

**Name of the Work :- Mangalore Smart City,Maidan Road**

**1. BOQ (Master Format)**

Sl.No.	Specification	Unit	Qty.	Rate	Amount	Remarks
1.0	Dismantling brick,Tile work ,Paver Block B.in Cement Mortar retaining walls and other structure comprising of masonry cement concrete,wood work, Including T and P.sorting and dismatled material,disposal of unserviceble material and stacking the servicable material with all lifts complete as per specification.	Cum	774.09	291.48	225631	
2.0	Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including Tand P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. iii) Dismantling Stone Masonry. A. Rubble Stone masonry in lime mortar. MORTH Specification No. 202. Dismantling Steel work in all types of sections upto a heigh of 5m above plinth level including cutting of dismembering	MT	9.87	1346.24	13292	
3.0	Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T and P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Lime /cement concrete by mechanical means.	Cum	46.16	200.48	9254	
4.0	Dismantling of kerb Stone and Channel Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications. MORTH Specification No.202.	Rmt	1973.68	11.20	22105	
5.0	Dismantling of existing structures like culverts,bridges,retaining walls and other structure comprising of masinary, cement concrete,wood work,steel work including Tand P and scaffolding wherever necessary ,sorting the dismantled material,disposal of unserviceable material and stacking the serviceable materail with all the complete as per specifications.B.rubble stone masonry in cement mortar.MORTH specification No. 202.	Cum	40.50	273.28	11068	
6.0	Dismantling of cement concrete pavement by mechanical means using pneumatic tools,breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceble and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km Extra)	Cum	59.89	969.08	58042	
7.0	Dismantling, removal, transportation to client's storage place existing lighting poles.	Nos.	6.00	1000.00	6000	
8.0	Dismantling, removal, transportation to client's storage place existing Street light fixtures.	Nos.	36.00	250.00	9000	
9.0	Removing existing Sculpture from Junction Round about and preserving at safe place and to be installed after completion of the work as directed by engineer incharge (If any damages the reponsibility will be at the cost of contractor).	Nos.	1.00	100000	100000	
10.0	Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 5.00km and complete as per specifications. MORTH specification No.301 (Including transporting charges,loading and unloading for lead 5km)	Cum	1416.09	69.44	98334	
11.0	Earth work excavation for foundation of structures upto 3 mtrs. by mechanical means as per drawing and technical specification, including setting out, providing shoring, strutting and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, filling back the excavated earth to the extent required and utilising / transporting the remaining earth upto 1.00km lead. including cost of labour, materials and HOM of machineries etc., complete. <b>up to 3.0 m deep</b>	Cum	1218.99	59.36	72359	
12.0	Earth work excavation for foundation buildings,water supply, sanitary lines and electrical conduits ither in pits or in trenches 1.5 m above in width ,in <b>ordinary soil</b> not exceeding 1.5 m in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead up to 50 m after breaking of clods complete as per specifications.Specification No.KBS 2.1 (a)/2.3.5	Cum	977.10	211.68	206833	
13.0	Earth work excavation for foundation buildings,water supply, sanitary lines and electrical conduits ither in pits or in trenches 1.5 m above in width ,in <b>hard soil</b> not exceeding 1.5 m in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead up to 50 m after breaking of clods complete as per specifications.Specification No.KBS 2.1 (a)/2.3.5.	Cum	730.21	316.96	231446	

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14.0	Earthwork excavation in all soil deposits and filling sides of foundation upto plinth in layers not exceeding 20cms, in depth compacting each deposited layer by ramming after watering with all lead and lift including cost of all labour complete as per specifications.	Cum	18.75	284.00	5325	
15.0	<b>Excavation for laying of lighting cable</b> Earthwork excavation by manual means in ordinary soil involving an average horizontal throw up to 2 m and an average lift up to 1.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications MORTH/Chapter 3	Cum	198.00	91.84	18184	
16.0	Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.	Sqm	6207.26	5.60	34761	
17.0	Refilling available earth around the pipe lines, cables in layers not exceeding 20 cm in depth, compacting each deposited layer by ramming after watering with all lead and lift including cost of all labour complete as per specifications. Specification No.KBS 2.10.2.	Cum	1309.31	85.12	111448	
18.0	Providing gravel bedding for levelling the trench surface for laying Sewerage pipes including cost of materials,labours etc., complete as directed by the engineer in charge.	Cum	20.25	276.64	5602	
19.0	Disposal of surplus earth including,loading, unloading conveyance within a distance of 5 Km and spreading as directed by the engineer in charge	Cum	327.33	41.44	13564	
20.0	Providing and Filling in Foundation with Granite /Trap broken metal 100mm and down size,with approved sand including hand packing,ramming,watering including cost of all materials and labour with all leads and lift.complete as per specifications.	Cum	113.95	2367.68	269792	
21.0	<b>Granular Sub Base (GSB):</b> Providing, laying, spreading and compacting specified graded, gravel or any other course material 60 percent and crushed stone aggregates of granite/ trap/ basalt 40 percent in sub-base course, close grading-I including premixing the material at OMC in mechanical mixer, carriage of mixed material, spreading in uniform layers with motor grader on a prepared base and compacting with power roller to achieve the desired density including all materials, labour, HOM of machinery, lighting, guarding, barricading and maintenance of diversion complete as per specifications. MORTH Chapter 4.	Cum	833.42	1357.44	1131323	
22.0	Portable barricade in construction zone Installation of a steel portable barricade with horizontal rail 300mm wide,2.5m in length fitted on a 'A' frame made with 45x45x5mm angle iron section,1.5m height horizontal rail painted(2 coats) with yellow and white stripes,150mm in width at an angle of 45 degree,A Frame painted with 2 Coats of yellow paint,complete as per IRC:SP:55-2001 Complete as per specifications.	Nos.	120.00	2656.64	318797	
23.0	Providing and laying in position plain cement concrete of Mix 1:2:4 with cement 240Kgs/Cum,with 20mm and down size graded granite metal coarse aggregates at the rate 0.878 cum and fine aggregate at the rate 0.530 cum machine mixed,concrete laid in layers not exceeding 15cms. thick,well compacted in foundation,plinth and cills,including cost of all materials,labour,HOM of machinery ,curing complete as per specification.	Cum	275.41	5886.56	1621225	
24.0	Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement 220Kgs per Cum with 20 mm down size graded granite metal coarse aggregates at the rate 0.56 cum and fine aggregates at the rate 0.465 cum machine mixed concrete laid in layers not exceeding 15 cms,thick well compacted in foundation including cost of all materials,labour,HOM of machinery, curing complete as per specifications.	Cum	15.05	5725.76	86179	
25.0	Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement 240Kgs per cum,with 20mm and down size graded granite metal coarse aggregate at 0.47 cum with super plasticisers at 3 liters confirming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick,vibrated for all works in foundation for footings,pedastals,retaining walls,return walls,walls (any thickness)including attached pilasters,columnspillars,posts,struts,buttresses,bed blocks,anchor blocks and plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications.	Cum	206.95	6760.16	1398985	
26.0	Providing and removing centering,shuttering,strutting,propping etc.,and removal of formwork for foundations,footings,bases of columns for mass concrete including cost of all materials,labour complete as per specifications.	Sqm	383.18	258.72	99137	
27.0	Providing T.M.T steel reinforcement for RCC work including straighting,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.	MT	21.05	79156.00	1665990	

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28.0	Providing and constructing burnt brick masonry for basement and super structure with approved quality of non-modular bricks of standard size of class designation 3.5N with cement mortar 1:6 including cost of all materials,labour charges,scaffolding,curing complete as per specifications.	Cum	0.15	7021.28	1085	
29.0	Providing and constructing burnt brick masonry with approved quality of non-modular bricks of standard size of class designation 5.0Newton per sqmm (table moulded) with cement mortar 1:6 for basement and superstructure including cost of materials, labour charges, scaffolding, curing complete as per specifications.	Cum	19.20	7487.20	143744	
30.0	Providing 18mm thick cement plaster in single coat with cement mortar 1:4, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.	Sqm	87.08	247.52	21554	
31.0	Providing and fixing 450mm wide X 600mm X 20mm Thk. RIVERWASHED BLACK GRANITE CLADDING on surface of seating as mentioned in drawing 192-MSC-NR-WD-04	Sqm	46.50	3527.00	164006	
32.0	Construction of granular sub base by providing close graded crushed stone aggregate of granite/trap/basalt material,spreading in uniform layers with motor on prepared surface,mixing by mix in place methode by rotavator at OMC, and compacting with vibratory power roller to achieve the desired density,complete as per specification.B.by <b>Mix in Place Methode.</b> Close graded granular sub base material as per 400-1 <b>For Grading II material</b>	Cum	423.54	1576.96	667909	
33.0	Construction of <b>dry lean cement concrete</b> mix M15 with OPC cement 160Kg per Cum,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at the rate 0.86cum and fine aggregate at the rate 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate conforming to IS:383) aggregate cement ration not to excee 15:1.Aggregate gradation after blending to be as per Table 600-1,cement content to be determined during trail length construction,concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes vibratory roller,finishing and curing complete as per specifications.Morth specification No.601	Cum	282.36	4074.08	1150364	
34.0	Construction of unreinforced,dowel jointed,plain <b>cement concrete pavement</b> over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form or slip form paver spread,compacted and finished in a continuous operation including provision of contraction,expansio,construction and longitudinal joints,including groove cutting chrges,joints filler,separation memberane,sealnt primer,joints sealant,debonding strip,dowel bars at 4.5m intervals,tie rod,admixtures as approved,curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602. do with <b>M40</b> (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum)	Cum	847.08	7663.04	6491244	
35.0	Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower.	Rmt	4243.53	129	547415	
36.0	Repair of Joint Grooves with Epoxy Mortar Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1	Rmt	4243.53	385.28	1634947	
37.0	Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). Kerb Dimension= Top Width=0.25m, Bottom Width=0.3 m, Height =0.9 m	Nos	2809.00	1579.00	4435411	

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38.0	Providin and fixing pre cast solid concrete Kerb stones made out of CC 1:2:4 with top and bottom width 114 and 165mm respectively,400mm high and 450mm in length finished with CM 1:3 Plastering and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete	Nos.	5367.00	350.56	1881456	
39.0	Painting two coats after filling the surface with synthetic enamel paint in approved shades on new palstered concrete surfaces,with materials,labour complete as per specification.for Kerb Stone.	Sqm	1167.99	67.20	78489	
40.0	Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory and Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications and fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides and fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board and 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost and conveyance of all materials, equipment, machinery and labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge. 10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 and a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 900MM Equilateral Triangle-TYPE XI	No.	17.00	5807.20	98722	
41.0	Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory and Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications and fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides and fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board and 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost and conveyance of all materials, equipment, machinery and labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge. 10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 and a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 900MM Octagon Stop Board-TYPE XI	Nos.	6.00	8471.68	50830	
42.0	Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory and Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications and fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides and fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board and 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost and conveyance of all materials, equipment, machinery and labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge. 10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 and a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 600MM Circle-TYPE XI	Nos.	2.00	5299.84	10600	
43.0	<b>Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface:</b> Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area,thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35.The finished surface to be level,uniform and free from streak and holes complete as per specifications.MORTH specification No.803	Sqm	919.38	724.64	666221	

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44.0	Providing and Fixing of Bus shelter(on prepared foundation) made of SS 304 frame work with brush steel finish, Galvanised Aluminium powder coated roofing and electronic circuit to control its lighting.The seating shall be made of SS 304 tubular sections for seat and back rest.each unit size of 4500mm x 600mm with a minimum backrest support of 450mm.Bus shelter shall have the Side Display board to have 1100X400mm Electronic display.The electronic display board to be of LED Scrolling type with Oval, 4.3 x 5.1mm dia. Diffused. LED's having Amber colour.Dual bin system should be adopted one for recycle waste and other for dry waste.Each bin shall be with minimum capacity of 70Ltrs.Interactive Information Panel-display equipment with information area of 1400 x 1400 and touch screen LED display panel of area not less than 600-900mm with integrated 8mm toughened glass.Advertisement Area 2 nos of size 4500mm x 1650mm and 2100mm x 2000mm shall be integrated within the design of the Bus Shelter. This shall be backlit type with SS box framing sides and back complete.Provision for installing outdoor WiFi Router.The Foundation slab shall be made in min M25 concrete. The cast iron nuts, bolts shall be rust proof hot deep galvanized powder coated etc.The materials used shall be Nonflammable	Nos.	8.00	1500000	12000000	
45.0	Providing and installing of E- toilet with Super structure of the electronic toilet to have asthetic ambience with inner room size 1.2 x 0.8 x 2.4 (LXWXH)meters and Size of electronic toilet overall size in meters 2.30x1.25x2.80 (LXWXH) Total area 35 Sft. with Built-access controlled main door and side walls made of SS Grade 304,Toilet floor and closet are to be stainless steel of grade 304.E-Toilet shall have Built-in water tank with minimum 225 Lit capacity and Access controll using coin validator for entering the unit based on automatic payment collection mechanism exit from the unit should be manual.Automatic lights inside the unit with gloves on opening the door.E-Toilet shall be Automatic flushing system which includes Automatic Pre flush cleaning before use,Automatic closet washing mechanism after use and Automatic platform cleaning mechanism programmed after specific numbers.In addition to these flush switch is to be provided for manual operation.Standard features should include heath faucet,exhaust fan and cloth hanger.The E-Toilet shall have Alert to users-different indication on 'ready to use',busy are to be provided in the unit also with Voice guidance in the unit for users. Web enabled support-GPRS based Real time data to be provided from the unit through web for knowing the health status like number of users per day and coins collected.E-toilet shall have Modular and portable design enabling easy assembling and installation at site.Call ceneter and web portal facilities for registering complience and tracking usage,coin collection etc.Status display in LED,Printed instruction stickers are to be provided.For Advertisement purpose space for advertisement dispaly to be povided on the exterior of the unit for income generation and sustainability. Backup power facility like UPS is to be provided to supplement upto 30 Min Base of the unit to be placed on a suitable concrete structure with a ashthetic finish.	Nos	6.00	575000	3450000	
46.0	Providing and Installing Waste water treatment and recycling unit for each E-Toilet: Bio digester tank suitable for maintenance free processing the soil waste with 2000 litre capacity, made of FRP. The bio digester shall be of anaerobic type with compartments followed by disinfection. The compartments shall have polygrass mats for protection of bacteria on side partition walls. The bio digester shall be fitted with ball valve or bypass arrangement. Dosed with approved microbial solution at recommended interval	Nos.	6.00	150000	900000	
47.0	Providing and laying heavy duty cobble stones 60mm thick interlocking pavers,using cement and course sand for manufacture of blocks of approved size,shapes and colour with a minimum commpressive strength of 281 kg per sqm over 50mm thick sand bed (average thickness)and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints,final compaction of paver surface joints into its final level,including cost of materials,labour and HOM of machineries complete as per specification	Sqm	3849.57	1021.44	3932100	
48.0	Providing and laying heavy duty cobble stones 75mm thick, using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 50mm thick sand bed (average thickness ) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications.	Sqm	469.89	1086.40	510488	
49.0	Providing and laying heavy duty <b>Tactile Tiles</b> (Direction and Stop tiles-300 x 300 mm) 60mm thick and Yellow in colour , using cement and course sand for manufacture of blocks of approved size, shape with a minimum compressive strength of 281 kg per sqm over 50mm thick sand bed (average thickness ) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications.	Sqm	289.08	912	263638	

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50.0	Supplying chainlink fencing 50mm size of 8 gauge properly stretched between existing rectangular poles and fixing suitable bolts and nuts,the free ends shall be welded to pole and block pipe at top and bottom as required including cost of all materials,labour,lead and lifts and as per the directions of the engineer in charge of work including two coats of approved quality paint over one coat of shop paint	Sqm	235.00	738.08	173449	
51.0	Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge	No.s	10.00	4500.00	45000	
52.0	Providing and Fixing SS 304 Outdoor Dustbin of 55 liters capacity	Nos.	8.00	7500.00	60000	
53.0	Providing and Fixing Recessed Inception chamber cover - size: (1250 x 1250 x 80)mm Material: Cast Iron / Ductile Iron	No.s	20.00	3500.00	70000	
54.0	Providing and fixing CI grating (325 x325 mm ) for road Gully cover,including fixing the cover and CM 1:3 plastering 20 mm thick to all exposed faces,curing for days with all lead including cost of plastering but excluding cost of concrete etc.,complete	Nos	50.00	893.00	44650	
55.0	Providing and fixing of MS flat 100 mm, 5 mm thick for length of seat i.e. total of 66.83 m, with vertical support of 10 gauge thick M.S sheet laser cut to profile shown in drawing 192-MS-NR-WD-04 and c/c 1000 mm ( approved shop drawing ), screw plate at fixing with seat, Including Painting all complete to the satisfaction of the Landscape architect.	MT	0.72	100000.00	72103	
56.0	Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars ( shop drawing to be approved ),with vertical support of 0.9m at 2.2m/c , all complete to the satisfaction of the Landscape architect.	MT	7.62	100000.00	762320	
57.0	Providing gully pipe lowering,laying of PVC 100 mm dia ppes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testing etc as directed by the Engineer in charge	Rmt	148.00	332.64	49231	
58.0	Providing and filling sand in foundation upto plinth to required depth for sub soil tratement including watering,ramming with all lead and lift complete as per specifications.	cum	15.00	2391.00	35865	
59a	Providing and fixing to wall, ceiling and floor high density poly ethelene pipes 6.00 kgf/sq.cm working pressure following outside diameter raising mains and exposed dostrubtion pipes with special flanges, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges,HOM of equipments and testing complete as per specifications.Specification No. KBS 13.2,15.2/13.9 do for 75 mm dia	Rmt	490.00	449.12	220069	
59b	Providing and fixing to wall, ceiling and floor high density poly ethelene pipes 6.00 kgf/sq.cm working pressure following outside diameter raising mains and exposed distribution pipes with special flanges, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges,HOM of equipments and testing complete as per specifications.Specification No. KBS 13.2,15.2/13.9 do for 110 mm dia	Rmt	545.00	639.52	348538	
60.0	Supplying and fixing of AMR water meter size 15 mm inferential type,mangnbetically coupled, having dry dial, hermitically sealed totalizer conforming to MID standards.	No	2.00	37200.00	74400	
61.0	Supply and Fixing of Traffic signal Straight pole of 6 mtr, inner dia 100 mm from resistant to peeling with base plate size of ( LXWXT) 200mm X200mmX6mm painted with redoxide and double coat with synthetic enamel paint of yellow colour assembly G.I., class B, as per technical specification	Nos.	10.00	18691	186910	
62.0	Supply and fixing of Traffic signal Cantilever pole Class B having inner diameter of 100 mm or more with a height of 6m including extension arm assembly having outer diameter of 75mm with arm span of 4 mtr length and base plate of size 300mm X 300mm with thickness of 6 mm welded at the bottom of the pole base as per technical specification and drawings.	Nos.	7.00	52850	369950	
63.0	Supply and fixing of 300 mm dia – single source – LED retrofit - Red (blow) as per Specification	Nos.	17.00	11082	188394	
64.0	Supply and fixing of 300 mm dia – single source – LED retrofit - Amber (blow) as per Specification	Nos.	17.00	11082	188394	
65.0	Supply and fixing of 300 mm dia – single source – LED retrofit - Green (arrow/U-Turn) EN-12368 as per Specification	Nos.	17.00	13973	237541	
66.0	Supply and fixing of 300 mm dia – single source – LED retrofit - Red (ped. standing) EN-12368 as per Specification	Nos.	16.00	11082	177312	
67.0	Supply and fixing of 300 mm dia – single source – LED retrofit - Green (ped.walking) EN-12368 as per Specification	Nos.	16.00	13973	223568	
68.0	Supply and fixing of 300 mm dia - No Right Turn/No Left turn/No Straight/No 'U' Turn aspects by using UV stabilized ink on face plate EN-12368 as per Specification	Nos.	15.00	6196	92940	

Sl.No.	Specification	Unit	Qty.	Rate	Amount	Remarks
69.0	LED Post Top Lantern Garden Supply of LED Post top lantern with system 24 wattage, housing and frame shall be of powder coated, die cast, aluminium, diffuser with high density polyethylene IP 65EPDM Gasket, life 50000 Hrs. at the rate L70 shall be conforming to IS 10322/part 5/section 5 at the rate 230V. 5 years Warranty against any manufacturing defect working under standard electrical condition	Nos.	108.00	15930.00	1720440	
70.0	Fixing charges for LED Post Top Lantern Garden	Nos.	108.00	200.00	21600	
71.0	LED Street Light Supply of 180 Watt LED street light with pressure die cast aluminium housing body with optimal heat sink for better thermal dissipation. Diffuser with injection moulded and is made of polycarbonate material with high transmission index delivering superior high light output. Rated life burning Hrs 50000 hrat the rate lumen maintenance of 70 percent. CCT >5500K, IP 66 optical and electrical compartment and impact resistance of complete luminare >IK 08. Power factor>0.9 with mains current should not be greater than 0.1A to 0.7A and surge protection min 4 KV along with over voltage/over load, short circuit/ miswiring protection. Compatible for pole mounting with outer dia of 40 mm to 50 mm. Universal voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Over load and short circuit protection ensures reliable operation in spite of problem in out put side. Compliance to IS 10322/IEC 60598, LM 79 and LM 80. Adherence with ROHs. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED light fixture with watt system Power consumption, LED efficiency>130lm/W at 1 W and fixture efficiency >80lm/W with nominal CRI>75. Luminaire manufacturer should have in house facility accredited by NABL/CPRI and any Government certified agency and Design and development facility certified by ISO 9001:2008. Housing with supplier word mark /name shall be Engraved /Embossing on the die cast housing/body part. Warranty of 5 years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED source manufacture. Suitable for B1/B2 roads as per IS 1944 part I and Part II.	Nos.	36.00	54000	1944000	
72.0	Fixing charges for Above LED Street Light	Nos.	72.00	250.00	18000	
73.0	Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended	Nos	108.00	7398.00	798984	
74.0	Lighting Pole, 9 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended	Nos.	6.00	17118.00	102708	
75.0	Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm	Nos.	6.00	3540.00	21240	
76.0	Fixing charges for above Item of Octogonal Poles	Nos.	6.00	250.00	1500	
77.0	Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole	Nos.	18.00	700.00	12600	
78.0	Street Light Control Panel (SLCP) Supply, installation, testing and commissioning of SLCP Shall be conforming following IS standards – IS: 2147 – 1962 Degree of protection Floor / wall/ structure mounted, free standing, suitable for cable entry from bottom side, dust proof, vermin proof, 3 phase and neutral, bus bar, aluminium, neutral bus shall be of same size as phase bus bars, Short circuit capacity for the bus bars and switches shall be 10 kA, as SLD No. 1.01	No.	1.00	50000.00	50000	
79.0	LT cable Supplying of 1.1 kV LT UG cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 and conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor	Rmt	3000.00	117.00	351000	

Sl.No.	Specification	Unit	Qty.	Rate	Amount	Remarks
80.0	Supply and drawing Flexible Multicore cable manufactured with electrolytic grade flexible copper with low conductor conforming to table 3 class of 5 of IS:8130-1984 and (Virgin) PVC insulation and sheathed suitable for working voltage up to 1100 Volts as per IS-694:1990 and conforming to GTP of GROUP - A 2Cx2.5 Sq.mm	Rmt	583.00	59.10	34455	
81.0	Supply and laying of sand, cables for 4.1	Cum	39.60	1700.00	67320	
82.0	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor	Nos	912.00	11.31	10315	
83.0	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor	Nos	456.00	3.12	1423	
84.0	Chemical Earthing for grounding, conduits, IC cut outs and other equipment on the meter board by using copper /SS rod with earth enhancing backfill compound which is non corrosive, thermally, conductive, potential, to permissible limits, superior, fault, conductive capacity, non toxic, weather resistance and capable of achieving ohmic value less than one ohm	Kit	4.00	5500.00	22000	
85.0	Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessary suitable size clamps, nails, guttas/spacers etc-8 SWG	Rmt	1155.00	19.50	22523	
86.0	Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20 percent for payment).	Cum	600.17	140.00	84024	
87.0	Supply at site of work well decayed farm yard manure. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stacking complete as per specifications. MORTH Specification No. 308.2 Pg No 152, Item No 19.90	Cum	300.09	228.48	68565	
88a	Supplying and stacking at site dump manure from approved source, including carriage upto 5 k.m. lead complete (manure measured in stacks will be reduced by 8 Percent for payment) Screened through sieve of I.S. designation 20 mm	Cum	600.17	228.48	137128	
88b	Supplying and stacking at site dump manure from approved source, including carriage upto 5 k.m. lead complete (manure measured in stacks will be reduced by 8 Percent for payment) Screened through sieve of I.S. designation 4.75 mm	Cum	300.09	228.48	68565	
89.0	Horticulture -Spreading of sludge farm yard manure or/ and good earth. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307	Cum	739.53	72.80	53838	
90.0	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge	Cum	739.53	23.91	17682	
91.0	Making lawns including ploughing and breaking of clod, removal of rubbish, dressing and supplying doobs grass roots and planting at 15 cm apart, including supplying and spreading of farm yard manure at rate of 0.18 cum per 100 sqm complete as per specifications. MORTH Specification No.307	Sqm	267.73	15.68	4198	



Sl.No.	Specification	Unit	Qty.	Rate	Amount	Remarks
92.0	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20Percent : one part of stacked volume of sludge or manure after reduction by 8 Percent), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed, within a lead of 50 m, lift up to 1.5 m complete (cost of sludge, manure or extra earth to be paid for separately).	Cum	900.27	146.00	131439	
93.0	Ficus Blackeana 5'-0" ht with 4-5 branches and bushy form	Nos.	1075.00	840.00	903000	
94.0	Lantana Vareigata 350mm ht with 4-5 minimum branches and bushy form	Nos.	266.00	33.60	8938	
95.0	Nerium Oleander variegated - 5'0" ht , 5-6 branches and bushy in form	Nos.	201.00	840.00	168840	
96.0	Heliconia Pstittacorrum 'lady diana ' 4'6" ht , 5-6 branches and bushy in form	Nos	782.00	140	109480	
97.0	Zephranthus Candida 300mm ht with 4-5 branches and bushy form	Nos.	227.00	30.24	6864	
98.0	Cuphea Hysopifolia 300mm ht with 4-5 branches and bushy form	Nos	148.00	50.40	7459	
99.0	Pandanus variegated'gold ' 300mm ht , 300mm c/c in triangulation , with 4-5 fronds	Nos.	1815.00	84.00	152460	
100.0	Bougenvilla variety 'red ' 600mm dia , specimen plant in round shape the plant should be ready in form and bushy to satisfaction of landscape architect/PMC	Nos.	44.00	140.00	6160	
101.0	Turf-ZOYSIA JAPONICA ( MAT)	Sqm	370.19	156.80	58046	
102.0	Turf-PASPALAM	Sqm	86.62	156.80	13582	
103.0	supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed.	Sqm	1209.09	560.00	677091	
			<b>Grand Total</b>		<b>5,84,42,000</b>	

**NOTE:** The bidder, while filling his offered item rates, needs to consider all such expenses needed to maintain the constructed assets in desired good condition through out O and M period.

**Executive engineer  
MSCL Mangaluru**

**Superintendent Engineer  
MSCL Mangaluru**

**Managing Director  
MSCL Mangaluru**