

## BILL OF QUANTITY

### W- 415: Improvement of various roads in C.C and sidestrips in CC Passage in R/South , R/Central and R/North ward of Zone- VII in Western Suburbs Division.

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
1	R2-RW-7-37	(a) To carry out total station survey of the road with reference to existing co-ordinate system by establishing control stations by establishing temporary bench mark from permanent bench mark, marking centre line of the road by nails, carrying out detailed levelling, plotting cross sections longitudinally at 20 mtr. intervals with levels at every 4 mtr. cross distance, preparing drawings on Auto cad to the scale of 1:500 and supplying 2 hard copies and 1 soft copy in C.D. form.. etc. complete upto 18.3 mtr wide road.	Upto 500 Meter	20182.50	123.00	2482447.5
2	R2-RW-7-38	To carry out total station survey of the road with reference to existing coordinate system by establishing control stations by establishing temporary bench mark from permanent bench mark, marking centre line of the road by nails, carrying out detailed levelling, plotting cross sections longitudinally at 20 mtr. intervals with levels at every 4 mtr. cross distance,preparing drawings on Auto cad to the scale of 1:500 and supplying 2 hard copies and 1 soft copy in C.D. form.. etc. complete upto 18.3 mtr wide road. ,Extra over and above for every 100 mtrs. And part thereof.	/100 Meter	3900.00	153.00	596700
3	R2-RW-7-39	To carry out total station survey of the road with reference to existing co-ordinate system by establishing control stations by establishing temporary bench mark from permanent bench mark, marking centre line of the road by nails, carrying out detailed levelling, plotting cross sections longitudinally at 20 mtr. intervals with levels at every 4 mtr. cross distance,preparing drawings on Auto cad to the scale of 1:500 and supplying 2 hard copies and 1 soft copy in C.D. form.. etc. complete 18.30 to 27.45 mtr. wide road.	Upto 500 Meter	21190.00	7.00	148330
4	R2-RW-7-40	To carry out total station survey of the road with reference to existing co-ordinate system by establishing control stations by establishing temporary chmark from permanen t benchmark,marking centreline of the road by nails,carrying out detailed levelling, plotting cross sections longitudinally at 10mtr. intervals with levels at every 2mtr.cross distance,preparing drawings on Autocad to the scale of 1:500 and supplying 2hard copies and1 soft copy inC.D.form..etc. complete from 18.30 to 27.45 mtr.wideroad-Extraover and above forevery100mtrs.Andpartthereof	/100 Meter	4238.00	29.05	123113.9
5	R2-RW-7-43	To carry out total station survey of the road with reference to existing coordinate system by establishing control stations by establishing temporary bench mark from permanent bench mark, marking centre line of the road by nails, carrying out detailed levelling, plotting cross sections longitudinally at 10 mtr. intervals with levels at every 2 mtr. cross distance, preparing drawings on Auto cad to the scale of 1:500 and supplying 2 hard copies and 1 soft copy in C.D. form.. etc. complete for roads wider than 36.6 mtr	Upto 500 Meter	25220.00	2.00	50440
6	R2-RW-7-44	To carry out total station survey of the road with reference to existing coordinate system by establishing control stations by establishing temporary bench mark from permanent bench mark, marking centre line of the road by nails, carrying out detailed levelling, plotting cross sections longitudinally at 10 mtr. intervals with levels at every 2 mtr. cross distance,preparing drawings on Auto cad to the scale of 1:500 and Supplying 2 hard copies and 1 soft copy in C.D. form.. etc. complete for roads wider than 36.6 mtr., Extra over and above for every 100 mtrs. And part thereof.	/100 Meter	5044.00	14.00	70616
7	R2-CS-EW-3	Excavation for foundation, substructures, basements, tanks, sumps, walls, chambers, manholes, trenches, poles, pits&general building works in soft/disintegrated rock, sandstone, stiff clay, gravel, cobblestone, hardlaterite, water bound macadam, wet mix macadam, asphalt mix carpet of any type, pitching, soling, paths and hardcore, lime concrete, plain cement concrete, stone masonry and all types of brick/block masonry below ground level, rock boulders, etc. for depths/lifts upto 1.5M measured from the ground level, including dressing/trimming the sides, leveling of bottoms, manual dewatering, removing rank vegetation, back filling in layers not more than 200 mm thickness, watering, consolidating, compacting to achieve not less then 97% Modified Proctor density conforming to relevant IS, stacking in measurable heaps for future use within owners space or disposing within an initial lead of 150 m as directed, loading, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge.Note: 1)The rate includes the handling/supporting the existing utilities such as cables,drains,pipes, water mains etc. 2) It also includes the royalty and other taxes if any.	Cubic Meter	500.00	445680.34	222840169.3

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
8	R2-CS-EW-4	Excavation by chiseling by manual operations, pneumatic breaker, hammer, drilling, compressor breaker, jack hammer etc. for foundations, substructures, basements, tanks, sumps, walls, chambers, manholes, poles, pits & general building works in hard rock, reinforced concrete, Bituminous macadam for depths/lifts upto 1.5M, including dressing/trimming the sides, leveling of bottoms, manual dewatering, removing rank vegetation, backfilling in layers not more than 200mm thickness, watering, consolidating, compacting to achieve not less than 97% Modified Proctor density conforming to relevant IS, stacking in measurable heaps for future use within owners space or disposing within an initial lead of 150m as directed, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge, loading. Note: 1) The rate includes the handling/supporting the existing utilities such as cables, drains, pipes, water mains etc. 2) It also includes the royalty and other taxes if any.	Cubic Meter	1054.00	45191.63	47631982.08
9	R2-CS-EW-7-a	Extra over the items CS-EW-03 to CS-EW-06 for lift from 1.5m to 3.0m.	Cubic Meter	127.00	110227.27	13998863.54
10	R2-SWD-45	Supplying and providing blue trap stones of approved quality and laying hand set dry rubble packing 25 cm. thick to required level and grade, camber including filling in the interstices with 60 mm. metal and small stone chips, etc. and thoroughly rammed, consolidated, etc.as specified & as directed by Engineer in Charge.	Cubic Meter	846.00	97369.00	82374174
11	R2-RW-10-26	P/L ready mix cement concrete M-15 cc having avg compressive strength 18.5 Mpa for Foundation/ encasement/ pavement/ cradle including form of mixing in batch ing plant,compacting by interna l&surface vibrator,curing,finishingetc.completeasspecified&asdirectedbytheEngineer. Contractorhastomakehisownarrangementforwaterforcuringetc.&willnotbe paidseparatelyforit.(MINIMUM CEMENT CONTENT 240 Kg/m <sup>3</sup> .)	Cubic Meter	6893.00	59090.74	407312476.3
12	R2-RW-10-29	P/L R.M.C. M-20C.C .having avg. compressive strength 24Mpa procured from M.C.G.M. approved R.M.C. plant including use of approved makes plasticizer/retarder & transported by transit mixer & placing at work site, compacting, finishing curing etc. by contractor's water & tarring the sides off romwork with hot bitumen as specified & directed by the Engineer. (MINIMUM CEMENT CONTENT 260 Kg/m <sup>3</sup> .)	Cubic Meter	7055.00	58778.45	414681966.4
13	R2-CS-CW-35-c	Providing and fixing in position Steel bars reinforcement of various diameters for R.C.C. pile, pile caps, footings,raft,retaining wall,shear wall, lift wall,foundations, slabs, beams, columns, canopies,staircases, newels, chajjas, lintels, pardies,coping, fins, arches, etc. as per detailed designs,drawings and bar bending schedules,including straightening, cutting, bending, hooking the bars, binding with wires or tack welding, supporting as required etc. all complete at all levels. Thermo-Mechanically Treated steel bars. (Fe 500 D)	M.T.	76770.00	17891.47	1373528163
14	R2-CS-RF-7-B-FAIR	Providing, fabricating & fixing the leak-proof shuttering made with marine plywood /M.S.Sheets with proper supports at all locations for all shapes etc., for encasement & deshuttering the same after specified period or next day of placing the microconcrete / concrete. Providing & applying approved oil on all surfaces of formwork coming in contact with concrete as per specification. Walls (any thickness) including attached butteresses, retaining wall, shear wall, diaphragm wall etc.	Square Meter	558.00	865012.50	482676975
15	R2-CS-RF-7-F-FAIR	Providing, fabricating & fixing the leak-proof shuttering made with marine plywood /M.S.Sheets with proper supports at all locations for all shapes etc., for encasement & deshuttering the same after specified period or next day of placing the microconcrete / concrete. Providing & applying approved oil on all surfaces of formwork coming in contact with concrete as per specification. Stairs(waist slab), folded etc. slab, inclined slab	Square Meter	483.00	138934.46	67105344.18
16	R2-RW-7-32	Providing and placing in position, levelling, fixing M 25 Grade R.C.C. pre-cast frame of size 1150 x 1150 x 150 mm and cover (2 Nos) of size 1000mm x 500mm x 75mm in line, level over storm water drain as per design procured from approved manufacturer etc. complete	Set	2896.00	21736.00	62947456

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
17	R2-RW-10-51	Providing and fixing of Water Dished Channel size: 600 x 300 x 80 mm, M-40 grade manufactured in vacuum wet press technology plant with excellent finish and sharp edges inclusive of excavation in any soil except rock, laying of leveling course of M15 grade RMC 100 mm thick or required slope, (inclusive of form work) jointing in 1:2 cement mortar proportion flush to concrete surfaces as directed. (Water tables shall be procured from MCGM registered agencies).	Meter	799.00	9688.00	7740712
18	R2-RW-8-02	P/L 250 mm dia. R.C.C. humepipes, NP2 class, jointing, filletting in 1:1 C.M., including plugging of both the ends with gunny bags, brick masonry in C.M. 1:4 with plaster in C.M. 1:4 & curing etc. complete, as specified as directed	Running Meter	640.00	26310.00	16838400
19	R2-SWD-148	Supplying and fixing 0.90m x 0.60m internal size of rectangular C.I. air-tight cover and frame weighing minimum 270 of material grade of min. FG 150 conforming to IS 210:2009 and specification no SP-SWD3 with the grade designation of HD 20 conforming to IS 1726:1991 including testing as per CL 10 and inspection as per CL.11 of IS 1726:1991, as per specification as per Standard Specification no SP-SWD-3, etc. complete, as specified and as directed by Engineer in Charge.	Each	31371.00	2062.00	64687002
20	R2-SWD-146	Supplying and fixing 1.20m x 0.90m internal size of rectangular C.I. air-tight cover and frame weighing minimum 910 kg of material grade of min. FG 150 conforming to IS 210:2009 and specification no SP-SWD3 with the grade designation of HD 20 conforming to IS 1726:1991 including testing as per CL 10 and inspection as per CL.11 of IS 1726:1991, as per specification as per Standard Specification no SP-SWD-3, etc. complete, as specified and as directed by Engineer in Charge.	Each	94200.00	1608.00	151473600
21	R2-SWD-119	Providing and Constructing brick masonry inspection chamber rectangular 0.9M x 0.60M and 0.6M deep on sewer with 230mm brick walls in cement mortar 1:3 plastered both inside & outside with 20 mm thick cement mortar 1:2 and neat cement rendering so as to give a smooth surface including 230mm cement concrete bedding (M 15) and cement concrete (M 15) in haunches and channels finished smooth with 20 mm thick cement mortar (1:1) and fixing C.I. heavy duty airtight rectangular frame & cover of size 0.9M x 0.45M weighing minimum 270Kg, resting on 300 mm high c.c. cap M 20 with (1:1) cement plaster on both the sides & necessary C.I. steps (weighing 5.4 kgeach) staggered at 300mm c/c. including 75 mm wide vata all round the external portion of the chamber and the foundation concrete in C.M. 1:1 etc. complete as per plan in and as per drawing (Dwg No.MCGM/SWD/2013-03), etc complete as specified & as directed by Engineer in Charge. (without excavation) .	Each	49457.43	5821.00	287891700
22	R2-SWD-120	Extra over item no R2-SWD-119 per meter depth above 0.60m and upto 2.5m, etc all complete as specified & as directed by Engineer in Charge.	Meter	15442.39	1963.60	30322677
23	R2-CS-EW-16	Excavation over areas for basements, roads, land/plot development in soft/ disintegrated rock, sand stone, stiff clay, gravel, cobblestone, hard laterite, water bound macadam, wet mix macadam, pitching, soling, paths and hardcore, lime concrete, plain cement concrete, stone masonry and all types of brick/ block masonry below ground level, rock boulders, etc. for all depths/lifts including manual dewatering, filling the selected excavated earth at the locations as directed, in layers not more than 200mm thickness, watering, consolidating, compacting to achieve not less than 97% Modified Proctor density conforming to relevant IS, stacking the selected material in measurable heaps for future use within owners space or disposing within an initial lead of 150m as directed, loading, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge. Note: 1) The rate includes the handling/supporting the existing utilities such as cables, drains, pipes, water mains etc. 2) It also includes the royalty and other taxes if any.	Cubic Meter	343.00	428714.69	147049139.4
24	R2-RW-1-13	Levelling, watering & rolling by vibratory roller weighing not less than 10 tonnes & preparing the ground to the required grade & camber etc. complete as specified and as directed by the Engineer as per prevailing MCGM specifications for Road works.	Square Meter	9.83	652752.00	6416552.16

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
25	R2-RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pugmill or approved type), spreading of mixed material in uniform layer of 100 mm to 75mm (compacted thickness each) with motor grader or paver on prepared murum surface & compacting with 10 tonne vibratory roller to achieve desired density including all material ,labour ,machinery ,lighting barricating to all lifts & lead maintenance of diversion etc. complete (metal gradation from 75 mm to 75 mm micron as per MCGM Road Specifications clause no.210).	Cubic Meter	2547.00	131299.25	334419189.8
26	R2-RW-2-20	Providing & laying, spreading & compacting graded crushed stone aggregate to wet mix macadam satisfaction including premixing the material with water to OMC in mechanical mix (pugmill) carriage of mix material by tipper to site laying in uniform layer of 75 mm to 100 mm (compacted thickness each) with sensor paver finisher on prepared subbase & compacting with vibratory roller (10tonne) to achieve desired density including lighting, guarding barricating & maintenance of diversion etc. as directed by the Engineer, (Rebate for not using sensor paver should be taken, (metal gradation from 53 mm to 75 mm micron as per MCGM Road Specifications clause no.240).	Cubic Meter	2937.00	119535.92	351076997
27	R2-RW-10-32	Providing and laying Dry Lean Concrete base including providing coarse and fine aggregate to the specified gradation using minimum cement content 150kg/ cum of concrete with OPC43 grade cement, mixing of concrete as per approved design mixing mechanised batchmixplant of appropriate capacity, transporting and laying with selfpropelled paver with electronic sensor device and compacting with vibratory roller of minimum 80-100KN static weight to give desired compacted density and average compressive strength of 10MPa at 7 days and curing with liquid curing compounds sprinkling water and covering with moist hessian cloth or ponding of water for 7 days including providing construction joints, including all material, labour, machinery with all leads and lift setc. complete as specified and as directed by the Engineer. B) Laying by paver with electronic sensor device.	Cubic Meter	4481.00	74394.00	333359514
28	R2-RW-10-33	Providing & laying M-40 C.C. avg. compressive strength 45 MPa and b avg. flexural strength of 5.0 MPa (As per IRC 15-2002.N.1.6) procured from M.C.G.M. approved R.M.C. plant including use of approved make plasticizer/retarder & Contractors water with ice flakes and transported by transit mixer and placing at work site. Compacting finishing, initial curing by approved curing compound & Contractors water and tarring the sides of slab with hot bitumen as specified and directed (w/c ratio 0.4 maximum) (vata for curing will be paid separately.) (MINIMUM CEMENT CONTENT 350 kg/m <sup>3</sup> )	Cubic Meter	7968.00	152786.30	1217401238
29	R2-RW-10-39	Extra & over for providing and using special admixtures/ plasticizers to achieve required crushing & average flexural strength 5.0 Mpa of M40 grade concrete in 7 days. NOTE : THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S. & P.). NOTE: FOR SPECIAL ADMIXTURES ITEMS SUCH AS ELKEM MICROSILICA, POLYPROPYLENE FIBER, BSF GLANIUM SKY, EARLY STRENGTH SUPER PLASTYCIZER, STEEL FIBER REINFORCEMENT ETC. ORIGINAL CHALLAN SHOULD BE PRODUCED, FAILING WHICH NO PAYMENT TO BE MADE.	Cubic Meter	1067.00	168714.11	180017958.8
30	R2-RW-10-27	P/L R.M.C. M-10 C.C. having avg. compressive strength 13.5 Mpa in foundation/ encasement/ pavement with or without chequered design including formwork, mixing in batching plant, placing, vibrating with plate or needle vibrator, curing etc. complete as directed by the Engineer. Contractors has to make his own arrangement of water for curing with Hessian cloth etc. & will not be paid separately. (MINIMUM CEMENT CONTENT 220 Kg/m <sup>3</sup> .)	Cubic Meter	6452.00	5500.00	35486000
31	R2-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 7 to 12Kg. of 10 Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Low Porosity surface & the primed surface shall be allowed to cure for at least 24hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mixi slaid(As per New Road Specifications Clause No. 313, curing as per 313.5)-	Square Meter	57.00	161535.00	9207495

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
32	R2-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.2 to 0.25Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For NORMAL BITUMINOUS SURFACES & the tack coat shall be left to cure until all the volatile shave evaporated before any subsequent construction is started, which is indicated by change in colour from brown to black (As per New Road Specifications Clause No.314,curingas per 314.3.4)-	Square Meter	33.00	161480.00	5328840
33	R2-RW-5-25	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per New Road Specifications Clause No. 314)-	Square Meter	35.00	161480.00	5651800
34	R2-RW-5-46	P/L hot Premix Dense bituminous macadam with 4.50%bitumen content of grade VG-40 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paveretc. complete as specified and as directed with antistripping agent at 1%by weight of bitumen using grading II of "MORTH"(per prevailing MCGM specification for Roadworks clause no.354)	Cubic Meter	9008.00	12171.70	109642673.6
35	R2-RW-5-51	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted to required thickness using new material to the required grade, level and camber rolling with power, vibratory roller pneumatic roller & sensor paver etc. complete as specified and as directed with addition of lime filler 2% and anti stripping agent @ 1% by weight of bitumen etc.(As per prevailing MCGM specifications for Roadworks clause no. 364)	Cubic Meter	10974.00	452.20	4962442.8
36	R2-RW-5-64	P/L, mastic asphalt 40mm thick with 10/20 grade bitumen including producing the same at computerised batch mix plant, transporting the same to site by means of mastic cookers, laying the same with mastic paver and including all necessary tools, labours & barricading, spreading of aggregates as antiskid measures by means over newly laid mastic asphalt as per prevailing MCGM specification clause no. 365 of 'Roadworks' as directed by Engineer in charge (Note: The material specifications / gradation & content shall be as specified in the relevant I.S. Codes.)	Square Meter	1571.00	161480.00	253685080
37	R2-RW-5-65	P/L, mastic asphalt 25mm thick with 10/20 grade bitumen including producing the same at computerised batch mix plant, transporting the same to site by means of mastic cookers, laying the same with mastic paver and including all necessary tools, labours & barricading, spreading of aggregates as antiskid measures by means over newly laid mastic asphalt as per prevailing MCGM specification clause no. 365 of 'Roadworks' as directed by Engineer in charge (Note: The material specifications / gradation & content shall be as specified in the relevant I.S. Codes.)	Square Meter	1079.00	12843.00	13857597
38	R2-RW-6-03	Raising or lowering circular manholes to the required level upto 20cm. Including all material, form work etc.with 16cm.thick cement concrete M-15 (1:2:4) c.c. coping under frame and cover of manhole, including curing etc. complete as specified and as directed	Each	1151.00	1708.00	1965908
39	R2-RW-6-04	Raising or lowering water entrances ,hydrant key box/sluicebox/gully trap chambers to the required level,upto20cm.including all materials,curingetc. complete as specified and as directed.	Each	801.00	218.00	174618
40	R2-RW-6-05	Raising or lowering rectangular manholes to the required level upto 30cm. Including all materials, form work, brick work and with 16 cm.thick M-15 C.C. coping under frame & cover of manhole including curring etc.complete, as specified and as directed.	Each	2297.00	730.00	1676810
41	R2-RW-6-06	Removing the old C.I. curicular frame & cover & delivering the same to any Municipal depot or worshop, as directed.	Each	147.00	540.00	79380
42	R2-RW-7-01	Removing & refixing traffic regulatory boards/bus stop boards/street name boards etc. in M-100 cement concrete, complete as directed.	Each	881.00	343.00	302183
43	R2-RW-7-29	Excavation and dismantling of structures on roadway, shifting and relocating of essential utilities, street poles, signals road sign boards including taking necessary permission from the service providers/authorities including payment of necessary deposits and supervision charges,shifting charges etc.complete as directed by Engineer-in-charge. a) Street Poles	Nos	1229.00	1047.00	1286763

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44	R2-RW-7-31	Excavation and dismantling of structures on roadway, shifting and relocating of essential utilities, street poles, signals road sign boards including taking necessary permission from the service providers/authorities including payment of necessary deposits and supervision charges,shifting charges etc.complete as directed by Engineer-in-charge.c) Road Sign Boards	Nos	327.00	1047.00	342369
45	R2-SE-5-1-a	Providing & laying stoneware pipes of SP2 class including jointing with CM(1:1), filleting etc. complete as specified & directed. 150 mm	Running Meter	657.00	1847.00	1213479
46	R2-RW-8-03	P/L 300 mm dia. R.C.C. hume pipes, NP2 class, jointing, filling in 1:1 cement mortar, including plugging of both the ends with gunny bags, brick masonry in cement mortar 1:4 with plaster in cement mortar 1:4 & curing etc. complete, as specified as directed.	Running Meter	796.00	243822.00	194082312
47	R2-RW-8-04	Providing & fixing in position M- 20 cement concrete precastslab, 50cmx50cm.&8cm. Thick with the word "DUCT" inscribed over it including making good,the damaged surrounding surface etc. complete.	Nos	326.00	2804.00	914104
48	R2-RW-10-46	Providing and fixing pre-cast Central Median divider Type-I of R.M.C. in M-20 C.C. on Road as per drawing, finished neatly, compacting, curing, with formwork, etc, including bedding of R.M.C. of M-10 C.C, 15cm thick, filling of joints in C.M.1:2 & painting the exposed surface with 3coat of roadmarking paint, Grade-I of approved colour and quality including required excavation in C.C. , asphalt etc, and removing the same anywhere in City & Sublimit, levelling the same as specified and as directed by the Engineer. (Note:-Every 10 dividers shall have 40mm. dia. hole along the centerline of divider at formation level of road to drain off rain water / excess water.)	Running Meter	1685.00	14400.00	24264000
49	R2-RW-10-06	Providing&laying R.C.C. Running beam in M-40 cement concrete including required form work mixing, compacting & curing, etc. complete reinforced with 12mm dia. (Minimum 4 Nos.) M.S. main bars & 6mm Dia M.S. rings at 15cm c/c to be anchored in slipper slab properly with M.S. reinforcement as per drawing etc. complete as specified (Steel will not be paid separately). Contract or has to make his own arrangement for portable water for construction/curing with hessian cloth,etc. & will not be paid separately. Beam Size a) 23cm x 30cm.	Running Meter	844.00	56011.00	47273284
50	R2-RW-10-11	Cutting of construction & dummy joints of M-35 C.C. & above slab by mechanical means with in 10 to 16 hrs. Of casting of bay / slab as directed. A)transverse dummy joints 100 mm deep / 1/3 thickness of concrete pavement & 6mm wide.	Running Meter	59.00	455395.00	26868305
51	R2-RW-10-12	Cutting of construction & dummy/joints of M-35 C.C. & above slab by mechanical means within 10 to 16hrs. of casting of bay/slab as directed.B)Longitudinal construction joints 100 mm deep/1/3rd thickness of slab & 6mm wide	Running Meter	59.00	467515.00	27583385
52	R2-RW-10-13	Providing & fixing in position premoulded Asphalt filler 12mm thick conforming to I.S. 1838 of 1983 for placing of the expansion joint, around manholes & water entrances, etc put to the required depth & 25 mm below the camber,etc. complete as directed	Square Meter	352.00	33576.52	11818935.04
53	R2-RW-10-14	Providing & placing 5mm thick thermocole in dummy & construction joint simmediately after cutting of joints & removing the same before dressing of dummy & construction joints etc. complete , as directed.	Square Meter	76.00	96967.40	7369522.4
54	R2-RW-10-15	Providing & fixing high density polythene pipe of approved quality to fit around the dowel bars of 32 mm dia at the end of expansion joints, fully greased inside, cotton waste the pipe around the dowel bars & the pipe duly capped at the end as directed. (H.D.P.pipe shall be 30cm in length)	Nos	31.00	22630.00	701530
55	R2-RW-10-16	Providing & fixing in position mild steel tie bars of 12 mm dia 55 cm long & 45 cm C/C whenever directed including handling, wrapping with paper for half length, fixing, straightening, wastage etc. complete in all respect as directed.	M.T.	63226.00	97.00	6132922
56	R2-RW-10-17	Providing & fixing in position M.S. dowel bars of 32mm dia 55 cm long & 30 cm C/C whenever directed including handling, fixing, etc. complete(no extra payment will be made for applying bitumen & grease to dowel bars).	M.T.	62904.00	156.50	9844476
57	R2-RW-10-19	Providing & constructing cement vatas in CM (1:10) at 0.6m *0.6m c/c/admeasuring 0.09m at bottom,0.04m at top & 0.075m deep & maintaining the same throughout 14 days curing & removing the same thereafter as directed.	Square Meter	78.00	1172920.00	91487760

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
58	R2-RW-10-23	Dressing of M-35 & above new C.C. pavement, dummy, transverse, longitudinal & expansion joints with hot rubberised sealing compound confirming to IS1834 -1984 after proper cleaning with compressed air, applying required primer & providing a layer of lime powder over hot sealing compound etc. complete as directed. A)Sealing 6 mm wide dummy/transverse joints with a depth of 100mm/ 1/3rd thickness of concrete pavement.	Running Meter	92.00	455395.00	41896340
59	R2-RW-10-24	Dressing of M-35 & above new C.C. pavement, dummy,transverse,longitudinal&expansion joints with hot rubber is edsealing compound confirming to IS 1834-1984 after proper cleaning with compressed air, applying required primer & providing a layer of lime powder over hotsealing compound etc.complete as directed. B)Sealingof 6mm wide longitudinal jointwithdepthof100mm./1/3rdthicknessofconcretepavement.	Running Meter	92.00	467515.00	43011380
60	R2-HE-7-2-a	Supplying, providing laying and jointing GI pipes in trenches of following class and diameter by wrapping them by hessian cloth with tar coating and including any nominal pipe length required to be laid above ground level, conveyance from stores to site work, all labour, necessary excavation, backfilling, giving satisfactory hydraulic test, etc complete in all respect as directed by Engineer in Charge. Note : Only MCGM approved GI pipe brands shall be used, all pipe and pipe fittings shall be C class (heavy grade) having ISI marking. - 15 mm dia	Running Meter	168.00	8280.00	1391040
61	R2-HE-7-2-b	---Do-----20 mm dia.	Running Meter	174.00	8280.00	1440720
62	R2-HE-7-2-c	---Do-----25 mm dia.	Running Meter	265.00	6600.00	1749000
63	R2-HE-7-2-d	---Do-----32 mm dia.	Running Meter	316.00	6600.00	2085600
64	R2-HE-7-2-e	---Do-----40 mm dia.	Running Meter	388.00	6600.00	2560800
65	R2-HE-7-2-f	---Do-----50 mm dia.	Running Meter	481.00	6600.00	3174600
66	R2-CS-PS-90-a	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc 15 mm dia	Running Meter	199.00	6600.00	1313400
67	R2-RT-16-32	Providing and applying hot applied thermoplastic road marking material with glass beads extremely high skid resistance 2.5mm thick with primer coat (tack coat) for binding on cement concrete road/paver blocks surface. All labour materials with special aggregates etc, as specified in B.S. part -I & II 1989 and carrying out the marking on any road on center line and other lane marking continuous for intermittent 10cm or 15cm width and also pedestrian crossings stripes as well as spraying further quality of glass beads of type II uniformly into a mono layer on to the hot paint line in quick succession of the paint spraying operation @ 250gms per sq.mt. area as directed and as per B.S./M.O.S.T. specification in white/yellow colour	Square Meter	727.00	79440.00	57752880
68	R2-RT-16-07	Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs.	Nos	1241.00	922.00	1144202
69	R2-RT-16-08	Street Name Board without sign board: Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1) as per the design incorporated in the catalogue of street Furniture (Volume-II) Published by M.C.G.M. Vertical pole shall be M.S. Square pipe of size 75mm x 75mm x 3.5mm thk. Signage plaque (box) shall be of size 900mm x 600mm made of M.S. angle frame of size 50mm x 50mm x 6mm thick covered with 3mm thk aluminum sheet / F.R.P. Sheet on both sides. The signage plaque assembly shall be fixed to the vertical pole with 40mm x 10mm thk size MS support plate. The traffic signboard of size 600mm dia shall be supported on M.S. support pipe of size 50mm x50mm x 3mm. Traffic sign board shall be made of 25mm x 25mm x 3mm thick M.S. Sq. pipes covered with 3mm thk. Aluminum sheet / F.R.P. sheet on both sides as shown in the figure. The top open end of the vertical pole shall be closed with M.S. plate of size 75mm x 75mm x 3.5mm thick. Both the boxes shall be pasted with HIGH INTENSITY GRADE retro reflective base sheets on both sides conforming to I.R.C. 67 CODE. Letters or signages to be pasted on these boxes shall also be of HIGH INTENSITY GRADE (upto 50% of basic area) conforming to I.R.C. 67	Nos	22712.00	268.00	6086816

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
70	R2-RT-16-15	Junction Name Board : Providing, fixing and erecting on site Junction Name Board / Chowk (of type 2S-D), as per the design incorporated in the catalogue of street Furniture published by M.C.G.M., Vertical pole shall be M.S. Square pipe of size 100mm x 100mm x 3.5mm thick. Signage plaque (box) shall be of size 900mm x 900mm made of M.S.L angle frame of size 75mm x 75mm x 6mm thick covered with 3mm thick aluminum sheet / F.R.P. Sheet on both sides, the box assembly; shall be fixed to the vertical pole with 40mm x 10mm thick size MS support plate. The top open end of the vertical pole shall be closed with MS Plate of size 100mm x 100mm x 3.5mm thick. The box shall be pasted with HIGH INTENSITY GRADE retro reflective base sheets on both sides conforming to I.R.C. 67 CODE. Letters or signages to be pasted on this box shall also be of HIGH INTENSITY GRADE (up to 50% of basic area) conforming to I.R.C. 67 CODE. The reflective of sheet shall have guarantee of 7 years. The reflection count shall not be less than 90% of its original reflection after 7 years. The foundation shall either be with base plate of 200 x 200 x 6mm thick 16 mm dia J Bolts or embedding pipe in foundation by providing	Nos	35459.00	312.00	11063208
71	R2-RT-16-18	Direction – Board – Providing, Fabricating, Erecting on site Direction Board (of type 3SA2)( small-2) As per the design incorporated in the catalogue of street Furniture published by M.C.G.M., Vertical pole shall be ISMC-350. Signage plaque (box) shall be of size 1200mm x 2400mm made of ISMC 100mm and bracing of MS angle 50mm x 50mm x 6mm, covered with 3 mm aluminum sheet / F.R.P. Sheet on both sides, the box assembly; shall be fixed to the vertical pole. The box shall be pasted with HIGH INTENSITY GRADE retro reflective base sheets on both sides conforming to I.R.C. 67 CODE. Letters or signages to be pasted on this box shall also be of HIGH INTENSITY GRADE (up to 50% of basic area) conforming to I.R.C. 67 CODE. The reflectivity of sheet shall have guarantee of 7 years. The reflection count shall not be less than 90% of its original reflection after 7 years. The vertical poles shall be provided with 20 mm dia 6 nos. hold fasts embedded in 1:2:4 CC foundation of size 1500 mm x 1500mm as shown in drawing (3F-A1.1). The assembly shall be treated with Rusticide solution of approved company and applied with Polyurethane primer and Paint to resist rusting of material (the treatment shall be given as per	Nos	37751.00	201.00	7587951
72	R2-RT-16-25	Mandatory & Cautionary Board – Providing, Fabricating, Erecting on site Mandatory & Cautionary Boards (of type 1S-A-1). As per the design incorporated in Street Furniture catalogue volume-II published by M.C.G.M., Vertical poles shall be M.S. Square pipe of size 50mm x 50mm x 3.5mm thick. Signage plaque (box) shall be of size 600mm dia. The box shall be made of MS Square pipe of size 25mm x 25mm x3mm thick covered with 3 mm thick aluminum sheet / F.R.P. Sheet on both sides, The box assembly; shall be fixed to the vertical pole. The box shall be pasted with HIGH INTENSITY GRADE retro reflective base sheets on both sides conforming to I.R.C. 67 CODE. Letters or signages to be pasted on this box shall also be of HIGH INTENSITY GRADE (up to 50% of basic area) conforming to I.R.C. 67 CODE. The reflectivity of sheet shall have guarantee of 7 years. The reflection count shall not be less than 90% of its original reflection after 7 years. The foundation shall either be with base shall either be with base plate of M.S. of size 200 x 200 x 6mm thick, 16 dia J Bolts or embedding the pole in foundation with 12mm dia x 6 nos. hold fasts embedded in 1:2:4 concrete as shown in drawing (ISA	Nos	6469.00	720.00	4657680
73	R2-RT-16-27	TRIANGULAR BOARD – Providing, Fabricating, Erecting on site Mandatory Boards (of type 1S-A-1.1). As per the design incorporated in Street Furniture catalogue volume-II published by M.C.G.M., Vertical poles shall be M.S. Square pipe of size 50mm x 50mm x 3.5mm thick. Signage plaque (box) shall be of size 900mm dia. The box shall be made of MS Square pipe of size 50mm x 50mm x3mm thick covered with 3 mm thick aluminum sheet / F.R.P. Sheet on both sides, The box assembly; shall be fixed to the vertical pole. The box shall be pasted with HIGH INTENSITY GRADE retro reflective base sheets on both sides conforming to I.R.C. 67 CODE. Letters or signages to be pasted on this box shall also be of HIGH INTENSITY GRADE (up to 50% of basic area) conforming to I.R.C. 67 CODE. The reflectivity of sheet shall have guarantee of 7 years. The reflection count shall not be less than 90% of its original reflection after 7 years. The foundation shall either be with base shall wither be with base plate of M.S. of size 200 x 200 x 6mm thick, 16 dia J Bolts or embedding the pole in foundation with 12mm dia x 6 nos. hold fasts embedded in 1:2:4 concrete as shown in drawing (IS-A.1).	Nos	12031.00	463.00	5570353
74	R2-GW-7-11	Supply and Spreading of Red Hill Earth Red hill earth free from graass, stones, rubbles redish in colour pass through 5 mm sieve and spreading of red hill earth at site location/ plot and rolling as directed by site incharge	Cubic Meter	1283.00	6008.40	7708777.2
75	R2-SE-10-3	Supplying and fixing 0.56 M dia C.I. Circular extra heavy duty (EHD) air tight frame and cover weighing minimum 230kg fixed complete to manholes.	Each	29935.00	739.00	22121965



Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
76	R2-SWD-154	Providing & Fixing 100 mm. dia PVC. Pipes of approved quality as weep holes in nalla/retaining walls etc.complete as directed by Engineer in Charge.	Running Meter	355.00	21025.00	7463875
77	R2-RW-10-28	Supply & filling sand metal, GRAVELLY SAND, corresponded to CLASS II/ CLASS III GRADING of TABLE 100.1 of MCGM road specifications for roadworks in trenches upto required depth & watering, ramming etc. complete as directed.	Cubic Meter	1905.00	13836.00	26357580
78	R2-SWD-35	Cutting down existing cement / lime concrete works by any means in pavement, bedding below foundation, coping, walls arches, stone, brick pavement coping etc. of any thickness of any height / depth above or below ground level etc.complete, as specified & as directed by Engineer in Charge.	Cubic Meter	1314.00	23530.29	30918803.69
79	R2-SWD-36	Cutting down completely RCC slab, walls, beams , columns, arches, piles, pile caps of any thickness and or size of any height / depth by any means below or above ground level including cutting down steel reinforcement, removing and stacking them properly as directed etc.complete, as specified & as directed by Engineer in Charge.	Cubic Meter	1588.00	60599.98	96232763.48
80	R2-RW-10-18	Providing & laying water proof paper of 40 GSM including overlap (to be not less than 10cm)etc. complete as specified as directed.	Square Meter	11.00	680209.00	7482299
81	R2-RW-10-63	Extra Over item of stencil concrete above M-20 in footpath Providing, applying and finishing the top surface of M-20 concrete with stamp/ stencil of approved pattern and colour, in accordance with manufacturer's specification of any approved brand of colour hardener @ of 3.5 kgs/m2; including floating of colour hardened over concrete surface with different types of floaters; including application of release agent @ of 0.15 kgs/m2, stamping over the concrete surface with stamping tools; including cleaning of surface with water and cutting of finished concrete; including application of two coats of acrylic based sealer for finishing. Colour hardener and release agent shall be tested for abrasion resistance for a depth of wear, should not be more than 0.025 mm. Coverage of sealer should not be more than 6.5 sq.m per one litre coat; including cost of skilled manpower, cutting machine, sprayer and all tools tackles for all activities; complete smooth & finish as per direction of Engineer-In-Charge.	Square Meter	436.00	159389.55	69493843.8
82	R2-RW-7-17	Providing applying Yellow & Black road marking paint grade-I in 3-coats including single coat of approved brand primer after cleaning of old surface of kerbstone with brushing by wire brush as per relevant I.S. codes to the satisfaction of Engineer-in-charge etc. complete.	Running Meter	50.00	111225.00	5561250
83	R2-SWD-57	Providing 12 mm thick cement plaster in cement mortar 1:2 including neat cement rendering with approved water proofing compound (with a proportion as specified by the manufacturer per bag of cement) as specified & as directed by Engineer in Charge	Square Meter	271.00	6650.00	1802150
84	R2-SWD-58	Providing 20 mm thick cement plaster in cement mortar 1:2 including neat cement rendering (without water proofing compound) as specified & as directed by Engineer in Charge.	Square Meter	376.00	6650.00	2500400
85	R2-RT-16-34	Supplying/ fixing of Two Way Raised Pavement Markers made of polycarbonate moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 13635 kg tested in accordance to ASTM D 4280 Type H and complying to Specifications of Category A of MORTH Circular No RW/NH/33023/10-97 – DO III Dt 11.06. 1997 . The minimum reflective area of 13 SqCm on NOS side and the slope to the base shall be 35 +/- 5 degree. Fixing will be without nails but by using epoxy resin based adhesive as per manufacturer's recommendation including site clearance etc and NOS 427 complete as directed by the engineer.'	Each	427.00	156623.00	66878021
86	R2-SWD-25	Providing and placing in position controlled cement Ready Mix Concrete of M-25 grade in raft slab by using ordinary Portland cement including curing by any means, as specified & as directed by Engineer in Charge. (Reinforcement and form work will be paid separately).	Cubic Meter	6979.00	45175.40	315279116.6
87	R2-SWD-30	Providing and placing in position controlled Ready Mix Concrete of M-25 grade in walls, deck slab above or below ground level at any height/depth by using ordinary Portland cement including curing by any means, as specified & as directed by Engineer in Charge. (Reinforcement and form work will be paid separately).	Cubic Meter	8735.00	96107.62	839500071.6
88	R2-SWD-178	Providing & placing in position controlled Ready Mix Concrete of grade M-40 in raft slab by using Ordinary Portland Cement including transportation to site anywhere in Mumbai including curing by any means etc. complete as directed by Engineer in Charge. (Reinforcement & Formwork shall be paid separately).	Cubic Meter	7777.00	16466.58	128060623.8

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
89	R2-SWD-179	Providing & placing in position controlled Ready Mix Concrete of grade M-40 in walls and deck slab above or below ground level at any height / depth by using Ordinary Portland Cement including Transportation anywhere in Mumbai including curing by any means etc complete as directed by Engineer in Charge. (Reinforcement & Formwork shall be paid separately).	Cubic Meter	9569.00	39889.57	381703257.1
90	R2-SWD-76	Providing and laying 450mm dia NP2 Class R.C.C. Hume pipes with Collar joints conforming to IS 458:2003 and laid on approved bedding as per IS 783:1985 (reaff. 2010) including jointing the pipes and filleting with hemp and stiff mix of cement mortar 1:2, including testing of pipes at contractors costs (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer in Charge. (excluding necessary earthwork & bedding)	Meter	2041.00	3681.50	7513941.5
91	R2-SWD-176-A	Providing & Fixing 1.20m X 0.60m clear internal size of M.S. Galvanised hinged type grating and frame (weighing minimum 130 kg) of grade HD20, with minimum 75 microns zinc coating by hot dipped galvanising the MS grating and frame as per IS 2629. (The contractor shall furnish the certificate of galvanising from the Galvaniser.) including testing ,inspection of material sample and finished product as per IS standards and as per Standard Specification no SP-SWD-3 and as per standard drawing , etc complete as specified & as directed by Engineer in Charge.	Nos	17084.00	4374.00	74725416
92	R2-RW-10-37	Providing and fixing of the precast TREE GUARD KERB of M-20 C.C. of height 230mm., width 100mm., Length 400mm.,finished neatly, compacting ,curing, formwork etc. including bedding of M-10 C.C.procured from M.C.G.M.approved R.M.C. plant,10cm.thick, filling of jointing in C.M. 1:2 and painting the exposed surface with 3 coats of road marking paint, Grade I of approved colours and quality including single coat of approved brand primer including excavation in C.C.,asphalt etc. as specified and as directed.	Running Meter	471.07	21040.60	9911595.442
93	R2-RW-2-22	Rebate for not using motor grader / paver for laying of Granular Sub base in R2-RW-2.21.	Cubic Meter	-93.00	130778.25	-12162377.25
94	R2-RW-5-71	Rebate for not using SENSOR PAVER INSTEAD OF ORDINARY PAVER USED for Laying of BITUMINOUS MIXES.	Square Meter	-7.00	1793982.00	-12557874
95	R2-SWD-142	Constructing single water entrance of internal size 0.50m x 0.60m with cast-in-situ coping in M-20 grade, fixing of grating in M -20 as per standard drawings (Dwg No. MCGM/SWD/2013-14), etc complete as specified and as directed by Engineer in Charge. (excluding excavation, providing and fixing of gratings and frame)	Each	11641.00	20763.00	241702083
96	R2-SWD-175-A	Providing & Fixing 0.60m X 0.50m clear internal size of DI hinged type grating and frame (weighing minmum 80 kg) with grade designation of C250 with black bitumen coating to DI gratings & frame confirming to EN124 including testing ,inspection of material sample and finished product as per IS standards and as per Standard Specification no SP-SWD-3 and as per drawing (Dwg No. MCGM/SWD/2013-10), etc complete as specified & as directed by Engineer in Charge.	Each	14786.00	20763.00	307001718
97	R2-RW-10-50	Providing and fixing of cement concrete KerbStone of various grades of size: 500mm width x 325 height x 165mm thick (HalfBatter, BullNose / FullBatter) manufactured in wet press vacuum dewatering technology plant / equivalent with face pimple finish for high visibility with excellent quality and finish and edges perfect and sharp. Grade-M-25includingexcavationinanysoilexceptrock,layingalevelingcourseofM15grade RMC100mmthickto requiredslope(inclusiveofformwork),jointinginC.M.1:2proportionflushtoconcretesurface,paintingexposedsurfacewithonecoatofprimerandtwocoatsof1stgraderoadmarkingpaintintheyellow/white/blackoranyshadeasdirected.(KerbstonesshallbeprocuredfromMCGMregisteredagencies).	Running Meter	1116.00	85243.00	95131188

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
98	R2-RT-16-14	Circular Steel Bollards : Providing, fabricating and fixing circular Steel Bollards of 100mm dia circular Steel Pipe (of type 3F-A-1) as per the design incorporated in the Catalogue of Street Furniture (Vol-II). Published by MCGM, made of 10 Gauge, 304 quality material with minimum nickel content not less than 10% (laboratory testing certificate shall be provided for used material) with steel pedestal and steel cap as per designs (3F-A1), (3F-A1.1), (3FA1.2) and (3F-A1-3) suitable to match the design adopted for surrounding railing including cutting, welding, riveting, polishing. The foundation shall either be with base plate of 200 x 200 x 6mm thick, 16 mm dia J Bolts or embedding pipe in foundation by providing 20mm Dia x 6 nos holdfasts embedded in 1:2:4 concrete as shown in drawing (3F-A1.1). inclusive of making good the damage portion of footpath with matching pavers blocks, tiles removing debris etc. complete as per specifications and as directed by the Engineer.	Nos	16062.00	3526.00	56634612
99	R2-RT-16-02	Providing, fabrication and fixing M.S. railing of 10 Gauge, Dia. 40mm circular railing with Dia. 18 mm circular intermediate support, Dia. 65mm circular main supports with M.S. pedestal (base-I-type) and M.S. cap-(type-I) including cutting, welding, riveting oil painting with navy blue colour or any other approved colour shade as directed and fixing in cement concrete foundation as shown vide Sr.No. 2f-A1 in catalogue of Street Furniture (Vol.I) published by M.C.G.M. including removal of surplus material /debris and restoring damaged portion of footpath, etc. as dire	Meter	7121.00	17032.50	121288432.5
100	CE4-18-96.1-FA2	Providing and laying tactile paving (for visually impaired person), conforming to IS:15622, of approved make in all colours and shades for outdoor floors such as footpth, courtyard, multi-modallocation etc.-size 300 x300x 9.8mm, with water absorption less than 0.5%, laid on 20mm thick base of cement mortar1:4 (1 Cement: 4 coarse sand), in all shapes & patterns, including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-charge.(CPWD)	Square Meter	4422.00	47740.45	211108269.9
101	R2-SE-1-1	Excavation in all types of soils (for sewerage works),such as Earth, Marine clay, Marshy land, Running sand, Garbage, Slush, Murum, Rock boulders etc as directed by the engineer. The rate includes dewatering, backfilling, removing the rank vegetation and removing the excavated materials within a lead of 150M as directed including levelling, ramming,etc complete, and measured from the edge of cutting including all lifts and stacking in layers and removing the surplus excavated materials as directed for lift upto 2M(Records to be maintained properly).The rate also includes supporting public utilities such as cables,drains,pipe water mains, but shall not include the cost of shoring etc as specified and directed. 1) The rate includes the handling/supporting the existing utilities such as cables, drains, pipes, water mains etc. 2) It also includes the royalty and other taxes if any.	Cubic Meter	468.00	59460.00	27827280
102	R2-SE-1-1-j	Extra over above for item no. SE-1-1 to SE-1-1-i for relevant lift of excavation in soft/ disintegrated rock, road carriageway,sand stone, stiff clay, gravel, cobblestone, hard laterite, water bound macadam, wet mix macadam, asphalt mix carpet of any type, pitching, soling, paths and hardcore, lime concrete, plain cement concrete, stone masonry and all types of brick/ block masonry below ground level	Cubic Meter	429.00	2363.00	1013727
103	R2-SE-1-1-A	-do-do- as per item SE-1-1 for lift from 2m to 4.0m	Cubic Meter	638.00	952.00	607376
104	R2-SE-1-4	Providing and removing close shoring and strutting in the trenches/ pits for all depths as per specifications/ drawings and or as directed by Engineer-in-charge by including walling, struts, open poling boards, horizontal sheeting, runners, dog spikes by using timber etc. complete.	Square Meter	715.00	8309.00	5940935
105	R2-CS-EW-26	Providing & Laying dry stone Rubble Soling with average 230 mm size hard stone set in regular lines, handpacked and interstices thoroughly filled with small chips including filling in with good quality murum brought from outside, compacting with iron rammers, watering, sand spreading 12mm thk. layer of grit on top etc complete as directed by Engineer In Charge. (Note: The rate includes the royalty and other taxes if any)	Cubic Meter	2231.00	404.00	901324
106	R2-SE-5-1-B	Providing & laying stoneware pipes of SP2 230mm dia etc.	Meter	1113.00	9356.45	10413728.85
107	R2-SE-2-5	-do- -do- M 15 c.c. For full encasement or cradle -do- -do-	Cubic Meter	7354.00	2339.00	17201006
108	R2-SE-6-2-B	Constructing on sewer brick masonry conical manhole 1.5 M. dia. at bottom and 0.56 M dia. at top including C.I. Extra.Heavy Duty circular air tight frame and cover etc. complete as per description in item No.SE-6-1 depth upto 2.3 M.	Nos	90305.00	163.00	14719715

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
109	R2-SE-6-2-C	Extra for above manhole per metre depth above 2.3M and upto 5 M including safety chain and extra C.I. steps on other side of benching- do-do-	Meter Depth	34099.00	81.00	2762019
110	R2-SE-9-1	Providing R.C.C. Spun vent shaft 7.3 M in height embedded in M15 cement concrete Including flue chamber etc. complete without excavation. The height of the vent shaft to be measured from its bottom upto the top as per the drawing and as specified and directed.	Nos	52114.00	171.00	8911494
111	R2-RW-10-55	Excavation in reinforced OR pavement grade concrete M-20 & above by using modern machinery (poclain with rock breaker, etc.) including with stacking of excavated material within 150 m radius etc. complete upto any depth as specified & as directed, by the Engineer.	Cum	1525.00	6306.00	9616650
112	R2-RT-14.16	Cutting of two rows RCC/PQC carriageway slabs upto slab depth by special RCC Cutting machine (Diamond Cutter) for laying duct with double cut.	Mtr	6650.00	12942.00	86064300
113	R2-RT-15-04	Providing, casting and fixing (any where in city or suburban limit) precast reinforced parabolic dividers in C.C.M 25, Type-5 as per drg. No. EET&C/Gen/013/03/ty dt. 11.12.03 Revised on 15.06.06) including providing, bending, fixing of reinforcement as per drawing, fixing the dividers on site in C.M. 1:2 for cushioning and jointing, filling the gap etween dividers with C.C. M-15, curing, painting the exposed surface with road marking paint grade I (confirming to IS- 164) in two coats of approved colour including xcavation in road portion and removing excavated material as per direction any where in city or suburban limit, cleaning the site etc. as directed by the engineer. The rate is clusive of all lift and leads, transportation required for the work.	Mtr	6403.00	1791.00	11467773
114	R2-CS-EW-7-b	Extra over the items CS-EW-03 to CS-EW-06 for lift from 3m to 4.5m.	Cubic Meter	227.00	905.00	205435
115	R2-BW-5-7-U	Providing & Laying inverted filter behind Abutment & RE wall with suitable thickness.	Cubic Meter	969.00	2351.00	2278119
116	R2-HE-8-25	Removing of existing S.P. fire hydrants and replacing them with new SP fire hydrants with its complete assembly including supplying and jointing the same with spun yarn, molten lead, including caulking etc. complete as directed & as specified by Engineer In harge. (as per IS : 908). Note : The salvage value for old fire hydrant has been considered on per Kg basis.	Nos	15104.00	259.00	3911936
117	R2-RW-3-22	Removing the paver block of any thickness, size and color from Carriageway or footpath and trasporting the same to ward depot or any where in MCGM limit. The paver blocks shall be stacked neatly at specified locations etc. complete as specified and as directed by the engineer.	Sqm	157.00	75371.50	11833325.5
118	R2-RT-16-35	Supplying/ fixing of One Way Raised Pavement Markers made of polycarbonate moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 13635 kg tested in accordance to ASTM D 4280 Type H and complying to Specifications of Category A of MORTH Circular No RW/NH/33023/10-97- DO III Dt 11.06. 1997 . The minimum reflective area of 13 SqCm on NOS side and the slope to the base shall be 35 +/- 5 degree. Fixing will be without nails but by using epoxy resin based adhesive as per manufacturer's recommendation including site clearance etc and complete as directed by the engineer	Each	420.00	12035.00	5054700
119	R2-CS-EW-18	Excavation by using splitters over areas for basements, roads, land/plot developement etc. in hard rock, reinforced concrete, Bituminous macadam for all depths/lifts, including manual dewatering, filling the selected excavated earth at the locations as directed, in layers not more than 200mm thickness, watering, consolidating, compacting to achieve not less then 97% Modified Proctor density conforming to relevant IS, stacking the selected material in measurable heaps for future use within owners space or disposing within an initial lead of 150m as directed, loading, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge. Note: 1) The rate includes the handling/supporting the existing utilities such as cables, drains, pipes, water mains etc. 2) It also includes the royalty and other taxes if any	Cum	3007.00	1800.00	5412600
120	R2-CS-MW-2-C	Brick work with common burnt clay modular bricks of class designation3.5 and above in foundation and plinth in:Cement Mortar 1:6 (1 cement :6 coarse sand)	Cum	5171.00	375.00	1939125

Sr. No.	Item No.	Description	Unit	Rate	Total Quantity	Amount
121	R2-CS-CW-6-a	Providing precast cement concrete Jali of Nominal Mix 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6mm nominal size) reinforced with 1.6 mm dia mild steel wire including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete excluding plastering of the jambs, sills and soffits.	Sq.M.	2734.00	3280.00	8967520
						<b>10739365731.92</b>
					<b>Say</b>	<b>10739365732.00</b>