

**IMPLEMENTATION OF MULTI MODAL INTEGRATION
IN STATIONS OF MUMBAI METRO LINE 3**

PRICE SCHEDULE ABSTRACT

SCHEDULE - B

SCHEDULE	DESCRIPTION	AMOUNT (In INR)
B1	CSMIA T2 Metro Station	1,89,60,246.36
B2	Sahar Road Metro Station	4,03,86,382.88
B3	CSMIA T1 Metro Station	2,58,74,097.44
B4	Santacruz Metro Station	2,10,17,359.46
B5	Bandra Colony Metro Station	1,77,87,447.83
B6	BKC Metro Station	1,65,00,052.29
	Total Amount	14,05,25,586.26

MULTI MODAL INTEGRATION FOR STATIONS ON MUMBAI METRO LINE 3

NAME OF STATION:- ALL STATION

SCHEDULE B

ABSTRACT

COST CENTRE	DESCRIPTION	CSMIA T2 SCH-B1	SAHAR RD SCH-B2	CSMIA T1 SCH-B3	SANTACRUZ SCH-B4	BANDRA COLONY SCH-B5	BKC SCH-B6	TOTAL
A	Excavation and Dismantling	4,07,752.46	11,94,917.45	5,70,155.88	10,17,856.27	10,55,062.23	3,98,776.84	46,44,521.13
B	Storm Water Drain	18,58,712.00	28,99,094.00	14,63,095.00	30,57,106.00	13,26,804.00	16,65,437.00	1,22,70,248.00
C	Footpath,Paver Block and Kerbstone	45,93,510.73	1,04,46,152.34	52,17,088.76	51,84,832.65	32,07,885.53	22,76,699.56	3,09,26,169.58
D	Lane Marking	-	-	-	-	-	-	-
E	Street Furniture	87,78,466.00	1,67,22,258.00	1,45,22,566.00	66,32,944.00	88,55,054.00	81,95,974.00	6,37,07,262.00
F	Signages	7,28,201.00	15,42,563.80	6,65,856.40	7,49,589.60	8,62,802.00	8,53,320.40	54,02,333.20
G	Barricading during construction	2,71,000.00	2,71,000.00	2,71,000.00	2,71,000.00	2,71,000.00	2,71,000.00	16,26,000.00
H	Ramps	2,59,660.17	19,73,932.29	1,74,720.40	4,22,412.94	4,01,409.46	1,85,204.49	34,17,339.74
I	Street Light	-	-	-	-	4,44,579.62	-	4,44,579.62
J	Miscellaneous	20,62,944.00	53,36,465.00	29,89,615.00	36,81,618.00	13,62,851.00	26,53,640.00	1,80,87,133.00
	Total Amount	1,89,60,246.36	4,03,86,382.88	2,58,74,097.44	2,10,17,359.46	1,77,87,447.83	1,65,00,052.29	14,05,25,586.26

Note-1. Reference mentioned As per relevant to MCGM/PWD/CPWD & MoRT&H Specification

2. Approach road,Casting of drain and laying of related utilities are not considered in BOQ,should be considered in station development activities.

MULTI MODAL INTEGRATION FOR STATIONS ON MUMBAI METRO LINE 3						
NAME OF STATION:- CSMIA T2						
SCHEDULE B-1						
BOQ / SOR						
SR. NO.	Reference	ITEM DESCRIPTION	UNIT	RATE	FINAL QTY	AMOUNT
Cost Centre A: Excavation and Dismantling						
1	MCGM USOR R3-RW-4-03	Removing existing kerb stones, cleaning off old mortar, carting away up to a distance of 2 K.M. and stacking the same as directed.	RMT	42.00	652.71	27413.82
2	MCGM USOR R3-RW-3-22	Removing the paver blocks of any thickness, size, & colour from carriage way OR footpath & transporting the same to ward depot OR any where in MCGM limit. The paver blocks shall be stacked neatly at specified location etc. complete as specified and as directed by the Engineer.	SQM	193.00	1319.65	254692.45
3	PWD-2.11 MORTH 301	Excavation for roadway in earth, soil of all sorts, sand, gravel or soft murum including dressing section to the required grade, camber and side slopes and conveying the excavated materials with all lifts upto a lead of 50m. and spreading for embankment or stacking as directed.	CUM	124.95	197.948	24733.6026
4	MCGM BLDG R3-CS-DD-53	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all loads including all lifts involved.	CUM	109.00	197.948	21576.332
5	MCGM USOR R3-RW-7-01	Removing & refixing traffic regulatory boards/busstop boards/street name boards etc. in M-10 cement concrete, complete as directed.	EA	1017.00	12	12204
6	MCGM USOR R3-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.	CUM	1703.00	39.42	67132.26
Sub Total						407752.4646
Cost centre B: Storm Water Drains						
7	MCGM USOR R3-RW-6-03	Raising or lowering circular manholes to the required level upto 20 cm including all material, form work etc. with 16 cm thick cement concrete M-15 (1:2:4) coping under frame and cover of manhole, including curing etc. complete as specified and as directed	EA	1435.00	5	7175
8	MCGM USOR R3-RW-6-05	Raising or lowering rectangular manholes to the required level upto 30 cm including all materials, form work, brick work and with 16 cm thick M-15 cement concrete coping under frame & cover of manhole including curing etc. complete, as specified and as directed.	EA	2803.00	167	468101
9	MCGM USOR R3-SWD-74	Providing and laying 300 mm 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 contractor's costs (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer-in-Charge.	MTR	964.00	200	192800
10	MCGM USOR R3-SWD-183	Supplying and fixing 1.20m x 0.90m (2 nos of 0.60m x 0.90m) internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 300 kg.) of material grade SG-500/7 as per IS 1865-1991 with grade designation of C250 as per EN 124, specification no 3, including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer-in-Charge.	NOS	57686.00	18	1038348
11	MCGM USOR R3-SWD-119	Providing and Constructing brick masonry inspection chamber rectangular 0.9 M x 0.60 M and 0.6 m deep on sewer with 230 mm 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 230 mm. 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 rectangular frame and cover of size 0.90 m x 0.45 m weighing minimum 270 kg. resting on 300 mm high C.C. cap in M 20 with (1:1) with cement plaster on both sides and necessary C.I. steps (weighing 5.40 kg each) staggered at 300 mm c/c including 75 mm wide vata all around 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.	EA	42303.00	2	84606
12	MCGM USOR R3-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-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991 including testing as per CL 10 .	EA	33841.00	2	67682
Sub Total						1858712

Cost centre C: Footpaths, Paver Blocks & Kerbstones						
13	MCGM USOR R3- RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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 75mm to 75mm micron as per MCGM Road Specifications clause no.210).	CUM	2702.00	301.14	813680.28
14	MCGM USOR R3- RW-3-31	Providing & fixing in the carriageway /footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color,having average crushing strength not less than 40N/mm ² as per technical specifications and ISCODE15658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thickand consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc.complete as specified and as directed by the Engineer.	SQM	908.00	2252.77	2045515.16
15	MCGM USOR R3- RW-10-54	Providing and fixing of the precast kerb stone of height 325mm., base width 165mm., top width 115mm.in M20grade RMC supplied through MCGM approved plant or concrete mixed with use of weigh batch mixers as detailed in drawing u/No.Dy.Ch.E./Rds/93 /E.S. of 17 / 8 / 2005 ,excavation in any soil except rock, laying a leveling course of M 15 grade RMC 100mm. thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface, painting exposed surface with one coat of primer and two coats of 1st grade road marking paint in the yellow/white/black or any shade as directed. (Kerbstones shall be procured from MCGM registered agencies).	MTR	549.00	0	0
16	CPWD-DAR- 2023-16.90	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (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.	SQM	1663.72	648.09	1078240.295
17	MCGM USOR R3- RW-10-45	Providing and fixing of Water Dished Channel size : 600 x 300 x 80mm, 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 M-15 grade RMC 100 mm thick to required slope (inclusive of form work) jointing in 1:2 C:M. prop. flush to concrete surfaces as directed (Watertables shall be procured from BMC registered agencies).	MTR	805.00	815	656075
Sub Total						4593510.735

Cost Centre D: Lane Markings						
18	MCGM Traffic R3- 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	SQM	955.00	0	0
19	MCGM Traffic R3- 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	1668.00	0	0
20	PWD-6.12b MORTH 301	Providing and applying Cold plastic paint two component rolled on surfacing material solvent free, high build two pack seamless, tough, skidresistant, material with has property of attaining 2.00 mm thickness in single coat application white (or as required colour) based on glass and colour retaining acrylic cross linking resin system for coloured road surfacing including surface cleaning and cost of all material etc. complete. (All inclusive on bitumen or concrete surface) work shall carried out as per IRC 35-2015 clause 2.2	SQM	1591.80	0	0
Sub Total						0
Cost Centre E: Street Furniture						
21	MCGM Traffic R3- 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	19147.00	128	2450816
22	MCGM Garden GW-3- 2-f	Ss Dust Bin (Refer sketch 10) Product area:0.76Sqm, Capacity in ltrs: 42.0 ltrs, Product height:0.92m	NOS	17265.00	0	0
23	MCGM Traffic R2-RT- 16-06	Providing, fabrication and fixing Stainless Steel railing of 10 gauge of 304 grade stainless steel having minimum nickel content 10% (Laboratory testing certificate shall be provided for used material), dia. 40mm circular pipe railing with dia. 18mm circular intermediate support, dia. 65mm circular main supports with Stainless Steel pedestal (base-I type) and Stainless Steel cap (type- I) including cutting, welding, riveting, polishing 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 directed.(with advertisement)	MTR	18079.00	350	6327650
Sub Total						8778466
Cost Centre F: Signages						
24	MCGM Traffic R3- RT-16-27	Providing, Fabricating, Erecting on site Facility Sign Boards (Taxi Stand/Police Station/Petrol Pump/Hospital and any other utilities) as per drawing no Facility Sign Drawing F1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mmx800mm. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	17598.00	0	0
25	MCGM Traffic R3- RT-16-25	Mandatory Board (600mm dia) hanging on pole – Providing, Fabricating, Erecting on site Mandatory & Cautionary Boards (of type 1S-A-3). As per the design incorporated in Street Furniture catalogue volume-II published by M.C.G.M., Signage plaque (box) shall be of size 600mm dia. Mounted on existing electrical pole with GL clamp. The box shall be made of 4mm thick fibre reinforced plastic box covering both sides of pole. The circumferential edge shall be closed with 3 mm thick FRP. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years shown in the drawing complete as per specification and as directed by the Engineer.	NOS	9765.00	0	0

26	MCGM Traffic R3- RT-16-23	<p>Providing, Fabricating, Erecting on site Mandatory Boards as per drawing no Mandatory Sign Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm dia. The box shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. work complete as per specifications and as directed by the Engineer.</p>	NOS	12624.00	10	126240
27	MCGM Traffic R3- RT-16-21	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-21, Vertical poles shall be made of ISMC of 150x75 hot dip galvanised post, Signage plaque (box) shall be of size 1200mm x 1800mm made of hot dip galvanised ISMC 75mm x 40mm & bracing of 50x6mm hot dip galvanised channel. The sign board box shall be covered with 4 mm aluminum composite panel on both sides of the box assembly & shall be fixed to the vertical pole. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted using electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. Complete as per specification and direction by the Engineer. NOS 52403</p>	NOS	79576.00	0	0
28	MCGM Traffic R3- RT-16-24	<p>Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 900mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.</p>	NOS	17030.00	0	0

29	MCGM Traffic R3- RT-16-43	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2. Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	14384.00	20	287680
30	MCGM Traffic FA- TR-07	Providing and Fixing Single Arrow Street Name Sign Board of size 1600mm x 900mm made out of retro reflective sheeting of micro prismatic grade conforming to IRC-67:2012 & Type XI standards of ASTM D4956-09 specifications, fixed over 4mm thick ACP sheet supported with Back support frame of 25x25x3mm stainless steel angle of 304 grade, supported on a stainless steel pipe of 73.03 OD, 2.11 mm thk of 304 grade & surrounded by SS pipe of 38.10mm OD, 1.2 mm thk of 304 grade, firmly fixed to the ground by means of properly designed foundation with M20 grade cement concrete 45 cm X 45 cm X 60 cm, 60 cm below ground level as per approved drawing. The messages (Legends, letter, numerals etc) and borders shall either be screen printed or of cut out from durable Transparent overlay film or cut out from same type of reflective sheeting as per Type XI standards. Specification: as per IRC 67:2012. 10 years Warranty for Retro Reflective Sheeting from the original sheeting manufacturer & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be submitted by the contractor. (Bottom of the board shall be 900mm above ground level) Specification: IRC 67:2012. There shall be a stamp behind the ACP sheet carrying the name of the supplier, Name of sheeting Manufacturer, Type of retro reflective sheeting, Installation month & year as per clause 12.2 of IRC 67-2012.	NOS	32971.40	5	164857
31	MCGM Traffic FA- TR-13	Providing, Fabricating, Erecting on site Stop Sign Boards as per drawing no F2. Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm Octagon with red background & white lettering. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 3 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer	NOS	12452.00	12	149424
32	MCGM Traffic FA- TR-14	Providing, Fabricating, Erecting on site Toilet Indication Sign Boards as per drawing no F2. Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 1050mmx600mm with fluorescent background & 300mm circle above the toilet sign. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 4 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	12063.70	0	0
Sub Total						728201

Cost Centre G: Barricading during time of construction						
33	MCGM USOR R3- RW-7-36	Barricading the trenches on traffic flow side with 1.60 mtr. Height M.S.Angle post of 50 x 50 x 5 mm. buried in half the depth in drum of 20 ltrs. Capacit by 1:3:6 concrete spaced at 2.25 m centre to centre with 22 guage G.I. corrugated sheet of size 2.40 x 0.75 m. bolted to the M.S. Angle post and painted in yellow and black band with synthetic enamel paint as per traffic norms and as directed by the Engineers.	MTR	271.00	1000	271000
					Sub Total	271000
Cost Centre H: Ramps						
34	MCGM USOR R3- RW-10-29	Providing & laying M-40 C.C.avg. compressive strength (As per IRC 15-2002.N.1.6) procured from B.M.C. approved R.M.C. plant including use of approved make of plasticizer/ retarder & Contractor's water with ice flakes (if required) and transported by transit mixer and placing at work site. Compacting, finishing, initial curing by approved curing compound & Contractor's water and tarring the sides of slab with hot bitumen as specified and directed (w/c ratio 0.4 maximum)(vata for curring will be paid separately.) (MINIMUM CEMENT CONTENT 350 kg/m³)	CUM	7962.00	0	0
35	MCGM USOR R3- RW-3-32	Providing & fixing in the carriageway, 80 mm thick Heritage paver interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown lamem colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength 50 N/mm² manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consist cubical shape stone aggregate 8 mm sieve 100% passing and retain on 4.75 mm size sieve , silica sand and with pure iron oxide ultra violete stabilized pigment @ 5% by weight of cement . The bottom layer should be 65 to 68 mm thick in gray cement having 12 mm sieve 100% passing aggregate as per technical specification rested on average 25 mm compacted thickness of uniformly graded river sand cushioning, compacted by proper capacity mechanical compactor with proper level grade and camber etc. complete as specified and as directed by the Engineer.	SQM	977.00	81.4	79527.8
36	MCGM USOR R3- RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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 75mm to 75mm micron as per MCGM Road Specifications clause no.210). (For Tabletop)	CUM	2702.00	26.8575	72568.965
37	MCGM USOR R3-RT 15-11	Fixing c.c tapered kerbs of type -2 as per Drg. EET&C/Gen/013/03Ty dt 11.12.03(Revised on 15.06.2006) available on site in C.M 1:2 painting the exposed surface of the kerbs with road marking paint grade-I (confirming to IS- 164) in two coats of approved colour including excavation (For Tabletop) in any material except rock / concrete road and removing excavated material as per direction any where in city or suburban limit, cleaning the site etc as directed by engineer , The rate is inclusive of all lift and leads etc complete as directed	MTR	476.00	39.7	18897.2
38	MCGM USOR R3- RW-3-31	Providing & fixing in the carriageway /footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color, having average crushing strength not less than 40N/mm² as per technical specifications and ISCODE15658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thickand consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc.complete as specified and as directed by the Engineer.	SQM	908.00	97.65	88666.2
					Sub Total	259660.165

Cost Centre J: Miscelenous						
39	R3-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 Sq.Cm on each 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.'	NOS	433.00	1209	523497
40	R3-RT-16-36	Supplying/ fixing of Flexible Median Marker which shall be made of tough, high impact resistant, injection moulded, thermoplastic body with U shape structure with overall eight of minimum 180mm and shank depth of minimum 30mm and thickness not less than 2mm. The exposed body structure should be cornered rounded for better aesthetics. The outer part of the body shall have the Abrasion loss not less than 35 mm3 when tested accordance with DIN53505 and DIN53516 respectively and shall retain at least 70% of this value when it is subjected to accelerated weathering for 500hrs as per the ASTM G155 standard. The logo of the manufacturer shall be embossed on either side of the body in the injection moulding process. - The flexible median marker shall have U shaped florescent yellow colour retro-reflective sheeting with minimum exposed reflective area 285 mm2. The reflective sheeting should confirm to Type XI Florescent Yellow sheeting as per IRC 67 2022 and ASTM D4956-11.	NOS	437.00	0	0
41	R3-RW-7-18	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 any type divider with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	SQM	170.00	0	0
42	R3-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 kerb stone with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	MTR	59.00	1084	63956
43	R3-RT-16-44	Providing and fixing rumblers of rubberised material	MTR	1472.00	513	755136
44	R3-ME-2-22-d	Supply & Laying of double wall corrugated (DWC) pipes of 90 mm OD / 76 mm I.D. HDPE for underground cable protection as per IS 14930 Part II. With necessary connecting socket/couplings, tees of some material at required depth up to 900 mm below road ground surface. backfilling of with light ramming is included in the scope.	MTR	291.00	300	87300
45	R3-RW-10-25	P/L R.M.C.M-20 C.C. procured from B.M.C. approved R.M.C. plant including use of approved makes of plasticizer/ retarder & transported by transit mixer & placing at worksite, compacting, finishing curing etc. by contractor's water & tarring the sides of form work with hot bitumen as specified & directed by the Engineer. (MINIMUM CEMENT CONTENT 260 Kg/m³.) (For Tree Bunds &	CUM	6489.00	15	97335
46	As per MMRDA Tender Document	Providing traffic wardens for regulation of traffic during construction as per the requirement of traffic police, etc. complete and as directed by Engineer-incharge.	NOS	300.00	180	54000
47	R3-RT-16-28	Circular treeguard:Providing, fabrication and fixing M.S.Circular treeguard with circular pipe of 10 gauge, 50mm Dia Circular vertical post 40 mm Dia Horizontal support 18mm Dia. intermediate support with M.S. cap-(type-I) logo panel etc. including cutting welding, riveting, oil painting with navy blue colour or anyother approved colour shade as directed and fixing incement concrete foundation including cement concrete paver block lining including removal of surplus material/debris and restoring damaged portion of footpath etc. as directed. (Design details vide Drg.No.4F-A1.1, 4F- A1.2,A1.3 in the catalogue of street Furniture (Vol.I) published by B.M.C.)	NOS	19076.00	20	381520
48	R3-RW-10-33	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 B.M.C. 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.	MTR	501.00	200	100200
Sub Total						2062944
GRAND TOTAL						1,89,60,246.36

MULTI MODAL INTEGRATION FOR STATIONS ON MUMBAI METRO LINE 3						
NAME OF STATION:- SAHAR ROAD						
SCHEDULE B-2						
BOQ / SOR						
SR. NO.	Reference	ITEM DESCRIPTION	UNIT	RATE	FINAL QTY	AMOUNT
Cost Centre A: Excavation and Dismantling						
1	MCGM USOR R3-RW-4-03	Removing existing kerb stones, cleaning off old mortar, carting away up to a distance of 2 K.M. and stacking the same as directed.	RMT	42.00	1588.25	66706.5
2	MCGM USOR R3-RW-3-22	Removing the paver blocks of any thickness, size, & colour from carriage way OR footpath & transporting the same to ward depot OR any where in MCGM limit. The paver blocks shall be stacked neatly at specified location etc. complete as specified and as directed by the Engineer.	SQM	193.00	4785.03	923510.79
3	PWD-2.11 MORTH 301	Excavation for roadway in earth, soil of all sorts, sand, gravel or soft murum including dressing section to the required grade, camber and side slopes and conveying the excavated materials with all lifts upto a lead of 50m. and spreading for embankment or stacking as directed.	CUM	124.95	717.755	89683.48725
4	MCGM BLDG R3-CS-DD-53	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all loads including all lifts involved.	CUM	109.00	717.755	78235.295
5	MCGM USOR R3-RW-7-01	Removing & refixing traffic regulatory boards / busstop boards / street name boards etc. in M-10 cement concrete, complete as directed.	EA	1017.00	22	22374
6	MCGM USOR R3-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.	CUM	1703.00	8.46	14407.38
Sub Total						1194917.452
Cost centre B: Storm Water Drains						
7	MCGM USOR R3-RW-6-03	Raising or lowering circular manholes to the required level upto 20 cm including all material, form work etc. with 16 cm thick cement concrete M-15 (1:2:4) coping under frame and cover of manhole, including curing etc. complete as specified and as directed	EA	1435.00	10	14350
8	MCGM USOR R3-RW-6-05	Raising or lowering rectangular manholes to the required level upto 30 cm including all materials, form work, brick work and with 16 cm thick M-15 cement concrete coping under frame & cover of manhole including curing etc. complete, as specified and as directed.	EA	2803.00	540	1513620
9	MCGM USOR R3-SWD-74	Providing and laying 300 mm 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 filletting with hemp and stiff mix of cement mortar 1:2, including testing of pipes at contractor's costs (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer-in-Charge.	MTR	964.00	350	337400
10	MCGM USOR R3-SWD-183	Supplying and fixing 1.20m x 0.90m (2 nos of 0.60m x 0.90m) internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 300 kg.) of material grade SG-500/7 as per IS 1865-1991 with grade designation of C250 as per EN 124, specification no 3, including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer-in-Charge.	NOS	57686.00	10	576860
11	MCGM USOR R3-SWD-119	Providing and Constructing brick masonry inspection chamber rectangular 0.9 M x 0.60 M and 0.6 m deep on sewer with 230 mm 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 230 mm. 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 rectangular frame and cover of size 0.90 m x 0.45 m weighing minimum 270 kg. resting on 300 mm high C.C. cap in M 20 with (1:1) with cement plaster on both sides and necessary C.I. steps (weighing 5.40 kg each) staggered at 300 mm c /c including 75 mm wide vata all around 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.	EA	42303.00	6	253818
12	MCGM USOR R3-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-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991 including testing as per CL 10 .	EA	33841.00	6	203046
Sub Total						2899094

Cost Centre C: Footpaths, Paver Blocks & Kerbstones						
13	MCGM USOR R3- RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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 75mm to 75mm micron as per MCGM Road Specifications clause no.210).	CUM	2702.00	718.716	1941970.632
14	MCGM USOR R3- RW-3-31	Providing & fixing in the carriageway /footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color,having average crushing strength not less than 40N/mm ² as per technical specifications and ISCODE15658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thickand consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc.complete as specified and as directed by the Engineer.	SQM	908.00	5424.25	4925219
15	MCGM USOR R3- RW-10-54	Providing and fixing of the precast kerb stone of height 325mm., base width 165mm., top width 115mm.in M20grade RMC supplied through MCGM approved plant or concrete mixed with use of weigh batch mixers as detailed in drawing u/No.Dy.Ch.E./Rds/93 /E.S. of 17 / 8 / 2005 ,excavation in any soil except rock, laying a leveling course of M 15 grade RMC 100mm. thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface, painting exposed surface with one coat of primer and two coats of 1st grade road marking paint in the yellow/white/black or any shade as directed. (Kerbstones shall be procured from MCGM registered agencies).	MTR	549.00	0	0
16	CPWD-DAR- 2023-16.90	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (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.	SQM	1663.72	1183.47	1968962.708
17	MCGM USOR R3- RW-10-45	Providing and fixing of Water Dished Channel size : 600 x 300 x 80mm, 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 M-15 grade RMC 100 mm thick to required slope (inclusive of form work) jointing in 1:2 C:M. prop. flush to concrete surfaces as directed (Watertables shall be procured from BMC registered agencies).	MTR	805.00	2000	1610000
Sub Total						10446152.34

Cost Centre D: Lane Markings						
18	MCGM Traffic R3- 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	SQM	955.00	0	0
19	MCGM Traffic R3- 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	1668.00	0	0
20	PWD-6.12b MORTH 301	Providing and applying Cold plastic paint two component rolled on surfacing material solvent free, high build two pack seamless, tough, skidresistant, material with has property of attaining 2.00 mm thickness in single coat application white (or as required colour) based on glass and colour retaining acralic cross linking resin system for coloured road surfacing including surface cleaning and cost of all material etc. complete. (All inclusive on bitumen or concrete surface) work shall carried out as per IRC 35-2015 clause 2.2	SQM	1591.80	0	0
Sub Total					0	
Cost Centre E: Street Furniture						
21	MCGM Traffic R3- 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	19147.00	524	10033028
22	MCGM Garden GW- 3-2-f	Ss Dust Bin (Refer sketch 10) Product area:0.76Sqm, Capacity in ltrs: 42.0 ltrs, Product height:0.92m	NOS	17265.00	0	0
23	MCGM Traffic R2- RT-16-06	Providing, fabrication and fixing Stainless Steel railing of 10 gauge of 304 grade stainless steel having minimum nickel content 10% (Laboratory testing certificate shall be provided for used material), dia. 40mm circular pipe railing with dia. 18mm circular intermediate support, dia. 65mm circular main supports with Stainless Steel pedestal(base-I type) and Stainless Steel cap (type- I) including cutting, welding, riveting, polishing 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 directed.(with advertisement)	MTR	18079.00	370	6689230
Sub Total					16722258	
Cost Centre F: Signages						
24	MCGM Traffic R3- RT-16-27	Providing, Fabricating, Erecting on site Facility Sign Boards (Taxi Stand/Police Station/Petrol Pump/Hospital and any other utilities) as per drawing no Facility Sign Drawing F1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mmx800mm. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The refecton count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	17598.00	0	0
25	MCGM Traffic R3- RT-16-25	Mandatory Board (600mm dia) hanging on pole – Providing, Fabricating, Erecting on site Mandatory & Cautionary Boards (of type 1S-A-3). As per the design incorporated in Street Furniture catalogue volume–II published by M.C.G.M., Signage plaque (box) shall be of size 600mm dia. Mounted on existing electrical pole with GL clamp. The box shall be made of4mm thick fibre reinforced plastic box covering both sides of pole. The cirCUMferential edge shall be closed with 3 mm thick FRP. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film. The reflectivity of sheet shall have guarantee of10years. The reflection count shall not be less than 80% of its original reflection after10years shown in the drawing complete as per specification and as directed by the Engineer.	NOS	9765.00	0	0

26	MCGM Traffic R3- RT-16-23	Providing, Fabricating, Erecting on site Mandatory Boards as per drawing no Mandatory Sign Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm dia. The box shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. work complete as per specifications and as directed by the Engineer.	NOS	12624.00	30	378720
27	MCGM Traffic R3- RT-16-21	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-21, Vertical poles shall be made of ISMC of 150x75 hot dip galvanised post, Signage plaque (box) shall be of size 1200mm x 1800mm made of hot dip galvanised ISMC 75mm x 40mm & bracing of 50x6mm hot dip galvanised channel. The sign board box shall be covered with 4 mm aluminum composite panel on both sides of the box assembly & shall be fixed to the vertical pole. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted using electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. Complete as per specification and direction by the Engineer. NOS 52403	NOS	79576.00	0	0
28	MCGM Traffic R3- RT-16-24	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 900mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	17030.00	10	170300
29	MCGM Traffic R3- RT-16-43	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	14384.00	32	460288

30	MCGM Traffic FA- TR-07	Providing and Fixing Single Arrow Street Name Sign Board of size 1600mm x 900mm made out of retro reflective sheeting of micro prismatic grade conforming to IRC-67:2012 & Type XI standards of ASTM D4956-09 specifications, fixed over 4mm thick ACP sheet supported with Back support frame of 25x25x3mm stainless steel angle of 304 grade, supported on a stainless steel pipe of 73.03 OD., 2.11 mm thk of 304 grade & surrounded by SS pipe of 38.10mm OD, 1.2 mm thk of 304 grade, firmly fixed to the ground by means of properly designed foundation with M20 grade cement concrete 45 cm X 45 cm X 60 cm , 60 cm below ground level as per approved drawing. The messages (Legends , letter , numerals etc) and borders shall either be screen printed or of cut out from durable Transparent overlay film or cut out from same type of reflective sheeting as per Type XI standards. Specification: as per IRC 67:2012. 10 years Warranty for Retro Reflective Sheeting from the original sheeting manufacturer & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be submitted by the contractor . (Bottom of the board shall be 900mm above ground level) Specification: IRC 67:2012. There shall be a stamp behind the ACP sheet carrying the name of the supplier, Name of sheeting Manufacturer, Type of retro reflective sheeting, Installation month & year as per clause 12.2 of IRC 67-2012.	NOS	32971.40	6	197828.4
31	MCGM Traffic FA- TR-13	Providing, Fabricating, Erecting on site Stop Sign Boards as per drawing no F2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm Octagon with red background & white lettering. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 3 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer	NOS	12452.00	25	311300
32	MCGM Traffic FA- TR-14	Providing, Fabricating, Erecting on site Toilet Indication Sign Boards as per drawing no F2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 1050mmx600mm with fluorescent background & 300mm circle above the toilet sign. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 4 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	12063.70	2	24127.4
Sub Total						1542563.8
Cost Centre G: Barricading during time of construction						
33	MCGM USOR R3- RW-7-36	Barricading the trenches on traffic flow side with 1.60 mtr. Height M.S. Angle post of 50 x 50 x 5 mm. buried in half the depth in drum of 20 ltrs. Capacity 1:3:6 concrete spaced at 2.25 m centre to centre with 22 gauge G.I. corrugated sheet of size 2.40 x 0.75 m. bolted to the M.S. Angle post and painted in yellow and black band with synthetic enamel paint as per traffic norms and as directed by the Engineers.	MTR	271.00	1000	271000
Sub Total						271000
Cost Centre H: Ramps						
34	MCGM USOR R3- RW-10-29	Providing & laying M-40 C.C. avg. compressive strength (As per IRC 15-2002.N.1.6) procured from B.M.C. approved R.M.C. plant including use of approved make of plasticizer/retarder & Contractor's water with ice flakes (if required) and transported by transit mixer and placed at work site. Compacting, finishing, initial curing by approved curing compound & Contractor's 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	CUM	7962.00	0	0

35	MCGM USOR R3- RW-3-32	Providing & fixing in the carriageway, 80 mm thick Heritage paver interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown lamena colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength 50 N/mm ² manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consist cubical shape stone aggregate 8 mm sieve 100% passing and retain on 4.75 mm size sieve , silica sand and with pure iron oxide ultra voilette stabilized pigment @ 5% by weight of cement . The bottom layer should be 65 to 68 mm thick in gray cement having 12 mm sieve 100% passing aggregate as per technical specification rested on average 25 mm compacted thickness of uniformly graded river sand cushioning, compacted by proper capacity mechanical compactor with proper level grade and camber etc. complete as specified and as directed by the Engineer.	SQM	977.00	1102.6	1077240.2
36	MCGM USOR R3- RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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 75mm to 75mm micron as per MCGM Road Specifications clause no.210). (For Tabletop)	CUM	2702.00	192.795	520932.09
37	MCGM USOR R3- RT-15-11	Fixing c.c tapered kerbs of type -2 as per Drg. EET&C/Gen/013/03Ty dt 11.12.03(Revised on 15.06.2006) available on site in C.M 1:2 painting the exposed surface of the kerbs with road marking paint grade-I (confirming to IS- 164) in two coats of approved colour including excavation (For Tabletop) in any material except rock / concrete road and removing excavated material as per direction any where in city or suburban limit, cleaning the site etc as directed by engineer , The rate is inclusive of all lift and leads etc complete as directed	MTR	476.00	440.9	209868.4
38	MCGM USOR R3- RW-3-31	Providing & fixing in the carriageway /footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color,having average crushing strength not less than 40N/mm ² as per technical specifications and ISCODE I5658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc.complete as specified and as directed by the Engineer.	SQM	908.00	182.7	165891.6
Sub Total						1973932.29
Cost Centre J: Miscelenous						
39	R3-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 Sq.Cm on each 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.'	NOS	433.00	2946	1275618
40	R3-RT-16-36	Supplying/ fixing of Flexible Median Marker which shall be made of tough, high impact resistant, injection moulded, thermoplastic body with U shape structure with overall eight of minimum 180mm and shank depth of minimum 30mm and thickness not less than 2mm. The exposed body structure should be cornered rounded for better aesthetics. The outer part of the body shall have the Abrasion loss not less than 35 mm3 when tested accordance with DIN53505 and DIN53516 respectively and shall retain at least 70% of this value when it is subjected to accelerated weathering for 500hrs as per the ASTM G155 standard. The logo of the manufacturer shall be embossed on either side of the body in the injection moulding process. - The flexible median marker shall have U shaped florescent yellow colour retro-reflective sheeting with minimum exposed reflective area 285 mm2. The reflective sheeting should confirm to Type XI Florescent Yellow sheeting as per IRC 67 2022 and ASTM D4956-11.	NOS	437.00	0	0
41	R3-RW-7-18	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 any type divider with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	SQM	170.00	0	0

42	R3-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 kerb stone with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	MTR	59.00	467	27553
43	R3-RT-16-44	Providing and fixing rumblers of rubberised material	MTR	1472.00	1436	2113792
44	R3-ME-2-22-d	Supply & Laying of double wall corrugated (DWC) pipes of 90 mm OD / 76 mm I.D. HDPE for underground cable protection as per IS 14930 Part II. With necessary connecting socket/couplings, tees of some material at required depth up to 900 mm below road ground surface. backfilling of with light ramming is included in the scope.	MTR	291.00	300	87300
45	R3-RW-10-25	P/L R.M.C.M-20 C.C. procured from B.M.C. approved R.M.C. plant including use of approved makes of plasticizer/ retarder & transported by transit mixer & placing at worksite, compacting, finishing curing etc. by contractor's water & tarring the sides of form work with hot bitumen as specified & directed by the Engineer. (MINIMUM CEMENT CONTENT 260 Kg/m³.) (For Tree Bunds &	CUM	6489.00	8	51912
46	As per MMRDA Tender Document	Providing traffic wardens for regulation of traffic during construction as per the requirement of traffic police, etc. complete and as directed by Engineer-incharge.	NOS	300.00	180	54000
47	R3-RT-16-28	Circular treeguard:Providing, fabrication and fixing M.S.Circular treeguard with circular pipe of 10 gauge, 50mm Dia Circular vertical post, 40 mm Dia Horizontal support 18mm Dia. intermediate support with M.S. cap-(type-I) logo panel etc. including cutting welding, riveting, oil painting with navy blue colour or anyother approved colour shade as directed and fixing incement concrete foundation including cement concrete paver block lining including removal of surplus material/debris and restoring damaged portion of footpath etc. as directed. (Design details vide Drg.No.4F-A1.1, 4F- A1.2,A1.3 in the catalogue of street Furniture (Vol.I) published by B.M.C.)	NOS	19076.00	75	1430700
48	R3-RW-10-33	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 B.M.C. 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.	MTR	501.00	590	295590
Sub Total						5336465
GRAND TOTAL						4,03,86,382.88

MULTI MODAL INTEGRATION FOR STATIONS ON MUMBAI METRO LINE 3						
NAME OF STATION:- CSMIA T1						
SCHEDULE B-3						
BOQ / SOR						
SR. NO.	Reference	ITEM DESCRIPTION	UNIT	RATE	FINAL QTY	AMOUNT
Cost Centre A: Excavation and Dismantling						
1	MCGM USOR R3-RW-4-03	Removing existing kerb stones, cleaning off old mortar, carting away up to a distance of 2 K.M. and stacking the same as directed.	RMT	42.00	427.47	17953.74
2	MCGM USOR R3-RW-3-22	Removing the paver blocks of any thickness, size, & colour from carriage way OR footpath & transporting the same to ward depot OR any where in MCGM limit. The paver blocks shall be stacked neatly at specified location etc. complete as specified and as directed by the Engineer.	SQM	193.00	2272.95	438679.35
3	PWD-2.11 MORTH 301	Excavation for roadway in earth, soil of all sorts, sand, gravel or soft murum including dressing section to the required grade, camber and side slopes and conveying the excavated materials with all lifts upto a lead of 50m. and spreading for embankment or stacking as directed.	CUM	124.95	340.943	42600.82785
4	MCGM BLDG R3-CS-DD-53	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all loads including all lifts involved.	CUM	109.00	340.943	37162.787
5	MCGM USOR R3-RW-7-01	Removing & refixing traffic regulatory boards/busstop boards/street name boards etc. in M-10 cement concrete, complete as directed.	EA	1017.00	13	13221
6	MCGM USOR R3-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.	CUM	1703.00	12.06	20538.18
					Sub Total	570155.8849
Cost centre B: Storm Water Drains						
7	MCGM USOR R3 RW-6-03	Raising or lowering circular manholes to the required level upto 20 cm including all material, form work etc. with 16 cm thick cement concrete M-15 (1:2:4) coping under frame and cover of manhole, including curing etc. complete as specified and as directed	EA	1435.00	8	11480
8	MCGM USOR R3 RW-6-05	Raising or lowering rectangular manholes to the required level upto 30 cm including all materials, form work, brick work and with 16 cm thick M-15 cement concrete coping under frame & cover of manhole including curing etc. complete, as specified and as directed.	EA	2803.00	165	462495
9	MCGM USOR R3 SWD-74	Providing and laying 300 mm 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 hump and stiff mix of cement mortar 1:2, including testing of pipes at contractor's costs (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer-in-Charge.	MTR	964.00	150	144600
10	MCGM USOR R3 SWD-183	Supplying and fixing 1.20m x 0.90m (2 nos of 0.60m x 0.90m) internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 300 kg.) of material grade SG-500/7 as per IS 1865-1991 with grade designation of C250 as per EN 124, specification no 3, including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer-in-Charge.	NOS	57686.00	12	692232
11	MCGM USOR R3 SWD-119	Providing and Constructing brick masonry inspection chamber rectangular 0.9 M x 0.60 M and 0.6 m deep on sewer with 230 mm 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 230 mm. 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 rectangular frame and cover of size 0.90 m x 0.45 m weighing minimum 270 kg. resting on 300 mm high C.C. cap in M 20 with (1:1) with cement plaster on both sides and necessary C.I. steps (weighing 5.40 kg each) staggered at 300 mm c / c including 75 mm wide vata all around 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.	EA	42303.00	2	84606
12	MCGM USOR R3 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-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991 including testing as per CL 10 .	EA	33841.00	2	67682
					Sub Total	1463095

Cost centre C: Footpaths, Paver Blocks & Kerbstones						
13	MCGM USOR R3-RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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 75mm to 75mm micron as per MCGM Road Specifications clause no.210).	CUM	2702.00	369.338	997951.276
14	MCGM USOR R3-RW-3-31	Providing & fixing in the carriageway/footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color, having average crushing strength not less than 40N/mm ² as per technical specifications and ISCODE15658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	SQM	908.00	2978.69	2704650.52
15	MCGM USOR R3-RW-10-54	Providing and fixing of the precast kerb stone of height 325mm., base width 165mm., top width 115mm.in M20grade RMC supplied through MCGM approved plant or concrete mixed with use of weigh batch mixers as detailed in drawing u/No.Dy.Ch.E./Rds/93 /E.S. of 17 / 8 / 2005 ,excavation in any soil except rock, laying a leveling course of M 15 grade RMC 100mm. thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface, painting exposed surface with one coat of primer and two coats of 1st grade road marking paint in the yellow/white/black or any shade as directed. (Kerbstones shall be procured from MCGM registered agencies).	MTR	549.00	0	0
16	CPWD-DAR- 2023-16.90	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (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.	SQM	1663.72	547.41	910736.9652
17	MCGM USOR R3-RW-10-45	Providing and fixing of Water Dished Channel size : 600 x 300 x 80mm, 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 M-15 grade RMC 100 mm thick to required slope (inclusive of form work) jointing in 1:2 C:M. prop. flush to concrete surfaces as directed (Waterables shall be procured from BMC registered agencies).	MTR	805.00	750	603750
Sub Total						5217088.76
Cost Centre D: Lane Markings						
18	MCGM Traffic R3-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	SQM	955.00	0	0
19	MCGM Traffic R3-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	1668.00	0	0
20	PWD-6.12b MORTH 301	Providing and applying Cold plastic paint two component rolled on surfacing material solvent free, high build two pack seamless, tough, skidresistant, material with has property of attaining 2.00 mm thickness in single coat application white (or as required colour) based on glass and colour retaining acrylic cross linking resin system for coloured road surfacing including surface cleaning and cost of all material etc. complete. (All inclusive on bitumen or concrete surface) work shall carried out as per IRC 35-2015 clause 2.2	SQM	1591.80	0	0
Sub Total						0.00

Cost Centre E: Street Furniture						
21	MCGM Traffic R3-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	19147.00	428	8194916
22	MCGM Garden GW-3-2-f	Ss Dust Bin (Refer sketch 10) Product area:0.76SqM, Capacity in ltrs: 42.0 ltrs, Product height:0.92m	NOS	17265.00	0	0
23	MCGM Traffic R2 RT-16-06	Providing, fabrication and fixing Stainless Steel railing of 10 gauge of 304 grade stainless steel having minimum nickel content 10% (Laboratory testing certificate shall be provided for used material), dia. 40mm circular pipe railing with dia. 18mm circular intermediate support, dia. 65mm circular main supports with Stainless Steel pedestal(base-I type) and Stainless Steel cap (type- I) including cutting, welding, riveting, polishing 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 directed.(with advertisement)	MTR	18079.00	350	6327650
Sub Total						1452566
Cost Centre F: Signages						
24	MCGM Traffic R3-RT-16-27	Providing, Fabricating, Erecting on site Facility Sign Boards (Taxi Stand/Police Station/Petrol Pump/Hospital and any other utilities) as per drawing no Facility Sign Drawing F1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mmx800mm. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	17598.00	0	0
25	MCGM Traffic R3-RT-16-25	Mandatory Board (600mm dia) hanging on pole – Providing, Fabricating, Erecting on site Mandatory & Cautionary Boards (of type 1S-A-3). As per the design incorporated in Street Furniture catalogue volume-II published by M.C.G.M., Signage plaque (box) shall be of size 600mm dia. Mounted on existing electrical pole with GL clamp. The box shall be made of 4mm thick fibre reinforced plastic box covering both sides of pole. The circumferential edge shall be closed with 3 mm thick FRP. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years shown in the drawing complete as per specification and as directed by the Engineer.	NOS	9765.00	0	0
26	MCGM Traffic R3-RT-16-23	Providing, Fabricating, Erecting on site Mandatory Boards as per drawing no Mandatory Sign Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm dia. The box shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. work complete as per specifications and as directed by the Engineer.	NOS	12624.00	20	252480
27	MCGM Traffic R3-RT-16-21	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-21, Vertical poles shall be made of ISMC of 150x75 hot dip galvanised post, Signage plaque (box) shall be of size 1200mm x 1800mm made of hot dip galvanised ISMC 75mm x 40mm & bracing of 50x6mm hot dip galvanised channel. The sign board box shall be covered with 4 mm aluminum composite panel on both sides of the box assembly & shall be fixed to the vertical pole. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted using electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. Complete as per specification and direction by the Engineer. NOS 52403	NOS	79576.00	0	0
28	MCGM Traffic R3-RT-16-24	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 900mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	17030.00	0	0

29	MCGM Traffic R3-RT-16-43	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	14384.00	2	28768
30	MCGM Traffic FA-TR-07	Providing and Fixing Single Arrow Street Name Sign Board of size 1600mm x 900mm made out of retro reflective sheeting of micro prismatic grade conforming to IRC-67:2012 & Type XI standards of ASTM D4956-09 specifications, fixed over 4mm thick ACP sheet supported with Back support frame of 25x25x3mm stainless steel angle of 304 grade, supported on a stainless steel pipe of 73.03 OD, 2.11 mm thk of 304 grade & surrounded by SS pipe of 38.10mm OD, 1.2 mm thk of 304 grade, firmly fixed to the ground by means of properly designed foundation with M20 grade cement concrete 45 cm X 45 cm X 60 cm, 60 cm below ground level as per approved drawing. The messages (Legends, letter, numerals etc) and borders shall either be screen printed or of cut out from durable Transparent overlay film or cut out from same type of reflective sheeting as per Type XI standards. Specification: as per IRC 67:2012. 10 years Warranty for Retro Reflective Sheeting from the original sheeting manufacturer & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be submitted by the contractor. (Bottom of the board shall be 900mm above ground level) Specification: IRC 67:2012. There shall be a stamp behind the ACP sheet carrying the name of the supplier, Name of sheeting Manufacturer, Type of retro reflective sheeting, Installation month & year as per clause 12.2 of IRC 67-2012.	NOS	32971.40	6	197828.4
31	MCGM Traffic FA-TR-13	Providing, Fabricating, Erecting on site Stop Sign Boards as per drawing no F2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm Octagon with red background & white lettering. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 3 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer	NOS	12452.00	15	186780
32	MCGM Traffic FA-TR-14	Providing, Fabricating, Erecting on site Toilet Indication Sign Boards as per drawing no F2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 1050mmx600mm with fluorescent background & 300mm circle above the toilet sign. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 4 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	12063.70	0	0
				Sub Total		665856.4
Cost Centre G: Barricading during time of construction						
33	MCGM USOR R3-RW-7-36	Barricading the trenches on traffic flow side with 1.60 mtr. Height M.S. Angle post of 50 x 50 x 5 mm. buried in half the depth in drum of 20 ltrs. Capacity 1:3:6 concrete spaced at 2.25 m centre to centre with 22 gauge G.I. corrugated sheet of size 2.40 x 0.75 m. bolted to the M.S. Angle post and painted in yellow and black band with synthetic enamel paint as per traffic norms and as directed by the Engineers.	MTR	271.00	1000	271000
				Sub Total		271000

Cost Centre H: Ramps						
34	MCGM USOR R3-RW-10-29	Providing & laying M-40 C.C.avg. compressive strength (As per IRC 15-2002,N.1.6) procured from B.M.C. approved R.M.C. plant including use of approved make of plasticizer/ retarder & Contractor's water with ice flakes (if required) and transported by transit mixer and placing at work site. Compacting, finishing, initial curing by approved curing compound & Contractor's water and tarring the sides of slab with hot bitumen as specified and directed (w/c ratio 0.4 maximum)(vata for curring will be paid separately.) (MINIMUM CEMENT CONTENT 350 kg/m³	CUM	7962.00	0	0
35	MCGM USOR R3-RW-3-32	Providing & fixing in the carriageway, 80 mm thick Heritage paver interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown lamen colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength 50 N/mm² manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consist cubical shape stone aggregate 8 mm sieve 100% passing and retain on 4.75 mm size sieve , silica sand and with pure iron oxide ultra violet stabilized pigment @ 5% by weight of cement . The bottom layer should be 65 to 68 mm thick in gray cement having 12 mm sieve 100% passing aggregate as per technical specification rested on average 25 mm compacted thickness of uniformly graded river sand cushioning, compacted by proper capacity mechanical compactor with proper level grade and camber etc. complete as specified and as directed by the Engineer.	SQM	977.00	13.6	13287.2
36	MCGM USOR R3-RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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 75mm to 75mm micron as per MCGM Road Specifications clause no.210). (For Tabletop)	CUM	2702.00	19.5225	52749.795
37	MCGM USOR R3 RT-15-11	Fixing c.c tapered kerbs of type -2 as per Drg. EET&C/Gen/013/03Ty dt 11.12.03(Revised on 15.06.2006) available on site in C.M 1:2 painting the exposed surface of the kerbs with road marking paint grade-I (confirming to IS- 164) in two coats of approved colour including excavation (For Tabletop) in any material except rock / concrete road and removing excavated material as per direction any where in city or suburban limit, cleaning the site etc as directed by engineer , The rate is inclusive of all lift and leads etc complete as directed	MTR	476.00	6	2856
38	MCGM USOR R3-RW-3-31	Providing & fixing in the carriageway /footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color,having average crushing strength not less than 40N/mm² as per technical specifications and ISCODE15658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thickand consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc.complete as specified and as directed by the Engineer.	SQM	908.00	116.55	105827.4
Sub Total						174720.395

Cost Centre J: Miscelaneous						
39	R3-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 Sq.Cm on each 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.'	NOS	433.00	1537	665521
40	R3-RT-16-36	Supplying/ fixing of Flexible Median Marker which shall be made of tough, high impact resistant, injection moulded, thermoplastic body with U shape structure with overall eight of minimum 180mm and shank depth of minimum 30mm and thickness not less than 2mm. The exposed body structure should be cornered rounded for better aesthetics. The outer part of the body shall have the Abrasion loss not less than 35 mm ³ when tested accordance with DIN53505 and DIN53516 respectively and shall retain at least 70% of this value when it is subjected to accelerated weathering for 500hrs as per the ASTM G155 standard. The logo of the manufacturer shall be embossed on either side of the body in the injection moulding process. - The flexible median marker shall have U shaped florescent yellow colour retro-reflective sheeting with minimum exposed reflective area 285 mm ² . The reflective sheeting should confirm to Type XI Florescent Yellow sheeting as per IRC 67 2022 and ASTM D4956-11.	NOS	437.00	0	0
41	R3-RW-7-18	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 any type divider with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	SQM	170.00	0	0
42	R3-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 kerb stone with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	MTR	59.00	670	39530
43	R3-RT-16-44	Providing and fixing rumblers of rubberised material	MTR	1472.00	126	185472
44	R3-ME-2-22-d	Supply & Laying of double wall corrugated (DWC) pipes of 90 mm OD / 76 mm I.D. HDPE for underground cable protection as per IS 14930 Part II. With necessary connecting socket/couplings, tees of some material at required depth up to 900 mm below road ground surface. backfilling of with light ramming is included in the scope.	MTR	291.00	400	116400
45	R3-RW-10-25	P/L R.M.C.M-20 C.C. procured from B.M.C. approved R.M.C. plant including use of approved makes of plasticizer/ retarder & transported by transit mixer & placing at worksite, compacting, finishing curing etc. by contractor's water & tarring the sides of form work with hot bitumen as specified & directed by the Engineer. (MINIMUM CEMENT CONTENT 260 Kg/m ³ .) (For Tree Bunds &	CUM	6489.00	8	51912
46	As per MMRDA Tender Document	Providing traffic wardens for regulation of traffic during construction as per the requirement of traffic police, etc. complete and as directed by Engineer-incharge.	NOS	300.00	180	54000
47	R3-RT-16-28	Circular treeguard:Providing, fabrication and fixing M.S.Circular treeguard with circular pipe of 10 gauge, 50mm Dia Circular vertical post, 40 mm Dia Horizontal support 18mm Dia. intermediate support with M.S. cap-(type-I) logo panel etc. including cutting welding, riveting, oil painting with navy blue colour or anyother approved colour shade as directed and fixing incement concrete foundation including cement concrete paver block lining including removal of surplus material/debris and restoring damaged portion of footpath etc. as directed. (Design details vide Drg.No.4F-A1.1, 4F- A1.2,A1.3 in the catalogue of street Furniture (Vol.I) published by B.M.C.)	NOS	19076.00	80	1526080
48	R3-RW-10-33	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 B.M.C. 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.	MTR	501.00	700	350700
				Sub Total		2989615
				GRAND TOTAL		2,58,74,097.44

MULTI MODAL INTEGRATION FOR STATIONS ON MUMBAI METRO LINE 3						
NAME OF STATION:- SANTACRUZ						
SCHEDULE B-4						
BOQ / SOR						
SR. NO.	Reference	ITEM DESCRIPTION	UNIT	RATE	FINAL QTY	AMOUNT
Cost Centre A: Excavation and Dismantling						
1	MCGM USOR R3-RW-4-03	Removing existing kerb stones, cleaning off old mortar, carting away up to a distance of 2 K.M. and stacking the same as directed.	RMT	42.00	1332.34	55958.28
2	MCGM USOR R3-RW-3-22	Removing the paver blocks of any thickness, size, & colour from carriage way OR footpath & transporting the same to ward depot OR any where in MCGM limit. The paver blocks shall be stacked neatly at specified location etc. complete as specified and as directed by the Engineer.	SQM	193.00	3871.01	747104.93
3	PWD-2.11 MORTH 301	Excavation for roadway in earth, soil of all sorts, sand, gravel or soft murum including dressing section to the required grade, camber and side slopes and conveying the excavated materials with all lifts upto a lead of 50m. and spreading for embankment or stacking as directed.	CUM	124.95	580.652	72552.4674
4	MCGM BLDG R3-CS-DD-53	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all loads including all lifts involved.	CUM	109.00	580.652	63291.068
5	MCGM USOR R3-RW-7-01	Removing & refixing traffic regulatory boards/busstop boards/street name boards etc. in M-10 cement concrete, complete as directed.	EA	1017.00	17	17289
6	MCGM USOR R3-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.	CUM	1703.00	36.207	61660.521
Sub Total						1017856.266
Cost centre B: Storm Water Drains						
7	MCGM USOR R3-RW-6-03	Raising or lowering circular manholes to the required level upto 20 cm including all material, form work etc. with 16 cm thick cement concrete M-15 (1:2:4) coping under frame and cover of manhole, including curing etc. complete as specified and as directed	EA	1435.00	6	8610
8	MCGM USOR R3-RW-6-05	Raising or lowering rectangular manholes to the required level upto 30 cm including all materials, form work, brick work and with 16 cm thick M-15 cement concrete coping under frame & cover of manhole including curing etc. complete, as specified and as directed.	EA	2803.00	205	574615
9	MCGM USOR R3-SWD-74	Providing and laying 300 mm 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 contractor's costs (in presence of munipl staff) as per IS 3597 etc. complete as specified & as directed by Engineer-in-Charge.	MTR	964.00	270	260280
10	MCGM USOR R3-SWD-183	Supplying and fixing 1.20m x 0.90m (2 nos of 0.60m x 0.90m) internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 300 kg.) of material grade SG-500/7 as per IS 1865-1991 with grade designation of C250 as per EN 124, specification no 3, including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer-in-Charge.	NOS	57686.00	35	2019010
11	MCGM USOR R3-SWD-119	Providing and Constructing brick masonry inspection chamber rectangular 0.9 M x 0.60 M and 0.6 m deep on sewer with 230 mm 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 230 mm. 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 rectangular frame and cover of size 0.90 m x 0.45 m weighing minimum 270 kg. resting on 300 mm high C.C. cap in M 20 with (1:1) with cement plaster on both sides and necessary C.I. steps (weighing 5.40 kg each) staggered at 300 mm c /c including 75 mm wide vata all around 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.	EA	42303.00	3	126909
12	MCGM USOR R3-SWD-148	Supplying and fixing 0.90m x 0.60m internal size of rectangular C.I. air-tight cover and frame weighing minmum 270 of material grade of min. FG 150 conforming to IS 210:2009 and specification no SP-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991 including testing as per CL 10 .	EA	33841.00	2	67682
Sub Total						3057106

Cost centre C: Footpaths, Paver Blocks & Kerbstones						
13	MCGM USOR R3-RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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 75mm to 75mm micron as per MCGM Road Specifications clause no.210).	CUM	2702.00	301.171	813764.042
14	MCGM USOR R3-RW-3-31	Providing & fixing in the carriageway/footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color, having average crushing strength not less than 40N/mm ² as per technical specifications and ISCODE15658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	SQM	908.00	2764.35	2510029.8
15	MCGM USOR R3-RW-10-54	Providing and fixing of the precast kerb stone of height 325mm., base width 165mm., top width 115mm. in M20 grade RMC supplied through MCGM approved plant or concrete mixed with use of weigh batch mixers as detailed in drawing u/No.Dy.Ch.E./Rds/93 /E.S. of 17 / 8 / 2005 ,excavation in any soil except rock, laying a leveling course of M 15 grade RMC 100mm. thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface, painting exposed surface with one coat of primer and two coats of 1st grade road marking paint in the yellow/white/black or any shade as directed. (Kerbstones shall be procured from MCGM registered agencies).	MTR	549.00	0	0
16	CPWD-DAR- 2023-16.90	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (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.	SQM	1663.72	987.96	1643688.811
17	MCGM USOR R3-RW-10-45	Providing and fixing of Water Dished Channel size : 600 x 300 x 80mm, 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 M-15 grade RMC 100 mm thick to required slope (inclusive of form work) jointing in 1:2 C:M. prop. flush to concrete surfaces as directed (Watertables shall be procured from BMC registered agencies).	MTR	805.00	270	217350
Sub Total						5184832.653
Cost Centre D: Lane Markings						
18	MCGM Traffic R3-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	SQM	955.00	0	0
19	MCGM Traffic R3-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	1668.00	0	0
20	PWD-6.12b MORTH 301	Providing and applying Cold plastic paint two component rolled on surfacing material solvent free, high build two pack seamless, tough, skidresistant, material with has property of attaining 2.00 mm thickness in single coat application white (or as required colour) based on glass and colour retaining acrylic cross linking resin system for coloured road surfacing including surface cleaning and cost of all material etc. complete. (All inclusive on bitumen or concrete surface) work shall carried out as per IRC 35-2015 clause 2.2	SQM	1591.80	0	0
Sub Total						0

Cost Centre E: Street Furniture						
21	MCGM Traffic R3-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	19147.00	252	4825044
22	MCGM Garden GW-3-2-f	Ss Dust Bin (Refer sketch 10) Product area:0.76SqM, Capacity in ltrs: 42.0 ltrs, Product height:0.92m	NOS	17265.00	0	0
23	MCGM Traffic R2-RT-16-06	Providing, fabrication and fixing Stainless Steel railing of 10 gauge of 304 grade stainless steel having minimum nickel content 10% (Laboratory testing certificate shall be provided for used material), dia. 40mm circular pipe railing with dia. 18mm circular intermediate support, dia. 65mm circular main supports with Stainless Steel pedestal(base-I type) and Stainless Steel cap (type- I) including cutting, welding, riveting, polishing as directed and fixing in cement concrete foundation as shown vide Sr.No. 2F-A1 in catalogue of Street Furniture (VolI) published by M.C.G.M. including removal of surplus material/debris and restoring damaged portion of footpath, etc. as directed.(with advertisement)	MTR	18079.00	100	1807900
Sub Total						6632944
Cost Centre F: Signages						
24	MCGM Traffic R3-RT-16-27	Providing, Fabricating, Erecting on site Facility Sign Boards (Taxi Stand/Police Station/Petrol Pump/Hospital and any other utilities) as per drawing no Facility Sign Drawing F1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mmx800mm. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	17598.00	0	0
25	MCGM Traffic R3-RT-16-25	Mandatory Board (600mm dia) hanging on pole – Providing, Fabricating, Erecting on site Mandatory & Cautionary Boards (of type 1S-A-3). As per the design incorporated in Street Furniture catalogue volume-II published by M.C.G.M., Signage plaque (box) shall be of size 600mm dia. Mounted on existing electrical pole with GL clamp. The box shall be made of 4mm thick fibre reinforced plastic box covering both sides of pole. The circumferential edge shall be closed with 3 mm thick FRP. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years shown in the drawing complete as per specification and as directed by the Engineer.	NOS	9765.00	0	0
26	MCGM Traffic R3-RT-16-23	Providing, Fabricating, Erecting on site Mandatory Boards as per drawing no Mandatory Sign Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm dia. The box shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. work complete as per specifications and as directed by the Engineer.	NOS	12624.00	14	176736
27	MCGM Traffic R3-RT-16-21	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-21, Vertical poles shall be made of ISMC of 150x75 hot dip galvanised post, Signage plaque (box) shall be of size 1200mm x 1800mm made of hot dip galvanised ISMC 75mm x 40mm & bracing of 50x6mm hot dip galvanised channel. The sign board box shall be covered with 4 mm aluminum composite panel on both sides of the box assembly & shall be fixed to the vertical pole. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted using electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. Complete as per specification and direction by the Engineer. NOS 52403	NOS	79576.00	0	0

28	MCGM Traffic R3-RT-16-24	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 900mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	17030.00	0	0
29	MCGM Traffic R3-RT-16-43	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	14384.00	22	316448
30	MCGM Traffic FA-TR-07	Providing and Fixing Single Arrow Street Name Sign Board of size 1600mm x 900mm made out of retro reflective sheeting of micro prismatic grade conforming to IRC-67:2012 & Type XI standards of ASTM D4956-09 specifications, fixed over 4mm thick ACP sheet supported with Back support frame of 25x25x3mm stainless steel angle of 304 grade, supported on a stainless steel pipe of 73.03 OD, 2.11 mm thk of 304 grade & surrounded by SS pipe of 38.10mm OD, 1.2 mm thk of 304 grade, firmly fixed to the ground by means of properly designed foundation with M20 grade cement concrete 45 cm X 45 cm X 60 cm, 60 cm below ground level as per approved drawing. The messages (Legends, letter, numerals etc) and borders shall either be screen printed or cut out from durable Transparent overlay film or cut out from same type of reflective sheeting as per Type XI standards. Specification: as per IRC 67:2012. 10 years Warranty for Retro Reflective Sheeting from the original sheeting manufacturer & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be submitted by the contractor. (Bottom of the board shall be 900mm above ground level) Specification: IRC 67:2012. There shall be a stamp behind the ACP sheet carrying the name of the supplier, Name of sheeting Manufacturer, Type of retroreflective sheeting, Installation month & year as per clause 12.2 of IRC 67-2012.	NOS	32971.40	4	131885.6
31	MCGM Traffic FA-TR-13	Providing, Fabricating, Erecting on site Stop Sign Boards as per drawing no F2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm Octagon with red background & white lettering. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 3 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer	NOS	12452.00	10	124520
32	MCGM Traffic FA-TR-14	Providing, Fabricating, Erecting on site Toilet Indication Sign Boards as per drawing no F2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 1050mmx600mm with fluorescent background & 300mm circle above the toilet sign. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 4 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	12063.70	0	0
Sub Total						749589.6
Cost Centre G: Barricading during time of construction						
33	MCGM USOR R3-RW-7-36	Barricading the trenches on traffic flow side with 1.60 mtr. Height M.S. Angle post of 50 x 50 x 5 mm. buried in half the depth in drum of 20 ltrs. Capacity 1:3:6 concrete spaced at 2.25 m centre to centre with 22 gauge G.I. corrugated sheet of size 2.40 x 0.75 m. bolted to the M.S. Angle post and painted in yellow and black band with synthetic enamel paint as per traffic norms and as directed by the Engineers.	MTR	271.00	1000	271000
Sub Total						271000

Cost Centre H: Ramps						
34	MCGM USOR R3-RW-10-29	Providing & laying M-40 C.C.avg. compressive strength (As per IRC 15-2002.N.I.6) procured from B.M.C. approved R.M.C. plant including use of approved make of plasticizer/retarder & Contractor's water with ice flakes (if required) and transported by transit mixer and placing at work site. Compacting, finishing, initial curing by approved curing compound & Contractor's water and tarring the sides of slab with hot bitumen as specified and directed (w/c ratio 0.4 maximum)(vata for curring will be paid separately.) (MINIMUM CEMENT CONTENT 350 kg/m³)	CUM	7962.00	0	0
35	MCGM USOR R3-RW-3-32	Providing & fixing in the carriageway, 80 mm thick Heritage paver interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown lamem colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength 50 N/mm² manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consist cubical shape stone aggregate 8 mm sieve 100% passing and retain on 4.75 mm size sieve , silica sand and with pure iron oxide ultra violete stabilized pigment @ 5% by weight of cement . The bottom layer should be 65 to 68 mm thick in gray cement having 12 mm sieve 100% passing aggregate as per technical specification rested on average 25 mm compacted thickness of uniformly graded river sand cushioning, compacted by proper capacity mechanical compactor with proper level grade and camber etc. complete as specified and as directed by the Engineer.	SQM	977.00	117.4	114699.8
36	MCGM USOR R3-RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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 75mm to 75mm micron as per MCGM Road Specifications clause no.210). (For Tabletop)	CUM	2702.00	44.07	119077.14
37	MCGM USOR R3- RT-15-11	Fixing c.c tapered kerbs of type -2 as per Drg. EET&C/Gen/013/03Ty dt 11.12.03(Revised on 15.06.2006) available on site in C.M 1:2 painting the exposed surface of the kerbs with road marking paint grade-I (confirming to IS- 164) in two coats of approved colour including excavation (For Tabletop) in any material except rock / concrete road and removing excavated material as per direction any where in city or suburban limit, cleaning the site etc as directed by engineer , The rate is inclusive of all lift and leads etc complete as directed	MTR	476.00	59.8	28464.8
38	MCGM USOR R3-RW-3-31	Providing & fixing in the carriageway /footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color,having average crushing strength not less than 40N/mm² as per technical specifications and ISCODE15658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thickand consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc.complete as specified and as directed by the Engineer.	SQM	908.00	176.4	160171.2
Sub Total						422412.94

Cost Centre J: Miscelenous						
39	R3-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 Sq.Cm on each 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.'	NOS	433.00	1785	772905
40	R3-RT-16-36	Supplying/ fixing of Flexible Median Marker which shall be made of tough, high impact resistant, injection moulded, thermoplastic body with U shape structure with overall height of minimum 180mm and shank depth of minimum 30mm and thickness not less than 2mm. The exposed body structure should be cornered rounded for better aesthetics. The outer part of the body shall have the Abrasion loss not less than 35 mm ³ when tested accordance with DIN53505 and DIN53516 respectively and shall retain at least 70% of this value when it is subjected to accelerated weathering for 500hrs as per the ASTM G155 standard. The logo of the manufacturer shall be embossed on either side of the body in the injection moulding process. - The flexible median marker shall have U shaped fluorescent yellow colour retro-reflective sheeting with minimum exposed reflective area 285 mm ² . The reflective sheeting should confirm to Type XI Florescent Yellow sheeting as per IRC 67 2022 and ASTM D4956-11.	NOS	437.00	0	0
41	R3-RW-7-18	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 any type divider with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	SQM	170.00	0	0
42	R3-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 kerb stone with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	MTR	59.00	2611	154049
43	R3-RT-16-44	Providing and fixing rumblers of rubberised material	MTR	1472.00	296	435712
44	R3-ME-2-22-d	Supply & Laying of double wall corrugated (DWC) pipes of 90 mm OD / 76 mm I.D. HDPE for underground cable protection as per IS 14930 Part II. With necessary connecting socket/couplings, tees of some material at required depth up to 900 mm below road ground surface. backfilling of with light ramming is included in the scope.	MTR	291.00	500	145500
45	R3-RW-10-25	P/L R.M.C.M-20 C.C. procured from B.M.C. approved R.M.C. plant including use of approved makes of plasticizer/ retarder & transported by transit mixer & placing at worksite, compacting, finishing curing etc. by contractor's water & tarring the sides of form work with hot bitumen as specified & directed by the Engineer. (MINIMUM CEMENT CONTENT 260 Kg/m ³ .) (For Tree Bunds &	CUM	6489.00	8	51912
46	As per MMRDA Tender Document	Providing traffic wardens for regulation of traffic during construction as per the requirement of traffic police, etc. complete and as directed by Engineer-incharge.	NOS	300.00	180	54000
47	R3-RT-16-28	Circular treeguard:Providing, fabrication and fixing M.S.Circular treeguard with circular pipe of 10 gauge, 50mm Dia Circular vertical post ,40 mm Dia Horizontal support 18mm Dia. intermediate support with M.S. cap-(type-I) logo panel etc. including cutting welding, riveting, oil painting with navy blue colour or anyother approved colour shade as directed and fixing incement concrete foundation including cement concrete paver block lining including removal of surplus material/debris and restoring damaged portion of footpath etc. as directed. (Design details vide Drg.No.4F-A1.1, 4F-A1.2,A1.3 in the catalogue of street Furniture (Vol.I) published by B.M.C.)	NOS	19076.00	90	1716840
48	R3-RW-10-33	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 B.M.C. 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.	MTR	501.00	700	350700
Sub Total						3681618
GRAND TOTAL						2,10,17,359.46

MULTI MODAL INTEGRATION FOR STATIONS ON MUMBAI METRO LINE 3						
NAME OF STATION:- BANDRA COLONY						
SCHEDULE B-5						
BOQ / SOR						
SR.NO	Reference	ITEM DESCRIPTION	UNIT	RATE	FINAL QTY	AMOUNT
Cost Centre A: Excavation and Dismantling						
1	MCGM USOR R3-RW-4-03	Removing existing kerb stones, cleaning off old mortar, carting away up to a distance of 2 K.M. and stacking the same as directed.	RMT	42.00	561.73	23592.66
2	MCGM USOR R3-RW-3-22	Removing the paver blocks of any thickness, size, & colour from carriage way OR footpath & transporting the same to ward depot OR any where in MCGM limit. The paver blocks shall be stacked neatly at specified location etc. complete as specified and as directed by the Engineer.	SQM	193.00	1544.77	298140.61
3	PWD-2.11 MORTH 301	Excavation for roadway in earth, soil of all sorts, sand, gravel or soft murum including dressing section to the required grade, camber and side slopes and conveying the excavated materials with all lifts upto a lead of 50m. and spreading for embankment or stacking as directed.	CUM	124.95	231.716	28952.91
4	MCGM BLDG R3-CS-DD-53	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all loads including all lifts involved.	CUM	109.00	231.716	25257.04
5	MCGM USOR R3-RW-7-28	Excavation and dismantling of structures on roadway, dismantling the existing Bus shelter including sorting out the dismantling material, disposal of unserviceable material with all leads etc. complete as directed by Engineer-in-charge.	NOS	7783.00	2	15566.00
6	MCGM USOR R3-RW-7-29	Excavation and dismantling of structures on roadway, shifting and relocating of essential utilities, streetpoles, 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	1403.00	3	4209.00
7	MCGM USOR R3-RW-7-01	Removing & refixing traffic regulatory boards/busstop boards/street name boards etc. in M-10 cement concrete, complete as directed.	EA	1017.00	12	12204.00
8	MCGM USOR R3-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.	CUM	1703.00	380	647140.00
Sub Total						1055062.23
Cost Centre B: Storm Water Drain						
9	MCGM USOR R3-RW-6-05	Raising or lowering rectangular manholes to the required level upto 30 cm including all materials, formwork, brick work and with 16cm thick M15 cement concrete coping under frame & cover of manhole including curing etc. complete, as specified and as directed.	EA	2803.00	162	454086.00
10	MCGM USOR R3-RW-6-03	Raising or lowering circular manholes to the required level upto 20 cm including all material, form work etc. with 16 cm thick cement concrete M-15 (1:2:4) coping under frame and cover of manhole, including curing etc. complete as specified and as directed	EA	1435.00	6	8610.00
11	MCGM USOR R3-SWD-74	Providing and laying 300 mm 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 contractor's costs (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer-in-Charge.	MTR	964.00	140	134960.00
12	MCGM USOR R3-SWD-183	Supplying and fixing 1.20m x 0.90m (2 nos of 0.60m x 0.90m) internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 300 kg.) of material grade SG-500/7 as per IS 1865-1991 with grade designation of C250 as per EN 124, specification no 3, including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer-in-charge.	NOS	57686.00	10	576860.00
13	MCGM USOR R3-SWD-119	Providing and Constructing brick masonry inspection chamber rectangular 0.9 M x 0.60 M and 0.6 m deep on sewer with 230 mm 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 230 mm. 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 rectangular frame and cover of size 0.90 m x 0.45 m weighing minimum 270 kg. resting on 300 mm high C.C. cap in M 20 with (1:1) with cement plaster on both sides and necessary C.I. steps (weighing 5.40 kg each) staggered at 300 mm c / c including 75 mm wide vata all around the external portion of the chamber and the	EA	42303.00	2	84606.00
14	MCGM USOR R3-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-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991 including testing as per CL 10 .	EA	33841.00	2	67682.00
Sub Total						1326804.00

Cost Centre C: Footpaths, Paver Blocks & Kerbstones						
15	MCGM BLDG. R3- CS-EW-12	Filling in plinth, floors, trenches, pits with approved contractor's murum in layers not exceeding 200mm including breaking of clods, watering, consolidating each layer in filled up area by rolling and compacting with roller/plate compactor as required to achieve not less than 97% modified proctor density conforming to relevant IS etc. complete as directed by Engineer Incharge. The rate includes necessary soil testing charges at laboratory & field as per relevant I.S. codes, royalty, octroi and other taxes if any. (Note: Borrow areas selected by CONTRACTOR shall be got approved from Engineer In Charge, before executing the work) 1) The rate includes the royalty and other taxes if any.	CUM	1038.00	0	0.00
16	MCGM USOR R3- RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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 75mm to 75mm micron as per MCGM Road Specifications clause no.210).	CUM	2702.00	215.998	583626.60
17	MCGM USOR R3- 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 (pug mill) carriage of mix material by tipper to site laying in uniform layer of 75mm to 100mm (compacted thickness each) with sensor paver finisher on prepared subbase & compacting with vibratory roller (10 tonne) 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 53mm to 75mm micron as per MCGM Road Specifications clause no.240).	CUM	3338.00	0	0.00
18	MCGM USOR R3- RW-3-31	Providing & fixing in the carriageway /footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color, having average crushing strength not less than 40N/mm ² as per technical specifications and ISCODE I5658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45 to 48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	SQM	908.00	1622.61	1473329.88
19	MCGM USOR R3- RW-3-32	Providing & fixing in the carriageway, 80 mm thick Heritage paver interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown lamena colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength 50 N/mm ² manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consist cubical shape stone aggregate 8 mm sieve 100% passing and retain on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @ 5% by weight of cement . The bottom layer should be 65 to 68 mm thick in gray cement having 12 mm sieve 100% passing aggregate as per technical specification rested on average 25 mm compacted thickness of uniformly graded river sand cushioning, compacted by proper capacity mechanical compactor with proper level grade and camber etc. complete as specified and as directed by the Engineer.	SQM	977.00	0	0.00
20	CPWD-DAR- 2023-16.90	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (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.	SQM	1663.72	425.66	708179.06
21	MCGM USOR R3- RW-10-54	Providing and fixing of the precast kerb stone of height 325mm., base width 165mm., top width 115mm. in M20 grade RMC supplied through MCGM approved plant or concrete mixed with use of weigh batch mixers as detailed in drawing u/No.Dy.Ch.E./Rds/93 /E.S. of 17 / 8 / 2005 ,excavation in any soil except rock, laying a leveling course of M 15 grade RMC 100mm. thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface, painting exposed surface with one coat of primer and two coats of 1st grade road marking paint in the yellow/white/black or any shade as directed. (Kerbstones shall be procured from MCGM registered agencies).	MTR	549.00	0	0.00

22	MCGM USOR R3- RW-10-45	Providing and fixing of Water Dished Channel size : 600 x 300 x 80mm, 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 M-15 grade RMC 100 mm thick to required slope (inclusive of form work) jointing in 1:2 C:M. prop. flush to concrete surfaces as directed (Watertables shall be procured from BMC registered agencies).	MTR	805.00	550	442750.00
Sub Total						3207885.53
Cost Centre D: Lane Markings						
23	MCGM Traffic R3- 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	SQM	955.00	0	0.00
24	MCGM Traffic R3- 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	1668.00	0	0.00
25	PWD-6.12 b MORTH 301	Providing and applying Cold plastic paint two component rolled on surfacing material solvent free, high build two pack seamless, tough, skidresistant, material with has property of attaining 2.00 mm thickness in single coat application white (or as required colour) based on glass and colour retaining acralic cross linking resin system for coloured road surfacing including surface cleaning and cost of all material etc. complete. (All inclusive on bitumen or concrete surface) work shall carried out as per IRC 35-2015 clause 2.2	SQM	1591.80	0	0.00
Sub Total						0.00
Cost centre E: Street Furniture						
26	MCGM Traffic R3- 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	19147.00	132	2527404.00
27	CPWD DAR 2023 4.9	Precasting and placing in position 125 mm dia Bollards 600 mm high of required shape including providing M.S. Pipe Sleeve 50 mm dia 300 mm long in the Bollard and M.S. Pipes 40 mm dia and 450mm long with 150x150x6mm M.S. plate welded at bottom and embedded 150mm in cement concrete 1:3:6 (1 Cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size), including necessary excavation of size 250x250x450mm deep for the same in bitumen/ concrete pavement at specified spacing	NOS	766.72	0	0.00
28	MCGM Garden GW- 3-2-f	Ss Dust Bin (Refer sketch 10) Product area:0.76Sqm, Capacity in ltrs: 42.0 ltrs, Product height:0.92m	NOS	17265.00	0	0.00
29	MCGM Traffic R3- RT-16-06	Providing, fabrication and fixing Stainless Steel railing of 10 gauge of 304 grade stainless steel having minimum nickel content 10% (Laboratory testing certificate shall be provided for used material), dia. 40mm circular pipe railing with dia. 18mm circular intermediate support, dia. 65mm circular main supports with Stainless Steel pedestal(base-I type) and Stainless Steel cap (type- I) including cutting, welding, riveting, polishing 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 directed.(with advertisement)	MTR	18079.00	350	6327650.00
Sub Total						8855054.00
Cost Centre F: Signages						

30	MCGM Traffic R3- RT-16-27	Providing, Fabricating, Erecting on site Facility Sign Boards (Taxi Stand/Police Station/Petrol Pump/Hospital and any other utilities) as per drawing no Facility Sign Drawing F1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mmx800mm. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	17598.00	0	0.00
31	MCGM Traffic R3- RT-16-24	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 900mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	17030.00	0	0.00
32	MCGM Traffic R3- RT-16-15	Providing, fixing & erecting on site Junction Name Board / Chowk (type 2S-D), as per the design incorporated in the catalogue of street Furniture published by M.C.G.M., Vertical pole shall be Hot dip galvanised 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 50mm x 50mm x 6mm thick covered with 4mm thick aluminum composite panel on both sides, The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of R.C. 67 2012 CODE. Letters or borders to be pasted using transparent electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pole shall be fixed by means of a properly designed foundation of size 750mmx750mmx900mm.	NOS	49656.00	0	0.00
33	MCGM Traffic R3- RT-16-25	Mandatory Board (600mm dia) hanging on pole – Providing, Fabricating, Erecting on site Mandatory & Cautionary Boards (of type 1S-A-3). As per the design incorporated in Street Furniture catalogue volume-II published by M.C.G.M., Signage plaque (box) shall be of size 600mm dia. Mounted on existing electrical pole with GL clamp. The box shall be made of 4mm thick fibre reinforced plastic box covering both sides of pole. The circumferential edge shall be closed with 3 mm thick FRP. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years shown in the drawing complete as per specification and as directed by the Engineer.	NOS	9765.00	0	0.00
34	MCGM Traffic R3- RT-16-23	Providing, Fabricating, Erecting on site Mandatory Boards as per drawing no Mandatory Sign Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm dia. The box shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. work complete as per specifications and as directed by the Engineer.	NOS	12624.00	6	75744.00

35	MCGM Traffic R3- RT-16-21	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-21, Vertical poles shall be made of ISMC of 150x75 hot dip galvanised post, Signage plaque (box) shall be of size 1200mm x 1800mm made of hot dip galvanised ISMC 75mm x 40mm & bracing of 50x6mm hot dip galvanised channel. The sign board box shall be covered with 4 mm aluminum composite panel on both sides of the box assembly & shall be fixed to the vertical pole. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted using electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. Complete as per specification and direction by the Engineer. NOS 52403	NOS	79576.00	0	0.00
36	MCGM Traffic R3- RT-16-43	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	14384.00	20	287680.00
37	MCGM Traffic FA- TR-07	Providing and Fixing Single Arrow Street Name Sign Board of size 1600mm x 900mm made out of retro reflective sheeting of micro prismatic grade conforming to IRC-67:2012 & Type XI standards of ASTM D4956-09 specifications, fixed over 4mm thick ACP sheet supported with Back support frame of 25x25x3mm stainless steel angle of 304 grade, supported on a stainless steel pipe of 73.03 OD., 2.11 mm thk of 304 grade & surrounded by SS pipe of 38.10mm OD, 1.2 mm thk of 304 grade, firmly fixed to the ground by means of properly designed foundation with M20 grade cement concrete 45 cm X 45 cm X 60 cm , 60 cm below ground level as per approved drawing. The messages (Legends , letter , numerals etc) and borders shall either be screen printed or of cut out from durable Transparent overlay film or cut out from same type of reflective sheeting as per Type XI standards. Specification: as per IRC 67:2012. 10 years Warranty for Retro Reflective Sheeting from the original sheeting manufacturer & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be submitted by the contractor . (Bottom of the board shall be 900mm above ground level) Specification: IRC 67:2012. There shall be a stamp behind the ACP sheet carrying the name of the supplier, Name of sheeting Manufacturer, Type of retro reflective sheeting, Installation month & year as per clause 12.2 of IRC 67-2012.	NOS	32971.40	4	131885.60
38	MCGM Traffic FA- TR-08	Providing and Fixing Double Arrow Street Name Sign Board of size 1950mm x 900mm made out of retro reflective sheeting of micro prismatic grade conforming to IRC-67:2012 & Type XI standards of ASTM D4956-09 specifications, fixed over 4mm thick ACP sheet supported with Back support frame of 25x25x3mm stainless steel angle of 304 grade, supported on a stainless steel pipe of 73.03 OD., 2.11 mm thk of 304 grade & surrounded by SS pipe of 38.10mm OD, 1.2 mm thk of 304 grade, firmly fixed to the ground by means of properly designed foundation with M20 grade cement concrete 45 cm X 45 cm X 60 cm , 60 cm below ground level as per approved drawing. The messages (Legends , letter , numerals etc) and borders shall either be screen printed or of cut out from durable Transparent overlay film or cut out from same type of reflective sheeting as per Type XI standards. Specification: as per IRC 67:2012. 10 years Warranty for Retro Reflective Sheeting from the original sheeting manufacturer & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be submitted by the contractor . (Bottom of the board shall be 900mm above ground level) Specification: IRC 67:2012. There shall be a stamp behind the ACP sheet carrying the name of the supplier, Name of sheeting Manufacturer, Type of retro reflective sheeting, Installation month & year as per clause 12.2 of IRC 67-2012.	NOS	38952.10	4	155808.40

39	MCGM Traffic FA- TR-13	Providing, Fabricating, Erecting on site Stop Sign Boards as per drawing no F2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm Octagon with red background & white lettering. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 3 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer	NOS	12452.00	17	211684.00
40	MCGM Traffic FA- TR-14	Providing, Fabricating, Erecting on site Toilet Indication Sign Boards as per drawing no F2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 1050mmx600mm with fluorescent background & 300mm circle above the toilet sign. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 4 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	12063.70	0	0.00
Sub Total						862802.00
Cost Centre G: Barricading during time of construction						
41	MCGM USOR R3- RW-7-36	Barricading the trenches on traffic flow side with 1.60 mtr. Height M.S. Angle post of 50 x 50 x 5 mm. buried in half the depth in drum of 20 ltrs. Capacity 1:3:6 concrete spaced at 2.25 m centre to centre with 22 gauge G.I. corrugated sheet of size 2.40 x 0.75 m. bolted to the M.S. Angle post and painted in yellow and black band with synthetic enamel paint as per traffic norms and as directed by the Engineers.	MTR	271.00	1000	271000.00
Sub Total						271000.00
Cost Centre H: Ramps						
42	MCGM USOR R3- RW-10-29	Providing & laying M-40 C.C. avg. compressive strength (As per IRC 15-2002.N.1.6) procured from B.M.C. approved R.M.C. plant including use of approved make of plasticizer/retarder & Contractor's water with ice flakes (if required) and transported by transit mixer and placing at work site. Compacting, finishing, initial curing by approved curing compound & Contractor's 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	CUM	7962.00	0	0.00
43	MCGM BLDG. R3- 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, parties, 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	MT	80080.00	0	0.00
44	MCGM USOR R3- RW-3-32	Providing & fixing in the carriageway, 80 mm thick Heritage paver interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown lamena colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength 50 N/mm ² manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consist cubical shape stone aggregate 8 mm sieve 100% passing and retain on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @ 5% by weight of cement. The bottom layer should be 65 to 68 mm thick in gray cement having 12 mm sieve 100% passing aggregate as per technical specification rested on average 25 mm compacted thickness of uniformly graded river sand cushioning, compacted by proper capacity mechanical compactor with proper level grade and camber etc. complete as specified and as directed by the Engineer. (For Table Top)	SQM	977.00	202.2	197549.40

45	MCGM USOR R3- RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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	CUM	2702.00	40.2525	108762.26
46	MCGM USOR R3- RT-15-11	Fixing c.c tapered kerbs of type -2 as per Drg. EET&C/Gen/013/03Ty dt 11.12.03(Revised on 15.06.2006) available on site in C.M 1:2 painting the exposed surface of the kerbs with road marking paint grade-I (confirming to IS- 164) in two coats of approved colour including excavation (For Tabletop) in any material except rock / concrete road and removing excavated material as per direction any where in city or suburban limit, cleaning the site etc as directed by engineer , The rate is inclusive of all lift and leads etc complete as directed	MTR	476.00	73.6	35033.60
47	MCGM USOR R3- RW-3-31	Providing & fixing in the carriageway /footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color,having average crushing strength not less than 40N/mm ² as per technical specifications and ISCODE15658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc.complete as specified and as directed by the Engineer. (For Ramps)	SQM	908.00	66.15	60064.20
Sub Total						401409.46
Cost Centre I: Street Light						
48	R3-ME-10-5	Galvanised Octagonal Poles - Design, engineering, manufacture, testing at factory, packing & forwarding, delivery to site, unloading and handling at site, assembly, installation, testing and commissioning of Octagonal street light poles with embeded junction box inclusive of terminals, 3Cx 2.5 sqmm PVC insulated multistranded flexible copper cable from Junction box to the luminaires, termination at both ends and other accessories. Foundation for the pole erection and all civil works shall be in the scope of the contractor. Providing & erecting 9 m high (clear height) galvanized OCTAGONAL pole with foundation bolts having bottom of 130 mm A/F, top 70 mm A/F on provided foundation as per specification	NOS	96775	3	290325.00
49	R3-ME-10-6-c	Providing & erecting single arm standard bracket 1500MM long made up of 40 NB GI pipe suitable for octagonal pole of having top dia 70 MM as er specification	NOS	11222	3	33666.00
50	R3-ME-10-6-d	Providing & erecting double arm standard bracket 1500MM long made up of 40 NB GI pipe suitable for octagonal pole of having top dia 70 MM as per specification	NOS	17502	0	0.00
51	R3-ME-4-27-f	LED LIGHT FIXTURES (SP-ME-TS-21a): LED Street Light fittings:- Outdoor LED Street Light fittings – 100-120 W	NOS	7872	3	23616.00
52	R3-SWD-147	Supplying and fixing 0.90m x 0.45m internal size of rectangular C.I. air-tight cover and frame weighing minmum 225 of material grade of min. FG 150 conforming to IS 210:2009 and specification no -3 with the grade designation of HD 20 conforming to IS 1726:1991including 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	31935	3	95805.00
53	R3-ME-6-6-b	Cement concrete foundation using M-20 cement concrete mix with J shaped foundation bolts where required (for Street Light)	CUM	9610	0.1215	1167.62
Sub Total						444579.62
Cost Centre J: Miscelenous						
54	R3-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 Sq.Cm on each 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.'	NOS	433	1251	541683.00

55	R3-RT-16-36	Supplying/ fixing of Flexible Median Marker which shall be made of tough, high impact resistant, injection moulded, thermoplastic body with U shape structure with overall height of minimum 180mm and shank depth of minimum 30mm and thickness not less than 2mm. The exposed body structure should be cornered rounded for better aesthetics. The outer part of the body shall have the Abrasion loss not less than 35 mm ³ when tested accordance with DIN53505 and DIN53516 respectively and shall retain at least 70% of this value when it is subjected to accelerated weathering for 500hrs as per the ASTM G155 standard. The logo of the manufacturer shall be embossed on either side of the body in the injection moulding process. - The flexible median marker shall have U shaped florescent yellow colour retro-reflective sheeting with minimum exposed reflective area 285 mm ² . The reflective sheeting should confirm to Type XI Florescent Yellow sheeting as per IRC 67 2022 and ASTM D4956-11.	NOS	437.00	0	0.00
56	R3-RW-7-18	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 any type divider with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	SQM	170.00	0	0.00
57	R3-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 kerb stone with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	MTR	59.00	558	32922.00
58	R3-RT-16-44	Providing and fixing rumblers of rubberised material	MTR	1472.00	276	406272.00
59	R3-ME-2-22-d	Supply & Laying of double wall corrugated (DWC) pipes of 90 mm OD / 76 mm I.D. HDPE for underground cable protection as per IS 14930 Part II. With necessary connecting socket/couplings, tees of some material at required depth up to 900 mm below road ground surface. backfilling of with light ramming is included in the scope.	MTR	291.00	200	58200.00
60	R3-RW-10-25	P/L R.M.C.M-20 C.C. procured from B.M.C. approved R.M.C. plant including use of approved makes of plasticizer/ retarder & transported by transit mixer & placing at worksite, compacting, finishing curing etc. by contractor's water & tarring the sides of form work with hot bitumen as specified & directed by the Engineer. (MINIMUM CEMENT CONTENT 260 Kg/m ³ .) (For Tree Bunds &	CUM	6489.00	6	38934.00
61	As per MMRDA Tender Document	Providing traffic wardens for regulation of traffic during construction as per the requirement of traffic police, etc. complete and as directed by Engineer-incharge.	NOS	300.00	180	54000.00
62	R3-RT-16-28	Circular treeguard:Providing, fabrication and fixing M.S.Circular treeguard with circular pipe of 10 gauge, 50mm Dia Circular vertical post, 40 mm Dia Horizontal support 18mm Dia. intermediate support with M.S. cap-(type-I) logo panel etc. including cutting welding, riveting, oil painting with navy blue colour or anyother approved colour shade as directed and fixing incement concrete foundation including cement concrete paver block lining including removal of surplus material/debris and restoring damaged portion of footpath etc. as directed. (Design details vide Drg.No.4F-A1.1, 4F- A1.2,A1.3 in the catalogue of street Furniture (Vol.I) published by B.M.C.)	NOS	19076.00	10	190760.00
63	R3-RW-10-33	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 B.M.C. 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.	MTR	501.00	80	40080.00
Sub Total						1362851.00
GRAND TOTAL						1,77,87,447.83

MULTI MODAL INTEGRATION FOR STATIONS ON MUMBAI METRO LINE 3

NAME OF STATION:- BKC

SCHEDULE B6

BOQ / SOR

SR.NO.	Reference	ITEM DESCRIPTION	UNIT	RATE	FINAL QTY	FINAL AMOUNT
Cost Centre A: Excavation and Dismantling						
1	MCGM USOR R3-RW-4-03	Removing existing kerb stones, cleaning off old mortar, carting away up to a distance of 2 K.M. and stacking the same as directed.	RMT	42.00	587.86	24690.12
2	MCGM USOR R3-RW-3-22	Removing the paver blocks of any thickness, size, & colour from carriage way OR footpath & transporting the same to ward depot OR any where in MCGM limit. The paver blocks shall be stacked neatly at specified location etc. complete as specified and as directed by the Engineer.	SQM	193.00	1435.25	277003.25
3	PWD-2.11 MORTH 301	Excavation for roadway in earth, soil of all sorts, sand, gravel or soft murum including dressing section to the required grade, camber and side slopes and conveying the excavated materials with all lifts upto a lead of 50m. and spreading for embankment or stacking as directed.	CUM	124.95	215.288	26900.2356
4	MCGM BLDG R3-CS-DD-53	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all loads including all lifts involved.	CUM	109.00	215.288	23466.392
5	MCGM USOR R3-RW-7-01	Removing & refixing traffic regulatory boards/bustop boards/street name boards etc. in M-10 cement concrete, complete as directed.	EA	1017.00	17	17289
6	MCGM USOR R3-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.	CUM	1703.00	17.28	29427.84
Sub Total						398776.8376
Cost centre B: Storm Water Drains						
7	MCGM USOR R3-RW-6-03	Raising or lowering circular manholes to the required level upto 20 cm including all material, form work etc. with 16 cm thick cement concrete M-15 (1:2:4) coping under frame and cover of manhole, including curing etc. complete as specified and as directed	EA	1435.00	6	8610
8	MCGM USOR R3-RW-6-05	Raising or lowering rectangular manholes to the required level upto 30 cm including all materials, form work, brick work and with 16 cm thick M-15 cement concrete coping under frame & cover of manhole including curing etc. complete, as specified and as directed.	EA	2803.00	105	294315
9	MCGM USOR R3-SWD-74	Providing and laying 300 mm 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 contractor's costs (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer-in-Charge.	MTR	964.00	140	134960
10	MCGM USOR R3-SWD-183	Supplying and fixing 1.20m x 0.90m (2 nos of 0.60m x 0.90m) internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 300 kg.) of material grade SG-500/7 as per IS 1865-1991 with grade designation of C250 as per EN 124, specification no 3, including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer-in-Charge.	NOS	57686.00	16	922976
11	MCGM USOR R3-SWD-119	Providing and Constructing brick masonry inspection chamber rectangular 0.9 M x 0.60 M and 0.6 m deep on sewer with 230 mm 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 230 mm. 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 rectangular frame and cover of size 0.90 m x 0.45 m weighing minimum 270 kg. resting on 300 mm high C.C. cap in M 20 with (1:1) with cement plaster on both sides and necessary C.I. steps (weighing 5.40 kg each) staggered at 300 mm c/c including 75 mm wide vata all around 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.	EA	42303.00	4	169212
12	MCGM USOR R3-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-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991 including testing as per CL 10 .	EA	33841.00	4	135364
Sub Total						1665437

Cost Centre C: Footpaths, Paver Blocks & Kerbstones						
13	MCGM USOR R3- RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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 75mm to 75mm micron as per MCGM Road Specifications clause no.210).	CUM	2702.00	134.955	364648.41
14	MCGM USOR R3-RW-3- 31	Providing & fixing in the carriageway/footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color, having average crushing strength not less than 40N/mm ² as per technical specifications and ISCODE15658:2006; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	SQM	908.00	1057.41	960128.28
15	MCGM USOR R3- RW-10-54	Providing and fixing of the precast kerb stone of height 325mm., base width 165mm., top width 115mm.in M20grade RMC supplied through MCGM approved plant or concrete mixed with use of weigh batch mixers as detailed in drawing u/No.Dy.Ch.E./Rds/93 /E.S. of 17 / 8 / 2005 ,excavation in any soil except rock, laying a leveling course of M 15 grade RMC 100mm. thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface, painting exposed surface with one coat of primer and two coats of 1st grade road marking paint in the yellow/white/black or any shade as directed. (Kerbstones shall be procured from MCGM registered agencies).	MTR	549.00	0	0
16	CPWD- DAR-2023- 16.90	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (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.	SQM	1663.72	456.04	758722.8688
17	MCGM USOR R3- RW-10-45	Providing and fixing of Water Dished Channel size : 600 x 300 x 80mm, 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 M-15 grade RMC 100 mm thick to required slope (inclusive of form work) jointing in 1:2 C.M. prop. flush to concrete surfaces as directed (Watertables shall be procured from BMC registered agencies).	MTR	805.00	240	193200
Sub Total						2276699.559
Cost Centre D: Lane Markings						
18	MCGM Traffic R3 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	SQM	955.00	0	0
19	MCGM Traffic R3 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	1668.00	0	0
20	PWD-6.12b MORTH 301	Providing and applying Cold plastic paint two component rolled on surfacing material solvent free, high build two pack seamless, tough, skidresistant, material with has property of attaining 2.00 mm thickness in single coat application white (or as required colour) based on glass and colour retaining acralic cross linking resin system for coloured road surfacing including surface cleaning and cost of all material etc. complete. (All inclusive on bitumen or concrete surface) work shall carried out as per IRC 35-2015 clause 2.2	SQM	1591.80	0	0
Sub Total						0

Cost Centre E: Street Furniture						
21	MCGM Traffic R3 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	19147.00	192	3676224
22	MCGM Traffic R2- RT-16-06	Providing, fabrication and fixing Stainless Steel railing of 10 gauge of 304 grade stainless steel having minimum nickel content 10% (Laboratory testing certificate shall be provided for used material), dia. 40mm circular pipe railing with dia. 18mm circular intermediate support, dia. 65mm circular main supports with Stainless Steel pedestal(base-I type) and Stainless Steel cap (type- I) including cutting, welding, riveting, polishing 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 directed.(with advertisement)	MTR	18079.00	250	4519750
Sub Total						8195974
Cost Centre F: Signages						
23	MCGM Traffic R3 RT-16-27	Providing, Fabricating, Erecting on site Facility Sign Boards (Taxi Stand/Police Station/Petrol Pump/Hospital and any other utilities) as per drawing no Facility Sign Drawing F1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mmx800mm. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	17598.00	0	0
24	MCGM Traffic R3 RT-16-25	Mandatory Board (600mm dia) hanging on pole – Providing, Fabricating, Erecting on site Mandatory & Cautionary Boards (of type 1S-A-3). As per the design incorporated in Street Furniture catalogue volume–II published by M.C.G.M., Signage plaque (box) shall be of size 600mm dia. Mounted on existing electrical pole with GL clamp. The box shall be made of 4mm thick fibre reinforced plastic box covering both sides of pole. The circumferential edge shall be closed with 3 mm thick FRP. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years shown in the drawing complete as per specification and as directed by the Engineer.	NOS	9765.00	0	0
25	MCGM Traffic R3 RT-16-23	Providing, Fabricating, Erecting on site Mandatory Boards as per drawing no Mandatory Sign Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Drawing M1, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm dia. The box shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. work complete as per specifications and as directed by the Engineer.	NOS	12624.00	18	227232
26	MCGM Traffic R3-RT-16- 21	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-21, Vertical poles shall be made of ISMC of 150x75 hot dip galvanised post, Signage plaque (box) shall be of size 1200mm x 1800mm made of hot dip galvanised ISMC 75mm x 40mm & bracing of 50x6mm hot dip galvanised channel. The sign board box shall be covered with 4 mm aluminum composite panel on both sides of the box assembly & shall be fixed to the vertical pole. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted using electro cuttable film. The reflectivity of sheet shall have guarantee of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. Complete as per specification and direction by the Engineer. NOS 52403	NOS	79576.00	0	0

27	MCGM Traffic R3 RT-16-24	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 900mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	17030.00	0	0
28	MCGM Traffic R3 RT-16-43	Providing, Fabricating, Erecting on site Cautionary Boards as per Cautionary Sign Drawing No C2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm triangle. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer In Charge.	NOS	14384.00	20	287680
29	MCGM Traffic FA- TR-07	Providing and Fixing Single Arrow Street Name Sign Board of size 1600mm x 900mm made out of retro reflective sheeting of micro prismatic grade conforming to IRC-67:2012 & Type XI standards of ASTM D4956-09 specifications, fixed over 4mm thick ACP sheet supported with Back support frame of 25x25x3mm stainless steel angle of 304 grade, supported on a stainless steel pipe of 73.03 OD., 2.11 mm thk of 304 grade & surrounded by SS pipe of 38.10mm OD, 1.2 mm thk of 304 grade, firmly fixed to the ground by means of properly designed foundation with M20 grade cement concrete 45 cm X 45 cm X 60 cm, 60 cm below ground level as per approved drawing. The messages (Legends, letter, numerals etc) and borders shall either be screen printed or of cut out from durable Transparent overlay film or cut out from same type of reflective sheeting as per Type XI standards. Specification: as per IRC 67:2012. 10 years Warranty for Retro Reflective Sheeting from the original sheeting manufacturer & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be submitted by the contractor. (Bottom of the board shall be 900mm above ground level) Specification: IRC 67:2012. There shall be a stamp behind the ACP sheet carrying the name of the supplier, Name of sheeting Manufacturer, Type of retro reflective sheeting, Installation month & year as per clause 12.2 of IRC 67-2012.	NOS	32971.40	5	164857
30	MCGM Traffic FA- TR-13	Providing, Fabricating, Erecting on site Stop Sign Boards as per drawing no F2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 600mm Octagon with red background & white lettering. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 3 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer	NOS	12452.00	12	149424
31	MCGM Traffic FA- TR-14	Providing, Fabricating, Erecting on site Toilet Indication Sign Boards as per drawing no F2, Vertical poles shall be Hot dip galvanised pipe of 65 NB, 3mm Wall thickness. Signage plaque (box) shall be of size 1050mmx600mm with fluorescent background & 300mm circle above the toilet sign. The box shall be made of Hot dip galvanised MS angles of 25x25x3mm thick covered with 4 mm thick aluminum composite panel on both sides of the box assembly; shall be fixed to the vertical pole. The box shall be fabricated by covering the gap between the signs using 73mmx3mm thick hot dip galvanised MS plate all round the board. The box shall be pasted with MICRO PRISMATIC GRADE retro reflective base sheets on both sides conforming to Type XI standards of I.R.C. 67 2012 CODE. Letters or borders to be pasted on this box using transparent electro cuttable film/Screen Printing. The reflectivity of sheet shall have warranty of 10 years. The reflection count shall not be less than 80% of its original reflection after 10 years. The vertical pipe shall be fixed to the ground by means of properly designed foundation of size 600mmx600mmx600mm below ground & 450mmx450mmx200mm above ground. Complete as per the specification and directed by the Engineer.	NOS	12063.70	2	24127.4
Sub Total						853320.4
Cost Centre G: Barricading during time of construction						
32	MCGM USOR R3- RW-7-36	Barricading the trenches on traffic flow side with 1.60 mtr. Height M.S. Angle post of 50 x 50 x 5 mm. buried in half the depth in drum of 20 ltrs. Capacity by 1:3:6 concrete spaced at 2.25 m centre to centre with 22 gauge G.I. corrugated sheet of size 2.40 x 0.75 m. bolted to the M.S. Angle post and painted in yellow and black band with synthetic enamel paint as per traffic norms and as directed by the Engineers.	MTR	271.00	1000	271000
Sub Total						271000

Cost Centre H: Ramps						
33	MCGM USOR R3- RW-10-29	Providing & laying M-40 C.C.avg. compressive strength (As per IRC 15-2002.N.1.6) procured from B.M.C. approved R.M.C. plant including use of approved make of plasticizer/ retarder & Contractor's water with ice flakes (if required) and transported by transit mixer and placing at work site. Compacting, finishing, initial curing by approved curing compound & Contractor's water and tarring the sides of slab with hot bitumen as specified and directed (w/c ratio 0.4 maximum)(vata for curring will be paid separately.) (MINIMUM CEMENT CONTENT 350 kg/m³	CUM	7962.00	0	0
34	MCGM USOR R3- RW-3-32	Providing & fixing in the carriageway, 80 mm thick Heritage paver interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown lamen colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength 50 N/mm² manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consist cubical shape stone aggregate 8 mm sieve 100% passing and retain on 4.75 mm size sieve , silica sand and with pure iron oxide ultra voilette stabilized pigment @ 5% by weight of cement . The bottom layer should be 65 to 68 mm thick in gray cement having 12 mm sieve 100% passing aggregate as per technical specification rested on average 25 mm compacted thickness of uniformly graded river sand cushioning, compacted by proper capacity mechanical compactor with proper level grade and camber etc. complete as specified and as directed by the Engineer.	SQM	977.00	28.2	27551.4
35	MCGM USOR R3- RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm 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, lighing barricating to all lifts & lead maintenance of diversion etc. complete (metal gradation from 75mm to 75mm micron as per MCGM Road Specifications clause no.210). (For Tabletop)	CUM	2702.00	20.295	54837.09
36	MCGM USOR R3- RT-15-11	Fixing c.c tapered kerbs of type -2 as per Drg. EET&C/Gen/013/03Ty dt 11.12.03(Revised on 15.06.2006) available on site in C.M 1:2 painting the exposed surface of the kerbs with road marking paint grade-I (confirming to IS-164) in two coats of approved colour including excavation (For Tabletop) in any material except rock / concrete road and removing excavated material as per direction any where in city or suburban limit, cleaning the site etc as directed by engineer, The rate is inclusive of all lift and leads etc complete as directed	MTR	476.00	11.7	5569.2
37	MCGM USOR R3-RW-3- 31	Providing & fixing in the carriageway/footpath, 60mm thick Heritage paver interlocking white cement concrete pavers in red (terraCotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/shape and color,having average crushing strength not less than 40N/mm² as per technical specifications and ISCODE15658:2006 ; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thickand consisting of cubical shape stone aggregate 8mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra voilette stabilized pigment @5% by weight of cement. The bottom layer should be 45to48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc.complete as specified and as directed by the Engineer.	SQM	908.00	107.1	97246.8
Sub Total						185204.49
Cost Centre J: Miscelenous						
38	R3-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 Sq.Cm on each 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.'	NOS	433.00	1239	536487
39	R3-RT-16- 36	Supplying/ fixing of Flexible Median Marker which shall be made of tough, high impact resistant, injection moulded, thermoplastic body with U shape structure with overall eight of minimum 180mm and shank depth of minimum 30mm and thickness not less than 2mm. The exposed body structure should be cornered rounded for better aesthetics. The outer part of the body shall have the Abrasion loss not less than 35 mm3 when tested accordance with DIN53505 and DIN53516 respectively and shall retain at least 70% of this value when it is subjected to accelerated weathering for 500hrs as per the ASTM G155 standard. The logo of the manufacturer shall be embossed on either side of the body in the injection moulding process. - The flexible median marker shall have U shaped florescent yellow colour retro-reflective sheeting with minimum exposed reflective area 285 mm2. The reflective sheeting should confirm to Type XI Florescent Yellow sheeting as per IRC 67 2022 and ASTM D4956-11.	NOS	437.00	0	0

40	R3-RW-7-18	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 any type divider with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	SQM	170.00	0	0
41	R3-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 kerb stone with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	MTR	59.00	958	56522
42	R3-RT-16-44	Providing and fixing rumblers of rubberised material	MTR	1472.00	563	828736
43	R3-ME-2-22-d	Supply & Laying of double wall corrugated (DWC) pipes of 90 mm OD / 76 mm I.D. HDPE for underground cable protection as per IS 14930 Part II. With necessary connecting socket/couplings, tees of some material at required depth up to 900 mm below road ground surface. backfilling of with light ramming is included in the scope.	MTR	291.00	300	87300
44	R3-RW-10-25	P/L R.M.C.M-20 C.C. procured from B.M.C. approved R.M.C. plant including use of approved makes of plasticizer/ retarder & transported by transit mixer & placing at worksite, compacting, finishing curing etc. by contractor's water & tarring the sides of form work with hot bitumen as specified & directed by the Engineer. (MINIMUM CEMENT CONTENT 260 Kg/m ³ .) (For Tree Bunds &	CUM	6489.00	25	162225
45	As per MMRDA Tender Document	Providing traffic wardens for regulation of traffic during construction as per the requirement of traffic police, etc. complete and as directed by Engineer-incharge.	NOS	300.00	180	54000
46	R3-RT-16-28	Circular treeguard:Providing, fabrication and fixing M.S.Circular treeguard with circular pipe of 10 gauge, 50mm Dia Circular vertical ,40 mm Dia Horizontal support 18mm Dia. intermediate support with M.S. cap-(type-I) logo panel etc. including cutting welding, riveting, oil painting with navy blue colour or anyother approved colour shade as directed and fixing incement concrete foundation including cement concrete paver block lining including removal of surplus material/debris and restoring damaged portion of footpath etc. as directed. (Design details vide Drg.No.4F-A1.1, 4F- A1.2,A1.3 in the catalogue of street Furniture (Vol.I) published by B.M.C.)	NOS	19076.00	40	763040
47	R3-RW-10-33	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 B.M.C. 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.	MTR	501.00	330	165330
Sub Total						2653640
GRAND TOTAL						1,65,00,052.29