

Name of Work: Development of Shri Tulshishyam Yatradham				
TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
1	Clearing and grubbing road land including uprooting rank vegetation grass bushes, shrubs, sapling and trees girth up to 300 mm removal of stumps of trees cut earlier and disposal of unserviceable materials (C) By mechanical means in area of light jungle	Hect	26 26117C	Refer Civil General Technical Specification
2	Dismantling tiled of stone floors laid in mortar including stacking of serviceable materials and disposal of unserviceable materials with all lead and lift.	smt	20005	Refer Civil General Technical Specification
3	Scraping oil paint from steel and other metal surface and making the surface even (with Hand Scraping.)	smt	20017	Refer Civil General Technical Specification
4	Removing and scraping of old deteriorated plaster of any thickness from wall / R.C.C member including stacking of serviceable material and disposal of unserviceable from site of work with all lead and lift	smt	20045	Refer Civil General Technical Specification
5	Dismantling of sheet roofing including ridges, Hips, Valleys, Gutters etc. stacking of serviceable materials and disposal of unserviceable materials with all lead and lift.(i) G.I. sheet roofing.	smt	20007A	Refer Civil General Technical Specification
6	Dismantling doors, windows, ventilators etc. (wood or steel) shutters including chowkhats architraves, holdfasts and other attachment etc. complete and stacking them within all lead and lift.(i) Not exceeding 3 Sq.M. in area.	Each	20013A	Refer Civil General Technical Specification
7	Dismantling C.I. pipes G.S.W. pipes and A.C. rain water pipes with fittings and clamps including stacking the materials with all lead and lift ( for any dia, of pipe)	Rmt	20015	Refer Civil General Technical Specification
8	Dismantling sanitary fittings like wash basin . W.C. pan Indian and European type, flushing tank etc. including stacking the materials with all lead and lift.	Nos	20016	Refer Civil General Technical Specification
9	Demolition including stacking of serviceable materials and disposal of unserviceable materials with all lead and lift. (i) R.C.C. work	Cum	20002	Refer Civil General Technical Specification
10	Demolition of Brick work and stone masonry including stacking of serviceable materials and disposal of unserviceable materials with all lead and lift.(ii) In Cement Mortar.	Cum	20003B	Refer Civil General Technical Specification
11	Excavation for foundation upto 1.5 m depth including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(C) Hard Murrum	Cum	04001C	Refer Civil General Technical Specification
12	Excavation for foundation for depth from 1.5 m to 3.0 m including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead. (D) Soft rock not requiring Blasting	Cum	04002D	Refer Civil General Technical Specification
13	Excavation for foundation for depth from 1.5 m to 3.0 m including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(E) Hard Rock	Cum	04002E	Refer Civil General Technical Specification
14	Earthwork in cutting including preparing the slope and camber and stacking or utilising the cutting stuff in bank as directed upto 200 Meters from the end of cutting with all lead and lift.(i) Hard murrum.	Cum	26009A	Refer Civil General Technical Specification
15	Carting & carriage Loading - unloading of excavated earth up to 15 km to 25 km from out side campus with all lead & lift as per Directed Engineer in Charge	Cum	Item No 3.2.1 +C031A	Refer Civil General Technical Specification
16	Filling available excavated earth (excluding rock) in trenches. plinth, sides of foundations etc. in layers not exceeding 20 cm. in depth consolidating each disposed layer by ramming and watering.	Cum	4 4006	Refer Civil General Technical Specification
17	Filling in plinth with sand under floors including watering ramming, consolidating and dressing complete	Cum	4 04007A	Refer Civil General Technical Specification
18	Filling in foundation and plinth with murrum or selected soil in layers of 20cm. thickness including watering, ramming and consolidating etc. complete.	Cum	4 04008A	Refer Civil General Technical Specification
19	Rolling and consolidation of soling including filling in depression which occur during the process, with power roller 8 tonne to 12 tonne.	Smt	26021	Refer Civil General Technical Specification
20	Applying general insecticide pest control treatment to floors, cupboards etc including labour materials etc. complete. Using Imidacloprid 30.5 SCas Per IS 6313 part-II( 0.075% concentration by mass) is recommended 10.5ml chemical diluted with 5 liters of water application 0.5 litre chemical /Sqm of surface is recommended as per I.S	Sqm.	22 22006	Refer Civil General Technical Specification
21	Providing and laying cement concrete 1:3:6 (1- Cement :3- Coarse sand : 6- Graded brick bat aggregate 40mm normal size) and curing complete including cost of formwork in (A) Foundation and Plinth	Cum	5 05007A	Refer Civil General Technical Specification
22	Providing and laying controlled cement concrete M.150 for curing complete including cost of formwork and reinforcement for reinforced concrete work in Foundations, footings, Base of columns and Mass concrete.	Cum	SOR Rate Analysis-1	Refer Civil General Technical Specification
23	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work, using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering, shutterings, finishing, grouting if required, admixture in recommended proportion as per IS:9103 to accelerated, retard, setting of concrete, improve workability as per direction of engineer in charge and approved, rates includes all levels, heights as specified, excluding reinforcement : (A) Footing	Cum	SOR Rate Analysis-2	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
24	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Column FOR up to Plinth level	Cum	SOR Rate Analysis-3	Refer Civil General Technical Specification
25	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Column FOR Ground Floor	Cum	SOR Rate Analysis-3	Refer Civil General Technical Specification
26	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Column First Floor	Cum	SOR Rate Analysis-3	Refer Civil General Technical Specification
27	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Column for Second Floor	Cum	SOR Rate Analysis-3	Refer Civil General Technical Specification
28	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Column for Third Floor	Cum	SOR Rate Analysis-3	Refer Civil General Technical Specification
29	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work in Plinth Beam .	Cum	SOR Rate Analysis-4	Refer Civil General Technical Specification
30	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Floor beam for Ground Floor	Cum	SOR Rate Analysis-5	Refer Civil General Technical Specification
31	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Floor beam for First Floor	Cum	SOR Rate Analysis-5	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
32	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 toaccelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Floor beam for Second Floor	Cum	SOR Rate Analysis-5	Refer Civil General Technical Specification
33	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 toaccelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for at Ground Floor (c) For Floor Slabs	Cum	SOR Rate Analysis-6	Refer Civil General Technical Specification
34	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 toaccelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for First Floor (c) For Floor Slabs	Cum	SOR Rate Analysis-6	Refer Civil General Technical Specification
35	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 toaccelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Second Floor(c) For floor Slabs	Cum	SOR Rate Analysis-6	Refer Civil General Technical Specification
36	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 toaccelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Stair Case for GF TO FF	Cum	SOR Rate Analysis-7	Refer Civil General Technical Specification
37	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 toaccelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Stair Case for FF TO SF	Cum	SOR Rate Analysis-7	Refer Civil General Technical Specification
38	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 toaccelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Lintel for GF	Cum	SOR Rate Analysis-8	Refer Civil General Technical Specification
39	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 toaccelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Lintel for FIRST FLOOR	Cum	SOR Rate Analysis-8	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
40	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Lintel for SECOND FLOOR	Cum	SOR Rate Analysis-8	Refer Civil General Technical Specification
41	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Chajja for GF	Cum	SOR Rate Analysis-9	Refer Civil General Technical Specification
42	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Chajja for FF	Cum	SOR Rate Analysis-9	Refer Civil General Technical Specification
43	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for Chajja for SF	Cum	SOR Rate Analysis-9	Refer Civil General Technical Specification
44	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for RCC WALL for GROUND FLOOR	Cum	SOR Rate Analysis-10	Refer Civil General Technical Specification
45	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for RCC WALL for FIRST FLOOR	Cum	SOR Rate Analysis-10	Refer Civil General Technical Specification
46	Providing and laying in position control cement concrete mix M-300 grade for reinforced cement concrete work , using cement content as per approved design mix including pumping of concrete to site of laying, cost of Centering , shutterings, finishing, grouting if required , admixture in recommended proposition as per IS:9103 to accelerated , retard, setting of concrete, improve workability as per direction of engineer in charge and approved , rates includes all levels , heights as specified , excluding reinforcement .rates for centering, shuttering, formwork staging scaffolding work considering for RCC WALL for SECOND FLOOR	Cum	SOR Rate Analysis-10	Refer Civil General Technical Specification
47	Providing and Laying controlled Cement Concrete M-200 and curing etc. Complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work at Ground Floor (c) For Grad Slab	Cum	SOR Rate Analysis-5A	Refer Civil General Technical Specification
48	Providing CRS Bar (Corrosion Resistance Steel Bars) Reinforcement conformed to IS-1786 FE-500D for R.C.C. work including bending, binding and placing in position complete upto floor two level	Kg.	5 05014C+5035	Refer Civil General Technical Specification
49	White Stone Bela masonry block in course in superstructure with stone of approved quality in Lime Mortar 1:6 (1-Cement : 6- course sand) including packing the joints etc. complete. Up to plinth	Cum	7 07011A	Refer Civil General Technical Specification
50	White Stone Bela masonry block in course in superstructure with stone of approved quality in Lime Mortar 1:6 (1-Cement : 6- course sand) including packing the joints etc. complete) GROUND FLOOR	Cum	7 07011A	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
51	White Stone Bela mesonry work in partition walls upto 15 cm thickness in cement Mortar 1:4 ( 1- Cement : 4- course sand) GROUND FLOOR	Sqm	7 07009A	Refer Civil General Technical Specification
52	White Stone Bela mesonry block in course in superstructure with stone of approved quality in Lime Mortar 1:6 (1-Cement : 6- course sand) including packing the joints etc. complete) FIRST FLOOR	Cum	7 07011A	Refer Civil General Technical Specification
53	White Stone Bela mesonry work in partition walls upto 15 cm thickness in cement Mortar 1:4 ( 1- Cement : 4- course sand) First FLOOR	Sqm	7 07009A	Refer Civil General Technical Specification
54	White Stone Bela mesonry block in course in superstructure with stone of approved quality in Lime Mortar 1:6 (1-Cement : 6- course sand) including packing the joints etc. complete) SECOND FLOOR	Cum	7 07011A	Refer Civil General Technical Specification
55	White Stone Bela mesonry work in partition walls upto 15 cm thickness in cement Mortar 1:4 ( 1- Cement : 4- course sand) Second FLOOR	Sqm	7 07009A	Refer Civil General Technical Specification
56	Uncoursed Rubble Masonry with hard stone of approved quality in foundations and plinth in Cement Mortar 1:6 (1-cement : 6-coarse sand including levelling up etc. complete	Cum	07001AA	Refer Civil General Technical Specification
57	Providing 10mm thick cement mala plaster in double coat on brick/concrete walls for interior plastering upto floor two level and finished even and smooth in (i)Cement mortar 1:4 (1-cement:4-sand) Ground Floor	Sqm	17 17001B+17004A	Refer Civil General Technical Specification
58	Providing 10mm thick cement mala plaster in double coat on brick/concrete walls for interior plastering upto floor two level and finished even and smooth in (i)Cement mortar 1:4 (1-cement:4-sand) First Floor	Sqm	17 17001B+17004A+17006	Refer Civil General Technical Specification
59	Providing 10mm thick cement mala plaster in double coat on brick/concrete walls for interior plastering upto floor two level and finished even and smooth in (i)Cement mortar 1:4 (1-cement:4-sand) Second Floor	Sqm	17 17001B+17004A+17006	Refer Civil General Technical Specification
60	Providing 15mm thick cement mala plaster in single coat on Rough (Similar)side of single or half brick walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:4 (1-cement:4-sand) Ground floor	Sqm	17 17002B+17004A	Refer Civil General Technical Specification
61	Providing 15mm thick cement mala plaster in single coat on Rough (Similar)side of single or half brick walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:4 (1-cement:4-sand) First floor	Sqm	17 17002B+17004A+17007A	Refer Civil General Technical Specification
62	Providing 15mm thick cement mala plaster in single coat on Rough (Similar)side of single or half brick walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:4 (1-cement:4-sand) Second floor	Sqm	17 17002B+17004A+17007A	Refer Civil General Technical Specification
63	Providing cement vata (10 mm. x 10 mm. size) quarter round in cement mortar 1:1 including neat cement finishing, watering etc. complete.	Rmt	17 17015	Refer Civil General Technical Specification
64	Providing 20 mm thick double coat mala cement vplaster on interior brick / concrete work for plastering comprising of base coat of 12 mm thick cement plaster in cement mortar (1 Cement : 4 coarse sand) in rough finishing and 8 mm thick top coat of cement mortar 1:2 (1 Cement : 2 Coarse sand) finished with trowel including scaffolding curing etc. complete.	Sqmt	17 170017	Refer Civil General Technical Specification
65	Providing and applying 2mm thick Texture Plaster of Earthen Textures, Travertino Texture, Coral texture or equivalent make incorporating fine filaments made of polymer and aggregating natural stone powder with making grooves on existing base coat of 20 mm thick smooth mala plaster etc. Complete Exterior weather proof two coat paint in any shade as approved by Architect/ Engineer in charge for all floor all height.	Sqmt	SOR Rate Analysis-21	Refer Civil General Technical Specification
66	Providing 20 mm thick water proof cement plaster using water proofing powder 1Kg/1bag of cement for all floors on brick / concrete wall work using water proofing materials in C M 1: 4 ( 1 cement 4 coarsse sand) including finishing with a floating coat of neat cement slurry etc complete for all floor. and shall be guaranteed for minimum period of 10 years after handing over the completed building by the main contractor to be finished as directed. Stamp paper guarantee 10 years to be furnished before receiving any payment from the client.	Sqmt	SOR Rate Analysis-20	Refer Civil General Technical Specification
67	Providing 1 CM X 1 CM groove/notch in plaster including finishing the same etc.complete for all height.	Rmt	Rate Analysis	Refer Civil General Technical Specification
68	Providing and filling cinder including watering and consolidation etc complete.	Cum	SOR Rate Analysis-22	Refer Civil General Technical Specification
69	Applying two coats of putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.	Sqmt	19 19032	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
70	Wall painting (two coats) with plastic emulsion paint of approved brand and manufacture on undecorated Ceiling surface to give an even shade including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth and colour approved by architect.	Sqmt	18 18031+18033	Refer Civil General Technical Specification
71	Finishing wall with weather proof exterior acrylic emulsion paint on wall surface (two coats) to give an required shape even shade after thoroughly brushing the surface to remove all dirt, and remains of loose powdered materials.etc complete colour and shade approved by architecture.	Sqm.	19 19031	Refer Civil General Technical Specification
72	P & L 24" x 24" vitrified 8 mm thick tile flooring over 20 mm (average) base of cement mortar 1:6 ( 1 cement: 6 coarse sand) on new surface or fixing on existing flooring by adhesive material including dismantling of existing flooring and jointed with color cement slurry including finished with flush pointing & cleaning the surface etc. complete for antiskid Full body vitrified tiles flooring as approved by architect or Engineer in charge.	Sqm	14 14021A	Refer Civil General Technical Specification
73	P & L 24" x 24" vitrified 8 mm thick tile flooring over 20 mm (average) base of cement mortar 1:6 ( 1 cement: 6 coarse sand) on new surface or fixing on existing flooring by adhesive material including dismantling of existing flooring and jointed with color cement slurry including finished with flush pointing & cleaning the surface etc. complete Soluble salt vitrified tile flooring for light shade/ dark shade as approved by architect or Engineer in charge.	sqm	14 (14020A+14022A)/2	Refer Civil General Technical Specification
74	Providing and laying Vitrified tiles 8 to 10 mm thick , 36" x 36" in flooring treads of steps and landing laid on a bed of 12mm thick cement mortar 1:3 (1-cement : 3-coarse sand ) finishing with flush pointing in white cement& cleaning the surface etc. complete Soluble salt vitrified tile flooring for light shade/ dark shade as approved by architect or Engineer in charge.	sqm	14 14008DA	Refer Civil General Technical Specification
75	Providing and laying Antiskid Ceramic tiles of 450mm x600 mm / 600mm X 600 mm 6mm thick in flooring treads of steps and landing laid on a bed of 12mm thick cement mortar 1:3 (1 cement : 3-coarse sand ) finishing with flush pointing in white cement selected as per attached detail architectural drawing and material selection list as approved by architect.	Sqm	14 14008BA	Refer Civil General Technical Specification
76	Providing and laying white glazed tiles 300x600 mm 6mm thick in skirting risers of steps and dedo on 10mm thick cement plaster 1:3 (1-cement : 3-coarse sand) and jointed with white cement slurry selected as per attached detail architectural drawing no.09 and material selection list.	Sqm	14 14009AA	Refer Civil General Technical Specification
77	Providing and laying coloured glazed tiles of the size 450 mm x 600 mm x 8 mm / 600 mm x 600 mm x 8 mm in skirting, risers of steps and dedo on 10 mm. thick cement plaster 1:3 (1 cement : 3 coarse sand) & jointed with white cement slurry as approved by architect.	Sqm	14 14036	Refer Civil General Technical Specification
78	Providing and laying polished Kota stone slab flooring over 20mm (Average) thick base of cement mortar 1:6 (1-cement : 6-coarse sand) or L.M. 1.1.5 (1-Lime putty :1.5 - coarse sand) laid over and jointed with grey cement slurry mixed with pigment to match the shade of slab including rubbing and polishing etc. complete. (A) 25mm thick	Sqm	14 14012AA	Refer Civil General Technical Specification
79	Providing and fixing Sand which type Granite platform including supplying and fixing granite stone 18 mm thick mirror polished 1st quality Granite stones in top and side position and vertical strip at front over 25 mm thick polished kotah stone platform fixing in top and sides and intermediates supports fixing with cement mortar and adhesive and finishing including cutting for fixing of sink any size (as directed by engineer incharge) at required position etc complete	Sqm	SOR Rate Analysis-12	Refer Civil General Technical Specification
80	Providing and laying cement concrete flooring 1:2:4 (1-cement : 2-coarse sand : 4-graded stone aggregate 20mm nominal size) laid in one layer and finished with a floating coat of neat cement. (B) 50mm thick.	Sqm	14 14015BA	Refer Civil General Technical Specification
81	Providing and laying broken chine mosaic flooring for terrace using 12 mm to 20 mm broken pieces of glazed tiles to be laid over cement mortar 1:3 to plain or slope and to be tempered to bring mortar creme out upto surface using white cement including rounding off junctions and extending them upto 15 cm along the wall,clearing with water and oxalic acid etc. as directed. Providing and mixing water proofing materials in cement mortar in proportion recommended by the manufacturer.	Sqm.	14 14035+17005	Refer Civil General Technical Specification
82	Providing and laying 16-18 mm thick polished granite stone machine cut in single piece (Max. available) in sill and jambs of door ,window,ventilation & lift wall cladding,staircase flooring landing, risers & treads, skirting laid over 10 mm thick cement mortar 1 : 3 (1 cement : 3 coarse sand) and jointed with grey cement slurry with matching pigment incl. rubbing and polishing, half rounding edge and incl. fixing of hilty fastener at every 1/3 span of sill as required size etc. complete colour and shed as approved by architect engineer in charge.	Sqm.	SOR Rate Analysis-13	Refer Civil General Technical Specification
83	Providing and laying 19mm x 25mm round , 'D' edge and polished granite pencil patti on top, with cement paste and including backing coat in C.M. 1:4. All joints filled with colour / epoxy grout and wiped to give sharp joints with flush pointing and washed clean with acid etc.	Mtr	SOR Rate Analysis-15	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
84	Providing and fixing main door 50mm.th. double shutter specially designed hollow door made out of 7.5x5 cm.t.w. frame work with 6mm.th. waterproof ply and lamination over it, on both the sides, colour pattern and design of which is to be approved by the architect. doors shall be provided with pivot and 60 cm. long stainless steel handles as/detail. as per attached detail architectural drawing.	Sqm.	SOR Rate Analysis-16	Refer Civil General Technical Specification
85	Providing and fixing Single/double shuttered door having black granite frame with all open edges machine cut & machine polished, fixed by special hinges with double shutter of 35 mm th both side pre laminated md flushed door, from "greenply" or equivalent company. as per attached detail architectural drawing.	Sqmt	SOR Rate Analysis-17	Refer Civil General Technical Specification
86	Providing and fixing rolling shutters of approved make made of 80 mm wide M.S. laths inter-locked together through their entire length and jointed together at the ends by end locks mounted on specially designed pipe shaft with bracket plates, guide channels and arrangements for inside and outside locking with push pull operation including the cost of hood cover and spring etc. complete.(A) Shutters having width below 3.5 M	Sqmt	ITEM CODE-11005A	Refer Civil General Technical Specification
87	Toilet Cubical : @1000(W) X 1500(D) x 2000(H) mm. Supply & Installation of Toilet Cubicles S.S. 304 Series as per approved make & selection by Architect. 12 mm Compact Grade 1.5 mm thick laminate Board of the approved shade by Architect . Accessories for cubicles.1. Aluminum "U" Section with SS Exterior grade Finish.2. Aluminum "H" Section with SS Exterior grade Finish.3. Aluminum Top Rail with SS Exterior grade Finish.4. SS Coat Hook ( SS 316 )5. SS Privacy Thumb Turn ( SS 316)6. SS Door Knob ( SS 316)7. SS Hinges ( SS 316)8. SS Adjustable Leg ( SS 316)With Rubber lining and Screw Etc. Work complete including all type of fittings, fixtures, tools, etc complete as per manufacturer specification and drawing.	Nos.	Rate Analysis	Refer Civil General Technical Specification
88	Providing and Fixing heavy duty S.S. Door Closer as directed by Engineer In charge.	Each	SOR Rate Analysis 18	Refer Civil General Technical Specification
89	Providing & fixing M.S. Grill for with necessary fitting with necessary fitting with one coat of primer and two coat oil paint as per details given by architect instructions given by engineer in charge	Kg.	SOR Rate Analysis-19	Refer Civil General Technical Specification
90	Providing and fixing window having extruded aluminum Colour anodized section frame main outer size 127mm x 38.10mm x 1.35mm @wt. 1.384kg/m, horizontal Four track member size 122.20mm x 31.75mm x 1.10mm@ wt 1.205 kg/m, vertical member of size 122.20mm x 31.75mm x 1.50mm @1.398 kg/mt with sliding shutters of horizontal member size 40mm x 18mm x 1.29mm@0.456kg/mt ,vertical member of size 40mm x 18mm x 1.29mm @ 0.456 kg/mt with 5 mm thick transparentbronze colour tinted float glass with powder coatedaluminum fittings and fixtures and transparent silicon sealant glass fixing to frame as per details etc complete for window(3 SHUTTER +1 MOSQUITO SHUTTER )With fixed glass above as per given in detail drawing and approved By engineer in charge.	Sqmt	11 11026	Refer Civil General Technical Specification
91	Providing and fixing window having extruded aluminum Colour anodized section frame main outer size 95mm x 24mm x 1.17mm @ wt.of 0.738 Kg/mt , horizontal Three track member size 92mm x 31.75mm x 1.30mm,@ Wt.1.07 Kg/mt , vertical member of size 92mm x 31.75mm x 1.50mm @ Wt. 1.06 Kg/mt with sliding shutters of horizontal member size 40 mmx18mmx1.29mm @ wt.of 0.456 Kg/mt, vertical member of size 40mm x 18mm x 1.29 mm @ wt.of 0.456Kg/mt/ with 5 mm thick transparent bronze colour tinted float glass with powder coated aluminum fittings and fixtures and transparent silicon sealant glass fixing to frame as per details etc (2 SHUTTER +1 MOSQUITO SHUTTER ) With fixed glass above as per given in detail drawing and approved By engineer in charge.	Sqmt	11 11027	Refer Civil General Technical Specification
92	Providing and fixing louvered glass windows and ventilators with alluminium section of size 63mm x 38.10mm x 1.2mm @ Wt. 0.643 Kg/mt with colour anodized alluminium frame for ventilation with 5 mm thick frosted glass as details etc complete for Ventilation selected as per attached detail architectural drawing.	Sqmt	11 11030	Refer Civil General Technical Specification
93	Fabricating, supplying and fixing in position SS railing for staircase and balcony with brush finish and 304 grade as per Indian Standrd and detailed drawing including grinding, cleaning and filling the welded spots with SS railing (Only Length will be paid for payment heighth max.1.0 mt.). The Work to be executed as per consultant drawing . 50mm dia.(16 gauge) TOP RAIL ,32 mm dia.(16 gauge) VERTICAL SUPPORT ,16 mm dia.(16 gauge) HORI. MEMBER ,100mm dia. x 8mm size plate	Rmt.	SOR Rate Analysis-23	Refer Civil General Technical Specification
94	Providing and fixing in position S.S. daso by providing top 50 mm dia stain less steel pipe rail with starting and end point vertical post of 50 mm dia with wall/column including bending welding and fixing for staircase and balcony as directed. (testing is required of s.s 304) for all floor	Rmt.	SOR Rate Analysis-24	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
95	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe ( SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	23 23061	Refer Civil General Technical Specification
96	Providing laying and jointing in true line and level 25mm dia. U.P.V.C. Pipe ( SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	23 23062	Refer Civil General Technical Specification
97	Providing laying and jointing in true line and level 40mm dia. U.P.V.C. Pipe ( SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	23 23064	Refer Civil General Technical Specification
98	Providing laying and jointing in true line and level 50mm dia. U.P.V.C. Pipe ( SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	23 23065	Refer Civil General Technical Specification
99	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete.[A] 15 mm.	Rmt.	23 23055	Refer Civil General Technical Specification
100	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [B] 20 mm.	Rmt.	23 23056	Refer Civil General Technical Specification
101	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [B] 25 mm.	Rmt.	23 23057	Refer Civil General Technical Specification
102	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [B] 40 mm.	Rmt.	23 23059	Refer Civil General Technical Specification
103	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [B] 50 mm.	Rmt.	23 23060	Refer Civil General Technical Specification
104	Providing and fixing Gun metal check or non-return fullway wheel valve.(C) 25mm dia.	No.	23 23031C	Refer Civil General Technical Specification
105	Providing and fixing Gun metal check or non-return fullway wheel valve.(E) 40mm dia.	No.	23 23031E	Refer Civil General Technical Specification
106	Providing and fixing Butterfly valves IS 13095 with ISI mark PN 1.6 of approved brand & follwing internal dia including fixing in pipe lines etc.complete (A) 50 mm Dia	No.	Rate analysis-6	Refer Civil General Technical Specification
107	Providing and fixing special type clamping system made out from C patti, Z patti, L Clamp , U clamp with Nut/ Bolt and washer as suitable arrangement for water supply and plumbing system like Drainage Line , Rain Water line and supply line for Hot and Cold water etc line fitting from GF to 2nd Floor required as per site condition for fixing etc complete. 15 to 40mm dia Pipe	Nos.	Rate analysis-7	Refer Civil General Technical Specification
108	Providing and fixing special type clamping system made out from C patti, Z patti, L Clamp , U clamp with Nut/ Bolt and washer as suitable arrangement for water supply and plumbing system like Drainage Line , Rain Water line and supply line for Hot and Cold water etc line fitting from GF to 2nd Floor required as per site condition for fixing etc complete.50 to 65mm dia pipe	Nos.	Rate analysis-7	Refer Civil General Technical Specification
109	Providing and fixing special type clamping system made out from C patti, Z patti, L Clamp , U clamp with Nut/ Bolt and washer as suitable arrangement for water supply and plumbing system like Drainage Line , Rain Water line and supply line for Hot and Cold water etc line fitting from GF to 2nd Floor required as per site condition for fixing etc complete.75 to 110mm dia pipe	Nos.	Rate analysis-7	Refer Civil General Technical Specification
110	Providing and fixing to wall ceiling and floor 10.0 Kg. F/Cm2 working pressure polythene pipes of the following outside Dia. Low density, complete with special falnge compression type fittings, wall clipsetc. including making good the wall ceiling and floor.(F) 75mm	Rmt.	23 23004F	Refer Civil General Technical Specification



TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
111	Providing and fixing to wall ceiling and floor 10.0 Kg. F/Cm2 working pressure polythene pipes of the following outside Dia. Low density, complete with special falnge compression type fittings, wall clipsetc. including making good the wall ceiling and floor.(F) 110mm	Rmt.	23 23004G	Refer Civil General Technical Specification
112	Providing, laying and jointing in true line and level 110 diameter U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with each other with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 110 mm diameter x 149 mm length x 145 mm heigh at every 2000 mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials.	Rmt.	23 23067	Refer Civil General Technical Specification
113	Providing, laying and jointing in true line and level 160 diameter U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with each other with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 160 mm diameter x 210 mm length x 196 mm heigh at every 2000 mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials.	Rmt.	23 23066	Refer Civil General Technical Specification
114	Providing and fixing ECO Drain Pipes in including supporting the ECO Drain pipe on the bricks at each joint including leakproof joints ECO Drain Pipe etc., complete 200mm dia.	Rmt.	rate Analysis 8	Refer Civil General Technical Specification
115	Providing and fixing ECO Drain PVC Pipes in including supporting the ECO Drain pipe on the bricks at each joint including leakproof joints ECO Drain Pipe etc., complete 300 mm dia.pipe	Rmt	rate Analysis 9	Refer Civil General Technical Specification
116	Providing and fixing PVC /SWR Nahni trap IS 14735 for drain - 75 mm diameter with jali of the following nominal diameter of self cleansing design with C.I scread down or hinged grating including the cost of cutting and making good the walls.	No.	23 23069	Refer Civil General Technical Specification
117	Providing and fixing screw down bib taps of following size.(A) Brass screw down bib tap polished bright. (i) 15mm dia.	No.	23 23028A1	Refer Civil General Technical Specification
118	Providing and fixing pillar tap, capstan head, screw down high pressure with screws, shanks and back nuts. (i) 15mm dia.	Nos.	23 23029A	Refer Civil General Technical Specification
119	Providing and fixing washbasin with single hole for pillar tap with C.I. or M.S. brackets painted white including sutting holes and making good the same but excluding fittings.(A) Vitreous China:(ii) Flat Back washbasin 550 mm x v 400mm size. (i) In white colour. With pillar tap 15 mm dia , MI fisher union and cp brass waste pipe fixing as per approved by engineer in charges .	No.	Rate Analysis-10	Refer Civil General Technical Specification
120	Providing and fixing wash down water closet (European type, W.C. Pan) with integral P or S trap includingBjointing the trap with soil pipe in Cement Mortar 1:1 (1-Cement : 1-fine sand) (A) vitreous China Pattern :(i) in white colour With metropole , 2 way bib cock, health faucet, toilet paper holder, 2 way bib cock ,plastic seat and cover as per approved by engineer in charges.	No.	Rate Analysis-11	Refer Civil General Technical Specification
121	Providing and fixing Urinal or approved quality including coneccting the Urinal with waste pipe , tap etc. complete.(A) White earthenware flat back or corner type size 430mm x 260mm x 350mm With half turn flush cock and waste pipe as per approved by engineer in charge.	No.	Rate Analysis-12	Refer Civil General Technical Specification
122	Providing and fixing 2 Nos. support arms and backrest to mount at fixed height (Model R 1100 -Commander or equivalent) for handicap toilet complete as recommended by the etc completed as directed/ approved by engineer In charge or Architect.	Each	rate Analysis-13	Refer Civil General Technical Specification
123	Providing and fixing raised toilet seat with cover for handicap toilet (Model R-35: Presalit – Commander or equivalent) as recommended by the etc completed as directed/ approved by engineer In charge or Architect.	Each	rate Analysis-14	Refer Civil General Technical Specification
124	Providing and fixing brackets, tracks (Model R4140) with flexible feed & waste pipes for adjustable type wash basin complete as recommended, for handicap toilet (Make : Presalit – Commander or equivalent)etc completed as directed / approved by engineer In charge or Architect.	Each	rate Analysis-15	Refer Civil General Technical Specification
125	Providing erecting and fixing double coated ISI water tank of required capacity each with all necessary fittings and connection etc. complete on terrace	Lit	22 22014	Refer Civil General Technical Specification
126	Providing and fixing 600mm x 450mm bevelled edge mirrror of superior glass mounted on 6mm thick A.C. sheet or plywood sheet and fixing to wooden pluge with C.P. brass screws and washers.	No.	22 23024	Refer Civil General Technical Specification
127	Providing and fixing C.P. brass towel rail comlete with C.P. brass brackets fixed to wooden plugs with C.P. brass scews.(B) 600mm x 20mm size.	No.	22 23025	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
128	Providing and fixing brass screw down stop tap.(A) 15mm dia.	No.	22 23030A	Refer Civil General Technical Specification
129	Constructing brick masonry chamber for underground C.I. Inspection chamber and bends with bricks having crushing strength not less than 35Kg/Cm <sup>2</sup> in C.M. 1:5 C.I. cover with frame (Light duty) 455mm x 610mm intenal dimensions total weight of cover with frame to be not less than 38Kg. (Wt. of cover 23 Kg.) and Wt. of frame 15Kg. ) (R.C.C. top slab with 1:2:4 mix (1-cement :2- coarse sand :4-graded stone aggregate 20mm size) foundation concrete 1:5:10 inside plaster 15mm thick with cement mortar 1:3 finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete.(ii) Inside dimensions 500mm x 700 mm and 450mm deep for pipe line with one or two inlets.	No.	24 24016BA	Refer Civil General Technical Specification
130	Providing and fixing in position cowel went to pipes.(B) 75mm dia.	No.	23 23006B	Refer Civil General Technical Specification
131	Providing and fixing in position cowel went to pipes.(C) 100mm dia	No.	23 23006C	Refer Civil General Technical Specification
132	Providing & fixing stainless steel (stainless steel plate of 302 No. ) letter of 45c.m. size finished with radium sticker including necessary scaffolding for fixing with epoxy material etc. comp. as directed by engineer in charge (Additional Article of Gujarati letter are consider as a half letter)	No.	Rate analysis-16	Refer Civil General Technical Specification
133	Providing and constructing SOAK WELL of 3.50 m internal dia and 8.00 depth depth internal clear dimention including the cost of excavation,PCC 1:4:8 foundation for honey combed masonry in C.M. 1:4 (1cement : 4 sand) , casting R.C.C. 1:2:4 (1cement : 2 sand : 4 graded stone aggregate 20mm nominal size) top slab 12 thick with C.I. manhole cover 600mm x 450mm size of 35 kg. weight and 75mm dia C.I. pipe 1800mm long with 75mm dia cowel vent and filling the wall 1000mm in depth with dry brick bats including providing vata in C.M. 1:3 (1cement : 3 sand), curing including cost of reinforcement etc. complete as per detailed drawing and directed by E.I.C.	Nos.	SOR RATE ANALYSIS-25	Refer Civil General Technical Specification
134	Construction Septic tank inside dimention of 4.00 m in length & 2.50 m in width & 2.00 m depth including excavating any type of soil as shown and mentioned in the drawing,providing and laying 0.10 m thick plain cement concrete 1:3:6 ( 1 cement : 3 coarse sand : 6 graded stone agg.) 40 mm thick IPS flooring at bottom with brick masonry 0.23 m thick walls CM 1:5 ( 1 cement : 5 coarse sand ) and intermediate partition CM 1:4 & RCC Top slabs12 cms thick in 1:2:4 (1 cement : 2 coarse sand : 4 graded stone agg) including reinforcement as per design and 15 mm thick cement plaster in CM 1:4 with floating coat of neat cement slurry inside, top and around tank below 15 cm on ground level, Also provide Two nos CI Manhole frame and cover of size 60 cm x 45 cm & 75 mm dia. PVC 10 kgf / Sq cm pressure air vent pipe in 3.00 length with cowl etc complete as per direction of Engineer in charge.	Nos.	SOR RATE ANALYSIS-26	Refer Civil General Technical Specification
135	Steel work, welded in built up sections framed work including cutting, hoisting, fixing in position and applying a priming coat of red lead paint. (A)In beams and joists, channels angles Tees, flats, with connecting plates or angle cleats as in main and cross beams. Hip and jack rafters, purlins conneted to common rafters and the like with one coat primer & two coat oil paint as per detail drawings etc. complete. in columns, beams and joists, channels M.S. flat, Angles, Pipes, tees flats with connecting plates or angle cleats <u>STRUCTURAL STEEL</u>	Kg.	item code- 11002AA	Refer Civil General Technical Specification
136	Providing and position PVC Sleeves in RCC elements like walls slabs beams etc. of 10 Kg/cm <sup>2</sup> UPVC Pipes and diameter of taking out service pipelines cables road infrasturcture work etc. upto 1 mtr. length for all floors/ all levels / all heights. 50 mm dia	Each	SOR Rate Analysis 27	Refer Civil General Technical Specification
137	Providing and position PVC Sleeves in RCC elements like walls slabs beams etc. of 10 Kg/cm <sup>2</sup> UPVC Pipes and diameter of taking out service pipelines cables road infrasturcture work etc. upto 1 mtr. length for all floors/ all levels / all heights. 75 mm dia	Each	SOR Rate Analysis 27	Refer Civil General Technical Specification
138	Providing and position PVC Sleeves in RCC elements like walls slabs beams etc. of 10 Kg/cm <sup>2</sup> UPVC Pipes and diameter of taking out service pipelines cables road infrasturcture work etc. upto 1 mtr. length for all floors/ all levels / all heights. 110 mm dia	Each	SOR Rate Analysis 27	Refer Civil General Technical Specification
139	Providing and fixing 3 mm thick PVC sheets as Signage and Display of health signs/information of required size having retro reflective letters/design as per requirement, fixing the same through approved adhesive etc. complete work shall e carried out as per instruction of Engineer-in-charge (45 x 15 cms.) (work for all the floors)	Nos.	Rate Analysis 35	Refer Civil General Technical Specification
140	Supplying & installing Brass Ball Valve conforming to IS 778, of RB, Italy or equivalent. Ball valve must be having screwed ends. The ball valve should be with stand with maximum pressure up to 16 Kg/cm <sup>2</sup> . Complete job as specified & directed. 50 mm	Nos	Rate Analysis 36	Refer Civil General Technical Specification
141	Providing and fixing Kitchen sink with C.I. or M.S. brackets, painted white including cutting holes in walls and making good the same but excluding fittings. (C) Vitreous China Sink.(i) 600mm x 450mm x 150mm size	Nos	item code -23019	Refer Civil General Technical Specification
142	Providing and fixing pre-cast concrete kerb stone of gray cement based concrete block 30cm length,30cm height and 15cm thick of M250 grade concret as per approved design and including excavation for fixing in proper line and level,filling the joint with C:M 1:3 (1cement:3fine sand) etc complete	Rmt	item code -14032	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
143	Providing and fixing pre-cast Rubber Dye / steel Dye inter locking concrete block 60mm thick with grade of concrete M300 pneumatic compressed / vibrated mechanically and as per approved design Confirming to IS 15658 : 2006 including 35 mm Sand layer for levelling and filling the joint with sand in proper line and level as per guidelines of IRC : SP 63-2018 etc. Complete	Smt	item code -14033	Refer Civil General Technical Specification
144	Providing corrugated G.I. sheet of class-3 roofing fixed with galvanized iron J or L Hooks, Bolts and nuts 8mm diameter with bitumen and G.I. limpet washer or G.I. limpet washer. filled with white lead complete excluding the cost of purlins, Rafters and Trusses.(1) 0.80 mm thick sheet.	Smt	item code-15001A	Refer Civil General Technical Specification
145	Place Identification Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet / 4mm ACP (Aluminum composite Panel); size 150x90 cms. rectangular as per design of IRC-67-2012. Pre treated with phosphating process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint ; reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; 4.0mtr (2 Nos.) long stand post of Iron Angle 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3mm; painted with bestquality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC blockof size 45 x 45 x 60 Cms. for each leg including excavation, curing etc.complete under the supervision of engineer in charge. A warranty for 7 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (B) Class-B Type-4 Retro Reflective sheeting	Nos	26100B	Refer Civil General Technical Specification
146	Providing and fixing retro Reflective Prismatic grade Board using 2mm Aluminum / 4mm ACP, angle iron 75 x 75 x 6mm. Descaling and degreasing the board as per requirement using epoxyprimer epoxy paint and carrying retro reflective process by screen painting as directed etc. complete including transporting and fixing in C.C. 1:2:4 with necessary excavation curing etc. complete as per I.R.C 67-2012 design. A warranty for 10 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (A) Class -C Type-11(NH/SU) retro reflective sheeting	NOS	26091A	Refer Civil General Technical Specification
147	Providing and fixing S.W. gully trap with C.I. grating brick masonry chamber and water tight C.I. cover with frame of 300mm x 300mm size (inside) with standard weight.(i) Square mouth traps. (A) 100mm x 100mm size P type.	Nos	24006AA	Refer Civil General Technical Specification
148	Providing and fixing C.P. brass shower rose with 15mm or 20mm inlet.(A) 100mm dia. Each	Nos	23023	Refer Civil General Technical Specification
149	Pro. And fixing single layer water proof gypsum board 12.5 mm thick sections using water proof board of size 1220 mm x 1830 mm x 8.0 mm suspended by GI suspender channel of size 25 mm x 3 mm with intermediate channel of size 18 mm x 40 mm x 0.8 mm at 1220 mm center to center ceiling section of size 40 mm x 35 mm x 0.55 mm at 457 mm c/c and perimeter channel A of size 20 mm x 27 mm x 30 mm x 0.5 mm at edges & drops incl.paper tap sand soffit cleat, anchor fastener, scotch bolt connecting cleat,joining compound top coat on ceiling incl.making necy.opening for light fitting,diffuser etc. comp. as per detail drawing as directed	Smt	16007	Refer Civil General Technical Specification
150	GRC WORK : Providing & fixing architectural moldings profiles and other decorative elements made out of GRC (Glass Fibre reinforced Cement) in required shape, size & thickness all as per manufacturers specifications, such as all decorative articles should be made by using high power spray machine, using AR Glass fiber with minimum ZrO2 16% including necessary scaffoldings for all heights, as per approved drawings and reference images. GRC elements thickness shall be 12-15 mm. fixing edges will be 40 TO 50 MM GRC Elements shall be fixed on RCC Structure/Brick Work/ Primary Steel Structure (MS with protective coat of Red oxide/Zinc Primer Shall be Used). Hilti make GI Screw Fastners or equivalent, GI Thread Rods and MS cleats shall be used for fixing of GRC elements on RCC/MS Primary fabricated structure. Joints shall be filled with PU sealants/ base material of GRC as and where required. The quote rate shall be inclusive of all design, & shop drawing and sample mock of all elements approval from Architect & consultant..Rate shall be inclusive of all required fabrication work for fixing only primary strcure shall be provided as base structre only as per requirement. Mode and method of measurement shall be in accordance with IS: 1200. Contractor shall submit Shop drawing for approval of Architect/ EIC before execution.	Smt	Rate Analysis	Refer Civil General Technical Specification
151	Providing and fixing brass work for kalash Execution sampe approved by Engineer in charge /Architect.	Kg.	1 131.00	Refer Civil General Technical Specification
152	Proving and fixing Lamppost top : 1' Height before Execution sampe approved by Engineer in charge /Architect .	Nos	Rate Analysis	Refer Civil General Technical Specification
153	Providing and fixing C.I Manhole cover 0.60 mt x 0.45 mt size having weight not less than 35 Kg	Each	23 23038	Refer Civil General Technical Specification
154	Providing & Fixing iron steps of size 500mm x 150mm x 22.5 mm and painting with two coats of anticorrosive paint etc. complete.	each	24 010.00	Refer Civil General Technical Specification
155	Proving & supplying Field soil and Spreading and mixing of soil & silt as per approved By engineer In charges .	Cmt	SOR PARKS & GARDEN GANDHINAGAR	Refer Civil General Technical Specification
156	Proving & farm Yard Manure and laobur for spreading and mixing farm yard before Execution sampe approved by Engineer in charge /Architect.	Cmt	SOR PARKS & GARDEN GANDHINAGAR	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
157	Supplying well grown shrub plants of average height 3' to 4' and planting in 300x300x300mm size pits by mixing of FYM & existing soil in ration 1:3 with soil, pesticide & insecticides. Plant should be disease free and fungus free 8"x10" polythene bag. Plastic bag or pots should be removed carefully and soil around the roots should not be dropped or disturbed much. Bill shall be placed after 45 days of plantation of shrubs. Mortality rates to be inclusive. Work shall be done as shown in the drawing or as directed and approved by EIC/Architect. The ground coverage should be dense and uniform throughout the planting area.	Smt	SOR PARKS & GARDEN GANDHINAGAR	Refer Civil General Technical Specification
158	Supply and planting of tree of specified variety including excavation of pit 600x 600x600mm depth mixing of FYM & existing soil in ratio 1:3 termite treatment and planting of plants (height 8' to 10' above bags/pots). Soil mounts 4'-8" in size. Tree plantation should be carried on neatly accurately and with perfection as per drawing and instruction given by EIC. Plastic bags or pots should be removed carefully and soil around the roots should not be dropped or disturbed much. Bill shall be placed after completion of maintenance period but not before stabilizing the hedges. Rates for mortality to be inclusive. Providing and fixing tripod made of wooden ball, height 1.5m. Top bracket to be 300x300mm leg embedded in ground up to 300mm and to have tar coat. Work shall be done as shown in the drawing or as directed and approved by EIC.	No	SOR PARKS & GARDEN GANDHINAGAR	Refer Civil General Technical Specification
159	Lawn Grass:- Excavation the area upto the depth of 15-20 cm., Removing all excavated soil and dump as and where directed as per instructions of Engineer-in-charge, Removing all unwanted material like brick-bats, grass roots stumps, stone etc, breaking the clods, Levelling the area, Providing and Mixing 20-23 cm layer of the local fertile field soil, (free from stone, grass roots etc.) mixing of fertilizer and Providing and Mixing farm yard manure at the rate of 3 cu.mt. per 100 sq. mt.- mixing the same with layer of soil, Levelling, Rolling, Pre-planting, Watering, Trimming, all labour, tools, tackles, maintenance with 30 days or more till the grass forms a thick lawn, etc and planting the readymade Carpet Lawn Grass in the form of approved 30 x 30 cm size slabs etc complete as per detail specification.	Smt	SOR PARKS & GARDEN GANDHINAGAR	Refer Civil General Technical Specification
160	Supply and planting box hedge shrub of average height 1' to 2' by providing and fixing FYM @ rate of 0.06 cmt/pit with soil pesticide & insecticides. Plants should be disease free and fungus free in 6"x8" polythene bag. Plastic bags or pot should be removed carefully and soil around the roots should not be dropped or disturbed much. Bill shall be placed after completion of maintenance period but not before stabilizing the shrubs. Mortality rates to be inclusive. Work shall be done as shown in the drawing or as directed and approved by EIC. The ground coverage should be dense and uniform throughout the planting area.	Smt	SOR PARKS & GARDEN GANDHINAGAR	Refer Civil General Technical Specification
161	Providing laying (to level or slopes) and jointing reinforced concrete Light duty non-pressure pipes I.S. class NP2 of the following internal diameter with collars and butt ends prepared for collar joints including testing of joints complete.(D) 300mm	MTR	item code-24007DA	Refer Civil General Technical Specification
162	Double Swing – 1Nos. Length – 10-15 ft. Width – 5-7 ft, Height – 9-12 ft. All round and rectangular pipes are GI or CR, ISI make Gauge 14 gauge, 2 coating are red oxide and final paint of PU/ Epoxy/ industrial paint, Nut bolt GI Bearing heavy, (branded, as per buyer approval) FRP seat thickness 4-5mm, Swing assembly 6mm chain with all accessories and fixing before Execution sampe approved by Engineer in charge /Architect.	Nos	Rate analysis 29	Refer Civil General Technical Specification
163	Wave Slides – 1Nos. Wave Slide-16*4Ft. L-10ft,Platform 6ft,Structure 60mm,50mm GI Pipe. Powder coated. Slide roller LLDPE Plastic 52mm rolls before Execution sampe approved by Engineer in charge /Architect.	Nos	Rate analysis 30	Refer Civil General Technical Specification
164	Seesaws Two Sets – 2 Nos. 1 normal see saw, 1 spring Length – 8-10 ft., Width – 2-3 ft., Height – 2-3 ft. All round and rectangular spring legs are GI or CR, ISI make Gauge 14 gauge, 2 coating are red oxide and final paint of industrial paint, Nut bolt GI, FRP thickness 5-6 mm All round and rectangular pipes are GI or CR, ISI make Gauge 14 gauge, 2 coating are red oxide and final paint of PU/ Epoxy/ industrial paint, Nut bolt GI Bearing heavy before Execution sampe approved by Engineer in charge /Architect.	Nos	Rate analysis 31	Refer Civil General Technical Specification
165	Sitting Type 2: Providing & placing Circular Bench as per ref images or drawing. Material: Canadian wood top finish with metal supports Size : 6m perimeter, 450mm height before Execution sampe approved by Engineer in charge /Architect.	Nos	Rate analysis 33	Refer Civil General Technical Specification
166	Box cutting the road surface to proper slope and camber for making a base for road work including removing the excavated stuff and depositing on the road side slope as directed upto all lead.	Cmt	26 26008	Refer Civil General Technical Specification
167	Providing and Laying 125mm thick W.B.M., in one layers, using B.T.M.C. metal of size 40mm to 63mm in layers including 16% stone screening 13.2mm size and 8% stone dust as filler, including spreading, watering and consolidation by vibratory roller as per MoRTH specifications etc. complete as directed by Engineer-in-charge.	Cmt	SOR Rate Analysis-28	Refer Civil General Technical Specification
168	Construction of un-reinforced, dowel jointed M-250, plain cement concrete pavement over a prepared sub base with 53 grade cement, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a b laid with a fixed form spread, compacted and finished admixtures as approved, concrete surface hardner, curing compound, finishing to lines and grades as per drawing Compactionand finishingof cement concrete road by trimix process providing extra Labour charges for the trimix vacume dewatering service process on cement concrete road surface by using vacuumdewatering pump floater surface vibrator including making groves and rough finish to surface including leveling etc complete.	Cmt	SOR Rate Analysis-29	Refer Civil General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
169	Road marking with hot applied thermoplastic paints with reflectorising glass beads on bitumin surface providing and laying a hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250gms per sqm area, thickness of 2.5mm is excluding of surface applied glass beds as per IRC:35-2015. The finished surface to be level, uniform and free from streaks and holes. zebra patta /bump patta lane/center line/ edge line/cut patta. The white color marking should provide liminance coefficinet on cemend road shall be min 130 mcd/m2/lux and Asphalt road shall be min 100 mcd/m2/lux during the service life during the day time. The marking should meet the performance criteria for night time reflectivity, wet reflectivity and skid resistance as mentioned in the section-15 of IRC 35-2015. Warranty for the Retro reflectivity	Smt	item code-26161	Refer Civil General Technical Specification
170	Drilling of bore 215 mm Dia strata ( 0 to 30 metre) Including lowering and fixing of 175 mm dia ERW pipes / PVC pipe up to required depth and furthether drilling of 165 mm dia bore hole in rocky strata DTH ring indluding fiting etc. complete (As per Zone)	Meter	G.W.S.S.B.RATE Mech. SOR-22-23 Sec A Ane-B1 Sr no 7D Pg-17	Refer Civil General Technical Specification
171	Supply of 175mm dia UPVC casing pipe :Cstype: of si marked approved qulity	Meter	G.W.S.S.B.RATE Mech. SOR-22-23 Sr NO 11 C Pg-21	Refer Civil General Technical Specification
172	Providing standerd lenth ISI mark high density polythenc HDPE pipes suiteale for potable water as per IS specification 4984/1995 ncluding all charges etc,cmplete 40 mm dia (10 kg / Sqm Cm.PE 80)	Meter	G.W.S.S.B.RATE Mech. SOR-22-23 Sec B-It-15-(ii) Pg-22	Refer Civil General Technical Specification
173	Providing Flat PVC cable for submersible pumpnp as per detail specification as per GWSSB R/C Size of 4.00Sq.mm.	Meter	G.W.S.S.B.RATE Mech. SOR-22-23 Sec E-It-3.2 C Pg-34	Refer Civil General Technical Specification
174	Providing and fixing M.S.Clamp with 5mm thick M.S.plate bore plug including arrangement with nuts,bolts and lock nuts etc.complete.	Nos	G.W.S.S.B.RATE Mech. SOR-22-23 Item no.1.B+2B(i) Sec-B Pg-17	Refer Civil General Technical Specification
175	Providing and constructing and junction chamber of size 0.45x0.45x0.45 mt. including necessary excavating 23 Cum. brickwall, bedding CC 1:2:4, top RCC slab, 15mm thick plaster and connection of rain water pipes as per detail drawings and as directed by engineer – in – charge.	Each	SOR BASED RA-30	Refer Civil General Technical Specification
176	Providing rain water harvesting filter chamber of 2.10x2.10 Mt size and 1.20 Mt depth including necessary excavation 23cm brickwall bedding CC 1:2:4 top RCC slab. 15mm thick plaster and filling up to 0.30 mt Kapachi 25 to 40mm size 0.30 mt. Kapachi 10 to 12mm size and coarse sand 0.60 mt. etc. as directed.	Each	SOR BASED RA-31	Refer Civil General Technical Specification
177	Point wiring for Light / Bell with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length , in below type of pipe erected with 6A Modular type switch / bell push & accessories and earth continuity of following type, erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed.(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete Cat. III	Pt.	1-2-1	Refer Electrical General Technical Specification
178	Point wiring for FAN with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of .ISI marked 1.1 KV Grade FRLS PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected with 6A Modular type switch and hum free EME step type electronic fan regulator mounted and accessories with earth continuity of following type erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary ceiling rose / H.D.Connector as directed. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete Cat. III	Pt.	1-2-2	Refer Electrical General Technical Specification
179	Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete	Pt.	1-2-3	Refer Electrical General Technical Specification
180	[III] For 16A Plug and 16 amp switch with 2-4 sq.mm Cu. Wire with 2.5 sq.mm ( green) earthing wire from mcb d b board. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete Cat. III	Pt.	1-2-3	Refer Electrical General Technical Specification
181	Point wiring for on board Looped Plug with 6A Modular type switch & 5 pin socket erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate modules erected on / in wall / ceiling with following type accessories Cat. III	Pt.	1-2-4	Refer Electrical General Technical Specification
182	Point wiring for Two Way Controlled Light Point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of .ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires erected in below type of pipe with 6A Modular type switches and following type of accessories erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary batten/angle holder or ceiling rose or H.D.Connector as directed. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete Cat. III	Pt.	1-2-5	Refer Electrical General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
183	Providing following type of Modular Type Accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge. (3) Two Pin/RJ-11 Telephone Socket [A] For One Gang Cat. III	Ea.	1-2-6	Refer Electrical General Technical Specification
184	Providing following type of Modular Type Accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge (4) TV Co-axial Socket outlet . Cat. III	Ea.	1-2-6	Refer Electrical General Technical Specification
185	Providing following type of Modular Type Accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge (5) Electronic hum Free steps EME Fan regulator Cat. III	Ea.	1-2-6	Refer Electrical General Technical Specification
186	Providing following type of Modular Type Accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge(19) Modular Indicating Call Bell Cat.III	Ea.	1-2-6	Refer Electrical General Technical Specification
187	Providing following type of Modular Type Accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge(20) Modular Buzzer Cat.III	Ea.	1-2-6	Refer Electrical General Technical Specification
188	Providing following type of Modular Type Accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge(23) USB Charger with output of 5 V DC,2.1 A with inbuilt surge protection. Cat-III	Ea	1-2-6	Refer Electrical General Technical Specification
189	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed (a)20 mm	Mtr.	1-3-2	Refer Electrical General Technical Specification
190	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed(b) 25 mm	Mtr.	1-3-2	Refer Electrical General Technical Specification
191	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed(c) 32 mm	Mtr.	1-3-2	Refer Electrical General Technical Specification
192	Providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) With medium class Rigid PVC pipe and accessories( a) 2 wire 1.5 sq. mm	Mtr.	1-4-1	Refer Electrical General Technical Specification
193	Providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) With medium class Rigid PVC pipe and accessories(b) 2 wire 2.5 sq. mm	Mtr.	1-4-1	Refer Electrical General Technical Specification
194	Providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) With medium class Rigid PVC pipe and accessories (d) 3 wire 2.5 sq. mm	Mtr.	1-4-1	Refer Electrical General Technical Specification
195	providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected in / on wall / ceiling with 2.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) with medium class Rigid PVC pipe and accessories (a) 2 wire 4 sq. mm	Mtr.	1-4-2	Refer Electrical General Technical Specification
196	providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected in / on wall / ceiling with 2.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) with medium class Rigid PVC pipe and accessories(b) 2 wire 6 sq. mm	Mtr.	1-4-2	Refer Electrical General Technical Specification
197	Providing & Erecting approved make following size of TV Co-axial flexible cable comprising inner conductor of solid bare copper insulated with Foam PE & Secondary conductor made of poly - Aluminium film bonded Al. Braids @ suitable coverage overall sheathed with black PVC insulation (b) RG-6.	Mtr.	1-4-6	Refer Electrical General Technical Specification
198	Supplying & erecting approved make Telephone Cable electrolytic copper conductor PE insulation twisted in two pairs, & wrapped with FRLS PVC tape & sheathed with FRLS PVC or HFFR outer Jacket suitable for telephone wiring & conforming to C-DOT erected in existing pipe. of following size of conductors & nos.of pairs. With necessary connections. [A] Conductor Size 0.5 mm (a) Unarmoured (2) Two Pairs	Mtr.	1-4-7	Refer Electrical General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
199	Supplying & erecting approved make Telephone Cable electrolytic copper conductor PE insulation twisted in two pairs, & wrapped with FRLS PVC tape & sheathed with FRLS PVC or HFFR outer Jacket suitable for telephone wiring & confirming to C-DOT erected in existing pipe. of following size of conductors & nos.of pairs. With necessary connections. [A] Conductor Size 0.5 mm(b) Armoured Jellly Filled (1) Ten Pairs	Mtr.	1-4-7	Refer Electrical General Technical Specification
200	Supplying & erecting M.S. Box having 16 Gauge painted with red oxide or Heavy duty PVC box erected flushed on wall or concealed in wall with necessary plastering & finishing as directed of following size.(a) 100 mm x 100 mm x 75 mm(d)	Ea.	1-5-1	Refer Electrical General Technical Specification
201	Supplying & erecting M.S. Box having 16 Gauge painted with red oxide or Heavy duty PVC box erected flushed on wall or concealed in wall with necessary plastering & finishing as directed of following size(b) 175 mm x 100 mm x 75 mm(d)	Ea.	1-5-1	Refer Electrical General Technical Specification
202	Supplying & erecting M.S. Box having 16 Gauge painted with red oxide or Heavy duty PVC box erected flushed on wall or concealed in wall with necessary plastering & finishing as directed of following size (c) 200 mm x 250 mm x 75 mm(d)	Ea.	1-5-1	Refer Electrical General Technical Specification
203	Supplying & erecting M.S. Box having 16 Gauge painted with red oxide or Heavy duty PVC box erected flushed on wall or concealed in wall with necessary plastering & finishing as directed of following size (d) 250 mm x 300 mm x 75 mm(d)	Ea.	1-5-1	Refer Electrical General Technical Specification
204	Providing & erecting Switch board for Computer or electric apparatus consisting of following modular type accessories mounted with PVC / Metallic concealed/open box with single mounting base frame covered with textured/metallic /white front plate,modules erected with necessary connections as directed1 no. 6A/16A universal plug-switch combined. 3 nos. 6A Switch3 nos. 6A 5 pin Plug For Modular Type Accessories Cat. III	Ea.	1-6-2 (B)	Refer Electrical General Technical Specification
205	Supplying and erecting led lamps with following wattage capacity of 220 to 240 voltage, minimum 15000 burning hours life, 500 V in built-surge protection,Polycarbonate diffuser, mounting suitable for E14 / E27 / B22 lamp holders, pf >= 0.5 (A) LED Lamps integral type, with PC diffuser suitable LAMP holder (iii) 10 to 15 watts Cat-III	Ea.	2.15.2	Refer Electrical General Technical Specification
206	Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/aluminium pressure die cast powder coated and high U.V. & corrosion resistance with diffuser housed in aluminium casted body with company mark/name 160V to 270V,Power Factor more than 0.95, THD < 15 %, CCT 3000 K to 6500K, Luminaire efficacy> 85 lumens/watt , LED driver efficiency > 85 % ( fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.) (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (ii) 11-15 watts, Surge-2 KV Cat-III	Ea.	2.15.3	Refer Electrical General Technical Specification
207	Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/aluminium pressure die cast powder coated and high U.V. & corrosion resistance with diffuser housed in aluminium casted body with company mark/name 160V to 270V,Power Factor more than 0.95, THD < 15 %, CCT 3000 K to 6500K, Luminaire efficacy> 85 lumens/watt , LED driver efficiency > 85 % ( fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.)(H) Mirror Light 9 Watts, wall mounted minimum 1 feet long	Ea.	2.15.3	Refer Electrical General Technical Specification
208	Supplying and erecting LED street light / Flood light fittings with High power White LEDs wattage of 3 Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/ lenses, with toughened glass with company mark/name engraved or embossed 160 to 270 V,Power Factor more than 0.95, THD < 10 %, CCT 3000 K to 5700K,Uniformity ratio >0.45, Luminaire efficacy> 100 lumens/watt . LED driver efficiency > 85 %.( fittings required LM-79 & LM-80 certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.) (A) Street Light (IP-65), Surge protection -4KV integral and ,Light must have 440VAC line supply with over-voltage protection. (iv) above 90 to 120 watts Cat-III	Ea.	2-16-2	Refer Electrical General Technical Specification
209	Supplying and erecting LED street light / Flood light fittings with High power White LEDs wattage of 3 Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/ lenses, with toughened glass with company mark/name engraved or embossed 160 to 270 V,Power Factor more than 0.95, THD < 10 %, CCT 3000 K to 5700K,Uniformity ratio >0.45, Luminaire efficacy> 100 lumens/watt . LED driver efficiency > 85 %.( fittings required LM-79 & LM-80 certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.)(C) Post Top Lantern LED fitting comprises of finish cast aluminum spigot and spun aluminum canopy fixed with opal polycarbonate, pipe arrangement for vertical mounting driver and accessories wired upto terminal block.IP 65 (ii)32-40W Cat-III	Ea.	2-16-2	Refer Electrical General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
210	Bollards(b) LED Bollard fittings of minimum height 600 mm & dia.100mm having polycarbonate clear/milky diffuser mounted on 3mm thick aluminium finished powder coated pipe with base plate 160x160mm with erection by M8x75mm fastner with required RCC foundation.IP65 for 9 to 20 watt ,surge-4kv- cat-III	Ea.	2-16-3	Refer Electrical General Technical Specification
211	Supplying and erecting LED Solar street lights with High power White LEDs wattage of 1Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/ lenses with company mark/name engraved or embossed with 36 hours battery backup & MPPT 24V,7.5 A charge controller with 12 hours automatic switch on/off with wind speed resistance 44 m/s as per IEC 61215 (E) 25W 2000 lumens IP 65 PV Module 2x100W and 6 mtrs poles complete erected	Ea.	2-17-1	Refer Electrical General Technical Specification
212	Smart 4G Timer, Supply of IoT based 4G Smart Streetlight Control & Monitoring System having a Smart Panel comprising of 3 Phase IoT Streetlight Smart 4G Timer with 16x2 LCD to display RSSI, relay status, RTC time & diagnostics., Controller works on 3-phase & also on any available 1-Phase., Controller with 8-hour battery backup during external power failure. External power failure alert immediately to cloud., 110-630 V AC @ 50-60 Hz – 3 phase operating range., Standby power consumption <3W., Smart 4G Timer with RS232 port for DLMS Energy meter & RS485/UART/RS232 port for any external device communication., Smart 4G Timer must be compatible with any make / brand of DLMS (RS232) Energy Meter., DI: 5 Nos. (3 Contactor / Latch detection, 1 for SPD, 1 for Door Sensor.), DO: 3 Relays for Independent control each phase (R, Y, B) with 1 extra spare relay., Highly Precise TCXO RTC with 10-year battery reserve., Automatically syncs with internal, cellular, server & GPS clock; with logs stored in the CCMS Web Software., Smart 4G Timer with dual SIM functionality for connectivity backup., 4G M2M SIM 5-Year communication included., Local configuration via WiFi / BLE for maintenance or during force majeure., GPS chip inbuilt of Smart 4G Timer for auto location tracking & astronomic schedule location., 50 programmable schedules., Astronomic scheduling with monthly offsets., Smart 4G Timer has inbuilt timer stores schedules locally & also stores schedule execution logs locally, syncs to cloud whenever connected to cloud., Auto-scheduler overrides manual operations., Monitoring & alerts for MCB trips & SPD failure., Over/under voltage, current, overload, power factor & short circuit protections with alerts via Dashboard, App, SMS, WhatsApp & Email., Contactor / Latch chattering protection & alerts., Smart 4G Timer with neutral failure protection and alert., During earthing failure to Panel, it must generate alerts on CCMS Dashboard for safety., Built-in Watchdog for anti-jamming., Smart 4G Timer must send Regular "heartbeat" on software for CCMS status., Accelerometer for tamper & panel movement detection & alerts., Smart 4G Timer must be tested from an NABL Lab for Surge Test @ 6 KV (IEC 61000-4-5), ESD Test @ 4 KV (IEC 61000-4-2), EFT @ 2 KV (IEC 61000-4-4), Conducted Emission @ 150 KHz-30 MHz (CISPR11), Damp Heat Test (40 Deg C @ 95% RH) 2 cycles of 12+12 hours (IS: 9000 (Part 5/Sec.2):1981 latest) with all test passing criteria as "Temporary degradation or loss of function or performance which is self-recoverable", FOTA functionality required for upgrades., Smart 4G Timer sends & stores online/offline data of controller & load for lamp burn hours analysis., It stores & syncs connectivity logs for configuration of network connections & analytics., PANEL & SWITCHGEAR, The panel includes a Class 1 DLMS energy	Ea.	2-20-3	Refer Electrical General Technical Specification
213	Providing and erecting Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 35 KA. at 415 V. having Normal current rating 200A.with variable Thermal & magnetic release suitable to work on A.C.supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S.housing ICS=100% of ICU only Cat III	Ea.	3-4-3	Refer Electrical General Technical Specification
214	Providing and erecting Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 50 KA and above at 415 V having Normal current rating 400A. with variable Thermal & magnetic release suitable to work on A.C.supply 50 c/s. With all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing. ICS=100% of ICU only Cat III	Ea.	3-4-5	Refer Electrical General Technical Specification
215	providing and erecting Miniature circuit breaker single pole 6A to 25A suitable to operate on 240 V A.C. system and having breaking capacity 10 KA to be erected in existing box. confirming to IS 8828/1996 with ISI Mark Cat.I	Ea.	3-10-1. (B)	Refer Electrical General Technical Specification
216	Providing & erecting 240 V MCB double pole switch for motor & inductive load (C Curve) having 10 KA breaking capacity & confirms to IS : 8828 in existing box having following capacity providing and erecting Miniature circuit breaker single pole 6A to 25A suitable to operate on 240 V A.C. system and having breaking capacity 10 KA to be erected in existing box confirming to IS 8828/1996 with ISI Mark Cat.III	Ea.	3-10-2	Refer Electrical General Technical Specification
217	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load (C Curve) having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (c)63 Amp. Cat.III	Ea.	3-10-5	Refer Electrical General Technical Specification
218	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load (C Curve) having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (a) 6 to 32 Amp. Cat.III	Ea.	3-10-6	Refer Electrical General Technical Specification
219	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load (C Curve) having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (c)63 Amp. Cat.III	Ea.	3-10-6	Refer Electrical General Technical Specification



TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
220	Supplying & erecting 20 Amp 10 KA 'C Curve' single pole MCB with 20 Amp. Plug socket, company fabricated powder coated sheet steel enclosure erected as directed with connection. [B] 15 Amp. / 5 Amp. Five pin Universal Socket Cat.III	Ea.	3-10-6 A	Refer Electrical General Technical Specification
221	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for (b) sheet steel double door (IP-43) (iv)12 way	Ea.	3-11-5	Refer Electrical General Technical Specification
222	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for(B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) sheet steel double door (iv)12 way	Ea.	3-11-5	Refer Electrical General Technical Specification
223	Providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on 3 phase and neutral 415V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component for following Max. rating erected as directed. (iii) 63 Amprs. EP Cat. III	Ea.	3.12.2	Refer Electrical General Technical Specification
224	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [b] 32A / 40A 2 pole Single Phase Cat. II	Ea.	3-12-3	Refer Electrical General Technical Specification
225	Providing and erecting required size Aluminium strip for earthing of H.T. , OCB / ACB / Transformer, LT panel board, Motors etc. using copper clamp.	Kg.	3-14-1	Refer Electrical General Technical Specification
226	Providing and erecting Pipe type earthing having 150 cms.long and 2.5 cms. dia. galvanised iron pipe with coupling and buch buried in specially prepared earth pit complete with necessary 8 SWG earth wire.	Ea.	3-14-6 A	Refer Electrical General Technical Specification
227	For using salt and charcoal / coke as required for pipe type earthing.	Ea.	3-14-6-c	Refer Electrical General Technical Specification
228	providng and erecting Approved make single phase electronic energy meter rating 5A/20A/40A based on ASIC (Application Specific integral circuit) digital technology with accuracy Class-I, temper proof, free from effect of external magnetic field with phase, earth, reverse and impulse indications, 6 digit electro-mechanical counter suitable to work on 120 V to 300V, 45 - 55 Hz., housed in robust enclosure complete to be erected as directed with 3 year replacement guarantee Cat. III	Ea.	3-15-2	Refer Electrical General Technical Specification
229	Providing & erecting weather proof, dust & vermin proof, floor mounted front operated indoor type cubical panel board necessary IP-42 and above protection as per approval from engineer incharge made from 14 SWG thick CRC M.S. sheet for outer body & doors, 16 SWG thick CRC M.S.sheet for internal partitions with necessary accessories , supporting angles/ flats channel including cutting, bending, drilling, welding, riveting with internal partitions & cable alley as per requirements & instruction of engineer-in-charge with erection of supplied switch gears, BUSBARS, suitable size of inter connecting PVC copper wire / copper-aluminium strips, rubber grommets, rib, bakelite control fuses/MCB for measuring instruments, earth bus & earth bolts, foundation flange - bolts-base Plates, sufficient nos. of hinged doors, handles with locking arrangement and rubber gasket,heavy duty end terminal connection,danger notice board,necessary ventilation,earthing strip complete. The Panel shall be painted with epoxy powder coating. (The rates excludes the cost of switchgears, bus bars, inter connecting mains & Copper Aluminium strips, meters, Fuses etc. The dimension shall be measured excluding base beams) The panel shall be supplied with following approved manufacturers with following size.(B) The standard companies switch gear shall be used and only manufacturers at CPRI approved factory (ii) with 550 mm. Depth	Sq.Mtr	3-16-1	Refer Electrical General Technical Specification
230	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables. (B) 2 core 6 Sq. mm	Mtr.	4-3-1	Refer Electrical General Technical Specification
231	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables. (I) 3 core 70 Sq. mm	Mtr.	4-3-2.	Refer Electrical General Technical Specification
232	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (A) 3 1/2 core 25 Sq. mm ( 16 Sq. mm 1/2 core)	Mtr.	4-3-3	Refer Electrical General Technical Specification
233	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (B) 3 1/2 core 35 Sq. mm ( 16 Sq. mm 1/2 core)	Mtr.	4-3-3	Refer Electrical General Technical Specification
234	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (C) 3 1/2 core 50 Sq. mm ( 25 Sq. mm 1/2 core)	Mtr.	4-3-3	Refer Electrical General Technical Specification
235	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (F) 3 1/2 core 120 Sq. mm ( 70 Sq. mm 1/2 core)	Mtr.	4-3-3	Refer Electrical General Technical Specification
236	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (G) 3 1/2 core 150 Sq. mm ( 70 Sq. mm 1/2 core)	Mtr.	4-3-3	Refer Electrical General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
237	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (C) 2 core 6 Sq. mm	Mtr.	4-4-1	Refer Electrical General Technical Specification
238	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables.(A) 4 core 10 Sq. mm	Mtr.	4-4-5	Refer Electrical General Technical Specification
239	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables.(B) 4 core 16 Sq. mm	Mtr.	4-4-5	Refer Electrical General Technical Specification
240	Making trench in soft soil of suitable width of 90 cm deep for laying cable or locating the fault all over the run and back filling the same and making the surface as normal ground.	Mtr.	4-5-1	Refer Electrical General Technical Specification
241	Providing & laying approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II )with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable (A)50 mm outer dia	Mtr.	4-5-8	Refer Electrical General Technical Specification
242	Providing & laying approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II )with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable (B)63mm outer dia	Mtr.	4-5-8	Refer Electrical General Technical Specification
243	Providing & laying approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II )with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable (C)90 mm outer dia	Mtr.	4-5-8	Refer Electrical General Technical Specification
244	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (A) 2 to 4 core 2.5 / 4 Sq. mm	Ea.	4-6-1	Refer Electrical General Technical Specification
245	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.(B) 2 to 4 core 6 Sq. mm	Ea.	4-6-1	Refer Electrical General Technical Specification
246	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.(C) 2 to 4 core 10 Sq. mm	Ea.	4-6-1	Refer Electrical General Technical Specification
247	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (D) 2 to 4 core 16 Sq. mm	Ea.	4-6-1	Refer Electrical General Technical Specification
248	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.(A) 3 core 35/50 Sq. mm	Ea.	4-6-2	Refer Electrical General Technical Specification
249	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (B) 3 core 70 Sq. mm	Ea.	4-6-2	Refer Electrical General Technical Specification
250	Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (A) 1.5/ 2.5/4/6 Sq.mm	Ea.	4-7-1	Refer Electrical General Technical Specification
251	Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (B) 10 Sq.mm	Ea.	4-7-1	Refer Electrical General Technical Specification
252	Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (C) 16/25 Sq.mm.	Ea.	4-7-1	Refer Electrical General Technical Specification
253	Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (D) 35/50 Sq.mm.	Ea.	4-7-1	Refer Electrical General Technical Specification
254	Supply, Installation, Testing and Commissioning of suitable sweep, BEE 5 Star rated, Ceiling fan with Brush Less Direct Current (BLDC) permanent ferrite magnet Motor, class of insulation: B, Rust free 3 nos.Aluminium blades, 2 nos. canopies, shackle kit with earthing provision, copper winding, Power factor not < 0.9, Service Value (CMM/W) minimum 6.85, Air delivery minimum 215 CMM, 350 RPM,230v (tolerance as per IS : 374-2019), THD < 10%, with remote unit for Speed Control and all remaining accessories including safety pin, nut bolts, washers, temperature rise = 75 degree C (Max.), suitable for 140 to 285 Voltage and rectifier circuit with surge, over current and overload protection , 50 Hz, Single phase AC Supply, earthing etc. Complete as required.[ Make shall be approved by Engineer in Charge] (B) 1350 RPM Cat.II	Ea.	5-1-7	Refer Electrical General Technical Specification
255	Supplying & erecting approved make low noise decorative exhaust fan having square frame ABS body with inbuilt lowers & square frame. 200mm with 1350RPM Cat.II	Ea.	5-3-3	Refer Electrical General Technical Specification
256	Supplying & erecting Galvanized M.S pipe post "B" class 88.9 mm O.D 6 mtr. Long duly painted with two coats of aluminium paint complete with metallic base- plate of 300 mm x 300 mm x 4mm thick for using as a compound light pole with approx. weight 47 Kg.	Ea.	6-1-2.	Refer Electrical General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
257	Supplying & erecting Steel tubular pole (Swaged) confirming to IS - 2713 (Part-II) 1980. Manufacturing process of steel tubular pole should be as per IS specification. Basic steel tube should be ISI Marked. Pole should be painted by one coat of Zinc comet Primer and two coat of Aluminium /approved paint to be erected on / in existing Foundation. The length of poles are as below. (C) 9.0 mtr. Long Swaged Steel tubular pole (i) Pole as per IS code 410-SP-25 with 300 X 300 X 4 mm base plate with necessary G.I. J Bolts (Approximate weight 78 Kg) For burial erection.	Ea.	6-1-3	Refer Electrical General Technical Specification
258	Providing 1:2:4 cement concrete foundation & 70 % PCC from bottom including excavation for the pole of size 60 x 60 x 150 cm. Deep in below ground level with plinth of 45 cm x 45 cm(or 45 cm dia x 45 cm) high upper ground level with necessary curing and finishing in approved manner. ( for 9 & 10 mtr pole)	Ea.	6-3-6.	Refer Electrical General Technical Specification
259	Supplying & erecting Steel tubular pole (Swaged) confirming to IS - 2713 (Part-II) 1980. Manufacturing process of steel tubular pole should be as per IS specification. Basic steel tube should be ISI Marked. Pole should be painted by one coat of Zinc comet Primer and two coat of Aluminium /approved paint to be erected on / in existing Foundation. The length of poles are as below. (C) 9.0 mtr. Long Swaged Steel tubular pole(ii) Add Extra for M.S. Base plate 300 X 300 X 16 mm for pole, mounting on surface of foundation on GI foundation bolt. with required stiffeners	Ea.	6-1-3	Refer Electrical General Technical Specification
260	Supplying & erecting Steel tubular pole (Swaged) confirming to IS - 2713 (Part-II) 1980. Manufacturing process of steel tubular pole should be as per IS specification. Basic steel tube should be ISI Marked. Pole should be painted by one coat of Zinc comet Primer and two coat of Aluminium /approved paint to be erected on / in existing Foundation. The length of poles are as below. (C) 9.0 mtr. Long Swaged Steel tubular pole(iii) Add Extra for PU base primer and PU Paint on pole	Ea.	6-1-3	Refer Electrical General Technical Specification
261	Providing and erecting C.I./M.S. flange type base plate of 300mm x 300mm x 6mm	Ea.	6-3-1	Refer Electrical General Technical Specification
262	Providing and fixing Terminal board of size 5.0 x 127 x 152.4 mm.bakelite sheet with suitable brass studs with nuts, washers and clamps of size 25mm x 3mm suitable for pole painted with one coat of red lead paint.	Ea.	6-3-2	Refer Electrical General Technical Specification
263	Providing and erecting cable clamp of 25 mm X 3 mm M.S. flat suitable for fixing 2 Nos.of armoured cable with nuts and bolts. (B) for 140 mm dia. Pole	Ea.	6-3-3	Refer Electrical General Technical Specification
264	Supplying and erecting Water tight M.S.Box of size 20 x 15 x 15 cm. to erect suitable kitkat fuse / MCB to be . erected on polished wooden board inside the box with hinged/sliding door with rubber rings and erected on pole with suitable pole clamp, all duly painted with one coat of red oxide and two coats of paints. (Cost of Fuse / MCB shall be taken extra)	Ea.	6-4-1	Refer Electrical General Technical Specification
265	Providing and erecting street light pole bracket comprising main B Class GI pipe of 4.2 cm/require outside dia. complete with suitable B Class G.I sleeve tubing of approx. 45cms.length and suitable for 76.5 mm / 80mm. / require size pole top having sufficient fasteners for fixing the brackets and having spread of 1 mtr. length with suitable rise as per site condition & suitable welded stiffener reducer and nipple with check nut complete painted with one coat of Red oxide / PU base primer and two coats of Aluminium / PU paint. paint with following nos.of arms (A) Single Arm bracket 1 Mtr	Ea	6-5-3 b	Refer Electrical General Technical Specification
266	Supplying & erecting approved make Digital time switch having lithium cell 6 years operative and operate battery backup 1 channel day clock with 14 memory programme, suitable to operate on 240V + 5%, 16A with, floating contacts Minimum switching setup time 1 minimum & LCD display. Also comprised permanent ON/OFF switching. Programming switches & housed in fire proof thermoplastic enclosure & transparent cover erected as required with necessary connection erected as directed	Ea	6-7-2	Refer Electrical General Technical Specification
267	Providing and erecting Inverter based approved make split air-conditioning unit consisting of condensing unit with variable speed fan motor, inverter type hermetically sealed rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by means of extra supplied proper insulated copper tubing,drain PVC pipes suitable for ( cost includes Eco Friendly green gas charging and 15A plug top & Remote Control & MS Stand) with necessary core cutting. (2)For ISEER Range (KWH/KWHV(4.0 to 4.49) (B) for 1.5 ton capacity	Ea	8-3-2	Refer Electrical General Technical Specification
268	Supplying and erecting horizontal / vertical mounting type storage water heater with copper container housed in M.S./S.S./ABS body insulated with glass wool/puff complete with heating elements,adjustable thermostats 300C to 850C, indicating lamp, safety valve, fusible plug, etc.complete erected with coach bolts, nuts. washers & cementation (C)25 Ltr. with 2 KW. heating element Cat III	Ea.	8-16-2	Refer Electrical General Technical Specification
269	Supplying and erecting push button operated fully automatic Star-Delta starter with 3 Nos. of 15A.rating contactors and directly operated thermal overload relay having 10-21A range and erected in sheet steel enclosure for 3 phase 415V. 50 c/s. A.C. motors from 7.5 to 15H.P. complete erected on (A) P.W. Block with necessary connection. Cat.III	Ea.	9-1-5	Refer Electrical General Technical Specification
270	Providing & erecting open well horizontal mono block pump set with cast iron body, complete for three phase submersible motor having[F] For 10 HP 3 phase open well horizontal mono block pump set suitable for 1725 LPM to 940 LPM @ 15 to 36 MTR head suitable for 65/80 mm dia delivery pipe Cat.II	Ea.	9-4-2	Refer Electrical General Technical Specification
271	Providing and fixing printed instruction chart both in English and Gujarati and duly framed with front glasses, for treatment of person suffering from Electric shock with minimum 50" diagonally size.	Ea	10-2-1	Refer Electrical General Technical Specification
272	Providing pair of rubber hand gloves suitable for working on 11 KV/22 KV supply.	Ea	10-2-2	Refer Electrical General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
273	Supplying rubber matting of following thickness as per IS:15652/IEC 61111 (b)4mm	Sq.Mtr	10-2-3	Refer Electrical General Technical Specification
274	Supplying stand first AID box with antiseptic cream, medicine for use on wounds due burn, crepe bandage, gauge bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal user, Scissors, anti-septic solution (Savlon or similar) etc. (All above contents shall be of standard makes)	Ea	10-2-4	Refer Electrical General Technical Specification
275	Supplying FIRE bucket round bottom of 9 litres capacity made out of 24 gauge G.I. sheet with extra handle at bottom duly painted white inside and Red out side with FIRE mark, filled with dry-sand and kept on existing stand provided or hung on wall hook.	Ea.	10-2-5	Refer Electrical General Technical Specification
276	Supplying and erecting floor mounting stand for keeping four nos. of FIRE buckets comprising 1500 mm in length, 900 mm height frame made out of 30mm X30 mm X 4 mm angle iron with cross supports for legs, welded with 4 hooks and duly painted with one coat of red lead and two coats of approved enamelled silver paint.	Ea.	10-2-6	Refer Electrical General Technical Specification
277	Filtration of transformer oil as per I.S. for removal of moisture, carbon. slurry etc.by means of circulating oil through vacuum pump from heating elements and filters to with stand the breaking strength of the oil above 40KV beyond one minute tested in oil testing Kit. (A) on site.	Ltr.	10-2-9	Refer Electrical General Technical Specification
278	Providing, and erecting 11 KV D.P. 9 mtr. high Structure made of 6" x 3" 'I'-Section Girder, 4" x 2" channels, clamps, nuts, bolts etc. Suitable for erection of the followings duly connected with necessary ACSR conductors. as per drawing approved by the Engineer- in charge complete with following. Height as per IS 7 Mtr above ground ) (A) 11 KV 200 Amps Dr op out fuses with S.R.B.P. tubes carries.-Three nos (B) 11 KV G.O.D. switch complete with insulators, operating handle with galvanised pipe, Sq.bar etc. 400 Amp.- One Set (C) 11 KV lightening arrester with clamp- Three Nos. (D) 11 KV shackle insulators- Six Nos. (E) The above D.P. structure should be earthed with 25 mm.X 3 mm thick double copper earth strips run separately and connected with separate copper plate earth electrode.	Ea.	10-2-10	Refer Electrical General Technical Specification
279	Providing and erecting ISI Marked 3core 70 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe approved manner as directed.	Mtr	10-2-12	Refer Electrical General Technical Specification
280	Providing and erecting cable end termination kit, heat shrinkable Push on type Densons' / 'Raychem' / Elastimold make suitable for 11 KV XLPE cable 3 core 50 & 70 Sq.mm (A) Outdoor type	Ea.	10-2-18	Refer Electrical General Technical Specification
281	Supplying & erecting D.C.P. type fire extinguisher for following capacity cartridge type with gun metal cap 150 gram CO2 gas cartridge, powder and brackets confirming to IS 2171 1985 and complete erected with necessary clamps made from 50 x 6 mm M S Flat with nuts and bolts grouted in wall complete. [A] For 5 Kg Capacity	Ea.	10-2-25	Refer Electrical General Technical Specification
282	Supplying & erecting carbon dioxide (CO2) fire extinguisher user of following capacity with necessary clamps made from 50 x 6 mm M.S. Flat with nut & bolts grouted in wall complete.[A] For 4.5 Kg Capacity	Ea.	10-2-26	Refer Electrical General Technical Specification
283	Supplying & erecting carbon dioxide (CO2) fire extinguisher user of following capacity with necessary clamps made from 50 x 6 mm M.S. Flat with nut & bolts grouted in wall complete.[B] For 5.5 / 6.5 KG Capacity	Ea.	10-2-26	Refer Electrical General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
284	Supplying and erecting, commissioning and testing of Diesel Generating set confirming to IS: 4722:1968 & BS:5514 having continuous rating, 3 phase, 415 volts, 50 cycles A.C. supply comprising of a totally enclosed air/water cooled diesel engine with multi-cylinders developing suitable BHP not less than following capacity at 1500 RPM with 10% overload for one hour in 24 hours with standard accessories like fly wheel, lubricating oil cooler, "A" class governor, heavy duty fuel wheel and lubricating oil filter, oil bath air filler, lubricating oil pressure gauge, end exhaust manifold, standard set of tools with adjustable spanners, screw drivers, cylinder head to cover, joint cylinder head to exhaust, element lube oil filter, 12 / 24 volts electric starting equipment complete with standard heavy duty battery, dynamo, cut-outs, ammeter, necessary wiring, pressure gauge, starter etc and heavy duty Residential type exhaust silencer (With DEF System) and vertical hot air duct both logged with asbestos rope, save oil trays, exhaust piping of required length, standard wall/floor mounted fuel with level indicator and piping and drip proof alternator, self excited, self regulated, screen protected, with excitation system, capable of delivering the rated system output at 415 volts, 3 phase, 0.8 PF, 50 Hz, 4 wire, running at 1500 RPM, conforming to IS-4722- 1968 with voltage regulation +/- 5% of rated voltage from no load to full load. Both the engine and alternator fitted on a common fabricated steel base plate with antivibration mounting engine and alternator both connected to each other by flexible flange coupling and with floor/wall mounted control panel box comprising of voltmeter ammeter, selector switches, ACB / MCCB / MCB of adequate capacity, indicator lamps duly wired with HRC fuses. The alternator & control panel shall be connected with provided suitable capacity armoured cable and complete with Acoustic enclosure (canopy) made out of 16 SWG CRCA Sheet, sound absorbing material Rockwool of 64 density & 100 mm thick conforming to IS:8183 / PU Foam of 40 Density - at least 40 mm. The resin bonded rockwool covered from inside the canopy by perforated sheet with 3/4 mm holes, sound level not more than 75 dB at a distance of 1 mtr, as per PVCT norms.DG set should have in built fuel tank capacity of minimum 8 hrs of continous running capacity on full load . Erection, commissioning and satisfactory testing as per requirement with first filling of fuel (minimum up to the 80% of fuel tank capacity), oil, etc. with guarantee / Warrantee of complete system for Two years. & with obtaining all necessary certificate from Electrical Inspector. The Capacity and Ratings of DG sets are as below. (As per new CPCB4+ Emission norms Engine With - Turbo Charger, EGR (Exhaust Gas Recirculation), CRS (Common Rail Fuel System), DOC (Diesel Oxidation Catalyst), SCR	Ea.	10-4-2	Refer Electrical General Technical Specification
285	Providing & erecting approved make AMF control panel suitable for following size of 3 phase, 415 V., 50 cycles, A.C. diesel generating set complete of scope as detailed below: 1) Power module: A pair of electromechanically interlocked contactors (for mains & generator) Overload relay for generator contactor Neutral contactor for mains and generator Power socket for connections. 2) Control and metering module: Line voltage monitor. Generator voltage monitor Ammeter 3 items attempt start facility. Air circuit breakers/MCB/MCCB of suitable rating for auto/manual operation. Auto/manual switch. Emergency stop push buttons. Manual start push button. frequency meter. Engine hour meter. Two earthing studs. 3) Protection module: The engine shutdown in the unlikely event of Low lube oil pressure High cylinder head temperature. V belt failure. 4) Indicators with alarm Load on generator. 5) Indicators Load on mains Engine fails to start . Emergency stop battery charger. The AMF Panel of following capacity(D) AMF Control Panel for 200 KVA/250 KVA 3 phase DG Set	Ea.	10-4-3	Refer Electrical General Technical Specification
286	Providing & erecting approved make ATS panel suitable for following size of 3 phase, 415 V., 50 cycles, A.C. diesel generating set complete of scope as detailed below: 1) Power module: Motorised Changeover switch with ATS controller, Auxiliary contactor with NO & NC contacts with Automatic Battery Charger, indicating lamps for Generator ON, Mains ON, Load and suitable control terminals and power terminals with neutral earthing studs.(G) <del>ATS Panel for 180 / 250 KVA 3 phase DG Set</del>	Ea.	10-4-3	Refer Electrical General Technical Specification
287	Supplying and erecting Acoustic enclosure (canopy) made out of 18 SWG, CRCA Sheet, sound absorbing material Rockwool of 64 density & 100 mm thick conforming to IS:8183 The resin bonded Rockwool / PU FOAM covered from inside level not more than 75 dB at a distance of 1 mtr, as PVCT norms , on provided foundation suitable for following size of DG Set. The enclosures for following capacity of DG sets.(E) For for 160/180/200/250 KVA	Ea.	38087	Refer Electrical General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
288	Supply of 250 KVA Outdoor type Compact Substation consisting of Transformer, HT switchgear and LT Switchgear and confirming to IEC-62227. a) Transformer: 250 KVA Copper wound 11KV /433 V DYn11, Dry Cast resin type Transformer with tapping range +10 to -10% @ 2.5% ( with tolerance), class F , with surge restorers, Digital WTI, IS1171 as per b) HT Compartment: 11KV, 21kA for 3 Sec . 630 A 50 Hz, gas insulated VCB in SS tank in sheet enclosure having provision for one no. direct connection of Incoming supply cable upto 300sq mm and one no. VCB( Manually charging & closing) in series with LBS between VCB and Transformer, Self Powered Relay 3 O/C +1 E/F Relay type CSPR-V5, mechanical ON/OFF indicator, trip coil , Manual Close & Trip PB, live cable indicator, mechanical interlocks, pad locking facility, SF6 gas manometer, cable boots, 3 nos. CTs with Ratio -/1A, CI: 5P10, 2.5 VA for protection c) LV side compartment : one no. MCCB of 400A, 36kA, 4Pole, Microprocessor based release with arrangement for bottom cable termination ( 100% for phase & 50% for N, Current density - 1A/ sq mm) The enclosure should be of IK10 type.The Enclosure shall construction shall be GI of thickness at least 1.6/2mm.The enclosure shall be Powder Coated. Each compartment will be provided with the door and pad locking arrangement. The Compartment illumination lamp with door operated switch shall be provided for each compartment. The Transformer compartment will have IP-34 ingress protection, whereas the HT/LT compartment will have IP-54 protection.The connection between HT and Transformer shall be by 3 runs of single core 95 sq mm XLPE aluminium cable and between Transformer to LT switchgear shall be by appropriate Aluminium PVC sleeved Busbar Add extra Rs 9000/- for integrated steel cubical panel IP 54 to house upto 03 Nos additional outgoing switchgears with proper rating busbar drop,supports etc with arrangment for cable termination etc.( Switchgears is not included in this) Add extra Rs 16000/- for integrated steel cubical panel IP 54 to house upto 06 Nos additional outgoing switchgears with proper rating busbar drop,supports etc with arrangment for cable termination etc.( Switchgears is not included in this)	Each	10-4-5	Refer Electrical General Technical Specification
289	Design, Supplying, installing, testing of factory fabricated ready made Three phase APFC Panel Cubical Panel fabrication should be type tested as per IEC 61921, 61439:1&2 Capacitor Duty Contactor for switching as per following Steps Incomer Switch of MCCB type Icu=Ics=50KA at 400/440 Volts, with OC, SC, internal earth fault protection Incomer Switch of MCCB type Icu=Ics=50KA at 400/440 Volts, with OC, SC, internal earth fault protection,Copper tinned insulated Busbar,Cubical panel should be indoor type with IP 43 and IK 10,Metalized polypropylene film tye3-phase 550Volt Capacitor,De tuning Reactor for each capacitor,Panel having Short Circuit and Overload protection,Each step Capacitor having suitable MCB with Sc, OL, internal earth fault relay,Each stage having Stage Contactor (Capacitor load rating),PF regulator master controller having suitable steps with LCD display, Rs 485 Communication port, Indication LED Lamps for main incomer and ON-OFF for each capacitor bank,MS Chanel for Floor mounting, Cable entry as per site situation,Cooling fans	Each	10-4-11	Refer Electrical General Technical Specification
290	Providing Batteries With Standard . IEC61056-3 OR JIS C 8702, Battery type - Maintenance Free Or Minimum Maintenance Lead Acid , Battery @ C20 Rating -12V, Cut Off Voltage( at 25 deg C- 10.2V, Float Charging Voltage-13.5 volts per module @ 27 deg C, Voltage ripple allowable - <2% of the RMS value, AH Efficiency- Above 95%, Operating Temperature range of Battery- -20 deg C to + 60 deg C, Date of manufacturing - The date of Manufacturing shall not be more than 6 Months older than the date of supply.28Ah	Each	10-4-12	Refer Electrical General Technical Specification
291	SITC of Vertical Air Termination Solid aluminium with Base- 10 mm dia and 1000 mm long. Air Termination Base tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350µs waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol with MAST 34mm dia 3000 mm long- Cold Galvanized	Each	10-5-1	Refer Electrical General Technical Specification
292	SITC of 10 mm MS Round Solid Conductor having smooth surface Should be tested and use exclusively for lightning protection (Vertical Riser/Down Conductor which shall be concealed in Column OR Flushed on) to meet the requirement of IS IEC 62305 With Accessories - Earthing stud of dimension SS-75mm OD plate with 10mm dia tail connector used in structural steel ring earthing system to meet the requirements of IS/IEC 62305. (For Interconnecting the Column and the Terrace AL Conductor / Strip/Flat), SS Cross Connector to connect Earth fixing point to vertical raiser/Down conductor, SS Straight Splicer at every 4 Mtr to connect MS conductor in column, Bonding /Rebar Clamp at every 3 mtr suitable for interconnecting round conductor with reinforcement inside the concrete for structural earthing system, SS connector -To connect external conductor 8- 10 mm with earth fixing point. All Accessories should be tested as per IEC 62561-1 2018 Cl. 6.3 for conditioning & Ageing Test & 6.4 for Lightning impulse current withstand test: 100 kA of 10/350µs waveform(Ageing & Electrical test ) conducted in a sequence manner & tested in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 6230	Mtr	10-5-3	Refer Electrical General Technical Specification
293	SITC of 14.2 mm dia 3 mtr long Earth electrode of High tensile steel electrode with 250 micron copper bonding & 1 bag of Carbon fill Based environment friendly backfill tested as per IEC 62561-7 in NABL accredited Laboratory and suitable stainless Steel double sided clamp. Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions :254 mm dia (top), 330 mm dia (bottom) & 260 mm (height).	Per Set	10-5-5	Refer Electrical General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
294	Providing & erecting water cooler having storage capacity 150 Ltr. & cooling capacity 150 Ltr.per hour @ an ambient temp of 45° C. The outlet temp. of the water should drop by 15°C within a hour, The water cooler should be comprising of hermetically sealed compressor, fan motor, condensing unit, water tank surrounded by evaporating, coil, thermostats, relay etc.complete with necessary inlet & outlet connection. The body of water cooler will be made from Stainless Steel	Each	8-13-2	Refer Electrical General Technical Specification
295	Supplying & erecting 5 stage single reverse osmosis water purification system with M.S. powder coated frame, prefilter housing with 'O' ring presediment filter GAC filter, carbon filter suitable buster DC pump capacity 80 psi, mention with 40 psi inline type post carbon filter auto low & high pressure switches with following size of storage tank & LPH capacity & erected as directed IC1 50 l tr / Hr with 150 psi 2 nos booster pump	Each	8-13-6	Refer Electrical General Technical Specification
296	Supply of 60W LED Decorative Post Top type luminaire with System efficacy of 120 lm/W (7800 lumens), suitable for external poles of dia. 65mm to 75mm. Luminaire shall be made up of pure polyster power coatedAluminum Extrusion/die cast housing duly Powder coated with gray pure polyester powder. Post top should have decorative dual triangle top with more elegant look. All external hardwaremust be of SS304 grade. LM 80-08 compliant LEDs of EMC/ceramic package from reputed makes such as Nichia/Cree/Bridgelux/Lumiled/ Osram/Seoul should be provided. LEDs used in the product shall comply with EN 62471 for Photo-biological safety and certificate for the same from manufacturer shall be provided. Luminaire shall be with IP66 and IK10 protection. The LED shall be compliant with LM80-08 standard with L70 life of 50000 Hrs tested at maximum current (Complete LM 80 test report for LED should be submitted for 10000 hrs of testing). The LEDs used should be with CCT of 4000 K, CRI of Minimum 80 and SDCM <5. LEDs must be driven at max 70% of the rated current. MCPCB with Aluminium core and copper thickness of 35 micron to be used for LED mounting.LED Driver shall be silicone potted, Integrated type, Isolated, Constant Current with range 140-290V AC. Driver Efficiency > 85% & 5 KV internal surge protection, Power factor greater than 0.95 and total harmonic distortion (THD) of less than 10% should be integral to the luminaire. Manufacturer shall have inhouse lab approved by NABL or ministry of science of govt of India. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Compliance to Indian Standards of IS10322 Part 5 / Sect 5:1967; 16105 : 2012; IS 16106 : 2012; IS 15885 (Part2/Sec13) : 2012; IS 16108 : 2012 should be there. Approved Make: Wipro LP19DT	Nos	MR	Refer Electrical General Technical Specification
297	Supply of LED based bollard of squared cross section (83 X 83mm), housing made up of extruded aluminium,sturdy and embossed brand name/logo name of manufacturer and optics made of milky white PC diffuser with pattern. The fixture should have a minimum system efficacy of 55lumen/Watt and a minimum system lumen output of 850 lumens and minimum system wattage of 15Watts.The fixture shall have a CRI of minimum 80. The fixture shall be designed for a system life of 50,000 hours @70% lumen maintenance. Ingress Protection of IP65 (lamp and gear Compartment) and Mechanical Impact Resistance Rating of IK10, CCT: 4000/5700K. The fixture driver should have an operating voltage range of 140-280 V, surge protection of >=3KV, external surge protection 10KV, PF >0.95, THD<10% & Driver efficacy >80% @full load and rated voltage. Ambient temp range: 0deg to 45deg C. The Drivers should be a potted driver not a printed circuit board without casing, mounted inside the luminaire. The fixture should comply with the parameters as per IS10322. Manufacturer shall have inhouse lab approved by NABL . LM 79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Height: 800mm & Weight including all accessories should not be more than 2.2Kg. Approved Make: Wipro LB35-J2	Nos	MR	Refer Electrical General Technical Specification

TECHNICAL SPECIFICATION				
Item No.	Description of Item	unit	R&B Building works Booklet Item No of the applicable specification & SOR number	
298	Supply of LED based Spike light, housing made up of pressure die cast aluminum Alloy with effective thermal management, sturdiness and embossed brand name/logo name of manufacturer and optics made of surface mount reflector with toughened. The fixture should have a minimum system efficacy of 80 lumen/Watt and a minimum system lumen output of 640 lumens and maximum system wattage of 8 Watts. The fixture shall have a CRI of minimum 80 and beam angle: 50-55deg. The fixture shall be designed for a system life of 50,000 hours @ 70% lumen maintenance. Ingress Protection of IP67 (lamp and gear Compartment) and Mechanical Impact Resistance Rating of IK >=07, CCT: 2700K. The fixture driver should have an operating voltage range of 100-270 V, surge protection of >=3KV, PF >0.9, THD <10% & Driver efficacy >80% @ full load and rated voltage. Ambient temp range: 0deg to 45deg C. The Drivers should be a potted driver not a printed circuit board without casing, mounted inside the luminaire. The fixture should comply with the parameters as per IS10322. Manufacturer shall have inhouse lab approved by NABL. LM 79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Dimension: Ø115 X 158 X 93mm & Weight including all accessories should not be more than 1.5Kg. Approved Make: Wipro LF05	Nos	MR	Refer Electrical General Technical Specification
299	Supply of 40W LED Decorative Post Top type luminaire with System efficacy of 100 lm/W. Luminaire shall be made up of extruded Aluminium housing with PC Diffuser (Tubular Milky white LED light column). All external hardware must be of SS304 grade. LM 80-08 compliant LEDs of EMC/ceramic package from reputed makes such as Nichia/Cree/ Bridgelux/ Lumiled/ Osram/Seoul should be provided. LEDs used in the product shall comply with EN 62471 for Photo-biological safety and certificate for the same from manufacturer shall be provided. Luminaire shall be with IP65 and IK08 protection. The LED shall be compliant with LM80-08 standard with L70 life of 50000 Hrs tested at maximum current (Complete LM 80 test report for LED should be submitted for 10000 hrs of testing). The LEDs used should be with CCT of 4000/5700 K, CRI of Minimum 80 and SDCM <5. LEDs must be driven at max 70% of the rated current. MCPCB with Aluminium core and copper thickness of 35 micron to be used for LED mounting. It should have IP 65 potted driver and accessories pre-wired up to terminal block., Integrated type, Isolated, Constant Current with range 140-270V AC. Driver Efficiency > 85% & 4 KV internal surge protection, 10KV External surge Protection, Power factor greater than 0.95 and total harmonic distortion (THD) of less than 10% should be integral to the luminaire. LED driver should have CISPR 15 / EN 55015 compliance to limit for radio disturbance characteristics. Manufacturer shall have inhouse lab approved by NABL or ministry of science of govt of India. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Compliance to Indian Standards of IS10322 Part 5 / Sect 5:1967; 16105 : 2012; IS 16106 : 2012; IS 15885 (Part2/Sec13) : 2012; IS 16108 : 2012 should be there. Length: 3000mm (40W). Dia: Ø100mm Approved Make: Wipro LB34	Nos	MR	Refer Electrical General Technical Specification

**Dy. Executive Engineer**  
**Gujarat Pavitra Yatraddham Vikas Board**  
**Gandhinagar**

**Executive Engineer**  
**Gujarat Pavitra Yatraddham Vikas Board**  
**Gandhinagar**