

CONSTRUCTION OF BIOTECHNOLOGY AND CENTRE FOR SUSTAINABILITY BUILDING (GROUND + 6 FLOORS) AT IIT MADRAS

SCHEDULE - A - TENDER NO:45R/2012-13/CIVIL - FINANCIAL BID - VOLUME II - (Part 1) - CIVIL WORKS - BILL OF QUANTITY

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
1	EARTH WORK				
1.1	Earth work in rough excavation, banking excavated earth in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with ½ tonne roller or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up in embankments for roads, flood banks, marginal banks and guide banks or filling up ground depressions, lead upto 50 m and lift upto 1.5 m : (As directed by PMC / IIT for reusing the same for landscape works or any other suitable land development works at later stage by other contractor for GRIHA rating purpose.)	880.00		Cum	
1.2	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50m and lift up to 1.5m, disposed earth to be leveled and neatly dressed.				
1.2.1	All kinds of soil up to 1.5m depth	1,375.00		Cum	
1.2.2	from 1.50 m to 3.00m depth	1,160.00		Cum	
1.2.3	from 3.00 m to 4.50m depth	1,050.00		Cum	
1.2.4	from 4.50 m to 6.00m depth	175.00		Cum	
1.3	Earth work in excavation in Ordinary rock by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50m and lift up to 1.5m, disposed earth to be leveled and neatly dressed.	40.00		Cum	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
1.3.1	Hard rock (blasting prohibited)	30.00		Cum	
1.4	Earth work in excavation all kinds of soil by mechanical means (Hydraulic Excavator / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.	50.00		Cum	
1.5	Excavation work in Ordinary rock by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains not exceeding 1.5 m in width or 10 sum on plan including dressing of sides and ramming of bottoms lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50m.	10.00		Cum	
1.5.1	same as above item for Hard rock (blasting prohibited).	10.00		Cum	
1.6	Filling available excavated earth in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.	3,670.00		Cum	
1.7	Supplying and filling in plinth with sand under floors,footings including watering, ramming, consolidating and dressing complete.	198.50		Cum	
1.8	Intercarting of excavated earth by mechanical transport including loading, unloading and stacking / spreading / leveling lead up to 2.5km km beyond the initial lead of 50m. Voids will be deducted at 20%.	3,000.00		Cum	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
1.9	Supply and filling in foundations and the area wherever specified with approved good quality quarry dust in plinths, area development etc. wherever specified in layers of not exceeding 200 mm thick including breaking clods, storing, transportation, double handling, watering, compacting each layer with VIBRO MAX (or) SHEEP Foot Roller to achieve 95% proctor density at optimum moisture content, all leads and lifts, bailing/ pumping out of water to keep site dry while backfilling; cost shall include conveyance of all materials, labour, machinery etc. complete as directed.The rate to includes loading,unloading, hire and fuel charges for tools and plants, all royalties,taking statutory approvals as necessary to carry out the works and other incidental charges etc., complete.	515.00		Cum	
1.10	<p>Bringing the selected earth / materials given below from outside the site wherever available and depositing in places and as directed by the Engineer as specified, breaking clods, watering, and consolidation by power roller of required capacity to obtain 98 % of proctor density etc. complete all as per technical specifications enclosed. Rate shall include for excavation of earth and conveyance for all distances. Block levels at the place of depositing of earth being taken prior at minimum 3 metre grid and such levels shall be used for calculating the quantity of earth deposited by taking final levels. The measurements shall be at the place of deposit and not at the place of excavation. Measurements shall be according to IS 1200 (latest issue) and the rate shall include for royalty, cess,octroi, loading & unloading, transportation all means etc. complete.</p> <p>Note : Payment shall be made only for the quantity of filled up earth based on the initial and final spot levels, but rate to include transporting, lead & lift, levelling, as specified and removal of unsuitable materials as directed. Rate does not include testing in field and in laboratory.</p>				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
1.10.1	Good earth	670.00		Cum	
1.10.2	Quarry dust	670.00		Cum	
1.11	<p>Providing Pre – Constructional Anti – Termite Treatment and creating a Chemical Barrier to the building by injecting chemical emulsion of required concentration under grade slab and grade beam, all round the footings, column pits, trenches, pits, tunnels, wall trenches, back fill, plinth filling, junction of wall and floor. Retaining/side walls of basement floor, external perimeter of building, surrounding of pipes, expansion joints, below U.G. sump and retaining/side walls etc. as per instructions of chemical manufacturer and all as directed. The treatment shall be carried out strictly in accordance with the technical specification and conforming to IS 6313 or equivalent BS specification. The chemical to be used as insecticide for the treatment shall be Biflex Tc, TC stands for Termiticide Concentrate for Termite Control (Bifenthrin) and the application shall be diluted 1 part of chemical Biflex Tc with 49 parts of water to get 0.05% emulsion and strictly in accordance with the manufacturer's specification.</p> <p>The chemical to be used for the treatment and concentration of the chemical solutions should be as laid down in IS - 6313 Part II.</p> <p>(The work should be carried out by an approved and registered specialist pest control agency as approved by IIT Madras). Necessary gurantee shall be given as per the tender conditions. Plinth area of the building at ground floor only will be measured for payment.</p>	1,220.00		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
2	CEMENT CONCRETE & REINFORCED CEMENT CONCRETE WORKS				
2.1	Providing and laying in position ready mixed plain cement concrete, All works upto plinth level with cement content as per approved design mix and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for plain cement concrete work, including pumping of R.M.C. from transit mixer to site of laying and curing, excluding the cost of centering, shuttering and finishing, including cost of curing, 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. M-10 grade plain cement concrete (cement content considered @ 220 kg/cum).	256.50		Cum	
2.2	Providing and laying in position brick jelly concrete 1:3:6 (1cement: 3 coarse sand: 6 brick jelly concrete 20mm nominal size) in sunken floor including the cost of centering and shuttering at all heights after entire completion of laying pipes, sanitary fittings etc., Rate shall include for preparatin of surface, protecting the laid pipes and sanitary fittings, finishing the surface smooth to receive the top coat of water proofing application etc., complete and all as directed by the Engineer-in-charge.	65.00		Cum	
2.3	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade / RMC for reinforced cement concrete structural elements, excluding the cost of centring, shuttering, finishing and reinforcement but including admixture etc for M35 grade concrete with required slump 120mm at site. The maximum allowable flyash content in the concrete is 15%. No claim will be entertained for additional cement content used for obtaining M35 grade concrete. Approval of the concrete mix composition shall be obtained from IIT Madras before use. Third-party testing shall be carried out as per IS standards through a laboratory approved by IIT Madras. (Note :- Cement content considered in this item is @ 380 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
2.3.1	All works Up to Plinth Level	885.00		Cum	
2.3.2	All works above plinth level upto floor V level.	1,950.00		Cum	
2.3.3	All works above floor V level .	745.00		Cum	
2.4	Centering and shuttering for getting neat exposed concrete finish (no external plastering will be allowed for RCC work) for all RCC/PCC works with film coated plywood shuttering board or using steel wall form work including strutting, propping etc., and removing for all RCC works. The contractor shall obtain approval from Engineer-in-Charge for the form work design & methodology proposed to be adopted in the work.				
2.4.1	Foundations, footings, bases for columns	997.00		Sqm	
2.4.2	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	1,250.00		Sqm	
2.4.3	Suspended floors, roofs, landings, balconies and access platform including flat slabs etc.	6,404.00		Sqm	
2.4.4	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	6,874.00		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
2.4.5	Columns, Pillars, Piers, Abutments, Posts and Struts	4,460.00		Sqm	
2.4.6	Stairs, (excluding landings) except spiral-staircases.	315.00		Sqm	
2.4.7	Vertical and horizontal fins individually or forming box louvers band, facias and eaves boards.	505.00		Sqm	
2.4.8	Extra for shuttering in circular work	5.00		Sqm	
2.5	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc. including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured). Suspended floors, roofs, landing, beams and balconies (Plan area to be measured).	6,445.00		Sqm	
2.6	Reinforcement for RCC work below plinth level including straightening, cutting, bending, placing in position and binding all complete by using Thermo mechanically treated bars (TMT) Fe500D of approved make and brand.	103,500.00		KG	
2.6.1	Same as aboe item for above plinth level	550,000.00		KG	
2.7	Add or deduct for using extra cement in the item of RMC over and above the specified cement content therein.	140.30		quintal	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
2.8	Providing and laying damp-proof course 50mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size).	162.00		Sqm	
2.9	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	2,590.00		per 50Kg cement	
2.10	Applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	162.00		Sqm	
2.11	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete work in string courses, bands, copings, bed plates, anchor blocks, plain window sills and the like including the cost of required centering, shuttering but excluding cost of reinforcement, with 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size).	5.00		Cum	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
3	MASONRY WORKS				
3.1	Masonry work with fly ash solid concrete block M10 grade for foundation, Plinth and superstructure above plinth and up to floor V level using C.M. 1:6.	1,385.00		Cum	
3.1.1	Same as above item for above floor V level and up to floor IX level	540.00		Cum	
3.2	Half Brick masonry with fly ash solid concrete blocks of class designation 100 in all levels using Cement mortar 1:4 (1 Cement : 4 Coarse sand).Above plinth level and upto floor V level	860.00		Sqm	
3.2.1	Same as above item for above floor V level and up to floor IX level	220.00		Sqm	
4	STEEL & FIRE DOOR WORKS				
	120Mins. Fire rated hollow metal doors - Painted				
4.1	Providing and fixing of Hollow metal fire rated doors as per BS 476 part-22 for stability and integrity. Pressed Galvanized steel conforming to IS 277 with the following specification. Recommended fire door shall have doors tested and third party certified by CERTIFIRE or equivalent, for maximum rating of 120Mins. with vision panel. Labeled doors with certification shall be with vision glass as a part of complete assembly. Manufacturer test certificate shall cover doors both single and double leaf and all doors supplied shall be within the tested specimen, deviation in specification and sheet thickness other than what is mentioned in the test certificates are not allowed. Proper label confirming the type of door and the hourly rating is mandatory. Approved manufacturer Shakti Met-dor or approved equivalent.				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	<p>Door frame shall be double rebate profile of size 143 x 57 mm made out of 1.60mm (16gauge) minimum thick galvanized steel sheet. Frames shall be Mitered and field assembled with self tabs. All provision should be mortised, drilled and tapped for receiving appropriate hardware. Rubber door silencers should be provided on the striking jamb. Frames should be provided with back plate bracket and anchor fasteners for installation on a finished plastered masonry wall opening. Once frame installed should be grouted with cement & sand slurry ratio 1:2 necessary for fire doors on the clear masonry opening.</p> <p>Door leaf shall be 46mm thick fully flush double skin door with or without vision lite. Door leaf shall be manufactured from 1.2mm (18gauge) minimum thick galvanized steel sheet. The internal construction of the door should be rigid reinforcement pads for receiving appropriate hardware. The infill material shall be resin bonded honeycomb core. All doors shall be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, locks, and door closers. The edges should be interlocked with a bending radius of 1.4mm. For pair of doors astragals has to be provided on the meeting stile for both active and inactive leaf. Vision lite wherever applicable should be of size 200x300mm with a beeding and screws from inside. The glass should be 6mm clear borosilicate fire rated glass of relavant rating of the door.</p> <p>All doors and frames shall be finished with polyurethane aliphatic grade paint of approved colour. The door leaf and frame shall have passed minimum 250 hours of salt spray test.</p> <p>Note : Rate should include supply and installation of door and hardware set as enclosed in the door and hardware schedule refer in the General specification.</p>				
4.1.1	120Mins Fire Rated Un Equal Double Leaf door of size : FD 1770X2100mm with vision panel with hardware set # 5	2.00		Each	
4.1.2	120Mins Fire Rated Un Equal Double Leaf door of size : FD 1770X2100mm with vision panel with hardware set # 8	5.00		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
4.1.3	120Mins Fire Rated Un Equal Double Leaf door of size : FD1 1500X2100mm with vision panel with hardware set # 1	19.00		Each	
4.1.4	120Mins Fire Rated Double Leaf door of size : FD1 1500X2100mm with vision panel with hardware set # 7	7.00		Each	
4.1.5	120Mins Fire Rated Door Single leaf of size : FD2 1200X2100 without vision panel with hardware set # 3	2.00		Each	
4.1.6	120Mins Fire Rated Door Single leaf of size : FD2 1200X2100 with vision panel with hardware set # 6	7.00		Each	
4.1.7	120Mins Fire Rated Door Single leaf of size : FD3 1000X2100 without vision panel with hardware set # 3	1.00		Each	
4.1.8	120Mins Fire Rated Door Single leaf of size : FD3 1000X2100 with vision panel with hardware set # 3	2.00		Each	
4.1.9	120Mins Fire Rated Door Single leaf of size : FD3 1000X2100 with vision panel with hardware set # 9	7.00		Each	
4.1.10	120Mins Fire Rated Un Equal Double Leaf door of size : D1 1500X2100mm with vision panel with hardware set # 1	9.00		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
4.1.11	120Mins Fire Rated Door Single leaf of size : D2 1000X2100 with vision panel with hardware set # 3	31.00		Each	
4.1.12	120Mins Fire Rated Door Single leaf of size : D2 1010X2100 with vision panel with hardware set # 3	3.00		Each	
	General doors - Painted				
4.2	Providing and fixing of Hollow metal door at all levels from ISO 9001-2000 certified Manufacturer. All hollow metal general doors with or without vision panel. Pressed Galvanised steel Single /Double leaf to required sizes of approved make shakti met-dor or approved equivalent which consists of frame, shutter, infill and finish as detailed below and conforming to IS 277.				
	<p>Door frame shall be Single rebate profile of size 100 x 57 mm made out of 1.20mm thick galvanised steel sheet (18 gauge). Frames should be Mitered and field assembled with self tabs. Frames should be provided with back plate bracket and anchor fasteners for installation on a finished plastered masonry wall opening. Once frame installed should be grouted with cement & sand slurry ratio 1:2 if recommended on the clear masonry opening.</p> <p>Door leaf should be 46mm thick fully flush double skin door with or without vision lite. Door leaf shall be manufactured from 0.8mm (22 guage) minimum thick galvanised steel sheet. The internal construction of the door should be rigid with steel stiffeners/ pads and reinforcement. The infill material shall be resin bonded honeycomb core. All doors should be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, locks, and door closers. The edges should be interlocked with a bending radius of 1.4mm. For pair of doors astragals has to be provided on the meeting stile for both active and inactive leaf. Vision lite not applicable. Louvers when recommended should be of size 450x300mm with site proof and shall be flush fixed on the external surface.</p> <p>All doors and frames shall be finished with polyurethane aliphatic grade paint of approved colour. The door leaf and frame shall have passed minimum 250 hours of salt spre test.</p>				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	Note : Rate should include supply and installation of door and hardware set as enclosed in the door and hardware schedule refer in the General specification.				
4.2.1	Steel Door Double Leaf door of size : FD 1770X2100mm with vision panel with hardware set # 12	4.00		Each	
4.2.2	Steel Door Double Leaf door of size : FD 1770X2100mm with vision panel with hardware set # 13	3.00		Each	
4.2.3	Steel Door Double Leaf door of size : FD1 1500X2100mm with vision panel with hardware set # 12	46.00		Each	
4.2.4	Steel Door Double Leaf door of size : FD1 1500X2100mm with vision panel with hardware set # 13	4.00		Each	
4.2.5	Steel Door Un Equal Double Leaf door of size : FD1 & FD1a 1500X2100mm with vision panel with hardware set # 16	6.00		Each	
4.2.6	Steel Door Double Leaf door of size : FD1 1500X2100mm without vision panel with hardware set # 1A	1.00		Each	
4.2.7	Steel Door Single leaf of size :FD2 1200x2100mm with vision panel with hardware set # 11	1.00		Each	
4.2.8	Steel Door Single leaf of size :FD2 1200x2100mm without vision panel with hardware set # 3A	1.00		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
4.2.9	Steel Door Single leaf of size :FD4 1000x2100mm with bottom louver with hardware set # 2	7.00		Each	
4.2.10	Steel Door Single leaf of size :FD4 1000x2100mm with bottom louver with hardware set # 10	7.00		Each	
4.2.11	Steel Door Single leaf of size :FD3 1000x2100mm with vision panel with hardware set # 11	31.00		Each	
4.2.12	Steel Door Single leaf of size :FD3 1000x2100mm with vision panel with hardware set # 3A	3.00		Each	
4.2.13	Steel Door Double Leaf door of size : D1 1500X2100mm with vision panel with hardware set # 12	22.00		Each	
4.2.14	Steel Door Single leaf of size :D3 1000x2100mm with bottom louver with hardware set # 10	14.00		Each	
4.2.15	Steel Door Single leaf of size :D4 750x2100mm without vision panel with hardware set # 19	18.00		Each	
4.2.16	Steel Door Single leaf of size :D4 750x2100mm without vision panel with hardware set # 20	12.00		Each	
4.2.17	Steel Door Single leaf of size :D4 1000x2100mm without vision panel with hardware set # 21	3.00		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	Fire Hose Reel door - Painted				
4.3	<p>Providing and fixing of Hollow metal door at all levels from ISO 9001-2000 certified Manufacturer. The metal doors should be made from high grade galvanised steel stretched level sheet flush, with vision panel, louvers etc. Single / Double leaf to required sizes and approved make shakti met-dor or equivalent which consists of frame, shutter, infill and finish as detailed below and conforming to IS 277.</p> <p>Door frame shall be single rebate profile of size 100 x 57 mm made out of 1.20mm minimum thick galvanized steel sheet (18 gauge). Frames should be MITERED and field assembled with self tabs. Door frames should be prepared for suitable hardware as scheduled and should have necessary reinforcement to withstand regular wear and tear. All provision should be mortised, drilled and tapped for receiving the hardware. Rubber door silencers should be provided on the striking jamb. All door frames should be provided with SOFIT bracket and anchor fasteners for installation on a finished plastered masonry wall opening. Once the frame is installed it should be grouted with cement & sand slurry ratio 1:2.</p> <p>Door leaf should be 46mm thick flush double skin door with vision panel of suitable size. Door leaf shall be manufactured from 0.8mm (22 guage) minimum thick galvanised steel sheet. The internal construction of the door should be rigid with steel stiffeners/ pads and reinforcement. The infill material shall be resin bonded honeycomb core. All doors should be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, shaft locks, flush pull and tower bolt etc. The edges should be interlocked with a bending radius of 1.4mm. For pair of doors astragals has to be provided on the meeting stile for both active and inactive leaf. Vision lite wherever applicable should be of fully glazed fixed with rubber beeding. The glass should be 4mm clear toughned glass.</p> <p>All doors and frames shall be finished with polyurethane aliphatic grade paint of approved colour. The door leaf and frame shall have passed minimum 250 hours of salt spray test.</p>				
	Note : Rate should include supply and installation of door and hardware set as enclosed in the door and hardware schedule refer in the General specification.				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
4.3.1	Fire hose reel door Single leaf of size : TD1 600x1500mm with fully glazed vision panel with hardware set # 4	17.00		Each	
4.3.2	Fire hose reel door Single leaf of size : TD2 600x1500mm with out vision panel with hardware set # 4	27.00		Each	
4.4	Lead Lined doors - Painted				
	Providing and fixing of Hollow metal lead lined door from ISO 9001-2000 certified Manufacturer. Pressed Galvanized steel Single / Double leaf to required sizes of approved make shakti met-dor or approved equivalent which consists of frame, shutter, infill and finish as detailed below.				
	Door frame shall be double rebate profile of size 143 x 57mm made out of 1.60mm (16gauge) thick galvanized steel sheet. Frames shall be Mitered and field assembled with self tabs. The inside face of the frame face trim to rebate height should be protected with 1.2mm thick lead line. All provision should be mortised, drilled and tapped for receiving appropriate hardware. Rubber door silencers should be provided on the striking jamb. Frames should be provided with back plate bracket and anchor fasteners for installation on a finished plastered masonry wall opening. Once frame installed should be grouted with cement & sand slurry necessary for fire doors on the clear masonry opening.				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	<p>Door leaf shall be 48mm thick fully flush double skin door with or without vision lite. Door leaf shall be manufactured from 1.2mm (18guage) thick galvanised steel sheet. The internal construction of the door should be rigid with lead line of 1.2mm thick all across the inside of the exposed surface. In addition the door should have a basic infill steel stiffened special core with necessary reinforcement both on top and bottom. All doors should be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, locks, and door closers as per ANSI Standard .The edges should be interlocked with a bending radius of 1.4mm.</p> <p>All doors and frames shall be finished with polyurethane aliphatic grade paint of approved colour. The door leaf and frame shall have passed minimum 250 hours of salt spreya test.</p> <p>Note : Rate should include supply and installation of door and hardware set as enclosed in the door and hardware schedule refer in the General specification.</p>				
4.4.1	Steel Door Single leaf of size : FD3 1000x2100mm without vision panel with hardware set # 17	2.00		Each	
4.4.2	Steel Door Un Equal Double leaf of size : FD1a 1500x2400mm without vision panel with hardware set # 18	2.00		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
5	ALUMINIUM WORKS				
5.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections / appropriate Z sections and other sections of approved make conforming to IS: 733 and IS : 1285, fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC / neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing and paneling to be paid for separately) : For fixed / openable / shutter portion.				
5.1.1	Powder coated aluminium (minimum thickness of powder coating 50 micron)	2,190.00		Kg	
5.2	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-incharge .				
5.2.1	With tinted heat strengthened glass of Saint gobin / Ashaki make panes of 5.50 mm thickness	180.00		Sqm	
6	STEEL WORKS				
6.1	Providing and fixing in position structural steel members at all levels and to any shape & profile consisting of channels, angles, insert plates, flats and with necessary sleeves, bolts and nuts, gratings, pipes including cutting, straightening, welding as per standards for connections including consumables etc.complete. Rate shall include preparation of surface, applying two coats of Zinc chromate/Phosphate primer before and after erection and two coats of first quality synthetic enamel paint of approved make after erection, etc. complete, as directed.				
6.1.1	Same as above item for Connecting corridor	25,500.00		Kg	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
6.1.2	Same as above main item for Atrium Portion	2,250.00		Kg	
6.2	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc. including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge. (for payment purpose only weight of stainless steel members shall be considered including fixing with all type of accessories fasteners etc.)	820.00		Kg	
6.3	Providing and fixing M.S. tube hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.	475.00		Kg	
6.4	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 – part 1 and M.S. top cover of required thickness for rolling shutters. 80x1.25mm M.S. laths with 1.25 mm thick top cover	9.00		Sqm	
6.5	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to openings	2,520.00		KG	
7	FLOORING WORKS				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
7.1	52 mm thick cement concrete flooring with concrete hardener topping under layer 40 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and top layer 12 mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) by volume hardening compound is mixed @ 2 litre per 50kg of cement or as per manufacturers specifications. This includes cost of cement slurry, fixing of glass strips of 5 mm thick for floor separation for the panel area of 20 sqm .	460.00		Sqm	
7.2	Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement. - 18 mm thick	55.00		Sqm	
7.3	Providing and fixing 1st quality ceramic glazed wall tiles 300x450mm conforming to IS : 15622 (thickness to be specified by the manufacture) of approved make in all colours, of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.(Toilets)	840.00		Sqm	
7.4	Providing and laying Antiskid Ceramic glazed floor tiles of size 300x300mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in all colours, shades, laid on 20mm thick bed of Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigments etc., complete. Rate shall include for preparation of base surface & finished the surface, protection with gypsqm/POP layer over plastic sheet and removing the same before handing over work, and tile spacer etc., at all levels, as directed.(Toilets)	430.00		Sqm	
7.5	Providing and fixing 1st quality glazed Vitrified tiles in walls, dado size 600x300 mm of NITCO / Euro / Johnson / Somany in required colours and shades as approved by Engineer-in-Charge over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	66.00		Sqm	
7.6	Providing and fixing 1st quality glazed Vitrified tiles in floors /skirting of size 600x600 mm matt finish NITCO / Johnson / Euro / Somany as approved by Engineer-in-Charge over 20 mm thick bed of cement Mortar 1:4 (1 cement : 4 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade and tile spacer complete.	405.00		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
7.7	Providing and laying Flooring / skirting Vitrified tiles of double charge / premium quality tiles of required thickness for the given size, with water absorption 0.50% as per IS 4457 of approved make in all colours & shades with cement slurry spread at the rate of 4.4 kg of cement per sqm over 20mm average thickness of cement mortar 1:4 (1cement : 4 coarse sand) and pointing the joints with white cement and matching pigments etc. all complete as per Particular Specification and as directed by Employer / Architect. Rate shall include for preparation of base surface & finished the surface, protection with gypsum/POP layer over plastic sheet and removing the same before handing over work, and tile spacer at all levels, as directed.	2,885.00		Sqm	
7.8	Providing and laying full body Vitrified tiles series matt finish of (approved make NITCO/Euro/Johnson/Somany) of required thickness for the given size, with water absorption 0.50% as per IS 4457 of approved make in all colours & shades with cement slurry spread at the rate of 4.4 kg of cement per sqm over 20mm average thickness of cement mortar 1:4 (1cement : 4 coarse sand) and pointing the joints with white cement and matching pigments etc. all complete as per Particular Specification and as directed by Employer / Architect. Rate shall include for preparation of base surface & finished the surface, protection with gypsum/POP layer over plastic sheet and removing the same before handing over, work at all levels, as directed. 600x600 MM - Light colour	966.00		Sqm	
7.8.1	Same as above item for 600 X 600 MM - Dark colour	245.00		Sqm	
7.9	Providing and laying full body Vitrified tiles in skirting of required thickness up to 15cm height, with water absorption 0.50% as per IS 4457 of approved make in all colours & shades with cement slurry spread at the rate of 4.4 kg of cement per sqm over 12 mm average thickness of cement mortar 1:3 (1cement : 3 coarse sand) and pointing the joints with white cement and matching pigments etc. all complete as per Particular Specification and as directed by Employer / Architect. Rate shall include for preparation of base surface & finished the surface, protection with gypsum/POP layer over plastic sheet and removing the same before handing over, work at all levels, as directed.	1,070.00		RM	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
7.10	<p>Providing and laying granite stone flooring / skirting in single size or in combination of different sizes as per approved drawings with not less than 18 mm thick mirror polished granite of approved colour, shade and texture with cement slurry spread at the rate of 4.4 kg of cement per sqm over an average thickness of 20mm cement mortar 1:4 (1cement : 4 coarse sand) including finishing the joint with white cement and matching pigments with approved shade all complete as per direction of Engineer in charge. Rate shall include for preparation of base surface & finished the surface, protection with gypsum/POP layer over plastic sheet and removing the same before handing over, work at all levels, as directed.</p> <p>With not less than 18mm thick Granite stone slab area 0.50 Sqm and above of single slab</p> <p>Paradiso, SilverPearl, Sable brown, Ivory fantasy, Tan brown, juprano, steel grey, lavender blue pearl white, chikku brown, viscon white, pearl grey, kashmir white or equivalent shades</p>	150.00		Sqm	
7.10.1	Red Royal / Multi Red, sindoori red, Jet black, Kashmiri gold, Jaisalmeer or equivalent shades	65.00		Sqm	
7.10.2	Extra rate over and above items for antique finish / Flame finish/leather finish granite stone flooring in lobby, step, treads, skirting etc.	225.00		Sqm	
7.11	<p>Providing and fixing granite stone in risers of steps, skirting and dado in single size or in combination of different sizes with 18 mm thick polished granite of approved colour, shade and texture, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) as per approved pattern / design and jointing with grey cement slurry @ 3.3 Kg. per sqm. including pointing with filler compound or approved equivalent, to matching shade as per Manufacturer's Specification, including edge chamfering and polishing the chamfered edge to give highly smooth surface, & groove to the specified size of 2nos - 3mm @ 25mm c/c from the edges, rubbing and polishing complete. curing, protection, scaffolding and preparation of base surface etc. complete as per direction of Engineer in charge. Rate shall include for protection with gypsum/POP layer over plastic sheet and removing the same before handing over, work at all levels, as directed.</p>				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	With thickness not less than 18 mm Granite stone slab area up to 0.60 Sqm Paradiso, SilverPearl, Sable brown, Ivory fantasy, Tan brown, juprano, steel grey, lavender blue pearl white, chikku brown, viscon white, pearl grey, kashmir white or equivalent shades	100.00		Sqm	
7.11.1	Red Royal / Multi Red, sindoori red, Jet black, Kashmiri gold, Jaisalmeer, English teak or equivalent shades	45.00		Sqm	
7.12	<p>Providing and installing of Royal ESD PUR Vinyl Sheet Flooring manufactured by Armstrong World Industries, Inc, 1.83m wide, having a nominal total thickness of 2.2mm. The nominal thickness of the wear layer would be [0.08 in. (2 mm)]. The product should have a conductive backing of 0.2mm. The wear surface shall consist of impregnated polyurethane homogeneous mixture of PVC, Plasticizers, Urethane, color pigments and filler calendared to form a sheet. Colors and pattern detail shall be dispersed throughout the thickness of the wear layer. Royal ESD sheet shall conform to the requirements of BS EN 649/13553, "Standard Specification for Vinyl Sheet Floor Covering without backing." Royal ESD shall conform to Group P of Wear Resistance as per EN 660-2, Flammability of class Bfl-s1 as per EN 13501-1, Slip resistance of R9 as per Oil Wet Ramp test (BGR 181), Dynamic Coefficient of friction as DS as per EN 13893, Impact sound reduction of 3 dB as per ISO 140-8, Residual indentation of 0.05 mm as per EN 433, Seam strength of 400N/50mm as per EN 684, Color fastness rating 6 as per ISO 105-B02, Vertical resistance(R1) less than 107Ω as per EN 1081, Electrical insulation to ground greater than 50 kΩ as per VDE 0100, Static electrical charge of 2.0kV as per EN 1815, Thermal resistance of 0.01m²K/W as per EN 12667, Thermal conductivity of 0.25 W/mK as per EN 12524. The suitable castor chairs to be used are type "W" as per EN425.</p> <p>The class of use of Royal ESD is 23/34/43 as per EN 685</p> <p>The product shall be manufactured as per CE norms and EN 14041:2004 05</p>				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	<p>Installation: It is important to ensure the sub floor on which the sheet is being laid is smooth, flat & hard & free from moisture, grease, etc. In case of uneven sub floor the same should be leveled by self leveling compound. The moisture level present in the subfloor should be less than 8% before installation of the floor. The sheet should be laid using water based adhesive like Arobond 44 or similar.</p> <p>Each row of tiles/strip of floor covering must be linked crosswise with a continuous copper strip. Individual rows/strips must be at least 3 m² in size and linked to the rest of the area with a copper tape. In rooms of up to 40 m², connection points for equipotential bonding should be provided in at least one point in the room. In larger rooms, several connection points must be used.</p> <p>The installation shall be undertaken as per the manufacturer's installation instructions.</p>	985.00		Sqm	
7.13	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) - 25 mm thick in single slab of stone not less than 1.5m length shall be used. Rate shall include for preparation of base surface & finished the surface, protection with gypsqm/POP layer over plastic sheet and removing the same before handing over,work at all levels, as directed.	82.00		Sqm	
7.14	Kota stone slabs 25 mm thick single slab of stone in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including groove to the specified size of 2nos - 3mm @ 25mm c/c from the edges, rubbing and polishing complete.	140.00		Sqm	
7.15	Extra for pre finished nosing in treads of steps of Kota stone	275.00		RM	
8	FINISHING WORKS				
8.1	Plastering of internal wall 12mm cement plaster of mix 1:4 (1 cement : 4 fine sand)	15,575.00		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
8.2	15 mm cement plaster on the rough side of single or half brick wall of mix cement plaster 1:4 (1 cement: 3 fine sand)	860.00		Sqm	
8.3	Plastering of External wall 18mm cement plaster in two coats under layer 12mm thick cement plaster 1:5 (1 cement : 5 coarse sand) finished with a top layer 6mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished rough with sponge. Rate shall include for providing drip bands / moulds / grooves to any size and shape as directed.	5,590.00		Sqm	
8.4	Plastering of ceiling 6 mm cement plaster of mix : 1 : 3 (1 cement : 3 fine sand)	107.00		Sqm	
8.5	Providing and fixing of Plaster mesh as approved by IIT Madras made out of galvanized iron of nominal thickness 0.35 mm with a Zinc coating of 120 gms per Sqm at the junctions of Masonry and concrete works 150 mm Width, chasing Works 200 mm Width, Diagonal Fixing at Doors & Windows Opening to a width of 300 mm x 600 mm including tying in position with suitable nails/screws etc., complete and as per manufacturer specification, from M/s.ARPITHA EXPORTS, (Equivalent) Bangalore. Rate shall include for preparation of surface, cleaning, curing etc. complete, all as directed by the Engineer-in-charge. (Rate quoted for supply only. Fixing to be done by the contractor)	15,575.00		RM	
8.6	Extra for providing and mixing water proofing material of approved make in cement plaster work in proportion recommended by the manufacturers.min 2% by weight of cement to be considered.	860.00		Kg	
8.7	Extra for plastering exterior walls of height more than 10m from ground level for every additional height of 3m or part thereof (10-13)	555.00		Sqm	
8.7.1	13m to 16m height	555.00		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
8.7.2	16m to 19m	555.00		Sqm	
8.7.3	19m to 22m	510.00		Sqm	
8.7.4	22 to 25m	565.00		Sqm	
8.7.5	25m to 28m	480.00		Sqm	
8.7.6	28m to 31m	495.00		Sqm	
8.7.7	31m to 34m	125.00		Sqm	
8.8	Extra for plastering on circular work not exceeding 6 m in radius:	5.00		Sqm	
8.9	Providing and applying 2 coats of Wall Care Putty Birla / JK or equivalent (total thickness not less than 2mm) having water absorption less than 0.5%, making it smooth over plastered surface (should be in line & level) including cleaning & removing loose particles over the surface & proper pre wetting the surface before applying putty.	15,575.00		Sqm	
	Painting Note : As per GRIHA norms all the paints shall be low VOC the tenderers are requested to quote the rate by considering the same				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
8.10	Providing and applying texture finish of Asian / Berger Make or equivalent for the internal wall surface, as per approved design and pattern and as per manufacture specification, over a base coat of thickness not less than 2 mm. The quoted rate shall inclusive of final finishing coat over 2 coats of acrylic emulsion paint. The rate shall also to inclusive of all the above and including wall putty, labour, tools & tackles at all heights and levels etc complete.	385.00		Sqm	
8.11	Providing two coats of Acrlic emulsion paint to Internal walls of approved colour over a coat of water based primer including preparation of surface by thorough cleaning and wetting and as per manufacturer's specification fully to give an even shade before and subsequent application and making good all small holes of nails, open joints and minor defects of every kind after application of priming coat painting and curing as per manufacturers specifications of approved makes and as directed. Asian / Berger	15,145.00		Sqm	
8.12	Providing and applying External Texture finish from the approved agencies as per approved design and pattern, Texture finish shall be applied over the plasterd surface with required thickness shall not be less than 2 to 2.5 mm thickness to form the necessry patterns of designs by using trowel / roller / putty blade and it should be allowed for drying minimum 12 hrs before the application of top painting, 2 coats of external weather proof water based emulsion shall be applied over this and a coat of primer may be applied based on the approved texture pattern. Including surface preparation like through cleaning, prewetting & removal of loose motars etc .The quoted rate shall includes the cost for all the above items including labours, tools & tackles for at all heights etc. Asian / Berger	1,180.00		Sqm	
8.13	Providing two coats of first quality Weatherproof paint of Asian / Berger approved brand and colour to plastered walls over a coat of approved cement based primer including preparation of surface through cleaning and wetting as per manufacturer's specification fully to give an even shade before and subsequent application and making good all small holes of nails, open joints and minor defects of every kind after application of priming coat all as per Specification and as directed.	1,100.00		Sqm	
8.14	Providing and applying Water-based acrylic silicone resin flexible texture body coat by a specialized agency as approved by IIT Madras , incorporating natural soil, sand and stone for the external application as per the manufacturer recommendation . The quoted rate shall inclusive of all the materials ,tools tackles,scaffolding etc atall heights level etc .Finished surface will be measured in SQM for payment .				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	For Elegant sagan stone system	2,210.00		Sqm	
8.14.1	For Grani elegan system	205.00		Sqm	
8.15	White washing with lime to give an even shade: New work (three or more coats)	20.00		Sqm	
8.16	Steel work Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacture's specifications including appropriate priming coat, preparion of surface etc complete.	252.00		Sqm	
8.17	Providing and fixing Acrylic solid surface counters for wash basin / canteen counters in Dark shade from approved manufacturer, counter to a minimum width of 600mm and to a specified height along with moulded wash basin sink to shape and with 200mm depth facia, the thickness of solid surface for counter top shall be 12 mm, the back splash and facia shall be 6 mm thick. but in general the solid surface counter top shall be placed over the BWR ply support of required thickness with structural steel supporting arrangements and it shall be measured and paid separately under relevant items . Rate shall be inclusive of providing any cutouts in the counter for accommodate the water supply inlet and drainage outlet connections and fittings etc. Mode of measurement : Measured in Square metre 12 mm thick	20.00		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
8.17.1	6 mm thick BWR ply	5.00		Sqm	
9	WATER PROOFING WORKS				
	Tenderer shall refer the Waterproofing works section and the Technical specification of Water Proofing works before pricing. Necessary gurantee shall be furnshied by the contrator as per the tender conditions. The works shall be carriedout through specialized agency as approved by IIT Madras.				
	TREATMENT OF LIFT PIT - FROM EXTERNAL SIDE				
9.1	Providing and applying 3 coats of crystalline waterproofing slurry MasterSeal 501 of BASF make containing highly active, deep penetrative, reactive catalysts and shall have a mix density of 2.0 kg/litre. The product shall be applied in 3 coats one over the other at a time gap of 4 to 6 hours depending on the climatic conditions, including curing of the same for at least 5 days fog spraying water. Rate is inclusive of material and labour. The work shall include providing Covings/Chamfers at junction of slab and wall with 75mm X 75 mm fillet with cement sand mortar 1:2 mixed with polymer modifier of styrene-butadiene co-polymer latex liquid MasterEmaco 141 of BASF make, produced from styrene and butadiene by high pressure emulsion polymerisation @ 5 L per bag cement. The product shall have minimum butadiene content of 40% by weight. The system shall be protected with a protective mortar. The protective mortar shall be done with liquid integral waterproofing compond MasterPel 707 of BASF make. The coated surface should be protected with 1:3CM admixed with lignosulphonate polymer based, waterproofing cum plasticing liquid integral waterproofer at a dosage of 100 ml per 50 kg of cement and shall comply with IS: 2645-2003.				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	Rate shall be for supply and application including preparation of surface by mechanical upgrading to remove all loose mortar and laitance, oil, grease etc. and washing the surface with water to get neat surface, finishing, curing, scaffolding, waterproofing chemicals, wastage, conveyance, tools and plants, mixing device and gauge, Shuttering etc.as complete with all respects complying with relevant manufacturer's specification as directed by the department Engineer-in-charge.	545.00		Sqm	
9.1.1	<p>TREATMENT WITH PRESSURE GROUTING</p> <p>Providing chemical injection in the form of pressure grouting to the base slab of Lift pit,retaining walls of lift pit,underground sump and STP from interior surfaces works at any depth, height and level by Drilling 12mm dia holes with percussive drilling machine at areas with honeycombs and at weak zones in the concrete in a staggered pattern at a depth of 50mm and fixing PVC nozzle of 10mm dia in place using quick setting compound Masterseal 505 of approved maket.Pressure grouting cement slurry mixed with shrinkage compensating additive Flowcable 50, at 250 gms per bag of cement, using hand operated pressure grouting pump with a pressure of 2 to 3 kg/sq.cm through the nozzles by starting from one nozzle and stopping when the grout starts coming out from adjacent nozzle or getting rejected from the same nozzle and similarly carrying out grouting operation in all the nozzles as per approved manufacturer specifications in all the points including the cost of chemical, labour for carrying grouting operations etc.. as complete.</p> <p>Rate shall be for supply and application including preparation of surface by mechanical upgrading to remove all loose mortar and laitance, oil, grease etc. and washing the surface with water to get neat surface, finishing, curing, scaffolding, waterproofing chemicals, wastage, conveyance, tools and plants, mixing device and gauge, Shuttering etc.as complete with all respects complying with relevant manufacturer's specification as directed by the department Engineer-in-charge.</p>	2.00		Point	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
9.1.2	<p>TREATMENT OF BORE PACKING FOR ALL PIPE CUTTINGS</p> <p>The pipes to be fixed should be filled in order to provide a proper bond. Minimum of 15mm all around gap to be provided between the pipe and the core. Provide shuttering below the core and applying shrinkage compensated cementitious grout MasterFlow 718 of BASF make, to half the depth of the slab and allow the same to set for 24 hours. Fill the remaining half depth of the core after 24 hours.</p> <p>The bore packing shall be filled with non-shrink, natural aggregate cementitious grout. It provides extended working life and high early and ultimate strengths</p> <p>Application:</p> <p>The Grout to be mixed to a flowable or trowelable consistency. The quantity of water required to produce a flowable grout from a 25 kg bag is approximately 4.25 litres. Water addition may be affected by temperature conditions on site. Trials are recommended to determine the correct water requirement.</p> <p>It should be mixed using a suitable mixer. For flowable consistency, use a hand drill and paddle for small works up to two bags at a time and specialise grout mixers for larger volume. Drum type mixers may not provide sufficient mixing efficiency to derive the optimum performance from the grout.</p> <p>The correct volume of water should be added to the mixer followed by the powder. Mixing should continue until the grout has a smooth, lump free appearance. This will normally be between 3 – 5 minutes after mixing has started.</p> <p>For best results, it should be used within 30 minutes once mixed. The substrate should be properly prepared and should be free from contamination, laitance and loose material. Thoroughly saturate the substance with water at least 2 – 3 hours prior to pouring the grout. All free water ponding should be blown out of the void just before pouring the grout. As for all cementitious materials, curing is essential to prevent rapid drying out of the grout and shrinkage caused by the water loss. Curing should be effected by accepted methods such as curing compounds, polythene sheet, wet hessian or water ponding.</p> <p>If a shaped shoulder is required, it should be formed before the grout has reached its final set. Carefully remove the formwork once the grout is self-supporting and cut the shape of the shoulder with a trowel. Preferably the shoulder should be cut to a 45° angle to minimize stresses</p>				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	Rate shall be for supply and application including preparation of surface by mechanical upgrading to remove all loose mortar and laitance, oil, grease etc. and washing the surface with water to get neat surface, finishing, curing, waterproofing chemicals, wastage, conveyance, tools and plants, mixing device and gauge, Shuttering etc.as complete with all respects complying with relevant manufacturer's specification as directed by the department officer/Architect.	2.00		Point	
9.2	<p>TREATMENT OF TERRACE AREA WATERPROOFING</p> <p>The terrace waterproofing shall be done with Liquid, cold-applied elastomeric waterproofing membrane system SONOSHIELD HLM 5000 of BASF make. The system shall also include 300GSM Geotextile as a protection layer over the waterproofing layer.</p> <p>a) SURFACE PREPARATION: The roof slab laid in slope / gutter slab shall be thoroughly cleaned by removing the debris and dust, to receive the water proofing treatment.The cleaning and preparation of the substrate to which the asphalt-modified polyurethane waterproofing membrane is applied must be carried out thoroughly to leave a sound base for the application. 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.</p> <p>b) Waterproofing Membrane: Providing and applying liquid, cold-applied elastomeric waterproofing membrane system a single component moisture curing, asphalt-modified polyurethane based coating that cures by reaction with atmospheric moisture to form a tough but flexible waterproofing membrane. It is elastomeric, seamless waterproof membrane applied in 1 or 2 coats to a total DFT of 1.20 mm thick, having an elongation capacity of over 600%(ASTM D 412) and with solid content more than 85% applied on the RCC surface including priming (if required), crack filling, grouting, tie rod filling, coving, ponding etc complete. It shall resist bacterial attack and many acids, alkalis and salts. It shall have a yield of 0.61-0.74 m²/L at 1.1 – 1.4mm dry thickness</p>				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	<p>The material shall have below mention properties:- Performance property : Standard / test method : Value Tensile strength : ASTM D412 : ≥ 2.6 MPa Elongation at break : ASTM D412 : $\geq 700\%$ Recovery from 100% elongation : ASTM D412 : $\geq 85\%$ Tear resistance : GB/T 19250-2003 : >20N/mm Bond strength to wet substrate : GB T 12950 : 0.5N/mm² Water impermeability : GB T 12950 at 0.3MPa, 30 min : Passes Low temp bending without cracks : GB T 12950 : -40°C Elongation at break (before and after ageing) : GB T 12950 : $\geq 600\%$ Retention of tensile strength after heat ageing : GB T 12950 : $\geq 90\%$ Retention of tensile strength after chemical ageing : GB T 12950 : $\geq 80\%$ Puncture resistance to root penetration : Yes Crack Bridging : ASTM C836 Cycled 10 times per 24 hrs : passed 1.5mm Vapour permeability : ASTM E96 : 0.1perm</p> <p>Rate shall be for supply and application including preparation of surface by mechanical upgrading to remove all loose mortar and laitance, oil, grease etc. and washing the surface with water to get neat surface, finishing, curing, scaffolding, waterproofing chemicals, wastage, conveyance, tools and plants, mixing device and gauge, Shuttering etc.as complete with all respects complying with relevant manufacturer's specification as directed by the department officer/Architect.</p>	1,075.00		Sqm	
9.3	<p>Providing and fixing Heat Resistant Terrace Tiles (300 mm x 300 mm x 9.5 mm) from abc or equivalent with SRI (solar refractive index) > 78, solar reflection >0.70 and emittance >0.75 on 30 mm thick cool mortar as per manufacturer specification on sloped surface of terrace, laid on water resistant cement slurry prepared in the ratio of 1:3 (1 cement and 3 abc plus powder and add 3% Nano Acryl by volume) and grouting the joints (>3mm) with abc Grout and PPF (Poly Propylene Fiber) in the ratio of 2 to 3 gm PPF per kg of abc Grout including wetting (by using a piece of sponge) the grouted surface by abc Nano Clear in the ratio of 100 ml in two liter water. , including providing skirting upto 300 mm height along the parapet wall in the same manner.</p> <p>The quoted rate shall inclusive of all the above treatment including necessary lime surkhi concrete of (100mm average thick), tools ,tackles and labour etc. The finished surface area shall be measured in Sqm and paid</p>	1,075.00		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	TREATMENT OF TOILETS, KITCHENS & WET AREAS WITH ACRYLIC CEMENTIOUS WATERPROOFING				
9.4	<p>Providing Covings / Chamfers at junction of slab and wall with 75mm X 75 mm fillet with cement sand mortar 1:2 mixed with polymer modifier of styrene-butadiene co-polymer latex liquid Master Emaco 141 of BASF make, produced from styrene and butadiene by high pressure emulsion polymerisation @ 5 L per bag cement. The product shall have minimum butadiene content of 40% by weight. Waterproofing coating done with Acrylic reinforced cementitious, flexible waterproofing MasterSeal 550 of BASF make. Providing and applying 3 coats of a two component reactive polymer composite. The product shall be applied in minimum three coats to achieve total DFT of 2 mm. The product shall resist 7 bars pressure when tested as per DIN 1048 at 2mm DFT. The cured coating shall have the following diffusion co-efficient.</p> <p>Carbon dioxide – 4.21x10-7 cm2/s Oxygen – 7.60x10-6 cm2/s Chloride ion – 1.04x10-7 cm2/s.</p> <p>The waterproofing coating shall be protected with a protective mortar. Protective mortar shall be done with liquid integral waterproofing compound. The coated surface should be protected with 1:3CM admixed with lignosulphonate polymer MasterPel 707 of BASF make, waterproofing cum plasticizing liquid integral waterproofer at a dosage of 100 ml per 50 kg of cement and shall comply with IS: 2645-2003.</p> <p>Rate shall be for supply and application including preparation of surface by mechanical upgrading to remove all loose mortar and laitance, oil, grease etc. and washing the surface with water to get neat surface, finishing, curing, scaffolding, waterproofing chemicals, wastage, conveyance, tools and plants, mixing device and gauge, Shuttering etc.as complete with all respects complying with relevant manufacturer's specification as directed by the Engineer-in-charge.</p>	212.00	Sqm		
	TREATMENT OF UNDER GROUND SUMP				
9.5	<p>UGR Sump Treatment shall be done from both inside and outside</p> <p>Treatment from Outside : Providing and applying 3 coats of crystalline waterproofing slurry MasterSeal 501 of BASF make containing highly active, deep penetrative, reactive catalysts and shall have a mix density of 2.0 kg/litre on the outer surface. The product shall be applied in 3 coats one over the other at a time gap of 4 to 6 hours depending on the climatic conditions, including curing of the same for at least 5 days fog spraying water.</p>	62.00	Sqm		

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
9.6	<p>Treatment from Inside : Providing Covings/Chamfers at inner junction of slab and wall with 75mm X 75 mm fillet with cement sand mortar 1:2 mixed with polymer modifier of styrene-butadiene co-polymer latex liquid, produced from styrene and butadiene, MasterEmaco 141 of BASF make by high pressure emulsion polymerisation @ 5 L per bag cement. The product shall have minimum butadiene content of 40% by weight. Providing and applying waterproofing coating done on the inner side with Acrylic reinforced cementitious, flexible waterproofing MasterSeal 550 of BASF make. Providing and applying 3 coats of a two component reactive polymer composite. The product shall be applied in minimum three coats to achieve total DFT of 2 mm. The product shall resist 7 bars pressure when tested as per DIN 1048 at 2mm DFT. The cured coating shall have the following diffusion co-efficient.</p> <p>Carbon dioxide – 4.21x10⁻⁷ cm²/s Oxygen – 7.60x10⁻⁶ cm²/s Chloride ion – 1.04x10⁻⁷ cm²/s.</p> <p>The waterproofing coating is then protected with protective mortar. The protective mortar on the inner surface shall be done with liquid integral waterproofing compound MasterPel 707 of BASF make. The coated surface should be protected with 1:3CM admixed with lignosulphonate polymer based, waterproofing cum plasticizing liquid integral waterproofer at a dosage of 100 ml per 50 kg of cement and shall comply with IS: 2645-2003.</p>	73.00		Sqm	
10	PARTITION & FALSE CEILING WORKS				
10.1	<p>Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the rate of 1200 mm centre to centre to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of section and perimeter channel with the help of dry wall screws of size</p>				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	<p>3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm or both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer-in-charge.</p> <p>12.5 mm thick tapered edge gypsum plain board</p>	510.00		Sqm	
10.2	<p>Providing and fixing GI Clip in Metal Ceiling System of 600 x 600 mm module which includes providing and fixing 'C' wall angle of size 20 x 30 x 20mm made of 0.5mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300mm center to centre, suspending the main C carrier of size</p> <p>10 x 38 x 10mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37 x 27 x 25 x 1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width</p> <p>of 34mm made of GI steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive) Fixing with clip in tiles into spring 'T' with :</p> <p>GI Metal Ceiling Clip in plain Beveled edge global white color tiles of size 600 x 600 and 0.5mm thick with 25mm height, made of G I sheet having galvanizing of 100 gms/sqm (both sides inclusive) and 20% perforation area with 1.8mm dia holes and having NRC of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation</p>	245.00		Sqm	
10.3	<p>Providing and fixing AMF Thermatex Finestratos / Armstornng DUNE Max Concealed Grid system /silhouette grid system False ceiling</p>				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
a	<p>AMF T - 15 mm wide grooved grids finished in approved shade. The main runners & coss Tees to have " Click " Installation sytem made of Corrosion - protected high tensile steel or approved equivalent.</p> <p>Properietary supplied ceiling suspension system to consist of 2mm or 3mm GI suspension rod/wire with adjustable Butterfly Clips of 4mm dia securely affixed to structural ceiling using 10mm dia hook type anchor fastener . Ceiling Suspnsion System to be fixed at interval (Main Runner) of 1200mm spacings. Properietary supplied ceiling suspension system to consist of Main Runners @ 1200mm and joined by C Channel @ 300mm to form overall grid opening of 1200mm * 300mm centre to centre. Additional cross tees are to be placed where appropriate for light fixtures, AC diffusers etc. exposed surfaces chemically cleaned and capped prefinished in high - gloss polyster enamel with two coat system on cold rolled steel.</p> <p>Tile Specification :</p> <p>Product : Thermatex Finestratos Complete of AMF or DUNE Maxof Armstorng</p> <p>Tile Type : Lay-in ceiling type System C (Concealed / Silhouette Grid Ceiling) .</p>	1,320.00		Sqm	
b	Dimensions : 600 x 600 x 19 mm thick				
c	Edge Detail : Recessed Bevelled Edge - VT 15				
d	Light Reflectance : upto 88%				
e	Humidity Resistance : 95%				
f	Colour : White Similar to RAL 9010				
g	Surface Burning Characterstics : Class1, BS 476:Part 7:1987 Building Material Class A2-s1,d0 as per EN 13501-1				
h	Thermal Conductivity : 0.052 - .057 W/mK				
i	Sound Absorption : NRC = 0.70 as per ASTM C 423				
j	Sound Attenuation : Dncw = 38 dB as per EN 10848				
k	Thickness/Weight : 5.70 Kg/m2				
	Metal Grid member sizes :				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	<u>AMF T - 15MM / Armstornq equivalent</u>				
a	Main Runners (3000mm) : 15 x 32 x 0.30 mm thk				
b	Long Cross Tee (1200mm) : 15 x 32 x 0.30 mm thk				
c	Short Cross Tee (600mm) : 15 x 32 x 0.30 mm thk				
d	Perimeter Section (3000mm) : 14 x 20 x 0.43 mm thk				
10.4	Providing and fixing AMF Thermatex Thermaclean / Armstornq Bioguard Concealed Grid system / Silhouette grid system False ceiling				
a	Dimensions - 600 x 600 mm, 625 x 625 mm				
b	Thickness / Weight 15 mm (c. 4.5 kg/m ²) 19 mm (c. 5.7 kg/m ²)				
c	Fire protection Up to 60 minutes as per BS 476: parts 20 - 23 (according to test certificate)				
d	Light reflectance Up to 81%				
e	Thermal conductivity $\lambda = 0.052 - 0.057$ W/mK as per DIN 52612				
f	Humidity Up to 95% RH				
g	Hygiene BIOPROOF-surface coating	430.00		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
10.5	<p>Providing and Fixing 15 mm thick densified tegular edged eco friendly light weight Calcium Silicate false ceiling tiles of approved texture spintone/cosmos / Hexa or equivalent of size 595 x 595 mm in true horizontal level suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanising @ 120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38mm made from 0.33 mm thick (minimum) sheet, spaced 1200mm centre to centre, and cross "T" of size 24x28mm made out of 0.33mm (Minimum) sheet, 1200mm long spaced between main'T' at 600mm centre to centre to form a grid of 1200x600mm and secondary cross 'T' of length 600mm and size 24 x28mm made of 0.33mm thick (Minimum) sheet to be inter locked at middle of the 1200x 600mm panel to from grid of size 600x600mm, resting on periphery walls /partitions on a Perimeter wall angle pre- coated steel of size (24 x 24 X 3000 mm made of 0.40 mm thick (minimum) sheet with the help of rawl plugs at 450mm centre to centre with 25mm long dry wall screws @ 230mm interval and laying 15mm thick densified edges calicum silicate ceiling tiles of approved texture (Spintone / Cosmos/hexa) in the grid including, cutting/ making opening for services like diffusers, grills,light fittings, fixtures, smoke detectors etc., wherever required, Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6mm fixed to ceiling with 12.5 mm dia and 50mm long dash fasteners, 4mm G.I. adjustable rods with galvanised steel level clips of size 85 x 30 x 0.8 mm, spaced at 1200mm centre to centre along main 'T' , bottom exposed with 24mm of all T-sections shall be pre-painted with polyster baked paint, for all heights, as per specifications, drawings and as directed by engineer-in- charge.</p> <p>Note :- Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made for exposed frames/opening (cut outs) having area less than 0.30 sqm.The calcium silicate ceiling tile shall have NRC. value of 0.50(Minimum), light reflection > 85%, non - combustible as per B.S. 476 part IV, 100% humidity resistance and also having thermal conductivity<0.043 w/m 0 KC</p>	450.00		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
10.6	Providing and fixing Ecophon FOCUS Ds false ceiling with 20 mm thickness and concealed edge , easily demountable tiles , having an option of weekly wet cleaning and daily dusting and vacuum cleaning, manufactured from High density glass wool & Recycled Content of minimum 70%, with the visible surface has an Akutex FT coating and the back of the tile should be covered with glass tissue . The edges of the tiles should be painted . The surface should perform for 99% diffused light reflection. The glass wool core of the tiles should be tested and classified as non combustible according to prEN ISO 1182 . The system should have Sound Absorption NRC value of 0.9 (according to EN ISO 11654). Tiles should withstand a permanent ambient RH upto 95% at 30 * C without sagging , warping or delaminating (ISO 4611). CAC value for sound insulation should be 25 db according to ASTM E 1414 and evaluation according to ASTM E 413	125.00		Sqm	
10.7	Providing and fixing Ecophon ADVANTAGE E false ceiling of size 600x600 / 1200X600 with 15 mm tegular edge ,easily demountable tile , manufactured from High density glass wool ,with the visible surface be batch painted glass tissue in white and the back of the tile should be covered with glass tissue . The glass wool core of the tiles should be tested and classified as non combustible according to prEN ISO 1182 . The system should have Sound Absorption NRC value of 0.9 (according to EN ISO 11654). Tiles should withstand a permanent ambient RH upto 95% at 30 * C without sagging , warping or delaminating(ISO 4611) . The light reflectance of the tiles should not be less than 83%	125.00		Sqm	
10.8	Providing and fixing partition upto ceiling height consisting of G.I. frame and required board including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre.				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	<p>The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corner (25 mm x 25 mm x 0.5 mm), joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete.</p> <p>66mm overall thickness Partition with 8mm thick double skin Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process with Compressive Strength 225 kg/sq.cm, Bending Strength 100 kg./ sq.cm.</p>	375.00		Sqm	
10.9	<p>Straight Glazed Partition- Slim line partition of CLESTRA / JEB ASIA / RAUMPLUS Make or equivalent approved make: Supply and installation of full height straight glass partition 12mm thick toughened glass and proprietary anodized aluminium sections of the SLIM LINE series of 40x18mm size. The sections shall be matt natural anodized and Alloy sections combination of 40.02, 40.03, 40.05 & 40.06 and 40.07 would be used on all four sides as per specifications and shall be inclusive of all accessories. for FFL to the bottom of false ceiling height.</p>	130.00		Sqm	
10.10	<p>Supplying and fixing of 6mm thick lacquered glass of approved colour and Saint Gobain or equivalent make over the existing partition, paneling or wall surfaces. The rate shall be inclusive of necessary SS Stud, hardware and wastage etc; complete. The area of the glass fixed only measured in Sqm and paid</p>	25.00		Sqm	
10.11	<p>Supplying and fixing of Glass film to glass panels using 3M film stickers as per required pattern and shape and as directed. The vendor shall submit required warranty certificates from the manufacture. The area of the sticker fixed on the glass only measured in Sqm and paid</p>	40.00		Sqm	
10.12	<p>TOILET CUBICLES Providing and fixing of Modular Toilet partitions from the approved makes in Stainless steel series, made up of 12 mm thick high pressed laminated sheets of approved colour and shade as per the following details and the grade of SS shall be 304.</p>				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	<p>Height of front fixed panel including adjustable leg and top rail shall be 2100 mm Height of divider panel including the 150 mm bottom gap shall be 1980 mm Height of the door shall be 1830 mm</p> <p>Ladies Toilet Length of Front partition about 2.33 m (for Double Unit) Length of Divider panel is 1.500 m (for Double Unit)</p> <p>Gents Toilet Length of Front partition about 3.23 m (for Double Unit) Length of Divider panel is 1.050 m (for Double Unit) Length of Front partition about 2.2150 m (for Double Unit) & 1.165 m for (for Single Unit) Length of Divider panel is 1.050 m (for Double Unit) & 1.050 m for (for Single Unit)</p> <p>The quoted rate shall inclusive of all SS hardware like Door Closer, Gravity Hinges, Coat Hook, Door Knob, Top support rail, Latch cum occupancy Indicator, "U" channel, "h" Channel, Screw & Inserts, Rubber Lining for Door Stopper. etc . Note : The given dimensions are tentative and payment shall be made for per cubicle only.</p>	7.00		Each	
11	MISCELLANEOUS WORKS				
11.1	Making plinth protection 40 mm thick rubbed stone flooring over 20 mm (average) thick base of cement mortar 1:5 (1 cement :5 coarse sand) with joints 3mm thick,side buttered with cement mortar 1:2 (1 cement : 2 stone dust) admixed with pigment to match the shade of stone and pointing with same mortar.				
11.1.1	Red sand stone	175.00		Sqm	
11.2	Making hole for rebar in concrete / masonry surface to any dia and depth as required @ site by using HILTI make driller with HY150 chemical compound for inserting the reinforcement after drilling and air jet. Cleaning etc complete, at any level, etc complete. Rate shall include for all charges and preparation of surface, cutting of reinforcement cleaning the surface, staging, scaffolding and working platform, application of necessary chemical / foil as per manufactures specification with necessary tools and equipments, water and power, removal of debris from the site, tax component etc complete, as directed.				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
11.2.1	8 / 10 / 12 MM Dia - Rebar for the depth vary from 100 mm to 120 mm	5.00		Each	
11.2.2	16/ 20/ 25 MM Dia Rebar for the depth vary from 150 to 200 mm	5.00		Each	
11.3	Providing drilling and driving of various Dia & Shape Anchor rods / Anchor fastener of HILTI make or approved equivalent including all other consumables like chemicals, foils, Grouting materials using HILTI make machinery, tools & plants, all accessories etc complete and as directed.				
11.3.1	HST M 8/10 - 75 mm long.	2.00		Each	
11.3.2	HST M 10/12 - 110 mm long.	2.00		Each	
11.3.3	HST M 16/20 - 140 mm long.	2.00		Each	
11.3.4	HVU M 12x110 with HAS-E M 12/110/28 - 160mm long.	2.00		Each	
11.3.5	HVU M 16x125 with HAS-E M 16/125/38 - 190mm long.	2.00		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
11.3.6	HVU M 20x170 with HAS-E M 20/170/48 - 240mm long.	2.00		Each	
11.3.7	HVU M 24x210 with HAS-E M 24/210/54 - 290mm long.	2.00		Each	
11.4	<p>Making Core Cutting in slabs / beams / retaining walls and any other R.C members to any dia & depth by using 'HILTI' make diamond drilling machine with tolerance for any type of inserts, anchor fasteners etc. Rate shall include for all charge, preparation of surface, cutting of reinforcement, cleaning the surface, staging, scaffolding application of necessary chemical / foil (HAV) as per manufactures specification with necessary tools and equipments water and power, removal of debris from the site, staging scaffolding etc complete, as directed.</p> <p>75 to 110 mm dia pipe to the following depth: 150 mm to 200 Depth</p>	10.00		Each	
11.4.1	<p>110 to 160 mm dia pipe to the following depth: 150 mm to 200mm Depth</p>	10.00		Each	
11.5	Supplying, fixing and testing of PVC SWR - A class pipe 160mm diametre confirming to IS 13592-1992 and 6 kg pvc pipe confirming to IS4985 for rain water from terrace level, with necessary specials like bends,shoes etc., complete.Rubber ring joints and solvent cement joints are used for jointing pvc pipes with fittings.Wall brackets rates not included. Finolex / Prince / Supreme	10.00		RM	
11.6	Providing and fixing on wall face unplasticised Rigid Single socketed pipes. - 110 mm diameter PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.(i) P. Finolex / Prince / Supreme.	540.00		RM	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
11.7.	Providing and fixing on wall face unplasticised - PVC moulded fittings / accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion. Finolex / Prince / Supreme.				
11.7.1	Coupler - 110 mm dia	20.00		Each	
11.7.2	Bend 87.5° - 110 mm dia	20.00		Each	
11.7.3	Shoe (Plain) - 110 mm dia	20.00		Each	
11.8	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	20.00		Each	
11.9	Providing and fixing CI grating of specified size of 200X200mm for rain water pipes in terrace,including cutting and making good the walls with water proofing compound, wherever required etc ., all complete as directed by the Engineer-in-Charge.	20.00		Each	
11.10	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
11.10.1	300 mm dia. R.C.C. pipe	20.00		Metre	
11.10.2	450 mm dia. R.C.C. pipe	20.00		Metre	
11.11	Providing and fixing of 600mmx600mm size square heavy duty SFRC cover with frame including all materials required.	6.00		Each	
11.11.1	560mm dia Circular	5.00		Each	
11.12	Supply, Fabrication, Installation of Sky light roofing by Using 12 mm thick Multi cell poly carbonate sheet reflective Dark Grey or combination there of (VLT 20 % SHGC 0.25 U value 1.84 W / Sqm), which is supported supported over Structural steel frame structure by using hollow tube Square / rectangular MS tubes (Steel frame work to be paid seperately) with necessary Anodized aluminium extruded sections, EPDM Gaskets, backer rod, Silicon sealant of Dow corning or equivalent make based on the following specifications.Rate shall include the cost of all materials involved in this item like poly carbonate sheet aluminium extrusions and accessories etc.,etc except for structural steel frame work. Area of sheets fixed at site shall be measured for payment (overlapping and wastage shall not be measured).	55.00		Sqm	
11.13	Supplying and fixing Under deck insulation with 19 mm thick closed cell elastomeric nitrile rubber (Arma cell Class O fire rating as per BS476 Part 6") with synthetic rubber adhesive for holding the insulation to the ceiling seal the joint properly.	1,075.00		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
11.14	Hire charges for providing temporary barricading around the site, material and barbanding yard using GI corrugated sheet to a height of 6m. The GI corrugated /plain sheets of 0.35mm thick shall be fixed to the framework made out of 50mm dia MS pipe for vertical strut placed at about 3m centre to centre with required bracing using 40mm dia MS pipe placed about 2m centre to centre and fixing diagonal middle braces using 25mm dia MS pipe forming a rigid frame work as per the architectural drawing and direction of Engineer-in-charge. The barricade shall remain in the same location till the completion of the construction project. No additional charges shall be paid for the extended period of contract. The rate quoted shall be including cost of conveyance of all required materials to work site, erecting, removing and disposing the same after completion of work, cost of J bolts washers, cement concrete bed 45cm x 45cm x 75cm in CC 1:2:4 and labour charges etc., complete as per direction of Engineer-in-charge.	940.00		Sqm	
11.15	Single skin pre-coated Galvalume metal sheet as approved by IIT Madras without insulation at all heights using Silicon modified polyester (SMP) paint colour coated 0.50 mm TCT (Basemetal thickness should be 0.45 mm) 550 Mpa profiled Galvalume steel (Aluminium zinc alloy coating 150 gms / sqm total of both sides) and with necessary self drilling screws, EPDM bonded GI washer etc for wall cladding. Trapezoidal profile sheets shall be fixed with ordinary pierce fixation. The colour of the sheet should be approved by the Engineer-in-charge.	120.00		Sqm	
11.16	Supplying and fixing 1.25 mm thk. G.I. Deck sheets (250 Mpa) with 10mm shear connectors	75.00		Sqm	
11.17	Supplying and fixing of Galvalume gutter along two sides of the building	40.00		Rm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
11.18	Supplying and fixing in position PVC Rungs as approved by IIT Madras, 25mm Thick x 170 mm wide x 260 mm length reinforced inside with 10 mm Steel rod, bent in U shape including fixing in position, damage to shuttering (if required), used in the UG Sump tank, Over Head Tank & Man Holes with necessary civil work.	9.00		Each	
11.19	Supplying and fixing G.I. Puddle Flanges of various dia and size made out of GI with screwed ends, plates for embedment in concrete as necessary with suitable accessories, consumables welding accessories including placing in position, grouting, loading and unloading, tools & Plants etc., Complete and as directed.				
	Between 500 & 1000 mm long				
11.19.1	50mm to 100mm dia	10.00		Each	
11.19.2	100mm to 200mm dia	10.00		Each	
11.19.3	200mm to 300mm dia	2.00		Each	
11.20	Providing and fixing in position single component, self sealing water swelling bars made up of flexible polymer composites at construction joints of retaining walls and water retaining structures and wherever specified with proper overlaps at joints as approved by IIT Madras. Syncoflex make (Vertical joints)	10.00		Rmt	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
11.20.1	Masterflex 610 of MBT make 20mm x 20mm	15.00		Rmt	
11.20.2	10mm x10mm (Horizontal joints)	20.00		Rmt	
11.21	Providing and fixing GI vent pipe 100 mm dia. and 2 M long above the underground sump cover slab including fixing with necessary supports like clamps, bolts etc. as per specification and as directed.	4.00		Each	
11.22	Providing and fixing in position M.S.chequered plate 5mm thick for duct closing and shafts closing at all floors at all levels with necessary supports such as M.S. angles/M.S. flats including stiffeners to be placed on angle iron frame work. (Frame work, angles, stiffeners will be measured under relavent structural steel item). Rate shall include making necessary cutouts for inserts, applying one coat of Zinc chromate/Phosphate primer and two coats of first quality synthetic enamel paint of approved make etc complete,as directed by the Engineer-in-charge.	1,000.00		Kg	
11.23	Supplying and laying precast concrete hydraulically pressed uniregular machine made interlocking paving blocks as approved by IIT Madras - 65 mm thick (To give a compressive strength of not less than 50 N/Sqm or 500 Kg/Sqm) transportation of the blocks to the site preparation of surface including supplying and filling with dry river sand to 50 mm thick, levelling and compacting with plate vibrator and laying of the inter locking paving blocks with sand binding and final compaction with plate vibrator of 3 tonne capacity finishing the surface including cutting of blocks at the edges including all labour and materials etc complete, as directed by the Engineer-in-charge.				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	Natural grey colour	30.00		Sqm	
11.24	Supplying and laying precast concrete hydraulically pressed uniregular machine made interlocking Basant Betons Grass paving blocks as approved by IIT Madars of approved design - 120 mm thick (To give a compressive strength of not less than 50 N/Sqm or 500 Kg/Sqm) transportation of the blocks to the site preparation of surface including supplying and filling with dry river sand to 50 mm thick, levelling and compacting with plate vibrator and laying of the inter locking paving blocks with sand binding and final compaction with plate vibrator of 3 tonne capacity finishing the surface including cutting of blocks at the edges including all labour and materials etc complete, as directed by the Engineer-in-charge. Art Line Grass Paver - Grey Size - 330 x 330 x 120mm Thk.	130.00		Sqm	
11.24.1	S – Lock Paver - Grey Shot Blasted 175x97x60mm	25.00		Sqm	
11.25	Stabilization of unpaved parking area by Sub grade preparation, excavating the existing surface to a depth of 200mm, sectioning the same to a required camber and compacting the prepared sub grade with Vibratory Roller (Compacted to 98% MDD minimum). Top layer construction by providing and laying aggregate layer with RBI material (50% Red soil/ Gravel + 30% 20mm, 10mm aggregate, 20% Stone dust + 4% RBI GRade 81) for 150mm thick and compacted with Vibratory Roller etc complete. The rate quoted shall be inclusive of labour charges, materials, tools and plants like Tractor with Rotavator (min 45 Hp), Tractor with Trolley, Lorry Water Tanker with Sprinkling arrangement, single Drum Soil Compactor, Baby Soil Compactor, Back-Hoe loader (JCB) & Jeep etc complete., The work shall be executed through specialized agency as approved by IIT Madras.	545.00		Sqm	
11.26	Supplying & fixing following size C.P brass Coupling with approved quality C.P brass Mosquito proof jalli including providing CI / GI bend and any other CI / GI specials, if required for fixing the coupling, jointing materials etc. complete as specified & directed for overflow / vent pipe of water tank.	4.00		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
12	SANITARYWARE AND CP FITTINGS				
12.1	Supplying,installing, testing and commissioning of White Color European Water closet - wall mounted with White Color integral low level PVC flushing cistern- 'P' or trap including following accessories: solid seat and cover with rubber buffers and flap, brackets, brass screws with washer, 15mm CP Angle valve with connection tube,CP wall flange, pan connector, CI chair bracket,all hardware items like wallbrackets bolts washers & screws & brackets to be painted with two coats of enamel paint of approved shade over a coat of primer and necessary screws,etc.complete. Works including cutting and making good the walls /floor wherever required, etc., complete. Make of material:-Wall mounting water closet With dual flushing cistern Hind ware studio model no:20058 /Parryware Cardiff wall hunge Model No: C0290 (or) equivalent and 15mm CP Angle valve with connection tube model no: Metro -marine- model no: 114 (or) equivalent	23.00		Each	
12.2	Providing and fixing water closet (Indian type W.C. Orissa pan) with 100 mm sand cast iron P or S trap, 10 litres capacity polypropylene flushing cistern with internal fittings,fixed at medium level, with 32mm dia ABS flush pipe connecting the cistern up to the closet 15mm dia cp angle valve with PVC inlet connection pipe,cp wall flange, cpextention nipple, etc complete.the rate includes for embedding the closet in 1:3:6 plain cement concrete using 20mm and downgrade aggregates and finising flush with floor level. Make of material :- Hind ware Indian type water closet model no:20004	14.00		Each	
12.3	Providing, fixing ,testingand commissioning of Urinal with integrated electronic flushing system (sensor) ,integrated spreader bottle trap, bottle trap pipe, waste coupling, urinal waste pipe, one pair of brackets, CP caps, unions etc. complete. Item includes necessary fittings for proper installations etc. including chasing and making good the walls,and floors wherever required all complete as per specification and direction of the Engineer-in-Charge. Make of material :- Hind ware - Omega E-Sence - model no:96006 /Parryware smart EFS - model no:C8182	32.00		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
12.4	Providing fixing stone slab table rubbed rounded and polished of size full height deep 1.8cm thick fixed in urinal partition by cutting a chase with epoxy grout or with cement concrete 1:2:4 (1 cement: 2 coarse sand :4 graded stone aggregate 6mm nominal size) as per direction of engineer –in- charge finished smooth.	30.00		sqm	
12.5	Supplying,installing, testing and commissioning of White color Oval Wash basin size 550x410mm(below counter) type with CP Pillar tap, 32mm dia CP waste coupling, 32mm dia CP bottle trap with extension pipe, pair of stainless steel bolts,with bracket (MS /CI) to support to the basin, 15mm CP angle valve with CP inlet connection tube , CP wall flange, including necessary brackets etc complete. Make of material :- Wash basin -560x410Hindware model no: 10049 , CP Pillar tap-Metro-model no: Marine101(or) equivalent ,Waste Coupling - Metro Waste Coupling - Model - 2 (or) equivalent and CP bottle trap-Metro-model no:7 (or) equivalent	28.00		Each	
12.6	Providing and fixing mm bevelled edge mirror of superior glass (of approved quality) complete with 6mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	50.00		Sqm	
12.7	Supplying and fixing cp Double Coat hook fixing with necessary screws etc., complete.Make of material :- cp Double Coat hook - Jaquar Model - 1161 (or) equivalent	37.00		Each	
12.8	Supplying , fixing in position and testing C.P. health faucet wall hook one metre long flexible tube, angle cock with wall flange all complete including cutting and making good the walls wherever required. Make of material :- CP health faucet - Metro Model -44 and 15mm CP Angle valve with connection tube Metro -marine- model no: 114 (or) equivalent	23.00		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
12.9	Providing and fixing C.P. brass long body bibcock of approved quality conforming to IS standard and weighing not less than 690 gms. 15mm nominal bore.	28.00		Each	
12.10	Providing and fixing liquid soap container of approved make near wash basins with necessary fixing screws and clamps etc., complete. Make of material :- Continental liquid soap container - Jaquar Model - CAN 1135N (or) equivalent	21.00		Each	
12.11	Providing and fixing 600mm long CP towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality colour and make . Make of material :- Towel Rail 600 mm long - Metro Model -52 (or) equivalent	21.00		Each	
12.12	Supplying, installing, testing and commissioning of stainless steel kitchen sink with 32mm dia CP waste coupling, 32mm dia CP bottle trap with extension pipe, 15mm CP angle valve with CP inlet connection tube , CP wall flange, including necessary brackets etc complete. Make of material :- Single bowl stainless steel kitchen sink with drain board (flat)(40x20) bowl size 20x16x8 Parryware model no:8537(or) equivalent	2.00		Each	
12.13	Supplying, installing, testing and commissioning of CP Sink cock with swivel spout wall mounted etc, including cutting and making good the walls wherever required etc., all complete as directed by Engineer . Make of material :- Sink cock with swivel spout- Metro model no:G0621A1 (or) equivalent	2.00		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
12.14	Supplying, Installing, testing and commissioning of White color Floor Mounted European water closet with inbuilt low level PVC flushing cistern and Wash Basin for Physically Challenged Persons (Matrix) with necessary Grab Rails, hinged rails for support , pan connector bend,checknut, stopcock etc., colour solid seat and cover with polythene buffer and flap, CP flanges, CP bolts and nuts, bracket with nuts and bolts wall flanges etc.,complete, Wash Basin shall include 15mm dia CP liver operated pillar Cock with waste coupling, 32mm dia CP bottle trap with extension pipe,supporting bracket with necessary steel to support basin 1 No.15mm CP angle valve with 450mm long CP connection pipe and CP wall flanges all of approved make etc., complete. Make of material :- Hind ware Matrix /Parryware(or) equivalent	7.00		Each	
13	INTERNAL WATER SUPPLY				
13.1	Providing and fixing chlorinated Polyvinyl chloride (CPVC) pipes having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fitting including fixing the pipe with clamps at 1.00m spacing. this includes jointing of pipes &fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in charge.				
	Internal work –Exposed on wall				
13.1.1	25 mm nominal outer dia .pipes	65		meter	
13.1.2	32 mm nominal outer dia .pipes	80		meter	
13.1.3	40 mm nominal outer dia .pipes	50		meter	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
13.1.4	50 mm nominal outer dia .pipes	125		meter	
13.1.5	62.5 mm nominal outer dia pipes	140		meter	
13.1.6	80 mm nominal outer dia pipes	125		meter	
13.2	Providing and fixing chlorinated Polyvinyl chloride (CPVC) pipes having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fitting i/c fixing the pipe with clamps at 1.00m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and cost of cutting chases and making good the same include testing of joints complete as per direction of Engineer in charge. Make of material :- Astral / Ashirvad / Supreme /Prince (or) equivalent				
	Concealed work including cutting chases and making good the wall etc.				
13.2.1	15 mm nominal outer dia .pipes	150		meter	
13.2.1	20 mm nominal outer dia .pipes	175		meter	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
13.2.3	25 mm nominal outer dia .pipes	175		meter	
13.2.4	32 mm nominal outer dia .pipes	125		meter	
13.3	Providing and fixing ball valve (brass) of approved quality , high or low pressure, with plastic floats complete. Make of material :- RB/Leader/Audco /Zoloto (or) equivalent				
13.3.1	25 mm nominal bore	6		Each	
13.3.2	32 mm nominal bore	8		Each	
13.3.3	40 mm nominal bore	12		Each	
13.3.4	50 mm nominal bore	4		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
13.4	Supplying and fixing of 25mm dia Air release valve etc. complete. Make of material :- RB/Leader/Audco /Zoloto (or) equivalent	4		Each	
14	INTERNAL DRAINAGE				
14.1	Providing, fixing and testing UPVC SWR- B Class pipe of Supreme/Finolex/Prince Make confirming to IS 13592-1992. and fittings confirming to IS 14735-1999, such as such as coupler, elbow, bends, Tee, Y, vent cowl etc for Soil, Waste and rain water pipe works in shaft and suspended in ceiling., laid in ground(from shaft to Inspection chamber and Gully chamber), etc., using rubber ring joints(rubber ring confirming to IS 15382) for shafts lines and solvent cement joints for suspended lines and work in below ground. Woks includes necessary scaffolding,cutting and making good the walls wherever required all complete as directed by the Engineer-in-Charge. Make of material :- Astral / Ashirvad / Supreme /Prince (or) equivalent				
14.1.1	40mm dia	25		RM	
14.1.2	50mm dia	60		RM	
14.1.3	75mm dia	150		RM	
14.1.4	110mm dia	225		RM	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
14.2	Supplying,fixing and testing of PVC floor trap with CP grating 150mm nominal size square 100mm diameter of the inner hinged round grating various inlet from 40 dia to 110 dia and various outlet from 75 dia to 100 dia with the extension boss tee connections, fixed in sunken floors etc., complete	125		Each	
14.3	Supplying,fixing and testing of UPVC floor clean out used in sunken floors,75or110mm dia extension boss tee arrangements with female thread fix with the upvc clean out plug in male thread with gascet and three s.s screws for sunken floors etc. complete	25		Each	
14.4	Supplying,fixing and testing of Urinal trap(Sealed Trap) used in sunken floors 110mm dia extension boss tee arrangements with female thread fix with the Staninless steel /Upvc clean out plug in male thread with gascet and three ss screws for urinals, etc., complete	15		Each	
15	External Water Supply				
15.1	Excavating trenches of required width for pipes , cables, etc, including excavation for sockets and dressing of sides ramming of bottoms, depth upto 1.5 m including getting out the excavated soil and then, returning the soil as required in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming watering etc.and disposing of surplus excaveted soil as directed, with in a lead of 50m. All kinds of soil				
15.1.1	Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia	125		metre	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
15.2	Providing and fixing chlorinated Polyvinyl chloride (CPVC) pipes having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings this includes jointing of pipes & fittings with one step CPVC solvent cement,trenching, refilling &testing of joints complete as per direction of Engineer in Charge.Make of material :- Astral / Ashirvad / Supreme /Prince (or) equivalent. External work.				
15.2.1	75 mm nominal outer dia pipes	75		Each	
15.2.2	100 mm nominal outer dia pipes	175		Each	
15.3	Providing and fixing gun metal non return valve with C.I. wheel of approved quality(screwed end) Make of material :- RB/Leader/Audco /Zoloto (or) equivalent				
15.3.1	65mm nominal bore - Horizontal	2		Each	
15.3.2	80mm nominal bore - Horizontal	2		Each	
15.4	Supplying, installing, testing & commissioning approved make Butterfly valve with standard lever conforming to IS 13039 with necessary flange,nuts and boltsetc.,complete. Make of material :- RB/Leader/Audco /Zoloto (or) equivalent				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
15.4.1	65mm nominal bore	4		Each	
15.4.2	80mm nominal bore	4		Each	
15.4.3	100mm nominal bore	2		Each	
15.5	Constructing masonry Chamber 120x120x100 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement :4 coarse sand) for sluice valve, with C.I. surface box 100 mm. top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement :2 coarse sand : 4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement :5 fine sand:10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design. With F.P.S. bricks class	2		Each	
15.6	Providing and fixing enclosed type water meter (bulk type) conforming to IS: 2373 and tested by municipal board complete with bolts, nuts, and rubber insertions etc. (the tail pieces if required will be paid separately): 80 mm dia nominal bore	4		Each	
15.7	Providing and fixing C.I dirt box strainer for bulk type water meter with nuts, bolts, rubber insertions etc complete conforming to IS: 2373. 80 mm dia.	4		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
15.8	Supplying fixing testing and commissioning approved make float operated ball valve with PVC heavy duty float conforming to IS 9762 etc., complete. Make of material :- RB/Leader/Audco /Zoloto (or) equivalent	3		Each	
15.9	Supplying and erection of power horizontal \ vertical centrifugal pump set of approved make with all accessories including fixing and jointing cable with proper clamp upto the starter to required depth and also fixing of riser pipes to the required depth, valves, erection clamps, pressure guages upto exterior wall of pump room and erection of panel consisting of TPICN switches, starter, volumeter,ammeter, three pilot(indicator) lamps, capacitor, single face preventer, water level guard and laying and jointing the cable and twin earthing as per IE rules, etc., complete and testing the pump set and trail run for 10 days(The contractor has to give the suitable design calculation for selecting the pump.) 1.5 LPS to a head of 35m Providing, installing, testing and commissioning of approved make Water level controller for the pumps to Sump. Item shall include for necessary wiring & PVC conduits.etc all complete as directed by the Engineer-in-Charge.	4		Each	
16	External Drainage				
16.1	Excavating trenches of required width for pipes , cables, etc, including excavation for sockets and dressing of sides ramming of bottoms, depth upto 1.5 m including getting out the excavated soil and then, returning the soil as required in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming watering etc.and disposing of surplus excavated soil as directed, with in a lead of 50mt. All kinds of soil Pipes , cables etc. exceeding 80 mm dia but not exceeding 300 mm dia	225		metre	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
16.2	Providing, fixing and testing UPVC Class-3 pressure rating 6 kg /sqcm pipe of approved Make for underground drainage and sewerage systems - Confirming to IS 4985:2000 - pipe in trenches to required gradients and provide sand cushion for pipes to the full width of trench above and below the pipe to required minimum thickness etc., complete. rates including for laying pipes,forming bottom surface to required level, etc., complete Make of material :- Astral / Ashirvad / Supreme /Prince (or) equivalent				
16.2.1	150mm diameter	150		metre	
16.2.2	200mm diameter	75		metre	
16.3	Constructing brick masonry manhole in cement mortar 1:4 (1cement:4 graded stone aggregated 20mm nominal size), foundation concrete 1:4:8 mix (1cement:4coarse sand: 8graded stone aggregated 40mmsize nominal size) in side plastering 12mmthick with cement mortar 1:3(1cement:3coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1cement :2coarse sand :4grade stone aggregate 20mm nominal size) finished with floating coat of neat cement complete as per standard design:				
16.4	Inside size 90x80 cm and 45cm deep including C.I cover with frame (light duty)455x610mm internal dimensions total weight of cover and frame to be not less than 38kg(weight of cover 23kg and weight of frame 15 kg): With Sewer bricks conforming to IS:4885	8		each	
16.5	Inside size 120x90 cm and 90cm deep including C.I cover with frame (heavy duty) 560 mm internal diameter total weight of cover and frame to be not less than 208 kg(weight of cover 108kg and weight of frame 100 kg):				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
	With Sewer bricks conforming to IS:4885	10		each	
16.6	Extra depth for manholeS				
16.6.1	Size 90x80cm With Sewer bricks conforming to IS:4885	8		metre	
16.6.2	Size 120x90cm With Sewer bricks conforming to IS:4885	10		metre	
16.7	Providing orange colour safety foot rest of minimum 6mm thick plastic encapsulated as per IS : 10910 on 12mm dia steel bar conforming to IS : 1786 having minimum cross section as 23 mmx25mm and over all minimum length 263mm and width as 165mm with minimum 112mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement :3 coarse sand :6 graded stone aggregate 20 mm nominal size) complete as per design.	80		Each	
16.8	Making connection of drain or sewer line with existing manhole including breaking in to and making good the walls, floors with cement concrete 1:2:4 mix (1 cement: 2coarse sand: 4 graded stone aggregate 20 mm nominal size) cement plaster on both side with cement plaster 1:3 (1cement:3 coarse sand) finished with a floating coat of neat cement and making necessary channels for drain etc.complete for pipes 100 to 230 mm diameter	1		Each	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
16.9	Providing and fixing square-mouth S.W.gully trap grade 'A" complete with C.I grating brick masonry chamber with water tight C.I cover with frame of 300x300mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70kg as per standard design : 100x100 mm size P type With F.P.S.bricks With Sewer bricks conforming to IS:4885	8		Each	
16.10	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m All kinds of soil (for manhole)	25		Cum	
16.11	Providing lying Non- pressure NP2 class (Light duty) R.C.C pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) Including testing of Joint etc complete.				
16.11.1	150 mm dia.R.C.C pipe	25		metre	
16.11.2	250 mm dia.R.C.C pipe	25		metre	
16.11.3	300 mm dia.R.C.C pipe	25		metre	
17	ALUMINIUM WINDOWS, VENTILATORS & CLADDING WORKS				

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
17.1	<p>Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections / appropriate Z sections and other sections of approved make conforming to IS: 733 and IS : 1285, fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC / neoprene felt etc. Aluminium sections shall be smooth,rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing and paneling to be paid for separately) : INDAL / JINDAL make.</p> <p>For fixed portion</p>				
17.1.1	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	14,460		Kg	
17.1.2	<p>For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately).</p> <p>21.1.2.1 - Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)</p>	3,060		Kg	
17.2	Extra for applying additional anodic coating AC 25 instead of AC 15 to aluminium extruded sections				
17.2.1	For fixed portion	14,460		Kg	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
17.2.2	For shutters of doors, windows & ventilators.	3,060		Kg	
17.3	Extra rate over & above for supply of necessary hardwares for sliding window like SS 316 grade Double / Single Rollers, Anti strike block, and Aluminium die cast recessed handle with Concealed lock etc, complete. All aluminium hardwares shall be finished with powder coating with thickness not less than 50 microns of approved colour matching with shutter / main frame. Rate shall exclude cost for supplying and fixing of glass and frames.	3,060		Kg	
17.4	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge. With stainless steel cover plate minimum 1.25 mm thickness.	4		Each	
17.5	Providing and fixing aluminium tubular handle bar 32 mm outer dia, 3.0 mm thick & 2100 mm long with SS screws etc .complete as per direction of Engineer-in-Charge. Anodized (AC 15) aluminium tubular handle bar.	8		Each	
17.6	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	4		Each	
17.6.1	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete. Upto 5mm depth and 5 mm width	3,970		Meter	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
17.7	Providing and fixing of Monolithic Glass of 6 mm thick Reflective coated glass on # 2 surface - ST 467 Green of Saint Gobain make or Clover SN 42/36 Green of Asahi make with heat strengthened. Rate shall include the cost of Necessary wastages, transport and handling etc, complete. Refer Particular Specification Item No. 22.01	1,275		Sqm	
17.8	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item): With float glass panes of 8 mm thickness	5		Sqm	
18	Laminated sandwiched composite panel Cladding (ACP)				
18.1	Dry wall cladding : Providing and fixing the system to clad the Laminated sandwiched composite panel of Alucobond or Durabuild or Aludecor make with approved colour and shade (4 mm (0.5 + 3.0 + 0.5) ACP with 3000 series coil and LDPE core) as per the specification described in Technical specifications, on the external surface the external surface like column, wall, jambs, sills, projected area, ceiling or any surface to any profile and shape, horizontally, vertically, sloped, curved, circular etc complete. System to be designed to with stand design wind pressure and other load parameters specified.				
	Rate shall include the cost of supplying and fixing of Laminated sandwiched composite panel, Non staining weather for Vertical & horizontal joints in general the frame work for ACP cladding consists of aluminium anodized box frame with thickness of not less than 2.0mm with suitable size of box frame to satisfying the design criteria with Toggle cleat spacing shall not exceed 450 mm on both horizontal and vertical sides of each panel. All ACP fold at corners shall be provided with continuous 'L' cleat of 1.5mm thick and HDG bracket etc, complete. All anchors, bolts and screws shall be SS 316 grade of Hilti / Fischer make. Necessary Aluminium stiffeners (Box tube / 'L' angle) behind ACP shall be provided at every 600 mm to avoid the permanent deformation over a period with thickness not less than 2 mm and stiffener to be fixed with suitable adhesive or VHB tape for bonding the stiffener into panel. Refer Particular Specification Item No. 22.02	75		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
18.2	<p>Canopy cladding: Designing, Providing and fixing the system to clad the Laminated sandwiched composite panel of Alucobond or Durabuild or Aludecor make with approved colour and shade 4 mm (0.5 + 3.0 + 0.5) ACP with 3000 series coil and LDPE core) as per the specification described in Technical specifications for Canopy as per profile and shape shown in the Drawing with necessary Hot dip Galvanized Structural steel support to clad the ACP and all support to be designed to withstand the Design wind pressure and the specification specified in Particular specifications etc complete. Main structural steel support will be measured under respective item separately.</p> <p>Rate shall include the cost of supplying and fixing of Laminated sandwiched composite panel, Non staining weather for Vertical & horizontal joints in general the frame work for ACP cladding consists of aluminium anodized box frame with thickness of not less than 2.0mm with suitable size of box frame to satisfying the design criteria with Toggle cleat spacing shall not exceed 450 mm on both horizontal and vertical sides of each panel. All ACP fold at corners shall be provided with continuous 'L' cleat of 1.5mm thick and HDG bracket etc, complete. All anchors, bolts and screws shall be SS 316 grade of Hilti / Fischer make. Necessary stiffeners behind ACP shall be provided at every 600 mm to avoid the permanent deformation over a period with thickness not less than 2 mm and stiffener to be fixed with suitable adhesive or VHB tape for bonding the stiffener into panel.</p> <p>NOTE :- Main structural steel frame work for Canopy and Pergola to clad the canopy with ACP shall be measured under respective Items, but the aluminium frame work and supporting bracket required for cladding shall be part of the rate quoted under this item. Refer Particular Specification.</p>	50		Sqm	
18.3	<p>Providing and applying Cold Bituminous coating (Vapour barrier) on the External wall behind Dry wall cladding area (Funder max & ACP cladding) etc. Refer Particular Specification.</p>	75		Sqm	

S.No	Description	Quantity	Rate (Rs in Figures & words)	Unit	Amount in Rs
18.4	Providing and fixing in position Hot rolled structural steel Members / Sections at all levels. All MS members shall be painted with anti corrosive, low VOC PU paint (metallic finish) with compatible primer to a minimum film thickness of 75 microns and 2 coats of low VOC PU paint of Akzonoble make and total dry film thickness 225 microns including primer. Refer Particular Specification.	2		MT	

TOTAL

Total amount (Rs in words).....

Certified that the tender document as published in the website contains 70 pages (including cover page).

Signature of the Contractor

Superintending Engineer