

MAYO COLLEGE GIRLS' SCHOOL
CONSTRUCTION OF NEW SENIOR HOUSE 1

TENDER FOR
CIVIL, ELECTRICAL, PLUMBING and FIRE FIGHTING WORKS

VOLUME – II
BILL OF QUANTITIES

CLIENT

MAYO COLLEGE GIRLS' SCHOOL
AJMER

ARCHITECTS

VINYAS
Delhi

S.No.	Description	Qty.			Amount
	SUMMARY OF COST OF WORKS				
	CIVIL WORKS				
1	<u>EARTH WORK</u>				
2	<u>CONCRETE WORK</u>				
3	<u>REINFORCED CEMENT CONCRETE</u>				
4	<u>MASONRY WORK</u>				
5	<u>WOOD & PVC WORK</u>				
6	<u>STEEL and ALUMINIUM WORK :</u>				
7	<u>FLOORING, TILE and STONE WORK</u>				
8	<u>ROOFING</u>				
9	<u>FINISHING</u>				
10	<u>MISCELLANEOUS CIVIL WORKS</u>				
	SUB TOTAL CIVIL WORKS				
S.No.	Description	Qty.	Unit	Rate	Amount
1.0	EARTH WORK				
	Note : The item rate quoted shall be applicable to net quantities after deduction of prescribed % for voids mentioned in the specifications under sub head "Carriage of materials".				
1.1	Earth work in excavation in the following types of soil in foundation trenches, rafts or drains in xl sections and widths including cleaning jungle, uprooting of vegetation, grass, brush wood, trees and saplings etc. complete including dressing of sides and ramming of bottoms, lift up to 1.5 m including taking out the excavated soil and disposal of surplus excavated soil as directed within a lead of 50m.				
1.1.1	All kinds of soil.	3752.792	Cu.M.		
1.2	Filling available excavated earth, in trenches, plinth, sides of foundation etc., in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering for all leads and lift up to 1.5 m.	3565.152	Cu.M.		
1.3	Supplying and filling imported good earth within plinth and over areas within the site in layers not exceeding 20 cm in depth, consolidating each deposited layer by watering and ramming, including all leads and lifts.	29.661	Cu.M.		
1.4	Supplying and filling in plinth with Fine sand under floors including watering, ramming, consolidating and dressing complete.	92.405	Cu.M.		
1.5	Supplying and filling in plinth with Coarse sand in and around soak pit, including watering, ramming, consolidating and dressing complete.	RO	Cu.M.		
1.6	Extra for every additional lift of 1.5m for a lead of 50m. or part thereof in all types of soil.	579.591	Cu.M.		
1.7	Anti Termite Treatment Works				
1.7.1	Providing chemical emulsion of 'Imidacloprid 30.5%EC', for PRE-CONSTRUCTIONAL anti-termite treatment in sealed containers	77.000	Litres		
1.7.2	Providing labour for injecting chemical emulsion for PRE-CONSTRUCTIONAL anti-termite treatment and creating a chemical barrier under and all round the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall and floor, along the external perimeter of Plinth protection of building expansion joints surrounding of pipes and conduits etc. complete (plinth area of the building at ground floor only shall be measured) using 'Imidacloprid 30.5%EC emulsifiable concentrate IS: 8944 -1978 diluted to 1 part chemical to 400 parts of water.	6107.224	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
1.7.3	Providing and injecting chemical emulsion for PRE-CONSTRUCTIONAL anti-termite treatment and creating a chemical barrier under and all round the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall and floor, along the external perimeter of Plinth protection of building expansion joints surrounding of pipes and conduits etc. complete (plinth area of the building at ground floor only shall be measured) using 'Imidacloprid 30.5%EC emulsifiable concentrate IS: 8944 -1978 diluted to 1 part chemical to 400 parts of water.	RO	Sq.M.		
1.7.4	Providing and laying special pipes with flexibility and perforations/ reticulation (in various sizes - 8 to 18 mm depending upon site requirements) along the internal periphery of the building and centre of the flooring using a grid design. Such placement is to be done before laying of the sand bed/sub grade or before fixing the floor marble/tiles. This perforated pipe will have such emitters embedded in them to allow uniform distribution of termite treatment chemicals. This work includes terminating pipes in junction boxes with cover plates in suitable numbers according to the layout. (This work will be carried out by a specialised agency).	RO	Sq.M.		
1.8	Disposal of surplus earth outside Employer's site including all lifts and leads.	187.640	Cu.M.		
1.9	Disposal of surplus earth within Employer's site including all lifts and leads.	RO	Cu.M.		
1.10	Surface dressing of the ground including removing vegetation and in-equalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m.				
1.10.1	All kinds of soil.	2436.752	Sq.M.		
1.11	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 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, within a lead of 50 m :				
1.11.1	All kinds of soil				
1.11.1.1	Pipes, cables etc, not exceeding 80 mm dia.	4.500	Cu.M.		
1.11.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	10.125	Cu.M.		
1.11.1.3	Pipes, cables etc. exceeding 300 mm dia but not exceeding 600 mm.	RO	Cu.M.		
1.12	Pumping out water caused by springs, tidal or river seepage, broken water mains or drains and the like.	4000.0	Hrs.		
1.0	TOTAL OF EARTH WORK CARRIED OVER TO SUMMARY				
2.0	CONCRETE WORK				
	Note:The Item rates quoted shall be for all floors, heights, shapes and places.				
2.2	Providing and laying cement concrete of mix 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size). in footings and bases for columns etc., including ramming, finishing etc. and also centring, shuttering, strutting, propping, removal of formwork, etc. wherever required.				
2.2.1	In footings and Plinths	228.661	Cu.M.		
2.2.2	Under floors	352.397	Cu.M.		
2.3	Providing and laying cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size), in coping, bed blocks, above RCC beams in walls, around vertical drainage pipes and window sills etc., including cost of centring, shuttering, strutting, propping, removal of form work,, vibrating and mixing etc.	156.317	Cu.M.		
2.4	Providing and laying damp-proof course 40 mm thick				
2.4.1	Providing and laying damp-proof course 40 mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5 nominal size), including cost of centring, shuttering, strutting, propping, removal of formwork, compacting and finishing etc. incl. mixing of integral water proofing compound of approved make and grade and proportion.	224.364	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
2.5	Applying a coat of residual petroleum bitumen of penetration 80/100 of approved quality using 1.7 kg per square metre on damp-proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	224.364	Sq.M.		
2.6	Providing and laying single layer of APP (Atactic Polypropylene) modified Polymeric membrane 1.5mm thick of 2.25kg/sq.m. consisting of five layers prefabricated with centre core as 20micron HMHDPE film sandwiched on both sides with polymeric material and the polymeric material protected on both sides with 20 micron thick HMHDPE film, of approved brand over d.p.c. areas with 150mm over laps at joints.	224.364	Sq.M.		
2.7	Making plinth protection 50 mm thick (average) of cement concrete 1:3:6 (1 Cement : 3 coarse sand : 6 stone aggregate 20 mm nominal size) over 75 mm bed of dry brick ballast 40 mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth with 1:3 cement plaster with a coat of neat cement slurry, including brick on edge at edge of the plinth protection, in about 1 m length panels including centring and shuttering.	193.752	Sq.M.		
2.8	Providing and fixing up to floor five level precast cement concrete string or lacing courses, copings, cornices, bands, bed plates, anchor blocks, window sills, shelves, louvers, steps, staircases etc. including hoisting and setting in position with cement mortar 1:3 (1 cement : 3 coarse sand), cost of shuttering and finishing smooth with cement plaster 1:3 (1cement:3 fine sand) admixed with pigment as directed where required.				
2.8.1	In cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size), including admixing approved pigment in required proportion.	33.516	Cu.M.		
2.9	Providing and filling cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size), in pressed steel door and window frames of various profiles.	RO	R.M.		
2.10	Providing and laying 'pot' (matka) filling and laying cement concrete of mix 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 12.5 mm nominal size) over the inverted pots in sunken areas.	271.413	Cu.M.		
2.11	Providing and laying graded stone soling in Foundations and Plinths including ramming and consolidation.	633.252	Cu.M.		
2.12	Providing and laying graded stone soling in Foundations and Plinths including ramming and consolidation using stone rubble provided by owner.	70.361	Cu.M.		
2.0	TOTAL OF CONCRETE WORK CARRIED OVER TO SUMMARY				
3.0	REINFORCED CEMENT CONCRETE				
	Note:The Item rates quoted shall be for all floors, heights, shapes and places.				
3.1	Reinforced cement concrete work in works under plinth such as slabs and beams of rafts, footings, bases of columns, lift pit, under ground water tanks etc. excluding cost of centring, shuttering, strutting, propping, removal of formwork, mixing, vibrating etc. but excluding cost of reinforcement				
3.1.1	with 1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size).	RO	Cu.M.		
3.1.2	with 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).	RO	Cu.M.		
3.1.3	with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	143.198	Cu.M.		
3.2	Reinforced cement concrete work in walls (any thickness), incl. attached pillasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts, struts, etc. excluding cost of centring, shuttering, strutting, propping, removal of formwork, mixing, vibrating etc. but excluding cost of reinforcement				
3.2.1	with 1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size).	RO	Cu.M.		
3.2.2	with 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).	RO	Cu.M.		
3.2.3	with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	RO	Cu.M.		
3.3	Reinforced cement concrete work in beams, suspended floors, roofs, landings and balconies, shelves, chajjas, lintels, bands, plain window sills, staircases incl. folded plate and spiral staircases etc., excluding cost of centring, shuttering, strutting, propping, removal of formwork, mixing, vibrating etc. but excluding cost of reinforcement				
3.3.1	with 1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size).	RO	Cu.M.		
3.3.2	with 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).	RO	Cu.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
3.3.3	with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	RO	Cu.M.		
3.4	Centring, shuttering, incl. strutting, propping etc., and removal of formwork for:				
3.4.1	Foundations, Footings, bases of columns etc. for mass concrete	767.400	Sq.M.		
3.4.2	Walls (any Thickness) incl. Attached pilasters, buttresses, plinth and string courses etc.	228.540	Sq.M.		
3.4.3	Suspended floors, roofs, landings and balconies	4614.048	Sq.M.		
3.4.4	Shelves (cast in situ)	RO	Sq.M.		
3.4.5	Beams, lintels, plinth beams, girders, bressumers and cantilevers	5108.658	Sq.M.		
3.4.6	Columns, pillars, piers, Abutments, Posts, Struts etc.	3377.149	Sq.M.		
3.4.7	Stairs, excl. landings except spiral staircases	87.709	Sq.M.		
3.4.8	Stairs, excl. landings for Folded Staircases	68.544	Sq.M.		
3.4.13	Small lintels not exceeding 1.5m. Span moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like	RO	Sq.M.		
3.4.14	Weather shades, Chajjas, Corbels etc. incl. Edges	282.948	Sq.M.		
3.5	Extra for additional height in centring and shuttering wherever reqd. with adequate bracing, propping etc. including cost of deshuttering and decentring at all levels over a height of 3.5m., for every additional 1m. or part thereof (plan area to be measured)	56.021	Sq.M.		
3.6	Reinforcement for RCC work including cutting, straightening, bending, binding and placing in position complete (including cost of binding wire):				
3.6.1	Thermo mechanically treated steel bar from Primary Steel manufacturers such as TATA / SAIL / Jindal etc.	292024	KG		
3.6.2	Thermo mechanically treated steel bar from Secondary Steel manufacturers such as Kamdhenu, Bansiwala etc.	15370	KG		
3.7	Extra for using, 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size) concrete mix for all RCC works instead of 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	RO	Cu.M.		
3.8	Providing, hoisting and fixing pre-cast reinforced cement concrete lintels not exceeding 1.5m clear span over doors, windows, ventilators, shafts and the like, including cost of centring, shuttering, strutting, propping, removal of formwork, mixing, vibrating etc. but excluding cost of reinforcement with 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).				
3.8.1	Lintels not exceeding 1.5m clear span over doors, windows, ventilators, shafts and the like.	RO	Cu.M.		
3.10	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including conveying of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				
3.10.1	All Works up to Plinth Level	RO	Cu.M.		
3.10.2	All works above Plinth Level and up to floor V level	RO	Cu.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
3.10	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using fly ash and 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 reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering, finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate / retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Excess/ less cement used as per design mix is payable/ recoverable separately. NOTES- (1) OPC Cement content considered in this item is @ 330 kg/cum. (2) Fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS : 456. Uniform blending with cement to be ensured in accordance with clauses 5.2 and 5.2.1 of IS:456 -2000 in the items of BMC and RMC. (3) The above item shall be used judiciously where specified quality of Fly Ash is available for mixing in concrete. Also, the guidelines issued by CDO, CPWD, vide circular no. CDO/SE(RR)/Fly Ash (Main)/102 dated 9th April 2009 shall be followed in such cases.				
3.10.1	All Works up to Plinth Level	804.585	Cu.M.		
3.10.2	All works above Plinth Level and up to floor V level	1597.512	Cu.M.		
3.11	Add for using extra and deduct for using less cement in the items of BMC, RMC over or below the specified cement content therein	402.293	Quintal		
3.12	P&F close timbering in trenches including strutting, shoring and packing cavities (wherever required) etc complete. (measurement to be taken of the face area timbered):				
3.12.1	Depth not exceeding 1.5 mtr.	3247.283	Sq.M.		
3.12.2	Depth exceeding 1.5m. But not exceeding 3.0 m.	RO	Sq.M.		
3.12.3	Depth exceeding 3.0m. But not exceeding 4.5 m.	RO	Sq.M.		
3.13	Providing and Fixing of GRC Jali (Glass Fibre Reinforced Jali) 50 mm thick of required size, pattern, design, and colour with 50% area covered to be fixed on/between RCC / Block work Column or structural steel work with Dry Fixing method.	294.445	Sq.M.		
3.13	Providing and Fixing of FRP Jali (Fibre Reinforced Polymer Jali) 50 mm thick of required size, pattern, design, and colour with 50% area covered to be fixed on/between RCC / Block work Column or structural steel work with Dry Fixing method.	RO	Sq.M.		
3.0	TOTAL OF REINFORCED CEMENT CONCRETE CARRIED OVER TO SUMMARY				
4.0	MASONRY WORK				
	Note: The Item rates quoted shall be for all floors, heights, shapes and places				
4.1	Brick work with bricks of class designation 75 in foundation and plinth with cement mortar				
4.1.1	1:6 (1 cement :6 coarse sand).	193.140	Cu.M.		
4.1.2	1:3 (1 lime :3 coarse sand, including adding bonding agents like Bel Fruit, Black Sugar, Nagli, Jawas etc.).		Cu.M.		
4.2	Brick work with bricks of class designation 75 in superstructure above plinth in cement mortar				
4.2.1	1:6 (1 cement :4 coarse sand).	675.693	Cu.M.		
4.2.2	1:3 (1 lime :3 coarse sand, including adding bonding agents like Bel Fruit, Black Sugar, Nagli, Jawas etc.).		Cu.M.		
4.3	Half Brick work with bricks of class designation 75 in cement mortar 1:4 (1 cement :4 coarse sand).				
4.3.2	In superstructure	2565.368	Sq.M.		
4.4	Extra for providing 2 Nos. MS Bars 6 mm dia at every third course in Half Brick Work with FPS bricks.	2565.368	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
4.5	Extra for forming cavity 5 cm to 11.5 cm wide in cavity walls with necessary weep and vent holes including use of cores and cost of providing and fixing bitumastic coated M. S. ties 300 mm long of 25x3 mm section at not less than 3 ties per sqm as per approved design.	646.866	Sq.M.		
4.6	Providing and fixing 50mm thick extruded polystyrene rigid insulation board of required size between cavity wall, complying with ISO 4898:2008 & ASTM C 578-08b - type VI having thermal conductivity of 0.0289 W/m K as per ASTM C 578 (measured as per IS 3346), compressive strength of >350 kPa listed as per ASTM D 1621, density of 34-36 kg/m ³ as per ASTM D 1622, water absorptions =< 1% by volume as per ASTM D 2842, oxygen index of 24.1 to 28.1 listed as per ASTM D 2863, cell size 0.4 mm of dia (max) as per ASTM D 3576. Fire retardent property as per DIN 4102, part 1 of class B2 and as per ASTM E84 class A, fixed with suitable water based adhesive and fastener, complete in all respect as per the direction of Engineer-in-Charge	472.114	Sq.M.		
4.8	Extra for brick work in square or rectangular pillars.	RO	Cu.M.		
4.10	Providing and laying of Autoclaved Aerated Concrete (AAC) block masonry using blocks having approx. Dimensions of 625 mm x 250 mm. thickness ranging from 100 mm to 300 mm conforming to I.S. :2185 (part-III). The jointing cement sand mortar in the composition of 1: 6 (Cement: Sand) shall be used with suitable plasticizer (optional). Sand having modulus of fineness 1.1 shall be used. The horizontal and vertical joint thickness shall be approximately 10 mm. In case of partition walls (100 mm /125 mm thk.) the joint reinforcement shall be placed at every alternate course to be anchored properly with the main structure. All other structural requirements like stiffening of masonry, joint reinforcement etc. in the AAC masonry work strictly be carried out as per instructions laid down in .I.S 6041 – 1985, I.S -1905.				
4.10.1	In superstructure	RO	Cu.M.		
4.11	Providing and laying of Autoclaved Aerated Concrete (AAC) block masonry using blocks having approx. Dimensions of 625 mm x 250 mm. thickness ranging from 100 mm to 300 mm conforming to I.S. :2185 (part-III). The jointing mortar shall be ready to mix, self curing cementitious mortar made from cement, graded sand, polymeric additives. The horizontal and vertical joint thickness shall be approximately 3-4 mm. In case of partition walls (100 mm /125 mm thk.) the joint reinforcement shall be placed at every alternate course to be anchored properly with the main structure. All other structural requirements like stiffening of masonry, joint reinforcement etc. in the AAC masonry work strictly be carried out as per instructions laid down in .I.S 6041 – 1985, I.S -1905.				
4.11.1	In superstructure	RO	Cu.M.		
4.14	Random rubble masonry with hard stone in foundation and plinth with cement mortar, including levelling up with cement concrete 1:6:12 (1 cement,: 6 coarse sand : 12 graded stone aggregate 20mm nominal size) at plinth level				
4.14.1	1:6 (1 cement :6 coarse sand).	232.445	Cu.M.		
4.14.2	1:3 (1 lime :3 coarse sand, including adding bonding agents like Bel Fruit, Black Sugar, Nagli, Jawas etc.).		Cu.M.		
4.14.3	Using stone rubble provided by owner in 1:6 Cement Mortar (1 cement :6 coarse sand)	25.827	Cu.M.		
4.15	Extra for CR Facing of stone masonry in Foundation and Plinth				
4.15.1	Extra for CR Facing First Sort	RO	Sq.M.		
4.15.2	Extra for CR Facing Second Sort	214.800	Sq.M.		
4.16	Random rubble masonry with hard stone in Super Structure with cement mortar up to Floor Five, including levelling up with cement concrete 1:6:12 (1 cement,: 6 coarse sand : 12 graded stone aggregate 20mm nominal size) at plinth level				
4.16.1	1:6 (1 cement :6 coarse sand).	264.662	Cu.M.		
4.16.2	1:3 (1 lime :3 coarse sand, including adding bonding agents like Bel Fruit, Black Sugar, Nagli, Jawas etc.).		Cu.M.		
4.16.3	Using stone rubble provided by owner in 1:6 Cement Mortar (1 cement :6 coarse sand)	29.407	Cu.M.		
4.17	Extra for CR Facing of stone masonry in Super structure				
4.17.1	Extra for CR Facing First Sort	2353.314	Sq.M.		
4.17.2	Extra for CR Facing Second Sort	RO	Sq.M.		
4.18	Extra for Stone masonry with hard stone in				

S.No.	Description	Qty.	Unit	Rate	Amount
4.18.1	Square or rectangular pillars		RO	Sq.M.	
4.18.2	Circular pillars		RO	Sq.M.	
4.20	RR/CR Stone Cladding over Beams and Columns (approximately 3") in rich cement mortar.	653.798		Sq.M.	
4.21	Composite Masonry				
4.21.1	Providing and laying composite masonry wall consisting of 275-300mm thick Course Rubble (CR) masonry on the external face laid in 1:6 (1 Cement : 6 Coarse Sand) and 100/75mm thick Autoclaved Aerated Concrete (AAC) blockwork on the internal face, laid in 1:6 (1 cement : 6 coarse sand) or polymer modified jointing mortar. Overall thickness of wall will be 375-400mm. The work shall include proper bonding between layers including header stones, alignment, scaffolding, cutting, wastage, curing, and finishing of joints flush or raked as directed, to complete the wall in all respects as per approved drawings, specifications, and instructions of the Engineer.	288.365		Cu.M.	
4.21.2	Providing and laying composite masonry wall consisting of 275-300mm thick Course Rubble (CR) masonry on the external face laid in 1:3 (1 lime :3 coarse sand, including adding bonding agents like Bel Fruit, Black Sugar, Nagli, Jawas etc.) and 100/75mm thick Autoclaved Aerated Concrete (AAC) blockwork on the internal face, laid in 1:6 (1 cement : 6 coarse sand) or polymer modified jointing mortar. Overall thickness of wall will be 375-400mm. The work shall include proper bonding between layers including header stones, alignment, scaffolding, cutting, wastage, curing, and finishing of joints flush or raked as directed, to complete the wall in all respects as per approved drawings, specifications, and instructions of the Engineer.		RO	Cu.M.	
4.0	TOTAL OF MASONRY WORK CARRIED OVER TO SUMMARY				
5.0	WOOD & PVC WORK				
	Note:The Item rates quoted shall be for all floors, heights, shapes and places.				
5.1	Providing and fixing in position door/window frames, mullions, transoms made of first class Ghana / Ivory Coast Teak Wood , with a coat of anti termite arsenic chromate solution, with necessary holes/sockets/sleeves and arrangements for receiving fittings such as sliding bolt, mortise lock, latch, tower bolts etc. including 25 mm x 3.5 mm size M.S. flat holdfast of suitable length and shape as per drawing suitably fixed to the frame and embedded in cement concrete blocks in C.C. 1:2:4 (1 cement : 2 coarse and : 4 stone grit 10 mm nominal size) of size 150 x 100 x 100 mm or with 25 x 3.5 mm lugs of suitable length & shape as required at site fixed with metallic rawl plugs and bolts or with fixing clips or with bolts and nuts with necessary arrangements as required, also including two coats of anti corrosive bitumastic paint of approved quality and further protected with a layer of aluminium sheet on all unexposed surfaces in contact with brick work/concrete work/RCC work.				
5.1.3	Frames of size 145mm x 60mm single/double rebate as per shutter thickness.			R.M.	
5.2	Providing and fixing following types FLUSH DOOR SHUTTERS, including providing and fixing seasoned hard wood integral lipping of 25 mm thick around the shutter and also including fixing of all hardware in each shutter (overall area of door shutter to be measured).				
5.2.1	Providing and fixing 35 mm thick flush door shutters (solid core type) from approved manufacturer conforming to IS:2202-Part I, having core of block board construction and well matched 3 mm teak ply veneering with vertical grains or cross bands and face veneer on both faces of shutter flat pressed with BWP type phenol formaldehyde synthetic resins, including providing and fixing seasoned hard wood integral lipping of 25 mm thick around the shutter and also including fixing of all hardware in each shutter (overall area of door shutter to be measured).		RO	Sq.M.	
5.2.2	Providing and fixing 35 mm thick flush door shutters (solid core type) from approved manufacturer conforming to IS:2202-Part I, having core of block board construction and with 3 mm teak ply veneering with vertical grains or cross bands and face on one side and 3 mm commercial ply veneering with vertical grains or cross bands and face on other side of shutter flat pressed with BWP type phenol formaldehyde synthetic resins, including providing and fixing seasoned hard wood integral lipping of 25 mm thick around the shutter and also including fixing of all hardware in each shutter (overall area of door shutter to be measured).		RO	Sq.M.	

S.No.	Description	Qty.	Unit	Rate	Amount
5.2.3	Providing and fixing 35 mm thick flush door shutters (solid core type) from approved manufacturer conforming to IS:2202-Part I, having core of block board construction and well matched 1.5 mm laminate of approved shade and colour on both faces of the shutter flat pressed with BWP type phenol formaldehyde synthetic resins, including providing and fixing seasoned hard wood integral lipping of 25 mm thick around the shutter and also including fixing of all hardware in each shutter (overall area of door shutter to be measured).	385.990	Sq.M.		
5.2.4	Providing and fixing 32/33 mm thick flush door shutters (solid core type) from approved manufacturer conforming to IS:2202-Part I, having core of block board construction and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneer on both faces of shutter flat pressed with BWP type phenol formaldehyde synthetic resins finished with 1.0 mm laminate of approved shade and brand on both sides.	RO	Sq.M.		
5.3	Making and fixing 38 mm thick, Ply panelled side hung door shutters made of First class C.P. Teak wood, with a coat of anti termite arsenic chromate solution,, having stile(s) and top rail of 125 mm wide, middle rail of 150 mm wide and bottom rail of 200 mm wide and two additional vertical and horizontal rails of 25mm width in each shutter on both panels as per drawing, with 12mm thick both side veneered BWP ply panels, with First class C.P. Teak wood beading all around of size 12 x 15 mm. The contact surfaces at tenon and mortise joint shall be glued, also including fixing of all hardware in each shutter (overall area of door shutter to be measured).	RO	Sq.M.		
5.4	Making and fixing 38 mm thick, wire mesh side hung door shutters made of First class C.P. Teak wood, with a coat of anti termite arsenic chromate solution,, having stile(s) and top rail of 125 mm wide, middle rail of 150 mm wide and bottom rail of 200 mm wide and two additional vertical and horizontal rails of 25mm width in each shutter on both panels as per drawing, using stainless steel fly wire mesh of approved gauge and size, with First class C.P. Teak wood beading all around of size 12 x 15 mm. The contact surfaces at tenon and mortise joint shall be glued, also including fixing of all hardware in each shutter (overall area of door shutter to be measured).	122.55	Sq.M.		
5.4.1	Making and fixing 38 mm thick, glazed side hung door shutters made of First class C.P. Teak wood, with a coat of anti termite arsenic chromate solution,, having stile(s) and top rail of 125 mm wide, middle rail of 150 mm wide and bottom rail of 200 mm wide and two additional vertical and horizontal rails of 25mm width in each shutter on both panels as per drawing, using stainless steel fly wire mesh of approved gauge and size, with First class C.P. Teak wood beading all around of size 12 x 15 mm. The contact surfaces at tenon and mortise joint shall be glued, also including fixing of all hardware in each shutter (overall area of door shutter to be measured).	RO	Sq.M.		
5.5	Providing and fixing Block board Shutters over 50mm x 35mm First class Kailwood or Pinewood wood frame,				
5.5.1	Providing and fixing Shutters over 50mm x 35mm First class Kailwood/ Pinewood frame, fixing frame to wall with rawl plugs, shutters of 19mm phenol formaldehyde bonded commercial board clad with 1.5mm thick laminated of approved shade and manufacture, fixed to frame with bright finished brass hinges and screws, 6mm thick teak wood lipping on all edges, 40mm x 12mm tapered Teak wood beading all round, with necessary hardware, i.e., medium size magnetic catchers in all shutters, 75mm bright finished brass handles, etc, including painting all inner surfaces with white synthetic enamel paint over a coat of ready mixed pink primer and french spirit polish on teak wood lipping and beading, including wood filler, sand papering etc. complete, unexposed surfaces of ply/board/wood in contact with RCC/Brickwork to be painted with chlorpyrifos concentrate. (only front elevation face area to be measured)	590.832	Sq.M.		
5.7	Providing & fixing all hardware from approved brand/make (such as tower bolts, handles, double legged floor door stopper, door closer, Aldrop, and hinges etc.) of approved quality with necessary screws etc. complete.				
5.7.1	Category A (Base cost of all Hardware = Rs.3000.00)	195	Each		
5.7.2	Category B (Base cost of all Hardware = Rs.1500.00)	59	Each		

S.No.	Description	Qty.	Unit	Rate	Amount
5.8	Making and fixing box type cabinets with drawers, sides, top, bottom, divider and shelves of 19mm phenol formaldehyde bonded commercial board with 6mm commercial ply backing, fixing frame to wall with rawl plugs, front shutters of 19mm commercial grade phenol formaldehyde bonded clad with 1mm thick laminate of approved make and shade board fixed to frame with brass hinges and screws, 6mm thick teak wood lipping on all edges, 40mm x 12mm tapered First class Ghana or equivalent Teak wood beading all round, with necessary hard ware, i.e., medium size magnetic catchers on top and bottom in all shutters, 150mm tower bolt at top and bottom in the shutters, 100mm brass handles on each shutter, recessed locking arrangement with Godrej (or equivalent) lock etc. in all shutters and drawers, including pasting 0.8mm laminate and matt melamine polish on exposed surfaces and teak wood lipping and beading, including wood filler, sand papering etc. complete, unexposed surfaces of ply/board/wood in contact with RCC/brickwork to be painted with chlorpyriphos concentrate. (only front elevation face area to be measured)	RO	Sq.M.		
5.9	Making and fixing Kitchen Cabinet with shelves, top, bottom, sides and dividers of 19mm phenol formaldehyde bonded commercial board with 6mm commercial ply backing, covered with polythene sheet at surfaces along wall/RCC, fixing frame to wall with 35 x 35 mm first class Ghana teak wood batten along entire length of top with rawl plugs, shutters of 19mm phenol formaldehyde bonded commercial board clad with 1.5mm thick laminate of approved shade and manufacture, fixed to frame with S.S. hinges and screws, 6mm thick teak wood lipping on all edges, with necessary hard ware, i.e., medium size magnetic catchers on top and bottom in all shutters, 75mm bright finished brass handles, etc, including cladding of all inner surfaces with 0.8mm Laminate of approved shade and matt melamine polish on exposed surfaces and teak wood lipping and beading, including wood filler, sand papering etc. complete, unexposed surfaces of ply/board/wood in contact with RCC/Brickwork to be painted with chlorpyriphos concentrate. (only front elevation face area to be measured)				
5.9.1	300 deep cabinets above counter	54.51	Sq.M.		
5.9.2	600 deep cabinets below counter	RO	Sq.M.		
5.10	Providing and fixing REST-ROOM CUBICLE DOORS 600 to 750mm wide and 1800 to 2000 mm high (including max. 150mm floor clearance) made of 12 mm thick compact grade solid phenolic board Manufactured as per IS-2046, using hardware, fixing and its accessories made of Polyamide Thermoplastics Material & Non-Corrosive Metal. Doors are to be supported by a 31.10 mm diameter D shape aluminium vertical pole. The aluminium vertical pole shall be incorporated with an acoustic rubber strip to reduce noise effect. (Merino-Besco PD Door Series or equivalent).	144.00	Sq.M.		
5.11	Providing and fixing following types of double glazed units at all locations and places. The IGUs shall be assembled in the factory/ workshop of the glass processor. (Payment for fixing of IGU Panels in the curtain glazing is included in cost of respective items) For payment, only the actual area of glass on face # 1 of the glass panels (excluding the areas of the grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm.				
5.11.1	Providing, assembling and supplying vision glass panels (IGUs) comprising of hermetically-sealed 6-12-6 mm insulated glass (double glazed) vision panel units of size and shape as required and specified as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge.				
5.11.1.2	Providing and fixing double glazed hermetically sealed glazing in aluminium/ uPVC windows, ventilators and partition etc. with 6 mm thick clear toughened float glass both side, having 12 mm air gap, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	RO	Sq.M.		
5.11.2	Providing, assembling and supplying vision glass panels (IGUs) comprising of hermetically-sealed 5-10-5 mm insulated glass (double glazed) vision panel units of size and shape as required and specified as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge.				

S.No.	Description	Qty.	Unit	Rate	Amount
5.11.2.2	Providing and fixing double glazed hermetically sealed glazing in aluminium/ uPVC windows, ventilators and partition etc. with 5 mm thick clear toughened float glass on both sides, having 10 mm air gap, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	RO	Sq.M.		
5.12	Providing and fixing Stainless Steel Fly Mesh to Door and Window shutters of approved gauge and size	RO	Sq.M.		
5.13	P/F fabric mounted pin board using 12mm soft board mounted on 6mm BWP ply painted with black enamel paint n the back side with 50x25mm TW framing all around the edges with polishing etc. Complete	RO	Sq.M.		
5.14	P/F 5mm mirror glass fixed with MDF board backing with approved moulded PVC beading having wooden grain finish etc. Complete	RO	Sq.M.		
5.15	Providing and fixing float glass panes of approved make in frames shutters of doors/windows complete with First class Ghana Teak wood beading of approved size and design, provided on outer side with necessary ordinary galvanised steel screws etc. complete (beading shall be paid extra.		Sq.M.		
5.15.1	5 mm thick (13 kg/sqm) Frosted	39.684	Sq.M.		
5.15.2	5 mm thick (13 kg/sqm)	18.936	Sq.M.		
5.15.3	6 mm thick (15 kg/sqm)	RO	Sq.M.		
5.22	Providing and fixing following types of double glazed units at all locations and places. The IGUs shall be assembled in the factory/ workshop of the glass processor. (Payment for fixing of IGU Panels in the curtain glazing is included in cost of item No.26.2) For payment, only the actual area of glass on face # 1 of the glass panels (excluding the areas of the grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm.				
5.22.1.2	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6 mm thick clear float glass both side, having 12 mm air gap , including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	39.525	Sq.M.		
5.22.2	Providing, assembling and supplying vision glass panels (IGUs) comprising of hermetically-sealed 5-10-5 mm insulated glass (double glazed) vision panel units of size and shape as required and specified, comprising of an outer heat strengthened float glass 6mm thick, of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade, an inner Heat strengthened clear float glass 6mm thick, spacer tube 12mm wide, desiccants, including primary seal and secondary seal (structural silicone sealant) etc., all complete for the required performances, as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge.				
5.22.2.1	(i) Coloured tinted float glass 5mm thick substrate with reflective soft coating on face # 2, + 10mm Air gap + 5mm Heat Strengthened clear Glass of approved make having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20%, shading coefficient (0.25-0.28) and U value of 3.0 to 3.3 W/m2 degree K etc. The properties of performance glass shall be decided by the technical sanctioning authority as per the site requirement.	RO	Sq.M.		
5.22.2.2	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 5 mm thick clear float glass both side, having 10 mm air gap , including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	280.326	Sq.M.		
5.23	Providing and fixing Pleated Fly Mesh to aluminium doors and windows	260.961	Sq.M.		
5.24	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge (Door handle, lock and stopper etc. to be paid separately).	74.465	Sq.M.		
5.25	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.				
5.25.1	Anodized (AC 15) aluminium tubular handle bar	6	Each		

S.No.	Description	Qty.	Unit	Rate	Amount
5.25.2	Powder coated minimum thickness 50 micron aluminium tubular handle bar.	RO	Each		
5.25.3	Polyester powder coated minimum thickness 50 micron aluminium tubular handle bar	RO	Each		
5.26	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	RO	Each		
5.27	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.				
5.27.1	Upto 5mm depth and 5 mm width				
5.28	Filling the gap in between aluminium/ stone/ wood frame and adjacent RCC/Brick/Stone/wood/Ceramic/Gypsum work by providing weather/structural non sag elastomeric PU sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete complying to ASTM C920, DIN 18540-F & ISO 11600.				
5.28.1	Upto 5mm depth and 5 mm width	990	R.Mt.		
5.28.2	Upto 10 mm depth and 10 mm width	660	R.Mt.		
5.28.3	Upto 20 mm depth and 20 mm width	RO	R.Mt.		
	TOTAL OF WOOD WORK CARRIED OVER TO SUMMARY				
6.0	STEEL and ALUMINIUM WORK :				
	Note: The Item rates quoted shall be for all floors, heights, shapes and places				
6.3	Providing, fabricating and fixing MS grills/monkey ladder made out of standard MS sections in required pattern including cutting, drilling, welding and applying a coat of red oxide zinc chromate primer of approved make.				
6.3.1	in fixed glazing, window openings, ventilators and fixing to frame with steel screw and/or necessary welding etc. as required.	4012.830	KG		
6.3.2	For Staircase Railings and over compound walls etc. Including fixing in wall with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) plain cement concrete blocks of size 230mm x 230mm x 300mm) at 2.4 metre c/c or with dash fasteners as required (only weight of steel shall be measured).	8529.824	KG		
6.3.3	For Fixing Jalis using MS Tubular sections with dash fasteners as required (only weight of steel shall be measured).	588.890	KG		
6.4	Providing and fixing aluminum work for doors ,windows, ventilators and partition with extruded built up standard tubular / 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 gap. at junctions , at top ,bottom and sides with required PVC/neoprene felt etc. Aluminium section shall be smooth ,rust free, straight ,mitered and jointed mechanically wherever required including cleat angle Aluminium snap beading for glazing /paneling , C.P. brass/ stainless steel screws Al. Tower bolt & Al. handle & Al. Aldrop etc.,all complete as per architectural drawings and the directions of Engineer- in – charge .(Glazing and paneling to be paid for separately).				
6.4.1	For fixed portion				
6.4.1.1	Powder coating aluminum (minimum thickness of powder coating 50 micron)	615.122	KG		
6.4.2	For shutters builtup standard tubular sections of openable doors, windows & ventilators including providing & fixing hinges / rollers etc. and making provision for fixing of fittings wherever required (lockes shall be paid for separately).				
6.4.2.1	Powder coating aluminum (minimum thickness of powder coating 50 micron)	1696.245	KG		
6.13	Providing and fixing glazing in aluminium/ steel door/ uPVC, windows, ventilator shutters and partitions etc. with EPDM / neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer-in-charge. (Cost of snap beading shall be paid in basic items.)				
6.13.1	5 mm thick (13 kg/sqm) Frosted	39.684	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
6.13.2	5 mm thick (13 kg/sqm)	18.936	Sq.M.		
6.13.3	6 mm thick (15 kg/sqm)	RO	Sq.M.		
6.14	Providing and fixing Pressed steel Door and Window frames with mild steel grills manufactured from commercial mild steel sheet of specified thickness including hinges' jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25mm or base ties of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with split end tails to each jamb including sheet steel butt hinges of 2.5mm thick with mortar guards, lock strike plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by the Architect. The rate includes Fixing in position of these frames by embedding their hold-fasts in cement concrete blocks in C.C. 1:2:4 (1 cement : 2 coarse and : 4 stone grit 10 mm nominal size) of size 150 x 100 x 100 mm or with 25 x 3.5 mm lugs of suitable length & shape as required at site fixed with metallic rawl plugs and bolts or with fixing clips or with bolts and nuts with necessary arrangements as required.				
6.14.1	Using mild steel sheet of 1.6mm (14 SWG) thickness	RO	KG		
6.18	Providing and fixing Tubular Steel Door and Window Frames and Shutters with mild steel grills as per detailed design manufactured from commercial mild steel tubular sections of specified thickness including hinges, handles, stays, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25mm or base ties of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with split end tails to each jamb including sheet steel butt hinges of 2.5mm thick with mortar guards, lock strike plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by the Architect. The rate should include Fixing in position of these frames by embedding their hold-fasts in cement concrete blocks in C.C. 1:2:4 (1 cement : 2 coarse and : 4 stone grit 10 mm nominal size) of size 150 x 100 x 100 mm or with 25 x 3.5 mm lugs of suitable length & shape as required at site fixed with metallic rawl plugs and bolts or with fixing clips or with bolts and nuts with necessary arrangements as required.	RO	KG		
6.21	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. Complete.	RO	EACH		
6.22	"Design supply & installation of suspended Spider Glazing system designed to withstand the wind pressure as per IS 875 (Part-III). The Suspended System held with Spider Fittings of SS-316 Grade Steel of approved manufacturer with glass panel having 12 mm thick clear toughened glass held together with SS- 316 Grade Stainless steel Spider & bolt assembly with laminated glass fins 21 mm thick. The Glass fins and glass panel assembly shall be connected to Slab/beams by means of SS- 316 Grade stainless steel brackets & Anchor bolts and at the bottom using SS channel of 50x25x2mm using fastener & anchor bolts, non staining weather sealants of approved make, Teflon/ nylon bushes and separators to prevent bi-metallic contacts, all complete to perform as per specification and approved drawings. The complete system to be designed to accommodate thermal expansion & seismic movements etc. The joints between glass panels (6 to 8 mm) and gaps at the perimeter & in U channel of the assembly to be filled with non staining weather sealant, so as to make the entire system fully water proof & dust proof. The rate shall include all design, Engineering and shop drawing including approval from structural designer, labour, T&P, scaffolding , other incidental charges including wastage, enabling temporary services all fitting fixers nut bolts, washer, Buffer plates, fastener, anchors, SS channel laminated glass etc. all complete. For the purpose of payment, actual elevation area of Glazing including thickness of joints and the portion of Glass panel inside the SS channel shall be measured.	36.400	Sq.M.		
6.24	P/F pre fabricated louvers for MS windows including 3mm thick 100 mm wide frosted glass strips with necessary screws and hardware	RO	Sq.M.		
6.0	SUBTOTAL STEEL and ALUMINIUM WORK :				
7.0	FLOORING, TILE and STONE WORK				

S.No.	Description	Qty.	Unit	Rate	Amount
	Note: The Item rates quoted shall be for all floors, heights, shapes and places				
7.1	Cement concrete flooring 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm nominal size), finished with a floating coat of neat cement slurry including rounding of edges and strips etc. but excluding the cost of nosing of steps etc. complete, including providing and fixing glass strips of required width and 4 mm thick..				
7.1.1	50 mm thick	129.957	Sq.M.		
7.4	Precast chequered terrazzo tiles 22mm thick with marble chips of 6mm (average size), laid in skirting and risers of steps, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing polishing complete on bed of 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand)				
7.4.1	Tiles of white shade using white cement	RO	Sq.M.		
7.5	Providing and fixing first Quality Ceramic glazed tiles of approved shade and colour with minimum thickness 6 mm in dado of approved size on a bed of 12mm thick cement plaster 1:3 (1 cement : 3 coarse sand) for all types of surfaces (skirting, dado, risers, treads etc.) and jointed with white cement slurry pigmented to matching shade of tile including chasing of walls wherever required.				
7.5.1	Rate for fixing tiles when tiles are provided by the owner or supplied separately	2155.93	Sq.M.		
7.5.2	Supply of Tiles of base rate Rs.500 per Sq.M.	1616.95	Sq.M.		
7.5.3	Supply of Tiles of base rate Rs.750 per Sq.M.	538.98	Sq.M.		
7.6	Providing and fixing first Quality Ceramic glazed floor tiles of approved shade and colour with minimum thickness 6 mm of approved size on a bed of 20mm thick cement plaster 1:4 (1 cement : 4 coarse sand) for all types of surfaces (skirting, dado, risers, treads etc.) and jointed with white cement slurry pigmented to matching shade of tile including chasing of walls wherever required.				
7.6.1	Rate for fixing tiles when tiles are provided by the owner or supplied separately	504.417	Sq.M.		
7.6.2	Supply of Tiles of base rate Rs.500 per Sq.M.	504.417	Sq.M.		
7.7	20 mm thick MACHINE MIRROR POLISHED STONE (First quality) Flooring, Skirting, Counter Tops, Fascias, Treads and Risers with mirror polished edge moulding as per design (edge moulding polish paid extra), over 20 mm average thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry mixed with suitable pigment to match the colour of stone, including increasing the edge thickness of slabs by pasting stone strips using suitable epoxy glue and protecting the surface with application of plaster of paris, stone slab in sizes not less than 900mm long and 600mm wide in required design.				
7.7.1	Fixing marble or other stone, provided by the owner or supplied separately incl. Mirror polish.	RO	Sq.M.		
7.7.2	Fixing granite or other pre-polished stone provided by owner or supplied separately including machine mirror polish.	376.981	Sq.M.		
7.7.3	Supplying Granite of Base Rate of Rs.750.00 per Sq.m.	RO	Sq.M.		
7.7.4	Supplying Granite of Base Rate of Rs.1000.00 per Sq.m.	90.990	Sq.M.		
7.7.5	Supplying Granite of Base Rate of Rs.1250.00 per Sq.m.	226.189	Sq.M.		
7.7.6	Supplying Granite of Base Rate of Rs.1500.00 per Sq.m.	150.792	Sq.M.		
7.7.7	Supplying and Fixing Granite of Base Rate of Rs.1750.00 per Sq.m.	RO	Sq.M.		
7.8	20 mm thick MACHINE POLISHED STONE (First quality) FLOORING, over 20 mm average thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry mixed with suitable pigment to match the colour of stone, including protecting the surface with application of plaster of paris, stone slab in sizes not less than 900mm long and 600mm wide in required design.				
7.8.1	Supplying and Fixing Marble or similar stone of Base Rate of Rs.500.00 per Sq.m.	173.059	Sq.M.		
7.8.2	Supplying and Fixing Marble or similar stone of Base Rate of Rs.600.00 per Sq.m.	255.006	Sq.M.		
7.8.3	Supplying and Fixing Marble or similar stone of Base Rate of Rs.700.00 per Sq.m.	170.004	Sq.M.		
7.8.4	Supplying and Fixing Marble or similar stone of Base Rate of Rs.800.00 per Sq.m.	RO	Sq.M.		
7.8.5	Providing & fixing 25mm thk first quality MANDANA stone flooring	RO	Sq.M.		
7.8.6	Providing & Fixing 25 mm thick first quality KOTA or NIMBAHEDA stone flooring	3825.091	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
7.8.7	Fixing 25 mm thick KOTA or MANDANA stone flooring (stone provided by owner)	RO	Sq.M.		
7.8.8	Fixing Granite or other pre-polished stone provided by owner	RO	Sq.M.		
7.8.9	Fixing marble or other stone requiring machine polish, provided by the owner or supplied separately	RO	Sq.M.		
7.9	20 mm thick MACHINE POLISHED STONE (first quality) SKIRTING laid over 12 mm average thick base of cement mortar 1:3 (1 cement: 3 coarse sand), laid and jointed with grey cement slurry, mixed with pigment to match the shade of marble slab, including rubbing and polishing complete, including necessary chiselling of brickwork wherever required, (skirting to project 5 mm uniform from finished plastered surface.				
7.9.1	Supplying & Fixing 25 mm thick MANDANA stone SKIRTING	RO	Sq.M.		
7.9.2	Supplying & Fixing 25 mm thick KOTAH or NIMBAHEDA stone SKIRTING	RO	Sq.M.		
7.9.3	Supplying and Fixing Marble or similar stone SKIRTING of Base Rate of Rs.500.00 per Sq.m.	247.452	Sq.M.		
7.9.4	Supplying and Fixing Marble or similar stone SKIRTING of Base Rate of Rs.700.00 per Sq.m.	61.863	Sq.M.		
7.9.5	Fixing granite or other pre-polished stone provided by owner	90.990	Sq.M.		
7.9.6	Fixing marble or other stone requiring machine polish, provided by the owner or supplied separately	RO	Sq.M.		
7.10	Extra for Laying BORDERS, PATTERNS ETC. IN FLOORING (LABOUR ONLY)				
7.1.1	Borders up to 3" wide strips of stone	2039.180	R.M.		
7.1.2	Diamonds up to 75x75 mm in size	RO	EACH		
7.11	Providing and laying ROUGH SAND STONE COPING or CLADDING on wall surfaces of the following thicknesses of reqd. size over 12mm cement mortar 1:3 (1 Cement : 3 coarse sand), jointed with white cement slurry, mixed with pigment to match the shade of the stone fixed to tops of walls.				
7.11.1	25mm thick				
7.11.1.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.11.1.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.11.1.3	Mandana Sandstone	RO	Sq.M.		
7.11.1.4	Using stone provided by owner or supplied separately	RO	Sq.M.		
7.11.2	37-40mm thick				
7.11.2.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.11.2.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.11.2.3	Mandana Sandstone	RO	Sq.M.		
7.11.2.4	Using stone provided by owner or supplied separately	RO	Sq.M.		
7.11.3	50mm thick				
7.11.3.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.11.3.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.11.3.3	Mandana Sandstone	RO	Sq.M.		
7.11.3.4	Using stone provided by owner or supplied separately	RO	Sq.M.		
7.11.3	75mm thick				
7.11.3.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.11.3.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.11.3.3	Mandana Sandstone	RO	Sq.M.		
7.11.3.4	Using stone provided by owner or supplied separately	RO	Sq.M.		
7.11.4	100mm thick				
7.11.4.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.11.4.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.11.4.3	Mandana Sandstone	RO	Sq.M.		
7.11.4.4	Using stone provided by owner or supplied separately	RO	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
7.12	Proving and laying POLISHED SAND STONE COPING or CLADDING on wall surfaces of the following thicknesses of reqd. size over 12mm cement mortar 1:3 (1 Cement : 3 coarse sand), jointed with white cement slurry, mixed with pigment to match the shade of the stone fixed to tops of walls.				
7.12.1	25mm thick				
7.12.1.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.12.1.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.12.1.3	Mandana Sandstone	RO	Sq.M.		
7.12.1.4	Using stone provided by owner or supplied separately	RO	Sq.M.		
7.12.2	37-40mm thick				
7.12.2.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.12.2.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	38.827	Sq.M.		
7.12.2.3	Mandana Sandstone	RO	Sq.M.		
7.12.2.4	Using stone provided by owner or supplied separately	RO	Sq.M.		
7.12.3	50mm thick				
7.12.3.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.12.3.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	213.975	Sq.M.		
7.12.3.3	Mandana Sandstone	RO	Sq.M.		
7.12.3.4	Using stone provided by owner or supplied separately	RO	Sq.M.		
7.12.4	75mm thick				
7.12.4.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.12.4.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.12.4.3	Mandana Sandstone	RO	Sq.M.		
7.12.4.4	Using stone provided by owner or supplied separately	RO	Sq.M.		
7.12.5	100mm thick				
7.12.5.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.12.5.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.12.5.3	Mandana Sandstone	RO	Sq.M.		
7.12.5.4	Using stone provided by owner or supplied separately	RO	Sq.M.		
7.13	Providing and fixing Stainless steel clamps for stone cladding on vertical surfaces	RO	Kg.		
7.14	Providing mirror polished NOSING to edge of stones by machine grinding etc. Complete				
7.14.1	Full round or as/ approved sample nosing in marble and like stones in single thickness (18-20mm)	RO	R.M.		
7.14.2	Full round or as/ approved sample nosing in marble and like stones in double thickness (36-40mm)	RO	R.M.		
7.14.3	Full round or as/ approved sample nosing in granites in single thickness (18-20mm)	706.160	R.M.		
7.14.4	Full round or as/ approved sample nosing in granites in double thickness (36-40mm)	RO	R.M.		
7.14.5	Full round or as/ approved sample nosing in Sandstone (40-50mm)	RO	R.M.		
7.15	Stone work in sunk or moulded work above plinth level in cement mortar 1:6 (1 cement : 6 coarse sand) including pointing with white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment matching the stone shade :				
7.15.1	Red Sandstone (Agra, Karoli etc.)	RO	Cu.M.		
7.15.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Cu.M.		
7.15.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO	Cu.M.		
7.16	Extra for stone work sunk or moulded or sunk and moulded or carved in :				
7.16.1	Triangular or Square or rectangular pillars	RO	Cu.M.		
7.16.2	Circular or polygonal pillars	RO	Cu.M.		
7.16.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO	Cu.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
7.17	Supplying and fixing sand stone moulded ARCHES (Margole) fully dressed carved on both sides with cut stone ornamental work for windows Jharokas with joints treated with white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment matching the stone shade including curing, etc. complete at all levels as per architectural drawing and direction of Engineer-in-charge in writing. However measurement shall be done for complete area of arch i/c centre portion of arch.)				
7.17.1	150mm thick				
7.17.1.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.17.1.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.17.1.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO	Sq.M.		
7.17.2	100mm thick				
7.17.2.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.17.2.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.17.2.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO	Sq.M.		
7.18	Providing and fixing Sand stone JALI 40mm thick with sinking and moulding work to match the existing jali or as per approved design and sample, in cement mortar 1:3 (1 cement : 3 coarse sand) including pointing in white cement mortar 1:2 (1 cement : 2 stone dust) with an admixture of pigment matching the shade of sand stone used.				
7.18.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.18.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.18.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO			
7.19	Providing and fixing Sand stone JALI 50mm thick with sinking and moulding work to match the existing jali or as per approved design and sample, in cement mortar 1:3 (1 cement : 3 coarse sand) including pointing in white cement mortar 1:2 (1 cement : 2 stone dust) with an admixture of pigment matching the shade of sand stone used.				
7.19.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.19.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.19.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO			
7.20	Providing and fixing stone ROD 50 mm dia throughout with carving as [er approved design in cement mortar 1:3 (1 cement : 3 coarse sand) including pointing in white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment, matching the stone shade, jali slab without any chamfers etc.				
7.20.1	Red Sandstone (Agra, Karoli etc.)	RO	R.M		
7.20.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	R.M		
7.20.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO	R.M		
7.21	Providing and fixing Stone work in DASA for support of stone pillar etc. over 12mm thick bed of cement mortar 1:6 (1 cement : 6 coarse sand) i/c pointing in white cement pigment matching the stone shade including carving of front edge as per design				
7.21.1	150mm thick				
7.21.1.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.21.1.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.21.1.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO	Sq.M.		
7.21.2	100mm thick				
7.21.2.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.21.2.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.21.2.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
7.22	Providing and fixing 40mm thick sand stone CLADDING WITH CARVING as per design (KANGURA etc.) with special adhesive like araldite or equivalent over 12mm thick bed of cement mortar 1:3 (1 cement : 3 course sand) i/c painting in white cement mixed with an admixture of matching shade.				
7.22.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.22.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.22.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO	Sq.M.		
7.23	Providing and fixing fine dressed sand stone BRACKETS "todies" as per matching stone with moulding work for support of chhajjas in chhatris and jharokas etc. with fine dressed surface both side and front side should be round shape / moulding with special adhesive like araldite or equivalent. cement mortar 1:3 (1 cement : 3 course sand) i/c painting in white cement mixed with an admixture of matching shade.				
7.23.1	Red Sandstone (Agra, Karoli etc.)	RO	Cu.M.		
7.23.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Cu.M.		
7.23.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO	Cu.M.		
7.24	Providing and fixing fine dressed sand stone "CHHAJJA" 50 mm thick for places , chhatris , forts and jharokas with fine dressed surface both side and front side should be round shape / moulding with special adhesive like araldite or equivalent. cement mortar 1:3 (1 cement : 3 course sand) i/c painting in white cement mixed with an admixture of matching shade.				
7.24.1	Red Sandstone (Agra, Karoli etc.)	RO	Sq.M.		
7.24.2	White Sandstone (Dholpur, Gwallior, Jodhpur etc.)	RO	Sq.M.		
7.24.3	Fixing elements provided by the employer or bought separately in lime and/or cement mortar	RO	Sq.M.		
7.25	Providing and fixing following types of Shelving for Wardrobes, Kitchens and Storages				
7.25.1	Supplying and Fixing Marble or similar stone of Base Rate of Rs.500.00 per Sq.m. in Kitchens and Pantries for partitions, shelves, bases and tops using suitable jointing material such as epoxy glues, cement mortar, polymer modified cementitious mortar etc. The partitions will be made using two slabs joined together.	221.898	Sq.M.		
7.25.2	Supplying and Fixing Granite stone (Cheema Pink, P White or equivalent) in Wardrobes and Storages for partitions, shelves, bases and tops using suitable jointing material such as epoxy glues, cement mortar, polymer modified cementitious mortar etc. The partitions will be made using two slabs joined together.	1451.160	Sq.M.		
7.25.3	Providing and fixing Kota stone shelves 30mm thick (polished from one side) in almirahs and storage spaces including cutting chase in the masonry fixing of shelves with cement mortar and making good the chase.	RO	Sq.M.		
7.26	Providing and fixing of precast concrete interlocking paver blocks of M30 grade manufactured from fully computerised automatic stationary hydraulic vibropressed machine and fully computerised automatic batching plant of class A1/A2 as per BIS 6717:2001. The CC interlocking pavers shall be laid on average 50mm thick bed of coarse sand and the joints filled with fine sand.				
7.26.1	60mm thick	RO	Sq.M.		
7.26.2	80mm thick	RO	Sq.M.		
7.26.3	100mm thick	RO	Sq.M.		
7.27	Providing and fixing Red/Pink sand stone post (Mataga) having size 100x100mm heights 600 to 750 mm as per ornamental design such as like flower octonogal head border etc. to fixed with white cement/epoxy mortar including pointing in white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment, matching the stone shade.	244	Each		
7.26	Providing and Fixing White Sandstone (Jodhpur) rebated Door and Window Frames in Cement Sand Mortar 1:4				
7.26.1	127x63 mm (5"x2.5") Single or Double Rebate / Patam	707.330	R.M.		
7.26.2	152x63 mm (6"x2.5") Single or Double Rebate / Patam	310.700	R.M.		
7.0	SUBTOTAL FLOORING, TILE and STONE WORK				
8.0	ROOFING				

S.No.	Description	Qty.	Unit	Rate	Amount
	Note: The Item rates quoted shall be for all floors, heights, shapes and places				
8.4	Providing and Laying following type(s) of Gola (Batta)				
8.4.1	Providing gola 75 x 75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design, in 75x75 mm deep chase.	404.360	R.M.		
8.5	Making Khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over PVC sheet 1 m x 1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	15	EACH		
8.7	Providing and Laying following type(s) of Water Proofing treatment(s)				
8.7.1	Providing and Laying three layers of High Build Nano Modified PU (Polyurethane) Coatings with FRP fiber Mesh reinforcements to all corners and cracks to Roof areas. The treatment shall be carried at least 1'-0" (300mm) on the parapet walls. The roof to be treated shall be first flooded to check for cracks, which shall be repaired with the required and approved material. The whole terrace so finished shall be flooded with water for a minimum period of one week for testing. In case of leakage the water proofing shall be repaired by repeating the whole process and the flooding test repeated to ensure zero seepage of moisture in the underlying structure and a guarantee of water proofing for 10 years after its completion. Treatment of vertical and horizontal surfaces of depressed portions of toilets/kitchens and the like shall be protected with a rich cement plaster of grade 1:4 (1 cement : 4 coarse sand) admixed with water proofing compound of thickness not less than 15mm as described in item no. 8.17, to be paid for separately.	688.954	Sq.M.		
8.7.2	Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying: a) after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. b) laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm. c) third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30cm on parapet wall and tucked into groove in parapet all around. d) fourth and final layer of brick tiling or other approved finish shall be laid in cement mortar (which will be paid for separately For the purpose of measurement the entire treated surface will be measured.	2214.748	Sq.M.		
8.9	Providing and laying Broken Ceramic tile/china mosaic terracing with primarily white broken/waste ceramic tiles, 6mm thick laid in panels of crazy pattern as per design with 20mm expansion gaps between panels over 12mm thick cement mortar 1:3 (1 cement : 3 coarse sand) mixed with 2% integral water proofing compound by weight of cement, grouted and finished neat with cement mortar 1 cement : 1 marble dust mixed with 2% integral water proofing compound by weight of cement. The expansion joints between panels shall be filled with blown bitumen.	1786.619	Sq.M.		
8.14	Providing labour and tools for laying proprietary water proofing treatment to roofs, balconies, terraces, sunken slabs etc. as per manufacturers specifications including cleaning of surfaces before treatment, providing required equipment and labour for the same (Water Proofing Chemicals shall be provided by the Owner)	RO	Sq.M.		
8.15	Providing and laying 'Kullhad' coba using earthen pots of varying sizes laid upside down over the roof surfaces with a gap of 8 to 10mm in between which is filled with cement mortar 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound over 20mm thick layer of cement mortar mixed with proprietary water proofing compound to required slope, including rounding of junctions of walls and slabs and curing, providing required equipment and labour for the same.	RO	Sq.M.		
8.16	Providing & fixing 50mm extruded polystyrene (XPS) insulation board density 36kg/m ³ , under or over RCC roof slab complete as per manufacturing specifications fixed with 1% suitable water based adhesive and fastener, complete in all respect as per the direction of Engineer-in-Charge.	1786.619	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
8.17	Providing and laying average 110mm thick BRICK BAT COBA using broken brick bats 25mm to 100mm nominal size with 50% cement mortar 1:4 (1 cement : 4 coarse sand) admixed with proprietary Latex/SBR water proofing compound over 20mm thick layer of cement mortar mixed with proprietary SBR/Latex water proofing compound to required slope finished with a final top layer of 20mm thick layer of cement mortar mixed with proprietary SBR/Latex water proofing compound including rounding of junctions of walls and slabs, marking a grid of 300mm x 300mm on the finished surface including curing, providing required equipment and labour for the same.	RO	Sq.M.		
8.18	Providing and laying 50mm thick jointless cement concrete of mix 1:2:4 (1 cement: 2 coarse sand: 4 aggregate 6-10mm nominal size) admixed with proprietary water proofing compound after applying a coat of cement slurry mixed with proprietary water proofing compound and finally finishing the surface with trowel with neat cement slurry and marking a grid of 600mm x 600mm. The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and final testing, including redoing the above operations in areas where leaks are detected. The item includes providing all required equipment and labour for carrying out the work.	166.106	Sq.M.		
8.19.	Thermo mechanically treated steel bar from Secondary Steel manufacturers such as Kamdhenu, Bansiwala etc.	9412.678	KG		
8.20	Providing and laying 15mm cement mortar screed (1:4, 1 cement : 4 coarse sand) to protect water proofing treatment to roofs, balconies, terraces, sunken slabs etc.	688.954	Sq.M.		
8.21	Providing and laying 20mm cement mortar screed (1:4, 1 cement : 4 coarse sand) to protect water proofing treatment to roofs, balconies, terraces, sunken slabs etc.	2214.748	Sq.M.		
8.2	Providing and laying following types of false ceiling				
8.22.1	Providing and fixing 12.5 mm thick tapered edge gypsum board conforming to IS 2095- Part I at all height false ceiling including providing and fixing of frame work made of special sections power pressed from M.S. sheet and galvanised in accordance with zinc coating of grade 350 as per IS : 277 and consisting of angle cleats of size 25mm wide x 1.6mm thick with flanges of 22mm and 37mm at 1200mm centre to centre one flange fixed to the ceiling with dash fastener 12.5mm dia x 40mm long with 6mm dia bolts to the angle hangers of 25x25x0.55mm of required length, and other end of angle hanger being fixed with nut and bolts to G.I. channels 45x15x0.9mm running at the rate of 1200mm centre to centre to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26mm each having clips of 10.5mm at 450mm centre to centre shall be fixed in a direction perpendicular to G.I. channel with connecting clips made out of 2.64mm dia x 230mm long G.I. wire at every junction including fixing the gypsum board with ceiling section and perimeter channels 0.5mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450mm centre to centre with 25mm long drive all screws @ 230mm interval including jointing and fixing to a flush finish of tapered and square edges of the board with recommended filler, jointing tapes, finisher and two coats of primer suitable for board as per manufactures 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 drawing and specification and direction of the Engineer in Charge but excluding the cost of painting.	113.922	Sq.M.		
8.22.2	Providing and fixing tiled False Ceiling of approved materials of size 595x595 mm in true horizontal level suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanized @ 170 gsm/sqm.) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38mm made from 0.30mm thick (minimum) sheet spaced at 1200mm center to center and cross "T" of size 24x25mm made of 0.30mm thick (minimum) sheet, 1200mm long spaced between main "T" at 600mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600mm and size 24x25mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600mm panel to form grids of 600x600mm and wall angle of size 21x21x0.3mm and laying false ceiling tiles of approved texture in the grid including, wherever, required, cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats fixed to ceiling with 6 mm dia and 50mm long dash fasteners, 4mm GI adjustable rods with galvanised level clips spaced at 1200mm center to center along main T, bottom exposed width of 24mm of all T-sections shall be pre-painted with polyester paint, all complete at all heights as per specifications drawings and as directed by Engineer-in-Charge. (The rate is excluding the cost of tiles which will be paid for separately).	RO	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
8.22.3	Providing & fixing 12 mm thick tegular edge Glass Fibre Reinforced Gypsum False ceiling tiles of size 595 x 595 mm in true horizontal level suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanized @ 170 gsm/sqm.) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38mm made from 0.30mm thick (minimum) sheet spaced at 1200mm center to center and cross "T" of size 24x25mm made of 0.30mm thick (minimum) sheet, 1200mm long spaced between main "T" at 600mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600mm and size 24x25mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600mm panel to form grids of 600x600mm and wall angle of size 21x21x0.30 mm and laying false ceiling tiles of approved texture in the grid including, wherever, required, cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats fixed to ceiling with 6 mm dia and 50mm long dash fasteners, 4mm GI adjustable rods with galvanised level clips spaced at 1200mm center to center along main T, bottom exposed width of 24mm of all Tsections shall be pre-painted with polyester paint, all complete at all heights as per specifications drawings and as directed by Engineer-in-Charge.	113.922	Sq.M.		
8.22.4	Providing and laying 10 mm thick plaster of Paris (gypsum anhydrous) false ceiling reinforced with rabbit wire mesh at all heights including providing and fixing of frame work made of special sections power pressed from M.S. sheet and galvanised in accordance with zinc coating of grade 350 as per IS : 277 and consisting of angle cleats of size 25mm wide x 1.6mm thick with flanges of 22mm and 37mm at 1200mm centre to centre one flange fixed to the ceiling with dash fastener 12.5mm dia x 40mm long with 6mm dia bolts to the angle hangers of 25x25x0.55mm of required length, and other end of angle hanger being fixed with nut and bolts to G.I. channels 45x15x0.9mm running at the rate of 1200mm centre to centre to which the ceiling section 0.5mm thick button wedge of 80mm with tapered flanges of 26mm each having clips of 10.5mm at 450mm centre to centre shall be fixed in a direction perpendicular to G.I. channel with connecting clips made out of 2.64mm dia x 230mm long G.I. wire at every junction 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 drawing and specification and direction of the Architect but excluding the cost of painting.	453.115	Sq.M.		
8.22.5	Providing and fixing chicken wire mesh of 22 gauge, hexagonal 12 mm aperture, at junctions of RCC and masonry surfaces / over specified ceiling areas, fixed with screws/nails and overlap not less than 50 mm, complete as directed, to prevent cracking in POP false ceiling.	RO	Sq.M.		
8.23.	Providing and laying Stone Slab Roofing on Ground Floor with fine grained stone slab from approved quarry including filling of joints of parapet and slabs on both sides in cement sand mortar 1:4, ralthal, stone kharanja, lime terracing of 90mm average thickness (as per Jaipur practice) with ceiling pointing in cement sand mortar 1:3 complete as specification for the following spans				
8.23..1	Up to 2.00 meter	RO	Sq.M.		
8.23..2	Above 2.00 meter and up to 2.50 meter	RO	Sq.M.		
8.23..3	Above 2.50 meter and up to 3.00 meter	RO	Sq.M.		
8.23..4	Above 3.00 meter and up to 3.30 meter	RO	Sq.M.		
8.24.	Add extra over 8.19 for subsequent storey				
8.24..1	First Floor	RO	Sq.M.		
8.24..2	Second Floor	RO	Sq.M.		
8.24..3	Third Floor	RO	Sq.M.		
8.0	SUBTOTAL ROOFING				
9.0	FINISHING				

S.No.	Description	Qty.	Unit	Rate	Amount
	Note: The Item rates quoted shall be for all floors, heights, shapes and places. The rates are for complete work including racking of joints, curing, grinding, mixing and finishing T & P and scaffolding material and cost of material with all lead and lift. The rates cover protection of all places and things, requiring protection and cleaning such places and thing of all droppings and splashes of mortar etc. Cement mortar is to be made by mechanical mixer only.				
9.1	Plaster on new surface on wall in cement sand mortar 1:3 including racking of joints etc. complete fine finish :				
9.1.1	25 mm thick	RO	Sq.M.		
9.1.2	20mm thick	RO	Sq.M.		
9.1.3	12mm thick	RO	Sq.M.		
9.2	Plaster on new surface on walls in cement sand mortar 1:4 including racking of joints etc. complete fine finish :				
9.2.1	25 mm thick	RO	Sq.M.		
9.2.2	20mm thick	RO	Sq.M.		
9.2.3	12mm thick	RO	Sq.M.		
9.3	Plaster on new surface on walls in cement sand mortar 1:5 including racking of joints etc. complete fine finish :				
9.3.1	25 mm thick	1303.97	Sq.M.		
9.3.2	20mm thick	3353.25	Sq.M.		
9.3.3	12mm thick	2801.23	Sq.M.		
9.4	Plaster on new surface on walls in cement sand mortar 1:6 including racking of joint etc. complete fine finish :				
9.4.1	25 mm thick	869.31	Sq.M.		
9.4.2	20mm thick	2235.50	Sq.M.		
9.4.3	12mm thick	1867.49	Sq.M.		
9.4	6 mm cement plaster to ceiling, RCC works of mix 1:3 (1 cement : 3 fine sand) with 6 mm x 12 mm grooves between wall/beam and ceiling junction.	RO	Sq.M.		
9.5	Extra for a floating coat of neat cement punning.	RO	Sq.M.		
9.6	Providing drip course in plastered surface , 1:3 (1 cement :3 fine sand) cement plaster.	467.928	R.M.		
9.7	ROUGH CAST PLASTER				
9.7.1	Rough cast plaster upto 10m height above ground level with a mixture of sand and gravel or crushed stone from 6mm to 10mm nominal size dashed over and including the fresh plaster in two layers, under layer 12mm cement plaster 1:4 (1 cement : 4 coarse sand) and top layer 10mm cement plaster 1:3 (1 cement : 3 fine sand) mixed with 10% finely grounded hydrated lime by volume of cement. Ordinary cement finish using ordinary cement	403.439	Sq.M.		
9.7.2	Pebble dash plaster upto 10m height above ground level with a mixture of washed pebble or crushed stone 6mm to 12.5mm nominal size dashed over and including fresh plaster in two layers under layer 12mm cement plaster 1:4 (1 cement : 4 coarse sand) and top layer 10mm cement plaster with cement mortar 1:3 (1 cement : 3 fine sand) with 10% finely grounded hydrated lime by volume of cement	RO	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
9.7.3	Washed stone grit plaster on exterior walls of height upto 10 M. above level in two layers, under layer 12mm cement plaster 1:4 (1 cement : 4 coarse sand) furrowing the under layer with scratching tool, applying cement slurry on the under layer @ 2kg of cement per sqm, top layer 15 mm cement plaster 1:1/2:2 (1 cement : 1/2 coarse sand : 2 stone chipping size 10 mm nominal size) in panel with groove all around as per approved pattern including scrubbing and washing, the top layer with brushes and water to expose the stone chipping, complete as per specification and direction of Engineer in charge. (Payment for providing grooves shall be made separately)	868.115	Sq.M.		
9.7.4	Forming groove of uniform size 15x15mm and upto 25x15mm in the top layer of washed stone grit plaster as per approved pattern using wooden battens, nailed to the under layer including removal of wooden battens, repair to the edges of panels and finishing the groove complete as per specification and direction of Engineer in charge	1500.000	R.M		
9.8	18 mm thick cement plaster in sunken areas of kitchen/toilets in two coats, under layer 12 mm thick cement plaster 1:4 (1 cement :4 coarse sand) finished with a top layer of 6 mm thick cement plaster 1:3 (1 cement: 3 fine sand) including mixing of water proofing compound of approved make in both layers, in the proportions recommended by the manufacturer. The top layer shall be finished with a floating coat of neat cement punning.	688.954	Sq.M.		
9.9	White washing with lime to give an even shade : new work (three or more coats).	RO	Sq.M.		
9.10	Colour washing such as pale yellow, green, blue or any other colour and shade as approved by Engineer to give an even shade on new work (two or more coats) over a base coat of white washing with lime.	RO	Sq.M.		
9.11	Providing and laying types of Punning to internal walls and ceilings so as to get even and smooth surfaces				
9.11.1	Providing and applying 5 to 8mm thick plaster of paris (gypsum anhydrous) punning to internal walls and ceilings so as to get even and smooth surface in plumb and level to respective levels.	RO	Sq.M.		
9.11.2	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.	RO	Sq.M.		
9.11.3	Providing and applying white cement based putty of average thickness 2 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	RO	Sq.M.		
9.12	Finishing walls with two or more coats of oil bound distemper paint of approved brand (Asian Tractor) and manufacture of required shade to give an even shade on new works including preparation of surface with cement primer, filling material sandpapering etc. complete.	RO	Sq.M.		
9.13	Finishing walls with three or more coats of water proof polymer paint of approved brand ('ICI – Supercoat', Asian Apex Ultima) and manufacture of required shade to give an even shade on new works.	647.774	Sq.M.		
9.14	Painting with two or more coats of synthetic enamel satin / matt finish paint of approved brand and manufacture including preparation of surface and appropriate approved primer to give an even shade for wood/steel work.	689.777	Sq.M.		
9.15	French spirit polishing with two or more coats as necessary on new works, including a coat of wood filler with necessary cleaning, sand papering, smoothening etc. complete, to give a smooth and glossy surface.				
9.15.1	Glazed/jali Doors and windows	RO	Sq.M.		
9.15.2	Solid Doors	RO	Sq.M.		
9.15.3	Door and Window frames	RO	R.M.		
9.15.4	Moulding	RO	R.M.		
9.16	Pointing on Masonry work with cement mortar 1 cement : 3 fine sand				
9.16.1	Struck or weathered recessed pointing on coursed stone walls as per approved sample	2353.314	Sq.M.		
9.16.2	Flush pointing on stone walls as per approved sample (kilkilkathi)	214.800	Sq.M.		
9.16A	Pointing on Masonry work with Lime Mortar				
9.16A.1	Flush and ruled pointing over joints of dressed stone cladding, chajjas, jali etc. including racking the joints as per traditional practice including all leads and lifts with grinded mortar of lime putty and surkhi mixed in 1:2 ratio and gur, methi, gugal etc. are to be mixed as per traditional practice.	RO	Sq.M.		
9.16A.2	Flush and ruled pointing over joints of dressed stone cladding, chajjas, jali etc. including racking the joints as per traditional practice including all leads and lifts with grinded mortar of lime putty and fine sand mixed in 1:2 ratio and gur, methi, gugal etc. are to be mixed as per traditional practice	RO	Sq.M.		

S.No.	Description	Qty.	Unit	Rate	Amount
9.17	Ornamental Plaster on Round pillars etc. mix 1:4 (1 cement : 3 fine sand: 1 coarse sand) as per BSR Item 12.25, page no. B132)	258.805	Sq.M.		
9.18	Providing and laying 2 to 5mm thick plaster of paris (gypsum anhydrous) or 1 to 2mm White Cement based Putty punning and Finishing walls with two or more coats of superior acrylic distemper paint of approved brand (Asian Tractor) and manufacture of required shade to give an even shade on new works including preparation of surface with cement primer, filling material sandpapering etc. Complete.	17406.69	Sq.M.		
9.19	Providing and applying 12 mm thick (average) premixed formulated one coat gypsum lightweight plaster having additives and light weight aggregates as vermiculite/ perlite respectively conforming to IS: 2547 (Part - 1 & II) 1976, applied on hacked / uneven background such as bare brick/ block/ RCC work on walls & ceiling at all floors and locations, finished in smooth line and level etc. Complete.	RO	Sq.M.		
9.20	P & L Lime Sand Plaster with lime sand mortar 1:2 (1 Lime : 2 Sand) including preparation of mortar by traditional practice (by grinding) in specified course for base coarse and subsequent course & Loi, tamping, beating, till the shrinkage cracks are disappear. The work is done with all leads as the work is of restoration nature as per Jaipur practice including adding gur, methi & gugal on old walls including removal of all old loose and decade plaster, each coat to be done after 3 days of previous coat.				
9.20.1	25 mm thick in three coats	RO	Sq.M.		
9.20.2	33 mm thick in four coats	RO	Sq.M.		
9.20.3	45 mm thick in four coats	RO	R.M.		
9.20.4	75 mm thick in seven coats	RO	R.M.		
9.0	SUBTOTAL FINISHING				
10.0	MISCELLANEOUS CIVIL WORKS				
	Note: The Item rates quoted shall be for all floors, heights, shapes and places				
10.1	Extra for providing and mixing water proofing compound of approved make and manufacturer (such as Pidilite LW+ or equivalent) in cement mortar or concrete work in the proportion as specified by the manufacturer.	200.000	KG		
10.2	Providing and fixing 24 SWG G.I chicken wire mesh with nails etc. as directed by architect at the junction of brick and RCC works and at MS conduits in walls.	1092.582	Sq.M.		
10.3	Demolishing following work manually/ by mechanical means and disposal of material within 50 metres lead as per direction of Engineer in-charge.				
10.3.1	RCC work	250.000	Cu.M.		
10.3.2	PCC work	100.000	Cu.M.		
10.3.3	Brick work	RO	Cu.M.		
10.3.4	Stone Rubble Wall	125.000	Cu.M.		
10.3.5	Plaster	RO	Sq.M.		
10.3.6	Stone Flooring incl. base concrete	RO	Sq.M.		
10.3.8	Door and Window frames	RO	EACH		
10.3.9	Bhilwara or similar stone slab roofing	RO	Sq.M.		
10.3.10	Ceiling Plaster	RO	Sq.M.		
10.10	Providing and laying PVC sheet, 400 micron thick, under floors resting on natural soil as prevention of seepage of subsoil water into floors.	2182.798	Sq.M.		
10.11	Fixing in position door/window frames provided by owner, including 25 mm x 3.5 mm size M.S. flat holdfast of suitable length and shape as per drawing suitably fixed to the frame and embedded in cement concrete blocks in C.C. 1:2:4 (1 cement : 2 coarse and : 4 stone grit 10 mm nominal size) of size 150 x 100 x 100 mm or with 25 x 3.5 mm lugs of suitable length & shape as required at site fixed with metallic rawl plugs and bolts or with fixing clips or with bolts and nuts with necessary arrangements as required.				
10.11.1	Frames of requiring 4 hold fasts (such as windows, ventilators etc.)	RO	Each		

S.No.	Description	Qty.	Unit	Rate	Amount
10.11.2	Frames of requiring 6 hold fasts (Such as doors and large windows etc.)	195	Each		
10.13	Extra for addition of synthetic Polyester triangular fibre of length 6 mm, effective diameter 10-40 microns and specific gravity of 1.34 to 1.40 in cement plaster/mortar by using 125 gms. of synthetic Per Bag of Polyester triangular fibre for 50 Kgs. cement used in cement mortar 50 Kg of as per directions of Engineer-in- Charge with all leads and lifts..	RO	125 gm Pouch		
10.15	Providing and fixing approved galvanized 2mm thick welded wire mesh of size 50mm x 50mm including cutting to required sizes, with min. 75mm overlaps for roof concrete or coping slabs etc. complete	1002.808	Sq.M.		
10.16	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	593.750	Cu.M.		
10.17	Providing and fixing Stainless steel Grade 304 plate-1.0 mm covering of approved pattern & design, made out of machine cut stainless steel sheet and machine holed for receiving dash fastener, over expansion joints on vertical surfaces/ceiling floors, the fixing on plate in one row on one side of joint only shall be done with stainless steel dash fasteners of 8 mm dia and 75 mm long bolt including providing aluminium washers 2 mm thick & 15 mm dia , at a staggered pitch of 200mm centre to centre including drilling holes in the receiving surface and providing expandable plastic sleeves in holes etc. complete as per direction of Engineer-in-charge. Providing and fixing in position thick as per design for expansion joints.				
10.17.1	200 mm wide	154.560	R.M.		
10.18	Providing and erecting temporary barricading at site; each panel of size 2.50mx2.00m made of 40x40x6mm angle iron or 50x50x3mm hollow MS tube posts/horizontal members/bracings covered with 1.63mm thick MS sheet. The sheet shall be fixed with 30x5mm MS flat by suitable welding/riveting. The panels shall be made so that gap of 15cm above the ground is available MS channel ISLC 75 @ 5.70 kg/m, 50cm long shall be provided at the bottom having oval shaped holes of size 50x25mm at both ends with 50cm long MS angle 40x40x6mm bracing. Suitable arrangement shall be made to fix the barricading to avoid from overturning by providing 250mm long expansion fasteners at both ends. The work shall be executed as per drawing/direction of Engineer-in-Charge which includes writing and painting, reflective signs, marking, flags, caution tape as directed by the Engineer-in-Charge. The barricading provided shall be retained in position at site continuously i/c shifting of barricading from one location to another location as many times as required during the execution of the entire work till its completion. Rate include its maintenance for damages, painting, all incidentals, labour materials, equipments and works required to execute the job. The barricading shall not be removed without prior approval of Engineer-in-Charge. (Note :- One time payment shall be made for providing barricading from start of work till completion of work i/c shifting. The barricading provided shall remain to be the property of the contractor on completion of the work).	720.000	Sq.M.		
10.19	Providing and fixing 50mm polystyrene board 40kg/cum (thermocole) in expansion joints	1059.972	Sq.M.		
10.20	Providing and Fixing Aluminium composite panel of approved make 3mm thick with 0.5mm thick skin & PVDF coated approved shade 700 mm wide sheet covering over expansion joints with SS screws as per design to match the colour / shade of wall treatment. Main framing work to be done using 50mmx25mmx1.6mm tubular section of approved make. Stainless steel screw to be used to fix the ACP panel to be fixed to the main frame with industrial adhesive tape and panel groove to be sealed with weather proof silicon sealant suitable for glass/aluminium etc. complete in all respect as approved by Engineer-in-charge.	69.129	Sq.M.		
10.2	Making of hole in R.C.C. slab/wall/beams and masonry wall (width up to 450 mm) by core cutting machine complete as per direction of Engineer in Charge.				
10.21.1	From diameter 100mm to 150mm	80.000	Each		
10.21.2	For diameter above 150mm	20.000	Each		
10.0	SUBTOTAL MISCELLANEOUS CIVIL WORKS				

MCGS Senior House 1 – INTERNAL ELECTRICAL WORK					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUB-HEAD I: INTERNAL WIRING				
	Required clearances from the concerned statutory authorities are in the scope of this work. Statutory fees paid will be reimbursed on production of original receipts.				
	Point wiring in PVC conduit				
	Point wiring for light/ceiling fan/6A/ 16A/ socket outlet /6A outlet for exhaust fan, bell point etc. with 1.1 KV grade FRLS PVC insulated multi stranded copper conductor wire(ISI marked), in 25 to 40 mm dia rigid PVC conduit having ISI marked IS 9537 Part - 3, including fixing accessories & hardware Surfaced on ceiling / wall with all conduit accessories G.I. Saddles, ready made MS modular switchboxes, socket outlet boxes of approved makes including termination inside switch/sockets with using copper lugs ,zinc chromate passivated, brass earthing stud 1/2 nos, controlling modular switches, sockets with moulded front plate and inner plate etc. including appropriate size of FRLS PVC insulated copper earth wire, brass/bakelite (straight / angular) lamp holders, 3 plate ceiling rose,16 A, connectors, painting etc. as per drawings and as directed by E.I.C. and as detailed below : (sample switch Box etc. to be got approved before fabrication)				
	NOTES:				
	1. Connections shall be done with crimped type tinned copper lugs & washers.				
	2. All switches & socket outlets shall be as per preferred makes.				
	3. All 16 A socket outlets should be with 6 pin				
	4. MS boxes other than switch boxes & socket outlet boxes shall be fabricated out of 16 SWG thickness MS sheet duly painted.				
	5. Minimum size of the FRLS insulated copper earth wire continuity shall be 1.5 sq.mm.				
	6. The colour shade of switches & cover plates shall be white /off white & to be approved by architect.				
	7. The scope also includes supply of modular blanking plates where ever required.				
	8. Test certificates shall be provided along with delivery of wires.				
	9. In case of Primary point controlled by switch, cost shall include wiring from DB to switch board, Switch board to Point & any looping from Switch board to Switch board shall be part of point wiring.				
	10. Light point wiring cost shall include connection of fixture from ceiling rose with 3x1.5sqmm flexible copper cables.				
1	Wiring for light point / fan point /exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated 1100 volt grade stranded copper conductor wires in IS 25mm dia 2 mm thick PVC conduit recessed / surface conduiting system including the cost of cutting / making good chases in masonry work / any type of support for double height area, with modular switch, modular plate, suitable GI Box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.	1095	Point		

MCGS Senior House 1 – INTERNAL ELECTRICAL WORK					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
2	Point wiring for DB controlled primary light points with 3x2.5 sq.mm. (P+N+E) FRLS PVC insulated 1100 volt grade stranded copper conductor wires in IS 25mm dia 2 mm thick PVC conduit recessed / surface conduiting system including the cost of cutting / making good chases in brick work / any type of support for double height area / Truss Shed area and including the cost of loop earthing with 2.5 sq.mm. FRLS PVC insulated 660/1100 volt grade stranded copper conductor wires complete as per specifications and as required. (Cost of MCB included in DB)	25	Point		
3	Wiring for group controlled (looped) light point / fan point /exhaust fan point/ call bell point (without independent switch) with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed PVC Conduit,and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.	710	Point		
4	Point wiring for 6 amp socket outlet points with 3x1.5 sq.mm. (P+N+E) FRLS PVC insulated 1100 volt grade stranded copper conductor wires in IS 25mm dia PVC conduit recessed and / or surface conduiting system including the cost of cutting / making good chases in brick work and including the cost of supplying and fixing modular grid plate mounted 240volt 6amp. 5 pin combined socket outlets along with 240 volt 6 amp. controlled switch housed in zinc chromate passivated MS boxes with moulded cover plate and including the cost of loop earthing with 1.5 sq.mm. FRLS PVC insulated 1100 volt grade stranded copper conductor wires complete as per specifications and as required.	20	Point		
5	Wiring for circuit/sub-main wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor single core cable in surface/recessed medium class PVC Conduit as required.				
(i)	2x1.5 sq.mm + 1x1.5 sq.mm earth wire	50	Meter		
(ii)	2x2.5 sq.mm + 1 x 2.5 sq.mm earth wire	4800	Meter		
(iii)	2 x 4 sq.mm + 1 x 2.5 sq.mm earth wire	250	Meter		
(iv)	2x6 sq.mm + 1x4 sq.mm earth wire	100	Meter		
(V)	2x10 sq.mm + 1x4 sq.mm earth wire	100	Meter		
(vi)	4x10 sq.mm + 2x6 sq.mm earth wire.	150	Meter		
(vii)	4x16 sq.mm + 2x6 sq.mm earth wire.	150	Meter		
6	Point wiring for 16 amp socket outlet points (1 outlet wired on 1 circuit) with 3x2.5 sq.mm. (P+N+E) FRLS PVC insulated 1100 volt grade stranded copper conductor wires in IS 25mm dia PVC conduit recessed or surface conduiting system including the cost of cutting / making good chases in brick work and including the cost of supplying and fixing modular grid plate mounted 220volt 16amp. 6 pin combined shuttered socket outlets along with 220 volt 16 amp controlled switch of housed in zinc chromate passivated MS boxes and including the cost of loop earthing with 2.5 sq.mm. FRLS PVC insulated 660/1100 volt grade stranded copper conductor wires complete as per specifications and as required.	130	Each		

MCGS Senior House 1 – INTERNAL ELECTRICAL WORK					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
7	Point wiring for 16 amp socket outlet points (2 outlet wired on 1 circuit) with 3x4 sq.mm. (P+N+E) FRLS PVC insulated 1100 volt grade stranded copper conductor wires in upto first outlet and 2.5 wire sq.mm. wire for the looped outlet in IS 25mm dia PVC conduit recessed surface conduiting system including the cost of cutting / making good chases in brick work and including the cost of supplying and fixing modular grid plate mounted 220volt 16amp. 6 pin combined shuttered socket outlets along with 220 volt 16 amp. controlled switch of housed in zinc chromate passivated MS boxes and including the cost of loop earthing with 2.5 sq.mm. FRLS PVC insulated 660/1100 volt grade stranded copper conductor wires complete as per specifications and as required.	170	Each		
8	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
(i)	25 mm	4000	Meter		
(ii)	32 mm	350	Meter		
9	Supplying and fixing suitable size of 8x3 box with modular plate and cover in front on surface or in recess, including providing and fixing 2nos. 3 pin 6 amps socket outlets with 2nos. 6 amps modular switch ,including connection with 3x2.5sq mm FRLS PVC insulated copper conductor wire in surface / recess PVC conduit complete as required.	5	Each		
10	Point wiring for 20/25 amp socket outlet points (1 outlet wired on 1 circuit) with 3x4 sq.mm. (P+N+E) FRLS PVC insulated 1100 volt grade stranded copper conductor wires in IS 25mmdia 2 mm thick PVC conduit recessed or surface conduiting system including the cost of cutting / making good chases in Brick work and including the cost of supplying and fixing modular grid plate mounted 240volt 16amp. 3pin combined shuttered socket outlets along with 240 volt 20/25 amp. controlled switch of housed in zinc chromate passivated MS boxes and including the cost of loop earthing with 2.5 sq.mm. FRLS PVC insulated 660/1100 volt grade stranded copper conductor wires complete as per specifications and as required.	5	Each		
11	Point wiring of 240 volts single phase, USB charging outlet with 1.5 Sq mm. FRLS PVC insulated, 1100 volts grade stranded copper conductor wires in surface/recessed 25 mm dia 2 mm thick heavy duty FRLS PVC conduit including cost of cutting and filling chases as required with fixing of plate and fixing of outlet in MS box, earthing of 3rd pin with FRLS PVC insulated green colour 1.5 Sq mm. copper wire, complete with all accessories as required. (To be looped from power socket including MS box & USB Port)	38	Each		

MCGS Senior House 1 – INTERNAL ELECTRICAL WORK					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
12	Point wiring for IP 55 protection watertight and dust proof surface mounted PVC modular box and adaptor for 16A Switch, 6/16Amp Socket outlet (1 outlet wired on 1 circuit) with 3x2.5 sq.mm. (P+N+E) FRLS PVC insulated 1100 volt grade stranded copper conductor wires in IS 25mmdia 1.6 mm thick PVC conduit recessed or surface conduiting system including the cost of cutting / making good chases in Brick work and including the cost of including loop earthing with 2.5 sq.mm. FRLS PVC insulated 660/1100 volt grade stranded copper conductor wires complete as per specifications and as required.	5	Each		
	SUB HEAD TOTAL: Rs.				
	SUB-HEAD II:- DISTRIBUTION BOARDS				
1	Supplying and fixing following way, horizontal type single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/ Isolator)				
a	8 way (2+8), Double door	2	Each		
b	12 way (2+12), Double door	2	Each		
2	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/ Isolator)				
a	4 way (4+12) Double door	2	Each		
b	6 way (4+18) Double door	12	Each		
c	8 way (4+24) Double door	10	Each		
d	12 way (4+36) Double door	2	Each		
3	Supplying and fixing 5 amps to 32 amps rating.240/415 volts.10kA, 'C' curve miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections,testing and commissioning etc. as required				
a	Single pole	592	Each		
4	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCBO), having a sensitivity current 30 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a	25 amps	1	Each		
b	40 amps	3	Each		
5	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCBO), having a sensitivity current 30 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a	40 amps	2	Each		
b	63 amps	24	Each		
	SUB HEAD TOTAL: Rs.				

MCGS Senior House 1 – INTERNAL ELECTRICAL WORK					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
SUB-HEAD III:- LIGHTING FIXTURE AND FANS					
1	Supplying, Installation, Testing & commissioning of following type LED Surface / Recessed mounted light fixture complete with PDC Aluminium housing for enhances heat dissipation along with driver with safety protections, PF>0.95 and should give minimum 120 lumens/Watt. Fixtures should be certified for minimum of 70% lumens maintenance till 50,000 burning hours of usage, CRI ≥ 80, CCT should be 5700-6000 Kelvin or as specified by the architect in all aspects. With 2 Years Warranty on LED and Driver.				
a	22 watt 4 feet LED Batten	268	Each		
b	15W LED Downlighter (Round)	374	Each		
c	10W LED Downlighter (Round)	88	Each		
d	10W LED Bulkhead Fixture	5	Each		
e	10 watt 2 feet LED Tube	76	Each		
f	28 Watt 2'x2' LED Fixture	16	Each		
g	5W/Mtr LED Strip	100	Mtr		
h	25 Watt 4feet LED recessed linear light for made of extruded aluminium, with flexibility of cascading for a seamless effect if required with End caps.	10	Each		
i	15W LED Wall Bracket light	318	Each		
j	3-5W Reading Wall Light	248	Each		
k	Skirting Night Light	12	Each		
2	Supply, Installation, Testing and Commissioning of 1200 mm sweep,BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	309	Each		
3	Supply and Installation of 300 mm 900 RPM exhaust fan complete with louvre and bird guard screen with 3 core flexible wire as required.	65	Each		
4	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	309	Each		
SUB HEAD TOTAL: Rs.					
SUB-HEAD IV:- EARTHING					
1	Supplying & Grounding Maintenance free chemical filled earthing copper bonded high tensile low carbon rod 17.2mm x 3000mm with 250microns copper coating + 50 kg earth enhancing compound including accessories & providing masonry enclosure with cover plate locking arrangement complete as required. CPRI & UL Certified	4	Set		

MCGS Senior House 1 – INTERNAL ELECTRICAL WORK					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
2	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	200	Meter		
3	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	500	Meter		
SUB HEAD TOTAL: Rs.					
SUB-HEAD V:- PA SYSTEM					
1	SITC of 6 zone,voice alarm controller with USB, MP3 player (including 6 zone button paging station) with seamless integration facility with main fire alarm panel for voice evacuation complete as required.	1	Each		
2	SITC of 1.5/3/6W ceiling speaker complete as required.	10	Each		
3	SITC of 1.5/3/6W metal box ceiling/wall speakers complete as required	40	Each		
4	SITC of digital audio amplifier 500 Watt, 25V rms operating at 240 Volt AC Supply complete as required	1	Each		
5	SITC of Voice command keypad 6 zone, with microphone assembly complete as required	1	Each		
6	Supplying & laying of 2x1.5sqmm fire alarm armoured cable, 600/1000V rated with annealed copper conductor having XLPE insulation, steel wire armouring & FRLS outer sheath complete as required.				
	speaker cable Single pair, 2-core, 1.5 sq mm	1250	Meter		
7	Supplying and fixing 25 mm dia MS flexible pipe with PVC coating along with all ancillaries and accessories like coupler etc. as required	100	Meter		
SUB HEAD TOTAL: Rs.					
SUB-HEAD VI:- CCTV					
1	Supply installation Testing and Commissioning of Indoor 4 megapixel wide angle 1080P IP dome camera with 3.6mm built-in fixed lens with minimum illumination of 0.1 lux F1.2 50IRE with IR LEDs that can light for making it true day & night camera with intelligent motion detection.	10	No.		
2	Supply installation Testing and Commissioning of Indoor 4 megapixel wide angle 1080 IP bullet camera with 3.6mm built-in fixed lens with minimum illumination of 0.1 lux F1.2 50IRE with IR LEDs that can light for making it true day & night camera with intelligent motion detection.	38	No.		

MCGS Senior House 1 – INTERNAL ELECTRICAL WORK					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
3	Supply installation Testing and Commissioning of Outdoor 4 megapixel wide angle 1080 IP bullet camera with 3.6mm built-in fixed lens with minimum illumination of 0.1 lux F1.2 50IRE with IR LEDs that can light for making it true day & night camera with intelligent motion detection with weatherproof housing IP66 protection with operating temp 0-50degree C.	4	No.		
4	Supply Installation testing commissioning of 64 channel Industrial Grade NVR with H265 compression 4 MP Camera recording and playback and event triggering with intelligent video analytics and motion detection with hard disk of minimum capacity 100TB, USB, DVD-RW, Flexible search capabilities, Multi-event Recording. Storage of 40 Days recording	1	No.		
5	Supplying, Installation, Testing & Commissioning of 8 Port PoE Switch with 2 Nos. SFP Module complete as required	1	No.		
6	Supplying, Installation, Testing & Commissioning of 24 Port PoE Switch with 2 Nos. SFP Module complete as required	2	No.		
7	Supply, Installation, Testing and Commissioning of Full HD 55" LED Professional Display Panel	1	No.		
8	Supplying and drawing of UTP 4 pair CAT 6A LAN Cable in the existing surface/ recessed steel/ PVC conduit as required with ferrules.				
a	1 Run of cable	2500	Mtr		
9	SITC of Internal SATA 6 Tb hard disk complete as required	1	No.		
10	Supplying and fixing of 6U Rack with Fan, Power Switch i/c cable manager complete as required.	3	No.		
SUB HEAD TOTAL: Rs.					
SUB-HEAD VII:- WIRING FOR TELEPHONE & DATA POINTS					
1	Supplying and fixing of following size/modules, GI box along with modular base & cover plate for modular switches in recess etc. as required.				
a	1 or 2 Module 75 mm x 75 mm	300	Each		
2	Supplying and drawing following pair, 0.5mm dia FRLS PVC insulated annealed copper conductor, unarmoured telephone cable in the existing surface/ recessed steel/ PVC conduit as required.				
a	2 Pair	350	Meter		
3	Supplying and fixing following modular switch/ socket on the existing modular plate and switch box including connections but excluding plate etc. .as required.				
a	Telephone socket outlet	22	Each		
b	Data outlet one module for Data Points (RJ-45 with IO Box incl. Keystone and faceplate)	278	Each		

MCGS Senior House 1 – INTERNAL ELECTRICAL WORK					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4	Supplying and fixing of the following sheet steel clad wall / recess mounting telephone tag blocks of krone make constructed from 14 SWG sheet steel finished with red oxide coating of two coats of paint with hinged gasketed powder coated door and complete.				
a	10 pairs	2	Each		
b	50 pairs	1	Each		
5	Supplying and drawing of UTP 4 pair CAT 6A LAN Cable in the existing surface/ recessed steel/ PVC conduit as required with ferrules.				
	1 Run of cable	6800	Mtr		
6	Providing and fixing of patch cords 1mtr length complete as required.	278	Each		
7	Supply , Installation , Testing and commissioning of following wall mounted rack with front sheet steel glass door, top & bottom cover with cable entry provision, fans , 2 cable managers , stationary shelf , 2 Nos of hardware pkts complete as required.				
a	9 U	3	Each		
b	15 U	1	Each		
8	Supply , Installation , Testing and commissioning of loaded jack/patch panels for LAN cable termination complete as required.				
a	08 Port	2	Each		
b	24 Port	4	Each		
c	48 Port	4	Each		
9	Supply, Installation, Testing and Commissioning of armoured 48 core single-mode OFC cable for inter floor switches connectivity	100	Meter		
10	Supply , Installation , Testing and Commissioning of 24 port loaded LIU for with LC adaptor plates , pigtail cables for core switch to access switch connectivity over fibre.	3	Each		
SUB-HEAD TOTAL:- Rs.					
SUB-HEAD XI:- EXTERNAL LIGHTS					
1	SITC of 4M (1m in & 3m out) MS Poles as per IS-1161 with latest amendment complete with 200x200x12mm MS base plate including PU paint after chemical treatment and CKT marking as per drawing. The pole to be erected on cement concrete foundation of 1:2:4 with collar including 16A DP MCB & Busbar & excavation in all type of soil as required.	4	Each		

MCGS Senior House 1 – INTERNAL ELECTRICAL WORK					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
2	SITC of 25 Watt LED Post Top street light made of Pressure Die Cast aluminium housing with metal PCB. UV stablized Polycarbonate diffuser. LED and Gear compartment separated through 360 degree air draught system for thermal management & sealed using pressure locks to achieve IP66. Bottom openable Hinge-able driver cover for ease of maintenance. PDC Aluminium housing finely powder coated in silver grey color. Silicon potted LED Driver to reduce impact of temperature, voltage, and current rise, with PF >0.95. Fixtures should be certified for $\geq 70\%$ lumen maintenance till 50,000 burning hours of usage. LED's should be certified safe through compliance to IS 16108:2012. Fixture should be certified to give ≥ 100 lumens per Watt .CRI ≥ 70 . CCT should be 5700 Kelvin. THD $\leq 5\%$.	4	Each		
3	SITC 15 Watt LED Up-down light made of Pressure Die Cast aluminium housing. sealed to achieve IP65. PDC Aluminium housing finely powder coated in black color. Silicon potted LED Driver to reduce impact of temperature, voltage, and current rise, with PF >0.95. CCT should be as per architects choice.	5	Each		
4	SITC of LED Uplighter 3 W, complete including supply, wiring and connection .PVC insulated stranded copper conductor and for earthing complete as required.	5	Each		
5	SITC of 7.2 W/ Mtr. IP 67 rated flexible outdoor LED strip CRI>80 along with linear channel.	25	Meter		
	SUB-HEAD TOTAL:- Rs.				
	FIRE ALARM (CONVENTIONAL)				
1	SITC of sector panel suitable for following zones, complete with visual indication for short circuit fault, open circuit fault, fire condition and all other standard facilities as per IS:2189 with mimic diagram for all area / zone covered, complete with all connections interconnections as required.				
	4 Zone	1	Each		
2	SITC of manual call box of MS construction in surface / recess with stainless steel chain and hammer assembly complete with glass and push button etc. as required.	12	Each		
3	SITC of fire alarm sounder with facility to make announcements mounted in MS box (16 SWG) with hinged cover plate and suitable for operation with amplifier i/c line matching transformer etc. complete as required.	12	Each		
4	Supplying & laying of 2x1.5 sq mm fire alarm armoured cable, 600/1000V rated with annealed copper conductor having XLPE insulation, steel wire armouring & FRLS outer sheath complete as required.	150	Mtr		
	SUB-HEAD TOTAL:- Rs.				

MCGS Senior House 1 – INTERNAL ELECTRICAL WORK					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
SUMMARY FOR ELECTRICAL WORKS					
	DESCRIPTION				
	SUB-HEAD I: INTERNAL WIRING				
	SUB-HEAD II:- DISTRIBUTION BOARDS & PANEL				
	SUB-HEAD III:- LIGHT FIXTURE & FAN				
	SUB-HEAD IV:- EARTHING				
	SUB-HEAD V:- FIRE ALARM & PA				
	SUB-HEAD VI:- CCTV				
	SUB-HEAD VII:- TELEPHONE & DATA				
	SUB-HEAD XI:- EXTERNAL LIGHTS				
	SUB-HEAD XII:- FIRE ALARM				
	GRAND TOTAL				
NOTE : HVAC Points, MAIN PANELS & LT CABLES NOT PART OF THIS BOQ					

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUB HEAD 1: SANITARY FIXTURES & FITTINGS				
	NOTE: In case of owner supplied items following items will be supplied by the client: a) All Sanitary fixtures like water closets, wash basins, urinals etc. brackets for fixing sanitary fixtures, all CP fittings like taps, mixers,health faucets etc. Cement, sand, aggregate, Reinforcement bars (if required), bricks.				
1.1	Providing & fixing glazed vitreous china single trap syphonic pattern having back/floor inlet, floor mounted coupled water closet with cistern complete with all internal fittings/accessories (European type) water closet with seat and lid, adapter, rubber joints fixed to W.C., including cutting and making good the walls and floors wherever required and HDPE wc pan connector including jointing with white cement complete in all respects.				
1.1.1	Floor Mounted W.C. (White colour) with white plastic seat & lid Thermoset moulded (bakelite) IS 2548 Part I				
1.1.1.1	For installation, testing & commissioning of sanitary fixtures as per above details	74	Each		
1.1.1.2	For supply of sanitary fixtures as per above details.	74	Each		
1.2	Providing & fixing glazed vitreous china wash basin with R.S. or C.I. brackets painted white, 32mm C.P. brass waste of standard pattern, 32 mm dia. C.P. brass bottle trap(Jaquar model no ALD 769L) and union 32 mm dia C.P. pipes to wall flange. complete including cutting and making good the walls wherever required.				
1.2.1	Undercounter wash basin (White colour) of size: 585x430 mm.				
1.2.1.1	For installation, testing & commissioning of sanitary fixtures as per above details	77	Each		
1.2.1.2	For supply of sanitary fixtures as per above details	77	Each		
1.2.3	Flat back wash basin (white colour)of size: 450x325 mm.				
1.2.3.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		
1.2.3.2	For supply of sanitary fixtures as per above details	R.O.	Each		
1.3	Providing & fixing 15mm C.P. brass single hole basin mixer without popup waste system with 450mm long copper pipes and brass nuts.				
1.3.1	For installation, testing & commissioning of sanitary fixtures as per above details	77	Each		
1.3.2	For supply of sanitary fixtures as per above details	77	Each		
1.4	Providing & fixing vitreous chinaware urinal comprising Large flat back wall hung urinal in glazed vitreous China new magnum urinal. 15 mm electrically operated solenoid valve with infra red sensor mounted in a box with SS Cover. CP brass chromium plated flush piping from valve to urinal terminated with a 15 mm screwed spreader 32 mm nominal bore CP cast brass waste 32 mm nominal bore CP cast bottle trap with extension pipe rubber adopter for waste connection				
1.4.1	For installation, testing & commissioning of sanitary fixtures as per above details.	R.O.	Each		
1.4.2	For supply of sanitary fixtures(white colour) as per above details.	R.O.	Each		
1.5	Providing & fixing urinal partition of Opaque acrylic solid surface size 680 x 300 mm complete with brackets bolts nuts for grouting to wall complete in all respects.				
1.5.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		
1.5.2	For supply of sanitary fixtures as per above details	R.O.	Each		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.6	Providing & fixing stainless steel sink R.S. or C.I. brackets painted, 40mm C.P. waste, C.P. brass chain and rubber plug, 40mm C.P. cast brass bottle with necessary union complete including cutting and making good the walls wherever required				
1.6.1	Stainless steel sink single bowl with drain board approved make.				
1.6.1.1	For installation, testing & commissioning of sanitary fixtures as per above details	9	Each		
1.6.1.2	For supply of sanitary fixtures as per above details	9	Each		
1.6.2	Stainless steel sink double bowl with single drain board approved make.				
1.6.2.1	For installation, testing & commissioning of sanitary fixtures as per above details	1	Each		
1.6.2.2	For supply of sanitary fixtures as per above details	1	Each		
1.7	Providing & fixing Sink Mixer with Swinging Casted Spout (Table Mounted Model) with 450mm long Copper Pipes & Braqss Nuts.				
1.7.1	For installation, testing & commissioning of sanitary fixtures as per above details	10	Each		
1.7.2	For supply of sanitary fixtures as per above details	10	Each		
1.8	Providing & fixing 15 mm dia C.P. brass angle valves with 450mm long C.P. Copper connecting pipe union nut C.P. cast brass wall flange.				
1.8.1	For installation, testing & commissioning of sanitary fixtures as per above details	250	Each		
1.8.2	For supply of sanitary fixtures as per above details	250	Each		
1.9	Providing & fixing toilet paper holder including cutting and making good the walls.				
1.9.1	For installation, testing & commissioning of sanitary fixtures as per above details	74	Each		
1.9.2	For supply of sanitary fixtures as per above details	74	Each		
1.10	Providing & fixing Towel ring with brackets fixed to wooden cleats with C.P. brass screws.				
1.10.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		
1.10.2	For supply of sanitary fixtures as per above details	R.O.	Each		
1.11	Providing & fixing liquid soap dispenser with stainless steel lid and brackets fixed to wooden cleats with C.P. brass screws.				
1.11.1	For installation, testing & commissioning of sanitary fixtures as per above details	4	Each		
1.11.2	For supply of sanitary fixtures as per above details	4	Each		
1.12	Providing & fixing C.P. brass twin coat hooks fixed on toilet door with C.P. brass screws.				
1.12.1	For installation, testing & commissioning of sanitary fixtures as per above details	122	Each		
1.12.2	For supply of sanitary fixtures as per above details	122	Each		
1.14	Providing & fixing beveled edge mirror 5.5mm thick of superior quality plate glass complete with 6mm thick marine ply sheet ground fixed to wooden cleats with CP brass screws and washerswith 40 mm wide teak wood frame as per design including polishing.				
1.14.1	For installation, testing & commissioning of sanitary fixtures as per above details	80	Sqm		
1.14.2	For supply of sanitary fixtures as per above details	80	Sqm		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.14	Providing & fixing Health Faucet with 8mm dia, 1M long PVC tube and wall hook.				
1.15.1	For installation, testing & commissioning of sanitary fixtures as per above details	74	Each		
1.15.2	For supply of sanitary fixtures as per above details	74	Each		
1.16	Providing & fixing stainless steel fully automatic "No Touch" hand drier suitable to operate on 220 volts, single phase 50 hz., A.C. power supply.				
1.16.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		
1.16.2	For supply of sanitary fixtures as per above details	R.O.	Each		
1.17	Providing & fixing stainless steel paper towel dispenser.				
1.17.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		
1.17.2	For supply of sanitary fixtures as per above details	R.O.	Each		
1.18	Providing & fixing, testing and commissioning of storage type electric water heater with automatic thermostatic control electric element, pressure release valve, brackets fixed to expansion fasteners with M.S. nuts and bolts all complete including cutting and making good the walls wherever required.				
1.18.1	25 litres capacity (AO Smith model no Elena vertical 2kw rating)				
1.18.1.1	For installation, testing & commissioning of sanitary fixtures as per above details	7	Each		
1.18.1.2	For supply of sanitary fixtures as per above details	7	Each		
1.19	Providing & fixing below counter installation type Drinking Water R.O. unit with micron filtration pre-treatment unit, skid mounted R.O. module with pressure pump and pressure tank, 6 m long food grade PP permeate line including connection to drinking water cooler, Coffee machine, complete in all respects.				
1.19.1	Permeate 25 ltr/hr, Make Pentair/Fontus/Kent R.O.				
1.19.1.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		
1.19.1.2	For supply of sanitary fixtures as per above details	R.O.	Each		
1.20	Providing & fixing wall mounted 35 mm dia. Galvanised powder coated grab bar including cutting & making good the walls.				
1.20.1	For installation, testing & commissioning of sanitary fixtures as per above details.	2	Each		
1.20.2	For supply of sanitary fixtures as per above details.	2	Each		
1.21	Providing & fixing 15 mm dia C.P. brass bib cock with Hose union of approved quality.				
1.21.1	For installation, testing & commissioning of sanitary fixtures as per above details.	8	Each		
1.21.2	For supply of sanitary fixtures as per above details.	8	Each		
1.22	Providing & fixing 15 mm dia C.P. brass bib cock with C.P. wall flange of approved quality.				
1.22.1	For installation, testing & commissioning of sanitary fixtures as per above details.	8	Each		
1.22.2	For supply of sanitary fixtures as per above details.	8	Each		
1.23	Providing & fixing 15mm C.P. brass single pillar tap for basin with 450mm long copper pipes and brass nut - Make: Jaquar; Model :continental range				
1.23.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.23.2	For supply of sanitary fixtures as per above details.	R.O.	Each		
1.24	Providing & fixing white vitreous china orissa pan water closet(size 580x440mm) with 100mm dia cast iron P or S trap,10lts cap- low level white glazed vitreous china flushing cistern complete with all internal fittings/ accessories,C.I. Brackets,32mm dia flush pipe with fittings and clamps,20mm dia overflow pipe including cutting & making good the walls, floors.				
1.24.1	For installation, testing & commissioning of sanitary fixtures as per above details.	R.O.	Each		
1.24.2	For supply of sanitary fixtures(White colour) as per above details.	R.O.	Each		
1.25	Providing & fixing 15mm C.P. brass push tap for basin with 450mm long copper pipes and brass nuts.				
1.25.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		
1.25.2	For supply of sanitary fixtures as per above details.	R.O.	Each		
1.26	Providing & fixing 15mm C.P. brass sink spout(single) complete with all accessories.				
1.26.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		
1.26.2	For supply of sanitary fixtures as per above details.	R.O.	Each		
1.27	Providing & fixing C.P. towel rail 450mm long complete with all accessories.				
1.27.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		
1.27.2	For supply of sanitary fixtures as per above details.	R.O.	Each		
1.28	Providing & fixing C.P. brass shower assembly consisting of WALL MIXER WITH PROVISION FOR OVERHEAD SHOWER WITH LONG BEND PIPE and wall flange for bath & shower, 1 no. bath spout, shower arm, wall flanges and shower rose complete.				
1.28.1	For installation, testing & commissioning of sanitary fixtures as per above details.	70	Each		
1.28.2	For supply of sanitary fixtures as per above details.	70	Each		
1.29	Providing & fixing C.P. towel rack complete with all accessories.				
1.29.1	For installation, testing & commissioning of sanitary fixtures as per above details	70	Each		
1.29.2	For supply of sanitary fixtures as per above details.	70	Each		
1.30	Providing, fixing, testing, commissioning, receiving, storing, handling, shifting of sensor based automatic battery operated water tap for wash basin with solenoid valve at inlet, Doppler based sensor, control box complete with all flexible pipes & accessories.				
1.30.1	For installation, testing & commissioning of sanitary fixtures as per above details	R.O.	Each		
1.30.2	For supply of sanitary fixtures as per above details.	R.O.	Each		
	NOTE:-				
	i. Detail of Sanitary fixture are for the information of the Contractor,however model/makes of all sanitary fixtures shall be selected by Architect/Interior designer/Project manager and the same shall be binding for execution.				
	ii. No additional fixing cost shall be paid for change in type of sanitary fixtures.				

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
iii.	Contractor to receive all the above mentioned items & store at place as directed at site in case supply is by Client .				
	TOTAL CARRIED OVER TO SUMMARY				
	SUB HEAD 2: WATER SUPPLY				
2.1	Providing and fixing Pexfit Pro Fosta-Rohr (Coil) pipes Make- Viega Sanpress Inox confirming to EN 10312 Material No.1.4401(X5 CrNiMo 17-12-2) with 2.3% Mo(Viega pex), complete with Press Type fittings Make - Viega Sanpress Inox Material No.1.4408 suitable for doubly secure pressing (two pressings simultaneously–one in front of the crimp and one behind it) for torsion proof and longitudinally force-locked connection with Black; EPDM Sealing Element with SC-Contur in accordance with DVGW regulation W534, DW 8501 BL 0551, DW 8511 BQ 0245) for Hot and Cold water supply capable to withstand temperature up to 110 degree centigrade and working pressure 16 bar, such as sockets, bends, elbows, tees, reducers, unions, Flanges etc. necessary adapters for GI/Copper and CP fittings. Clamps with hanger at a spacing as required, jointing, sundries, cutting holes in walls / floors / slabs & making good complete. Inside toilets.-Viega make. For cold water supply pipes.				
	a) 16mm -Viega make.	30	RM		
	b) 20mm- Viega make.	1100	RM		
	c) 25mm- Viega make	320	RM		
	d) 32mm- Viega make	280	RM		
2.2	Providing and fixing Pexfit Pro Fosta-Rohr (Coil) pipes Make- Viega Sanpress Inox confirming to EN 10312 Material No.1.4401(X5 CrNiMo 17-12-2) with 2.3% Mo(Viega pex), complete with Press Type fittings Make - Viega Sanpress Inox Material No.1.4408 suitable for doubly secure pressing (two pressings simultaneously–one in front of the crimp and one behind it) for torsion proof and longitudinally force-locked connection with Black; EPDM Sealing Element with SC-Contur in accordance with DVGW regulation W534, DW 8501 BL 0551, DW 8511 BQ 0245) for Hot and Cold water supply capable to withstand temperature up to 110 degree centigrade and working pressure 16 bar, such as sockets, bends, elbows, tees, reducers, unions, Flanges etc. necessary adapters for GI/Copper and CP fittings. Clamps with hanger at a spacing as required, jointing, sundries, cutting holes in walls / floors / slabs & making good complete. Inside toilets.-Viega make. For hot water supply & return pipes.				
	a) 16mm- Viega make	30	RM		
	b) 20mm- Viega make	980	RM		
	c) 25mm- Viega make	200	RM		
	d) 32mm- Viega make	280	RM		
2.3	Providing and fixing Chlorinated polyvinyl Chloride (CPVC) pipes-SDR-11,having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in charge,fixing at wall/ceiling level supported by clamps, hangers, structural steel supports, etc. Cost shall include making connections with G.I. pipes & fittings. For cold water supply pipes.				
	a) 15 mm outer dia	R.O.	RM		
	b) 20 mm outer dia	130	RM		
	c) 25 mm outer dia	180	RM		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	d) 32 mm outer dia	280	RM		
	e) 40 mm outer dia	130	RM		
	f) 50 mm outer dia	340	RM		
	g) 65mm inner dia-sch 40 with sch 80 fittings	320	RM		
	h) 80 mm inner dia-sch 40 with sch 80 fittings	230	RM		
	i) 100 mm inner dia-sch 40 with sch 80 fittings	20	RM		
2.4	Providing and fixing Chlorinated polyvinyl Chloride (CPVC) pipes-SDR-11,having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in charge,fixing at wall/ceiling level supported by clamps, hangers, structural steel supports, etc. Cost shall include making connections with G.I. pipes & fittings. For hot water supply & return exposed pipes.				
	a) 15 mm outer dia	R.O.	RM		
	b) 20 mm outer dia	180	RM		
	c) 25 mm outer dia	220	RM		
	d) 32 mm outer dia	120	RM		
	e) 40 mm outer dia	230	RM		
	f) 50 mm outer dia	70	RM		
	g) 65mm inner dia-sch 40 with sch 80 fittings	240	RM		
	h) 80 mm inner dia-sch 40 with sch 80 fittings	20	RM		
2.5	Providing and fixing Chlorinated polyvinyl Chloride (CPVC) pipes-SDR-11,having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in charge. Cost shall include excavation in all kind of soil, dewatering, refilling, watering, ramming & removing the surplus excavated material and making good the same complete as required. For pipes buried in ground.				
	a) 20 mm outer dia	10	RM		
	b) 25 mm outer dia	10	RM		
	c) 32 mm outer dia	R.O.	RM		
	d) 40 mm dia	20	RM		
	e) 50 mm dia	20	RM		
	f) 62.5 mm inner dia-sch 40 with sch 80 fittings	R.O.	RM		
2.6	Providing, fixing, jointing and testing in position the following heavy class C G.I. pipes conforming to IS:1239 cut to required lengths including all necessary fittings and specials such as bends, tees, unions, reducers, flanges & plugs etc. fixing at wall/ceiling level supported by clamps, hangers, structural steel supports(hot dip galvanised), etc. Threading, jointing, and making proper connections, cutting hole in wall/floor/slab and making good the same good with cement concrete 1:2:4, complete as required. All pipes buried in ground shall be protected by wrapping 4mm thick pypkote protection with proper overlap on joints and 100mm thick fine sand around these pipes including excavation in all kind of soil, dewatering, refilling, watering, ramming & removing the surplus excavated material and making good the same complete as required.(for drainage sump pumps).				
	a) 50 mm dia	R.O.	RM		
	b) 65 mm dia	R.O.	RM		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	c) 80 mm dia	R.O.	RM		
2.7	Providing two coats of Synthetic enamel paint of approved shade as per pipe colour code with direction of flow, over a coat of primer. Including painting of legends with direction of arrow as per the approval of the Architects / Consultants.				
	a) 50 mm dia	R.O.	RM		
	b) 65 mm dia	R.O.	RM		
	c) 80 mm dia	R.O.	RM		
2.8	Providing & fixing gun metal lever operated ball valve. Tested to a pressure of 15 Kg / Sqcm. Including flanges/union, nuts, bolts, washer etc. Complete as required.				
	a) 15 mm dia	8	NOS		
	b) 20 mm dia	230	NOS		
	c) 25 mm dia	32	NOS		
	d) 32 mm dia	26	NOS		
	e) 40 mm dia	25	NOS		
	f) 50 mm dia	22	NOS		
2.9	Providing & fixing gunmetal non return valve including all accessories suitable for working pressure of 15 Kg/sqcm of the following sizes:				
	a) 32mm dia	R.O.	NOS		
	b) 50mm dia	6	NOS		
	c) 65 mm dia	2	NOS		
	d) 80 mm dia	R.O.	NOS		
	e) 100 mm dia	R.O.	NOS		
2.10	Providing and fixing M.S. puddle flanges fabricated out of 6 mm thick M.S. plate of size 200 x 200mm plus dia of pipe of 600 mm long pipe pieces to R.C.C. water tanks / R.C.C. walls. The entire fitting shall be hot dipped galvanised.				
	a) 25 mm dia	R.O.	NOS		
	b) 32 mm dia	R.O.	NOS		
	c) 40 mm dia	R.O.	NOS		
	d) 50 mm dia	R.O.	NOS		
	e) 65 mm dia	R.O.	NOS		
	f) 80 mm dia	R.O.	NOS		
	g) 100 mm dia	R.O.	NOS		
2.11	Providing and fixing in position of approved quality G.M. float valve with copper ball float and brass rods of required length suitable for working pressure of 5 Kg/sqcm of the following sizes:				
	a) 32 mm dia	1	NO		
	b) 40 mm dia	1	NO		
	c) 50 mm dia	1	NO		
2.22	Constructing brick masonry chamber (for housing valves, Meters etc.) of brick work with bricks of class designation 75 in cement mortar 1 : 5 (1 cement:5 fine sand) plastering internal face with cement mortar 1 : 3 (1 cement: 3 fine sand and rough plaster on outer face with a floating coat of neat cement. R.C.C top slab with heavy duty SFRC manhole cover and frame of 600 mm dia. Including excavation, dewatering, refilling, watering, ramming and removing the surplus excavated material complete as required. (All sizes are clear internal sizes).				
	a) Size 600 x 600 x 900 mm deep	1	NO.		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
2.13	Making connection from Existing Water Supply line including necessary excavation & making good the same including cutting, boring and tapping the Existing line by providing and installing ferrule / Tee connections with necessary fittings as required and making good the same. The rate for this item also includes complete services from the contractor for liasoning works such as filing necessary applications submission of forms for approval to the municipal of the authorities depositing the fees other amounts as required getting the premises / installations, inspected and approved and all other formalities required till the water connection is obtained. All the expenses incurred in authorities, following up this regard shall be borne by the Contractor except for the payments to be made for any security deposit etc. which will be reimbursed on production of original voucher.	1	JOB		
2.14	Supplying, installing, testing and commissioning of triple layer HDPE water storage tank including holes for inlet, outlet, overflow level indicator drain and vent points, manhole cover suitable supporting structure complete.				
	a) Capacity 5000 Lts.	6	SET		
2.15	Providing and fixing electronic type level indicator for water tank mounted in panel with level display, alarm when water level is low or high, full range from one level to four level display and manual reset for alarm etc. with electrical wiring conduit supports from wall & ceiling probs and all other accessories complete as required.	2	NOS.		
2.16	Providing & fixing 6mm thick nitril rubber insulation on hot water pipes-15 to 25 mm dia pipes buried inside walls.				
	a) 16mm	30	RM		
	b) 20mm	980	RM		
	c) 25mm	200	RM		
	d) 32mm	280	RM		
2.17	Providing & fixing 12mm thick nitril rubber insulation on hot water pipes-15 to 80 mm dia exposed pipes.				
	a) 16 mm outer dia	R.O.	RM		
	b) 20 mm outer dia	180	RM		
	c) 25 mm outer dia	220	RM		
	d) 32 mm outer dia	120	RM		
	e) 40 mm outer dia	230	RM		
	f) 50 mm outer dia	70	RM		
	g) 65mm inner dia-sch 40 with sch 80 fittings	240	RM		
	h) 80 mm inner dia-sch 40 with sch 80 fittings	20	RM		
2.18	Providing and fixing 24 SWG Al. sheet metal cladding over pipe insulation, 50mm overlapped and hold the same with self-tapping screws and all joints to be sealed with sealant (tar felt strip) complete as required.				
	a) 15 mm dia pipe --- SP insulation 25 mm thick	R.O.	RM		
	b) 20 mm dia pipe --- SP insulation 25 mm thick	180	RM		
	c) 25 mm dia pipe --- SP insulation 25 mm thick	220	RM		
	d) 32 mm dia pipe --- SP insulation 25 mm thick	120	RM		
	e) 40 mm dia pipe --- SP insulation 25 mm thick	230	RM		
	f) 50 mm dia pipe --- SP insulation 25 mm thick	70	RM		
	g) 65 mm dia pipe --- SP insulation 25 mm thick	240	RM		
	h) 80 mm dia pipe --- SP insulation 25 mm thick	20	RM		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
SUB HEAD 3:INTERNAL DRAINAGE (SOIL, WASTE & VENT PIPES)					
3.1	Providing, fixing, jointing and testing in position of ISI marked UV stabilized UPVC pipes for soil, waste and vent, Type-B as per IS : 13592 suitable for rubber ring joints, including all necessary specials and fittings (confirming to IS:14735) i.e. bends, tees, junctions (with or without doors), reducers, WC connectors, couplers, cowls, clamps, rubber rings, clean outs ,access pieces at ends of main pipes (for roding) etc. fixing at wall/ ceiling/ floor level supported by clamp, hangers & structural steel supports etc. in concealed / inside duct / under floor & basement ceiling / external work etc. including chase cutting as required, excavation and back filling in all kind of soils, suspended from floor under false ceiling or embedding the pipes laid under floors / building in 75 mm. alround 1:2:4 cement concrete (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including cost of shuttering for proper completion of the work, breaking and making good the walls and floors etc. after pipes have been duly laid and tested. The rubber ring shall confirm to IS:5382.				
	The Pipes will be supported with threaded G I rods & clamps on 50x50x5 mm slotted angle. The cost will include all support arrangements. The work includes commissioning of all pipes lines as per drawings and specifications and as directed by engg-in-charge at site.				
	a) 75 mm outer dia	30	RM		
	b) 110 mm outer dia	980	RM		
	c) 160 mm outer dia	20	RM		
3.2	Providing and laying 1:2:4 cement conc. 100 mm thick all round the pipe including 100mm thick bed concrete for the following M.S./C.I./C.I. class L.A./UPVC pipes and specials below floor including necessary shuttering etc. complete as required.				
	a) 75 mm dia pipe	20	RM		
	b) 100 mm dia pipe	650	RM		
	c) 150 mm dia pipe	20	RM		
3.3	Providing, fixing, jointing and testing in position ISI marked (IS:4985) UPVC pipes of min 6 Kg/ Sqcm rating with fitting for waste pipe from fixtures to floor trap including reduces, enlarger, socket, couplers, bends, tees etc including fixing at wall/ ceiling level supported by clamp & hangers etc. cutting holes in wall/ floors/ slabs and making good the same with cement concrete 1:2:4 complete as required.				
	a) 40 mm outer dia	230	RM		
	b) 50 mm outer dia	270	RM		
	c) 63 mm outer dia	30	RM		
3.4	Providing & fixing UPVC Floor trap of self cleansing design with CP Jali complete in all respects. (Make : Supreme / Finolex / Prince).Multi trap connection to be provided with each floor trap.				
	a) 100 mm inlet and 100 mm outlet.	110	NOS		
	b) 100 mm inlet and 75 mm outlet.	5	NO		
3.5	Providing & fixing 100m x 50mm PVC waste including cutting chases, the floor / slab complete as required.	110	NOS		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
3.6	Providing and fixing in position G.I. pipe and fittings of heavy class'C' conforming to IS:1239 (for waste pipe from bottle trap to floor trap & vent pipe) Including fixing at wall / ceiling level supported by clamps and hangers etc. Cutting holes in wall/floors/slabs, cutting chases and making good the same with cement concrete 1:2:4 complete as required.				
	a) 32 mm dia	R.O.	RM		
	b) 40 mm dia	R.O.	RM		
	c) 50 mm dia	R.O.	RM		
3.7	Providing and fixing PVC clean out plug with suitable inlet key for opening male threaded joint with pipe & socket complete as required.				
	a) 100 mm dia	6	NOS		
3.8	Providing & fixing rain water Khurras of required depth with lead flashing around the pipe with one piece lead sheet of 3 mm thick set on a layer of cold bitumen. Including Heavy duty CI/MS grating as per drawing complete as required.				
	a. Khurras' size 300x300 mm with 150dia leaf strainer	4	NOS		
	b. 'Khurras' size 450x450 mm.250dia CI grating	16	NOS		
3.9	Providing, fixing, jointing and testing in position of ISI marked UV stabilized UPVC pipes for rain water Type-B as per IS : 13592 suitable for rubber ring joints, including all necessary specials and fittings (confirming to IS:14735) i.e. bends, tees, junctions (with or without doors), reducers, WC connectors, couplers, cowels, clamps, rubber rings, clean outs etc. fixing at wall/ ceiling/ floor level supported by clamp & hangers etc. in concealed / inside duct / under floor & basement ceiling / external work etc. including chase cutting as required, excavation and back filling in all kind of soils, suspended from floor under false ceiling or embedding the pipes laid under floors / building in 75 mm. around 1:2:4 cement concrete (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including cost of shuttering for proper completion of the work, breaking and making good the walls and floors etc. after pipes have been duly laid and tested. The rubber ring shall confirm to IS:5382.				
	The Pipes will be supported with threaded G I rods & clamps on 50x50x5 mm slotted angle. The cost will include all support arrangements. The work includes commissioning of all pipes lines as per drawings and specifications and as directed by engg-in-charge at site.				
	a) 75 mm outer dia	5	RM		
	b) 110 mm outer dia	15	RM		
	c) 160 mm outer dia	200	RM		
	TOTAL CARRIED TO SUMMARY				
	SUBHEAD 4: EXTERNAL SEWAGE & STORM WATER DRAINAGE				
4.1	Providing fixing, jointing and testing in position the following DWC SN8 pipes conforming to IS: 16098-Part II for drainage cut to required lengths including all necessary fittings and specials such as bends, junctions, offsets, making proper connections. Pipe to be laid below ground level in trenches upto required depth including excavation in all kind of soil, dewatering, refilling, watering, ramming & removing the surplus excavated material and making good the same complete as required. For external sewage.				
	a) 110 mm dia	R.O.	RM		
	b) 160 mm dia	20	RM		
	c) 200 mm dia	270	RM		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	d) 250 mm dia	15	RM		
	e) 300 mm dia	R.O.	RM		
4.2	Providing and laying 150 mm thick cement concrete 1:4:8 (1 cement:4 fine sand:8 graded stone aggregate 40mm nominal size) around pipes including 150 mm thick bed concrete as per standard design.For external sewer.				
	a) 100 mm dia pipe	R.O.	RM		
	b) 150 mm dia pipe	20	RM		
	c) 200 mm dia pipe	270	RM		
	d) 250 mm dia pipe	15	RM		
	e) 300 mm dia	R.O.	RM		
4.3	Providing fixing, jointing and testing in position the following DWC SN8 pipes conforming to IS: 16098-Part II for drainage cut to required lengths including all necessary fittings and specials such as bends, junctions, offsets, making proper connections. Pipe to be laid below ground level in trenches upto required depth including excavation in all kind of soil, dewatering, refilling, watering, ramming & removing the surplus excavated material and making good the same complete as required. For external storm water drainage.				
	a) 110 mm dia	R.O.	RM		
	b) 160 mm dia	40	RM		
	c) 200 mm dia	320	RM		
	d) 250 mm dia	50	RM		
	e) 300 mm dia	20	RM		
4.4	Providing and laying 150 mm thick cement concrete 1:4:8 (1 cement:4 fine sand:8 graded stone aggregate 40mm nominal size) around pipes including 150 mm thick bed concrete as per standard design.For external storm water.				
	a) 100 mm dia pipe	R.O.	RM		
	b) 150 mm dia pipe	40	RM		
	c) 200 mm dia pipe	320	RM		
	d) 250 mm dia pipe	50	RM		
	e) 300 mm dia	20	RM		
4.5	Providing, laying, jointing and testing socketed and spigotted RCC pipes (NP2 Class) conforming to IS:458 jointed with rubber rings & laid to correct levels below ground in trenches upto required depth including excavation in all kind of soil (hard rock) dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required.For external storm water drainage.				
	a) 150 mm dia	R.O.	RM		
	b) 250 mm dia	R.O.	RM		
	c) 300 mm dia	R.O.	RM		
4.6	Providing and fixing stoneware gully trap grade 'A' of the following sizes with C.I. grating embedded in brick masonry chamber of required size and trap to be set in cement concrete 1:2:4, both side 12mm thick plastering with floating cast of neatcement. Making necessary connections & providing water tight C.I. cover with frame. Including necessary excavation Including necessary excavation, dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required.				
	a) 180X150 mm outlet -chamber size 900x1200mm	18	NOS		
	b) 150X100 mm outlet -chamber size 450x450mm	R.O.	NOS		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4.7	Constructing brick masonry inspection chamber of the following sizes in brick work of class 75 in cement mortar 1:5 work in cement mortar 1:5 (1 cement:5 fine sand), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm. nominal size) foundation concrete 1:4:8 mix(1 cement:4 coarse sand:8 size).Inside plastering 12 mm thick with cement motor 1:3 (1 cement : 3 coarse sand) and rough plastering on outside with a floating coat of neat foot rests at 300 mm spacing, branching and making channels with 1:2:4 cement concrete neatly finished, including excavation, in all kind of soil (hard rock), dewatering, refilling, watering, ramming and removing the surplus excavated cement providing MS material making good the same complete as required.				
	a) Inside size 60x45 cm (upto 60 cm maximum depth).	4	NOS		
	b) Inside size 90x80 cm (upto 90 cm maximum depth).	12	NOS		
	c) Extra over 'b'above for depth exceeding 60 cm & upto 90 cm.	4	RM		
	d) Inside size 90x120 cm (91cm starting depth & 167 cm maximum depth).	8	NOS		
	e) Extra over 'd' above for depth exceeding 91 cm & upto 167 cm.	4	RM		
4.8	Constructing brick masonry circular manhole 1.22m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside cement plaster 12mm thick with cement mortar 1:3 (1 cement :3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 Cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 mix (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete all complete as per standard design:				
	1.68 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182kg., fixed in cement concrete 1:2:4 mix (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid separately)	1	NO		
4.9	Extra depth for circular type manhole 1.22 m internal dia (at bottom) with beyond 1.68 m to 2.29m	1	RM		
4.10	Providing & fixing cast iron manhole cover with frame.				
	a) Medium duty double seal of size 500mm internal diameter.Total weight of cover & frame to be not less than 116 Kg.	24	NOS		
	b) Heavy duty double seal of size 560mm internal diameter. Total weight of cover & frame to be not less than 208 Kg.	2	NOS		
4.11	Construction of catch basins of the following sizes in brick work with bricks of class 75 in cement mortar 1:5 (One cement, 5 fine sand) necessary foundation concrete (1:4:8). Inside plastering 12mm thick with cement Mortar 1:3 and rough plaster on outside with a floating coat of neat cement. Including the R.C.C. top slab for fixing the MS grating with frame. Including necessary excavation, dewatering, refilling, watering, ramming, removing, the surplus excavated material and making good the same complete as required.				
	a) Internal size 750x750x450 mm	2	NOS		
	b) Internal size 600x600x450 mm	12	NOS		
	c) Internal size 450x450x450 mm	15	NOS		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4.12	Providing & fixing SFRC heavy duty grating of size 550 x 500 mm with frame for catch basin of approved design.	15	NOS		
4.13	Providing & fixing SFRC heavy duty grating of size 650 x 650 mm with frame for catch basin of approved design.	12	NOS		
4.14	Providing & fixing SFRC heavy duty grating of size 850 x 850 mm with frame for catch basin of approved design.	2	NOS		
4.15	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910 on 12 mm dia steel bar conforming to IS : 1786 having minimum cross section as 23 mm X 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30 X 20 X 15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	160	NOS		
4.16	Providing and fixing over straight or curved drain M.S. grating with fixed frame of angle 60mm x 60mm x 6mm size fixed to concrete with 25mm x 3 mm hold fasts approx. 100 mm long welded at interval of 600 mm and welded cross braced at 1200 mm interval by 50 mm x 6 mm thick MS flats. The removable grating shall be made of with outer frame of size 600 mm long with M.S. angle 50mm x 50mm x 6mm having welded cross members on one direction with M.S. flats of size 44 mm x 6 mm at a spacing of 30 mm c/c. Including two of synthetic enamel paints over a coat of primer complete as required.				
	a) 200 mm wide	30	RM		
	b) 300 mm wide	30	RM		
4.17	Providing and fixing in position G.I. vent with brass mosquito proof coupling and air filter including return bend, complete as required. The entire fitting shall be hot dipped galvanised.				
	a) 80 mm dia	10	NOS		
4.18	Constructing open surface drain with first class bricks in cement mortar 1:4 (1 cement : 4 fine sand) including earth excavation, 100mm thick bed concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40mm nominal size) and 25mm thick cement concrete 1:2:4 (1 cement:2 fine sand: 4 graded stone aggregate 12.5mm nominal size), 12mm cement plaster 1:4 (1 cement 4 coarse sand) with a floating coat of neat cement inside the drain, its top & exposed sides including disposal of surplus earth as directed at site.				
	a) Size 300mm wide & 300mm average depth.	30	RM		
4.19	Providing, boring, lowering and fixing 200mm dia UPVC (Working pressure-6kg/sqcm) pipes with 3mm size slots upto 5m depth as per drawing & direction of engineer in charge complete in all respects. Cost shall include approval from Ground Water Authority.	R.O.	RM		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4.20	Making connection from Existing Municipal sewer/storm water manhole including necessary excavation & making good the same including all civil works. The rate for this item also includes complete services from the contractor for liasoning works such as filing necessary applications submission of forms for approval to the municipal authorities depositing the fees other amounts as required getting the premises / installations, inspected and approved and all other formalities required till the sewer connection is obtained. All the expenses incurred in authorities, following up this regard shall be borne by the Contractor except for the payments to be made for any security deposit etc. which will be reimbursed on production of original voucher.	1	JOB		
4.21	Constructing Oil & Grease Chamber size 2500x 750mm internal size of 1000mm depth in brick work of class 75 with cement mortar (1:5) Inside 12mm thick with cement mortar 1:3 with floating coat of neat cement and rough plaster on outside, RCC top slab with 500mm dia medium duty manhole cover with frame (weight of cover 58 kg. & weight of frame 58 kg.), 150mm thick foundation concrete (1 :4 : 8), necessary excavation, dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required.	R.O.	NOS		
4.22	Providing, laying, jointing and testing socketed and spigotted RCC pipes (NP3 Class) conforming to IS:458 jointed with rubber rings & laid to correct levels below ground in trenches upto required depth including excavation in all kind of soil (hard rock) dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required. These pipes to be provided at road crossings.				
	a) 150 mm dia	R.O.	RM		
	b) 250 mm dia	R.O.	RM		
	c) 300 mm dia	R.O.	RM		
4.23	Constructing RCC Rain water harvesting tank (size 5.0mx3.0m & 4.0 m depth) complete with all associated civil works like RCC walls,RCC top slab,foundation concrete, excavation in all kinds of soil, backfilling , disposal of surplus excavated earth complete as per detail drawing & authority.	2	NOS		
4.24	Providing & fixing in positon precast R.C.C. manhole cover and frame of required shape and approved quality.				
	a) Circular shape 500mm internal diameter Medium Duty .	8	NOS		
4.25	Supplying and filling in Rain water harvesting tank coarse sand 1.5 to 2.0mm including all associated works.	10	Cum		
4.26	Supplying and filling in Rain water harvesting tank stone boulders 50 - 200 mm size including all associated works complete.	10	Cum		
4.27	Supplying and filling in Rain water harvesting tank gravels 5 - 10 mm and down size including all associated works complete.	10	Cum		
4.28	Supply pea-gravel of approved quality in stacks and then packing the same into the annular space between the tubewell assembly and bore hole.	10	Cum		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4.29	Constructing desilting chamber Chamber size 2000x 1500mm internal size of 1000mm effective depth in brick work of first class in cement mortar (1:5) Inside 12mm thick with cement mortar 1:3 with floating coat of neat cement and rough plaster on outside, RCC top slab with 500mm dia medium duty manhole cover with frame (weight of cover 58 kg. & weight of frame 58 kg.), 150mm thick foundation concrete (1 :4 : 8), necessary excavation, dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required. -For rain water harvesting system.	2	NOS		
4.30	Constructing RCC Septic tank size 7500x 2500mm internal size of 1700mm effective depth,Inside 12mm thick with cement mortar 1:3 with floating coat of neat cement and rough plaster on outside, RCC top slab,baffle wall as per detail with 500mm dia medium duty double seal manhole cover with frame (weight of cover 58 kg. & weight of frame 58 kg.), foundation concrete , necessary excavation, dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required.All structural elements shall be as per structural drawing.	1	NO		
4.31	Constructing Soak pit size 4000mm dia & 2000mm effective depth, RCC top slab,baffle wall as per detail with 500mm dia medium duty double seal manhole cover with frame (weight of cover 58 kg. & weight of frame 58 kg.), foundation concrete , necessary excavation, dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required.All structural elements shall be as per structural drawing.	2	NOS		
TOTAL CARRIED TO SUMMARY					
SUB-HEAD 5 : PUMPS & EQUIPMENTS					
NOTE: In case of owner supplied items following items will be supplied by the client: a) Pumps with all accessories,Electrical control panel with all accessories, Cement, sand, aggregate, Reinforcement bars (if required), bricks etc..					
5.1	Supplying, installing, testing & commissioning vertical inline pumps with S.S. casing, S.S. impeller. mechanical seal, S.S. Shaft directly coupled to motor suitable for operation on 400/440 volts, 3 phase 2900 RPM. TEFC electronic motor mounted on a common channel baseplate 150mm dia pressure gauge, G.M. gauge, G.M. isolation cock. Location Plant Room at Terrace level.				
a)	Control panel with pressure switch, electrical wiring, cabling from panel to pumps, level controller complete with all accessories.				
b)	GI suction and discharge header with valves & vibration isolator below each pump.				
c)	Set of accessories such as Pressure Switches, Connecting Power & Control Cabling etc.				
	Hydro-pneumatic system for Domestic water supply system with 1 No. Precharged vessel of minimum capacity of 300 Lts(minimum) with interchangeable butyl rubber membrane connected to outlet header with necessary flanges, gaskets, isolation valves, nuts, bolts etc. complete.-For feeding Domestic water. Variable Speed.				
	Capacity 3 LPS each				
	Head 25 Mts.				
	RPM 2900				
	No. of pumps 2				

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Hydro-pneumatic system as described above				
	For supply,installation, testing & commissioning of item as per above details.	1	Set		
5.2	Supplying, installing, testing & commissioning of automatically operated Heat pumps for domestic water heating system having tank capacity of 440 Lts. with total electrical load on heat pump (double fan) 20.0 kW maximum input power with all associated controls/accessories. – Make AO Smith/Blue Box or reputed make. Location Plant Room at Terrace level.				
	For supply,installation, testing & commissioning of item as per above details.	4	Set		
5.3	Supplying, installing, testing and commissioning of MS tank-cap 3000 lts for hot water storage installed on 2 m high, Red oxide coated steel structural frame including access ladder. Tank shall be fabricated out of 6mm thick MS plates(flat part) & 8mm thick dished ends with two coat of red oxide on outside. Tanks shall include 450 mm dia manhole cover with flanged connection for inlet, outlet, overflow,drains, level indicator and level controller. Including insulation and Alum. sheet metal cladding.				
	For supply,installation, testing & commissioning of item as per above details.	2	Set		
5.4	Supplying, installing, testing and commissioning of hot water pumps complete in SS. Each pump shall have suitable T.E.F.C. electric motor with pressure gauge on delivery line with isolation cock, suitable vibration elimination pads of approved design, Wiring upto panel, earthing etc. complete. Each pump shall be suitable for automatic / manual operation. Location Plant Room at Terrace level.				
	a) Hot Water return pumps (2 nos-1 working,1 standby) Flow rate = 3 LPS Head = 65 M				
	For supply,installation, testing & commissioning of item as per above details.	2	Set		
	b) Hot Water recirculation pumps (2 nos-1 working,1 standby) Flow rate = 3 LPS Head = 20 M				
	For supply,installation, testing & commissioning of item as per above details.	2	Set		
5.5	Providing & fixing packaged Reverse Osmosis System skid mounted complete with pre and post water treatment plant, RO plant feed pumps(2nos.)CIP system, pipes (SS -High pressure, PVC- low Pressure) , dosing units,TDS meter, valves, control wiring, electrical panel, instrumentation input/output water quality monitoring meters/indicators, fully automated. -Location-Terrace level for kitchen only.				
	TDS of Input(raw) water assumed= 1000 ppm(appx).				
	Permeate flow rate 1000 LPH (TDS at output after blending will be below 50ppm).				
	Tubewell Water Test Report-to be obtained from site.				
	RO Plant as mentioned above				
	For supply,installation, testing & commissioning of item as per above details.	R.O.	Set		

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
5.6	Design, manufacture, supply, installation, testing and commissioning of the following integrated, cubicle type, dead front, extensible, sheet steel control panel anchoring the panel to the foundation. The panel shall be duly powder coated and suitable for 500 volts, 50 cycles, 4 wire supply. Quoted price shall include 25 mm thick rubber mats over 50mm thick wood platform, wiring, cabling cable tray, control wiring and copper earthing from control panel to various equipment like motor starters, pump motor, etc. The panel shall have separate compartments for bus bar and cable alleys. The following components and accessories shall be mounted within each control panel. (For hot water return pumps, hot water recirculation pumps, feeder to 2 nos heat pumps).				
a.	One No. Incoming incoming MCCB complete with the following:				
	i. Voltmeter with selector switch and fuses.				
	ii. Ammeter with CT's and selector switch.				
	iii. Over voltage and under voltage tripping mechanism for persistent voltage fluctuations of $\pm 10\%$ of the rated voltage for more than 5 minutes.				
	iv CT operated over current and earth fault relay (IDMT) with indicating lamps.				
	v. Phase indicating lamps with toggle switches.				
	vi. Indication lamps for ON/OFF/TRIP starters of motor.				
b.	Copper bus bar sleeves type, rated for three phase & neutral phase bus bar shall have maximum current density of 1 amps per sq.cm. and the neutral bus bar of not less than 50% capacity.				
	<u>OUTGOING:</u>				
c.	Outgoing feeders with starters with Single Phase Preventor and outgoing feeders hot water pump motor(4Nos.-2 working,2 standby-3hp each-appx.). The compartment shall contain CT operated ammeter with selector switch and an indicating lamp with fuse and toggle switch for 'ON'/ TRIP'status of motor.				
d.	Outgoing feeders with starters with Single Phase Preventor and outgoing feeders hot water recirculation pump motor (4 Nos.- 2 working, 2 standby – 2hp each - appx.). The compartment shall contain CT operated ammeter with selector switch and an indicating lamp with fuse and toggle switch for 'ON'/ TRIP' status of motor.				
e.	Outgoing feeders with starters with Single Phase Preventor and outgoing feeders to heat pumps – 4 nos.				
f.	Necessary cable alleys space for spare switches, internal wiring and copper earthing of all equipment shall also be included. All switch gears/control gears shall be motor duty rating.				
g.	All MCCB's to be suitable for motor duty				
h.	Dual KWH Meter - I No				
	For supply, installation, testing & commissioning of item as per above details.	1	Set		
	NOTE FOR ALL ELECTRICAL PANELS :				
	a)Contractor shall include in his rates for providing level controllers, switches, wiring, earthing for all pumps & equipments, cabling from level controller to panel etc. complete as required to operate the system automatic/manual and pump shall be protected against running dry.				
	b) Contractor should include the rate of all Electrical/Mechanical items complete with all accessories/fittings & controls as required to operate the system automatic/manual and pumps shall be protected against running dry including wiring, conduiting & all accessories complete as required.				

MCGS Senior House 1 – PLUMBING & SANITARY WORKS					
S.NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	c) Contractor to select suitable HP of pumps and specify catalogue no. and name of manufacturers.				
	d) Sequencing (cyclic operation) shall be provided for each set of pumps.				
5.7	Providing & fixing fully submersible sump pumps for dewatering with C.I casing & shaft suitable for operation on 400 / 440 V pH 50 cycle A/C power supply. Pumps shall have cyclic operations.				
a)	Sump Pumps (For Open area Drainage)				
	Location - Inside Drainage sump				
	Flow rate(each)-2 Lps				
	Head 9 Mts				
	RPM 2900				
	Solid handling-20mm(minimum)				
	No. of pump-2nos(1 working,1 standby)				
	Cost shall include electrical control panel with wiring/ cabelling,control cabelling,cable trays & all associated accessories to make the pumps operational as per requirement.				
	For supply,installation, testing & commissioning of item as per above details.	1	Set		
	TOTAL CARRIED TO SUMMARY				
	SUMMARY				
	Description				
1	SANITARY FIXTURES & FITTINGS				
2	WATER SUPPLY				
3	INTERNAL DRAINAGE (SOIL, WASTE & VENT PIPES)				
4	EXTERNAL SEWAGE & STORM WATER DRAINAGE				
5	PUMPS & EQUIPMENTS				
	Total				

MCGS Senior House 1 – FIRE FIGHTING WORK						Tender BoQ
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT	
SUB-HEAD-A (Fire Piping, Hydrants and Accessories)						
1	Providing, laying, jointing and testing of following sizes of pipes conforming to IS-1239 with all accessories like all fittings (upto 50mm dia threaded M.S. forged fittings and above 50 mm dia MS fittings with welded joints shall be used) fittings including tees, elbows, reducers, flanges, rubber gaskets, nuts bolts, washer. And fixing the pipe on floor / wall /ceiling with suitable size clamps, hangers, structural steel supports(for pipes 80mm dia & above) including cutting holes and chases in brick, R.C.C. work and making good the same to original conditions complete in all respects,arrows showing direction of flow to be marked(with paint of approved colour) on each pipe at locations as decided at site. All pipes & supports shall be provided with two coats of primer & paint of approved colour as per fire authorities.					
(a)	For Fire fighting System - M.S. `C' Heavy class pipe					
	a) 50 mm dia(4.5mm thickness)screwed joint	8	RM			
	b) 65 mm dia(4.5mm thickness)welded joint	5	RM			
	c) 80 mm dia(4.85mm thickness)welded joint	8	RM			
	d)100 mm dia(5.4mm thickness)welded joint	110	RM			
	e)150 mm dia(5.4mm thickness)welded joint	10	RM			
2	Providing two coats of synthetic enamel paint of approved shade over a coat of primer. Including painting of legends both direction arrow as per the approval of the architects / consultants.					
	a) 50 mm dia	8	RM			
	b) 65 mm dia	5	RM			
	c) 80 mm dia	8	RM			
	d)100 mm dia	110	RM			
	e)150 mm dia	10	RM			
3	Providing, laying, jointing and testing in trenches the following sizes of M.S. class `C' (heavy class) pipes conforming to IS:1239 with accessories like fittings including tees, elbows, reducers, flanges, rubber gaskets, G.I. nuts, bolts and washers and providing 150mm thick fine sand layer all around the pipe, including excavation in all kind of soil, refilling, ramming and removing the excavated surplus material and making good the same complete as required.					
	a) 80 mm dia(4.85mm thickness)	6	RM			
	b) 100 mm dia(5.4mm thickness)	6	RM			
4	Providing protection to embedded M.S pipes and fittings by wrapping 4mm thick pypkote protection including proper overlaps on joints.					
	a) 80 mm dia	6	RM			
	b) 100 mm dia	6	RM			
5	Providing and fixing gun metal ball valve suitable for pressure 15 Kg/Cm2 and conforming to IS: 778 of the following size including providing necessary union / flange.					

MCGS Senior House 1 – FIRE FIGHTING WORK					Tender BoQ
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	a) 50 mm dia	10	NOS.		
6	Providing & fixing of butterfly valve suitable for pressure 15 Kg/Sqcm. with flanges, nut bolts & gaskets complete required.				
	a) 65 mm dia	1	NO.		
	b) 80 mm dia	2	NOS		
	c) 100 mm dia	5	NOS		
	d) 150 mm dia	1	NO		
7	Providing and fixing of C.I. wafer type check valve suitable for pressure 15 Kg/Sqcm. with flanges, Nut, bolts & washers, painting etc. complete as required.				
	a) 80 mm dia	QR	NOS.		
	b) 100 mm dia	1	NO.		
	c) 150 mm dia	1	NO.		
8	Providing & fixing single acting air release valve with brass gate valve, flanges/ union, Suitable for sprinkler/ wet riser system with all necessary connections.				
	a. 25 mm dia	QR	NOS.		
9	Providing & fixing double flanged flexicon rubber expansion joint with unit control of standard length as per manufacturers specs. Tested to a pressure of 15Kg/Sqcm including rubber gaskets, flanges, nuts, bolts and washers complete as required.				
	a) 100 mm dia	1	NO.		
10	Providing and fixing C.I.'Y' strainer with bronze perforated sheet basket tested to a pressure of 15 Kg/sq cm including rubber gasket, flanges, nuts, bolts and washers, complete as required.				
	a) 150 mm dia	1	NO.		
11	Providing & fixing gun metal fire hydrant valve with 80 mm N.B. flanged inlet, brass spindle, one no. 63 mm dia female instantaneous outlet type. G.M. coupling, blank cap, chain. Conforming to IS:5290. Including tapping from wet riser complete as required.	9	NOS		
12	Providing & fixing swinging type First Aid hose reel in red colour with 36 mts long and 20 mm dia dia heavy duty rubber water hose, 20 mm dia globe valve stop cock, terminating with G.M. coupling & nozzle of 5mm outlet with shut off valve conforming to IS 8090 - 1976 complete with drum and brackets for fixing on wall, bolts & nuts conforming to IS:884-1969 complete as required.	8	NOS		

MCGS Senior House 1 – FIRE FIGHTING WORK						Tender BoQ
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT	
13	Providing and Fixing Hose pipe, 63 mm dia and 15 mts long, duly reinforced, rubber lined suitable for bursting pressure not less than 22 Kg/Sqcm. conforming to IS 636-1988 type A with gun metal heavy duty instantaneous type coupling (Pair male & female parts) conforming to IS 903. Complete as required (two nos. for each hydrant)	18	NOS			
14	Providing and Fixing 63 mm dia instantaneous pattern branch short gunmetal pipe, 16 mm dia nozzle conforming to IS 903, suitable for inter connection to hose pipe coupling complete as required.	9	NOS			
15	Providing and fixing standard fireman's axe with heavy rubber handle.	9	NOS			
16	Providing and fixing inlet breaching having C.I. body two way gun metal 63 mm dia instantaneous inlets conforming to IS 903 fitted with non return valves, 25 mm dia gun metal drain cock, blank cap, brass chains and 100 mm dia flanges with all accessories suitable for local fire tender complete as required.	1	NOS			
17	Providing and fixing weather proof cabinet of size not less than 0.6 x 0.6 x 0.45 mtr made out of M.S. sheet not less than 1.5 mm thick having central opening and 4 mm thick glazed glass doors (Two nos.) suitably marked on the outside 'with the letters "FIRE HOSE" including necessary locking arrangement and painting in red colour suitable to accommodate, external yard hydrant valve, 2 nos 15 mtr long Hose pipe, branch pipe, nozzle and fire man's axe. It shall be mounted on boundary wall complete as required.	1	NOS			
18	Providing and fixing 4 mm thick glass door of size 2.1 m x 1.2 m with anodized aluminium frame of size 0.10 x 0.05 M with centre opening for fire hose cabinet. Suitably marked on the outside with the letters "FIRE HOSE" including locking arrangement. All aluminium work to be in Red P.O. colour.	8	NOS			
19	Providing and fixing ISI Marked of approved make Fire Extinguishers complete with all accessories as per manufacturer's specifications.					
	a) CO ₂ gas nozzle type - 4.5kg capacity (IS:15683).	20	NOS			
	b) Mechanical Foam gas cartridge type. 6 lts capacity (IS:15683).	6	NOS			
	c) ABC dry powder stored pressure type 9 kg capacity (IS:15683).	20	NOS			
20	Supplying, installing, testing and commissioning of HDPE water triple layer storage tank including holes for inlet, outlet, overflow level indicator drain and vent points, manhole cover suitable supporting structure complete.					

MCGS Senior House 1 – FIRE FIGHTING WORK					Tender BoQ
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	a) Capacity 5000 Lts.	2	NOS.		
21	Approval of fire (NOC) system from local fire authority at initial & various other stages of works, including preparation of report / integration with Fire alarm system and preparation of drawings as per local fire authority. Contractor shall include cost of all liaison works which are not explicitly mentioned above but are mandatory to have fire authority approved.	L.S	L.S.		
22	Providing and fixing signage printed on photo-luminescent U1000 aluminium sheet of 1.0 mm (+ -10%) containing lumigen II as base chemical, covered under UV stabilised coating and of appropriate size (Glo-lite or eq. Make) including fixing on wall, door, ceiling etc. with proper clamps, hangers, cleats anchor fasteners etc. complete in all respects as directed by Engineer-in-charge	QR	SQ INCH		
23	Providing, jointing and testing of automatically operated fire extinguishers(cap-5kg,temperature rating-5kg,temperature rating-68degc,test pressure-30bar) complete with all accessories/fittings.-Minimax make.	2	Each		
24	Providing & installing MS 24 gauge fire buckets (capacity of each bucket = 9 lts) filled with sand including MS stand for hanging the buckets. All MS items shall be painted with two coats of primer & two coats of paint of approved colour.				
	Set of four buckets with stand	2	NOS		
25	Providing, jointing and testing of automatically operated gas based fire extinguishers for electrical control panel complete with tubing & all associated accessories/ fittings. (cap=4 kg, temperature rating-68degc, working pressure 25 bar) complete with all accessories/fittings.	QR	Each		
26	Providing and fixing electronic type level indicator for water tank mounted in panel with level display, alarm when water level is low or high, full range from one level to four level display and manual reset for alarm etc. with electrical wiring conduit supports from wall & ceiling props and all other accessories complete as required.	1	NO.		
27	Providing & fixing SS pressure gauge with isolation valve.	2	NOS		
	TOTAL CARRIED TO SUMMARY				
SUB-HEAD B: FIRE PUMP & EQUIPMENTS					
1	Supply, installation, testing and commissioning of Down comer pump comprising of the following:				

MCGS Senior House 1 – FIRE FIGHTING WORK					Tender BoQ
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
(a)	Fire Pump 900 lpm at 35 m(2900 rpm) centrifugal Pump with CI Casing Bronze Impeller, Mech Seal, SS Pressure Gauge at Pump Discharge side, coupled with Motor, MS Heavy Base Frame Coupling Guard. Pump set provided with AVM Pads heavy duty design for vibration elimination. The pump should meet the condition of Local fire Authority. Cost shall include electrical control panel with wiring/cabelling & all accessories to make the pump operational as per requirement of fire authorities. Location-Pump room at Terrace level.				
(b)	Suitable cement concrete foundation with plaster, Anti-vibration arrangement of cushy foot mounting.	1	SET		
	NOTES :-				
	a) Contractor should include the rate of all Electrical/Mechanical items complete with all accessories/fittings & controls as required to operate the system automatic/manual and pumps shall be protected against running dry including wiring, conduiting & all accessories complete as required.				
	b) Contractor to select suitable HP of pumps and specify catalogue no. and name of manufacturers.				
2	Providing, fixing, testing and commissioning of pressure vessel (minimum 450 mm dia & 1800 mm height-shell -8mm,dished ends-10mm) for pressurization of hydrant system complete with pressure switches, pressure gauge, valves at outlet / drain to operate as per operating sequences including 80 mm dia drain valve, air release valve with stop cock on the top duly painted from inside and outside complete as required. Location-Pump room at basement level.	1	SET		
	NOTES :-				
	a) Contractor should include the rate of all Electrical/Mechanical items complete with all accessories/fittings & controls as required to operate the system automatic/manual and pumps shall be protected against running dry including wiring, conduiting & all accessories complete as required.				
	b) Contractor to select suitable HP of pumps and specify catalogue no. and name of manufacturers.				
	TOTAL CARRIED TO SUMMARY				
	SUMMARY				
A	FIRE PIPING, HYDRANTS & ACCESSORIES				
B	PUMPS & EQUIPMENTS				
	Total				