

## Civil BOQ

N/W Construction of Hall of Residence No. 15 for Girls (G + 12) at IIT Kanpur (SH: Civil Work)

| SLNo | Description  | Qty   | Unit  | Rate Without GST | Amount Without GST |
|------|--|-------|-------|------------------|--------------------|
| 1.00 | Carriage of Materials  |       |       |                  |                    |
| 1.01 | By Mechanical Transport including loading,unloading and stacking   |       |       |                  |                    |
| 1.02 | Earth Lead - 5   | 4310  | cum   | 269.38           | 1161038.01         |
| 2.00 | EARTH WORK   |       |       |                  |                    |
| 2.01 | Banking excavated earth by mechanical / manual means in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with 0.5 tonne roller, or wooden or steel ramblers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks etc., lead upto 50 m and for all lift:  |       |       |                  |                    |
| 2.02 | All kinds of soil  | 200   | cum   | 163.19           | 32637.92           |
| 2.03 | Deduct for not rolling with power roller of minimum 8 tonnes for banking excavated earth in layers not exceeding 20 cm in depth.   | -200  | cum   | 4.33             | -865.84            |
| 2.04 | Deduct for not watering the excavated earth for banking  | -200  | cum   | 11.75            | -2350.13           |
| 2.05 | Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and for all lift, as directed by Engineer-in-charge.   |       |       |                  |                    |
| 2.06 | All kinds of soil  | 20350 | cum   | 146.37           | 2978580.85         |
| 2.07 | Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, for all lift, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.   |       |       |                  |                    |
| 2.08 | All kinds of soil.   | 1100  | cum   | 214.65           | 236109.51          |
| 2.09 | Excavating trenches by mechanical / manual means of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, for all depth, 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: |       |       |                  |                    |
| 2.10 | All kinds of soil  |       |       |                  |                    |
| 2.11 | Pipes, cables etc, not exceeding 80 mm dia.  | 3510  | metre | 177.79           | 624025.73          |
| 2.12 | Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia   | 1550  | metre | 290.39           | 450096.89          |
| 2.13 | Extra for excavating trenches for pipes, cables, etc. in ordinary/hard rock exceeding 1.5 m in depth but not exceeding 3 m. (Rate is over corresponding basic item for depth upto 1.5 metre)   |       |       |                  |                    |
| 2.14 | Ordinary rock:   |       |       |                  |                    |
| 2.15 | Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia  | 135   | metre | 601.80           | 81242.68           |
| 2.16 | Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 and for all lif.  | 11750 | cum   | 161.62           | 1899068.19         |
| 2.17 | Excavating, supplying, stacking and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in foundation trenches, plinth, sides of foundation etc. complete for all lift.   | 1260  | cum   | 577.64           | 727822.21          |
| 2.18 | Extra for every additional lif of 1.5 m or part thereof in excavation / banking excavated or stacked materials.  |       |       |                  |                    |
| 2.19 | All kinds of soil  | 10116 | cum   | 104.56           | 1057729.69         |
| 2.20 | Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.  | 221   | cum   | 1751.26          | 387027.91          |
| 2.21 | Supplying chemical emulsion in sealed containers including delivery as specified.  |       |       |                  |                    |
| 2.22 | Chlorpyrifos/ Lindane emulsifiable concentrate of 20%  | 2205  | litre | 193.58           | 426835.78          |

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| 2.23 | Diluting and injecting chemical emulsion for Pre-CONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion) :   |      |                             |                  |                    |
| 2.24 | Along external wall where the apron is not provided using chemical emulsion @75litres/ sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall & rodding etc. complete:   |      |                             |                  |                    |
| 2.25 | With Chlorpyrifos/ Lindane E.C. 20% with 1% concentration  | 945  | metre                       | 32.08            | 30312.94           |
| 2.26 | Along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 litres per linear metre including drilling and plugging holes etc.:   |      |                             |                  |                    |
| 2.27 | With Chlorpyrifos/ Lindane E.C. 20% with 1% concentration  | 945  | metre                       | 44.08            | 41651.07           |
| 2.28 | Treatment of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1 :2 (1 cement: 2 Coarse sand) to match the existing floor:   |      |                             |                  |                    |
| 2.29 | With Chlorpyrifos/Lindane E.C. 20% with 1% concentration   | 3326 | sqm                         | 255.67           | 850355.65          |
| 2.30 | Extra for levelling & neatly dressing of disposed soil completely as directed by Engineer-in-charge.   | 4310 | cum                         | 76.73            | 330704.63          |
| 3.00 | CEMENT CONCRETE (CAST IN SITU)   |      |                             |                  |                    |
| 3.01 | Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :   |      |                             |                  |                    |
| 3.02 | 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)  | 99   | cum                         | 6496.66          | 643169.37          |
| 3.03 | 1:3:6 (1 Cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources)  | 740  | cum                         | 6015.26          | 4451288.86         |
| 3.04 | 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources: 8 graded stone aggregate 40 mm nominal size derived from natural sources)   | 1359 | cum                         | 5617.22          | 7633798.96         |
| 3.05 | Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., above plinth level, excluding the cost of centering, shuttering and finishing:  |      |                             |                  |                    |
| 3.06 | 1:2:4 (1 Cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)  | 92   | cum                         | 8159.64          | 750687.23          |
| 3.07 | 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources: 6 graded stone aggregate 20 mm nominal size derived from natural sources)   | 59   | cum                         | 7678.24          | 453016.08          |
| 3.08 | Providing and laying damp-proof course 40 mm thick with cement concrete 1:2:4 (1 cement: 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5 mm nominal size derived from natural sources)   | 22   | sqm                         | 338.79           | 7453.37            |
| 3.09 | Providing and laying damp-proof course 50 mm thick with cement concrete 1:2:4 (1 cement: 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources).  | 216  | sqm                         | 408.80           | 88300.49           |
| 3.10 | Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.   | 113  | per bag of 50kg cement used | 14.97            | 1691.23            |
| 3.11 | Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7 kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.   | 237  | sqm                         | 120.52           | 28562.34           |
| 3.12 | Providing and laying machine mixed brickbat cement concrete in volumetric proportion 1:3:6 (1 cement : 3 coarse sand : 6 brickbats aggregates 40mm and down) for specified thickness, for sunk floor, terraces at any height above plinth level raft at any depth below floors, pavements roads, plinth protection, etc. including centering and shuttering if required, laying spreading, ramming, consolidating as per requirement and curing etc. complete as directed. | 325  | Cum                         | 5691.20          | 1849640.47         |

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| 3.13 | Providing and laying machine mixed Autoclaved aerated cement (AAC) blocks concrete in volumetric proportion 1:4:8 (1 cement : 4 coarse sand :8 AAC block aggregate 40 mm nominal size) for specified thickness, for sunk floor, terraces at any height above plinth level etc. including centering and shuttering if required, laying spreading, ramming, consolidating& laid in slope as per requirement and curing etc. complete as directed.  | 950     | Cum  | 8789.24          | 8349776.94         |
| 4.00 | REINFORCED CEMENT CONCRETE   |         |      |                  |                    |
| 4.01 | Centering and shuttering including strutting, propping etc. and removal of form for  |         |      |                  |                    |
| 4.02 | Foundations, footings, bases of columns, etc. for mass concrete  | 1256    | sqm  | 323.37           | 406151.89          |
| 4.03 | Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.   | 369     | sqm  | 694.73           | 256355.65          |
| 4.04 | Suspended floors, roofs, landings, balconies and access platform   | 558     | sqm  | 764.62           | 426655.81          |
| 4.05 | Lintels, beams, plinth beams, girders, bressumers and cantilevers  | 725     | sqm  | 607.24           | 440249.03          |
| 4.06 | Columns, Pillars, Piers, Abutments, Posts and Struts   | 473     | sqm  | 792.69           | 374944.26          |
| 4.07 | Stairs, (excluding landings) except spiral-staircases  | 35      | sqm  | 630.78           | 22077.39           |
| 4.08 | Small lintels not exceeding 1.5 m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like  | 50      | sqm  | 323.37           | 16168.47           |
| 4.09 | Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured).   |         |      |                  |                    |
| 4.10 | Suspended floors, roofs, landings, beams and balconies (Plan area to be measured)  | 8703    | sqm  | 316.90           | 2757947.47         |
| 4.11 | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.   |         |      |                  |                    |
| 4.12 | Thermo-Mechanically Treated bars of grade Fe-500D or more.   | 941000  | kg   | 88.93            | 83686690.86        |
| 4.13 | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.  |         |      |                  |                    |
| 4.14 | Thermo-Mechanically Treated bars of grade Fe-500D or more.   | 1759000 | kg   | 88.93            | 156434526.26       |
| 4.15 | Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge, for the following grades of concrete.: Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. |         |      |                  |                    |
| 4.16 | All works upto plinth level  |         |      |                  |                    |
| 4.17 | Concrete of M25 grade with minimum cement content of 330 kg /cum   | 5       | cum  | 7837.68          | 39188.38           |
| 4.18 | Concrete of M30 grade with minimum cement content of 350 kg /cum   | 6273    | cum  | 7962.15          | 49946570.55        |
| 4.19 | Concrete of M35 grade with minimum cement content of 370 kg /cum   | 468     | cum  | 8086.67          | 3784559.74         |
| 4.20 | All works above plinth level upto floor V level  |         |      |                  |                    |
| 4.21 | Concrete of M25 grade with minimum cement content of 330 kg /cum   | 140     | cum  | 8130.95          | 1138332.65         |
| 4.22 | Concrete of M30 grade with minimum cement content of 350 kg /cum   | 5       | cum  | 8255.42          | 41277.11           |
| 4.23 | Concrete of M35 grade with minimum cement content of 370 kg /cum   | 13400   | cum  | 8379.94          | 112291160.22       |
| 4.24 | Extra for R.C.C./ B.M.C/ R.M.C. work above floor V level for each four floors or part thereof.   | 12900   | cum  | 293.27           | 3783198.65         |
| 4.25 | Providing and fixing in position Stainless steel Grade 304 plate-1.0 mm thick as per design for expansion joints.  |         |      |                  |                    |

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| 4.26 | 200 mm wide.  | 40   | metre | 708.96           | 28358.21           |
| 4.27 | 300 mm wide.  | 40   | metre | 996.17           | 39846.62           |
| 4.28 | Extra for using M-30/M-35 Grade Self-compacting Cement Concrete   |      |       |                  |                    |
| 4.29 | Extra for using Providing and laying in position ready mixed Self Compacting concrete(M-30/M-35 Grade) work of specified grade of at all level & height, including all leads, lifts, transportation and consumables with cement content as per relevant IS codes. Cost to include all admixtures, additives, bonding agents, accessories, temperature control and other devices required to produce concrete. All work to be performed as per drawings, specifications to the satisfaction and approval of the Engineer-in-Charge.  | 6170 | Cum   | 569.89           | 3516243.67         |
| 4.30 | Designing, providing, erecting and fixing in position customs / system designed / branded proprietary / fabricated using minimum 12mm thick BWP grade film faced ply (Type3, CSFF) conforming to IS 4990 form work to give fair-faced form finish, exposed concrete surface, true to line and level, including required steel propping and staging, applying shuttering removal emulsion/oil as approved, required bracing, making leak proof joints including cost of de-shuttering and decentering at all levels, etc. complete . The item also include providing recesses, cornices, grooves, forming ribs, ledges, openings, pockets, cutout for dowels, fixing and maintaining inserts to supporting, holding shall be strong enough not to allow any sagging, deformation, correct line, level. System design should be such that staging, bending, curving, undulation in horizontal / vertical plane and in length. The contractor will submit the shop drawings of shuttering for approval of Architect and only after their approval the work will start. (NOTE: The typical type of shuttering required are highlighted in the picture in the NIT.) The BWP Type 3 ply to be used can have maximum of 3 repetitions only. Exposed surfaces shall be uniform in colour free of blemish and residues of curing compound, free of construction joint or any other joints except those covered in detailed or in approved pattern of shuttering as per drawings. |      |       |                  |                    |
| 4.31 | Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.  | 1476 | sqm   | 954.89           | 1409423.60         |
| 4.32 | Suspended floors, roofs, landings, balconies and access platform  | 2350 | sqm   | 831.20           | 1953327.29         |
| 4.33 | Columns, Pillars, Piers, Abutments, Posts', Struts & beams  | 4995 | sqm   | 1051.37          | 5251607.98         |
| 4.34 | Providing & Fixing Expansion joint filler Board of Dawn Color, manufactured by The Supreme Industries Limited or approved equivalent make, thickness built up using minimum 10 MM specifically extruded high performance sheet, minimum density 28 kg / Cu. Mt & compression strength of 0.21 Kg / Sq.mtr, when tested as per ASTM D-3575, including using suitable adhesive with low VOC as per griha norms or double sided adhesive tape to the casted surface to form the expansion joint of required width. Expansion joint board will become one side of the shuttering while the expansion joint is being created. This item shall included preparation of surfaces by cleaning of dust , oil, loose aggregate etc., also include the cost and transportation of all material, labour charges, taxes etc. complete at all heights & all levels as per drawing and as directed by Engineer-in-charge.  |      |       |                  |                    |
| 4.35 | Expansion joint 100 mm Thick.   | 72   | sqm   | 1284.64          | 92493.91           |

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| 4.36 | Providing and fixing of heavy duty expansion joint system related with floor location as per drawings and direction of Engineer-In-Charge. The joints system will be of mill finish extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical locations in load application areas that accommodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Exp. Joint Cover should have an Articulated Telescope Design so as to accommodate the movements in 3 directions.. Provision of Moisture/water Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufacturers design and as approved by Engineer -in-Charge including cost of all materials and fixtures, preparation of surface for receiving the joints and system to be installed by company authorised vendor,including all leads and lifts etc. (Material shall conform to ASTM 6063). |      |       |                  |                    |
| 4.37 | Make: Migua FSL 113/35 & Migua FSL 113/35 corner , Vexcolt Megatec 300-A01-100 & 300-A02-100 or approved equivalent   |      |       |                  |                    |
| 4.38 | Floor Joint of 100 mm gap with Moisture / Water Barrier Membrane  | 135  | metre | 6712.29          | 906159.81          |
| 5.00 | MASONRY WORK  |      |       |                  |                    |
| 5.01 | Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:   |      |       |                  |                    |
| 5.02 | Cement mortar 1:6(1 cement :6 coarse sand)  | 650  | cum   | 5881.30          | 3822843.65         |
| 5.03 | Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :  |      |       |                  |                    |
| 5.04 | Cement mortar 1:6(1 cement : 6 coarse sand)   | 4800 | cum   | 7508.82          | 36042351.78        |
| 5.05 | Extra for brick work / AAC block masonry / Tile brick masonry in superstructure above floor V level, for each four floors or part thereof by mechanical means.  | 2420 | cum   | 139.73           | 338145.46          |
| 5.06 | Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundations and plinth in :   |      |       |                  |                    |
| 5.07 | cement mortar 1:4(1 cement :4 coarse sand)  | 50   | sqm   | 746.31           | 37315.49           |
| 5.08 | Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.  |      |       |                  |                    |
| 5.09 | Cement mortar 1:4(1 cement :4 coarse sand)  | 5100 | sqm   | 926.69           | 4726131.77         |
| 5.10 | Extra for half brick masonry in superstructure, above floor V level for every four floors or part thereof by mechanical means.  | 2800 | sqm   | 12.37            | 34633.46           |
| 5.11 | Extra for providing and placing in position 2 Nos 6 mm dia. M.S. bars at every third course of half brick masonry.  | 5100 | sqm   | 86.42            | 440735.55          |
| 5.12 | Brick edging 7cm wide 11.4 cm deep to plinth protection with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 including grouting with cement mortar 1:4 (1 cement : 4 fine sand).   | 990  | metre | 50.18            | 49675.52           |
| 6.00 | CLADDING WORK   |      |       |                  |                    |
| 6.01 | Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing of edges to give high gloss finish etc. complete at all levels.  |      |       |                  |                    |
| 6.02 | Granite stone slab of colour black, Cherry/Ruby red   |      |       |                  |                    |
| 6.03 | Area of slab over 0.50 sqm  | 300  | sqm   | 4235.43          | 1270627.53         |
| 6.04 | Providing edge moulding to 18 mm thick marble stone counters, Vanities etc., including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.  |      |       |                  |                    |

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| 6.05 | Granite work  | 560   | metre | 421.33           | 235946.24          |
| 6.06 | Extra for fixing marble /granite stone, over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive, including cleaning etc. complete.   | 435   | metre | 468.83           | 203941.00          |
| 6.07 | Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/ Granite/ stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.   | 300   | each  | 807.04           | 242112.64          |
| 6.08 | Mirror polishing on marble work/Granite work/stone work where ever required to give high gloss finish complete.   | 6350  | sqm   | 417.83           | 2653207.72         |
| 6.09 | Providing and fixing stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.   |       |       |                  |                    |
| 6.10 | Granite Stone of approved shade   | 2     | sqm   | 3341.18          | 6682.36            |
| 6.11 | Providing and fixing stainless steel cramps of required size and shape for anchoring stone wall lining to the backing or securing adjacent stones in stone wall lining in cement mortar 1:2 (1 cement: 2 coarse sand), including making the necessary chases in stone and holes in walls wherever required.   | 42    | kg    | 589.10           | 24742.15           |
| 6.12 | Providing and fixing copper pins 7.5 cm long 6 mm diameter for securing adjacent stones in stone wall lining in cement mortar 1:2 (1 cement : 2 coarse sand), including making the necessary chases.  | 650   | each  | 36.20            | 23530.14           |
| 6.13 | Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3(1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.  | 750   | sqm   | 1045.56          | 784169.62          |
| 6.14 | Extra for providing edge moulding to Kota stone/ Mandana Stone /Red sand stone (up to 40 mm thick) counters, vanities, coping, window sill, parapet tops and such other locations including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-charge.   | 11900 | Metre | 246.23           | 2930106.37         |
| 6.15 | Providing & fixing 18 mm thick Granite stone in uniform colour, texture and pattern gang saw cut (pre mirror polished and machine cut ) of any colour and shade for wall lining ( veneer work ), dado work as per design and in required pattern over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and slurry @ 3.3 Kg/SqM including pointing with white cement mortar 1:2 (1 white cement : 2 marble dust ) with an admixture of pigment to match the shade of the stone : ( If required wall lining/ cladding to be secured to the backing by means of cramps, which shall be paid for separately). (Basic rate of Granite Rs. 2300/- per sqm (F.O.R at site including GST)). etc complete as directed. Only finished granite work shall be measured and considered for payment.   | 580   | sqm   | 4146.32          | 2404864.52         |
| 6.16 | Providing and fixing 1st quality full body 9 mm (+/- 1 mm) thick glazed / Mat finish Vitrified wall tiles of size 300 mm x 600mm / 600 mm x 600 mm or as called by Engineer-in- charge with water absorption's less than 0.08% and conforming to IS: 15622, of approved make in all colours and shades as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) admixed with Laticrete 3642 or equivalent admixture in proportion (50 kg cement+150 kg sand+3 litre Laticrete 3642 + requisite water)and jointing with grey cement slurry @ 3.3kg per sqm admixed with Laticrete 3642 or equivalent admixture in proportion (50 kg cement+5 litre Laticrete 3642 + water), including grouting of joints, keeping the joints 3 mm wide & minimum 4 mm deep alround & filled with approved quality epoxy grout ( Payment for grouting of joints with epoxy grout to be made separately). complete. ( Basic rate of vitrified tile shall be Rs 675 /- per sq mtr (F.O.R at site including GST)) |       |       |                  |                    |

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| 6.17 | Make: -Kajaria - The Trend Eternity series , Johnson - Porcelano series, Somany : Duragress   | 10050 | Sqm  | 1612.20          | 16202651.93        |
| 7.00 | WOOD AND P. V. C. WORK  |       |      |                  |                    |
| 7.01 | Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:  |       |      |                  |                    |
| 7.02 | 35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws  | 2400  | sqm  | 1972.99          | 4735185.95         |
| 7.03 | Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).  | 2400  | sqm  | 381.26           | 915016.08          |
| 7.04 | Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors (cost of glass excluded) (overall area of door shutter to be measured):   |       |      |                  |                    |
| 7.05 | Rectangular or square   | 100   | sqm  | 164.22           | 16422.03           |
| 7.06 | Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.   |       |      |                  |                    |
| 7.07 | Fixed to openings /wooden frames with rawl plugs screws etc.  | 13800 | kg   | 196.54           | 2712319.62         |
| 7.08 | Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.   |       |      |                  |                    |
| 7.09 | 1.0 mm thick  | 1040  | sqm  | 739.92           | 769515.96          |
| 7.10 | Providing and fixing factory made uPVC glazed/wire mesh windows/ doors comprising of lead free uPVC multi-chambered frame, sash and mullion/coupler (where ever required) extruded profiles having minimum wall thickness of 1.70 mm for Series R1 and R2 profiles and 2.10 mm for Series R3 and R4 profiles conforming to EN: 12608 in any shape, colour and design duly reinforced with galvanized mild steel section made of required shape & size as per CPWD Specification, uPVC extruded glazing beads, interlocks and Inline sash adaptor (where ever required) of appropriate dimension, EPDM gasket, hardware, SS 304 grade fasteners of minimum 8 mm dia with countersunk head, comprising of matching polyamide PA6 grade sleeve for fixing frame to finished wall as per IS 1367 : Part 1 to 14, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame, sash & mullion (if required) shall be mitred cut and fusion welded/mechanically jointed duly sealed at all corners, including drilling of holes for fixing hardware and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of approved size and quality, all complete as per approved drawing conforming to CPWD specification & direction of Engineer-in-Charge. Section of steel reinforcement and cross sections of uPVC profiles to be as per design approved by Engineer-in-Charge. Wire mesh / Glazing of plain/ toughened/ laminated/ double glass unit with / without high performance coatings as per design requirements and conforming to IS: 3548 & IS: 16231 shall be paid separately. Note:- Structural design proof checked from a Government Engineering Institute, to be provided by the manufacturer for (i) Sites with basic wind speed > 45 m/sec as per IS 875 — Part 3 (ii) Sites with structure height more than 20m for all wind speeds |       |      |                  |                    |
| 7.11 | Three track three panels sliding window with two glazed & one wire mesh panels with Aluminium channel for roller track, wool pile, nylon rollers with SS 304 body.  |       |      |                  |                    |
| 7.12 | Using R3 series with frame (98 mm & above) x (40 mm & above) & both glazed and fly screen sash (30 mm & above) x (55 mm & above) with zinc alloy (zamak) powder coated handle on every glazed panel along with multi-point locking system. (Height upto 1.8m).  | 2000  | sqm  | 8966.93          | 17933866.58        |
| 7.13 | Fixed window/ ventilator without mullion /transom.  |       |      |                  |                    |
| 7.14 | Using R3 series with frame (55 mm & above) x (45 mm & above). (Height upto 2.5 metre)   | 570   | sqm  | 5838.25          | 3327804.49         |

| SLNo | Description   | Qty  | Unit | Rate Without GST | Amount Without GST |
|------|---|------|------|------------------|--------------------|
| 7.15 | Casement cum fixed panel window having one single casement panel & one fixed panel with S.S 304 friction hinges as per size and weight of sash, multi-point locking system, zinc alloy (zamak) powder coated handles.   |      |      |                  |                    |
| 7.16 | Using R3 series with frame (55 mm & above) x (45 mm & above) & sash (55 mm & above) x (65 mm & above) & mullion (55 mm & above) x (65 mm & above). (Height upto 1.8 metre; each openable shutter upto 0.8m width)   | 1830 | sqm  | 7675.43          | 14046046.01        |
| 7.17 | Providing and fixing ISI marked cupboard door shutters confirming to IS: 2202 (part-1) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.   |      |      |                  |                    |
| 7.18 | 25 mm thick (for cupboard) including ISI marked fixed with stainless steel piano hinges with necessary screws including recess handles made in cupboard shutter as per detail given in GFC drawings.  | 2800 | Sqm  | 1726.48          | 4834138.70         |
| 7.19 | Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length.   |      |      |                  |                    |
| 7.20 | Second class teak wood  | 13   | Cum  | 117877.22        | 1532403.81         |
| 7.21 | Extra for providing lipping with 2nd class teak wood battens 10 mm minimum depth on all edges of cupboard shutters (over all area of door shutter to be measured)   | 2800 | Sqm  | 152.50           | 427007.50          |
| 7.22 | Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete. with 12 mm aluminium U beading .   | 1580 | Sqm  | 1012.62          | 1599934.03         |
| 7.23 | Providing and fixing satin stainless steel grade 304 pull handle of approved quality including the cost of necessary stainless steel screws and other incidental charges complete as per detailed Architectural Drawings and as directed by Engineer-in-charge : Manufacturer's warranty/guarantee card needs to be submitted.  |      |      |                  |                    |
| 7.24 | 19 mm dia x 150 mm long (DormaKaba : TGDI-D 150, Kich PRDH1906S & Hafele or approved equivalent   | 1280 | Pair | 757.54           | 969652.51          |
| 7.25 | 19 mm dia x 200 mm long (DormaKaba : TGDI-D 200 , Kich PRDH1908S & Hafele or approved equivalent).  | 150  | Pair | 832.27           | 124840.03          |
| 7.26 | Providing and fixing of stainless steel grade 304 sliding door bolt satin S.S. finish of Haffle , Kich or equivalent make , including the cost of nut & screws and other incidental charges complete.   |      |      |                  |                    |
| 7.27 | 300 x 16 mm. Hafele 911.81.881, Kich PRAD12612C or approved equivalent  | 1250 | each | 767.49           | 959357.22          |
| 7.28 | Providing and fixing stainless steel grade 304 brush/satin finish tower bolts including the necessary Stainless steel screws and other incidental charges complete as per detailed Architectural Drawings and as directed by Engineer-in-charge : , Manufacturer's warranty/guarantee card needs to be submitted.   |      |      |                  |                    |
| 7.29 | 150 mm long (DormaKaba : 9117696, Kich TBF36S & Hafele or approved equivalent).)  | 1278 | each | 225.33           | 287974.17          |
| 7.30 | 300 mm long (DormaKaba : 9117713, Kich TBF312S & Hafele or approved equivalent).)   | 1017 | each | 396.38           | 403118.44          |
| 7.31 | Providing and fixing satin stainless steel grade 304 pull handle of approved quality including the cost of necessary stainless steel screws and other incidental charges complete as per detailed Architectural Drawings and as directed by Engineer-in-charge : Manufacturer's warranty/guarantee card needs to be submitted.  |      |      |                  |                    |
| 7.32 | 22 mm dia x 300 mm long (DormaKaba : TGDI-D 300 , Kich PRDH2212S & Hafele or approved equivalent).  | 8    | Pair | 1081.62          | 8652.96            |
| 7.33 | Providing and fixing satin stainless steel grade 304 pull handle of approved quality including the cost of necessary stainless steel screws and other incidental charges complete as per detailed Architectural Drawings and as directed by Engineer-in-charge : Manufacturer's warranty/guarantee card needs to be submitted.  |      |      |                  |                    |
| 7.34 | 25 mm dia x 450 mm long (DormaKaba : TGDI-H 450 , Kich PRDH2518S & Hafele or approved equivalent).  | 8    | Pair | 1570.40          | 12563.17           |
| 7.35 | Providing and fixing Satin stainless steel Foot operated Door Stopper with rubber buffer of approved quality with necessary SS screws etc. all complete as per detailed Architectural Drawings and as directed by Engineer-in-charge : Manufacturer's warranty/guarantee card needs to be submitted. ( DormaKaba : 9112195 , Kich DSTRS & Hafele or approved equivalent ) | 110  | each | 472.55           | 51980.37           |



| SLNo | Description   | Qty  | Unit | Rate Without GST | Amount Without GST |
|------|---|------|------|------------------|--------------------|
| 7.36 | Providing and fixing Satin stainless steel wall mounted Door Stopper with rubber buffer of approved quality with necessary SS screws etc. all complete as per detailed Architectural Drawings and as directed by Engineer-in-charge : Manufacturer's warranty/guarantee card needs to be submitted. Make: DormaKaba : 4012, Kich DST75S & Hafele or approved equivalent )   | 870  | each | 395.54           | 344118.83          |
| 7.37 | Providing and fixing Surface mounted door closer of approved quality with necessary accessories and screws all complete as per detailed Architectural Drawings and as directed by Engineer-in-charge : Manufacturer's warranty/guarantee card needs to be submitted, installation has to be certified by the Manufacturer in writing. ( DormaKaba TS Kompakt Door Closer with Std Arm, Kich DC512S & Hafele or approved equivalent )  | 126  | each | 1985.89          | 250222.26          |
| 7.38 | Providing and fixing Satin Stainless Steel grade 304 5 Knuckle, 2 Ball bearing butt hinges size 4" x 3" x 3mm with stainless steel screws all complete as per detailed Architectural Drawings and as directed by Engineer-in-charge, Suitable for wooden door weighs upto 120kgs. Template Drilled Approved to EN 1935. Make - dormakaba 3043FWD , Kich PRBHT2B34S & Hafele or approved equivalent )  | 5526 | each | 355.84           | 1966384.74         |
| 7.39 | Providing & fixing mortice sash lock comprising of satin stainless steel lever handle pairs with round rose & escutcheons prepared for Euro profile cylinder and spindle 114 in satin stainless steel finish complete set including the fixing accessories for 50mm thick door. Material:SS 304. Approved to EN 1906. Mortice sash lock with 55mm backset, 20mm square forend with 72 mm centers and prepared for euro profile cylinder including strike plate in satin stainless steel as per EN 12209. And 6 pin Euro profile knob cylinder with internal thumb turn and external key operation standard length 60mm in satin nickel plated finish with 3 keys. Approved Make : Dormakaba Pure Lever Handle 8906 + Mortice sash lock 271a + 3016 / Kich PRLH223S+MLB96S+PRPCKNS60 & Hafele or approved equivalent | 36   | each | 2924.52          | 105282.86          |
| 7.40 | Providing and fixing Shaft dead bolt / Shaft door lock with key ,escutcheons with complete accessories in Satin stainless steel finish with necessary SS screws etc. all complete as per detailed Architectural Drawings and as directed by Engineer-in-charge : Manufacturer's warranty/guarantee card needs to be submitted. ( Dorma : 8681 , Kich SDBA, Hafele or approved equivalent)   | 50   | each | 471.39           | 23569.31           |
| 7.41 | Providing & fixing 55 mm Backset mortice dead lock, 20 mm square forend with 6 pin Euro Profile Cylinder with both side Key operation including strike plate & escutcheons, of approved quality with necessary accessories and screws etc. all complete as per detailed Architectural Drawings and as directed by Engineer-in-charge : Manufacturer's warranty/guarantee card needs to be submitted, installation has to be certified by the Manufacturer in writing. Approved Make : Dormakaba Mortice dead lock 706 dead lock + 3026 / KichMDB96S+PRPCBSKS60+PREP50S / Hafele or approved equivalent  | 16   | each | 1536.79          | 24588.57           |
| 7.42 | Providing & fixing satin stainless steel lever handle pairs with rose , mortice bathroom lock with 55 mm backset & strike plate, bathroom escutcheons with indicator & thumbturn of approved quality with necessary accessories and screws etc. all complete as per detailed Architectural Drawings and as directed by Engineer-in-charge : Manufacturer's warranty / guarantee card needs to be submitted, installation has to be certified by the Manufacturer in writing. Make: ( DormaKaba : Pure 8906 WC lever handle + 275a WC lock / Kich, Hafele or approved equivalent   | 26   | each | 2924.52          | 76037.62           |
| 7.43 | Providing and fixing magnetic catcher of approved quality in cupboard / ward robe shutters, including fixing with necessary screws etc. complete. ( Kich AWM13 / 246.84.713 of Hafele / or approved equivalent )  | 7900 | each | 77.58            | 612873.75          |
| 7.44 | Providing and fixing handles of approved quality in cupboard / ward robe shutters, including fixing with necessary screws etc. complete. : (CHA56S of Kich , 115.68.004 of Hafele or approved equivalent )  | 100  | each | 1045.31          | 104531.21          |

| SLNo | Description  | Qty  | Unit | Rate Without GST | Amount Without GST |
|------|--|------|------|------------------|--------------------|
| 7.45 | Providing and fixing wardrobe lock 22 mm of approved quality in cupboard / ward robe shutters, including fixing with necessary screws etc. complete. : (DL111S of Kich / 232.01.250 of Hafele or approved equivalent )   | 1750 | each | 291.38           | 509920.01          |
| 7.46 | Providing and fixing Oak / Cedar wood slat panelling without insulation as per detail given below. Entire work to be done in pattern as per drawing, specifications and direction of Engineer-in-charge.   |      |      |                  |                    |
| 7.47 | Installation: - MS angle 50x50x5 supports / cleats of suitable size fixed to wall surface with dash fasteners of 8 mm dia, 75 mm long bolt as shown in drawing. Tubular frame work shall comprise of 50x50x1.6mm hollow MS tube, fixed away from the wall surface by MS angle supports/cleats of suitable size. The hollow MS tubes to be mounted in a grid pattern with spacing @ 400mm / 1000mm centre to centre ( horizontally & vertically ) or at required spacing near opening, with necessary fixing / welding at junctions and fixing the frame to wall with steel dash fasteners of 8 mm dia, 75 mm long bolt, including providing with two coats of approved steel primer etc. The tubular framework to have welded connections, minimum 20mm fillet weld on each side.  |      |      |                  |                    |
| 7.48 | In order to minimize visibility of screws panel of size as per drawing supported on MS flats 20 x 6 mm at top & bottom are to be made with 80 x 12 mm & 32.5 x 12 mm thick timber slats with a groove of 15mm between slats in pattern as per drawing with stainless steel screws from the rear. MS flats shall be painted with two coats of enamel paint over two coats of approved steel primer. Timber panels shall be preferably made of timber of large width; the minimum width and thickness of the panel shall be same as specified in the drawings. The grains of timber panels shall be sawn in the directions of grains & shall run along the longer dimensions of the panels. All panels shall be of the same species of timber unless otherwise specified. Sawing shall be truly straight and square. The timber shall be planed smooth and accurate to the required dimensions.  |      |      |                  |                    |
| 7.49 | These timber slat panels shall be fixed to the tubular frame as per pattern shown in drawing with self tapping stainless screws. The slats to be backed with black dyed jute upholstery (not hessian) fix over 6 mm thick marine ply. Finally the slats shall be wax polished after wood filler and sand papering to a smooth finish in its natural colour complete as per drawing, specifications and direction of Engineer-in-Charge.  | 15   | sqm  | 4659.38          | 69890.70           |
| 7.50 | Providing and fixing Oak / Cedar wood slat panelling with insulation as per detail given below. Entire work to be done in pattern as per drawing, specifications and direction of Engineer-in-charge.  |      |      |                  |                    |
| 7.51 | Installation: - MS angle 50x50x5 supports / cleats of suitable size fixed to wall surface with dash fasteners of 8 mm dia, 75 mm long bolt as shown in drawing. Tubular frame work shall comprise of 50x50x1.6mm hollow MS tube, fixed away from the wall surface by MS angle supports/cleats of suitable size. The hollow MS tubes to be mounted in a grid pattern with spacing @ 400mm / 1000mm centre to centre ( horizontally & vertically ) or at required spacing near opening, with necessary fixing / welding at junctions and fixing the frame to wall with steel dash fasteners of 8 mm dia, 75 mm long bolt, including providing with two coats of approved steel primer etc. The tubular framework to have welded connections, minimum 20mm fillet weld on each side.  |      |      |                  |                    |
| 7.52 | In order to minimize visibility of screws panels of size as per drawing supported on MS flats 20 x 6 mm at top & bottom are to be made with 80 x 12 mm & 32.5 x 12 mm thick timber slats with a groove of 15mm between slats in pattern as per drawing with stainless steel screws from the rear. MS flats shall be painted with two coats of enamel paint over two coats of approved steel primer. Timber panels shall be preferably made of timber of large width; the minimum width and thickness of the panel shall be same as specified in the drawings. The grains of timber panels shall be sawn in the directions of grains & shall run along the longer dimensions of the panels. All panels shall be of the same species of timber unless otherwise specified. Sawing shall be truly straight and square. The timber shall be planed smooth and accurate to the required dimensions. |      |      |                  |                    |

| SLNo | Description  | Qty | Unit | Rate Without GST | Amount Without GST |
|------|--|-----|------|------------------|--------------------|
| 7.53 | These timber slat panels shall be fixed to the tubular frame as per pattern shown in drawing with self tapping stainless screws. The slats to be backed with black dyed jute upholstery fabric (not hessian) held on 24G x 10mm wire mesh and 50mm thick resin bonded glass wool (24 kg/m3) cut to size and inserted in GI framework held on 24Gx12 GI wire netting. Finally, the slats shall be wax polished after wood filler and sand papering to a smooth finish in its natural colour complete as per drawing, specifications and direction of Engineer-in-Charge.  | 15  | sqm  | 4353.89          | 65308.32           |
| 7.54 | Providing and fixing 4mm thick Oak / Cedar veneered ply (Greenlam, Greenply, Century or equivalent) on 6mm thick water proof marine ply, phenolic bonded (Kitply, Greenply, Century or equivalent) and the surface finished with moulded Oak / Cedar beading of 15 x 25mm in pattern as per drawing with 38mm long self tapping and self drilling steel screws on framework . Entire work to be done as per drawing, specifications and direction of Engineer-in-charge. Entire assembly shall be wax polished in natural colour.  |     |      |                  |                    |
| 7.55 | Installation: - MS angle 50x50x5 supports / cleats of suitable size fixed to wall surface with dash fasteners of 8 mm dia, 75 mm long bolt as shown in drawing. Tubular frame work shall comprise of 50x50x1.6mm hollow MS tube, fixed away from the wall surface by MS angle supports/cleats of suitable size. The hollow MS tubes to be mounted in a grid pattern with spacing @ 400mm / 1000mm centre to centre (horizontally & vertically) or at required spacing near opening, with necessary fixing / welding at junctions and fixing the frame to wall with steel dash fasteners of 8 mm dia, 75 mm long bolt, including providing with two coats of approved steel primer etc. The tubular framework to have welded connections, minimum 20mm fillet weld on each side | 10  | sqm  | 4353.89          | 43538.88           |
| 7.56 | Providing and fixing in built-in-space, cupboard/wardrobe upto 600 mm deep, complete as per drawing consisting of:-  |     |      |                  |                    |
| 7.57 | i) Second class teak wood spacers of 20 x 40 mm section at top, bottom and sides, secured to RCC slab and brick masonry with anchor fasteners.   |     |      |                  |                    |
| 7.58 | ii) 19 mm thick commercial block board at top, bottom and sides fixed to wooden spacers.   |     |      |                  |                    |
| 7.59 | iii) 19 mm thick commercial block board shelves and vertical partitions with 2 <sup>nd</sup> class teak wood lipping of 19 mm wide x 10 mm thick.  |     |      |                  |                    |
| 7.60 | iv) 6 mm marine plyboard backing to the cupboard.  |     |      |                  |                    |
| 7.61 | v) Providing and fixing ISI marked 25 mm thick cupboard shutters conforming to IS : 2202 (Part 1) non-decorative type, core of block board construction and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters with 2 <sup>nd</sup> class teak wood lipping of 25 mm wide x 10 mm thick fixed with stainless steel piano hinges with necessary screws, nails and glue etc.   |     |      |                  |                    |
| 7.62 | vi) 2 Nos. drawers 100 mm high complete with sliding arrangement (Ebco or equivalent) and recessed handle as per GFC drawing.  |     |      |                  |                    |
| 7.63 | vii) a. 20 mm dia. aluminium hanger rod complete with fixing brackets as shown in GFC drawing. b. Magnetic catchers of Kich AWM13 , haffle or approved equivalent make as shown in GFC drawings . c. Wardrobe & Drawer locks 22 mm (DL111S of Kich , Hafele or approved equivalent as shown in GFC drawings. d. Wardrobe recess handle as per details given in GFC drawings or CHA56S of Kich ,Hafele or approved equivalent   |     |      |                  |                    |
| 7.64 | viii) All internal & external sides of shutter, shelves, vertical partitions, drawers shall be finished with 1 mm thick decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S of approved shade and quality complete as directed .   | 65  | sqm  | 12692.34         | 825002.06          |
| 8.00 | STEEL WORK   |     |      |                  |                    |
| 8.01 | Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.  | 100 | kg   | 110.25           | 11024.99           |

| SLNo | Description   | Qty   | Unit | Rate Without GST | Amount Without GST |
|------|---|-------|------|------------------|--------------------|
| 8.02 | Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters.  |       |      |                  |                    |
| 8.03 | 80x1.25 mm M.S. laths with 1.25 mm thick top cover  | 20    | sqm  | 3012.45          | 60249.03           |
| 8.04 | Providing and fixing ball bearing for rolling shutters.   | 4     | each | 405.99           | 1623.98            |
| 8.05 | Extra for providing mechanical device chain and crank operation for operating rolling shutters.   |       |      |                  |                    |
| 8.06 | Exceeding 10.00 sqm and upto 16.80 sqm in the area  | 20    | sqm  | 1056.61          | 21132.18           |
| 8.07 | Extra for providing grilled rolling shutters manufactured out of 8 mm dia M.S. bar instead of laths as per design approved by Engineer-in- charge, (area of grill to be measured).  | 6     | sqm  | 633.50           | 3801.02            |
| 8.08 | Providing and fixing mild steel round holding down bolts with nuts and washer plates complete.  | 200   | kg   | 80.15            | 16030.35           |
| 8.09 | Providing and fixing bolts including nuts and washers complete.   | 100   | kg   | 131.40           | 13140.10           |
| 8.10 | Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.  |       |      |                  |                    |
| 8.11 | In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete  | 900   | kg   | 101.92           | 91729.20           |
| 8.12 | In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works   | 56000 | kg   | 142.33           | 7970314.17         |
| 8.13 | Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.  |       |      |                  |                    |
| 8.14 | M.S. tube   | 5950  | kg   | 162.28           | 965580.94          |
| 8.16 | Providing, fabricating and fixing in position MS inserts such as nosing, corner angles of columns, plates, flats, tees, provision for pipe hangers, supports, brackets and monorails, hooks, frame around cut-out, MS pipe sleeves etc. as per drawings and specifications, in true line and level including embedding the same into the permanent works at the time of casting of RCC works or fixing the same into the existing work by using anchor / desh fastener of size as mentioned in drawing or as directed by Engineering in charge, with necessary welding, grinding, bolting and painting with two coat of first quality synthetic enamel paint of approved make over a coat of primer etc. complete as directed by Engineer-In-Charge.  | 4100  | Kg   | 142.33           | 583540.86          |
| 8.17 | Providing, cutting to shape and fixing in position M.S. chequered plates in cover for trenches, stair steps, landing, platforms etc. as per drawings including painting with one coat of red oxide paint and two coats of approved shade and make synthetic enamel paint etc., complete as directed by Engineer-In-Charge   | 270   | Kg   | 101.92           | 27518.76           |
| 8.18 | Fabricating supplying and installing in position all types of railing to spiral stairs, other stairs, terrace and all other locations as called for with Stainless Steel of SS Grade-304 consisting of tubes of various sizes like 50mm, 40mm, 25mm, 18mm dia etc., S.S. flats, S.S perforated sheet, S.S. plate, solid square and circular bars etc. arranged in verticals and horizontal with spacing as required and anchored to sides/tops of steps/slab as shown, hand rail and all other stainless steel pipes (wall thickness, minimum 1.5 mm), S.S. plate, S.S. Flat, S.S perforated sheet etc., fixed to stainless steel verticals through shaped custom fabricated SS flanges, S.S. caps and nuts, plates etc., as shown including approved brackets and fittings, anchoring arrangement such as fastener (Fisher or Hilti or approved equivalent), all fixing accessories, all cutting, bending, welding, grinding, drilling, tapping, weep hole and all other incidentals, and approved buffing to stainless steel members as directed by the Engineer-in-charge. complete. The railing is 1000 mm to 1500 mm high (approx.) from top of finishing tread. The hand railing and other horizontal members shall be bend to the correct radius, profiles, shapes required by the Architect, by the appropriate means without losing the profile of the pipe. | 28000 | Kg   | 636.93           | 17833924.30        |
| 9.00 | FLOORING  |       |      |                  |                    |

| SLNo | Description   | Qty   | Unit  | Rate Without GST | Amount Without GST |
|------|---|-------|-------|------------------|--------------------|
| 9.01 | 52 mm thick cement concrete flooring with concrete hardener topping, under layer 40 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and top layer 12 mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) by volume, hardening compound mixed @ 2 litre per 50 kg of cement or as per manufacturer's specifications. This includes cost of cement slurry, but excluding the cost of nosing of steps etc. complete.   | 50    | sqm   | 806.84           | 40341.80           |
| 9.02 | Cement plaster skirting up to 30 cm height, with cement mortar 1:3 (1 cement: 3 coarse sand), finished with a floating coat of neat cement.   |       |       |                  |                    |
| 9.03 | 18 mm thick   | 40    | sqm   | 545.93           | 21837.22           |
| 9.04 | Providing and fixing glass strips in joints of terrazo/ cement concrete floors.   |       |       |                  |                    |
| 9.05 | 40 mm wide and 4 mm thick   | 100   | metre | 75.66            | 7565.76            |
| 9.06 | Extra for pre finished nosing to treads of steps of marble stone.   | 50    | metre | 593.63           | 29681.70           |
| 9.07 | Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :  |       |       |                  |                    |
| 9.08 | 25 mm thick   | 18150 | sqm   | 1606.54          | 29158685.17        |
| 9.09 | Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.   | 2450  | sqm   | 1941.70          | 4757165.83         |
| 9.10 | Extra for pre finished nosing in treads of steps of Kota stone/ sand stone slab.  | 400   | metre | 157.83           | 63131.85           |
| 9.11 | Extra for Kota stone/ sand stone in treads of steps and risers using single length above normal size up to 2.00 metre.  | 57    | sqm   | 36.41            | 2075.16            |
| 9.12 | Fixing glazed/ Ceramic/ Vitrified floor tiles with cement based high polymer modified quick-set tile adhesive (Water based) conforming to IS: 15477, in average 3 mm thickness.   | 700   | sqm   | 621.13           | 434794.26          |
| 9.13 | Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) to the pattern called for , keeping the joints 4 mm wide & 6 mm deep allround for epoxy grouting. The joint should be filled with approved quality anti-fungal epoxy grout of M/s Laticrete or epoxy grout of Ardex Endura or approved equivalent, as per manufacturer specifications or as directed by Engineer-in-Charge (Cost of epoxy grout filled in joints are paid under their respective item) This item include cutting of stone slabs, all wastage and rubbing and polishing complete . Allow for protection of stone using approved method. |       |       |                  |                    |
| 9.14 | 25 mm thick.  | 830   | Sqm   | 1606.54          | 1333427.48         |
| 9.15 | Providing & Grouting of Stone Joints (4 mm width & 6 mm deep) in flooring with Polymer based Cement Grout of desired shade, including filling / grouting and finishing complete as per direction of Engineer-in-charge.   |       |       |                  |                    |
| 9.16 | Size of stone 450 mm x 450 mm   | 100   | Sqm   | 114.74           | 11474.40           |
| 9.17 | Size of stone 600 mm x 600mm  | 1197  | Sqm   | 109.23           | 130745.13          |
| 9.18 | Grouting the joints of Wall / flooring tiles having joints of 3 mm width & 4mm deep, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling / grouting and finishing complete as per direction of Engineer-in-charge.  |       |       |                  |                    |
| 9.19 | Size of Tile 300 mm x 600 mm  | 10058 | Sqm   | 213.51           | 2147453.91         |
| 9.20 | Extra for using prepolished Kota stone slab flooring instead of kota stone slab flooring  |       |       |                  |                    |
| 9.21 | 25 mm thick.  | 500   | sqm   | 378.71           | 189356.37          |

| SLNo | Description  | Qty  | Unit | Rate Without GST | Amount Without GST |
|------|--|------|------|------------------|--------------------|
| 9.22 | Providing & fixing machine-cut & machined polished Stone in treads of steps, sill, copings, parapet top, window sill, planter top and such other locations, laid on 20 mm (average) thick cement mortar 1:4 (1cement:4coarse sand) including a base coat of neat cement slurry @ 4.4 kg/sqm and jointed with grey cement slurry mixed with pigment to match the shades of the slabs, including rubbing and polishing complete. The Stone used should be in one single long piece up to 2000 mm as per drawing, or as directed by Engineer-in-charge. The exposed projected edges shall be of uniform thickness and of uniform projection.  |      |      |                  |                    |
| 9.23 | Kota Stone 25mm thick  | 2050 | Sqm  | 2006.32          | 4112965.70         |
| 9.24 | Providing & laying 25 to 30 mm thick Acid and alkaline proof Red Mandana stone of approved size for flooring or similar location etc., over 25mm (average) thick base in cement mortar 1:4 (1 cement : 4 coarse sand to the pattern called for .This item include cutting of stone slabs, all wastage and rubbing and polishing complete . Allow for protection of stone using approved method. The Stone used for steps should be in one single long piece up to 1500 mm as per drawing, or as directed by Engineer-in-charge. The exposed projected edges shall be of uniform thickness and of uniform projection.   | 1900 | Sqm  | 1973.21          | 3749096.23         |
| 9.25 | Providing & laying 25 to 30 mm thick Acid and alkaline proof Red Mandana stone of approved size for flooring or similar location etc., over 25mm (average) thick base in cement mortar 1:4 (1 cement : 4 coarse sand to the pattern called for , keeping the joints 4 mm wide & 6 mm deep around for epoxy grouting. The joint should be filled with approved quality anti-fungal epoxy grout of M/s Laticrete or epoxy grout of Ardex Endura or approved equivalent, as per manufacturer specifications or as directed by Engineer-in-Charge ( cost of epoxy grout filled in joints are paid under their respective item ) This item include cutting of stone slabs, all wastage and rubbing and polishing complete . Allow for protection of stone using approved method. The Stone used for steps should be in one single long piece up to 1500 mm as per drawing, or as directed by Engineer-in-charge. The exposed projected edges shall be of uniform thickness and of uniform projection. | 360  | Sqm  | 1973.21          | 710355.08          |
| 9.26 | Providing and laying Mandana stone skirting, risers etc as per technical specification over 12 mm thick cement mortar CM 1:3 (1 part cement with acid and alkali proof powder: 3 parts coarse sand) bedding over two coats of acid and alkali proof primer including filling the joints with epoxy, polishing etc complete. The risers of steps should be in one single long piece up to 1500mm length as per the drawing.   | 25   | Sqm  | 2308.39          | 57709.66           |
| 9.27 | Extra for providing Sand blasted Leather finish to flooring / skirting / Treads / Riser / Dado etc., as per architectural drawing and direction of Engineer in charge.   |      |      |                  |                    |
| 9.28 | Kota stone / Mandana stone   | 2043 | sqm  | 378.68           | 773651.27          |
| 9.29 | Providing and laying Gang-saw-cut, prepolished to mirror finish machine cut approved quality Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) with cement paste @ 4.4 Kg/SqM , laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rounding off & polishing the exposed edges as per the drawing or as directed, necessary curing, rubbing, polishing, protection of finished surface, cleaning the same finally etc., all complete as specified and as directed by the Engineer-in-Charge. (Only finished granite work shall be measured & considered for payment. (Basic rate of Granite Rs. 2300/- per sqm (F.O.R at site including GST)).   | 500  | sqm  | 4069.04          | 2034518.02         |

| SLNo | Description  | Qty  | Unit | Rate Without GST | Amount Without GST |
|------|--|------|------|------------------|--------------------|
| 9.30 | Providing and laying Gang-saw-cut, 18 mm thick pre-polished to mirror finish machine cut approved quality Granite stone of required size & shape (length and width of the stone slab), colour in approved pattern, single piece in skirting, risers of uniform colour, texture and pattern over 12 mm thick cement mortar 1:3 ( 1 part cement : 3 part coarse sand ) with cement paste @ 4.4 Kg/Sqm filling of joints with white cement / cement mixed with colour pigments to match the shade, applying epoxy based damp proof coating on the base concrete/wall surface, polishing the exposed edges as per the drawing, necessary curing, polishing, protection of finished surface, cleaning the same finally etc. complete as directed. The stone used should be in one single long piece up to 2000mm length as per the drawing. (Only finished granite work shall be measured & considered for payment. (Basic rate of Granite Rs. 2300/- per sqm. (F.O.R at site including GST))   | 45   | Sqm  | 4146.32          | 186584.32          |
| 9.31 | Providing & fixing prepolished Gang saw cut, 18 mm Granite Stone in treads of steps, sill, copings, parapet top, window sill, planter top and such other locations, laid on 20 mm (average) thick cement mortar 1:4 (1 cement:4 coarse sand) including a base coat of neat cement slurry @ 4.4 kg/sqm and jointed with white cement slurry mixed with pigment to match the shades of the slabs, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all level. The Stone used should be in one single long piece up to 2000 mm as per drawing, or as directed by Engineer-in-charge. The exposed projected edges shall be of uniform thickness and of uniform projection. (Only finished granite work shall be measured & considered for payment. (Basic rate of Granite Rs. 2300/- per sqm. (F.O.R at site including GST))   | 40   | Sqm  | 4080.44          | 163217.61          |
| 9.32 | Extra for providing Sand blasted Leather finish to flooring / skirting / Treads / Riser / Dado etc., as per architectural drawing and direction of Engineer in charge.   |      |      |                  |                    |
| 9.33 | Granite stone  | 75   | sqm  | 441.79           | 33134.33           |
| 9.34 | Providing and laying standard quality antiskid vitrified floor tiles of size 60 X 30 cm / 60 X 60 cm Desert Crema (eternity series) of Kajaria world or approved equivalent with minimum thickness of 9 mm (+/- 1mm) as per manufacturers specification, shade, colour and pattern as per drawings in flooring, skirting & dados including keeping the joints 3 mm wide & minimum 4 mm deep around & filled with approved quality epoxy grout, curing etc., complete as per detail specification below :<br>(1) Cleaning the surface thoroughly with wire brush. (2) Applying bonding coat with neat cement slurry on concrete surface. (3) Laying 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand) admixed with Laticrete 3642 or equivalent admixture in proportion (50 kg cement+200 kg sand+3 litre Laticrete 3642 + requisite water). (4) Fixing tiles with neat cement by using slurry bond coat admixed with Laticrete 3642 or equivalent admixture in proportion (50 kg cement+5 litre Laticrete 3642 + water). The joint should be filled with approved quality epoxy grout ( Payment for grouting of joints with epoxy grout to be made separately under their respective items ) etc., complete as per manufacturer's specification & direction of engineer incharge. ( Basic rate of vitrified tile shall be Rs 765 /- per sq mtr (F.O.R at site including GST)) | 4005 | Sqm  | 1646.46          | 6594065.56         |
| 9.35 | Grouting the joints of flooring tiles having joints of 3 mm width & 4mm deep, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling / grouting and finishing complete as per direction of Engineer-in-charge.  |      |      |                  |                    |
| 9.36 | Size of Tile 300 mm x 300 mm   | 1305 | sqm  | 225.07           | 293713.01          |
| 9.37 | Size of Tile 600 mm x 600mm  | 2700 | sqm  | 175.42           | 473634.56          |
| 9.38 | Rough dressed Kota stone paving and other finishing work to the pattern called for using 30 mm (nominal) thick Kota stone slabs with machine cut edges (straight or raked as called for) of sizes 600x600mm laid over a 20mm thick bed of cement mortar 1:4 ( 1 cement :4 coarse sand) including a base coat of neat cement slurry @ 4.4 kg/sqm with fine joints filled with cement mortar 1:2 (1 cement :2 coarse sand) pigmented to match the stone and finished neat as directed and cured complete.  | 590  | sqm  | 1185.18          | 699257.28          |
| 9.39 | Providing & fixing shelves & vertical partitions of cupboards as per detail given below.   |      |      |                  |                    |

| SLNo  | Description  | Qty  | Unit | Rate Without GST | Amount Without GST |
|-------|--|------|------|------------------|--------------------|
| 9.40  | Shelves and vertical partitions of cupboards shall be of 20 mm thick Mandana stone slab of uniform thickness, colour and size as specified in GFC drawing. Each horizontal shelf shall be a single piece and vertical partitions between two consecutive horizontal shelves shall be a single piece without any joint. Exposed edges of stones shall be of uniform thickness with chamfered edges.<br>The stone surfaces shall be anchored / embedded (by cutting chase with chase cutter / fine tools) in the masonry walls & shall be laid in mortar of specified mix & neat cement slurry and fixed as shown in GFC drawing or as directed by the Engineer-in-Charge. The arrangement of shelves and vertical partitions shall be as per drawings or as directed by the Engineer-in-Charge. Fixing of stone to stone wherever may occur with epoxy resin based adhesive of approved make as per manufacturers specification or as per details given in GFC drawings. All the sides and surfaces of slabs shall be polished as shown in GFC drawings or as directed by the Engineer-in-Charge.   | 2580 | sqm  | 1810.01          | 4669827.66         |
| 10.00 | ROOFING  |      |      |                  |                    |
| 10.01 | Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 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.  | 25   | each | 245.94           | 6148.47            |
| 10.02 | Providing and fixing false ceiling at all heights including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50 mm long with 6 mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25 mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, difusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with : |      |      |                  |                    |
| 10.03 | 12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- (Part I) :2011 (Board with BIS certification marks)  | 50   | sqm  | 1118.00          | 55900.06           |



| SLNo  | Description   | Qty | Unit | Rate Without GST | Amount Without GST |
|-------|---|-----|------|------------------|--------------------|
| 10.04 | Providing & fixing false ceiling at all height including providing & fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/ sqm (both side inclusive) as per IS : 277 and consisting of angle cleat of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm c/c, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50 mm long with 6 mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I channels 45 x15 x 0.90 mm running at the spacing of 1200 mm c/c, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450 mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64 mm dia x 230 mm long G.I wire at every junction, including fixing perimeter channels 0.50 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/ partitions with the help of Rawl plugs at 450 mm centre, with 25 mm long dry wall screws @ 230 mm interval, including fixing of Calcium Silicate Board to ceiling section and perimeter channels with the help of dry wall screws of size 3.5 x25 mm at 230 mm c/c, including jointing & finishing to a flush finish of tapered and square edges of the board with recommended jointing compounds, jointing tapes, finishing with jointing compounds in three layers covering up to 150 mm on both sides of joints and two coats of primer suitable for boards, all as per manufacture's specification and also including the cost of making opening for light fittings, grills, difusers, cut outs made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in charge but excluding the cost of painting with: |     |      |                  |                    |
| 10.05 | 8 mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process.  | 405 | sqm  | 1296.53          | 525094.01          |
| 10.06 | Extra for providing 12 mm thick Calcium Silicate Board instead of 8 mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process.  | 405 | Sqm  | 257.48           | 104277.40          |
| 10.07 | Providing and fixing 65 mm dia GI spout 400 mm long at all levels and locations including cutting & making good the walls and painting the spout and all incidentals complete.  | 60  | Each | 346.74           | 20804.32           |
| 10.08 | Supply & Fixing of Aluminium metal ceiling consisting of 600 mm X 600 mm / 600 mm x 1200 mm Aluminium Lay-in plain tiles in 0.7 mm thickness. The tile shall be Powder coated minimum 60microns in the manufacture's standard colour shades, with Microlook edges and flanges, produced on advanced equipment, which includes several levelling stages in the manufacturing process. The tiles should have Fire Performance of Class 0/Class 1 as per BS476 Part 6 & 7 standard in module size of 600x600 mmss.   |     |      |                  |                    |
| 10.09 | Frame work & Installation for aluminium false ceiling   |     |      |                  |                    |
| 10.10 | All tiles to be installed on a standard 600mm x 600mm module 15mm table exposed metal grid. Grid system to be designed to satisfy ASTM C635 loading and deflection criteria. The main and cross runners to be provided with bayonet coupling for quick installation and shall have a height of 38mm.  |     |      |                  |                    |

| SLNo  | Description   | Qty  | Unit | Rate Without GST | Amount Without GST |
|-------|---|------|------|------------------|--------------------|
| 10.11 | The tile false ceiling suspended on inter locking metal grid of hot dipped galvanized steel sections ( galvanized @120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 15 x38mm made from 0.30 mm thick (minimum) sheet, spaced at 1200mm center to center and cross "T" of size 15 x 38 mm made of 0.30mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 15 x 38 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 19x19x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using M6 Anchor Fasteners with hanger hole, pre Straightened Hanger wire of dia. 2.5 mm of 1.80 m length having a tensile strength of 344-413 MPa and a minimum pull strength of 110 kgs. Adjustable hook clips of 0.7mm thick, galvanized spring steel can also be used for installation purpose as an additional accessory. The adjustable clip also consists of a 4 mm aquiline wire to be used with the main runner. |      |      |                  |                    |
| 10.12 | The first/last suspension system at the end of each main runner should not be greater than 450mm from the adjacent wall. Bottom exposed width of 15 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge  |      |      |                  |                    |
| 10.13 | Finally the tiles shall be laid in place from below into the standard grid. In case of end tiles lesser than 600mm, use lay-in end cap / edge profile for installation to have a Microlook effect on perimeters. This system also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channel suitably fixed all complete as per drawing and specification and direction of the Engineer-in-charge.   | 2250 | Sqm  | 2513.28          | 5654889.92         |
| 10.14 | Supply & Fixing of Aluminium Metal Ceilings system Microlook, Micro Perforated (having 1.8 mm diameter holes & 20 % open area) consisting of 600 mm X 600 mm / 600 mm x 1200 mm Lay in tiles in 0.7 mm thick Aluminum pre coated to Global white color with Acoustical fleece of soundtex or equivalent make hot pressed on the back of the perforated tile. The tile shall be Powder coated minimum 60 to 80microns in the manufacture's standard colour shades. The tiles would have NRC of 0.70. The tiles would have Fire Performance of Class 0/Class 1 as per BS476 Part 6 & 7 standard in module size of 600x600 mm.   |      |      |                  |                    |
| 10.15 | Frame work & Installation for aluminium false ceiling   |      |      |                  |                    |
| 10.16 | All tiles to be installed on a standard 600mm x 600mm module 15mm table exposed metal grid. Grid system to be designed to satisfy ASTM C635 loading and deflection criteria. The main and cross runners to be provided with bayonet coupling for quick installation and shall have a height of 38mm.  |      |      |                  |                    |
| 10.17 | The tile false ceiling suspended on inter locking metal grid of hot dipped galvanized steel sections ( galvanized @120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 15 x38mm made from 0.30 mm thick (minimum) sheet, spaced at 1200mm center to center and cross "T" of size 15 x 38 mm made of 0.30mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 15 x 38 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 19x19x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using M6 Anchor Fasteners with hanger hole, pre Straightened Hanger wire of dia. 2.5 mm of 1.80 m length having a tensile strength of 344-413 MPa and a minimum pull strength of 110 kgs. Adjustable hook clips of 0.7mm thick, galvanized spring steel can also be used for installation purpose as an additional accessory. The adjustable clip also consists of a 4 mm aquiline wire to be used with the main runner. |      |      |                  |                    |

| SLNo  | Description   | Qty   | Unit                                   | Rate Without GST | Amount Without GST |
|-------|---|-------|--|------------------|--------------------|
| 10.18 | The first/last suspension system at the end of each main runner should not be greater than 450mm from the adjacent wall. Bottom exposed width of 15 mm of allT-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge   |       |  |                  |                    |
| 10.19 | Finally the tiles shall be laid in place from below into the standard grid. In case of end tiles lesser than 600mm, use lay-in end cap / edge profile for installation to have a Microlook effect on perimeters. This system also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channel suitably fixed all complete as per drawing and specification and direction of the Engineer-in-charge.   | 65    | Sqm                                    | 2960.35          | 192422.94          |
| 10.20 | Providing and fixing ceramic based Heat Resistant Terrace Tiles (300 mm x 300 mm x 10 mm) with SRI (solar refractive index) > 90, solar reflection > 0.78 and initial emittance > 0.78, Water absorption < 0.5% on waterproof and sloped surface of terrace, including fixing tiles with cement based high polymer modified quick set tile adhesive (water based) conforming to IS: 15477, in average 6 mm thickness, keeping the joints 4 mm wide & minimum 4 mm deep allround & the joint should be filled with approved quality Cementitious grout 500 series sanded grout & grout admix 1776 manufactured by M/s Laticrete or super grout & admix GT1 of Ardex Endura or approved equivalent as per manufacturer specifications or as directed by the Engineer-in-charge. The laying of Tile shall be got done through the authorized applicator of the manufacturer. Skirting upto 150 mm height shall be provided along the parapet walls in the same manner as shown in the GFC drawing or as directed by the Engineer-in-charge. Basic rate of 10 mm thick heat resistant tile 650/- per sqm (F.O.R at site including GST). | 3500  | sqm                                    | 1292.84          | 4524948.46         |
| 11.00 | FINISHING   |       |  |                  |                    |
| 11.01 | 12 mm cement plaster of mix:  |       |  |                  |                    |
| 11.02 | 1:4(1 cement: 4 coarse sand)  | 460   | sqm                                    | 294.67           | 135549.60          |
| 11.03 | 1:6 (1 cement: 6 coarse sand)   | 30350 | sqm                                    | 283.38           | 8600459.72         |
| 11.04 | 15 mm cement plaster on rough side of single or half brick wall of mix:   |       |  |                  |                    |
| 11.05 | 1:6(1 cement: 6 coarse sand)  | 25700 | sqm                                    | 326.01           | 8378407.69         |
| 11.06 | 12 mm cement plaster finished with a floating coat of neat cement of mix:   |       |  |                  |                    |
| 11.07 | 1:4(1 cement: 4 fine sand)  | 230   | sqm                                    | 350.91           | 80709.57           |
| 11.08 | Cement plaster 1:3(1 cement: 3 coarse sand) finished with a floating coat of neat cement.   |       |  |                  |                    |
| 11.09 | 12 mm cement plaster  | 315   | sqm                                    | 370.70           | 116771.05          |
| 11.10 | 20 mm cement plaster  | 2700  | sqm                                    | 484.21           | 1307363.73         |
| 11.11 | 15 mm cement plaster 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement on the rough side of single or half brick wall.   | 1004  | sqm                                    | 417.75           | 419416.51          |
| 11.12 | 18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) and a top layer 6 mm thick cement plaster 1:3 (1 cement: 3 coarse sand) finished rough with sponge.  | 27200 | sqm                                    | 443.18           | 12054621.92        |
| 11.13 | 6 mm cement plaster of mix:   |       |  |                  |                    |
| 11.14 | 1:3(1 cement :3 fine sand)  | 27800 | sqm                                    | 247.75           | 6887531.95         |
| 11.15 | Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturers.   | 5050  | per bag of 50kg cement used in the mix | 18.22            | 92030.18           |
| 11.16 | Distempering with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gram/litre, of approved manufacturer and of required shade and colour all complete to achieve even shade and colour:  |       |  |                  |                    |
| 11.17 | New work (two or more coats) over and including water thinnable priming coat with cement primer having VOC content less than 50 gram/litre  | 80600 | sqm                                    | 153.09           | 12338904.92        |
| 11.18 | Finishing walls with water proofing cement paint of required shade:   |       |  |                  |                    |
| 11.19 | New work (Two or more coats applied @ 3.84 kg/10 sqm)   | 2470  | sqm                                    | 96.40            | 238099.28          |
| 11.20 | Finishing walls with textured exterior paint of required shade:   |       |  |                  |                    |

| SLNo  | Description   | Qty   | Unit  | Rate Without GST | Amount Without GST |
|-------|---|-------|-------|------------------|--------------------|
| 11.21 | New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm   | 100   | sqm   | 184.38           | 18438.20           |
| 11.22 | Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade:   |       |       |                  |                    |
| 11.23 | New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 0.90 litre/10 sqm)   | 33230 | sqm   | 141.09           | 4688425.00         |
| 11.24 | Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade:  |       |       |                  |                    |
| 11.25 | Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture  | 4410  | sqm   | 186.57           | 822761.19          |
| 11.26 | Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.   | 51500 | sqm   | 128.68           | 6627009.98         |
| 11.27 | Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound ) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.   |       |       |                  |                    |
| 11.28 | Two coats   | 1365  | sqm   | 117.75           | 160733.90          |
| 11.29 | Providing & applying on new work three coats (first two coats are with brush and final coat is with roller) of Glossy or Matt/luster enamel paint of desired shade, of approved make, shade, brand and manufacture, on any surfaces, at all heights, to give an even shade, including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papering smooth. The paint shall be applied after applying a coat of primer of approved brand and preparation of base surface using plaster of paris putty / white cement putty / metal putty / wooden primer & putty etc. as applicable.  | 10706 | Sqm   | 186.57           | 1997388.06         |
| 11.30 | Providing and fixing approved galvanized chicken wire mesh (24 gauge 12 mm size) to junction of concrete and masonry work and other locations where called for at all the heights with necessary scaffolding etc. including cutting to required sizes, side laps of minimum 75 mm and fixing in position with galvanized wire nails as approved complete.   | 3190  | Sqm   | 142.44           | 454391.52          |
| 12.00 | ROAD WORK   |       |       |                  |                    |
| 12.01 | Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earthwith lead upto 50 metres.   | 5500  | sqm   | 180.51           | 992784.70          |
| 12.02 | Supplying and stacking at site.   |       |       |                  |                    |
| 12.03 | Good earth  | 200   | cum   | 639.48           | 127896.43          |
| 12.04 | Providing and laying design mix cement concrete of M-30 grade, in roads/ taxi tracks/ runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, including steel form work with sturdy M.S. channel sections, curing, making provision for contraction/ expansion, construction & longitudinal joints (10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer- in-charge (Item of joint fillers, sealants, dowel bars with sleeve/ tie bars to be paid separately). Note:- Cement content considered in M-30 is @ 340 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately. |       |       |                  |                    |
| 12.05 | Cement concrete prepared with batch mixing machine  | 560   | cum   | 8682.57          | 4862237.98         |
| 12.06 | Extra for providing and mixing hardening compound of approved quality as per manufacturer's specification in cement concrete.   | 6700  | litre | 45.77            | 306629.83          |

| SLNo  | Description   | Qty  | Unit | Rate Without GST | Amount Without GST |
|-------|---|------|------|------------------|--------------------|
| 12.07 | Providing and laying 75 mm thick compacted bed of dry brick aggregate of 40 mm thick nominal size including spreading, well ramming, consolidating and grouting with jamuna sand, including finishing smooth etc. complete as per direction of Engineer-in-charge.  | 2900 | sqm  | 164.39           | 476717.24          |
| 12.08 | Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5 mm), including making drainage opening wherever required complete etc. as per direction of Engineer- in-charge (length of finished kerb edging shall be measured to calculate volume for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).   | 110  | cum  | 8343.04          | 917733.98          |
| 12.09 | Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately). (Note:- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately).   | 213  | cum  | 8100.77          | 1725463.35         |
| 12.10 | Construction of dry lean cement concrete sub base over a prepared sub- grade with coarse and fine aggregate conforming to IS:383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specifications, cement content not to be less than 150 Kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, for all leads & lifts, laid with a mechanical paver, compacting with 8-10 tonne vibratory roller, finishing and curing etc. complete as per direction of Engineer-in- charge.   | 450  | cum  | 3421.00          | 1539451.22         |
| 12.11 | Providing and laying 80mm exposed aggregate finished path with an under layer 50mm thick cement concrete 2:4:7 (2 cement :4 coarse sand:7graded stone aggregate 30mm nominal size) and top layer of 30mm thick jaisalmer/ red sandstone/ dholpur sandstone/ delhi quartzite stone washed grit paving n grey cement mixed with required pigment in the ratio 1:1.5 ( 1 grey cement : 1.5 pigment) and with cement concrete 1:0.50:2 (1cement : 0.50 coarse sand : 2 white sand stone chipping 10mm normal size) over under layer in panels as per approved pattern including scrubbing and washing the top layer with brushes and water to expose the stone chipping and furrowing the existing under layer with scratching tool and applying slurry over the under layer 2.00kg of cement per square metre, forming grooves of 15mm x 15mm, providing and removing wooden battens, repair of edges & finishing the groove complete as per specification and direction of consultant and Engineer-in-Charge. | 1120 | sqm  | 1271.36          | 1423924.80         |
| 12.12 | Providing and laying 40mm Rough Kota stone slab flooring over 20 mm (average) thick with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :40 mm thick. (size 1100 x 550) including making joint widths 3mm and no mortar to be visible on the surface, complete.   | 1700 | sqm  | 1771.09          | 3010851.82         |
| 12.13 | Providing and laying 30mm thick Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1: 4 (1 cement : 4 coarse sand) :   | 25   | sqm  | 1934.69          | 48367.28           |
| 12.14 | Providing and laying 30mm thick Kota stone slabs in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.  | 54   | Sqm  | 1934.69          | 104473.32          |
| 12.15 | Providing and fixing 30mm thk Kota Stone work, plain in copings, cornices, string courses and plinth courses, upto 75 mm thick 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.  | 57   | Sqm  | 2309.80          | 131658.86          |

| SLNo  | Description  | Qty  | Unit                                    | Rate Without GST | Amount Without GST |
|-------|--|------|---|------------------|--------------------|
| 12.16 | Providing and laying compacted manner water bound macadam/ wet mixed macadam in two layers of 75 to 100 mm thick of machine crushed stone metal of size 45 to 63 mm & 45 to 90 mm with using 25% stones screenings as filler and with binding material murrum including screening, sorting, spreading to template, watering and consolidation of each layer with 8 to 10 tonne capacity power road roller etc complete. Rate to include cost of all materials, labours and compaction of soil layer below as per direction of the engineer. - Double layer metaling.   | 1009 | Cum                                     | 2686.35          | 2710529.94         |
| 12.17 | Providing & fixing 32mm dia M.S dowel bars with 1.25mm thick grade flexible PVC sleeves in one side for free movement and fixed in concrete road as directed by the Engineer-in-charge   | 2020 | kg                                      | 70.26            | 141918.03          |
| 12.18 | Providing and laying in position polysulphides sealant for expansion joints, construction joints, of size 10X10mm grooves, etc. of Pidilite industries Ltd. Including surface preparation, applying primer, sealant for expansion joints etc.  | 1640 | per cm width, per cm depth per m length | 69.68            | 114273.93          |
| 12.19 | Providing and laying Separation Membrane of impermeable plastic sheeting HDPE 125 micron thick as per required specification   | 2810 | sqm                                     | 15.59            | 43794.01           |
| 12.20 | Providing and laying 500x500x40 mm thick Turf paver (Turf pave XD) on 150 mm thick sub grade of compacted bed of 20 mm thick nominal size stone aggregate and base course and filling with not more than 50mm thick jamuna sand, including spreading, well ramming, consolidating and finishing smooth etc. all complete as per direction of Engineer-in-charge.   | 1180 | sqm                                     | 1103.24          | 1301824.03         |
| 12.21 | Providing and laying 450 mm X 450mm X upto 900mm deep RCC foundation for fixing canopies/ light poles etc.. Suitable MS Bolts/ MS plates including cutting / welding all process complete as per manufacturer's recommendation. The cost of foundation shall include centring, shuttering and required reinforcement. Provision for electrical conduits to be left in the foundation as per shop drawing. MS plate and bolts to be covered with protection screed after fixing of poles and finally 300mm X 300mm X 30mm Kota coping stone to be provided with all joints sealed with approved silicon sealant to make it weatherproof. All work to be done as per draing and as directed by Enginner-in-Charge. | 56   | Nos.                                    | 4213.74          | 235969.32          |
| 13.00 | SANITARY INSTALLATIONS   |      |   |                  |                    |
| 13.01 | Providing and fixing water closet squatting pan (Indian type W.C. pan ) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:   |      |   |                  |                    |
| 13.02 | White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests  | 52   | each                                    | 5580.44          | 290182.90          |
| 13.03 | Providing and fixing kitchen sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P. brass waste complete, including painting the fittings and brackets, cutting and making good the walls wherever required:   |      |   |                  |                    |
| 13.04 | White glazed fire clay kitchen sink of size 600x450x 250 mm  | 48   | each                                    | 3209.99          | 154079.33          |
| 13.05 | Providing and fixing soil, waste and vent pipes :  |      |   |                  |                    |
| 13.06 | 100 mm dia   |      |   |                  |                    |
| 13.07 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905  | 2655 | metre                                   | 964.21           | 2559983.10         |
| 13.08 | 75 mm diameter :   |      |   |                  |                    |
| 13.09 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905  | 305  | metre                                   | 795.13           | 242513.61          |
| 13.10 | Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.  |      |   |                  |                    |
| 13.11 | 100 mm dia   |      |   |                  |                    |
| 13.12 | Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905   | 540  | each                                    | 467.72           | 252567.00          |
| 13.13 | 75 mm dia  |      |   |                  |                    |
| 13.14 | Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905   | 115  | each                                    | 345.47           | 39728.91           |
| 13.15 | Providing and fixing plain bend of required degree.  |      |   |                  |                    |
| 13.16 | 100 mm dia   |      |   |                  |                    |
| 13.17 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905  | 240  | each                                    | 303.46           | 72829.22           |

| SLNo  | Description   | Qty | Unit | Rate Without GST | Amount Without GST |
|-------|---|-----|------|------------------|--------------------|
| 13.18 | 75 mm dia   |     |      |                  |                    |
| 13.19 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905   | 20  | each | 208.21           | 4164.26            |
| 13.20 | Providing and fixing double equal plain junction of required degree.  |     |      |                  |                    |
| 13.21 | 100x100x100x100 mm  |     |      |                  |                    |
| 13.22 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905   | 20  | each | 627.28           | 12545.56           |
| 13.23 | 75x75x75x75 mm  |     |      |                  |                    |
| 13.24 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905   | 80  | each | 345.47           | 27637.50           |
| 13.25 | Providing and fixing single equal plain junction of required degree :   |     |      |                  |                    |
| 13.26 | 100x100x100 mm  |     |      |                  |                    |
| 13.27 | Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905  | 115 | each | 479.47           | 55138.74           |
| 13.28 | 75x75x75 mm   |     |      |                  |                    |
| 13.29 | Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905  | 20  | each | 278.59           | 5571.86            |
| 13.30 | Providing and fixing door piece, insertion rubber washer 3 mm thick, bolts & nuts complete :  |     |      |                  |                    |
| 13.31 | 100 mm  |     |      |                  |                    |
| 13.32 | Sand cast iron S&S as per IS - 3989   | 540 | each | 563.91           | 304509.77          |
| 13.33 | 75 mm   |     |      |                  |                    |
| 13.34 | Sand cast iron S&S as per IS - 3989   | 115 | each | 442.81           | 50923.56           |
| 13.35 | Providing and fixing terminal guard :   |     |      |                  |                    |
| 13.36 | 100 mm  |     |      |                  |                    |
| 13.37 | Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905  | 20  | each | 352.77           | 7055.33            |
| 13.38 | 75 mm   |     |      |                  |                    |
| 13.39 | Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905  | 20  | each | 333.76           | 6675.19            |
| 13.40 | Providing and fixing shielded coupling for Hubless centrifugally cast iron pipe   |     |      |                  |                    |
| 13.41 | 100 mm dia  |     |      |                  |                    |
| 13.42 | SS 304 grade coupling with EPDM rubber gasket   | 20  | each | 356.27           | 7125.42            |
| 13.43 | 75 mm dia   |     |      |                  |                    |
| 13.44 | SS 304 grade coupling with EPDM rubber gasket   | 20  | each | 320.81           | 6416.26            |
| 13.45 | Providing and fixing M.S. stays and clamps for sand cast iron/ centrifugally cast (spun) iron pipes of diameter :   |     |      |                  |                    |
| 13.46 | 100 mm  | 990 | each | 115.20           | 114045.52          |
| 13.47 | 75 mm   | 190 | each | 74.46            | 14147.77           |
| 13.48 | Providing and fixing 6 mm thick beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board backing with C.P. brass screws and washers complete as per drawing.   | 297 | sqm  | 5022.68          | 1491737.42         |
| 13.49 | Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :  |     |      |                  |                    |
| 13.50 | For 110mm inlet and 110mm outlet<br>Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905  | 305 | Each | 704.67           | 214923.52          |
| 13.51 | Providing and Fixing uPVC floor drain of the following sizes .  |     |      |                  |                    |
| 13.52 | 110 x 50 mm Size  | 165 | Each | 354.58           | 58505.81           |
| 13.53 | Providing and Fixing uPVC inlet fitting with one or more inlets (including fabrication at site if required. Service Saddle will be supplied by Client) from 110mm outer dia uPVC pipe and solvent welded sockets and fixed to uPVC Trap and set in cement concrete 1 : 2 : 4 (1 Cement ; 2 coarse sand : 4 aggregate stone of nominal size 20mm) as per drawing complete. | 255 | Each | 366.95           | 93572.19           |
| 13.54 | Providing & fixing cast brass clean out plug (FCO & COP) with suitable insert keys for opening, male threaded joint with G.I. socket caulked to soil pipe/waste pipe of C.I. and C.I. (LA) pipe as required. (Both for floor & along ceiling level)   |     |      |                  |                    |

| SLNo  | Description   | Qty  | Unit  | Rate Without GST | Amount Without GST |
|-------|---|------|-------|------------------|--------------------|
| 13.55 | 110 mm OD   | 150  | Each  | 1047.25          | 157087.49          |
| 13.56 | 160 mm OD   | 10   | Each  | 1463.68          | 14636.76           |
| 13.57 | Providing and Fixing uPVC pipes conforming to relevant IS class 6kg./cm2 including all fittings with or without access doors i.e bends, junctions, cowls, offsets, etc., and jointing with Solvent cement as per Manufacturer's specifications including cutting holes in walls and floors, wherever required and making good the same complete as directed by the Project-in-Charge. (Structural supports to be paid separately )  |      |       |                  |                    |
| 13.58 | 32 mm OD  | 390  | Metre | 49.48            | 19295.79           |
| 13.59 | 40 mm OD  | 20   | Metre | 49.48            | 989.53             |
| 13.60 | 50 mm OD  | 495  | Metre | 65.97            | 32654.41           |
| 13.61 | 63 mm OD  | 10   | Metre | 82.46            | 824.61             |
| 13.62 | 75 mm OD  | 10   | Metre | 98.95            | 989.53             |
| 13.63 | 90 mm OD  | 10   | Metre | 107.20           | 1071.99            |
| 13.64 | 110 mm OD   | 380  | Metre | 123.69           | 47002.56           |
| 13.65 | Providing and laying cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20mm and down gauge) 75mm in bed and alround C.I. soil and waste pipe. 100mm, 75mm and 50mm dia pipes under floor including centering and shuttering wherever required.  | 30   | metre | 521.80           | 15653.87           |
| 13.66 | Providing and fixing 125mm dia round bronze C.P frame and grating with connecting stainless steel screws, complete as per requirements. (VIJAYor equivalent) (Sample to be approved)  | 390  | Each  | 3241.32          | 1264113.53         |
| 14.00 | WATER SUPPLY  |      |       |                  |                    |
| 14.01 | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings and fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.   |      |       |                  |                    |
| 14.02 | 15 mm nominal dia Pipes   | 570  | metre | 410.49           | 233978.73          |
| 14.03 | 20 mm nominal dia Pipes   | 1695 | metre | 443.31           | 751407.60          |
| 14.04 | 25 mm nominal dia Pipes   | 355  | metre | 517.23           | 183618.17          |
| 14.05 | Providing and fixing G.I. pipes complete with G.I. fittings and clamps, including cutting and making good the walls etc. Internal work - Exposed on wall  |      |       |                  |                    |
| 14.06 | 20 mm dia nominal bore  | 140  | metre | 360.60           | 50484.04           |
| 14.07 | 25 mm dia nominal bore  | 260  | metre | 454.94           | 118283.17          |
| 14.08 | 32 mm dia nominal bore  | 185  | metre | 550.01           | 101752.29          |
| 14.09 | 40 mm dia nominal bore  | 200  | metre | 669.50           | 133899.56          |
| 14.10 | 50 mm dia nominal bore  | 345  | metre | 864.48           | 298244.21          |
| 14.11 | 65 mm nominal bore  | 285  | metre | 1172.53          | 334171.19          |
| 14.12 | 80 mm nominal bore  | 70   | metre | 1304.73          | 91330.92           |
| 14.13 | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work  |      |       |                  |                    |
| 14.14 | 25 mm dia nominal bore  | 200  | metre | 385.71           | 77141.91           |
| 14.15 | 32 mm dia nominal bore  | 135  | metre | 445.53           | 60147.19           |
| 14.16 | 65 mm dia nominal bore  | 900  | metre | 739.34           | 665407.77          |
| 14.17 | 80 mm dia nominal bore  | 1050 | metre | 858.99           | 901941.95          |
| 14.18 | Constructing masonry Chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement :4 coarse sand) for stop cock, with C. I. surface box 100x100 x75 mm (inside) with hinged cover fixed in reinforced cement concrete slab 1:1.5:3 mix (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size), including necessary excavation, foundation concrete 1:5:10 ( 1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size ) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design : |      |       |                  |                    |
| 14.19 | With common burnt clay F.P.S.(non modular) bricks of class designation 7.5  | 10   | each  | 1643.11          | 16431.10           |



| SLNo  | Description   | Qty  | Unit  | Rate Without GST | Amount Without GST |
|-------|---|------|-------|------------------|--------------------|
| 14.20 | Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep ( inside) with chained lid and RCC top slab 1:1.5:3 mix (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size), including necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design : |      |       |                  |                    |
| 14.21 | With common burnt clay F.P.S.(non modular) bricks of class designation 7.5  | 15   | each  | 8957.20          | 134358.04          |
| 14.22 | Repainting G.I. pipes and fittings with synthetic enamel white paint with one coat of approved quality :  |      |       |                  |                    |
| 14.23 | 20 mm diameter pipe   | 145  | metre | 9.32             | 1351.12            |
| 14.24 | 25 mm diameter pipe   | 270  | metre | 11.87            | 3206.07            |
| 14.25 | 32 mm diameter pipe   | 190  | metre | 14.22            | 2702.65            |
| 14.26 | 40 mm diameter pipe   | 210  | metre | 16.49            | 3463.35            |
| 14.27 | 50 mm diameter pipe   | 360  | metre | 19.67            | 7080.07            |
| 14.28 | 65 mm dia   | 295  | metre | 20.62            | 6081.47            |
| 14.29 | 80 mm dia   | 70   | metre | 22.26            | 1558.51            |
| 14.30 | Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality :  |      |       |                  |                    |
| 14.31 | 25 mm diameter pipe   | 200  | metre | 15.13            | 3026.30            |
| 14.32 | 32 mm diameter pipe   | 135  | metre | 18.31            | 2471.34            |
| 14.33 | 40 mm diameter pipe   | 900  | metre | 20.82            | 18739.18           |
| 14.34 | 50 mm diameter pipe   | 1050 | metre | 25.15            | 26408.02           |
| 14.35 | Providing and filling sand of grading zone V or coarser grade, allround the G.I. pipes in external work :   |      |       |                  |                    |
| 14.36 | 25 mm diameter pipe   | 200  | metre | 132.51           | 26502.84           |
| 14.37 | 32 mm diameter pipe   | 135  | metre | 135.98           | 18356.97           |
| 14.38 | 65 mm diameter pipe   | 900  | metre | 225.49           | 202939.72          |
| 14.39 | 80 mm diameter pipe   | 1050 | metre | 232.37           | 243992.74          |
| 14.40 | Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete (New work) :   |      |       |                  |                    |
| 14.41 | 20 mm nominal bore  | 20   | each  | 285.97           | 5719.47            |
| 14.42 | 25 mm nominal bore  | 40   | each  | 362.21           | 14488.33           |
| 14.43 | 32 mm nominal bore  | 30   | each  | 403.27           | 12098.21           |
| 14.44 | 40 mm nominal bore  | 50   | each  | 520.57           | 26028.70           |
| 14.45 | 50 mm nominal bore  | 10   | each  | 679.31           | 6793.11            |
| 14.46 | 65 mm nominal bore  | 30   | each  | 937.41           | 28122.37           |
| 14.47 | Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 :  |      |       |                  |                    |
| 14.48 | 15 mm nominal bore  | 163  | each  | 417.91           | 68119.40           |
| 14.49 | Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.   |      |       |                  |                    |
| 14.50 | 15 mm nominal bore  | 48   | each  | 676.75           | 32484.21           |
| 14.51 | Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.  |      |       |                  |                    |
| 14.52 | 15 mm nominal bore  | 7    | each  | 552.86           | 3870.00            |
| 14.53 | Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931   |      |       |                  |                    |
| 14.54 | 15 mm nominal bore  | 542  | each  | 473.57           | 256675.68          |
| 14.55 | Providing and Fixing vitreous china floor mounted (European Type) water closet with 'P' or 'S' trap, C.P. bolts, nuts with solid plastic seat & lid, C.P brass hinged rubber buffers with dual flush 3/6 litre capacity cistern with flush pipe, clamp and rubber adapter joint C.P.brass screws and washers complete including cutting and making good the walls and floors wherever required etc. complete in all respect as per direction of Engineer-in-charge.<br>(JAQUAR VGS-WHT-81753S250UF5MZ), (SOMANY : CARRON), (HINDWARE ELEMENT 92085)   | 111  | Each  | 21087.86         | 2340752.51         |

| SLNo  | Description   | Qty | Unit | Rate Without GST | Amount Without GST |
|-------|---|-----|------|------------------|--------------------|
| 14.56 | Providing and Fixing White vitreous china Under counter wash basin with C.I. brackets painted white, 15 mm CP Brass auto closing pillar cock, 32mm dia. C.P. waste, C.P chain and rubber plug, C.P. connecting pipe to wall and C.P wall flange and rubber adapter for waste connection complete including cutting and making good the walls wherever required etc. complete in all respect as per direction of Engineer-in-charge.<br>Make: (Jaquar QPS-WHT-7701PM), (SOMANY MIST), (HINDWARE GARNET 10080), for Wash basin Jaquar PRS-031, Somany 272210750011 for Pillar cock)     | 216 | Each | 7607.23          | 1643162.66         |
| 14.57 | Providing and Fixing C.P. brass wall mounted central hole Wash Basin mixer with 450mm long copper pipe complete including cutting and making good wherever required   | 216 | Each | 4275.58          | 923526.02          |
| 14.58 | Providing and Fixing White vitreous china over the counter wash basin with C.I. brackets painted white, 15 mm CP Brass auto closing pillar cock, 32mm dia. C.P. waste, C.P chain and rubber plug, C.P. connecting pipe to wall and C.P wall flange and rubber adapter for waste connection complete including cutting and making good the walls wherever required etc. complete in all respect as per direction of Engineer-in-charge.<br>(Jaquar JDS-WHT-25907N, Somany CRYSTON, Hindware IMMACULA) for Washbasin<br>Jaquar PRS-CHR-031, Somany 272210750011 for Pillar cock)        | 10  | Each | 8814.37          | 88143.70           |
| 14.59 | Providing and Fixing vitreous china urinal with electrical/battery operated concealed automatic flushing system CP Brass body with C.I. hangers, 15mm dia inlet to built in spreaders with inbuilt waste with C.P flange for urinal complete including cutting and making good the walls and floors wherever required etc. complete in all respect as per direction of Engineer-in-charge.<br>Make: (JAQUAR- URS-WHT-13253N, SOMANY "OBLO", HINDWARE "DYNA" 60010) for Urinal<br>Make (JAQUAR SNR-STL-51083, SOMANY "272230320101 POLO CONCEALED", HINDWARE NEO + ) for Urinal sensor | 1   | Each | 13381.76         | 13381.76           |
| 14.60 | Providing and Fixing of wall mounted CP brass sink mixer with Swinging casted spout of required size wall mounted with 450 mm long copper pipe including cutting and making good the walls wherever required.   | 48  | Each | 4997.11          | 239861.47          |
| 14.61 | Providing and Fixing CP Towel Rail 600 mm long fixed to PVC cleats with C.P. brass screws including cutting and making good the walls wherever required (Jaquar )   | 155 | Each | 862.87           | 133744.52          |
| 14.62 | Providing and Fixing 4-Way diverter with Built-in NRV with Divertor handle for bath and shower complete as per instructions of the engineer-in-charge   | 155 | Each | 3947.94          | 611930.22          |
| 14.63 | Providing and Fixing Shower Head:<br>Over head Rose shower with revolving joint (with body rotation) & 115 mm long shower arm complete as directed by Engineer-in-charge<br>Make: (Jaquar OHS 1989 & SHA-479L300S), (Somany "OLIVE" 272220330011, 272220780031), (Hindware F160119&F160118 )  | 155 | Each | 2225.05          | 344883.26          |
| 14.64 | Providing and Fixing CP Bath spout with wall flange complete as per instructions of the engineer-in-charge or as per equivalent make .  | 155 | Each | 2804.15          | 434643.22          |
| 14.65 | Providing and Fixing CP Soap dish complete as per instructions of the engineer-in-charge<br>Make:   | 267 | Each | 1270.65          | 339264.59          |
| 14.66 | Providing and fixing CP Brass Bottle Trap of approved quality & make etc. complete in all respect as per direction of Engineer-in-charge.   |     |      |                  |                    |
| 14.67 | 32 mm dia (JAQUAR ALD-769L250X190 & ALD -709, SOMANY 272150580041, HINDWARE F850015 & F850023)  | 216 | Each | 1082.37          | 233792.90          |
| 14.68 | Providing and Fixing C.P. Brass Toilet paper holder, including cutting and making good the walls wherever required etc. complete in all respect as per direction of the Engineer-in-charge.<br>(JAQUAR AHS 1551, Somany 272130740061, HINDWARE F580009)   | 163 | Each | 2169.59          | 353643.49          |
| 14.69 | Providing and fixing Health faucet with 1 metre long Flexible Tube and CP wall hook with PVC & SS Screws wherever required complete as directed by the Engineer-in-charge<br>Make: (JAQUAR ALD-565, SOMANY 272150680261, HINDWARE F160109)  | 111 | Each | 974.18           | 108134.30          |

| SLNo  | Description   | Qty | Unit  | Rate Without GST | Amount Without GST |
|-------|---|-----|-------|------------------|--------------------|
| 14.70 | Providing and Fixing Handicapped set including white vitreous china floor mounted European type water closet including exposed cistern , Flat Back wash basin with one pair of mounting brackets , complete with fittings, seat cover, two no hinged rail 76 cms and five nos of grab bar 60 cms including 15 mm dia autoclosing pillar cock for Handicaped Toilet complete in all respect as per direction of the engineer-in-charge.<br>Make:(Hindware "MATRIX" Set) for Handicapped toilet set<br>Jaquar PRS-CHR-031, Somany 272210750011 for Pillar cock) | 57  | Set   | 37107.28         | 2115115.03         |
| 14.71 | Providing and fixing C.P cast brass Double coat hook as approved with C.P. brass screws complete as per instructions of the engineer-in-charge.<br>Make: (Jaquar ACN - 1161N, Somany 272130290021, Hindware F890001)  | 163 | Each  | 1680.33          | 273894.29          |
| 14.72 | Providing and Fixing C.P brass Aerosol perfume dispenser, fixed to wooden cleats / Rawl Plug with C.P brass screws, complete wherever required etc. complete in all respect as per direction of Engineer-in-charge.<br>Make: (EURONICS EA-03), (UTEC UT-630)  | 64  | Each  | 2691.44          | 172251.95          |
| 14.73 | Providing and Fixing CP auto push cock with CP Wall flange for drinking water purpose complete as per direction of the engineer-in-charge (JAQUAR PRS-031L65, CERA F9020101, HINDWARE EON F310015)  | 51  | Each  | 1814.13          | 92520.82           |
| 14.74 | Providing and Fixing straight / offset type flexible single body push fit type WC pan connector with factory supplied seal guard with integral Single mould sealing fins made of flexible EVA body, including bush / adaptor for use with C.I. Pipe as supplied with the pan connector etc. complete in all respect as per direction of Engineer-in-charge.   | 163 | Set   | 613.40           | 99984.32           |
| 14.75 | Providing and fixing Stainless Steel 316 L pipes confirming to EN 10312 complete with Press Type fittings with SC-Contur in accordance with DVGW regulation W534 such as sockets, bends, elbows, tees, reducers, unions, Flanges, clamps/structural steel supports, hangers etc. necessary adapters for GI to copper and copper to CP fittings, jointing, sundries, cutting holes in walls/floors/slabs & making good including wrapping with polythene sheet tape etc. complete (internal work ):  |     |       |                  |                    |
| 14.76 | 15 mm OD  | 70  | metre | 1692.95          | 118506.46          |
| 14.77 | 22 mm OD  | 920 | metre | 2529.01          | 2326692.77         |
| 14.78 | 28 mm OD  | 250 | metre | 3131.04          | 782760.46          |
| 14.79 | 35 mm OD  | 310 | metre | 4499.85          | 1394952.60         |
| 14.80 | 42 mm OD  | 400 | metre | 5462.17          | 2184867.19         |
| 14.81 | 50 mm OD  | 40  | metre | 7031.14          | 281245.44          |
| 14.82 | Providing and Fixing uPVC pipes confirming to relevant IS class 10kg./cm2 including all fittings with or without access doors i.e bends, junctions, cowls, offsets, etc., and jointing with Solvent cement as per Manufacturer's specifications including cutting holes in walls and floors, wherever required and making good the same complete as directed by the Project-in-Charge. (Structural supports to be paid separately ) (For Garden hydrant only)   |     |       |                  |                    |
| 14.83 | 25 mm O.D.  | 145 | metre | 37.11            | 5380.56            |
| 14.84 | 32 mm O.D.  | 10  | metre | 53.60            | 535.99             |
| 14.85 | 40 mm O.D.  | 10  | metre | 70.09            | 700.92             |
| 14.86 | 50 mm O.D.  | 10  | metre | 98.95            | 989.53             |
| 14.87 | 63 mm O.D.  | 10  | metre | 140.18           | 1401.83            |
| 14.88 | 80 mm O.D.  | 505 | metre | 189.66           | 95778.02           |
| 14.89 | Making connection from existing external water line i.e drilling/cutting, and making connection complete including excavation, refilling, disposal of surplus earth, and supplying all material so to make it functional. If it is necessary to break or excavate the road for laying pipes and making connection, it should be restored to its original surfacing etc complete   | 5   | Job   | 12369.09         | 61845.47           |

| SLNo  | Description   | Qty | Unit  | Rate Without GST | Amount Without GST |
|-------|---|-----|-------|------------------|--------------------|
| 14.90 | Providing and fixing 25mm thickness thermaflex thermal insulation on pipe," a flexible elastometric foam of closed cells (Class 'O')structure having thermal conductivity 0.038w/m.k at 20 degree centigrade, water vapour permeability $\mu > 7000$ and class 0 fire propagation including all required accessories e.g. adhesive and tape on all joints complete." Applying single layer of 6mm thick cement plaster in the ratio of 1:4 (1cement: 4 fine sand) for pipes exposed in shaft and terrace as per instruction of project incharge. The insulation to be applied on following outer dia pipe, (Make: Thermaflex) |     |       |                  |                    |
| a)    | 16.0 mm [OD] [9 mm thick insulation]  | 70  | Metre | 107.20           | 7503.92            |
| b)    | 22.2 mm [OD] [9 mm thick insulation]  | 385 | Metre | 123.69           | 47621.01           |
|       |   |     |       |                  |                    |
| 14.91 | Providing and cladding 28 gauge aluminum sheets with 50mm overlap and fixing with self tapping recessed screws, complete as per requirements over the insulated hot water pipes as per above item for external insulation.(Exposed Hot water supply )   |     |       |                  |                    |
| a)    | 22.2 mm [OD] [9 mm thick insulation]  | 40  | Metre | 123.69           | 4947.64            |
| b)    | 28.0 mm [OD] [9 mm thick insulation]  | 95  | Metre | 247.38           | 23501.28           |
| c)    | 35.0 mm [OD] [9 mm thick insulation]  | 60  | Metre | 329.84           | 19790.55           |
| d)    | 42.0 mm [OD] [9 mm thick insulation]  | 220 | Metre | 494.76           | 108848.03          |
| e)    | 50 mm [OD] [9 mm thick insulation]  | 10  | Metre | 535.99           | 5359.94            |
|       |   |     |       |                  |                    |
| 14.92 | Providing and fixing forged brass lever operated ball valve of full flow with forged brass ball (Machined to mirror smooth finish with hard chrome plated) and spindle with setting and gland of superior quality having minimum working pressure of 16 kg/cm2 etc. complete in all respect.  |     |       |                  |                    |
| a)    | 15 mm dia   | 5   | Each  | 445.41           | 2227.07            |
| b)    | 20 mm dia   | 180 | Each  | 588.30           | 105894.07          |
| c)    | 25 mm dia   | 130 | Each  | 904.45           | 117579.00          |
| d)    | 32 mm dia   | 15  | Each  | 1453.47          | 21802.07           |
| e)    | 40 mm dia   | 25  | Each  | 2077.10          | 51927.49           |
| f)    | 50 mm dia   | 25  | Each  | 2684.54          | 67113.46           |
|       |   |     |       |                  |                    |
| 14.93 | Providing and fixing C.I butterfly valve, wafer end type class PN 1.6 as per I.S:13095 or BS:5155, including necessary nuts, bolts, gaskets etc., complete (flanges to be paid separately)  |     |       |                  |                    |
| a)    | 65 mm dia   | 5   | Each  | 3547.46          | 17737.28           |
| b)    | 80 mm dia   | 5   | Each  | 4108.19          | 20540.94           |
|       |   |     |       |                  |                    |
| 15.00 | DRAINAGE  |     |       |                  |                    |
| 15.01 | Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round RCC / HDPE / S.W. pipes including bed concrete as per standard design :   |     |       |                  |                    |
| 15.02 | 150 mm diameter   | 135 | metre | 972.91           | 131343.08          |
| 15.03 | 200 mm diameter   | 515 | metre | 1134.20          | 584115.40          |
| 15.04 | 250 mm diameter   | 570 | metre | 1311.58          | 747599.16          |
| 15.05 | 300 mm dia  | 180 | Metre | 1814.13          | 326544.08          |
| 15.06 | 450 mm dia  | 110 | Metre | 2061.52          | 226766.72          |
| 15.07 | Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x 300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:  |     |       |                  |                    |
| 15.08 | 150 x 100 mm size P type  |     |       |                  |                    |
| 15.09 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5   | 5   | each  | 2254.64          | 11273.19           |
| 15.10 | 180x150 mm size P type  |     |       |                  |                    |
| 15.11 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5   | 5   | each  | 2310.67          | 11553.35           |

| SLNo  | Description  | Qty | Unit  | Rate Without GST | Amount Without GST |
|-------|--|-----|-------|------------------|--------------------|
| 15.12 | Constructing brick masonry manhole in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :   |     |       |                  |                    |
| 15.13 | Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :   |     |       |                  |                    |
| 15.14 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | 75  | each  | 10530.68         | 789800.65          |
| 15.15 | Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) :  |     |       |                  |                    |
| 15.16 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | 25  | each  | 21774.14         | 544353.51          |
| 15.17 | Extra for depth for manholes :   |     |       |                  |                    |
| 15.18 | Size 90x80 cm  |     |       |                  |                    |
| 15.19 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | 25  | metre | 7277.48          | 181937.00          |
| 15.20 | Size 120x90 cm   |     |       |                  |                    |
| 15.21 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | 10  | metre | 8728.87          | 87288.69           |
| 15.22 | 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 mmx25 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 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design. | 230 | each  | 456.58           | 105014.43          |
| 15.23 | Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :   |     |       |                  |                    |
| 15.24 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | 55  | each  | 4912.92          | 270210.69          |
| 15.25 | Constructing brick masonry road gully chamber 45x45x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand ) with precast R.C.C. vertical grating complete as per standard design :  |     |       |                  |                    |
| 15.26 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | 20  | each  | 5681.37          | 113627.44          |
| 15.27 | Constructing brick masonry road gully chamber 110x50x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm precast R.C.C. horizontal grating with frame and vertical grating complete as per standard design :  |     |       |                  |                    |
| 15.28 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | 20  | each  | 9499.92          | 189998.35          |
| 15.29 | Supplying and fixing C.I. Cover with frame for Overhead tank, manhole etc.   |     |       |                  |                    |
| 15.30 | 455 X 610 mm rectangular C.I. Cover with frame ( light duty ) the total weight of cover and frame to be not less than 38 kg ( weight of cover 23 kg and weight of frame 15 kg. )   | 40  | each  | 2726.40          | 109055.83          |
| 15.31 | Providing and laying cement concrete 1:2:4 (1 cement :2 Coarse sand: 4 graded stone aggregate 40mm nominal size) 15cms alround SW/RCC/CILA pipes including bed concrete 15cms thick as per standard design.  |     |       |                  |                    |
| 15.32 | a) 200 mm dia  | 45  | Metre | 1236.91          | 55660.92           |

| SLNo  | Description   | Qty   | Unit     | Rate Without GST | Amount Without GST |
|-------|---|-------|----------|------------------|--------------------|
| 15.33 | b) 250 mm dia   | 45    | Metre    | 1401.83          | 63082.38           |
| 15.34 | c) 300 mm dia   | 45    | Metre    | 1566.75          | 70503.83           |
| 15.35 | c) 450 mm dia   | 45    | Metre    | 1731.67          | 77925.29           |
| 15.36 | Providing, laying and jointing HDPE Double Wall Coil (DWC) SN-8 Grade pipes confirming to IS: 16098 including all fittings wherever required e.g., tees, bends of any degree, couplings, adapters, plugs, unions etc. and jointing as manufacturer recommendation etc. including testing of joints etc. complete.   |       |          |                  |                    |
| 15.37 | a) 150 mm O.D.  | 135   | metre    | 610.21           | 82378.16           |
| 15.38 | b) 200 mm OD  | 560   | metre    | 869.96           | 487177.37          |
| 15.39 | c) 250 mm OD  | 615   | metre    | 1236.91          | 760699.27          |
| 15.40 | d) 300 mm OD  | 225   | metre    | 1834.75          | 412818.50          |
| 15.41 | e) 450 mm OD  | 155   | metre    | 2818.40          | 436851.87          |
| 15.42 | Making connection of sewer pipe of any diameter to the nearest external manhole of external sewer line, complete including excavation, refilling, disposal of surplus earth, cutting the walls of the manhole, supplying all material to make it functional and restoring it to its original position and taking permission from all concerned authorities complete, as directed by the Engineer-in-Charge.   | 1     | Job      | 28861.22         | 28861.22           |
| 15.43 | Making connection of storm water pipe to the nearest existing external storm water catch basin/drain, complete including excavation, refilling, disposal of surplus earth, cutting walls of the existing drain/ manhole, supplying all materials to make it functional and restoring it to its original position and taking permission from all concerned authorities complete, as directed by the Engineer-in-Charge.  | 1     | Job      | 28861.22         | 28861.22           |
| 16.00 | PILE WORK   |       |          |                  |                    |
| 16.01 | Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). |       |          |                  |                    |
| 16.02 | 600 mm dia piles  | 5     | metre    | 2999.26          | 14996.29           |
| 16.03 | Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-30 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by crawler mounted, telescopic boom hydraulic piling rig all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap).<br>Note: TMR/Tube well boring machine shall not be used.               |       |          |                  |                    |
| 16.04 | 600 mm dia piles  | 12500 | Metre    | 3034.55          | 37931887.52        |
| 16.05 | Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge.<br>Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing.<br>Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.   |       |          |                  |                    |
| a)    | Single pile upto 100 tonne Safe capacity<br>Initial test (Test Load 2.5 times the Safe capacity)  | 1     | per test | 45164.92         | 45164.92           |

| SLNo  | Description   | Qty   | Unit     | Rate Without GST | Amount Without GST |
|-------|---|-------|----------|------------------|--------------------|
| b)    | Routine test (Test Load 1.5 times the Safe capacity)  | 15    | per test | 16188.99         | 242834.85          |
| 17.00 | ALUMINIUM WORK  |       |          |                  |                    |
| 17.01 | Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : |       |          |                  |                    |
| 17.02 | For fixed portion   |       |          |                  |                    |
| 17.03 | Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)   | 24820 | kg       | 445.16           | 11048962.65        |
| 17.04 | For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)   |       |          |                  |                    |
| 17.05 | Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)   | 2650  | kg       | 530.59           | 1406071.16         |
| 17.06 | Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item):   |       |          |                  |                    |
| 17.07 | With float glass panes of 5 mm thickness (weight not less than 12.50 kg/sqm)  | 100   | sqm      | 1241.24          | 124123.86          |
| 17.08 | With 6 mm thick toughened glass in stead of 5 mm thick glass  | 2205  | sqm      | 1611.58          | 3553528.33         |
| 17.09 | Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete.  |       |          |                  |                    |
| 17.10 | 255 X 19 mm   | 450   | each     | 319.12           | 143605.18          |
| 17.11 | 355 X 19 mm   | 450   | each     | 268.66           | 120895.52          |
| 17.12 | 510 X 19 mm   | 94    | each     | 661.66           | 62196.42           |
| 17.13 | Providing and fixing anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868. Minimum anodic coating of grade AC 15) sub frame work for windows and ventilators with extruded built up standard tubular sections of approved make conforming to IS: 733 and IS: 1285, fixed with dash fastener of required dia and size (Dash fastener to be paid for separately).   | 14180 | kg       | 332.15           | 4709906.82         |
| 17.14 | Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :  |       |          |                  |                    |
| 17.15 | For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)   |       |          |                  |                    |
| 17.16 | Polyester Powder coated aluminium (minimum thickness of polyester powder coating 50 micron) Louvers including fixing arrangement.   | 4350  | Kg       | 530.59           | 2308079.08         |
| 17.17 | Providing and fixing Single point locking handles without Key of approved make & approved powder coated to required colour or shade including the cost of screw and other incidental charges complete as per manufacturers specification. ( PL 205H of PULSE ( LGF Sysmac ( I ) Pvt Ltd / HD 03 of PEGO )   | 495   | each     | 222.23           | 110004.54          |

| SLNo  | Description  | Qty  | Unit | Rate Without GST | Amount Without GST |
|-------|--|------|------|------------------|--------------------|
| 17.18 | Providing assembling supplying and fixing Double glazed dual sealed insulating glass of size & shape as required & specified to aluminium door, window & structural glazing with norton tape, silicon structural sealant and weather proofing using weather proofing sealant (Dow-corning/Wacker or equivalent) silicon joint visible from outside. The insulated glass comprising of an outer toughened ( Heat strengthened ) float glass 6 mm thick of approved colour & shade with reflective soft coating on face 2 of approved colour & shade, an inner 6 mm thick clear float glass toughened ( Heat strengthened ) separated by spacers to create 12 mm dehydrated air space and thermatically sealed by using double sealed organic sealant (priming sealant of thermoplastic), solvent free polyisobutylene which is applied on both sides of spacer, secondary sealant comprising of two component polysulphide in the right proportion for final outer seal including perforated channel for air spaces and complete processed with expertise of manufacturing insulated glass (Gurind/ Art N glass /Gold Plus), all complete for the minimum required performances given below, as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge. The IGUs shall be assembled in the factory/ workshop of the glass processor.   |      |      |                  |                    |
| 17.19 | Luminous Factors : (1)Light Transmission - 75% (2) outdoor Reflection (RLe %) - 12% (3) Indore (RLi %) - 12% (4) Solar Factor -0.57 (4) Thermal Transmission / U value -1.8 W/Sqm K. (The aluminium frame shall be paid separately in relevant item). The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement.   |      |      |                  |                    |
| 17.20 | Make : 6mm PLTT toughened+12mm airgap+6 mm clear toughened of saint Gobain / AIS / Sisecam flat glass india or approved equivalent   | 3070 | sqm  | 3697.30          | 11350696.54        |
| 17.21 | Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item)  |      |      |                  |                    |
| 17.22 | With 6 mm thick High performance toughened glass of approved make (meeting the minimum glass specification mentioned below ) with coating on face 2. ( Luminous factors (1) Light Transmission - 67% (2) Reflection (Ext.) - 19% (3) Reflection (Int.) - 19% (4) Solar Factor - 0.68 (5) U value - 5.6 W/Sqm K ). The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement.   |      |      |                  |                    |
| 17.23 | Make : ST 167 toughened of saint Gobain / AIS / Sisecam flat glass india or approved equivalent  | 150  | sqm  | 2268.38          | 340256.45          |
| 17.24 | Providing and fixing fixed glazing into skylights etc., with Laminated glass of approved quality of 13.52mm overall thickness with 1.52mm thick polyvinyl butyl sandwiched between heat strengthened glass of thickness 6 mm on both sides ( one glass shall be 6 mm clear HS glass & one glass shall be 6 mm high performance HS glass) shall be within the scope of work. Colour of the PVB Interlayer shall be as per sample approved by the Engineer-in-charge. The glass shall be fixed with necessary EPDM rubber//neoprene gasket of approved colour, make, size and shape, with Norton tape, silicone structural / weather sealants of neutral grade. The Laminated glass shall be assembled in the factory/ workshop of the glass processor.<br>13.52 mm thick laminated glass shall be fixed over the MS frame work with the help of aluminium sections, profiles, trim section, caps etc. of size as mentioned in architectural GFC drawing or as directed by the Engineer-in-charge. Junctions of laminated glass shall be covered with aluminium capping profile / section as shown & of size mentioned in GFC drawing including backer rod & weather sealant to seal the junctions complete as directed by Engineer-in-Charge. Shop drawings shall be submitted by contractor for obtaining approval from the Engineer-in-charge before the execution of work. Item rate shall include the laminated glass, EPDM, PVC beading, silicone sealant and all necessary except the MS framing work. MS framing work shall be measured in separate relevant item. |      |      |                  |                    |
| 17.25 | (1)Light Transmission - 42% to 46% (2) Reflection (Ext.) - 19% to 24% (3) Reflection (Int.) - 5 to 8% (4) Solar Factor -0.4 to 0.43 (4) U value -4.5 to 4.7 W/Sqm K. The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement.  | 288  | sqm  | 5445.39          | 1568271.26         |
| 18.00 | WATER PROOFING   |      |      |                  |                    |



| SLNo  | Description  | Qty  | Unit | Rate Without GST | Amount Without GST |
|-------|--|------|------|------------------|--------------------|
| 18.01 | Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : (i) 1st layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) including applying of twice ( at base and top of mortar ) cement slurry @ 2.2kg/m2 (each time) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. (ii) 2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions. (iii) Finishing top with stone aggregate of 10 mm to 12 mm nominal size spreading @ 8 cum/sqm thoroughly embedded in the 2nd layer.  |      |      |                  |                    |
| 18.02 | Using rough kota stone.  | 396  | sqm  | 1249.77          | 494910.20          |
| 18.03 | Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25 mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :  |      |      |                  |                    |
| 18.04 | Using rough Kota stone   | 302  | sqm  | 1669.58          | 504213.24          |
| 18.05 | Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: (a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. (b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. (c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. (d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. (e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. "All above operations to be done in order and as directed and specified by the Engineer-in-Charge": |      |      |                  |                    |
| 18.06 | With average thickness of 120 mm and minimum thickness at khurra as 65 mm.   | 4064 | sqm  | 1389.13          | 5645431.19         |
| 18.07 | Grading roof for water proofing treatment with   |      |      |                  |                    |
| 18.08 | Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)   | 10   | cum  | 6631.73          | 66317.31           |

| SLNo  | Description   | Qty  | Unit  | Rate Without GST | Amount Without GST |
|-------|---|------|-------|------------------|--------------------|
| 18.09 | Providing and applying of swellable type water stop tape, 19 mm x 25 mm thick in linear metre (expansive nature) for construction joints treatment of RCC structure such as raft slab, retaining walls, water storage tank and at the junctions of raft slab with the retaining walls etc.. After cleaning the surface, one coat of required primer for swellable water stop tape shall be applied throughout the length of the joint @3.78 litre per 240 running metre. Over the primed surface swellable type water stop tape shall be placed. The work shall be carried out all complete as per specification and the direction of the Engineer-In-Charge. The product performance shall carry guarantee for 10 years against any leakage.   | 135  | metre | 472.87           | 63837.51           |
| 18.10 | Providing and applying waterproofing treatment to the sunken slabs, Balconies or other location as per GFC drawing, including cleaning of surface to remove dust, loose particles, etc with compressed air or any other suitable technique depending on site conditions, grinding any sharp edges, etc as per the instructions of Engineer in charge and post cleaning applying a two component acrylic modified cementitious coating system at a total consumption of 1.8 to 2 Kgs/Sqm in two coats complete as per manufacturers specification or as directed by Engineer-in-charge.  |      |       |                  |                    |
| 18.11 | The waterproofing system should exhibit the following properties:<br>Density : 1.5 to 2 kg/ltr,<br>Elongation at break (ASTM D412): 200 to 250%,<br>Crack resistance at 20 degree centigrade > 2 mm   |      |       |                  |                    |
| 18.12 | All corners in sunken must be sealed a Seal Tape S, an elastic waterproof sealing tape with a woven bonding mesh on each surface and an elastic expansion zone in the center. The waterproofing should be taken to a height of 300 mm in the vertical.  |      |       |                  |                    |
| 18.13 | The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The work shall be carried out by a specialist agency generally in accordance with above specifications and shall carry a guarantee against leakage, seepage etc. for ten years.  | 3600 | sqm   | 590.71           | 2126573.76         |
| 18.14 | Terrace/ Roof Waterproofing cum Thermal Insulation  |      |       |                  |                    |
| 18.15 | Surface preparation: Cleaning and making necessary surface preparation by compressed air/ mechanical scarifier to remove any dust and laitance etc., chasing open the construction joints and sealing the same to form a V shaped groove of approx. 15 mm width and 15 mm depth, using polymer modified mortar 1:3 Cement Mortar having polymer @10% by weight of cement). Providing 75mmx75 mm coving at H-V junctions using acrylic polymer modified mortar. Also cutting the groove at height of 300mm / 450mm on parapet wall for the purpose of terminating the extended waterproofing.  |      |       |                  |                    |
| 18.16 | APPLICATION OF PRIMER: Over the well prepared surface, providing and applying 2 component solvent free epoxy based primer @ 4 to 6 m2/Kg., covering the entire area uniformly. Allow the primer to dry.   |      |       |                  |                    |
| 18.17 | APPLICATION OF WATERPROOFING LAYER: Over the dried primer layer, providing and applying 2 component solvent free plural spray applied elastomeric seamless hybrid polyurea polyurethane waterproofing coating and achieving a minimum system thickness of 1.5mm in two alternative coats using high pressure projection equipment for two components with heating arrangement and a 1:1 mixing by volume.<br>On the vertical parapet wall extend the waterproofing treatment up to 300 mm/ 450mm as per architectural drawing and terminate on the wall, and filling the groove (10mmX10mm) cut on the wall and filling with 1 component polyurethane sealant of shore A hardness 25.<br>The waterproof coating shall exhibit following properties:<br>a. Elongation is > 400 %, (ASTM D412)<br>b. Tensile Strength is > 13 N/mm2, (ASTM D 412)<br>c. Solid contents of 100% & Shore A Hardness is 70- 80. (ASTM D2240)<br>d. crack bridging - up to 3.0 mm |      |       |                  |                    |

| SLNo  | Description   | Qty  | Unit | Rate Without GST | Amount Without GST |
|-------|---|------|------|------------------|--------------------|
| 18.18 | APPLICATION OF THERMAL INSULATION LAYER: Over the waterproofing layer, providing and applying Spray Applied 2 componenet CFC free, Polyurethane Foam using PUR spray equipment to build 50 mm thickness. The applied foam must be covered with waterproofing coat within 7 days of application to avoid U.V degradation.<br>The thermal insulation layer shall have:<br>a.Core Density : 45 - 50 Kg./m3(as per ASTM D 1622)<br>b.compressive strength with rise of >300kPa (as per ASTM D-1621)<br>c.tensile strength of >350kPa as per ASTM D 1623<br>d.fire resistance property conforming to Class B2 as per DIN 4102<br>e.Closed Cell Content, having apperent volume 90-98 % (as per ASTM D 2856)<br>f. Thermal Conductivity of 0.023 W/m.k at 25°C mean temperature (as per ASTM C518/91)   |      |      |                  |                    |
| 18.19 | APPLICATION OF SEALER COAT: Over the entire polyurethane foam, Providing and applying liquid-applied, a single component PU based seamless waterproofing membrane, coverage at the rate 2.3 - 2.5 kg/m2 in 3 coats to achieve DFT of 1.5 mm. The PU membrane shall be terminated 300mm / 450mm above FFL, self-curing for 5 days, then ponding with water for 24 Hrs. to check water tightness up to 50 mm. The Waterproofing material shall have Solids minimum 85%, Tensile strength minimum 1.2 Mpa as per ASTM D 412, Elongation > 400% as per ASTM C 1305, crack bridging up to 2mm, Shore A Hardness > 50 as per ASTM D 2240, Puncture Resistance > 300 N as per, ASTM E154-2013 Water Head Resistance 50M as per DIN 1048  |      |      |                  |                    |
| 18.20 | SEPARATION LAYER: Supplying & applying 200 gsm Geotextile (non woven polyester) over the entire membrane maintaining proper overlaps of 100 mm.   |      |      |                  |                    |
| 18.21 | The entire treatment will be taken upto 30 cm / 45 cm on parapet wall or upto parapet projection as per architectural drawing. For the purpose of measurement the entire treated surface will be measured.  |      |      |                  |                    |
| 18.22 | The work shall be carried out by a specialist agency or an company authorized applicator in accordance with above specifications and shall carry a guarantee against leakage, seepage etc. for ten years. Make : Fosroc, Pidilite, CICO   | 3170 | sqm  | 4751.12          | 15061041.97        |
| 18.23 | Basement Waterproofing Horizontal   |      |      |                  |                    |
| 18.24 | Supplying and installing 1.5 mm composite thick fully bonded weldable HDPE membrane, having tensile strength of >25 MPa, elongation of >400% (ASTM D 412), puncture resistance of >900 N (as per ASTM E 154), joint adhesion at overlap >15000 N/m ASTM D 6392 :2012, peel adhesion to concrete >1500 N/m ASTM D903:1998, Resistance to hydrostatic head pressure@70meter as per ASTM D 5385, UV resistant up to 28 days and conforming to IS 16471:2017 requirements of UG waterproofing structures, as per manufacturer's recommendation. The membrane should be minimum 2.0 m wide and with minimum 75mm factory made selvages and comprising of an HDPE layer and a pressure sensitive adhesive layer which is covered by a weather proof protective and trafficable granular layer to protect self adhesive polymer layer. The membrane overlaps should be thermo-fused to ensure seamless joints. The membrane shall form an integral, adhesive and permanent bond to poured concrete to prevent water migration at the interface of the membrane and structural concrete |      |      |                  |                    |
| 18.25 | HDPE Membrane shall be applied with following steps and as per manufacturer recommendation:<br>1) Cleaning of PCC surface to remove dust, loose particles, etc with compressed air or any other suitable technique depending on site conditions, grinding any sharp edges, etc.<br>2) HDPE Membrane laid over the PCC and continued over the side of raft, vertical portion of retaining wall. The membrane shall have 75mm side laps and 80mm end laps which shall be sealed as per manufactures specification and instructions.   |      |      |                  |                    |

| SLNo  | Description  | Qty | Unit  | Rate Without GST | Amount Without GST |
|-------|--|-----|-------|------------------|--------------------|
| 18.26 | Contractor shall submit methodology statement with all detail in illustrative sketch form and get approved from Architect / Engineer in charge before start of work. The work shall be carried out by a specialist agency or an company authorized applicator in accordance with above specifications and shall carry a guarantee against leakage, seepage etc. for ten years. Make : Fosroc, Pidilite, Henkel, Tikidan  | 396 | sqm   | 997.15           | 394870.16          |
| 18.27 | Basement Waterproofing Vertical  |     |       |                  |                    |
| 18.28 | Providing and laying of minimum 1.5 mm thick SBS modified self-adhesive waterproofing membrane topped with impervious, non-perforated HDPE valeron or equivalent film, for use in retaining walls, conforming to the requirements of ASTM D5147 for thickness with a puncture resistance of >200 N as per ASTM E154. The vital physical and chemical parameters of the membrane shall be as under: <ul style="list-style-type: none"> <li>• Tensile strength in (L/T) as min 4 N /mm<sup>2</sup> (as per ASTM D882),</li> <li>• Tear resistance as min 150 N/mm (as per ASTM D 4073),</li> <li>• Peel Strength to concrete as min 2.2 N/mm as per ASTM C 794</li> <li>• Elongation (L/T)% - L -250-300,T- 250-350 (as per ASTM D 882),</li> <li>• Softening point of membrane not less than 105°C (as per IS 1205/1978),</li> <li>• Cold flexibility shall be upto -10°C when tested in accordance with ASTM D 5147</li> <li>• Crack bridging ability - min 1.5mm as per ASTM C 836</li> </ul> |     |       |                  |                    |
| 18.29 | The application includes cleaning the surface, priming the surface with cold applied bituminous primer, laying the membrane, rolling, properly sealing the joints & maintaining 75 mm overlap between the membrane's edge & min 100 mm overlap on the end joints of the membrane over the slab etc. complete. HDPE Dimple Protection board 8mm shall be spot bonded on retaining wall before back filling as per manufacturer's specification.   |     |       |                  |                    |
| 18.30 | Contractor shall submit methodology statement with all detail in illustrative sketch form and get approved from Architect / Engineer in charge before start of work. The work shall be carried out by a specialist agency or an company authorized applicator in accordance with above specifications and shall carry a guarantee against leakage, seepage etc. for ten years. for both supply and application. Make : Fosroc, Pidilite, Henkel, Tikidan   | 301 | sqm   | 791.85           | 238347.72          |
| 18.31 | Termination of vertical waterproofing membrane shall be done by providing & applying aluminium strip flashing with fasteners at the top and sealing the joints with PU/PS Sealant or the membrane will be finished on the top by tucking into a groove cut in the concrete and sealed with a suitable mastic sealant as per manufacturers specification or as directed by Engineer-in-charge.  | 75  | meter | 351.85           | 26388.84           |
| 19.00 | RAIN WATER HARVESTING & TUBEWELLS  |     |       |                  |                    |
| 19.01 | Providing and fixing factory made precast RCC perforated drain covers, having concrete of strength not less than M-25, of size 1000 x 450x50 mm, reinforced with 8 mm dia four nos longitudinal & 9 nos cross sectional T.M.T. hoop bars, including providing 50 mm dia perforations @ 100 to 125 mm c/c, including providing edge binding with M.S. flats of size 50 mm x 1.6 mm complete, all as per direction of Engineer-in-charge.  | 225 | each  | 1154.41          | 259741.69          |

| SLNo  | Description   | Qty  | Unit | Rate Without GST | Amount Without GST |
|-------|---|------|------|------------------|--------------------|
| 19.02 | Construction of rain water harvesting well of 3.5 metre dia and 4 metre effective depth with the operation of earth work in excavation and drilling with RC/DC/Calyx rig having 400/450mm dia bore size in all kind of starta except rock, back filling around harvesting well with available excavated earth, with necessary compaction and shifting of surplus earth outside by mechanical means as directed by the Engineer-In-Charge, PCC 1:5:10 , 200mm thick foundation concrete, brick work in cement mortar 1:4 (1 cement : 4 coarse sand), PVC coated safety steel foot rest of 12mm dia MS bars grouted rigidly in cement concrete 1:2:4 @300mm c/c, 200mm thick RCC tank cover slab in cement concrete M20 i/c providing and placing necessary steel raft, bars and to keep the provision of removable slab of approx. 1mx1m size, filling 300mm, 300mm & 300mm thick of 40-65mm nominal size graded loose boulders, Gravel 5-10 mm size and sand layer respectively, CI vent pipe, (100mm dia), 250mm dia uPVC slotted pipes 6Kg./sq cm working pressure, filling around the slotted pipes and packing 3mm to 6mm sized graded and screened rounded Pea Gravel duly washed fabricating and placing grating at the mouth of pipes, placing 560mm dia SFRC manhole cover with frame etc. i/e all necessary materials and equipments required for all relevant operations as shown in the drawing. | 7    | Each | 226766.72        | 1587367.03         |
| 19.03 | Construction of brick masonry desilting chamber of size 200x100x60cm (effective depth) before rainy well with 75 class designation bricks in cement mortar 1:4 (1 cement : 4 coarse sand) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand; 8 graded stone aggregate 40mm nominal size), inside and outside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished with a floating coat of neat cement inside and rough plaster on outside, including fixing of grating , neatly finished complete in all respects including necessary excavation, refilling and disposal of surplus earth, complete. (Shop drawing to be submitted for approval before execution of work)  | 7    | Each | 49476.38         | 346334.63          |
| 20.00 | STRUCTURAL GLAZING ALUMMINIUM COMPOSITE PANEL   |      |      |                  |                    |
| 20.01 | Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings , the aluminium quality as per grade 6063 T5 or T6 as per BS 1474,including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. ( The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account). The weight of aluminium extruded section shall be taken for purpose of payment.  | 1161 | kg   | 341.63           | 396637.50          |

| SLNo  | Description   | Qty | Unit | Rate Without GST | Amount Without GST |
|-------|---|-----|------|------------------|--------------------|
| 20.02 | Designing, fabricating, testing, protection, installing and fixing in position semi (grid) unitized system of structural glazing (with open joints) for linear as well as curvilinear portions of the building for all heights and all levels, including: (a) Structural analysis & design and preparation of shop drawings for the specified design loads conforming to IS 875 part III (the system must passed the proof test at 1.5 times design wind pressure without any failure), including functional design of the aluminum sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)- cum-smoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation & drainage and protection against fire hazard including: (b) Fabricating and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5 brackets of required sizes, sections and profiles etc. to accommodate 3 Dimentional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon seperator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers. (c) Providing and filling, two part pump filled, structural silicone sealant and one part weather silicone sealant compatible with the structural silicone sealant of required bite size in a clean and controlled factory / work shop environment, including double sided spacer tape, setting blocks and backer rod, all of approved grade, brand and manufacture, as per the approved sealant design, within and all around the perimeter for holding glass. (d) Providing and fixing in position flashings of solid aluminium sheet 1 mm thick and of sizes, shapes and profiles, as required as per the site conditions, to seal the gap between the building structure and all its interfaces with curtain glazing to make it watertight. (e) Making provision for drainage of moisture/ water that enters the curtain glazing system to make it watertight, by incorporating principles of pressure equalization, providing suitable gutter profiles at bottom (if required), making necessary holes of required sizes and of required numbers etc. complete. This item includes cost of all inputs of designing, labour for fabricating and installation of aluminium grid, installation of glazed units, T&P, scaffolding and other incidental charges including wastages etc., enabling temporary structures and services, cranes or cradles etc. as described above and as specified. The item includes the cost of getting all the structural and functional design | 120 | sqm  | 2894.78          | 347373.63          |
| 20.03 | Extra for openable side / top hung vision glass panels (IGUs) including providing and supplying at site all accessories and hardwares for the openable panels as specified and of the approved make such as heavy duty stainless steel friction hinges, min 4 -point cremone locking sets with stainless steel plates, handles, buffers etc. including necessary stainless steel screws/ fasteners, nuts, bolts, washers etc. all complete as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer- in-Charge.   | 20  | sqm  | 3027.54          | 60550.84           |
| 21.00 | NEW TECHNOLOGIES AND MATERIALS  |     |      |                  |                    |

| SLNo  | Description   | Qty   | Unit | Rate Without GST | Amount Without GST |
|-------|---|-------|------|------------------|--------------------|
| 21.01 | Providing and fixing of customized Aluminium form work for monolithic construction on RCC members with repetitive usage made up of aluminium sheets/plates of minimum 4 mm thickness and grade 6061 (Type-6). The formwork comprises of (a) wall panel, rocker, kicker and internal soffit corner, external soffit corner, external corner, internal corner etc., (b) beam components i.e, beam side panel, prop head for soffit beam, beams soffit panel, beam soffit bulk head and (c) deck components i.e. deck panel, deck prop, prop length, deck mid, soffit length, deck beam bar. The panels are held in position by a simple pin and wedge system that passes thorough holes in the out side rib of each panel. The tolerance of finished panel shall not be less than (-1 mm) and shall conform to IS : 14987-1999. Pins and wedges to be made of high grade hot dipped galvansied mild steel. This form work also comprises of M.S. angle iron, "Z" shaped brackets braced diagonally at 0.90 to 1.00 metre centre to centre on extrenal wall face just the level below on which to lay M.S. square tube panels (Challis) and guard railing supports to form working platform and 40 mm dia G.I./M.S. telescopic adjustable props to support deck formwork and beam soffit panels including de-shuttering the formwork from odd/even level to be shifted/lifted to next alterante odd/even level before which the points and shuttering surface to be thoroughly cleaned, pins greasing and shuttering surface oiling propoerly before fixing all complete including sealing of gap between kicker plates of wall panel and floors (if any) as per design of formwork as provided by shuttering supplier and as per direction of the Engineer-in-charge including filling and finishing the holes of varied sizes and shapes (left by keys/pins of aluminium form work shuttering while de-shuttering) with GP-2 cementitious polymer compound mixed with water in ratio prescribed by manufacturer to form consistent workable enough for pushing it in the holes upto full depth of wall using appropriate tools and finishing smooth all complete as per directions of the Engineer-in- charge. | 87450 | sqm  | 372.19           | 32547668.43        |
| 22.00 | MISCELLANEOUS WORKS   |       |      |                  |                    |
| 22.01 | Providing and fixing Glass Reinforced Concrete (G.R.C) Screens casted with 'Spray Mix' concrete design in approved size, shape, colour & pattern as shown in GFC drawings, thickness of 40-50mm on the outer Border & 25-30mm for Internal member or overall thickness of 35mm and shade. The Screens should be made from '43 grade' Portland Cement manufactured by 'JK Cement' or 'JK Lakshmi' or Ultratech', White Quartz fine graded sieve Silica Sand, Alkali Resistant Glass Fibre manufactured by 'NEG Japan, Owens Corning 'Saint Gobain' or equivalent, Super Plasticizers manufactured by 'Karochem' or equivalent, Polymers manufactured by 'Nova Polychem' or equivalent and U.V resistant Synthetic inorganic pigments should be used for pigmentation manufactured by 'Phenochem industries or equivalent. The Screens casting shall take place with layering methodology using- Direct Power Spray machines. The GRC Screens flexural strength average L.O.P should be above or equivalent to 6 N/mm <sup>2</sup> , M.O.R should be above or equivalent to 12 N/mm <sup>2</sup> for tests done on 28 days cured samples ,dry bulk density shall be in between 1800 to 2000 kg/cum & water absorption shall be 8 to 12 %.   |       |      |                  |                    |
| 22.02 | The fixing of Screens should be done using 'Dry fixing' method onto structural support members i.e. R.C.C, Brick work, MS Framework made of single sections, built up sections or Tubular sections (as per detail given in GFC drawings) with stainless steel grade 304 L shaped Clamps, anchor fasteners of Hilti / Fischer ( or approved equivalent make ) or self - tapping screws as per detail shown in GFC drawings or as per approved shop drawings approved by Engineer-in-charge. Electrodes to be used of Advani, Mangalam, Esab or Victor brand or equivalent. For final finishing of Screens one or two coat of weather shield exterior grade water based diluted paint coat will be done. Contractor shall submit shop drawings of the same, the drawings to be duly approved by the Engineer-in-charge.   | 1500  | sqm  | 4506.47          | 6759709.74         |
|       |   |       |      |                  |                    |
|       | <b>PUMPS AND EQUIPMENTS</b>   |       |      |                  |                    |

| SLNo   | Description   | Qty  | Unit | Rate Without GST | Amount Without GST |
|--------|---|------|------|------------------|--------------------|
| 23.01  | Filter Feed pump<br>Supply, Installation, Testing and Commissioning In-line vertical multistage centrifugal pump set (for clear water) SS-304 casing, SS-304 impeller, SS-316 shaft, CI base with coating, complete directly coupled with TEFC induction motor of class "F" insulation & efficiency class IE-3, 2900 RPM, suitable for operation on 415 volts $\pm 10\%$ , 3 phase, 50 Hz, A.C. supply, mechanical seal, pressure gauges with gunmetal isolation cocks, vibration elimination pads etc. mounted on a MS base frame bolted to cement concrete foundation etc. complete in all respects and as per technical specification for following capacities:  |      |      |                  |                    |
|        | No. of Pumps : 2(1W + 1S)<br>Capacity : (250 LPM) of Each Pump<br>Head : 30 m<br>Note:-1 set consists of 2 nos. of pumps (1Working + 1Standby)  | 1.00 | Set  | 235332.94        | 235332.94          |
| 23.02  | Dual media Filter at Water treatment plant<br>Supply, Installation, Testing and Commissioning of vertical Dual media Pressure Sand Filter (comprising of minimum 750mm media in four graded layer and minimum Height on Straight 1500mm) fabricated from high performance M.S plate of minimum 10mm thick for shell & 12mm thick for dished ends, (Quality of Steel as per IS:2062 Grade B), Tested to 5.0 Kg/m <sup>2</sup> , internally treated with coal-tar epoxy, air scouring, collection system initial charge of media, M.S face piping with necessary flanges, gaskets, isolating valves, accessories, nuts & bolts, external painting with 2 coats of red oxide primer and enamel paint etc. with suitable foundation bolts & other accessories, mounting frame, complete as required & as per technical specifications of the following capacities:<br>Discharge : 15 m <sup>3</sup> /Hour Each<br>Filtration Rate : 17500 lit./m <sup>2</sup> /h<br>Dia. : 1.1 m I.D. | 1.00 | Each | 310004.06        | 310004.06          |
| 15.5.3 | Water Softener at Water treatment plant<br>Supply, Installation, Testing and Commissioning 'Cation' "Anion" exchange process water softener fabricated from minimum 8 mm thick M.S. plate on min. shell and 10 mm thick M.S. plate on dished ends (Quality of Steel as per IS:2062 Grade B) complete with initial charge of filter media and resins, face piping accessories, diaphragm valves of approved specifications, HDPE Brine tank of min. 500 Liters, piping testing and commissioning complete with resins of approved quality and make and regeneration assembly complete with valves, ejector, brine suction valves and piping. All internal parts of the softener shall be rubber lined Complete as required as per technical specifications.  |      |      |                  |                    |
|        | For Blending purposes<br>Minimum expected rate of flow: (7.5 m <sup>3</sup> /hr)<br>Total soft water to be produced between two regenerations: .60 Cu.m<br>Expected raw water hardness : app. 200 ppm<br>Expected treated water hardness: less than 50 ppm (Zero Commercial Hardness)<br>Max. working pressure : 3 Kg/cm <sup>2</sup>   | 1.00 | Each | 386392.62        | 386392.62          |
| 23.04  | Chlorinator at Water treatment plant<br>Supply, Installation, Testing and Commissioning chemical dosing system consisting of 2 nos. electronic dosing pumps (1W+1S) with all accessories, suitable to dose chemical solution upto 1 ppm dose of Sodium Hypo-chloride solution to a filtered water flow of 15000 LPH against a pressure of 1.5 kg/cm <sup>2</sup> complete with FRP moulded solution holding tank of min. 200 litre with all standard accessories & structural arrangement including suitable foundation bolts & other accessories etc. complete as per technical specifications as required.<br>Note:1 set consists of 2 nos. of pumps(1W+1S)   | 1.00 | Each | 248163.30        | 248163.30          |
| 23.05  | (Hydropneumatic Pumping System With Variable Frequency Drive)   |      |      |                  |                    |
|        | Supply, Installation, Testing and Commissioning of compact packaged type skid mounted, self contained variable frequency drive hydropneumatic system complete as per the technical specification complete as required:-   |      |      |                  |                    |



| SLNo  | Description  | Qty  | Unit | Rate Without GST | Amount Without GST |
|-------|--|------|------|------------------|--------------------|
|       | (i) In- line vertical multistage centrifugal water pump set (for clear water) with SS-304 casing, SS-304 impeller with SS-316 shaft ,CI base with coating complete directly coupled with TEFC induction motor of class "F" insulation & efficiency class IE-3, 2900rpm, suitable for operation on 415 Volts ±10%, 3 phase, 50 Hz A.C. supply. The entire system shall be mounted on a common base frame i/c common suction and common delivery of G.I heavy class pipe headers with flanges, interconnecting piping with all required Control Valves, Non-return valves, pressure gauge with isolation cock etc. complete as required.   |      |      |                  |                    |
|       | (ii) Pressure vessel of non corrosive FRP composite construction lined with NSF and/or FDA listed material, like high density polyethylene with fully replaceable polyurethane. Air cell burst pressure of minimum of 3 times the vessel operating pressure and prototype cycle tested for 80,000 cycles with charging connections to discharge pipe line with necessary flanges, gaskets, isolating valve, nuts/ bolts etc. with suitable foundation bolts etc complete as required.  |      |      |                  |                    |
|       | (iii) Microprocessor based multi pump controller/panel with graphical display and variable frequency drive (VFD) mounted inside a panel complete with pressure sensor transmitter. The graphical display capable to show number of pumps running & also communicate with other controllers following with open protocol through RS485 port. System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller. The panel should also have provision for manual / automatic alternate (cyclic) operation of pumps, ON/OFF switch complete as required.  |      |      |                  |                    |
|       | (v) Necessary foundationing bolts, vibration elimination pads etc complete as required.  |      |      |                  |                    |
|       | Domestic Potable Water Supply Pumps at Water treatment plant   |      |      |                  |                    |
|       | Duty of each pump suitable for:-<br>No. of Pumps : 2 nos. (1 W + 1 S)<br>Capacity : 15 m3/hr (250 lpm) of Each Pump<br>Head : 85 Meters<br>Air Vessel : 100 Ltr tank<br>Note:-1 set consists of 2 nos. of pumps (1Working + 1Standby+1 Air vessel)   | 1.00 | Set  | 858762.62        | 858762.62          |
| 23.06 | Hydropneumatic Booster pump for terrace  |      |      |                  |                    |
|       | Providing, fixing and commissioning suitable complete composite hydropneumatic system consisting of horizontal /vertical multistage centrifugal pump having stainless steel (SS 304) impellers, shaft and housing, with single mechanical seal and pressurised tank of 24 liters capacity, complete with all standard accessories including pressure switch, pressure gauges, non-return & isolating valves on suction and delivery side with nuts, Stainless Steel Manifold, bolts & washer including mild steel flanges, where ever required with 3 mm thick rubber insertion, with necessary protection and operational devices i.e alternate pumping operation and shut-off during dry running conditions etc. with suitable electrical motor to be operated on 220/240 OR 400/440 volt 50 cycle AC supply, suitable for following duty and with total no. of pumps - 2 nos.(1 working+1standby) complete with Control Unit Panel, Stainless Steel manifolds & MS chassis, as per the approval of Project-in-charge complete with base frame, nuts, bolts and washer, necessary RCC foundation as per requirement. |      |      |                  |                    |
|       | No. of Pumps/Set : 2 ( 1 Working + 1 Stand by )  |      |      |                  |                    |
|       | Capacity : app. 100 lpm per pump   |      |      |                  |                    |
|       | Head : app. 25 m   | 4.00 | Set  | 123690.94        | 494763.75          |
| 23.07 | Drainage Sump Pump for Plant room  |      |      |                  |                    |
|       | Supply, installation, testing and commissioning compact monoblock dry motor sump pumps of suitable rating, with non-clog free flow open impeller, solid handling capacity at least 28mm suitable for operation on 415 volts +10% , 3 Phase, 50Hz, A.C supply, speed 2900 RPM including oil chamber, guide wire for lifting & lowering of pump, G.I. galvanized lifting chain, complete.  |      |      |                  |                    |
|       | The above pump sets must be supplied complete with following accessories.  |      |      |                  |                    |

| SLNo  | Description  | Qty   | Unit  | Rate Without GST | Amount Without GST |
|-------|--|-------|-------|------------------|--------------------|
|       | GI Piping of 80mm dia for individual pump delivery line and 100mm dia for common delivery line, to be terminated outside the sump.   |       |       |                  |                    |
|       | 80mm dia Butterfly valve.-- 2 Nos  |       |       |                  |                    |
|       | 80 mm dia reflux valve.-- 2 Nos  |       |       |                  |                    |
|       | Electrical switch panel with DOL starter having all necessary accessories & safety devices of standard specifications. Automatic built-up water level controller with necessary length of cable upto control panel.  |       |       |                  |                    |
|       | No. of Pumps/set : 2nos. (1 W + 1 S)   |       |       |                  |                    |
|       | Discharge - 400 LPM Each   |       |       |                  |                    |
|       | Head - 15 Meters   | 1.00  | Set   | 249641.43        | 249641.43          |
| 23.08 | Providing, laying, testing & commissioning of 'C' class heavy duty G.I. pipe conforming to IS 1239 including welding, fittings like elbows, tees, flanges, tapers, nuts,bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required : |       |       |                  |                    |
| a)    | 50 mm dia  | 10.00 | Metre | 827.41           | 8274.12            |
| b)    | 65mm dia   | 30.00 | Metre | 986.68           | 29600.30           |
| c)    | 80mm dia   | 40.00 | Metre | 1158.45          | 46337.82           |
| d)    | 100mm dia  | 20.00 | Metre | 1550.03          | 31000.51           |
| e)    | 150mm dia  | RO    | Metre | 2173.26          |                    |
| f)    | 200mm dia  | RO    | Metre | 3646.13          |                    |
| 23.09 | Supply, installation, testing and commissioning reinforced neoprene rubber vibration eliminators/expansion joints (to provide relief from stresses at pipe flanges) suitable for upto 20 kg/cm2 pressure,complete as per specifications as required.   |       |       |                  |                    |
| a)    | 65 mm dia  | 4.00  | Each  | 3266.05          | 13064.18           |
| b)    | 80mm dia   | 4.00  | Each  | 4167.13          | 16668.51           |
| c)    | 100mm dia  | RO    | Each  | 5120.94          |                    |
| d)    | 150mm dia  | RO    | Each  | 6646.44          |                    |
| 23.10 | Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange.   |       |       |                  |                    |
| a)    | 80 mm dia  | RO    | Each  | 3883.90          |                    |
| b)    | 100mm dia  | 4.00  | Each  | 5495.18          | 21980.70           |
| c)    | 150mm dia  | RO    | Each  | 9189.41          |                    |
| 23.11 | Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required :   |       |       |                  |                    |
| a)    | 65mm dia   | 10.00 | Each  | 3547.46          | 35474.56           |
| b)    | 80mm dia   | 10.00 | Each  | 4108.19          | 41081.88           |
| c)    | 100mm dia  | 5.00  | Each  | 5497.65          | 27488.25           |
| d)    | 150mm dia  | RO    | Each  | 7388.47          |                    |
| 23.12 | Providing and fixing 50 mm dia gun metal gate valve with C.I. wheel of approved quality (screwed end) :  | RO    | Each  | 846.50           |                    |
| 23.13 | Providing, installation, testing and commissioning of non-return valve of following sizes confirming to API 594 complete with rubber gasket, GI bolts, nuts, washers etc.as required :   |       |       |                  |                    |
| a)    | 65mm dia   | 5.00  | Each  | 5292.32          | 26461.61           |
| b)    | 80mm dia   | 1.00  | Each  | 6342.05          | 6342.05            |
| c)    | 100mm dia  | RO    | Each  | 9111.90          |                    |
| d)    | 150 mm dia   | RO    | Each  | 14666.45         |                    |
| 23.14 | Supply, installation, testing and commissioning of 750 mm long hot dipped G.I. Puddle flanges for water tanks as per I.S. 1239 (Class C) with 6mm thick M.S. Plate of suitable size and welded around the pipe fixed in walls, beams and top slab of R.C.C tanks, complete with all details in all respects and as per drawing and specifications.                           |       |       |                  |                    |
| a)    | 50 mm dia  | 6.00  | Each  | 3298.43          | 19790.55           |
| b)    | 65 mm dia  | 10.00 | Each  | 3463.35          | 34633.46           |

| SLNo  | Description  | Qty     | Unit | Rate Without GST | Amount Without GST |
|-------|--|---------|------|------------------|--------------------|
| c)    | 80mm dia   | 5.00    | Each | 3710.73          | 18553.64           |
| d)    | 100mm dia  | 20.00   | Each | 4370.41          | 87408.26           |
| 23.15 | Providing, fixing and testing, double flanged Water Flow Meter complete with digital display provision & including Pulse generator and Remote Totalizer complete in all respect as per manufacturers specification, instructions and approval as per engineer in charge complete in all aspects  |         |      |                  |                    |
| a)    | 65 mm dia  | 1.00    | Each | 2391.36          | 2391.36            |
| b)    | 80 mm dia  | 2.00    | Each | 2991.30          | 5982.60            |
| 23.16 | Providing ,fixing , testing and commissioning of IP 67 (Weather Proof /Aluminium casing with positoner to indicate the valve position with key type manual overdrive) Motorized Butterfly valve for filling of water tank complete with high and low level float type sensors to control the valve .The sensors shall be installed in water tanks.The sensors will close the valve when water level is high in tank and open the valve when water tank level is low . The system should be complete in all respects with control panel indicating the position of valve i.e open /closed with accessories like wiring /conducting /flanges, nut bolts etc complete as per approved type and specifications as per instructions of the engineer - in - charge.  |         |      |                  |                    |
| a)    | 40 mm dia  | 1.00    | Each | 15637.81         | 15637.81           |
| b)    | 50 mm dia  | 5.00    | Each | 15790.66         | 78953.28           |
| c)    | 65 mm dia  | 4.00    | Each | 16104.64         | 64418.56           |
| d)    | 80 mm dia  | RO      | Each | 16782.30         |                    |
|       |  |         |      |                  |                    |
| 23.17 | Supply, installation, testing and commissioning of insect-proof coupling,to vent pipes of water tank with threaded or flanged joints, including G.I. flanges, nuts, bolts, 3mm thick rubber insertions complete as per technical specifications.   |         |      |                  |                    |
| a)    | 80 mm dia  | 10.00   | Each | 1649.21          | 16492.13           |
| b)    | 100 mm dia   | 5.00    | Each | 2061.52          | 10307.58           |
| 23.18 | Steel work welded in built up sections/ framed work, including cutting,hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.<br>In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete  | 1000.00 | Kg   | 142.33           | 142327.04          |
| 23.19 | Providing and fixing S.S. grating and preferably in 300mm long pieces, fabricated with 16x16mm square bars, @ 20mm clear spacing and welded to angle iron 25x25x5mm and placed firmly on angle iron frame of 30x30x5mm with 25x3mm hold fasts approximately 75mm long welded at intervals of 500mm complete as per attached details for drain (For the Kitchen area).  | RO      | Kg   | 247.38           |                    |
| 23.20 | Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910 on 12mm dia steel bar conforming to IS : 1786 having minimum cross section as 23 mmx25mm and over all minimum length 263 mm and width as 165mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design. | 110.00  | Each | 456.58           | 50224.29           |
| 23.21 | Providing and Fixiing extra heavy duty, water tight double sealed Ductile iron Circular Manhole cover and frames specially casted for placing over the UG Water tanks with lifting and locking arrangements as per approved sample, complete in all respect including fixing in PCC as per site Requirement .  | 1000.00 | Kg   | 188.09           | 188089.44          |
| 23.22 | Electrical panel at Water treatment plant Equipments   |         |      |                  |                    |

| SLNo  | Description  | Qty  | Unit | Rate Without GST | Amount Without GST |
|-------|--|------|------|------------------|--------------------|
|       | Design, manufacture, supply, installation, testing and commissioning of the Plumbing panel, front operated, cubicle construction, Floor mounted type, fabricated out of 16 swg thick CRCA Sheet, Compartmentalized with hinged lockable doors, dust and vermin proof, Powder coated of approved shade, Cable alley, inter-connections, having Switch gear and accessories mounting, internal wiring, earth terminals, Top/ Bottom cable entry, numberings etc. suitable for operation of 415 volts, 3 phase, 50 Hz, AC Supply with enclosure protection class IP 54 complete as required and as specified with the following:  |      |      |                  |                    |
|       | INCOMER -  |      |      |                  |                    |
|       | Each Incomer shall consist of :  |      |      |                  |                    |
|       | 63 Amps, Four pole, 11 KA MCCB with rotary handle on door.   |      |      |                  |                    |
|       | Voltmeter (0-500 Volts) with selector Switch & protected by MCB's.   |      |      |                  |                    |
|       | Ammeter (0-100 Amps) with selector Switch & CT's etc.  |      |      |                  |                    |
|       | Set of (R,Y,B) LED phase and ON & OFF indication Lamps.  |      |      |                  |                    |
|       | BUSBAR   |      |      |                  |                    |
|       | 1 Set 11KV, 100 Amps Three Phase busbars of aluminium with Rear cable termination.   |      |      |                  |                    |
|       | OUT GOING FOR :-   |      |      |                  |                    |
|       | Filter feed pumps set ( 2 Nos. Pump - 1 set)   |      |      |                  |                    |
|       | Pump feeder shall consist of :   |      |      |                  |                    |
|       | Suitable rating MPCB with DOL Starter for outgoing feeder of 3 HP. Each Compartment shall contain Auto/Manual Selector Switch and Indicating Lamp for ON/TRIP Status of Motor---2 Nos  |      |      |                  |                    |
|       | Ammeter (0-100 Amps) with selector Switch & CT's etc.  |      |      |                  |                    |
|       | Set of ON / OFF LED indication Lamps protected by MCB.   |      |      |                  |                    |
|       | Domestic Potable Water Supply hydropneumatic pumps set (1 w+1s) pumps  |      |      |                  |                    |
|       | Suitable rating MCCB with neutral link MCCB ( Motor Duty) 1.1 KA with rotary handle on door suitable for 8 HP and for Connection to Built up Hydro Panel.---1No.   |      |      |                  |                    |
|       | Salt saturator & Chlorine dosing system  |      |      |                  |                    |
|       | Each pump set feeder shall consist of :  |      |      |                  |                    |
|       | 6 Amps. DP, 10 KA "C" curve MCB with DOL Starter suitable for single phase 240 V, 50 Hz AC supply. Inter locking with filter feed pump treated water pump suitable for 0.5 HP ---2Nos.   |      |      |                  |                    |
|       | Set of ON / OFF indication Lamps protected by MCB.   |      |      |                  |                    |
|       | For Drainage Sump Pumps Plant Room area - 2 Nos.(1W +1S)   |      |      |                  |                    |
|       | Pump feeder shall consist of :   |      |      |                  |                    |
|       | Suitable rating TP MCCB 25 KA with rotary handle on door suitable for Connection to Built up Panel.---1No  |      |      |                  |                    |
|       | NOTE:-1. All MCCB shall have 100% Ics =Icu 2. Panel shall be provided with NO-NC Potential free contact for BMS compliance.  |      |      |                  |                    |
|       | Complete Set as mentioned above  | 1.00 | Set  | 485669.61        | 485669.61          |
| 23.23 | Pump motor controller cum water level indicating panel at Water treatment plant  |      |      |                  |                    |
|       | Supply, installation, testing and commissioning of Centralised PLC control panel front operated, cubicle construction, wall mounted type, fabricated out of 1.6 mm thick CRCA Sheet, with hinged lockable doors, dust and vermin proof, powder coated of approved shade, inter-connections, having, internal wiring, earth terminals, Top / Bottom control cable entry, numberings etc. comprises of touch-screen display board (Min.Diag. size 8") along with all accessories for complete Programmable logical controls & indications, having necessary interlocks, Inputs/Outputs, required number of repeater amplifiers, all audio-visual alarms as per the requirements listed below i/c emergency stop push button on the panel etc. The panel shall have BMS compatible Modbus protocol complete as required and as specified. |      |      |                  |                    |

| SLNo  | Description   | Qty   | Unit  | Rate Without GST | Amount Without GST |
|-------|---|-------|-------|------------------|--------------------|
|       | Water level indicators and controllers : The hydrostatic pressure sensor (Water level indicator) is working on hydrostatic pressure measurement principle made of Stainless Steel for installation in storage tanks, and capable of providing 4 to 20 mA analog signal compatible with PLC signal inputs and all control outputs to MCC panel (Plumbing/Water supply), complete as per working requirements for equipment detailed below. |       |       |                  |                    |
| a)    | Fire Water Underground tanks- 1No.  |       |       |                  |                    |
|       | Real-Time water level indication monitoring   |       |       |                  |                    |
|       | Low Level audio-visual alarm at less than 30% total capacity.   |       |       |                  |                    |
|       | High Level audio-visual alarm at more than 100% total capacity.   |       |       |                  |                    |
| b)    | Raw Water Underground tanks- 2No.   |       |       |                  |                    |
|       | Real-Time water level indication monitoring   |       |       |                  |                    |
|       | Low Level audio-visual alarm at less than 30% total capacity.   |       |       |                  |                    |
|       | High Level audio-visual alarm at more than 100% total capacity.   |       |       |                  |                    |
|       | Auto cut-out of raw water pumps at 95 % capacity of domestic tank   |       |       |                  |                    |
|       | Auto cut-in of raw water pumps at 25 % capacity of domestic tank  |       |       |                  |                    |
|       | Auto cut-out of filter feed pumps at 10% capacity of raw water tank   |       |       |                  |                    |
| c)    | Domestic Water Underground tanks- 2 No.   |       |       |                  |                    |
|       | Real-Time water level indication monitoring   |       |       |                  |                    |
|       | Low Level audio-visual alarm at less than 30% total capacity.   |       |       |                  |                    |
|       | High Level audio-visual alarm at more than 100% total capacity.   |       |       |                  |                    |
| d)    | Fire Water O.H. tanks- 5 No.  |       |       |                  |                    |
|       | Real-Time water level indication monitoring   |       |       |                  |                    |
|       | Low Level audio-visual alarm at less than 30% total capacity.   |       |       |                  |                    |
|       | High Level audio-visual alarm at more than 100% total capacity.   |       |       |                  |                    |
| e)    | Domestic Water O.H. tanks- 5 No.  |       |       |                  |                    |
|       | Real-Time water level indication monitoring   |       |       |                  |                    |
|       | Low Level audio-visual alarm at less than 30% total capacity.   |       |       |                  |                    |
|       | High Level audio-visual alarm at more than 100% total capacity.   |       |       |                  |                    |
| f)    | Flushing Water O.H. tanks- 5 No.  |       |       |                  |                    |
|       | Real-Time water level indication monitoring   |       |       |                  |                    |
|       | Low Level audio-visual alarm at less than 30% total capacity.   |       |       |                  |                    |
|       | High Level audio-visual alarm at more than 100% total capacity.   |       |       |                  |                    |
|       | Complete Set as mentioned above   | 1.00  | Set   | 420561.73        | 420561.73          |
| 23.24 | Supplying and installing following size of perforated painted with powder coating M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc. as required.  |       |       |                  |                    |
| a)    | 150 mm width X 50 mm depth X 1.6 mm thickness   | 10.00 | Meter | 498.06           | 4980.62            |
| b)    | 200 mm width X 50 mm depth X 1.6 mm thickness   | 10.00 | Meter | 568.15           | 5681.54            |
| c)    | 300 mm width X 50 mm depth X 1.6 mm thickness   | 20.00 | Meter | 640.72           | 12814.38           |
| 23.25 | Providing of following sizes of 1.1KV grade XLPE insulated and PVC sheathed copper conductor armoured stranded power cables conforming to IS 1554 (Part-1) & (7098 Part-1) as ammended upto date and as specified, including necessary support clamps at ceiling level, connection lugs and double compression glands, complete in all respects as per directions of the engineer-in-charge.  |       |       |                  |                    |
| a)    | 3 core 2.5 Sq.mm  | 10.00 | Meter | 112.97           | 1129.71            |
| b)    | 3 core 4 Sq.mm  | 20.00 | Meter | 169.87           | 3397.38            |
| c)    | 3 core 6 Sq.mm  | 20.00 | Meter | 250.68           | 5013.61            |
| d)    | 3 core 10 Sq.mm   | 30.00 | Meter | 211.92           | 6357.71            |
| e)    | 3 core 16 Sq.mm   | 30.00 | Meter | 222.64           | 6679.31            |
| 23.26 | Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.   | 1.00  | Set   | 5158.74          | 5158.74            |

| SLNo  | Description  | Qty    | Unit  | Rate Without GST | Amount Without GST |
|-------|--|--------|-------|------------------|--------------------|
| 23.27 | Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.  | 20.00  | Meter | 582.17           | 11643.44           |
| 23.28 | Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.   | 20.00  | Meter | 958.19           | 19163.85           |
| 23.29 | Providing & Fixing of electric insulated rubber mat non-skid type with grooved top size 1m x 2m and 12 mm thick as per IS : 5424 as required suitable for 1100 volts complete as per directions of the engineer-in-charge.   | 20.00  | Each  | 2061.52          | 41230.31           |
| 23.30 | Designing, Preparation of Shop Drawings, Supplying, Erection, Testing, Commissioning, pre-fabricated package type Sewerage Treatment Plant including all Mechanical, Electrical, MS prefabricated tanks & piping and accessories and other components complete in all respects, including getting approval of successful test results from approved authorised lab, Pollution & Environmental Authorities, and Operating & Maintaining upto successful commissioning of 8 weeks, for 160 m3/day capacity Sewage Treatment Plant based on MBBR technology, considering that the treated effluent recycle for flushing, landscape and HVAC complete in all respects on a Turnkey Basis as per guidelines given in attached Design data, Technical Specifications, Drawings, etc. |        |       |                  |                    |
|       | (a) Complete Package Type STP of 160 CUM/Day capacity  | 1.00   | Set   | 6596850.00       | 6596850.00         |
| 23.31 | Providing and fixing 80 mm dia insect-proof coupling to vent pipes of overhead tank with threaded or flanged joints, including M.S. flanges, nuts, bolts, 3mm thick rubber insertions complete.  | 15.00  | Each  | 989.53           | 14842.91           |
| 24.00 | FIRE FIGHTING WORKS  |        |       |                  |                    |
| 24.01 | Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :<br>All Kinds of Soil<br>Pipes, cables etc, not exceeding 80 mm dia.  | 865.00 | Metre | 177.79           | 153784.12          |
| 24.02 | Pipes & valves : Providing, laying, testing and commissioning M.S. Black ERW Heavy grade piping as per IS: 3589/ IS 1239. including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. in ground including welding, excavation and providing cement concrete blocks as supports, anti corrosive treatment with coal tar / asphalt tape as per IS 10221, refilling the trench etc. of following sizes complete as required.   | 0.00   |       |                  |                    |
| a)    | 150mm dia  | 650.00 | Metre | 3136.80          | 2038921.42         |
| b)    | 100mm dia  | 220.00 | Metre | 2968.58          | 653088.15          |
| 24.03 | Providing, laying, testing and commissioning M.S. Black ERW Heavy grade piping as per IS: 3589/ IS 1239. including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe in wall / ceiling with suitable clamp / support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required   | 0.00   |       |                  |                    |
| a)    | 150mm dia  | 240.00 | Metre | 2947.14          | 707314.26          |
| b)    | 100mm dia  | 50.00  | Metre | 2106.87          | 105343.45          |
| c)    | 80mm dia   | 95.00  | Metre | 1554.38          | 147666.36          |
| d)    | 65mm dia   | 50.00  | Metre | 1330.91          | 66545.72           |
| e)    | 50mm dia   | 20.00  | Metre | 1056.32          | 21126.41           |
| f)    | 40mm dia   | 70.00  | Metre | 852.64           | 59685.00           |
| g)    | 32mm dia   | 60.00  | Metre | 701.74           | 42104.40           |
| h)    | 25mm dia   | 55.00  | Metre | 613.51           | 33742.89           |
| 24.04 | Providing, fixing, testing & commissioning of Butterfly valve (double flanged) with C.I. body & disc, stainless steel/carbon steel shaft, Hand lever operated, PN 1.6 rating, conforming to IS:13095 / BS:5155 complete with nuts, bolts, washers, gaskets complete.   |        |       |                  |                    |
| a)    | 150mm dia  | 5.00   | Each  | 7388.47          | 36942.36           |
| b)    | 100mm dia  | 1.00   | Each  | 5497.65          | 5497.65            |
| c)    | 80mm dia   | 1.00   | Each  | 4108.19          | 4108.19            |

| SLNo  | Description  | Qty    | Unit | Rate Without GST | Amount Without GST |
|-------|--|--------|------|------------------|--------------------|
| 24.05 | Providing and fixing forged brass lever operated ball valve of full flow with forged brass ball (Machined to mirror smooth finish with hard chrome plated) and spindle with setting and gland of superior quality having minimum working pressure of 12 kg/cm2 etc. complete in all respect.   |        |      |                  |                    |
| a)    | 25mm dia   | 1.00   | Each | 4855.28          | 4855.28            |
| 24.06 | Providing & fixing C.I horizontal/ vertical type non return valve (dual plate) conforming to IS:5312 with C.I. body, SS Disc, SS stem, EPDM seal, complete with companion flanges, bolts, nuts, washers & inserted rubber gasket complete as required to I.S:5312, Part-I, dual plate type, class PN 2.0   |        |      |                  |                    |
| a)    | 150 mm dia   | 5.00   | Each | 14666.45         | 73332.23           |
| b)    | 100mm dia  | 1.00   | Each | 13121.13         | 13121.13           |
| c)    | 80mm dia   | 1.00   | Each | 9111.90          | 9111.90            |
| 24.07 | Providing and Fixing Copper Alloy Air release valve, having threaded connection including the cost of 25 mm dia Gunmetal Gate valve with required fittings as per standard design.   | 6.00   | Each | 2543.91          | 15263.46           |
| 24.08 | FIRE FIGHTING EQUIPMENTS & ACCESSORIES FOR EXTERNAL & INTERNAL HYDRANT SYSTEM: Providing and fixing Stainless steel landing valve hydrants to type 'A' of I.S: 5290-1977 with 63mm dia. instantaneous type single headed outlet, M.S. pipe bend and flange of required size with blank caps and chain, 1.6mm thick compressed asbestos gasket of approved specifications and make, complete with instantaneous spring lock type G.M. female coupling of 63mm dia. for connecting hose pipe, complete in all respect. | 175.00 | Each | 5062.26          | 885895.11          |
| 24.09 | FIRE FIGHTING EQUIPMENTS & ACCESSORIES FOR EXTERNAL & INTERNAL HYDRANT SYSTEM :Providing and fixing standard short size Stainless steel branch pipe with hand operated gunmetal 20mm nominal bore outlet with standard instantaneous type 63mm dia coupling as per IS: 903.  | 175.00 | Each | 1370.50          | 239836.73          |
| 24.10 | FIRE FIGHTING EQUIPMENTS & ACCESSORIES FOR EXTERNAL & INTERNAL HYDRANT SYSTEM: Providing and fixing first aid fire hose reel (with wall mounting swinging-type drum complying to IS:884), fitted with Thermo Plastic Synthetic Reinforced Fire Hoses conforming to IS:12585-1988 (or EN 694:2001, of Type -2 class, 20 mm bore, with standard size outlet and shut off valve, brackets, complete in all respects.  | 172.00 | Each | 7153.46          | 1230394.99         |
| 24.11 | FIRE FIGHTING EQUIPMENTS & ACCESSORIES FOR EXTERNAL & INTERNAL HYDRANT SYSTEM: Providing and fixing 63mm dia 15m fire hose, including Stainless steel male and female instantaneous type coupling approved by fire authority, machine wound with copper wire complete in all respects hose to IS:636 and coupling to IS: 903 with ISI certification.   | 378.00 | Each | 3667.85          | 1386446.77         |
| 24.12 | FIRE FIGHTING EQUIPMENTS & ACCESSORIES FOR EXTERNAL & INTERNAL HYDRANT SYSTEM: Providing and fixing standard fire mans axe with heavy duty insulated rubber handle as per IS: 926 with clamps.   | 172.00 | Each | 758.64           | 130485.69          |
| 24.13 | Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required: 2 way-100 mm dia M.S. Pipe  | 2.00   | Set  | 5559.50          | 11118.99           |
| 24.14 | Providing, fixing and commissioning of Fire door, fabricated from 16 gauge M.S sheet (with glass) with locking and break glass recess for key. Door shall be suitable for opening of size 900 x 2100 mm, duly painted with signage complete in all respects including necessary tagging.   | 172.00 | Each | 9895.28          | 1701987.30         |
| 24.15 | Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required.   | 1.00   | Each | 1274.84          | 1274.84            |
| 24.16 | Providing & fixing flow switch in following sizes M.S. pipe including connection etc as required.<br>100 mm dia  | 4.00   | Each | 6196.09          | 24784.37           |

| SLNo  | Description   | Qty    | Unit | Rate Without GST | Amount Without GST |
|-------|---|--------|------|------------------|--------------------|
| 24.17 | Providing, fixing, testing & commissioning of installation control valve of cast iron body, brass/bronze working parts comprising of water motor alarm, bronze seat clapper, clapper arm and hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser/sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, gasket etc of following sizes as required   | 1.00   | Each |                  |                    |
|       |   |        |      | 39747.67         | 39747.67           |
| 24.18 | Supplying, installation, testing & commissioning of sprinkler flexible pipe (UL Listed) of stainless steel complete with 15 NPT on reducer thread with maximum working pressure of 175 PSI test pressure of 875 PSI (Burst) with branch line (Inlet) 25mm NPT male thread to sprinkler head (Outlet) 15mm NPT female thread with reducer, nipple, 2 side brackets, center bracket, stockbar of following sizes complete as required.  |        |      |                  |                    |
| a)    | 700 mm dia  | 20.00  | Set  | 1137.13          | 22742.64           |
| b)    | 1000 mm dia   | 20.00  | Set  | 1301.23          | 26024.57           |
| c)    | 1200 mm dia   | 20.00  | Set  | 1319.37          | 26387.40           |
| d)    | 1500 mm dia   | 20.00  | Set  | 1511.50          | 30230.07           |
| 24.19 | Providing, fixing, testing & commissioning of 15mm dia quartzoid bulb type sprinklers of rating 68 degree centigrade with required accessories :  |        |      |                  |                    |
| a)    | Pendent Sprinkler   | 140.00 | Each | 430.44           | 60262.22           |
| b)    | Upright Sprinkler   | 211.00 | Each | 430.44           | 90823.78           |
| 24.20 | FIRE PUMPS, MECHANICAL & ELECTRICAL ACCESSORIES   |        |      |                  |                    |
|       | (A) Supplying, installation, testing and commissioning of Electric driven Main Fire Pump suitable for automatic operation and consisting of following, complete in all respects, as required :<br>(B) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical seal conforming to IS 1520.<br>(C) Suitable HP Squirrel cage induction motor, TEFC, synchronous speed 1500 RPM, suitable for operation on 415 volts, 3 phase 50 Hz, AC supply with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325.<br>(D) M.S. fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.<br>(E) Suitable cement concrete foundation duly plastered with anti vibration pads.  |        |      |                  |                    |
|       | 2280 lpm at 110 m Head  | 1.00   | Set  | 332733.57        | 332733.57          |
|       | Note: *The head of the pump is selected in a manner so as to give a minimum 3.5kgf/cm <sup>2</sup> pressure at the highest/farthest point.  |        |      |                  |                    |
| 24.21 | (A) Supplying, installation, testing and commissioning of diesel engine driven main fire pump suitable for automatic operation and consisting of following, complete in all respects, as required : (Diesel Driven Pump)<br>(B) Horizontal type, multistage, centrifugal pump of cast of iron body and bronze impeller with stainless steel shaft, mechanical seal conforming to IS 1520.<br>(C) Suitable HP, 1500 RPM water cooled with radiator, diesel engine conforming to relevant IS standard complete with auto starting mechanism, 12 /24 volts electric starting equipment, diesel tank, exhaust pipe extended upto 10 m outside pump house duly insulated with 50 mm thick glass wool with 1.0 mm thick aluminium sheet cladding, residential silencer, instruments and protection as per standard specification, stop solenoid for auto stop in the event of fault with audio indications, painted with post office red colour etc. as required.<br>(D) M.S fabricated, common base plate, coupling, coupling guard, foundation bolts etc. as required.<br>(E) Suitable cement concrete foundation duly plastered and with antivibration pads. |        |      |                  |                    |
|       | 2280 lpm at 110 m Head  | 1.00   | Set  | 524374.54        | 524374.54          |
|       | Note: * The head of the pump is selected in a manner so as to give a minimum 3.5kgf/cm <sup>2</sup> pressure at the highest/farthest point.   |        |      |                  |                    |



| SLNo  | Description  | Qty  | Unit | Rate Without GST | Amount Without GST |
|-------|--|------|------|------------------|--------------------|
| 24.22 | (A) Supplying, installation, testing and commissioning of electric driven pressurisation pump suitable for automatic operation and consisting of following, complete in all respects, as required : (Jockey Pump)<br>(B) Horizontal type, multistage, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal conforming to IS: 1520.<br>(C) Suitable HP squirrel cage induction motor TEFC type suitable for operation on 415 volts, 3phase 50 HzAC supply with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS : 325.<br>(D) M.S.fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.<br>(E) Suitable cement concrete foundation duly plastered and with anti vibration pads. |      |      |                  |                    |
|       | 180 lpm at 110 m Head  | 1.00 | Set  | 104847.04        | 104847.04          |
| 24.23 | Electrical Panel for Fire Pumps  |      |      |                  |                    |
|       | Fabricating, supplying, installation, testing & commissioning of totally enclosed cubicle type fire pump control panel free standing, floor mounted, compartmentalised, sectionalised, dust ,dump and vermin proof with suitable natural ventilation arrangement,front and rear accessible,lockable power cum control panel, fabricated from 1.6/2 mm thick MS sheet (to give IP 42 protection) seven tank powder coated with RAL7035 colour shade, heavy 4 strip sleeved Electrolytic grade aluminium bus bar, bus bar supports, inter connecting from bus bars to out going switches/ MCCBs including earthing the board suitable to accomodate the following including numbering etc. as required.  |      |      |                  |                    |
|       | INCOMING:  |      |      |                  |                    |
|       | 400amp. TP +NL M.C.C.B. with rotary handle of breaking capacity 36KA   |      |      |                  |                    |
|       | One-Digital voltmeter with phase selection switch  |      |      |                  |                    |
|       | One-Digital Ammeter with phase selection switch  |      |      |                  |                    |
|       | 3 Phase indicating lamps with SP MCB--3 Nos and 700 AMP AL.Bus bar.  |      |      |                  |                    |
|       | Dual supply with on load changeover of required capacity   |      |      |                  |                    |
|       | OUTGOING   |      |      |                  |                    |
|       | One- 250 Amp. TP + NL M.C.C.B. with rotary handle of breaking capacity 35KA  |      |      |                  |                    |
|       | One - 32 Amp.TP +NL M.C.C.B. with rotary handle of breaking capacity 35KA  |      |      |                  |                    |
|       | One Fully Automatic Star-Delta starters suitable for main fire Pump Motor with over load relay timer push buttons and Auto/Manual selector switch and single phase preventer relay.  |      |      |                  |                    |
|       | one Fully Automatic star delta Starter suitable for Jockey Pump Motor with over load relay, timer push buttons and Auto/Manual selector switch and single phase preventer relay.   |      |      |                  |                    |
|       | two panel type Digital Amp. meters one for each motor with ASS. CTS etc.   |      |      |                  |                    |
|       | two sets of On/Off - neon indicating lamp.   |      |      |                  |                    |
|       | Auxillary potential free contact to be provided for each pump set for sending data to BMS station for status only.   |      |      |                  |                    |
|       | 1 set of Automatic Trip unit of suitable rating operating at 12/24V DC for Fully Automatic Diesel engine starting system complete with battery charger, 8 window annunciator, indicating lights, transformer, rectifier, timer, voltmeter ammeter, selector switches, push buttons, auxiliary relay etc. complete as required as per NBC rules   |      |      |                  |                    |
|       | All interconnecting power & control wires/cables suitable size within the panel .  |      |      |                  |                    |
|       | (All for above complete set). (The shop drawing to be prepared and approved before fabrication)  | 1.00 | Set  | 206151.56        | 206151.56          |

| SLNo  | Description  | Qty   | Unit  | Rate Without GST | Amount Without GST |
|-------|--|-------|-------|------------------|--------------------|
| 24.24 | TERRACE FIRE PUMPS<br>Supplying, Installation, Testing and Commissioning of electric driven Terrace Pump suitable for automatic operation and consisting of following : complete in all respect as required:<br>a) Horizontal type ,multistage, centrifugal split casing pump of cast iron, body & bronze impeller with stainless steel shaft, mechanical seal and flow of 450 lpm at 35 M head conforming to IS 1520.<br>b) Suitable HP SQ cage induction motor TEFC type suitable for operation on 415 volts , 3 phase 50 Hz .AC subitable DOL Starter Panel of required rating terrace fire pump for automatic operation and consisting of following<br>c) M.S fabricated Common base plate, coupling, coupling guard, foundation bolts etc .as required.<br>Suitable cement concrete foundation duly plastered with anti-vibration pads.       | 1.00  | Each  |                  |                    |
|       |  |       |       | 83993.57         | 83993.57           |
| 24.25 | Pressure Vessel for Fire Pump  |       |       |                  |                    |
| 24.26 | Supply, Installation, Testing & Commissioning of air pressure vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required   | 2.00  | Each  |                  |                    |
|       |  |       |       | 15044.12         | 30088.23           |
| 24.27 | Supplying and fixing of following powder coated perforated type cable tray system including fittings and accessiores on existing structural supports, fabricated from min. 2mm thick CRCA MS sheets including the cost of powder coatings of approved shade of min. 50 micron film thickness on MS surface cleaned and including the cost of providing loop earthing with 2 nos. 25mm x 6mm GI earth strips complete as per specifications and including the cost of approved arrangement of cable tray hangers fabricated from galvanized MS angles/flats/rods including joint the steel section of the suupport arrangement with nuts and bolts/welding and including securing the support to the structural ceiling by dash fasteners etc.complete with spacing of 600mm for 900mm/1200mm and 750mm for lower sizes, as required, and as below. |       |       |                  |                    |
| a)    | 300mm x50mmx50mm trays   | 20.00 | Metre | 640.72           | 12814.38           |
| b)    | 150mmx50mmx50mm trays  | 20.00 | Metre | 498.06           | 9961.24            |
| 24.28 | Providing and fixing C.I double flanged "Y" type strainer with S.S. mesh, including nuts, bolts and 3 mm thick gasket complete as required   |       |       |                  |                    |
| a)    | 200 mm dia   | 1.00  | Each  | 18359.86         | 18359.86           |
| b)    | 150 mm dia   | RO    | Each  | 9189.41          |                    |
| 24.29 | Providing and fixing flanged flexible connectors in SS 304 braiding, of rating PN 1.6 or equivalent, to provide stress relief for suction/delivery of pumps, complete with standard flanges, nuts, bolts etc.  |       |       |                  |                    |
| a)    | 150mm dia (min. 150 mm length)   | 2.00  | Each  | 1814.13          | 3628.27            |
| b)    | 100mm dia (min. 150 mm length)   | 2.00  | Each  | 2061.52          | 4123.03            |
| c)    | 80mm dia (min. 150 mm length)  | 1.00  | Each  | 2226.44          | 2226.44            |
| d)    | 65mm dia (min. 150 mm length)  | 1.00  | Each  | 2308.90          | 2308.90            |
| 24.30 | Providing and fixing Pressure gauge (0-14 Kg/Cm2) with necessary flanges and fittings such as tees, elbows and painting and supports etc. complete.  |       |       |                  |                    |
| a)    | 100mm dia  | 6.00  | Each  | 986.23           | 5917.37            |
| 24.31 | Providing and fixing pressure switch (for operation at 0-15 Kg./sqcm) with required fittings and accessories complete.   |       |       |                  |                    |
| a)    | Standard type  | 3.00  | Each  | 1274.84          | 3824.52            |
| 24.32 | Providing and fixing heavy duty FRLSH outer sheath Aluminum armored cables 1.1 KVA grade including necessary support clamps at ceiling level, connection lugs and double compression glands, complete in all respects.   |       |       |                  |                    |
| a)    | Power cable 3 core 16 Sq.mm  | 20.00 | Metre | 222.64           | 4452.87            |
| b)    | Power cable 3.5 core 120 Sq.mm   | 20.00 | Metre | 492.29           | 9845.80            |
| 24.33 | Providing and fixing 25mmx5mm GI strip in 40mm dia GI pipe from earth electrode as required.   | 20.00 | Metre | 582.17           | 11643.44           |
| 24.34 | Providing and fixing 25mmx5mm GI strip in on surface (or) in recess for earth connection etc as required.  | 20.00 | Metre | 201.20           | 4024.08            |

| SLNo                                   | Description  | Qty    | Unit | Rate Without GST | Amount Without GST    |
|--|--|--------|------|------------------|-----------------------|
|  |  |        |      |                  |                       |
| 24.35                                  | PORTABLE FIRE EXTINGUISHERS: Providing and fixing "ABC" stored pressure type Dry Chemical Powder (Mono-Ammonium Phosphate ) fire extinguisher with fixing hangers, hose, brackets, screws to required size etc., complete as per IS: 15683:2006 : 6 Kg. Capacity | 191.00 | Each | 4498.23          | 859161.38             |
| 24.36                                  | Providing and fixing CO2 type cylindrical shape fire extinguisher with fixing hangers, hose, brackets, screws to required size etc.,complete as per IS:15683:2006 - wall mounted type : 4.5 Kg. Capacity   | 191.00 | Each | 7833.76          | 1496248.04            |
| 24.37                                  | Providing and fixing 9 litres capacity water type extinguishers with CO2 cartridge with fixing hangers, hose, brackets, screws to required size etc., complete as per IS:15683:2006 -Wall mounted type.  | 191.00 | Each | 3046.92          | 581961.74             |
| <b>Total amount without GST in Rs.</b> |  |        |      |                  | <b>991,051,949.00</b> |