x600)mm grid to form grids of (600x600)mm. Cross Tees at the ends having length more than 600mm are to be supported independently.	Sqm	178.53	1,144.25	2,04,282.27
				SUB TOTAL	2,04,282.27

DOORS & WINDOWS

74	Doors Supplying & fixing in position the following type solid core block board flush door shutter (Single/ double leaf) with commercial ply facing / prelamination on both sides conforming to IS 2202 (Part-1) of approved make & brand with external / internal type second class teak wood lipping around of required width and depth (20 minimum thickness all around) of shutter as per IS/as specified, fixing shutters in position to HMPS door frames/ wooden frames/ granite frame works (door frames shall be paid separately under relevant item) at all floors by cutting/ planing if necessary including labour for fixing of the fittings & fixtures as per drawing with wooden packing pieces if necessary (but excluding the cost of fittings and fixtures with SS screws which shall be paid separately under relevant item), including view panel wherever required as per drawing, finishing as specified all as per specifications, drawings and as directed by Engineer In Charge.				
74.1	35 mm thick flush door shutter, With 1.0 mm thick decorative laminate sheet of approved colour, pattern & shade fixed on both faces of shutter	SQM	27.12	3,500.00	94,925.25
74.2	30 mm thick flush door shutter (for shaft doors), With 1.0 mm thick decorative laminate sheet of approved colour, pattern & shade fixed on one face of shutter and 1.0 mm thick white / off white lamination on another face.	SQM	3.91	3,100.00	12,108.60
75	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer of approved make conforming to IS: 3564 with ISI mark including necessary accessories and screws etc for fixing with aluminium/ wooden/ steel doors with necessary bolts & nuts, labour, scaffolding etc complete all as per specifications and as directed by the Engineer-in-charge.	NOS	20.00	1,250.00	25,000.00
76	Providing, fixing & Supplying at site of work approved quality and manufacturer, confirmed & marked with relevant IS (wherever applicable), Stainless steel (SS-304) fittings, fixtures and fastenings along with Stainless steel screws/concealed SS screws, bolts, nuts, washers, wooden packing pieces if necessary etc. and other accessories etc complete all as per specifications and as directed by the Engineer-in-Charge. SS But hinges (Heavy Weight) of size (100 X 75 X 3.0 mm) , ball bearing type, (Two / Three leaf Hinges)	NOS	60.00	220.00	13,200.00

77	Providing, fixing & Supplying at site of work approved quality and manufacturer, confirmed & marked with relevant IS (wherever applicable), Stainless steel (SS-304) fittings, fixtures and fastenings along with Stainless steel screws/concealed SS screws, bolts, nuts, washers, wooden packing pieces if necessary etc. and other accessories etc complete all as per specifications and as directed by the Engineer-in-Charge. S. S. Tower bolt 300 mm long x 12 mm barrel	NOS	20.00	330.00	6,600.00
78	Providing, supplying, fixing approved make back to back stainless steel Handle-450 mm long (Set including a pair of handles), of minimum 25 mm dia, including accessories for fixing it to glass, aluminium, wood shutter, brackets etc. complete as directed by EIC. (Note:- Cost is for one set consists of two nos of handles to fix on shutter both side (Inside & Outside))	NOS	20.00	3,400.00	68,000.00
79	Providing & Fixing 6- lever Mortice lock of chromium plated SS-304 parts & body of approved brand & make, 200 mm Mortice latch & lock (without Handle Set) Lock Body CK mortice lock with chromium plated SS screws, with duplicate keys etc. lock shall be fitted as per manufacturer specification and as directed by Engineer in charge.	NOS	15.00	600.00	9,000.00
80	Providing and fixing Mortise shaft dead bolt with key (Alen Key lock) with 57mm backset and 25mm square forend in stainless steel satin finish of approved make including all labour, material etc complete all as per specifications and as directed by the Engineer-in-Charge.	NOS	5.00	400.00	2,000.00

81	<p>Providing & fixing Hollow Metal Pressed steel (HMPS) door frames of following profile fabricated out of 1.60 mm thick G.I sheet of coating (Class VIII of zinc coating) 120 gram/sqm, manufactured by Sail / Lloyds/ Jindal or equivalent of profiles / size generally conforming to IS 4351-2003 with suitable one/two set rebates for fixing shutters and also rebate suitable for fixing fixed glazing including hole for self tapping screws wherever shown in the drawing, each frame to contain hinge jamb, lock jamb and head all rigidly fixed together with welded /mechanical joints with back plates /angles to correct shape & angles including providing and fixing base ties with GI channel 50x25mm, 1.25mm thick suitable section to suit floor thickness / angle thresholds with MS angle 25x25x3mm, 6nos. of adjustable lugs per frame, providing and welding of 40x40x5mm,150mm long angle cleats for hinges with necessary tapped holes for fixing counter sunk headed machine screws to suit heavy duty oxidised / stainless steel hinges of size 125mm x 65mm x 2.8mm/125mm x 76mm x 2.80mm/ 100mm x59mm x2.6mm/75mm x 48mm x 2.45mm or shop type welding and self taping screw for fixing hinges/ piano hinges etc.</p> <p>and finishing the same to smooth etc. (but excluding the cost of hinges which shall be paid under the relevant item) including providing each door frame with necessary lock strike plates, mortar guards, buffers, bushes etc. required for tower bolt/ baby latches, tadis, safety chains, aldrops etc including fixing the frame to brickwork/ concrete work with necessary PCCor bolted/ screwed to concrete work, painting a shop coat of polyurethane paint including etching the surface with ETCH primer etc. including painting the exposed surfaces with two coats of synthetic enamel paint of approved make and colour over a coat of red oxide/ zinc chromate primer and painting the unexposed surfaces with two coats of anti corrosive bituminous paint, after rectifying the damaged PU primer due to transport including filling the hollows of door frame with C.C.1:2:4 using 12 mm size downgraded stone aggregate, curing, finishing etc. all complete as per drawings, specifications and as directed by Engineer in charge.</p>	RMT	85.79	900.00	77,206.50
	<p>Note: The quoted rate shall include cost of base tie / angle and all accessories mentioned in the item description except iron mongeries (i.e. fittings and fixtures with wood and machine/ self taped screws as required, which shall be measured and paid separately under relevant item.)</p> <p>Profile 90mm x 60 mm with single rebate for doors.</p>				

82	<p>Steel Fire Rated Doors with HMPS Steel Frames. Fire Resistant Door (FRD) assembly having 120 minutes (2 hr) Fire rating, Metallic and conforming to IS 3614:2021 (Single / Double leaf Shutter)</p> <p>Providing and fixing factory made Fire rated door assembly of galvanised Iron Steel door frame with mettalic single / double leaf door shutter with accessories, the entire door assembly including shutter, frame and fittings shall be confirming to 1200 minutes (2 hr) fire rating as per IS 3614.</p> <p>Frame:- The door frame shall be made of minimum 1.20 mm thick GI Sheet with minimum 120 GSM coating as per IS:277. The frame shall be of grooved profile of minimum size 90 × 60 mm with inbuilt sealing system to take appropriate fire rated smoke seal. Frame shall be provided with appropriate reinforcement suitable for hardware and flush fixing. Frames shall be provided with stiffener pieces and mitred cut joints (self tab/screwed assembled at site). Fire rated EPDM smoke seal, confirming to IS 3614 : 2021 shall be fixed within the inbuilt groove or stuck with adhesive on the entire perimeter of the frame.</p>	Sq.m	35.24	20,200.00	7,11,765.18
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<p>Door frames shall be fixed to all round the opening with minimum 8 mm dia CSK headed fastner of minimum 80 mm long with 8mm dia Polyamide sleeves @ 3 Nos at each side.</p> <p>Finishing: Frame to be factory finished with polyester powder coating of minimum thickness of 30 microns (500 hrs salt spray test) of approved colour and shade all complete as per manufacturer's Specification and direction of the engineer in charge.</p> <p>Door Shutter: The factory made fire resistant mettalic door leaf shall be minimum 60 mm thick fully flush double skin step design door, insulated with or without vision. Door leaf shall be manufactured from 1.2 mm (18guage) minimum thick galvanised steel sheet. The internal construction of the door should be rigid reinforcement pads for receiving appropriate hardware. The infill material shall not be less than be 120kg/m3 high density mineral wool insulation material. Intumescent seals 15 x 1.5mm to be provided. All ISI labelled doors shall be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, locks, and door closers panic bar etc. The edges should be interlocked with a bending radius of 1.4mm. For pair of doors integrated astragals has to be provided on the meeting stile for both active and inactive leaf. Vision lite wherever applicable shall be maximum 200 x 450mm with clear borosilicate fire rated glass of 6mm. Glass shall be fixed with suitable gasket and with clip-on arrangement.</p> <p>The door leaf shall be factory finished with polyester powder coating of minimum thickness of 30 microns (500 hours of salt spray test) of approved colour and shade all complete as per manufacture's Specification and as per the directions of Engineer - in-charge.</p>				
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	<p>Accessories Hardware: Fire doorset shall include all accessories like, Fire rated SS 304 grade ball bearing type hinges of minimum size 100 mm ×75 mm × 3 mm one (3 numbers per leaf upto 2100 mm height or as per test evidence), one number fire rated SS mortise lock with handle, fire rated door closer</p> <p>Installation: Post installation hollow space within door frame shall be filled with fire rated self-extinguishing type polyurethane foam. Rate shall include for supply and installation of complete door assembly, by the manufacturer. (All mechanical and functional hardware like hinges, lever handles, door closers with 120 minutes fire rating are to be used on doors and must conform to relevant IS 3614 : 2021.</p> <p>all as per manufacturer's specification and providing Fire Resistant certification (manufacturing & installation) as required by local fire statutory authority shall be furnished by manufacturer of Door assembly (Frame, Shutter, fitting) and all cutting/ planning if necessary, labour for fixing the fittings and fixtures with suitable packing if necessary including providing and fixing 120 minutes (2 hr) fire rated approved powder coated steel door set etc. all complete all as per specifications, drawings & as directed by Engineer in charge.</p>				
83	<p>Side Hung / Casement Aluminium Windows: Providing, supply, fabrication, installing, fixing, testing, cleaning, protection and handing over the Side Hung / Casement Aluminium window system, at all levels, locations, floors as per approved drawings including all labour, material, wastage, transporation, fixing in position, scaffolding etc complete all as per specifications, drawings and as directed by the Engineer-in-Charge.</p> <p>The Side Hung / Casement Aluminium Window system shall with stand the wind pressure of confirming to IS -875 part III. The Side Hung / Casement window system shall have heavy duty self balancing pivot hinges, three point locking with handle, friction hinges (250 mm) microwave cured EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete.</p>				

83.1	<p>Providing and fixing following type of approved quality glass panes for aluminium sliding windows, of approved manufacturer and fixing with aluminium frame work including providing and fixing with 2 way EPDM gasketing , to ensure water and air tightness and neoprene cushions/ gasket accommodated in grooves, necessary SS-304 screws etc all complete generally as per drawings specifications and as directed by the Engineer-in-charge.</p> <p>Note:- Only clear opening of glass shall be measured for payment. (6 mm thick Single Glass Unit (SGU) using heat strengthened (HS) clear float glass of M/s. Saint Gobain ET/ST series or approved equivalent)</p>	SQM	10.21	1,720.00	17,554.32
83.2	<p>Supplying and fixing in position at all floors, levels & locations, aluminium section [extruded] for aluminium Side Hung / Casement windows sliding as per drawing of approved manufactures with extruded sections of Jindal / Indal / Aluminax or other approved equivalent sections with size and weights as shown in the drawing, for frames and shutters [including wastages if any] conforming to relevant I.S specifications, with all approved shade & colour anodised aluminium fittings and accessories, including providing and fixing & grouting the gap with polysulphide sealant etc. all complete generally as per drawings, specifications etc., all as directed by Engineer in charge, but excluding the cost of glazing, which will be paid separately. (The aluminium system consist of the extruded aluminium sections of alloy 6063 T5/T6 & tolerances confirming to DIN / EN standards from approved make and manufacturer. The aluminium sections shall have approved shade and colour super durable powder coating with minimum 50 micron thickness.</p> <p>The non visible aluminium sections shall have approved chromatizing treatment. {The weight of extruded aluminium sections only will be mesured for payment}). The quoted rate shall be inclusive for providing & fixing heavy duty self balancing pivot hinges, three point locking with handle, friction hinges (250 mm) microwave cured EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete. etc of approved make and design as per drawings.</p>	KG	132.68	450.00	59,705.10

84	<p>Sliding Windows: Providing, supply, fabrication, installing, fixing, testing, cleaning, protection and handing over the Sliding window system, at all levels, locations, floors as per approved drawings including all labour, material, wastage, transportation, fixing in position, scaffolding etc complete all as per specifications, drawings and as directed by the Engineer-in-Charge.</p> <p>The Sliding Window system shall with stand the wind pressure of confirming to IS -875 part III. The sliding window system shall have SS-304 grade mesh Net shutter panel, drainage gutter profile at bottom track, wool pile with film for weather protection and complete sir sealing. The shutter engagement shall be minimum of 15 mm at top and bottom track to ensure stability under deflection of vertical mullions. Including providing & fixing ball bearing rollers smooth movement of shutters, flush type lock with manual operation, microwave cured EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete.</p>				
84.1	<p>Supplying and fixing in position at all floors, levels & locations, aluminium section [extruded] for aluminium sliding windows sliding as per drawing of approved manufactures with extruded sections of Jindal / Indal / Aluminax or other approved equivalent sections with size and weights as shown in the drawing, for frames and shutters [including wastages if any] conforming to relevant I.S specifications, with all approved shade & colour anodised aluminium fittings and accessories, locking arrangements, 2 / 3 rollers with ball bearings for sliding shutters of approved quality all as shown in the drawing, including providing and fixing aluminium channel beading / glazing clips fixed with necessary matching anodised screws, grouting the gap with thermocole & polysulphide sealant etc. all complete generally as per drawings, specifications etc., all as directed by Engineer in charge, but excluding the cost of glazing, which will be paid separately. (The aluminium system consist of the extruded aluminium sections of alloy 6063 T5/T6 & tolerances confirming to DIN / EN standards from approved make and manufacturer. The aluminium sections shall have approved shade and colour super durable powder coating with minimum 50 micron thickness. The non visible aluminium sections shall have approved chromatizing treatment. {The weight of extruded aluminium sections only will be mesured for payment}). The quoted rate shall be inclusive for providing & fixing built in handle with locking nib/hook, dummy handle, SS locking closure plate (on frame), adjustable single roller, nylon roller, shutter end PVC cap, anti dust plugs, screw hole cap, drain cap, wool pile etc of approved make and design as per drawings.</p>	KG	221.13	620.00	1,37,100.60

84.2	<p>Providing and fixing following type of approved quality glass panes for aluminium sliding windows, of approved manufacturer and fixing with aluminium frame work including providing and fixing with 2 way EPDM gasketing , to ensure water and air tightness and neoprene cushions/ gasket accommodated in grooves, necessary SS-304 screws etc all complete generally as per drawings specifications and as directed by the Engineer-in-charge.</p> <p>Note:- Only clear opening of glass shall be measured for payment. (6 mm thick Single Glass Unit (SGU) using heat strengthened (HS) clear float glass of M/s. Saint Gobain ET/ST series or approved equivalent)</p>	Sqm	17.01	1,847.46	31,425.25
SUB TOTAL					12,65,590.80

MISCELLANEOUS

85	<p>Round column Rubber guard Providing and fixing shock absorbing rubber corner guard having size 115x115mm, height 1000mm and thickness 10mm, manufactured from flexible high strength rubber, embedded with highly reflective weather resistance reflective material, tamper resistant, with black base and tape color options in yellow, white and lime.</p>	NOS	273.00	569.00	1,55,337.00
86	<p>Providing, supply, fabrication, installing, fixing, testing, cleaning, protection and handing over the Aluminium (Z-Type) louvers system, at all floors, levels & locations, aluminium section [extruded] for aluminium Z type louver system as per drawing of approved manufactures with extruded sections of Jindal / Indal / Aluminax or other approved equivalent sections with size and weights as shown in the drawing [including wastages if any] conforming to relevant I.S specifications, including grouting the gap with thermocole & polysulphide sealant, providing & fixing MS brackets etc. all complete generally as per drawings, specifications etc., all as directed by Engineer in charge. (The aluminium system consist of the extruded aluminium sections of alloy 6063 T5/T6 & tolerances confirming to DIN / EN standards from approved make and manufacturer. The aluminium sections shall have approved shade and colour super durable powder coating with minimum 50 micron thickness. The non visible aluminium sections shall have approved chromatizing treatment. {The weight of extruded aluminium sections only will be mesured for payment}).</p> <p>The Aluminium Z type louver system shall with stand the wind pressure of confirming to IS -875 part III. The Aluminium Z type louver system shall have louvers of size as per drawing and thickness of Z shape louvers, fixed at fixed distance (as per drwing) to alumnium frame, louver profile to be fixed on 3 mm thick aluminium flat to form a frame, the louver frame is supported on the aluminium box frame including providing & fixing SS-316 fastners, necessary MS brackets with SS-316 fastners, EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete.</p>	KG	243.24	450.00	1,09,459.35

87	<p>Entry Exit Totem</p> <p>Providing and fixing at location a signs I sign -display signage with 100 mm depth Aluminium extrusion Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15- 20 microns) Flatness & Twist of profile within 1.5 mm / meter length, with 10 years warranty under normal working conditions. Media accomodation depth of 8 mm avialble for pasting on dual lock or strong two way adhesive. M.S fabrication slot of 65 mm depth for internal M.S structure.Media upto 6 mm thickness can be pasted or mounted with help of dual lock tape .assembled totem can be edge lite with help of edge lite modules or back lite with help of back lite modules.CosignTotem profiles screwed fixed with internal M.S structure are installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material.</p> <p>Size - 750mm * 1800mm * 100mm</p> <p>Mounting Type - Ground/RCC</p> <p>Signage - Lite/Nonlite (As per approved drawing)</p>	NOS	2.00	97,750.00	1,95,500.00
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88	<p>Speed Limit/Info sign Providing and fixing at location a sign using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) International standards, with 10 years warranty under normal working conditions. Silver anodised aluminium 80 x 80 mm outer size (octagonal shaped) cover list anodised profile to hide screw fittings of pole and M.S structure . M.S structure of 'C' channel made by joining two 'L' angles 35x35x3 mm Pole to be screw fitted into fabrication, attached to with 50mm depth aluminium frame for media signage mounting , with media accommodation depth of 6mm , frame screw fitted at multiple position along vertical and horizontal side facing the octagonal pole. (size as per drawing) with in built slots to accommodate media (ACP, ACRYLIC, PLY etc) cover list profile used to specify left out below portion for display installed with fixbox aluminium component provided with system for Text panel fixing with pole sign to be installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 460mm * 600mm (Frame) * 2400mm Pole Height Mounting Type - Ground/RCC Signage - Lite/Nonlite (As per approved drawing)</p>	NOS	15.00	28,750.00	4,31,250.00
89	<p>Parking Suspended Signs Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is double sided 50 mm depth profile with media accommodation depth of 6 mm media of ACP acrylic upto 3 mm thickness can be pasted directly on frames or attached on frame with help of dual lock tape. Sign can be edge lite with help of edge lite led modules , led of LUCOLED make EL31 , Sign to be fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 1200mm * 300mm * 50mm Mounting Type - Ceiling Suspended Signage - Lite/Nonlite (As per approved drawing)</p>	NOS	25.00	21,965.00	5,49,125.00

90	<p>Door Nameplate Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 300mm * 156mm * 12mm Mounting Type - Door/Wall Signage - Nonlite</p>	NOS	-	776.25	-
91	<p>Building Directory Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with aluminium side tracks and common click clips for panel fitting. a. Sign is including all plastic injection moulded clips black in shade which are slided in side tracks ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - As per Drawing Mounting Type - Wall Signage - Nonlite</p>	Sqft	10.00	2,070.00	20,700.00

92	<p>Floor Directory Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with aluminium side tracks and common click clips for panel fitting. a. Sign is including all plastic injection moulded clips black in shade which are slided in side tracks ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - As per Drawing Mounting Type - Wall Signage - Nonlite</p>	Sqft	10.00	2,070.00	20,700.00
93	<p>Staricase ID Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - 300mm * 156mm * 12mm Mounting Type - Door/Wall Signage - Nonlite</p>	NOS	10.00	776.25	7,762.50

94	<p>Washroom Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 200mm * 156mm * 12mm Mounting Type - Wall/Door Signage - Nonlite</p>	NOS	10.00	592.25	5,922.50
95	<p>Duct Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - 156mm * 156mm * 12mm Mounting Type - Wall/Door Signage - Nonlite</p>	NOS	-	476.10	-

96.00	<p>Lift Number Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 200mm * 156mm * 12mm Mounting Type - Wall/Door Signage - Nonlite</p>	NOS	-	592.25	-
97.00	<p>Lift in case of fire use stair Providing sign of Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with premium grade anodizing (Thickness 15-20 microns) as peinternational standards, with 10 years warranty under normal working conditions. Profile to form frame with overall depth of 10 mm with media of thickness upto 3mm. 2 mm thick acrylic/ACP . I-sign Fix profile of Cosign make with M.S zinc coated corners with grub screws. Installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed auto glow material. Size - 250mm * 150mm * 10mm Mounting Type - Wall Signage - Photoluminescent</p>	NOS	-	807.30	-

98.00	<p>Fire extinguisher Sign Providing sign of Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with premium grade anodizing (Thickness 15-20 microns) as per international standards, with 10 years warranty under normal working conditions. Profile to form frame with overall depth of 10 mm with media of thickness upto 3mm. 2 mm thick acrylic/ACP . I-sign Fix profile of Cosign make with M.S zinc coated corners with grub screws. Installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed auto glow material. Size - 300mm * 150mm * 10mm Mounting Type - Wall Signage - Photoluminescent</p>	NOS	10.00	917.70	9,177.00
99.00	<p>Emergency Exit Sign Providing ready sign & fixing at location a Cosign make emergency exit sign- illuminated, surface mount (wall or ceiling) Dual sided made up of plastic material , battery backup of 3 hours (180 mins) .Battery life of 300 cycles of charge & discharge Li- ion battery 3.7 Volt, 100 mA, Charge time of 24 hours. Input voltage 220-240 Volt A.C, 50/60 Hz. Viewing distance 30 meter, degree of protection IP20 (rating for protection against solid object upto 12 mm) white light colour full back (white colour) LED illumination with green white coloured graphic inserted on both sides on 0.4 mm PC (sizes, texts, symbols or graphics as per standard safety norms & regulations) graphic options of -left ,right, up staircase down staircase. Test facility button self test plus auto self test, operation in maintained and non maintained mode (power saver mode).Sign with 12 months warranty for electric circuit & 6 months warranty for battery. Sign provided with dual mounting arrangement of mounting on wall & ceiling both (with flat rigid support/base).Sign is including all connection wires (upto 1 mtr) & high tensile strength zinc coated self tapering screws (4 nos with screw wall plastic packing), installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - 310mm * 225mm * 55mm Mounting Type - Ceiling Signage - Lite</p>	NOS	10.00	3,783.50	37,835.00

100.00	<p>SS Staircase railing Providing & fixing stainless steel work for pipe hand rail at staircase, Entrance Ramp and other stainless works such as spool pieces, pipe sleeves etc, at all floors, levels & location conforming to SS-304 grade of steel preferably schedule-10, using SS pipe in horizontal at top, vertical, inclined including solid pipes as per drawing or as per pattern & design approved by EIC and including necessary S.S bend, tees, Embedded plates, nuts, SS bolt,necessary welding, anchoring with SS anchor fastner of M/s Hilti, grinding, buffing, polishing and fixing in concrete / wall with S.S lugs, making pockets, concreting, making good the surfaces etc. as per specifications, drawings and as directed by Engineer-in-Charge. (Note:- For payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.)</p>	KG	2,069.60	650.00	13,45,241.63
101.00	<p>Boom Barrier Supply, Installation, Testing, Commissioning of- Electromechanical boom barrier with a 3-meter boom arm for car and 1.5mtr boom arm for bike lane, And a 0.6-second opening/closing time. Key features include a corrosion-resistant powder-coated cabinet, die-cast aluminium motor with thermal radiating and cooling fan, and 100% duty cycle with an MTBF of 10 million cycles. Safety features include manual release, obstacle reversal, auto-closing, and support for external photocell and vehicle loop detectors. The system operates on 220V/110V at 50/60Hz, with IP54 protection, a motor torque of 300Nm, and a working temperature range of 0°C to 65°C.</p>	NOS	4.00	1,77,750.90	7,11,003.60

102.00	<p>Drinking WATER COOLER Refrigerant: R-134a Compressor type: Reciprocating Full stainless Steel Body Full Stainless Steel Water Tank No of Faucets: 2 (Cold) Water Drainage option for Cleaning tank: yes Water temperature controller: Yes (Manual) Material - SS 304 Cooling Capacity - 60 Lit/hr Storage Capacity - 120 Lits Size: 730 mm X 549 mm X 1230 mm Note: 1. Supply, Installation and Commissioning of equipment which includes preparation of shop drawings, supply, packing and forwarding, delivery to site, including transit insurance arrangement, unloading, handling and storage at site, final assembly at designated rooms at any floor level. 2. All dimensions are in M.M. unless mentioned otherwise.</p>	NOS.	8.00	50,000.00	4,00,000.00
103.00	<p>Providing and fixing FRP grating having size as per detailed drawing to bear respective traffic load for drain channels at all level. The same shall be fixed in MS frame (size 50 x 50 x 6mm) to receive numbers of grating pre-approved by EIC. MS frame shall be fitted with hold fast and others in CC / masonry work in true line and level with one coat of zinc oxide + two coats of oil paint, colour shall match with grating as approved by EIC. FRP Grating for Storm Water Drain</p>	Sqm	422.10	3,300.00	13,92,930.00
104.00	<p>Road marking with hot applied thermoplastic paints with reflectorising glass beads on bitumen surface providing and laying a hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250gms per sqm area, thickness of 2.5mm is excluding of surface applied glass beds as per IRC:35-2015. The finished surface to be level, uniform and free from streaks and holes. zebra patta /bump patta lane/center line/edge line/cut patta. The white color marking should provide luminance coefficient on cement road shall be min 130 mcd/m2/lux and Asphalt road shall be min 100 mcd/m2/lux during the service life during the day time. The marking should meet the performance criteria for night time reflectivity, wet reflectivity and skid resistance as mentioned in the section-15 of IRC 35-2015. Warranty for the Retro reflectivity should be two years.</p>	Sqm	330.00	307.38	1,01,435.40

105.00	<p>FOOD Kiosk Container – Providing, fabricating, supplying and installing in True line & level on specified level as per detailed drawings for Pre-fab Factory Made Portable Container type Food Kiosk Counter in Hot dip Galvanised Structural members and GI Sheet having size of 20' x 8' x 8' with following facilities inside of each compartment as per specifications:</p> <p>(1) Work table (Type 1) in one number of size 3910 x 600 x 925 mm or as per drawing and provision for 2 nos. under counter refrigerator to be made as per specification</p> <p>(2) Work table (Type 2) in one number of size 2340 x 600 x 925 mm or as per drawing and to be provided with 250mm height shelf under the counter top with SS supports & partitions.</p> <p>(3) 2 no's SS Sink unit & bottom pipe shelf as per drawing & 1 no SS pipe shelf mounted above sink unit on wall with SS 316; size: 1370x300 mm at 600mm from top of sink.The unit shall be fabricated with 3 openable shutter as shown in drawing.</p> <p>(4) All the preparation tables & sink tables should have 16 GA fabrication sheet at the top and the grade of steel used should be SS 316(Jindal Make).</p> <p>(5) Side wall ventilation (type-1) in one number of size 755 x 158 mm to be provided horizontally as per drawing. Unit to consist of 03 such vents separated by the structural frame of the container as indicated in drawings.</p> <p>(6) Side wall ventilation (type-2) in two numbers of size 755 x 158 mm with exhaust fan (outer size 158x158mm)of preferred make and model as per drawing.</p> <p>(7) Back wall ventilation (type -1) in three number of size 1175 x 158 mm to be provided horizontally as per drawing. Vents shall be provided from the center of the wall and separated by the structural frame of the container.</p> <p>(8) Back wall ventilation (type-2) in two numbers of size 1150 x 158 mm with exhaust fan (outer size 158 X 158 mm)of preferred make and model as per drawing. All vents to be provided from the centre of the wall separated by structural frame of the drawing. Each ventilation opening to have 50 mm wide MS plate frame projecting from the outer surface of the container on all 4 sides.</p>	NOS	4.00	17,50,000.00	70,00,000.00
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<p>(9) Two service windows with flap door of size 1360 x 1025 mm at the front longer side on container. Window sill to be at 925 mm height from the container floor finish level. Each window to be fitted with 900mm height flap shutter foldable to 500mm, where the 500 mm portion serves as a counter top when open and the remaining 400 mm folds back anchored to the container. Features include a 125 mm height perforated panel at the top, 03 hooks on the outside for counter anchoring, and 04 nos. hook and stopper for internal closing.</p> <p>(10) Main Door of size as per specification and drawing. Outside handle to be vertical D Type (minimum 450mm high and 25mm diameter) with the top fixed at 1200mm from the door bottom. Entry shall include 01 No. adrop installed on the adjoining part and a door closer provided at a level of 900mm from the door bottom. Inside shall be provided with a mortise handle set with lever mortise lock (horizontal lock). Door must be fixed at a proper level to avoid obstruction while closing.</p> <p>(11) Flooring to be covered with PVC vinyl sheet with proper drainage for water.</p> <p>(12) Inner wall & ceiling shall be finished with Cement board including painting.</p> <p>(13) 1 no Waste Bin Trolley below Sink with size of 375mm dia & 650mm Height with wheels.</p> <p>(14) Three fans of 1200mm dia</p> <p>(15) Electrification: It is provided with 6 Nos. of LED light (15Watt) & 6 No. 25Amp. Switch & socket & on/off switch for commercial kitchen equipment, Points.</p> <p>(16) To be provided with 1 no of water tank (Sintex/equivalent Make) made of Plastic having capacity of 500 ltr. All welding joint should be TIG welded. The supplier should have manufacturing set up should be certified with EN-15085 and ISO 9001:2015 from a recognized third party agency.</p> <p>17) Supply and Fixing of mechanical foam type Fire Extingusher conforming to IS 15683:2018 as per the required capacity of 6 liters to 9 liters.</p>				
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<p>Notes: 1) Contractor shall provide 10 years guarantee for container materials & facility inside material & accessories including 1 year defect liabilities period & 4-years M&R scope.</p> <p>2) Refer Container specifications attached in Specification Volume.</p> <p>3) Contractor shall connect all water supply and drainage services to the given point in external water and drainage network system as directed by EIC.</p> <p>4) All the ironmongery shall be as approved by architect.</p> <p>5) All structural members must be hot dip galvanised.</p> <p>6) All Furniture shall have edge banding</p> <p>7) All structural members shall be painted with 300-500 micron of Epoxy paint system with PU top coat of 50-60 micron as per manufacturer specification with 10 years guarantee.</p> <p>8) Container shall be fire proof & shock proof.</p>				
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106.00	<p>Supplying, providing, placing, installing and fixing in position in true line and level as per detail drawing approved by EIC, MODULAR TOILET PARTITIONS along with specified brand or approved equivalent of size as per detail drawings, Floor mounted including providing and fixing all accessories, fixtures, fastenings, hinges, anchorages, all hardware with approved locking arrangement as recommended by manufacturer and as approved by EIC etc. complete as directed, at all levels. Item description: Cubicle size - 900mm x 1550mm x 2100 mm (height is including 150 mm gap from bottom). Colour of Boards : As per the Shade card - approved by EIC. Thickness of Compact Sheet : 12mm (min.). Material: Compact Laminate in panels. Made from solid grade compact high-pressure laminate as per IS:2046 and EN438- manufactured under high specific pressure > 5 MPa and temperature 120° C with bunch of kraft papers impregnated with thermosetting phenolic resin and decorative papers made of cellulose fibre impregnated with thermosetting melamine resin which provide superior scratch, abrasion, heat, chemical, impact, graffiti & moisture resistance along with anti-bacterial properties. Panels have a black core that when machined, presents a distinctive black edge. Size of panels to be as per drawing. Door size - 1750 x 600(H X W) All doors will be of single colour and made of 12 mm thick HPL compact panel. The doors will have chamfered edges. Each door will be supported by 3 stainless steel made hinges affixed to the pilasters. Stainless steel made coat hook and Lock set (comprised of Thumb turn and occupancy indicator) are provided with each door. All the doors will be routed at the vertical ends and the rubber sponge lining will be incorporated at the routed ends. Pilaster dimension - 1830 x 300 (H X W).</p>	NOS	40.00	34,200.00	38,30,400.00
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107.00	<p>All pilasters will be made of 12 mm thick HPL compact panel with chamfered edge and completed with stainless steel made thumb turn lock set. Pilasters will be anchored to the floor using stainless steel made adjustable legs. All pilasters will be routed at their vertical ends to facilitate closure of doors. The bottom gap is 150-100 mm.</p> <p>Dividers - 1775 x 1550 (H X W)</p> <p>All intermediate partitions or dividers will be made of 12 mm thick HPL compact laminate panels. They are affixed with stainless steel made U-channel at their ends for ultimate stability of the system.</p> <p>Hardware and Accessories Details : below mentioned all accessories – Stainless Steel - 304 Grade</p> <p>a) Adjustable Pedestal Footing of base diameter 60 mm made from Stainless steel grade 316 giving an adjustable height of 100mm to 150mm. Surface finish to be matt type.</p> <p>b) SS U -Channel</p> <p>c) SS F Channel</p> <p>d) SS Door Stopper Channel</p> <p>e) SS Top Rail with circular cross section (Diameter 32mm). Surface finish will be mirror type.</p> <p>f) SS Coat Hook with rubber stopper made from Stainless steel grade 304. Surface finish to be lacquer type.</p> <p>g) SS Privacy Thumb turn c/w Occupancy Indicator made from Stainless steel grade 304. Surface finish to be lacquer type.</p> <p>h) Round Door knob diameter 30 mm with grooves for better hand grip made from Stainless steel grade 304. Surface finish to be matt type.</p> <p>I) SS Spring Loaded Butt Hinges with Cover</p> <p>j) Anti-noise rubber padding of thickness 2 mm and width 10 mm</p> <p>k) Screws & Wall Plugs. Stainless steel grade 304 screws.</p> <p>l) Tubular panel holder made of stainless steel grade 304. Surface finish will be lacquer type.</p> <p>m) Corner joinery section made from Stainless steel grade 304. Surface finish to be brush type. A thin plastic film coated for surface protection. Size to be 25mm x 16.4mm x 0.8</p>				
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108.00	<p>Supplying, providing, placing, installing and fixing in position in true line and level as per detail drawing and approved EIC, Modular Toilet Urinal partition UMP along with specified brand or approved equivalent of size as per detail drawings, Colour of Boards : As per the Shade card - approved by EIC.</p> <p>Item description: The Urinary Panel has a 12 mm thick High Pressure Laminates (HPL) Compact Board, with a recommended panel width dimensions of 400-500 mm. The size of the panel is 500 mm (W-Top) X 400 mm (W-Bottom) X 1200 mm (H), with the overall height of 1200 mm. Final Size of Partitions : As per drawing given - shop drawings approved by EIC. Accessories Details : below mentioned all accessories – Stainless Steel - 304 Grade made 2 brackets used to fix each urinal panels to the walls.</p>	NOS	15.00	5,750.00	2,30,000.00
109.00	Providing and installing outdoor convex mirror of size 600mm diameter, 130 degree viewing angle, polycarbonate construction, vandal resistant with and without MS pole.	NOS	10.00	4,242.00	2,30,000.00
110.00	Providing and installing the speed breaker of PVC material with size of 250x350x50mm and/or 250x450x60mm on the cement concrete surface of the road with labour and all the necessary accessories, hexacore design, oil resistance, chemical resistance, water resistance, UV stabilized, non fading colors, with reflector tape.	NOS	20.00	1,568.53	2,30,000.00
111.00	Providing and fixing in Stainless steel Floor Mounted Dustbin with dimensions and design as per Architect selection, in SS 316, Dual bins with 50 liters each having Matt / Mirror Finish including required foundation, anchor bolts and fixing details etc. completed as directed by EIC. Including Minimum 2 mockups for approval complete as per instruction of engineer in charge.	NOS	25.00	15,208.00	2,30,000.00
112.00	Supplying and fixing in position various dia GI pipe for sleeves, using 'B' class (medium duty) GI pipes of any diameter as per requirement and as per drawing for sleeves etc. including cutting, placing in position, bending, welding, in line and level, at all levels & location including painting with one coat of approved zinc chromate primer, scaffolding, labour, wastage etc. complete all as per specifications, drawings and as directed by the Engineer in charge	KG	2,000.00	165.00	2,30,000.00
SUB TOTAL					1,74,73,778.98
TENSILE WORK					

113.00	<p>Design, Supply, Fabrication and Installation of Membrane Panels of combination Mesh as per the design. Membrane shall be Fiberglass fabric EC 6 filaments and Both sides multi-layer Polytetrafluoroethylene reinforced coating having minimum Weight of 670 g/m². The Fabric shall have minimum 21% openness porosity for Maximum Light Visibility with minimum Tensile Strength (Warp/ Weft) - 6000/ 6000 N/5cm, minimum Tear Strength (Warp/ Weft) -500/500 N/5 cm. Fabric Flame Retardancy Rating to be Non combustible class A2/DIN 4102 — A2-s1,d0/EN 13501 — ASTM E136 — ASTM E84 — NFPA 701 — Cal T19. Warranty of 10 years and Life span of 35 plus years with proven track record. The applicator to submit the fabric load analysis for approval of fabric. Cost shall include the supply of fabric/SS Cables with end terminals minimum 25mm thickness for main grid and minimum 10mm thickness for edge cable alongwith all the accessories. Fabric Flame Retardancy Rating to be Euro Class - Bs2, d0, Micro Organism Resistance-Degree 0 Excellent – EN ISO 846-A and Warranty of 10 years and Life span of 30 plus years with proven track record. The design complies with the requirements of BS and, EU Standards. The tension membrane structure shall include engineering design of structural members and accessory parts. Membrane systems shall include PVC/ PVDF coated Membrane Fabric, Clamps and tensioning hardware as per specification, drawings and engineers' approval. Vendor to provide an OEM certificate for authorisation. The Mesh must withstand its Self-load and windspeed resistance of up to 180-200kmph. All the accessories like GI Cables, Turnbuckles, Brackets to be fixed to the substructure/Civil work considering the weathering effects(windspeed/loadbearing capacity/Structural strength). Fabric analysis report shall be provided by vendor to understand the load calculation. Steel consumption to be provided by vendor. The entire system has to be backed up by a structural stability report. MS Built-up section/Tubular Structure (MS built-up section :-Rolled section & plates conforming to IS 2062 Grade Yst 350, Tubular Structure:- made from Steel hollow sections, ISI marked from SAIL / RINL / TATA/JINDAL, conforming to IS 1161/4923/1239, Minimum Yst 240 thickness upto 10mm)</p>	Sq.ft	12,000.00	1,250.00	1,50,00,000.00
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	<p>in the profile shape as per drawings with special plate connector, pinion joints, Plates, hollow sections etc. with special plate connectors, pinion joints, plates, hollow sections including Preparation of detailed fabrication and erection drawings of Structural steel work from design drawings issued by Engineer-In-Charge and incorporation of Engineer-In-Charge's comments on same, transportation from fabrication yard, cutting , threading, machining, leads and lifts upto all heights, tools and plants and necessary scaffolding etc. required for all operations involved to make structure of Tensile Membrane shade. The tubular structure system with plate connectors, pinion joints, etc. is to be provided. The structure has to be provided as per conceptual drawings of Tensile fabric profile , including all arch beam, curved lateral beams and bracings, vertical support columns, nodal joints, ,bases of columns and high tensile bolts of grade not less than 10.9 having black phosphate coating. The complete structure to be Hot Dip Galvanized along with one coat of epoxy primer and two coats of Polyurethane paint on steel work at all locations prepared by sand blasting in required minimum 210 micron DFT (dry film thickness) for each coat as specified in particular specification. Required detailed shop drawing and sample is needs to get approved from the project Architect before execution on site. Work shall be carried out as directed by the Engineer-In-Charge. Make List-Serge Ferrari/Sherfil/Chucko/F.I.T/Fibertech</p>				
SUB TOTAL					1,50,00,000.00

STRUCTURAL STEEL WORK

114.00	Fabricating, supply and erecting in position Standard Structural steel sections conforming to IS 2062 for all structural steel works using ISMB, ISA, ISMC, MS plate, flat, square bars, pipe, square pipe ,etc. including welding, cutting, wastage, etc. complete. The rate is inclusive of welding road, supply & fixing of correct size nut, bolts, washers, paint, with all contractor's materials, labour, tools & plants, in bolted / welded construction as directed by Engineer-in-Charge. Anticorrosive paint must be applied before applied any paint. The rate shall inclusive of providing and applying Epoxy Coating of approved shade, brand and manufacture on new structural steel work with one coat of 30 micron (DFT) of Epilux 4 Zinc Rich primer of Berger Paint India Ltd or equivalent as primer and Two coat each of 35 micron (DFT) of Epilux 84 High Gloss CR enamel of Berger Paint India Ltd or equivalent at all levels. (Total DFT is 30+35+35=100 microns). The waste cut pieces shall not be included in the paying quantity. The work shall be done as per drawing and specification. The work shall be carried out as per IS:800, IS:816 with its latest amendments.	Kg	27,300.00	117.35	32,03,655.00
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114.00	<p>For Dry Deck Fountain : Providing, fabricating, assembling, hoisting/ erecting and fixing in position at all heights/ all levels/ all floors/ all shapes & sizes with all leads & lifts using Hot dip Galvanised with min. 140 micron thk after sand blasting over MS Rolled Steel Sections, Hollow sections, Tubular Sections, MS Plates, Chequered Plates, MS Pipes, Perforated Sheet, Flats, Bright Bars, Angles, MS Sheet, Girder, Beam, cattle trap. deep threaded MS bolts, threaded J bolts, insert plate, support plate etc as per drawing. all confirming to latest relevant IS codes for the work of steel structures like gratings over drain channel, I beams, staircases, railings, handrail, jali, gates, grills, bracings, platforms, brackets, monkey ladder, cattle trap, windows, pipe rack, rungs, false ceiling frame work, Roof canopy, fencing posts, M.S. Screen & fencing jali frame work etc. including straightening, cutting, bending, bolting and welding the members all as per structural drawings and as per detailed specifications (for materials & workmanship) including necessary scaffolding/ staging etc. complete in the situations described hereinafter and comprising of : i) Profile Cutting of components to required length/ width and shape/ profile; ii) Smooth grinding/ machining of edges/ faces/ all welding joints; iii) Necessary welding (electric arc welding) for required weld lengths and sizes. iv) Machine drilling of holes for joining/ anchoring (Standard measurements will be paid for as actual cut length used at site). The rate shall include dry sandblasting, degreasing & preparation of rustfree surface manually or mechanically, applying chemical pre-treatment to the prepared surface to improve adhesion of subsequent coat, 2 coat of Epoxy paint (total min 150 micron thick) and 1 coat of PU Paint (min 60 micron thick) of approved shade of paint over all the surfaces of the steel sections or as specified in the drawing. Note: The contractor shall submit fabrication drawings based on construction drawings (that may be issued during construction period with at least one mock up approved by architecture) for approval by the Architect/ Engineer.</p>	KG	2,500.00	165.00	4,12,500.00
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	<p>The fabrication work shall start only after approval of the fabrication drawings submitted by contractor. Any change required in the fabrication drawings shall be carried out at No extra cost. Fabrication shall be in a perfect architectural workmanship manner and as provided in section V & VI of IS 800 & IS 7215. Welding shall be carried out by qualified welders/ fabricators. It should also include the cost of necessary scaffolding/ staging, zinc coated nut-bolt as required for safety, structural stability of all works at site. Any change required in the fabrication drawings shall be carried out at No extra cost. Fabrication shall be in a perfect architectural workmanship manner and as provided in section V & VI of IS 800 & IS 7215. Welding shall be carried out by qualified welders/ fabricators. The procedure, selection, test and inspection shall confirm to provisions in IS 816, IS 818, IS 822, & IS 823. Erection/ hoisting shall commence only after passing of fabricated parts by Architect/ Engineer. Rate shall be inclusive of cutting, wastage, welding, bending (shop at site/factory), bolting wherever necessary, in position welding of required length, grinding, finishing edges, filling & finishing the welded spots & gaps with grout/ sealant/ applying chemical pre-treatment to the prepared surface to improve adhesion of subsequent coat, 2 coat of Epoxy paint (total min 100 micron thick) and 1 coat of PU Paint (min 50 micron thick) of approved shade etc. complete. with zinc coated nut-bolt as required for safety, structural stability of all works at site. Breaking of floor for anchoring and its repair shall be also be included for this work.</p>				
SUB TOTAL					36,16,155.00

LANDSCAPING WORK

115.00	Soil for peripheral planters/Planter Soil in-situ (typical)/Lawn soil Providing, Supplying, Stacking, Mixing, Filling, Spreading, Grading, Cleaning & Removal of stone, gravel, plants & roots, branches, etc. at sub-base level including spraying of Anti-termite chemical as per manufacturing specifications at bottom and sides of pits, trenches, engineered soil etc. complete with watering. Engineered soil consisting of selected soil or murrum or agricultural soil brought from out side including compensation for Good Soil / Agricultural Soil, Selected graded River sand & Organic manure should be well rotten and of standard quality (all three as selected by Architect only), in proportion of 60%,20% & 20% respectively. Contractor shall follow detailed drawing and provide workmanship like manner for prior approval & under supervision qualified Horticulture having 10 years experience. It allows for uproot, polving, weeding etc. for at least twelve months of after final plantation including watering. Excavation for trenches and pits shall be paid extra under relevant item. Measurement shall be as per drawing size including volume of poly bag size. The pit size for tress and palms is 0.9 m x 0.9 m x 0.9 m and excavating depth for Shrubs is 450 mm and for Ground cover 300 mm.	CU.MT	960.48	530.00	5,09,052.81
116.00	Providing and planting (as directed by the consultants / Engineer in charge) well grown saplings of big trees species (as listed below) and planting the same as directed and maintained till well established. (About 45 Days)				
116.10	Cassia Fistula (Amaltas), Tabebuia Rosea (Pink Trumpet tree) Champa (Red/white) , Polyalthia Longifolia (Asopalav), Terminalia Mantaly (1.50 mt. – 2.00 mt. height)	NOS	100.00	950.00	95,000.00
117.00	Supplying and planting Saplings (as directed by the Consultants / Engineer in Charge) of shrubs				
117.10	Jatropha, Canna Indica, Spider lili, Tabernarmontana, Nerium oleander Pink - White	NOS	1,000.00	80.00	80,000.00
118.00	Supplying and planting Saplings (as directed by the Consultants / Engineer in Charge) of Ground Cover				
118.10	Pandanud baptistii, Wedelia trlobata, Rhoeo tricolor	NOS	1,000.00	30.00	30,000.00
119.00	Supplying and planting Saplings (as directed by the Consultants / Engineer in Charge) of Lawn				
119.10	Doob Grass, Buffalo grass	SQM	1,000.00	30.00	30,000.00

120.00	Supplying and planting (as directed by the Consultants / Engineer in Charge) of Creepers				
120.10	Trachelospermum jasminoides - Star jasmine	NOS	100.00	225.00	22,500.00
120.20	Passiflora incarnata - Krishna kamal	NOS	100.00	260.00	26,000.00
SUB TOTAL					7,92,552.81
TOTAL CIVIL AMOUNT					42,71,74,979.93

PLUMBING WORKS - CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
PLUMBING WORK					
SANITARY FIXTURES AND FITTINGS					
1.01	Providing and fixing wash down wall mounting EWC-P of approved shade, conforming to Pattern 2 of IS: 2556 (Part -II), with SWR Self it Soil PVC pipe and plug bend as per specifications; glazed vitreous / Coloured European Water Closet with flush tank, connecting PVC 110mm dia soil pipe with PVC coupling, nuts, mounting cistern on WC., Ragbolt, Gasket Fitiing and solid verity heavy duty plastic seat cover as per IS-2548, of approved make; hole in walls/slab/beam and making good etc. complete as per directed by the Engineer's Representative. EWC-P with PP Soft close Seat cover, Cistern with cistern fittings: W.C Wall Hung : Jaquar, Model No. : ARS-WHT-39953BIUFMS Concealed Cistern : Jaquar, Model No. : JCS-WHT-2400FS Flush Plate : Jaquar, Model No. : JCP-CHR-292415	Set.	36.00	38000.00	13,68,000
1.02	Providing and fixing of Hand Shower (Health Faucet), with 8mm Dia,1Rmt Long pvc Tube and Wall Hook accessories to .complete the item etc. complete as per directed by the Engineer's Representative. Health Faucet :Jaquar, Model no. ALD-CHR-565	Nos.	36.00	1450.00	52,200
1.03	Receiving, Checking, Handling, Fixing, Testing and Commissioning of C.P. 2 Way bib cock with angle Valve of best quality (as approved by the Engineer-in-Charge). 2 Way Bib Cock :Jaquar, Model no. FLP-5041PM	Nos.	36.00	2100.00	75,600
1.04	Providing and fixing White glazed vitreous Oval Wash Basin Under-Counter, size 560x430x195 mm., with supporting M.S. or C.I. Brackets, necessary pipe connection up to the outside face of the wall, having Telephonic Black / Colour Granite of 180 mm thick fixed on Black Kadappa Framework. Waste coupling 32 mm size full thread with 80 mm height Chrome plated. Bottle trap Chrome plated , Pressmatic Pillar Cock including necessary fittings with wall Flange etc. complete in all respects including cutting and making good the walls etc. complete as per directed by the Engineer's Representative. Wash basin : Jaquar, Model No. : FLS-WHT-5701 Waste coupling : Jaquar, Model No. : ALD-CHR-705 Bottle trap : Jaquar, Model No. : ALD-CHR-769L300X190	Nos.	16.00	7450.00	1,19,200
1.05	Providing and fixing of C.P. copper connecting pipe 450 mm long and nuts, washer and brass flange complete, including cutting and making good the wall where required etc. complete as per directed by the Engineer's Representative. Braided Hose Copper Pipe : :Jaquar, Model No. :ALD-CHR-805B	Nos.	16.00	460.00	7,360
1.06	Providing and fixing 15mm C.P. brass angle valve with wall flange complete, including cutting and making good the wall where required etc. complete as per directed by the Engineer's Representative. Angle Valve :Jaquar, Model No. :OPP-15053PM	Nos.	24.00	1305.00	31,320

PLUMBING WORKS - CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
1.07	Providing and fixing C.P. brass liquid soap container of best quality etc. complete as per directed by the Engineer's Representative. Liquid Soap Container : Jaquar, Model no. ACN-1137N	Nos.	8.00	1750.00	14,000
1.08	Providing and fixing white vitreous china flat back Urinal of size 385x325x635mm as per IS-2556 (Part-2) with C.I. hangers and pipe to wall with C.P. flange with Sensotronic Sensor Type Urinal flush valve with installation box with control valve Battery / Electric operated automatic flushes of approved make. System provided with a solenoid valve and valve connected to a 6 volts lithium battery. Unit automatically serves (the range in about 40 cms) and flushes in two steps. The pre flush is for 2 seconds duration and the final flushing is for 7 seconds duration. The outlet from the flusher shall be connected to urinal with required braided pipes from sensor to urinal flush connection in fixture. complete including cutting and making good the walls wherever required etc. complete as per directed by the Engineer's Representative. Urinal :Jaquar : URS-WHT-13255 Urinal Sensor ,Jaquar, SNR-51097	Nos.	16.00	18500.00	2,96,000
1.09	Providing and fixing in position best Indian make toilet recessed type paper holder complete in all respects including cutting and making good the walls etc. complete as per directed by the Engineer's Representative. Toilet Paper Holder : Jaquar, Model no. ACN-CHR-1153S	Nos.	36.00	1750.00	63,000
1.10	Providing and fixing electrical hand dryer, fully automatic type etc. complete as per directed by the Engineer's Representative. Hand Dryer : Jaquar : HDR-SSF-AK2807	Nos.	8.00	11500.00	92,000
1.11	Providing and fixing of Automatic Fragrance Dispenser fixed to wooden cleats with C.P. brass screws etc. complete as per directed by the Engineer's Representative. Fragrance Dispenser: EURONICS, Model No.: EA44	Nos.	8.00	2198.00	17,584
1.12	Providing and fixing Urinal partition with frosted glass approx. size 900 MM (H) X 450 MM (W) having 10 MM of glass thickness, including fixing to wall with suitable brackets all as per manufacturers specification etc. complete as per directed by the Engineer's Representative. Urinal Partition: Jaquar, Model No. JSE-CHR-110US450X	Nos.	12.00	7550.00	90,600
Sub total					22,26,864

**INTERNAL DRAINAGE AND RAIN WATER WORKS
(SOIL, WASTE, VENT AND RAIN WATER PIPING & FITTINGS)**

PLUMBING WORKS - CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
2.01	Providing laying and jointing in true line and level 40mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials	Rmt.	25.00	146.65	3,666
2.02	Providing laying and jointing in true line and level 50mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials	Rmt.	22.00	193.73	4,262
2.03	Providing and fixing unplasticized polyvinyl chloride (UPVC) pipes with all the engineered support as per detail technical specification, having thermal stability for water supply including all UPVC plain and brass threaded fitting. This includes jointing of pipes and fittings with one step UPVC solvent cement and testing of joints complete as per direction of engineer in charge. Scope shall also including cutting, chasing the wall/beam by grinder cutter and making good the same. Pipe Dia upto 50MM: UPVC (SCH 40) Pipe Diameter above 50MM: UPVC (SCH 80) The rate shall be including all the engineered support (support, hanger, nuts/bolts, anchor fasteners, fixing clamp/channels with U-bolts, etc) as per detail technical specification etc. complete the job. Product to compliance with occupational safety standards. 75 mm dia.	Rmt.	109.00	1110.00	1,20,990
2.04	Providing, laying and jointing in true line and level 110 mm diameter U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with eachother with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 110 mm diameter x 149 mm length x 145 mm heigh at every 2000 mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials.	Rmt.	129.00	826.88	1,06,668
2.05	Providing, laying and jointing in true line and level 160 mm diameter U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with eachother with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 110 mm diameter x 149 mm length x 145 mm heigh at every 2000 mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials.	Rmt.	53.00	822.99	43,618
2.06	Providing & fixing PVC SWR TYPE B P Trap of 110 X 110 mm diameter with Height riser/ necessary 110MM Diameter of distance piece for wash basin/ sink drain connection with cockroach trap - square flat cut, Satin-matt finish - 150mm x 150mm of approved Make, making necessary slab/ wall/ beam holes and cutting walls, etc. complete.	Nos.	52.00	1700.00	88,400
2.07	Providing & fixing floor clean out square cut 150mm- Satin of approved Make with making necessary slab/ wall/ beam holes and cutting walls, etc. complete.	Nos.	28.00	1200.00	33,600

PLUMBING WORKS - CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
2.08	Providing fixing, testing and commissioning in position 65 mm dia Polypropylene pipe ring fit conforming to EN: 1329, including all fittings such as bends, junctions, inspection doors, offsets, cowl, access pieces/plugs etc. including cutting holes in walls, slab and beam and making good the same. (For Basement stormwater sump & sewage sump pumping pipe at ceiling)	Rmt.	506.00	1300.00	6,57,800
2.09	Making connection to Municipal storm water line/ existing drain including breaking them in a systematic way with suitable excavation, dewatering, dismantling of the RCC or masonry wall or pipe line, passing the plumbing storm water line in the existing structure either through masonry or RCC and providing suitable "Y" tee to the connect to existing pipe line, Reconstructions of dismantled existing structure according to the original one to bring to the working conditions testing etc. work to be done in the presence of municipal eng. including Liaisoning cost. complete as per standard as directed by Engineer-in-charge to complete the job.	Nos.	2.00	50,000	1,00,000
Sub total					11,59,004
INTERNAL/EXTERNAL WATER SUPPLY NETWORK					
3.01	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 15 mm.	Rmt.	97.00	165.21	16,025
3.02	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 20 mm.	Rmt.	30.00	202.97	6,089
3.03	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 25 mm.	Rmt.	71.00	247.25	17,555
3.04	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 32 mm.	Rmt.	5.00	330.36	1,652
3.05	Providing laying and jointing in true line and level 40mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	34.00	146.65	4,986

PLUMBING WORKS - CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
3.06	Providing and fixing unplasticized polyvinyl chloride (UPVC) pipes with all the engineered support as per detail technical specification, having thermal stability for water supply including all UPVC plain and brass threaded fitting. This includes jointing of pipes and fittings with one step UPVC solvent cement and testing of joints complete as per direction of engineer in charge. Scope shall also including cutting, chasing the wall/beam by grinder cutter and making good the same. Pipe Dia upto 50MM: UPVC (SCH 40) Pipe Diameter above 50MM: UPVC (SCH 80) The rate shall be including all the engineered support (support, hanger, nuts/bolts, anchor fasteners, fixing clamp/channels with U-bolts, etc) as per detail technical specification etc. complete the job. Product to compliance with occupational safety standards. 65 mm dia.	Rmt.	335.00	920.00	3,08,200
3.07	Providing and fixing male/ female screw ended full way lever operated forged ISI marked brass ball valves with brass body with forged brass hard chrome plated ball / stem, union.Rated to temperature of 85 Deg C, The valves to be PN 10kgm class on CPVC or GI pipe lines. (For cold water supply lines) 20 mm dia.	Nos.	2.00	1181.00	2,362
3.08	Providing and fixing male/ female screw ended full way lever operated forged ISI marked brass ball valves with brass body with forged brass hard chrome plated ball / stem, union.Rated to temperature of 85 Deg C, The valves to be PN 10kgm class on CPVC or GI pipe lines. (For cold water supply lines) 32 mm dia.	Nos.	8.00	2630.00	21,040
3.09	Providing and fixing male/ female screw ended full way lever operated forged ISI marked brass ball valves with brass body with forged brass hard chrome plated ball / stem, union.Rated to temperature of 85 Deg C, The valves to be PN 10kgm class on CPVC or GI pipe lines. (For cold water supply lines) 40 mm dia.	Nos.	2.00	3510.00	7,020
3.10	Providing and supplying ISI mark CI D/F Butterfly Valves as per IS:13095 (Latest Edition) of class PN 10, including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. Lowering, laying and jointing in position C. I. D/F Butterfly valves including cost of all labour, jointing material, including nut bolts and giving satisfactory hydraulic testing, etc. complete. 65 mm dia.	Nos.	2.00	2098.00	4,196
3.11	Supply, Installation, Testing and Commissioning of Gun metal 25 mm dia. air release valve.	Nos.	2.00	2060.00	4,120

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Item No.	Description	Unit	Total Qty.	Rate	Amount
3.12	Woltman Type Bulk Water Meter- AMR Based: Water Meter: 65mm Design, Supply, Installation, Testing, Commissioning of Woltman type Bulk Water Meter, CI/ Brass/ Bronze body material, totalizer made of copper can/ suitable anti corrosive metallic material, totaliser metallic shall have 5 mm thick glass cover suitable against antifraud attempts, Flange End process connection, IP 68 protection class, AMR Woltman Type Water Meter with removable mechanism, magnetic drive, dry dial, and be fitted with a low mass rotor which is parallel to the direction of water flow and exhibits dynamic thrust relief, water meters complete with T Type strainer, ISO 4064 : 2005 with valid CE mark mentioning notified body number along with MID / OIML / ISO certification from a recognized International laboratory. AMR System : AMR System shall be Walk By / Drive By mode, Wireless AMR trans-receivers shall be directly fitted on meter or inbuilt, IP 68 protection class, water meter & AMR Module shall be of same brand, Single Command based AMR Reading and Minimum 90 days historical data retrieve facility, alarm indication/ recording (for Reverse Flow, back flow, Peak Flow, Minimum Flow, Low Battery Alarm, Volume below threshold, Volume above threshold, Reverse Meter, Meter Stopped), Minimum 10 years of AMR module battery life considering one no. communication per day.	Nos.	1.00	19888.00	19,888
3.13	Construction of valve chambers in brick or bell stone masonry, locally available in CM 1:6. Foundation concrete 150 mm thick in C.C. 1:4:8 of trap metal size 25 mm to 40 mm thick, inside cement plaster in C.M. 1:3 and cement pointing outside in C.M. 1:3 and top cover of precast RCC slab 100 mm thick (with key hole in two parts, each with handles or MS bar etc. complete as given size) Upto 1M depth from G.L. to pipe invert incl. complete civil works but excl. cost of excavation and refilling, with cast in situ RCC slab in one single piece with fixing of CI-MH frame and cover (excl. cost of CI-MH Frame and cover) with 23 mm thick brick masonry wall in C.M.:1:6 Size of chamber 0.60M X 0.60M and 1M depth	Nos.	1.00	5138.00	5,138
3.14	Making point of new connection from Existing/ Municipal water supply line with all support, clamps, civil work, etc. required, providing suitable fittings, to connect to Existing line and good the same as per engineer in charge. Work to be done including Liasoning cost.	Nos.	1.00	50000.00	50,000
Sub total					4,68,271
IRRIGATION WATER SUPPLY NETWORK					
4.01	Providing laying and jointing in true line and level 25mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	24.00	90.93	2,182

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Item No.	Description	Unit	Total Qty.	Rate	Amount
4.02	<p>Providing and fixing unplasticized polyvinyl chloride (UPVC) pipes with all the engineered support as per detail technical specification, having thermal stability for water supply including all UPVC plain and brass threaded fitting. This includes jointing of pipes and fittings with one step UPVC solvent cement and testing of joints complete as per direction of engineer in charge. Scope shall also including cutting, chasing the wall/beam by grinder cutter and making good the same.</p> <p>Pipe Dia upto 50MM: UPVC (SCH 40) Pipe Diameter above 50MM: UPVC (SCH 80) The rate shall be including all the engineered support (support, hanger, nuts/bolts, anchor fasteners, fixing clamp/channels with U-bolts, etc) as per detail technical specification etc. complete the job. Product to compliance with occupational safety standards. 65 mm dia.</p>	Rmt.	753.00	920.00	6,92,760
4.03	Supply, installation, testing and commissioning of 20mm diameter Garden Hydrant with gun metal Ball Valve, Flexible hose Connection Provision and all required accessories etc.	Nos.	48.00	4800.00	2,30,400
Sub total				.	9,25,342

EXTERNAL STORM WATER NETWORK

5.01	<p>Providing and supplying 150 mm Inner Dia. Pipe of Class SN8 Structured Wall polyethelene Piping systems (Pipe with online/offline coupler and elastomeric sealing ring) with non-smooth External Annular Corrugated and Smooth Internal Surfaces (Double Wall) for non-pressure underground Sewerage & Drainage application as per EN:13476-3 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores etc. complete.(ID Dia)</p> <p>Lowering, laying and jointing of class SN 8 structured wall (External Annular Corrugated & Smooth Internal surface) Polyethylene Piping and fittings with the help of coupler (on line / off line) attached with one end of pipes, sliding over the elastomeric sealing rubber ring placed on the specified valley of the corrugation at the spigot end, lowering the same into the trench at all level, laying on the lower bedding (constructed at bottom of trenches) at prescribed gradient,depth & alignment ,testing the water tightness of the joints, ensuring the continuity tests of specified pipe segments etc. complete as per drawing, specifications & detailed engineering, including carriage of pipes & fittings from site stacks to the place of laying etc. as per direction of Engineer-in-charge.</p>	Rmt.	17.00	396.00	6,732
5.02	Construction of Storm water chamber of size 450x450x600 mm (internal clear) making of RCC including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes M 30 RCC work for walls , top slab and bottom slab as per the drawing, having Rubble soiling and 100mm thick PCC in M-15 at bottom level. It shall be plastered with 20mm thick Plaster with neat coat in CM 1:3 on internal and outside of chamber with adquate goliya at all sides. Top shall be covered with FRP recessed Heavy Duty cover with Frame(450MMX450MM Clear Opening). It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction	Nos.	1.00	24000.00	24,000
Sub total					30,732

PUMP AND EQUIPMENT WORKS

PLUMBING WORKS - CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
6.01	<p>HYDRO PNEUMATIC SYSTEM FOR Domestic Water Distribution Hydropneumatic System Variable Speed Hydro-booster System Compact self contained Hydro-booster system comprising of following SITC of In-line, vertical multistage, centrifugal clear water pumps with SS-304 casing, S.S 304 impeller and SS-304 shaft, C.I. Base CED (Cathode Electrode Deposition) coating & head TEFC motor (with mechanical seal), dry run protection, antivibration paid, 2 pole Motor & IE3 Efficiency. Vendor to submit performance curves and technical catalogue of the proposed model for review and information. Panel mounted microprocessor based multi pump controller with large graphical display with VGA 240 x 320 pixels and variable frequency drive (VFD) integrated in a single body, pressure sensor transmitter, IP 55 enclosure, diodes to indicate pump ready, earthing, pump running and fault condition, Cascade Operation. Each incomer and Outgoing feeder should be capable for protection against Overload. Short Circuit and Phase reversal condition and shall be capable to communicate with other controllers following. The PLC shall support MODBUS-IP communication for its compatability to intergrate with 3rd party BAS system. Controller shall authorise Read/Write command via BMS.System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system. Electronic type low water level controller with LED panel to operate pump (necessary contacts along with minimum one PLC operated spare contacts required), with probe & all control wiring from Panel to tank to operate the system automatic/manual & shall prevent the pump from dry running. Scope shall also include power and control cable of required size, termination, cable tray from Pump to Control panel, control cable as wherever required etc. complete the job. Pre-charged diaphragm pressure vessel with interchangeable membrane, charging connection, connected to outlet header with necessary flanges, gaskets, isolating valves, nuts/bolts etc. complete (size of pressure vessel shall be as per manufacturer recommendation). Set of accessories such as GI C Class headers of suction and discharge for (working and Standby pump assembly) with CED Coating, Cast iron control valves, Cast Iron non return valves, pressure transducers, pressure gauge with Isolation Valve of PN 10 etc. complete the job.Require complete company fitted ready-to-connect packaged system. Capacity per pump - 7.5 m3/hour, Head -30 mt, 1 Set = 3 Nos. Pump (2 Working + 1 Standby - cascade operation), Location - UGT Pump Room, Suction head - flooded positive suction</p>	Set	1.00	9,30,000	9,30,000

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Item No.	Description	Unit	Total Qty.	Rate	Amount
6.02	<p>IRRIGATION PUMP Centrifugal Monoblock Transfer pump Supplying, installing, testing and commissioning of Horizontal / vertical multistage, centrifugal clear water pumps with SS-304 casing, S.S 304 impeller and SS-304 shaft, SS-304/C.I. Base CED coating & head TEFC IE3 motor (with mechanical seal) with Company fitted with company compliance certificate. Vendor to submit performance curves and technical catalogue with all GA Drawing of the proposed model for review and information. Panel mounted PLC and HMI Based multi pump controller with large graphical display with VGA 240 x 320 pixels and variable frequency drive (VFD) integrated in a Panel with IP55 class with pressure sensor transmitter (each pump each VFD), diodes to indicate pump ready, pump running and fault and capable to communicate with other controllers following MODBUS-RTU or BACNET Class-2 protocol through RS485 port. All alarms should be displayed in the controller. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel. Set of accessories such as G.I headers for suction and discharge, control valves, non return valves, pressure transducers, pressure gauge, inter connecting power and control cabling etc. complete. Capacity per pump - 7.5 m3/hour, Head -45 mt, 1 Set = 2 Nos. Pump (1 Working + 1 Standby).</p>	Set	1.00	5,20,000	5,20,000
3.09	<p>Sump Drain Pump (For Basement Strom Water Drain) Supply, installation, testing & commissioning of Submersible Non Clog, single stage, single entry pumps connected to TEFC submersible motor for 415 + 10% volts, 3 phase, 50 cycles A.C. power supply with mechanical seal, pump connector unit with rubber diaphragm and bend, vertical discharge pipe. (Pumps suitable to handle solids upto 50 mm size with C.I. body, SS304 shaft, SS impeller). Pump Outlet shall be individual for both pumps and shall be connected to main drain line individually. Electrical Starter panels complete with O/L Relay with Single phasing preventer feature, earth leakage relay, ON-OFF and Trip Indicating lamps, contactors Potential free contacts for Building Automation System, interlocking, level controller with operational mode as one pump working at low level, both pumps at high level with a hooter alarm and cut off at dry level, cascade operation, working / standby selction, etc. suitable for the motor H.P. as specified below. The operations data for all pumps shall be available on central BMS system Capacity per pump - 15.0 m3/hour, Head -30 mt, 1 Set = 2 Nos. Pump (1 Working + 1 Asist - cascade operation)</p>	Set	3.00	1,50,000	4,50,000
3.10	<p>Sump Drain Pump (For Toilet Sewage Drain) Supply, installation, testing & commissioning of Submersible Non Clog, single stage, single entry pumps connected to TEFC submersible motor for 415 + 10% volts, 3 phase, 50 cycles A.C. power supply with mechanical seal, pump connector unit with rubber diaphragm and bend, vertical discharge pipe. (Pumps suitable to handle solids upto 50 mm size with C.I. body, SS304 shaft, SS impeller). Pump Outlet shall be individual for both pumps and shall be connected to main drain line individually. Electrical Starter panels complete with O/L Relay with Single phasing preventer feature, earth leakage relay, ON-OFF and Trip Indicating lamps, contactors Potential free contacts for Building Automation System, interlocking, level controller with operational mode as one pump working at low level, both pumps at high level with a hooter alarm and cut off at dry level, cascade operation, working / standby selction, etc. suitable for the motor H.P. as specified below. The operations data for all pumps shall be available on central BMS system Capacity per pump - 7.5 m3/hour, Head -30 mt, 1 Set = 2 Nos. Pump (1 Working + 1 Asist - cascade operation)</p>	Set	2.00	1,35,000	2,70,000

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Item No.	Description	Unit	Total Qty.	Rate	Amount
					21,70,000
	Sub total				21,70,000
	TOTAL PLUMBING AMOUNT				69,80,214