

Project Name: Manglore Smart City
Grand Summary for Priority Road DPR 5

Sr. No.	Description	Cost In INR
1	Road and Other Works	37,34,90,426
2	Street Lighting	64,63,562
3	Landscape Work	22,38,546
	Construction Cost Sub Total	38,21,92,534
	GST @ 12% -Civil Constrction Cost (Refer 1.0 Abstract)	4,40,83,165
	Provision for Third Party Damages and Maintenance at 1 st Year(DLP-	28,83,930
	GST @12% on DLP Cost Items (Refer 5.1 Abstract)	2,65,467
	Maintenance Cost of 2nd,3rd and 4th Year	1,21,84,243
	GST @12% on Maintenanace Cost	11,81,659
	Escalation and Tender Premium @10%	382,19,253
	Add 3% Contengency	114,65,776
	Miscellaneous and Rounding off	23,972
	Grand Total	49,25,00,000

EXECUTIVE ENGINEER
MSCL MANGALURU

GENERAL MANAGER TECHNICAL
MSCL MANGALURU

MANAGING DIRECTOR
MSCL Mangaluru

**Name of the Work :- Mangalore Smart City
1.0 BOQ of Road and Other Work for Priority Road DPR 5**

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
1.00	Taking out existing CC interlocking paver blocks from footpath/central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	8598.28	74.98	6,44,699	
2.00	KSRRB M200.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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (SI No : 18.47)	Cum	276.87	1003.20	2,77,756	
3.00	KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (S.I.No.18.49)	Rmt	4469.00	13.20	58,991	
4.00	KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 18-19,S.I.18.20)	Cum	5527.36	429.00	23,71,237	
5.00	KSRRB M200-17.2. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. v)Steel work in all types of Sections upto a Height of 5 m above plinth level excluding Cutting of Rivet- B. Excluding dismembering. (KPWD SOR 18-19,18.33)	MT	9.40	2082.30	19,574	
6.00	KSRRB 300-50. Scarifying bituminous course 50mm to 75mm thick along with premix carpet / surface dressing by road roller attached with scarifier without disturbing the base and stacking the debris including cost of all labour charges, HOM of machineries complete as per specifications. MORTH / Section 5.(KSRRB SI No.19.56)	Sqm	8614.00	42.90	3,69,541	
7.00	KSRRB 300-46. Scarifying stone metal crust 50mm to 100mm thick by road roller with scarifier along with 20mm premix carpet / surface dressing and stacking of old serviceable materials including cost of all labour charges, HOM of machineries complete as per specifications. MORTH / Section 5. (KSRRB SI No.19.52)	Sqm	19073.81	42.90	8,18,267	
8.00	KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantaling Brick/Tile work B.In Cement mortar (SI No : 18.23)	Cum	2.30	386.10	888	
9.00	Removing B.S slab of drain and stackin as directed by engineer in charge.(PWD 18-19,SI No : 5.32)	Sqm	150.00	107.80	16,170	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
10.00	KSRRB M800-Permanent type barricade in construction zone KSRRB M800-44.1. Construction of a permanent type barricade made of steel components, 1.5 m high from road level, fitted with 3 horizontal rails 200 mm wide and 4 m long on 50 x 50 x 5 mm angle iron vertical support, painted with yellow and white strips, 150 mm in width at an angle of 45°, complete as per IRC:SP:55-2014 complete as per specifications . A. With steel components (SI No : 24.45)	Nos.	250.00	4,211.90	10,52,975	
11.00	KSRRB M300-14. 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 (SI No : 19.14)	Cum	58388.11	56.36	32,90,754	
12.00	KSRRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 18-19,SI No.2.11)	Cum	38867.33	132.00	51,30,488	
13.00	KSRRB 300-Compaction KSRRB 300-58. 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 / Section 3.(KPWD 18-19,SI No.19.64)	Sqm	37458.12	6.60	2,47,224	
14.00	KSRRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (SI.No. 4.6 of KPWD 18-19)	Cum	2147.14	6,490.00	1,39,34,958	
15.00	KSRRB 400 Granular Sub-Base with Coarse Graded Material (table 400-1) KSRRB M400-7. Construction of granular sub-base by providing Coarse graded crushed stone aggregates of granite / trap / basalt material, speading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per MORTH specifications clause 401 and Table 400-1 Grading VI. (SI.No.20.4 of KPWD SR 2018-19)	Cum	2429.35	2,382.60	57,88,175	
16.00	KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material (RA Attached)	Cum	3654.42	2,640.00	96,47,669	
17.00	KSRRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (SI No : 4.10 of KPWD 18-19)	Cum	8501.41	6,817.80	5,79,60,941	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
18.00	KSRB 4.6.1 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. Specification No. KSB 4.6.2 (SI No : 4.28 of KPWD 18-19)	Sqm	52432.82	289.30	1,51,68,814	
19.00	KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr 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.Specification No. KBS4.6.3. do with TMT bars Fe500 (SI No : 4.46.2 of KPWD 18-19)	MT	705.47	77,860.20	5,49,28,035	
20.00	KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305IKPWD 18-19,19.62,17.1 and 17.4)	Cum	8861.59	620.62	54,99,680	
21.00	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (SI No : 22.1.1 of KPWD 18-19)	Cum	1607.27	4,452.80	71,56,852	
22.00	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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, Manually laid and compacting with palte compactor ,finishing and curing complete as per MORTH specifications Clause 601. (RA attached)	Cum	548.19	4,048.00	22,19,065	
23.00	Providing and laying cement concrete using 20mm and down size granite coarse aggregates and fine aggregates of ready mixed concrete for RCC works laid in 15 em thick layers and well compacted including vibrating curing etc., for all super structure works with all lead and lift etc., complete. (exculsive of cost of steel and fabrication charges) Note : The RMC should be obtained only from the plants certified by Quality Council of India as per CE, C&B letter, AE2, 2015-16, Dt. 12-09-2015 Ready mixed Cement concrete M-25 (KPWD,4.49.2)	Cum	2126.25	6,046.70	1,28,56,814	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
24.00	KSSRRB M600-2.Construction of unreinforced,dowel jointed, plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplasticizer 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 paver spread,compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints,including groove cutting charges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per MORTH specifications Clause 602.with M40 @420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (SI No : 22.2.2 of KPWD 18-19)	Cum	4302.34	6,341.50	2,72,83,289	
25.00	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 and as shown on drawing and as per MORTH specifications clause 602. (Non SOR Item)	Rmt	353.67	115.00	40,672	
26.00	KSSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSSRRB M3000-8 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 (SI No : 35.8 of KPWD 18-19)	Rmt	17.68	364.10	6,439	
27.00	Providing and laying at or near ground level factory made Median 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 drawing. (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)	Cum	5.10	19,479.70	99,346	
28.00	Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC M20 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)	Cum	471.24	17,029.77	80,25,049	
29.00	Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC M20 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)	Cum	216.81	17,029.77	36,92,145	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
30.00	Reusing existing kerb stone obtained from dismantling of existing footpath or by other dismantling work and laying at or near ground level 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 transportation to site from stack yard, 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).	Rmt	2,234.50	58.23	1,30,115	
31.00	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per MORTH specifications section 8. (SI No : 24.1 of KPWD 18-19)	Sqm	2,191.02	88.00	1,92,810	
32.00	P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting. (Rate analysis attached)	Nos.	782.00	7,911.54	61,86,824	
33.00	P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	869.00	5,276.57	45,85,335	
34.00	P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	365.00	7,912.28	28,87,982	
35.00	KSRRB M300- Wrought iron and mild steel welded work KSRRB M300-18. Wrought iron and mild steel welded work (using angles, square bars, tees and channel grills, gratings with grating frames, gates and tree guards of any size and design etc. including cost of screens and welding rods or bolts and nuts complete fixed in position but without the cost of excavation and concrete for fixing which will be paid separately complete as per specifications.(KPWD,18-19,SI.No.19.97)	Quintal	55.50	7,905.70	4,38,766	
36.00	KSRRB 12-8.2 : Constructing brick masonry inspection chamber 500x700mm, and 450mm depth , (clear inside dimension) for pipeline with one or two inlets, using table moulded non-modular bricks of class designation 50 in cement mortar 1:5, C.I cover with frame (light duty) 455x610mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23kg and weight of frame 15 kg) R.C.C. top slab with cement concrete M 15 with 20mm and downsize granite metal , foundation concrete M 5 with 40mm and downsize granite metal inside plastering 12mm thick with cement mortar 1:3, finished smooth with a floating coat of cement on walls and bed concrete complete as per standard design including cost of materials, labour charges, curing complete as per specifications. Specification No. KBS (S.I.No.11.52 of PWD SR 2018-19)	Nos.	13.00	9,125.60	1,18,633	
37.00	Providing gully pipe lowering, laying of PVC 100 mm dia pipes 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 (page No.41, Item No.7, KUWSDB SOR 2016-17)	Rmt	992.40	301.70	2,99,407	
38.00	KSRRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2018-19, SI.No.12.89)	Nos.	827.00	913.00	7,55,051	

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39.00	KSRRB M2200- Providing Weep Holes KSRRB M2200-8. Providing weep holes in Brick masonry / Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications complete as per specifications MORTH Specification No.2706 & 2200 (PWD SR 2018-19, SI.No.28.10)	Nos./M	8,690.00	161.70	14,05,173	
40.00	KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2018-19,SI.No.24.36)	Rmt	1,108.00	5,524.20	61,20,814	
41.00	Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	17,628.00	1,556.88	2,74,44,681	
42.00	Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	22,852.00	1,068.90	2,44,26,503	
43.00	Providing and Fixing Spacers for Power Ducts of size 200 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	6,821.00	1,003.00	68,41,463	
44.00	Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	5,991.00	1,947.00	1,16,64,477	
45.00	Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	7,863.00	601.30	47,28,022	
46.00	Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	21,262.53	624.00	1,32,67,819	
47.00	Cutting of Control joints panels(in Footpath) at suitable required locations using using tools and tackles.	Rmt	6,072.37	59.00	3,58,270	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
48.00	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 30mm 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. (KPWD SR 2018-19,SI No : 14.7)	Sqm	5,771.99	1,225.40	70,72,997	
49.00	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (KPWD 18-19,S.I.No.21.17.1)	Cum	108.79	8,622.90	9,38,064	
50.00	KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen(KPWD 18-19,S.I.No.21.22.6)	Cum	29.01	9,637.10	2,79,572	
51.00	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & 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 & 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 & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.	Nos.	154.00	3,862.10	5,94,763	
	10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & 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 (KPWD 18-19,SI No : 24.2.1)					

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52.00	<p>KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & 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 & 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 & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.</p>	Nos.	26.00	5,453.80	1,41,799	
	<p>10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & 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 (KPWD 18-19,SI No : 24.2.6)</p>					
53.00	<p>KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & 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 & 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 & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.</p>	Nos.	75.00	3,429.80	257,235	
	<p>10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & 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 (KPWD 18-19,SI No : 24.2.3)</p>					

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
54.00	KSRRB M800-3. Direction and Place Identification Signs upto 0.9 sqm Size Board:- Manufacturing, supply and installation of retro-reflectorised cautionary, mandatory and informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45 cm x45 cm x 60 cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the work as directed by engineer in charge. 10 years warranty for retro reflective sheeting from the original sheeting manufacturer as per clause 6.9 in IRC 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier.	Sqm	14.40	7619.70	1,09,724	
55.00	Direction and Place Identification Signs with size more than 0.9 sqm Size Board: Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of high intensity grade sheeting vide Clause 801.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 45 x 45 x 60 em, 60 em below ground level as per approved drawing.	Sqm	44.00	7926.60	3,48,770	
56.00	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, supply and installation of retro- reflectorised cautionary, mandatory and informatory signboards made out of cube corner micro prismatic grade sheeting confirming to 600x800 MM type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with (KPWD18-19,24.2.4)	Nos.	22.00	4453.90	97,986	
	M20 grade cement concrete of 45 cm x45 cm x 60 cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the work as directed by engineer in charge. 10 years warranty for retro reflective sheeting from the original sheeting manufacturer as per clause 6.9 in IRC 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier.					
57.00	KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications (KPWD 18-19,SI No : 24.41)	Nos.	1385.00	317.90	4,40,292	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
58.00	Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: 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 (KPWD 18-19,SI No : 24.15)	Sqm	4686.62	471.90	22,11,616	
59.00	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 & 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 (NON SOR Item)	Nos.	3.00	1500000.00	45,00,000	
60.00	Providing & 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.	Nos	3.00	5,75,000	17,25,000	
	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 provided 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. (Non SOR Item)					
61.00	KSRB 6-2.3 : 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 superstrucutre including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2. (KPWD 18-19,SI.No.6.7)	Cum	45.21	8576.70	3,87,742	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
62.00	KSRB15-3.8 : 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.(KPWD 18-19,SI No.15.16)	Sqm	136.08	288.20	39,218	
63.00	Providing and fixing 450mm wide X 600mmX 20mm thk.RIVERWASHED BLACK GRANITE CLADDING on surface of seating as directed by architect (Non SOR Item)	Sqm	75.60	3527.00	2,66,641	
64.00	Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	73.00	4,500	3,28,500	
65.00	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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	2.08	100,000	2,08,000	
66.00	Providing and Fixing SS 304 Outdoor Dustbin (Pivoted Type and Mounted on SS Poles) of 55 liters capacity all complete to the satisfaction of the Engineer in charge. (NON SOR Item)	Nos.	65.00	7,500	4,87,500	
67.00	KSRRB M300-14. Half brick circular tree guard, in 2nd class brick, internal diametre 1.25 metres, and height 1.2 metres, above ground and 0.20 metre below ground, bottom two courses laid dry, and top three courses in cement mortar 1:6 (1 cement 6 sand) and the intermediate courses being in dry honey comb masonry, as per design complete, complete as per specifications.KSRRB M300-Edging with 2nd class bricks, laid dry lengthwise(KPWD 18-19,19.93)	Nos.	5.00	2,466	12,331	
68.00	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5 km Item No 17.4 KSRRB M100-4.1- Earth	Cum	19,520.78	90.86	17,73,658	
69.00	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5km Item No 17.4 KSRRB M100-4.1- Debris	Cum	8,875.86	91.30	8,10,366	
			Total		37,34,90,426	

SOR+ RA Items Cost	26,49,68,330
GST @12%	31796200
Market Rate	10,23,91,376
GST @12%	12286965

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Mangalore Smart City
1.1 Measurement Sheet of Road and Other Work for DPR 5

Sr. No.	Description	Unit	No's	L	B	H	Qty.
Road and Junction Pavment and Other Works							
1	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)						
	7a-Milagres Cross Road						
	Ch.160.00(RHS)	Sqm	1	4.5	4.14		18.63
	7c-Attavar Nandigudda Road						
	Ch.150.0 to Ch.350.0(RHS)	Sqm	1	200.0	2.37		474.00
	Ch.360.0 to Ch.430.0(RHS)	Sqm	1	70.0	5.09		356.30
	10-Kudumbi Garden Road						
	Ch.10.00 to Ch.20.00(LHS)	Sqm	1	10.0	1.85		18.50
	19b-Balmatta Road						
	Ch.0.00 to Ch.90.00	Sqm	1	90.0	4.42		397.80
	19a- Arya Samaj Road						
	Ch.0.00 to Ch.590.00	Sqm	1	590.0	10.00		5900.00
	Consider 20% Extra Qty.						1433.05
		Sqm		Total Qty.			8598.28
	Consider 60mm Paver Block	Cum					515.90
2	KSRRB M200.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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (SI No : 18.47)						
RCC Pipe Crossing-							
1	7a-Milagres Cross Road	Cum	4	11	1.182	0.00	0.00
2	7c-Nandigudda Road	Cum	11	16	1.182	0.30	62.41
3	8-New Balmatta Road	Cum	12	12	1.182	0.00	0.00
4	10-Kudumbi Garden (DBS) Road	Cum	8	12	1.182	0.30	34.04
5	19a-Arya Samaj Road	Cum	6	10	1.182	0.00	0.00
6	19bBalmatta Road	Cum	4	26	1.182	0.30	36.88
7	15a-Azizuddin Road	Cum	8	11	1.182	0.30	31.20
8	15b-Jumma Masjid-Old Port Road	Cum	16	6	1.182	0.30	34.04
9	20-Bendre Ferry Road	Cum	18.4	12	1.182	0.30	78.30
		Cum		Total Qty.			276.87
3	KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (S.I.No.18.49)						
	Footpath						
1	7a-Milagres Cross Road	Rm	0	183			0.00
2	7c-Nandigudda Road	Rm	2	1021			2042.00
3	8-New Balmatta Road	Rm	1	577			577.00
4	10-Kudumbi Garden (DBS) Road	Rm	0	375			0.00
5	19a-Arya Samaj Road	Rm	2	595			1190.00
6	19bBalmatta Road	Rm	2	330			660.00
7	15a-Azizuddin Road	Rm	0	717			0.00
8	15b-Jumma Masjid-Old Port Road	Rm	0	966			0.00
9	20-Bendre Ferry Road	Rm	0	1103			0.00
		Rm		Total Qty.			4469.00
4	KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 18-19,S.I.18.20)						
	SWD						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
1	7c-Nandigudda Road						
	SWD-Base	Cum	1	1021.00	1.35	0.15	206.75
	SWD-Wall	Cum	2	1021.00	0.20	1.10	449.24
	SWD-Slab	Cum	1	1021.00	1.15	0.15	176.12
2	8-New Balmatta Road						
	SWD-Base	Cum	1	577.00	1.35	0.15	116.84
	SWD-Wall	Cum	2	577.00	0.20	1.10	253.88
	SWD-Slab	Cum	1	577.00	1.15	0.15	99.53
3	10						
	SWD-Base	Cum	1	375.00	1.10	0.15	61.88
	SWD-Wall	Cum	2	375.00	0.20	0.90	135.00
	SWD-Slab	Cum	1	375.00	0.90	0.15	50.63
4	19a						
	SWD-Base	Cum	2	330.00	1.10	0.15	108.90
	SWD-Wall	Cum	4	330.00	0.20	1.00	264.00
	SWD-Slab	Cum	1	330.00	0.90	0.15	44.55
5	19b						
	SWD-Base	Cum	1	595.00	1.10	0.15	98.18
	SWD-Wall	Cum	2	595.00	0.20	1.00	238.00
	SWD-Slab	Cum	1	595.00	0.90	0.15	80.33
6	15a						
	SWD-Base	Cum	2	717.00	1.10	0.15	236.61
	SWD-Wall	Cum	4	717.00	0.20	1.00	573.60
	SWD-Slab	Cum	2	717.00	0.90	0.15	193.59
7	15b						
	SWD-Base	Cum	1	966.00	1.10	0.15	159.39
	SWD-Wall	Cum	2	966.00	0.20	1.00	386.40
	SWD-Slab	Cum	1	966.00	0.90	0.15	130.41
8	15b						
	SWD-Base	Cum	1	1103.00	1.10	0.15	182.00
	SWD-Wall	Cum	2	1103.00	0.20	1.00	441.20
	SWD-Slab	Cum	1	1103.00	0.90	0.15	148.91
	Cross Drain						
	Box Culvert						
	7a						
	Box Culvert-Slab	Cum	4	11.2	1.00	0.20	8.96
	Box Culvert-Wall	Cum	4	11.2	1.00	0.20	8.96
	7c						
	Box Culvert-Slab	Cum	16	16.7	1.00	0.20	53.44
	Box Culvert-Wall	Cum	16	16.7	1.00	0.20	53.44
	8						
	Box Culvert-Slab	Cum	8	12.5	1.50	0.20	30.00
	Box Culvert-Wall	Cum	8	12.5	1.50	0.20	30.00
	10						
	Box Culvert-Slab	Cum	8	12.5	1.50	0.20	30.00
	Box Culvert-Wall	Cum	8	12.5	1.50	0.20	30.00
	19a						
	Box Culvert-Slab	Cum	8	10.6	1.50	0.20	25.44
	Box Culvert-Wall	Cum	8	10.6	1.50	0.20	25.44
	19b						
	Box Culvert-Slab	Cum	8	26.1	1.50	0.20	62.64
	Box Culvert-Wall	Cum	8	26.1	1.50	0.20	62.64
	15a						
	Box Culvert-Slab	Cum	12	11.3	1.50	0.20	40.68
	Box Culvert-Wall	Cum	12	11.3	1.50	0.20	40.68
	15b						
	Box Culvert-Slab	Cum	16	6.75	1.50	0.20	32.40
	Box Culvert-Wall	Cum	16	6.75	1.50	0.20	32.40
	20						
	Box Culvert-Slab	Cum	16	12.95	1.50	0.20	62.16
	Box Culvert-Wall	Cum	16	12.95	1.50	0.20	62.16
		Cum		Total Qty.			5527.36
5	KSRRB M200-17.2. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. v)Steel work in all types of Sections upto a Height of 5 m above plinth level excluding Cutting of Rivet- B. Excluding dismembering. (KPWD SOR 18-19,18.33)						
	Footpath Railing		Rm	Kg/Rm	Kg		

Sr. No.	Description	Unit	No's	L	B	H	Qty.
			100	50	5000		5.00
			Nos.	Mt/Nos			
	Bus Shelter		4	1.1			4.40
		MT				Total	9.4
6	KSRRB 300-50. Scarifying bituminous course 50mm to 75mm thick along with premix carpet / surface dressing by road roller attached with scarifier without disturbing the base and stacking the debris including cost of all labour charges, HOM of machineries complete as per specifications. MORTH / Section 5.(KSRRB SI No.19.56)						
	Milagres Cross Road						
	Ch.5.00 to Ch.160.00	Sqm	1	155		6.80	1054.00
	Arya Samaj Road						
	Ch.0.00 to Ch.580.00	Sqm	1	580		9.00	5220.00
	15b-Jumma Masjid -Old Port Road						
	Ch.710.0 to Ch.970.00	Sqm	1	260		4.50	1170.00
	20-Bendre Ferry Road						
	Ch.0.00 to Ch.260.00	Sqm	1	260		4.50	1170.00
		Sqm		Total Qty.			8614.00
7	KSRRB 300-46. Scarifying stone metal crust 50mm to 100mm thick by road roller with scarifier along with 20mm premix carpet / surface dressing and stacking of old serviceable materials including cost of all labour charges, HOM of machineries complete as per specifications. MORTH / Section 5. (KSRRB SI No.19.52)						
	Milagres Cross Road						
	Ch.5.00 to Ch.160.00	Sqm	2	155		6.80	2108.00
	Arya Samaj Road						
	Ch.0.00 to Ch.580.00	Sqm	2	580		9.00	10440.00
	15b-Jumma Masjid -Old Port Road						
	Ch.710.0 to Ch.970.00	Sqm	2	260		4.50	2340.00
	20-Bendre Ferry Road						
	Ch.0.00 to Ch.260.00	Sqm	2	260		4.50	2340.00
	RCC Pipe Crossing-						
1	7a-Milagres Cross Road	Sqm	0	11		1.182	0.00
2	7c-Nandigudda Road	Sqm	22	16		1.182	416.06
3	8-New Balmatta Road	Sqm	0	12		1.182	0.00
4	10-Kudumbi Garden (DBS) Road	Sqm	16	12		1.182	226.94
5	19a-Arya Samaj Road	Sqm	0	10		1.182	0.00
6	19bBalmatta Road	Sqm	8	26		1.182	245.86
7	15a-Azizuddin Road	Sqm	16	11		1.182	208.03
8	15b-Jumma Masjid-Old Port Road	Sqm	32	6		1.182	226.94
9	20-Bendre Ferry Road	Sqm	36.8	12		1.182	521.97
		Sqm		Total Qty.			19073.81
8	KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantaling Brick/Tile work B.In Cement mortar (SI No : 18.23)						
	Provisional Qty	Cum	1	10	0.23	1.00	2.30
		Cum		Total Qty.			2.30
9	Removing B.S slab of drain and stacking.(PWD 18-19,5.32,Page No.32)						
	Provisional Qty	Sqm	1	50	3		150.00
		Sqm		Total Qty.			150.00
10	KSRRB M800-Permanent type barricade in construction zone KSRRB M800-44.1. Construction of a permanent type barricade made of steel components, 1.5 m high from road level, fitted with 3 horizontal rails 200 mm wide and 4 m long on 50 x 50 x 5 mm angle iron vertical support, painted with yellow and white strips, 150 mm in width at an angle of 45°, complete as per IRC:SP:55-2014 complete as per specifications . A. With steel components (SI No : 24.45)						
	Length of Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Considered 500m length at 4 locations work will be in progress	Rm	4	250.00			1000.00
						Total Length	1000.00
	No. of Barricade = Length of Road / Length of one barricade (4.0m)	Nos.				Total Qty.	250.00
11	KSRRB M300-14. 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 (SI No : 19.14)						
	Pavement						
	7a-Milagres Cross Road						
	Ch.6.000 to Ch.165.000	Cum	1	183	5.3	0.67	649.83
	8-New Balmatta Road						
	Ch.0.00 to 580.00	Cum	1	580	5.3	0.67	2059.58
	19a-Arya Samaj Road						
	Ch.0.00 to 330.00	Cum	1	595	5.3	0.67	2112.85
	15b-Jumma Masjid Road						
	Ch.720.0 to Ch.970.0	Cum	1	300	4.6	0.67	924.60
	20-Bendre Ferry Road						
	Ch.0.00 to Ch.260.00	Cum	1	260	4.6	0.67	801.32
	19a-Balmatta Road						
	Ch.0.00 to Ch.320.00						
	RHS	Cum	1	291	0.5	0.67	97.49
	LHS	Cum	1	250	0.5	0.67	83.75
	20-Bendre Ferry Road						
	RHS						
	Ch.0.000 to Ch.170.0	Cum	1.0	170.0	1.0	0.67	113.90
	Ch.188.0 to Ch.218.0	Cum	1.0	30.0	0.9	0.67	18.69
	Ch.220.0 to Ch.270.0	Cum	1.0	50.0	2.0	0.67	67.00
	Ch.570.0 to Ch.705.0	Cum	1.0	135.0	1.1	0.67	99.50
	Ch.770.0 to Ch.870.0	Cum	1.0	100.0	1.3	0.67	85.09
	Ch.870.0 to Ch.925.0	Cum	1.0	55.0	1.2	0.67	44.22
	Ch.930.0 to Ch.1070.0	Cum	1.0	140.0	0.9	0.67	80.67
	LHS						
	Ch.125.0 to Ch.145.0	Cum	1.0	20.0	0.6	0.67	7.50
	Ch.180.0 to Ch.200.00	Cum	1.0	12.0	0.8	0.67	6.03
	Ch.260.0 to Ch.470.0	Cum	1.0	210.0	1.4	0.67	194.17
	Ch.530.0 to Ch.545.0	Cum	1.0	15.0	1.3	0.67	12.76
	Ch.590.0 to Ch.750.0	Cum	1.0	160.0	0.8	0.67	87.90
	Ch.780.0 to Ch.905.0	Cum	1.0	125.0	1.6	0.67	134.84
	Ch.915.0 to Ch.942.0	Cum	1.0	27.0	1.9	0.67	34.55
	Ch.950.0 to Ch.1100.0	Cum	1.0	150.0	1.6	0.67	163.82
	Road 7C						
	LHS						
	Ch.0.00 to Ch.45.0	Cum	1	45	0.7	0.67	21.11
	Ch.80.0 to Ch. 205.0	Cum	1	125	0.0688	0.67	5.70
	Ch.280.0 to Ch.300.0	Cum	1	20	0.22	0.67	2.95
	Ch.305.0 to Ch.335.0	Cum	1	30	0.84	0.67	16.88
	Ch.410.0	Cum	1	5	1.2	0.67	4.02
	Ch.500.0 to Ch.660.0	Cum	1	160	0.68	0.67	72.90
	Ch.680.0 to Ch.745.0	Cum	1	65	0.26	0.67	11.32
	Ch.835.0 to Ch.880.0	Cum	1	45	0.74	0.67	22.31
	Ch.910.0 to Ch.930.0	Cum	1	20	0.07	0.67	0.94
	Ch.940.0 to Ch.950.0	Cum	1	10	0.68	0.67	4.56
	Ch.960.0	Cum	1	5	0.31	0.67	1.04
	RHS						
	Ch.215.0 to Ch.230.0	Cum	1	15	0.24	0.67	2.41
	Ch.350.0 to Ch.355.0	Cum	1	5	0.75	0.67	2.51
	Ch.385.0 to Ch.430.0	Cum	1	45	0.1	0.67	3.02
	Ch.460.0 to Ch.480.0	Cum	1	20	0.35	0.67	4.69
	Ch.765.0 to Ch.820.0	Cum	1	55	0.35	0.67	12.90
	Ch.980.0 to Ch.1004.0	Cum	1	24	0.42	0.67	6.75
	Road 15a						
	LHS						
	Ch.80.0 to Ch.90.0	Cum	1	10	0.15	0.67	1.01
	Ch.95.0 to Ch.110.0	Cum	1	15	0.13	0.67	1.31
	Ch.180.0 to Ch.210.0	Cum	1	30	0.23	0.67	4.62
	Ch.280.0 to Ch.300.0	Cum	1	20	0.13	0.67	1.74

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.350.0 to Ch.375.0	Cum	1	25	0.34	0.67	5.70
	Ch.410.0	Cum	1	5	0.53	0.67	1.78
	Ch.420.0	Cum	1	5	2.24	0.67	7.50
	Ch.570.0	Cum	1	5	0.62	0.67	2.08
	RHS						
	Ch.45.0 to Ch.75.0	Cum	1	30	0.34	0.67	6.83
	Ch.395.0 to ch.410.0	Cum	1	15	0.61	0.67	6.13
	Ch.485.0 to Ch.510.0	Cum	1	25	0.46	0.67	7.71
	Ch.545.0 to Ch.570.0	Cum	1	25	0.36	0.67	6.03
	Ch.630.0 to Ch.640.0	Cum	1	10	0.24	0.67	1.61
	Consider Panel Repairing for Existing CC Road @ 5%						
	7c-Attavar -Nandigudda Road	Cum	0.05	1021	7	0.7	250.15
	10-Kudumbi Garden (DBS) Road	Cum	0.05	375	6.2	0.7	81.38
	Balmatta Road	Cum	0.05	330	15	0.7	173.25
	15b-Jumma Masjid Road	Cum	0.2	700	5.5	0.7	539.00
	20-Bendre Ferry Road	Cum	0.2	800	10	0.7	1120.00
	Footpath						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Cum	1.00	150.00	2.17	0.20	64.98
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Cum	1.00	120.00	3.33	0.20	79.92
	Ch.150.000 to Ch.410.00	Cum	1.00	260.00	3.18	0.20	165.36
	Ch.420.000 to Ch.480.00	Cum	1.00	250.00	3.42	0.20	171.00
	Ch.480.000 to Ch.670.00	Cum	1.00	250.00	1.95	0.20	97.50
	Ch.680.000 to Ch.720.00	Cum	1.00	40.00	2.29	0.20	18.32
	Ch.730.000 to Ch.800.00	Cum	1.00	70.00	2.23	0.20	31.22
	Ch.810.000 to Ch.850.00	Cum	1.00	40.00	2.10	0.20	16.80
	Ch.880.000 to Ch.950.00	Cum	1.00	70.00	2.24	0.20	31.36
	Ch.960.000 to Ch.1004.00	Cum	1.00	44.00	2.43	0.20	21.38
	RHS						
	Ch.10.000 to Ch.130.00	Cum	1.00	120.00	3.02	0.20	72.48
	Ch.140.000 to Ch.350.00	Cum	1.00	210.00	3.00	0.20	126.00
	Ch.360.000 to Ch.430.00	Cum	1.00	70.00	5.21	0.20	72.94
	Ch.440.000 to Ch.610.00	Cum	1.00	170.00	5.02	0.20	170.68
	Ch.610.000 to Ch.730.00	Cum	1.00	120.00	3.59	0.20	86.16
	Ch.740.000 to Ch.840.00	Cum	1.00	100.00	2.43	0.20	48.60
	Ch.870.000 to Ch.950.00	Cum	1.00	80.00	2.64	0.20	42.24
	Ch.960.000 to Ch.1004.00	Cum	1.00	44.00	5.30	0.20	46.64
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Cum	1.00	120.00	3.10	0.20	74.40
	Ch.520.000 to Ch.580.00	Cum	1.00	60.00	3.73	0.20	44.76
	RHS	Cum	0.00	0.00	0.00	0.20	0.00
	Ch.30.000 to Ch.80.00	Cum	1.00	50.00	4.44	0.20	44.40
	Ch.90.000 to Ch.150.00	Cum	1.00	60.00	3.05	0.20	36.60
	Ch.515.000 to Ch.560.00	Cum	1.00	45.00	2.67	0.20	24.03
	10-Kudumbi Garden (DBS)Road						
	LHS						
	Ch.10.000 to Ch.90.00	Cum	1.00	80.00	2.28	0.20	36.48
	Ch.90.000 to Ch.135.00	Cum	1.00	45.00	2.27	0.20	20.43
	Ch.140.000 to Ch.250.00	Cum	1.00	110.00	1.51	0.20	33.22
	Ch.140.000 to Ch.340.00	Cum	1.00	200.00	0.74	0.20	29.60
	RHS						
	Ch.10.000 to Ch.140.00	Cum	1.00	130.00	2.55	0.20	66.30
	Ch.190.000 to Ch.210.00	Cum	1.00	20.00	1.70	0.20	6.80
	Ch.220.000 to Ch.360.00	Cum	1.00	140.00	2.36	0.20	66.08
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Cum	1.00	270.00	4.43	0.20	239.22
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Cum	1.00	10.00	10.00	0.20	20.00
	Ch.370.000 to Ch.390.00	Cum	1.00	20.00	2.05	0.20	8.20
	Ch.390.000 to Ch.570.00	Cum	1.00	180.00	2.04	0.20	73.44
	Ch.590.000 to Ch.620.00	Cum	1.00	30.00	2.20	0.20	13.20
	Ch.650.000 to Ch.660.00	Cum	1.00	10.00	1.13	0.20	2.27

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.700.000 to Ch.840.00	Cum	1.00	140.00	3.24	0.20	90.72
	RHS						
	Ch.30.000 to Ch.300.00	Cum	1.00	270.00	4.55	0.20	245.70
	Ch.340.000 to Ch.630.00	Cum	1.00	290.00	2.14	0.20	124.12
	Ch.650.000 to Ch.660.00	Cum	1.00	10.00	2.05	0.20	4.10
	Ch.700.000 to Ch.845.00	Cum	1.00	145.00	2.94	0.20	85.26
	15a-Azizuddin Road						
	LHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	2.19	0.20	39.42
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.15	0.20	51.60
	Ch.220.000 to Ch.300.00	Cum	1.00	80.00	2.23	0.20	35.68
	Ch.310.000 to Ch.420.00	Cum	1.00	110.00	1.69	0.20	37.18
	Ch.420.000 to Ch.490.00	Cum	1.00	70.00	2.46	0.20	34.44
	Ch.490.000 to Ch.570.00	Cum	1.00	80.00	1.86	0.20	29.76
	Ch.580.000 to Ch.640.00	Cum	1.00	60.00	1.83	0.20	21.96
	Ch.650.000 to Ch.710.00	Cum	1.00	60.00	1.60	0.20	19.20
	RHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	1.82	0.20	32.76
	Ch.100.000 to Ch.220.00	Cum	1.00	220.00	1.27	0.20	55.88
	Ch.220.000 to Ch.320.00	Cum	1.00	100.00	1.67	0.20	33.40
	Ch.330.000 to Ch.410.00	Cum	1.00	80.00	2.23	0.20	35.68
	Ch.420.000 to Ch.570.00	Cum	1.00	150.00	2.24	0.20	67.20
	Ch.580.000 to Ch.710.00	Cum	1.00	130.00	1.78	0.20	46.28
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	2.19	0.20	39.42
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.15	0.20	51.60
	Ch.220.000 to Ch.300.00	Cum	1.00	80.00	2.23	0.20	35.68
	Ch.310.000 to Ch.420.00	Cum	1.00	110.00	1.69	0.20	37.18
	Ch.420.000 to Ch.490.00	Cum	1.00	70.00	2.46	0.20	34.44
	Ch.490.000 to Ch.570.00	Cum	1.00	80.00	1.86	0.20	29.76
	Ch.580.000 to Ch.640.00	Cum	1.00	60.00	1.83	0.20	21.96
	Ch.650.000 to Ch.710.00	Cum	1.00	60.00	1.60	0.20	19.20
	RHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	1.82	0.20	32.76
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.33	0.20	55.92
	Ch.220.000 to Ch.320.00	Cum	1.00	100.00	1.67	0.20	33.40
	Ch.330.000 to Ch.410.00	Cum	1.00	80.00	2.23	0.20	35.68
	Ch.420.000 to Ch.570.00	Cum	1.00	150.00	2.24	0.20	67.20
	Ch.580.000 to Ch.710.00	Cum	1.00	130.00	1.78	0.20	46.28
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Cum	1.00	80.00	1.64	0.20	26.24
	Ch.80.000 to Ch.140.00	Cum	1.00	60.00	1.77	0.20	21.24
	Ch.180.000 to Ch.220.00	Cum	1.00	40.00	2.35	0.20	18.80
	Ch.230.000 to Ch.250.00	Cum	1.00	20.00	3.40	0.20	13.60
	Ch.250.000 to Ch.530.00	Cum	1.00	280.00	2.31	0.20	129.36
	RHS						
	Ch.530.000 to Ch.580.00	Cum	1.00	50.00	5.60	0.20	56.00
	Ch.705.000 to Ch.1040.00	Cum	1.00	335.00	2.29	0.20	153.43
	Parking Area						
	Road 7c						
	LHS						
	Ch.530.000 to Ch.590.000	Cum	1	60	2.5	0.51	75.75
	RHS						
	Ch.530.000 to Ch.590.000	Cum	1	71.13	2.5	0.51	89.80
	Road 8						
	LHS						
	Ch.50.000 to Ch.80.000	Cum	1	25.32	2	0.51	25.57
	RHS						
	Ch.50.000 to Ch.80.000	Cum	1	24.92	2	0.51	25.17
	Road 19b						
	RHS						
	Ch.90.000 to Ch.250.000	Cum	1	129.7	2.5	0.51	163.75
	Road 19a						
	LHS						
	Ch.760.000 to Ch.830.000	Cum	1	53.83	2.5	0.51	67.96
	RHS						
	Ch.760.000 to Ch.830.000	Cum	1	24.1	2.5	0.51	30.43

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Electrical Trench						
1	7a						
	RHS	Cum	1	183	1.1	1.50	301.95
	LHS	Cum	1	183	1.1	1.50	301.95
2	7c						
	RHS	Cum	1	1021	1.1	1.50	1684.65
	LHS	Cum	1	1021	1.1	1.50	1684.65
3	8						
	RHS	Cum	1	577	1.1	1.50	952.05
	LHS	Cum	1	577	1.1	1.50	952.05
4	10						
	RHS	Cum	1	375	1.1	1.50	618.75
	LHS	Cum	1	375	1.1	1.50	618.75
5	19						
	RHS	Cum	1	925	1.1	1.50	1526.25
	LHS	Cum	1	925	1.1	1.50	1526.25
6	15a						
	RHS	Cum	1	717	1.1	1.50	1183.05
	LHS	Cum	1	717	1.1	1.50	1183.05
7	15b						
	RHS	Cum	1	966	1.1	1.50	1593.90
	LHS	Cum	1	966	1.1	1.50	1593.90
9	20						
	RHS	Cum	1	1103	1.1	1.50	1819.95
	LHS	Cum	1	1103	1.1	1.50	1819.95
	SWD						
	Road 7a			Sides	2.00		
	Node-CO-504						
	Base	Cum	1	26.4	1.8	1.29	61.30
	Node-CO-505						
	Base	Cum	1	137.5	1.8	1.66	410.85
	Road 7c			Sides	2.00		
1	Node-CO-64						
	Base	Cum	2	127.7	2	2.81	1435.35
2	Node-CO-65						
	Base	Cum	2	125.6	2	2.84	1426.82
3	Node-CO-66						
	Base	Cum	2	67.9	2	2.96	803.94
4	Node-CO-67						
	Base	Cum	2	34.8	2	2.57	357.74
5	Node-CO-68						
	Base	Cum	2	29.4	1.8	1.61	170.40
6	Node-CO-69						
	Base	Cum	2	39.8	1.8	1.04	148.29
7	Node-CO-70						
	Base	Cum	2	36.5	1.7	0.88	108.59
8	Node-CO-80						
	Base	Cum	2	73.8	1.8	1.42	377.27
9	Node-CO-81						
	Base	Cum	2	40.5	1.8	1.42	207.04
10	Node-CO-82						
	Base	Cum	2	31.7	1.8	1.14	130.10
11	Node-CO-78						
	Base	Cum	2	22.3	1.8	1.66	132.86
12	Node-CO-77						
	Base	Cum	2	23.6	1.8	2.16	183.09
13	Node-CO-79						
	Base	Cum	2	33.6	1.7	1.11	126.24
	Road 8			Sides	1.00		
1	Node-CO-35						
	Base	Cum	1	75.6	1.8	1.67	227.25
2	Node-CO-36						
	Base	Cum	1	33.5	1.7	0.89	50.40
3	Node-CO-37						
	Base	Cum	1	31	1.7	0.91	47.96
4	Node-CO-38						
	Base	Cum	1	48.9	1.7	0.89	73.99
5	Node-CO-39						
	Base	Cum	1	99.9	1.8	1.83	329.07
6	Node-CO-40						
	Base	Cum	1	95.4	2	2.68	510.39
7	Node-CO-41						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	1	28	1.8	2.10	105.84
8	Node-CO-42						
	Base	Cum	1	46.1	1.8	2.20	182.56
9	Node-CO-43						
	Base	Cum	1	17	1.8	1.93	59.06
10	Node-CO-44						
	Base	Cum	1	34.7	1.8	1.50	93.38
11	Node-CO-45						
	Base	Cum	1	34.8	1.7	1.09	64.19
12	Node-CO-46						
	Base	Cum	1	9.3	2.4	3.65	81.36
13	Node-CO-47						
	Base	Cum	1	14.2	2.4	3.65	124.39
	Road 19			Sides	2.00		
1	Node-CO-163						
	Base	Cum	2	24.3	1.8	1.68	146.53
2	Node-CO-164						
	Base	Cum	2	29.9	1.8	1.49	160.38
3	Node-CO-165						
	Base	Cum	2	43.4	1.8	1.40	218.74
4	Node-CO-166						
	Base	Cum	2	20.9	1.8	1.37	103.08
5	Node-CO-167						
	Base	Cum	2	33.5	1.8	1.34	161.00
6	Node-CO-168						
	Base	Cum	2	47.3	1.7	1.16	186.55
7	Node-CO-169						
	Base	Cum	2	68.4	1.8	1.02	249.93
8	Node-CO-170						
	Base	Cum	2	120.2	1.8	1.02	441.37
9	Node-CO-171						
	Base	Cum	2	70.8	1.8	0.99	252.33
10	Node-CO-172						
	Base	Cum	2	103.2	1.8	1.11	410.53
	Road-15a			Sides	1.00		
1	Node-CO-182						
	Base	Cum	1	27.2	1.8	1.87	91.31
2	Node-CO-192						
	Base	Cum	1	59.8	1.8	1.22	130.78
3	Node-CO-481						
	Base	Cum	1	28.1	1.8	1.87	94.58
4	Node-CO-482						
	Base	Cum	1	58.7	1.8	1.22	128.91
5	Node-CO-190						
	Base	Cum	1	62.8	1.8	1.50	169.56
6	Node-CO-184						
	Base	Cum	1	151.1	1.8	1.50	406.61
7	Node-CO-195						
	Base	Cum	1	170	1.8	1.53	468.18
8	Node-CO-187						
	Base	Cum	1	80.5	1.8	1.12	161.56
9	Node-CO-188						
	Base	Cum	1	43.1	1.8	1.43	110.55
10	Node-CO-189						
	Base	Cum	1	97.4	1.8	1.17	205.12
11	Node-CO-483						
	Base	Cum	1	64.4	2	3.14	404.43
12	Node-CO-484						
	Base	Cum	1	120.6	1.8	1.86	402.68
13	Node-CO-485						
	Base	Cum	1	30.5	1.8	0.97	52.98
14	Node-CO-486						
	Base	Cum	1	169.2	1.8	0.86	261.92
	15a-New Drain			1			
1	MH-524						
	Base	Cum	1	27.7	1.8	1.87	92.99
2	MH-525						
	Base	Cum	1	59.4	1.6	1.22	115.47
3	MH-527						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	1	62.8	1.7	1.59	169.75
4	MH-528						
	Base	Cum	1	120.5	1.7	1.51	308.30
5	MH-529						
	Base	Cum	1	29.7	1.7	1.53	77.25
6	MH-530						
	Base	Cum	1	170.8	1.7	1.60	463.12
7	MH-532						
	Base	Cum	1	80.5	1.6	1.12	143.61
8	MH-533						
	Base	Cum	1	43.1	1.8	1.43	110.55
9	MH-534						
	Base	Cum	1	97.4	1.6	1.17	182.33
	Road 15b			Sides	1.00		
1	Node-CO-467						
	Base	Cum	1	79.8	1.7	0.86	116.67
2	Node-CO-469						
	Base	Cum	1	23.8	1.7	1.24	50.17
3	Node-CO-470						
	Base	Cum	1	62.6	1.7	0.91	96.84
4	Node-CO-473						
	Base	Cum	1	30.4	1.7	1.17	60.47
5	Node-CO-474						
	Base	Cum	1	62	1.7	1.32	138.60
6	Node-CO-472						
	Base	Cum	1	32	1.8	1.29	74.02
7	Node-CO-468						
	Base	Cum	1	28.4	1.7	1.37	66.14
8	Node-CO-495						
	Base	Cum	1	88.4	1.7	0.96	144.27
9	Node-CO-496						
	Base	Cum	1	76.4	1.7	1.23	159.10
10	Node-CO-499						
	Base	Cum	1	4.2	1.7	1.30	9.28
11	Node-CO-497						
	Base	Cum	1	87.6	1.7	0.91	134.77
12	Node-CO-498						
	Base	Cum	1	75.9	1.7	1.08	139.35
13	Node-CO-494						
	Base	Cum	1	77.3	1.7	0.86	113.01
14	Node-CO-503						
	Base	Cum	1	76.6	1.7	0.86	111.99
15	Node-CO-501						
	Base	Cum	1	32.5	1.7	0.88	48.34
16	Node-CO-502						
	Base	Cum	1	56.2	1.7	0.86	82.16
17	Node-CO-492						
	Base	Cum	1	30.9	1.7	0.86	45.18
18	Node-CO-493						
	Base	Cum	1	56.5	1.7	0.86	82.60
19	Node-CO-500						
	Base	Cum	1	32.4	1.7	0.86	47.37
20	Node-CO-491						
	Base	Cum	1	32	1.7	0.86	46.78
21	Node-CO-490						
	Base	Cum	1	24.8	1.7	0.90	37.94
22	Node-CO-488						
	Base	Cum	1	39	1.7	0.87	57.68
23	Node-CO-489						
	Base	Cum	1	44.3	1.7	0.86	64.77
24	Node-CO-487						
	Base	Cum	1	23.2	1.7	0.87	34.31
25	Node-CO-221						
	Base	Cum	1	101.3	1.7	1.48	254.87
	Road 20			Sides	2.00		
1	Node-CO-455						

Sr. No.	Description	Unit	No's	L	B	H	Qty.	
	Base	Cum	2	87	1.8	2.24	700.00	
2	Node-CO-456							
	Base	Cum	2	95.8	1.8	1.72	593.19	
3	Node-CO-457							
	Base	Cum	2	82.7	1.8	1.60	476.35	
4	Node-CO-458							
	Base	Cum	2	105.2	1.8	1.65	622.99	
5	Node-CO-459							
	Base	Cum	2	62.5	1.8	1.66	373.50	
6	Node-CO-460							
	Base	Cum	2	48.1	1.8	1.50	258.87	
7	Node-CO-461							
	Base	Cum	2	47.8	1.8	1.48	253.82	
8	Node-CO-462							
	Base	Cum	2	18.3	1.8	1.55	102.11	
9	Node-CO-463							
	Base	Cum	2	19.9	1.8	1.53	109.61	
10	Node-CO-464							
	Base	Cum	2	15.8	1.8	1.50	85.04	
11	Node-CO-479							
	Base	Cum	2	244.3	1.8	1.17	1024.59	
12	Node-CO-480							
	Base	Cum	2	170.7	1.8	0.89	543.85	
13	Node-CO-477							
	Base	Cum	2	74.2	1.8	0.89	236.40	
14	Node-CO-348							
	Base	Cum	2	15.4	1.8	1.96	108.39	
15	Node-CO-349							
	Base	Cum	2	75.2	1.8	1.96	529.26	
						23347.39		
	RCC Pipe Crossing-							
1	7a-Milagres Cross Road	Cum	4	11	1.182	0.5	26.00	
2	7c-Nandigudda Road	Cum	11	16	1.182	0.5	104.02	
3	8-New Balmatta Road	Cum	12	12	1.182	0.5	85.10	
4	10-Kudumbi Garden (DBS) Road	Cum	8	12	1.182	0.5	56.74	
5	19a-Arya Samaj Road	Cum	6	10	1.182	0.5	35.46	
6	19bBalmatta Road	Cum	4	26	1.182	0.5	61.46	
7	15a-Azizuddin Road	Cum	8	11	1.182	0.5	52.01	
8	15b-Jumma Masjid-Old Port Road	Cum	20	6	1.182	0.5	70.92	
9	20-Bendre Ferry Road	Cum	23	12	1.182	0.5	163.12	
		Cum		Total Qty.			58388.11	
12	KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.							
	Total Excavation for Electrical Duct	Cum					19361.10	
	Pipe Volume-Dia 200mm	Cum		Length	C/s Area			
	7a-Milagres Cross Road	Cum	-2	366	0.0314		-22.98	
	7c-Nandigudda Road	Cum	-4	2042	0.0314		-256.48	
	8-New Balmatta Road	Cum	-2	577	0.0314		-36.24	
	10-Kudumbi Garden (DBS) Road	Cum	-6	750	0.0314		-141.30	
	19a-Arya Samaj Road	Cum	-2	1850	0.0314		-116.18	
	15a-Azizuddin Road	Cum	-4	1434	0.0314		-180.11	
	15b-Jumma Masjid-Old Port Road	Cum	-2	1932	0.0314		-121.33	
	20-Bendre Ferry Road	Cum	-4	2206	0.0314		-277.07	
	Pipe Volume-Dia 160mm	Cum						
	7a-Milagres Cross Road	Cum	-2	183	0.020096		-7.36	
	7c-Nandigudda Road	Cum	-4	1021	0.020096		-82.07	
	8-New Balmatta Road	Cum	-4	577	0.020096		-46.38	
	10-Kudumbi Garden (DBS) Road	Cum	-8	750	0.020096		-120.58	
	19a-Arya Samaj Road	Cum	-6	1850	0.020096		-223.07	
	15a-Azizuddin Road	Cum	-4	1434	0.020096		-115.27	
	15b-Jumma Masjid-Old Port Road	Cum	-2	966	0.020096		-38.83	
	20-Bendre Ferry Road	Cum	-4	2206	0.020096		-177.33	
	Electrical Concrete	Cum						
	Elctrical Chamber Volume	Cum	-391	2	0.9		-703.80	
	Total Excavation for SWD						23347.39	
		Cum						
	Concrete Volume of SWD	Cum	-1	6680.96			-6680.96	
	PCC Volume of SWD	Cum	-1	884.29			-884.29	

Sr. No.	Description	Unit	No's	L	B	H	Qty.
		Cum					
	Void Area of SWD	Cum					
	Road 7a			Sides	2.00		
	Node-CO-504						
	Base	Cum	1	26.4	0.6	1.04	16.47
	Node-CO-505						
	Base	Cum	1	137.5	0.6	1.41	116.33
	Road 7c			Sides	2.00		
1	Node-CO-64						
	Base	Cum	2	127.7	0.6	2.56	392.29
2	Node-CO-65						
	Base	Cum	2	125.6	0.6	2.59	390.36
3	Node-CO-66						
	Base	Cum	2	67.9	0.6	2.71	220.81
4	Node-CO-67						
	Base	Cum	2	34.8	0.6	2.32	96.88
5	Node-CO-68						
	Base	Cum	2	29.4	0.6	1.36	47.98
6	Node-CO-69						
	Base	Cum	2	39.8	0.6	0.79	37.49
7	Node-CO-70						
	Base	Cum	2	36.5	0.6	0.63	27.38
8	Node-CO-80						
	Base	Cum	2	73.8	0.6	1.17	103.62
9	Node-CO-81						
	Base	Cum	2	40.5	0.6	1.17	56.86
10	Node-CO-82						
	Base	Cum	2	31.7	0.6	0.89	33.86
11	Node-CO-78						
	Base	Cum	2	22.3	0.6	1.41	37.60
12	Node-CO-77						
	Base	Cum	2	23.6	0.6	1.91	53.95
13	Node-CO-79						
	Base	Cum	2	33.6	0.6	0.86	34.47
	Road 8			Sides	1.00		
1	Node-CO-35						
	Base	Cum	1	75.6	0.6	1.42	64.41
2	Node-CO-36						
	Base	Cum	1	33.5	0.6	0.64	12.76
3	Node-CO-37						
	Base	Cum	1	31	0.6	0.66	12.28
4	Node-CO-38						
	Base	Cum	1	48.9	0.6	0.64	18.78
5	Node-CO-39						
	Base	Cum	1	99.9	0.6	1.58	94.71
6	Node-CO-40						
	Base	Cum	1	95.4	0.6	2.43	138.81
7	Node-CO-41						
	Base	Cum	1	28	0.6	1.85	31.08
8	Node-CO-42						
	Base	Cum	1	46.1	0.6	1.95	53.94
9	Node-CO-43						
	Base	Cum	1	17	0.6	1.68	17.14
10	Node-CO-44						
	Base	Cum	1	34.7	0.6	1.25	25.92
11	Node-CO-45						
	Base	Cum	1	34.8	0.6	0.84	17.43
12	Node-CO-46						
	Base	Cum	1	9.3	0.6	3.40	18.94
13	Node-CO-47						
	Base	Cum	1	14.2	0.6	3.40	28.97
	Road 19			Sides	2.00		
1	Node-CO-163						
	Base	Cum	2	24.3	0.6	1.43	41.55
2	Node-CO-164						
	Base	Cum	2	29.9	0.6	1.24	44.49
3	Node-CO-165						
	Base	Cum	2	43.4	0.6	1.15	59.89
4	Node-CO-166						
	Base	Cum	2	20.9	0.6	1.12	28.09
5	Node-CO-167						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	2	33.5	0.6	1.09	43.62
6	Node-CO-168						
	Base	Cum	2	47.3	0.6	0.91	51.65
7	Node-CO-169						
	Base	Cum	2	68.4	0.6	0.77	62.79
8	Node-CO-170						
	Base	Cum	2	120.2	0.6	0.77	111.06
9	Node-CO-171						
	Base	Cum	2	70.8	0.6	0.74	62.87
10	Node-CO-172						
	Base	Cum	2	103.2	0.6	0.86	105.88
	Road-15a			Sides	1.00		
1	Node-CO-182						
	Base	Cum	1	27.2	0.6	1.62	26.36
2	Node-CO-192						
	Base	Cum	1	59.8	0.6	0.97	34.62
3	Node-CO-481						
	Base	Cum	1	28.1	0.6	1.62	27.31
4	Node-CO-482						
	Base	Cum	1	58.7	0.6	0.97	34.16
5	Node-CO-190						
	Base	Cum	1	62.8	0.6	1.25	47.10
6	Node-CO-184						
	Base	Cum	1	151.1	0.6	1.25	112.87
7	Node-CO-195						
	Base	Cum	1	170	0.6	1.28	130.56
8	Node-CO-187						
	Base	Cum	1	80.5	0.6	0.87	41.78
9	Node-CO-188						
	Base	Cum	1	43.1	0.6	1.18	30.39
10	Node-CO-189						
	Base	Cum	1	97.4	0.6	0.92	53.76
11	Node-CO-483						
	Base	Cum	1	64.4	0.6	2.89	111.67
12	Node-CO-484						
	Base	Cum	1	120.6	0.6	1.61	116.14
13	Node-CO-485						
	Base	Cum	1	30.5	0.6	0.72	13.08
14	Node-CO-486						
	Base	Cum	1	169.2	0.6	0.61	61.93
	15a-New Drain			1			
1	MH-524						
	Base	Cum	1	27.7	0.6	1.62	26.84
2	MH-525						
	Base	Cum	1	59.4	0.6	0.97	34.39
3	MH-527						
	Base	Cum	1	62.8	0.6	1.34	50.49
4	MH-528						
	Base	Cum	1	120.5	0.6	1.26	90.74
5	MH-529						
	Base	Cum	1	29.7	0.6	1.28	22.81
6	MH-530						
	Base	Cum	1	170.8	0.6	1.35	137.84
7	MH-532						
	Base	Cum	1	80.5	0.6	0.87	41.78
8	MH-533						
	Base	Cum	1	43.1	0.6	1.18	30.39
9	MH-534						
	Base	Cum	1	97.4	0.6	0.92	53.76
	Road 15b			Sides	1.00		
1	Node-CO-467						
	Base	Cum	1	79.8	0.6	0.61	29.21
2	Node-CO-469						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	1	23.8	0.6	0.99	14.14
3	Node-CO-470						
	Base	Cum	1	62.6	0.6	0.66	24.79
4	Node-CO-473						
	Base	Cum	1	30.4	0.6	0.92	16.78
5	Node-CO-474						
	Base	Cum	1	62	0.6	1.07	39.62
6	Node-CO-472						
	Base	Cum	1	32	0.6	1.04	19.87
7	Node-CO-468						
	Base	Cum	1	28.4	0.6	1.12	19.08
8	Node-CO-495						
	Base	Cum	1	88.4	0.6	0.71	37.66
9	Node-CO-496						
	Base	Cum	1	76.4	0.6	0.98	44.69
10	Node-CO-499						
	Base	Cum	1	4.2	0.6	1.05	2.65
11	Node-CO-497						
	Base	Cum	1	87.6	0.6	0.66	34.43
12	Node-CO-498						
	Base	Cum	1	75.9	0.6	0.83	37.80
13	Node-CO-494						
	Base	Cum	1	77.3	0.6	0.61	28.29
14	Node-CO-503						
	Base	Cum	1	76.6	0.6	0.61	28.04
15	Node-CO-501						
	Base	Cum	1	32.5	0.6	0.63	12.19
16	Node-CO-502						
	Base	Cum	1	56.2	0.6	0.61	20.57
17	Node-CO-492						
	Base	Cum	1	30.9	0.6	0.61	11.31
18	Node-CO-493						
	Base	Cum	1	56.5	0.6	0.61	20.68
19	Node-CO-500						
	Base	Cum	1	32.4	0.6	0.61	11.86
20	Node-CO-491						
	Base	Cum	1	32	0.6	0.61	11.71
21	Node-CO-490						
	Base	Cum	1	24.8	0.6	0.65	9.67
22	Node-CO-488						
	Base	Cum	1	39	0.6	0.62	14.51
23	Node-CO-489						
	Base	Cum	1	44.3	0.6	0.61	16.21
24	Node-CO-487						
	Base	Cum	1	23.2	0.6	0.62	8.63
25	Node-CO-221						
	Base	Cum	1	101.3	0.6	1.23	74.76
	Road 20			Sides	2.00		
1	Node-CO-455						
	Base	Cum	2	87	0.6	1.99	207.23
2	Node-CO-456						
	Base	Cum	2	95.8	0.6	1.47	168.99
3	Node-CO-457						
	Base	Cum	2	82.7	0.6	1.35	133.97
4	Node-CO-458						
	Base	Cum	2	105.2	0.6	1.40	176.10
5	Node-CO-459						
	Base	Cum	2	62.5	0.6	1.41	105.75
6	Node-CO-460						
	Base	Cum	2	48.1	0.6	1.25	71.86
7	Node-CO-461						
	Base	Cum	2	47.8	0.6	1.23	70.27
8	Node-CO-462						
	Base	Cum	2	18.3	0.6	1.30	28.55
9	Node-CO-463						
	Base	Cum	2	19.9	0.6	1.28	30.57
10	Node-CO-464						
	Base	Cum	2	15.8	0.6	1.25	23.61
11	Node-CO-479						
	Base	Cum	2	244.3	0.6	0.92	268.24
12	Node-CO-480						
	Base	Cum	2	170.7	0.6	0.64	130.07
13	Node-CO-477						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	2	74.2	0.6	0.64	56.54
14	Node-CO-348						
	Base	Cum	2	15.4	0.6	1.71	31.51
15	Node-CO-349						
	Base	Cum	2	75.2	0.6	1.71	153.86
		Cum		Total Qty.			38867.33
13	KSRRB 300-Compaction KSRRB 300-58. 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						
	Footpath						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Sqm	1.00	150.00	2.17		324.90
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Sqm	1.00	120.00	3.33		399.60
	Ch.150.000 to Ch.410.00	Sqm	1.00	260.00	3.18		826.80
	Ch.420.000 to Ch.480.00	Sqm	1.00	250.00	3.42		855.00
	Ch.480.000 to Ch.670.00	Sqm	1.00	250.00	1.95		487.50
	Ch.680.000 to Ch.720.00	Sqm	1.00	40.00	2.29		91.60
	Ch.730.000 to Ch.800.00	Sqm	1.00	70.00	2.23		156.10
	Ch.810.000 to Ch.850.00	Sqm	1.00	40.00	2.10		84.00
	Ch.880.000 to Ch.950.00	Sqm	1.00	70.00	2.24		156.80
	Ch.960.000 to Ch.1004.00	Sqm	1.00	44.00	2.43		106.92
	RHS						
	Ch.10.000 to Ch.130.00	Sqm	1.00	120.00	3.02		362.40
	Ch.140.000 to Ch.350.00	Sqm	1.00	210.00	3.00		630.00
	Ch.360.000 to Ch.430.00	Sqm	1.00	70.00	5.21		364.70
	Ch.440.000 to Ch.610.00	Sqm	1.00	170.00	5.02		853.40
	Ch.610.000 to Ch.730.00	Sqm	1.00	120.00	3.59		430.80
	Ch.740.000 to Ch.840.00	Sqm	1.00	100.00	2.43		243.00
	Ch.870.000 to Ch.950.00	Sqm	1.00	80.00	2.64		211.20
	Ch.960.000 to Ch.1004.00	Sqm	1.00	44.00	5.30		233.20
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Sqm	1.00	120.00	3.10		372.00
	Ch.520.000 to Ch.580.00	Sqm	1.00	60.00	3.73		223.80
	RHS						
	Ch.30.000 to Ch.80.00	Sqm	1.00	50.00	4.44		222.00
	Ch.90.000 to Ch.150.00	Sqm	1.00	60.00	3.05		183.00
	Ch.515.000 to Ch.560.00	Sqm	1.00	45.00	2.67		120.15
	10-Kudumbi Garden (DBS)Road						
	LHS						
	Ch.10.000 to Ch.90.00	Sqm	1.00	80.00	2.28		182.40
	Ch.90.000 to Ch.135.00	Sqm	1.00	45.00	2.27		102.15
	Ch.140.000 to Ch.250.00	Sqm	1.00	110.00	1.51		166.10
	Ch.140.000 to Ch.340.00	Sqm	1.00	200.00	0.74		148.00
	RHS						
	Ch.10.000 to Ch.140.00	Sqm	1.00	130.00	2.55		331.50
	Ch.190.000 to Ch.210.00	Sqm	1.00	20.00	1.70		34.00
	Ch.220.000 to Ch.360.00	Sqm	1.00	140.00	2.36		330.40
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Sqm	1.00	270.00	4.43		1196.10
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Sqm	1.00	10.00	10.00		100.00
	Ch.370.000 to Ch.390.00	Sqm	1.00	20.00	2.05		41.00
	Ch.390.000 to Ch.570.00	Sqm	1.00	180.00	2.04		367.20
	Ch.590.000 to Ch.620.00	Sqm	1.00	30.00	2.20		66.00
	Ch.650.000 to Ch.660.00	Sqm	1.00	10.00	1.13		11.34
	Ch.700.000 to Ch.840.00	Sqm	1.00	140.00	3.24		453.60
	RHS						
	Ch.30.000 to Ch.300.00	Sqm	1.00	270.00	4.55		1228.50
	Ch.340.000 to Ch.630.00	Sqm	1.00	290.00	2.14		620.60
	Ch.650.000 to Ch.660.00	Sqm	1.00	10.00	2.05		20.52
	Ch.700.000 to Ch.845.00	Sqm	1.00	145.00	2.94		426.30

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	15a-Azizuddin Road						
	LHS						
	Ch.00.000 to Ch.90.00	Sqm	1.00	90.00	2.19		197.10
	Ch.100.000 to Ch.220.00	Sqm	1.00	120.00	2.15		258.00
	Ch.220.000 to Ch.300.00	Sqm	1.00	80.00	2.23		178.40
	Ch.310.000 to Ch.420.00	Sqm	1.00	110.00	1.69		185.90
	Ch.420.000 to Ch.490.00	Sqm	1.00	70.00	2.46		172.20
	Ch.490.000 to Ch.570.00	Sqm	1.00	80.00	1.86		148.80
	Ch.580.000 to Ch.640.00	Sqm	1.00	60.00	1.83		109.80
	Ch.650.000 to Ch.710.00	Sqm	1.00	60.00	1.60		96.00
	RHS						
	Ch.00.000 to Ch.90.00	Sqm	1.00	90.00	1.82		163.80
	Ch.100.000 to Ch.220.00	Sqm	1.00	220.00	1.27		279.40
	Ch.220.000 to Ch.320.00	Sqm	1.00	100.00	1.67		167.00
	Ch.330.000 to Ch.410.00	Sqm	1.00	80.00	2.23		178.40
	Ch.420.000 to Ch.570.00	Sqm	1.00	150.00	2.24		336.00
	Ch.580.000 to Ch.710.00	Sqm	1.00	130.00	1.78		231.40
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Sqm	1.00	90.00	2.19		197.10
	Ch.100.000 to Ch.220.00	Sqm	1.00	120.00	2.15		258.00
	Ch.220.000 to Ch.300.00	Sqm	1.00	80.00	2.23		178.40
	Ch.310.000 to Ch.420.00	Sqm	1.00	110.00	1.69		185.90
	Ch.420.000 to Ch.490.00	Sqm	1.00	70.00	2.46		172.20
	Ch.490.000 to Ch.570.00	Sqm	1.00	80.00	1.86		148.80
	Ch.580.000 to Ch.640.00	Sqm	1.00	60.00	1.83		109.80
	Ch.650.000 to Ch.710.00	Sqm	1.00	60.00	1.60		96.00
	RHS						
	Ch.00.000 to Ch.90.00	Sqm	1.00	90.00	1.82		163.80
	Ch.100.000 to Ch.220.00	Sqm	1.00	120.00	2.33		279.60
	Ch.220.000 to Ch.320.00	Sqm	1.00	100.00	1.67		167.00
	Ch.330.000 to Ch.410.00	Sqm	1.00	80.00	2.23		178.40
	Ch.420.000 to Ch.570.00	Sqm	1.00	150.00	2.24		336.00
	Ch.580.000 to Ch.710.00	Sqm	1.00	130.00	1.78		231.40
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Sqm	1.00	80.00	1.64		131.20
	Ch.80.000 to Ch.140.00	Sqm	1.00	60.00	1.77		106.20
	Ch.180.000 to Ch.220.00	Sqm	1.00	40.00	2.35		94.00
	Ch.230.000 to Ch.250.00	Sqm	1.00	20.00	3.40		68.00
	Ch.250.000 to Ch.530.00	Sqm	1.00	280.00	2.31		646.80
	RHS						
	Ch.530.000 to Ch.580.00	Sqm	1.00	50.00	5.60		280.00
	Ch.705.000 to Ch.1040.00	Sqm	1.00	335.00	2.29		767.15
	Parking Area						
	Road 7c						
	LHS						
	Ch.530.000 to Ch.590.000	Sqm	1	69.06	2.5		172.65
	RHS						
	Ch.530.000 to Ch.590.000	Sqm	1	71.13	2.5		177.83
	Road 8						
	LHS						
	Ch.50.000 to Ch.80.000	Sqm	1	25.32	2		50.64
	RHS						
	Ch.50.000 to Ch.80.000	Sqm	1	24.92	2		49.84
	Road 19b						
	RHS						
	Ch.90.000 to Ch.250.000	Sqm	1	129.7	2.5		324.25
	Road 19a						
	LHS						
	Ch.760.000 to Ch.830.000	Sqm	1	53.83	2.5		134.58
	RHS						
	Ch.760.000 to Ch.830.000	Sqm	1	24.1	2.5		60.25
	Pavment						
	7a-Milagres Cross Road						
	Ch.6.000 to Ch.165.000	Sqm	1.00	183.00	5.30		969.90
	8-New Balmatta Road						
	Ch.0.00 to 580.00	Sqm	1.00	580.00	5.30		3074.00
	19a-Arya Samaj Road						
	Ch.0.00 to 330.00	Sqm	1.00	595.00	5.30		3153.50

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	15b-Jumma Masjid Road						
	Ch.720.0 to Ch.970.0	Sqm	1.00	300.00	4.60		1380.00
	20-Bendre Ferry Road						
	Ch.0.00 to Ch.260.00	Sqm	1.00	260.00	4.60		1196.00
	19a-Balmatta Road						
	Ch.0.00 to Ch.320.00						
	RHS	Sqm	1	291	0.5		145.50
	LHS	Sqm	1	250	0.5		125.00
	20-Bendre Ferry Road						
	RHS						
	Ch.0.000 to Ch.170.0	Sqm	1.0	170.0	1.0		170.00
	Ch.188.0 to Ch.218.0	Sqm	1.0	30.0	0.9		27.90
	Ch.220.0 to Ch.270.0	Sqm	1.0	50.0	2.0		100.00
	Ch.570.0 to Ch.705.0	Sqm	1.0	135.0	1.1		148.50
	Ch.770.0 to Ch.870.0	Sqm	1.0	100.0	1.3		127.00
	Ch.870.0 to Ch.925.0	Sqm	1.0	55.0	1.2		66.00
	Ch.930.0 to Ch.1070.0	Sqm	1.0	140.0	0.9		120.40
	LHS		0.0	0.0	0.0		0.00
	Ch.125.0 to Ch.145.0	Sqm	1.0	20.0	0.6		11.20
	Ch.180.0 to Ch.200.00	Sqm	1.0	12.0	0.8		9.00
	Ch.260.0 to Ch.470.0	Sqm	1.0	210.0	1.4		289.80
	Ch.530.0 to Ch.545.0	Sqm	1.0	15.0	1.3		19.05
	Ch.590.0 to Ch.750.0	Sqm	1.0	160.0	0.8		131.20
	Ch.780.0 to Ch.905.0	Sqm	1.0	125.0	1.6		201.25
	Ch.915.0 to Ch.942.0	Sqm	1.0	27.0	1.9		51.57
	Ch.950.0 to Ch.1100.0	Sqm	1.0	150.0	1.6		244.50
	Road 7C						
	LHS						
	Ch.0.00 to Ch.45.0	Sqm	1	45	0.7		31.50
	Ch.80.0 to Ch. 205.0	Sqm	1	125	0.068		8.50
	Ch.280.0 to Ch.300.0	Sqm	1	20	0.22		4.40
	Ch.305.0 to Ch.335.0	Sqm	1	30	0.84		25.20
	Ch.410.0	Sqm	1	5	1.2		6.00
	Ch.500.0 to Ch.660.0	Sqm	1	160	0.68		108.80
	Ch.680.0 to Ch.745.0	Sqm	1	65	0.26		16.90
	Ch.835.0 to Ch.880.0	Sqm	1	45	0.74		33.30
	Ch.910.0 to Ch.930.0	Sqm	1	20	0.07		1.40
	Ch.940.0 to Ch.950.0	Sqm	1	10	0.68		6.80
	Ch.960.0	Sqm	1	5	0.31		1.55
	RHS						
	Ch.215.0 to Ch.230.0	Sqm	1	15	0.24		3.60
	Ch.350.0 to Ch.355.0	Sqm	1	5	0.75		3.75
	Ch.385.0 to Ch.430.0	Sqm	1	45	0.1		4.50
	Ch.460.0 to Ch.480.0	Sqm	1	20	0.35		7.00
	Ch.765.0 to Ch.820.0	Sqm	1	55	0.35		19.25
	Ch.980.0 to Ch.1004.0	Sqm	1	24	0.42		10.08
	Road 15a						
	LHS						
	Ch.80.0 to Ch.90.0	Sqm	1	10	0.15		1.50
	Ch.95.0 to Ch.110.0	Sqm	1	15	0.13		1.95
	Ch.180.0 to Ch.210.0	Sqm	1	30	0.23		6.90
	Ch.280.0 to Ch.300.0	Sqm	1	20	0.13		2.60
	Ch.350.0 to Ch.375.0	Sqm	1	25	0.34		8.50
	Ch.410.0	Sqm	1	5	0.53		2.65
	Ch.420.0	Sqm	1	5	2.24		11.20
	Ch.570.0	Sqm	1	5	0.62		3.10
	RHS						
	Ch.45.0 to Ch.75.0	Sqm	1	30	0.34		10.20
	Ch.395.0 to ch.410.0	Sqm	1	15	0.61		9.15
	Ch.485.0 to Ch.510.0	Sqm	1	25	0.46		11.50
	Ch.545.0 to Ch.570.0	Sqm	1	25	0.36		9.00
	Ch.630.0 to Ch.640.0	Sqm	1	10	0.24		2.40
	Consider Panel Repairing for Existing CC Road @ 5%						
	7c-Attavar -Nandigudda Road	Sqm	0.05	1021.00	7.00		357.35
	10-Kudumbi Garden (DBS) Road	Sqm	0.05	375.00	6.20		116.25
	Balmatta Road	Sqm	0.05	330.00	15.00		247.50
	15b-Jumma Masjid Road	Sqm	0.20	700.00	5.50		770.00
	20-Bendre Ferry Road	Sqm	0.20	800.00	10.00		1600.00
		Sqm		Total Qty.			37458.12

Sr. No.	Description	Unit	No's	L	B	H	Qty.
14	KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (Sl.No. 4.6 of KPWD 18-19)						
	SWD						
	Road 7a			Sides	2.00		
	Node-CO-504						
	Base	Cum	1	26.4	1.2	0.10	3.17
	Node-CO-505						
	Base	Cum	1	137.5	1.2	0.10	16.50
	Road 7c			Sides	2.00		
1	Node-CO-64						
	Base	Cum	2	127.7	1.4	0.10	35.76
2	Node-CO-65						
	Base	Cum	2	125.6	1.4	0.10	35.17
3	Node-CO-66						
	Base	Cum	2	67.9	1.4	0.10	19.01
4	Node-CO-67						
	Base	Cum	2	34.8	1.4	0.10	9.74
5	Node-CO-68						
	Base	Cum	2	29.4	1.2	0.10	7.06
6	Node-CO-69						
	Base	Cum	2	39.8	1.2	0.10	9.55
7	Node-CO-70						
	Base	Cum	2	36.5	1.1	0.10	8.03
8	Node-CO-80						
	Base	Cum	2	73.8	1.2	0.10	17.71
9	Node-CO-81						
	Base	Cum	2	40.5	1.2	0.10	9.72
10	Node-CO-82						
	Base	Cum	2	31.7	1.2	0.10	7.61
11	Node-CO-78						
	Base	Cum	2	22.3	1.2	0.10	5.35
12	Node-CO-77						
	Base	Cum	2	23.6	1.2	0.10	5.66
13	Node-CO-79						
	Base	Cum	2	33.6	1.1	0.10	7.39
	Road 8			Sides	1.00		
1	Node-CO-35						
	Base	Cum	1	75.6	1.2	0.10	9.07
2	Node-CO-36						
	Base	Cum	1	33.5	1.1	0.10	3.69
3	Node-CO-37						
	Base	Cum	1	31	1.1	0.10	3.41
4	Node-CO-38						
	Base	Cum	1	48.9	1.1	0.10	5.38
5	Node-CO-39						
	Base	Cum	1	99.9	1.2	0.10	11.99
6	Node-CO-40						
	Base	Cum	1	95.4	1.4	0.10	13.36
7	Node-CO-41						
	Base	Cum	1	28	1.2	0.10	3.36
8	Node-CO-42						
	Base	Cum	1	46.1	1.2	0.10	5.53
9	Node-CO-43						
	Base	Cum	1	17	1.2	0.10	2.04
10	Node-CO-44						
	Base	Cum	1	34.7	1.2	0.10	4.16
11	Node-CO-45						
	Base	Cum	1	34.8	1.1	0.10	3.83
12	Node-CO-46						
	Base	Cum	1	9.3	1.8	0.10	1.67
13	Node-CO-47						
	Base	Cum	1	14.2	1.8	0.10	2.56
	Road 19			Sides	2.00		
1	Node-CO-163						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	2	24.3	1.2	0.10	5.83
2	Node-CO-164						
	Base	Cum	2	29.9	1.2	0.10	7.18
3	Node-CO-165						
	Base	Cum	2	43.4	1.2	0.10	10.42
4	Node-CO-166						
	Base	Cum	2	20.9	1.2	0.10	5.02
5	Node-CO-167						
	Base	Cum	2	33.5	1.2	0.10	8.04
6	Node-CO-168						
	Base	Cum	2	47.3	1.1	0.10	10.41
7	Node-CO-169						
	Base	Cum	2	68.4	1.2	0.10	16.42
8	Node-CO-170						
	Base	Cum	2	120.2	1.2	0.10	28.85
9	Node-CO-171						
	Base	Cum	2	70.8	1.2	0.10	16.99
10	Node-CO-172						
	Base	Cum	2	103.2	1.2	0.10	24.77
	Road-15a			Sides	1.00		
1	Node-CO-182						
	Base	Cum	1	27.2	1.2	0.10	3.26
2	Node-CO-192						
	Base	Cum	1	59.8	1.2	0.10	7.18
3	Node-CO-481						
	Base	Cum	1	28.1	1.2	0.10	3.37
4	Node-CO-482						
	Base	Cum	1	58.7	1.2	0.10	7.04
5	Node-CO-190						
	Base	Cum	1	62.8	1.2	0.10	7.54
6	Node-CO-184						
	Base	Cum	1	151.1	1.2	0.10	18.13
7	Node-CO-195						
	Base	Cum	1	170	1.2	0.10	20.40
8	Node-CO-187						
	Base	Cum	1	80.5	1.2	0.10	9.66
9	Node-CO-188						
	Base	Cum	1	43.1	1.2	0.10	5.17
10	Node-CO-189						
	Base	Cum	1	97.4	1.2	0.10	11.69
11	Node-CO-483						
	Base	Cum	1	64.4	1.4	0.10	9.02
12	Node-CO-484						
	Base	Cum	1	120.6	1.2	0.10	14.47
13	Node-CO-485						
	Base	Cum	1	30.5	1.2	0.10	3.66
14	Node-CO-486						
	Base	Cum	1	169.2	1.2	0.10	20.30
	15a-New Drain			1			
1	MH-524						
	Base	Cum	1	27.7	1.1	0.10	3.05
2	MH-525						
	Base	Cum	1	59.4	1	0.10	5.94
3	MH-527						
	Base	Cum	1	62.8	1.1	0.10	6.91
4	MH-528						
	Base	Cum	1	120.5	1.1	0.10	13.26
5	MH-529						
	Base	Cum	1	29.7	1.1	0.10	3.27
6	MH-530						
	Base	Cum	1	170.8	1.1	0.10	18.79
7	MH-532						
	Base	Cum	1	80.5	1	0.10	8.05
8	MH-533						
	Base	Cum	1	43.1	1.1	0.10	4.74

Sr. No.	Description	Unit	No's	L	B	H	Qty.
9	MH-534						
	Base	Cum	1	97.4	1	0.10	9.74
	Road 15b			Sides	1.00		
1	Node-CO-467						
	Base	Cum	1	79.8	1.1	0.10	8.78
2	Node-CO-469						
	Base	Cum	1	23.8	1.1	0.10	2.62
3	Node-CO-470						
	Base	Cum	1	62.6	1.1	0.10	6.89
4	Node-CO-473						
	Base	Cum	1	30.4	1.1	0.10	3.34
5	Node-CO-474						
	Base	Cum	1	62	1.1	0.10	6.82
6	Node-CO-472						
	Base	Cum	1	32	1.2	0.10	3.84
7	Node-CO-468						
	Base	Cum	1	28.4	1.1	0.10	3.12
8	Node-CO-495						
	Base	Cum	1	88.4	1.1	0.10	9.72
9	Node-CO-496						
	Base	Cum	1	76.4	1.1	0.10	8.40
10	Node-CO-499						
	Base	Cum	1	4.2	1.1	0.10	0.46
11	Node-CO-497						
	Base	Cum	1	87.6	1.1	0.10	9.64
12	Node-CO-498						
	Base	Cum	1	75.9	1.1	0.10	8.35
13	Node-CO-494						
	Base	Cum	1	77.3	1.1	0.10	8.50
14	Node-CO-503						
	Base	Cum	1	76.6	1.1	0.10	8.43
15	Node-CO-501						
	Base	Cum	1	32.5	1.1	0.10	3.58
16	Node-CO-502						
	Base	Cum	1	56.2	1.1	0.10	6.18
17	Node-CO-492						
	Base	Cum	1	30.9	1.1	0.10	3.40
18	Node-CO-493						
	Base	Cum	1	56.5	1.1	0.10	6.22
19	Node-CO-500						
	Base	Cum	1	32.4	1.1	0.10	3.56
20	Node-CO-491						
	Base	Cum	1	32	1.1	0.10	3.52
21	Node-CO-490						
	Base	Cum	1	24.8	1.1	0.10	2.73
22	Node-CO-488						
	Base	Cum	1	39	1.1	0.10	4.29
23	Node-CO-489						
	Base	Cum	1	44.3	1.1	0.10	4.87
24	Node-CO-487						
	Base	Cum	1	23.2	1.1	0.10	2.55
25	Node-CO-221						
	Base	Cum	1	101.3	1.1	0.10	11.14
	Road 20			Sides	2.00		
1	Node-CO-455						
	Base	Cum	2	87	1.2	0.10	20.88
2	Node-CO-456						
	Base	Cum	2	95.8	1.2	0.10	22.99
3	Node-CO-457						
	Base	Cum	2	82.7	1.2	0.10	19.85
4	Node-CO-458						
	Base	Cum	2	105.2	1.2	0.10	25.25
5	Node-CO-459						
	Base	Cum	2	62.5	1.2	0.10	15.00
6	Node-CO-460						
	Base	Cum	2	48.1	1.2	0.10	11.54
7	Node-CO-461						
	Base	Cum	2	47.8	1.2	0.10	11.47
8	Node-CO-462						
	Base	Cum	2	18.3	1.2	0.10	4.39
9	Node-CO-463						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	2	19.9	1.2	0.10	4.78
10	Node-CO-464						
	Base	Cum	2	15.8	1.2	0.10	3.79
11	Node-CO-479						
	Base	Cum	2	244.3	1.2	0.10	58.63
12	Node-CO-480						
	Base	Cum	2	170.7	1.2	0.10	40.97
13	Node-CO-477						
	Base	Cum	2	74.2	1.2	0.10	17.81
14	Node-CO-348						
	Base	Cum	2	15.4	1.2	0.10	3.70
15	Node-CO-349						
	Base	Cum	2	75.2	1.2	0.10	18.05
	PCC Below Kerb Stone	Cum	1	8268.00	0.47	0.10	384.46
	PCC Below Water Table	Cum	1.00	8268.00	0.50	0.10	413.40
	Box Culvert						
	7a						
	Box Culvert-Slab	Cum	2.0	11.2	1.0	0.1	2.24
	7c						
	Box Culvert-Slab	Cum	8.0	16.7	1.0	0.1	13.36
	8						
	Box Culvert-Slab	Cum	4.0	12.5	1.5	0.1	7.50
	10						
	Box Culvert-Slab	Cum	4.0	12.5	1.5	0.1	7.50
	19a						
	Box Culvert-Slab	Cum	4.0	10.6	1.5	0.1	6.36
	19b						
	Box Culvert-Slab	Cum	4.0	26.1	1.5	0.1	15.66
	15a						
	Box Culvert-Slab	Cum	6.0	11.3	1.5	0.1	10.17
	15b						
	Box Culvert-Slab	Cum	8.0	6.8	1.5	0.1	8.10
	20						
	Box Culvert-Slab	Cum	8.0	13.0	1.5	0.1	15.54
	Electrical Chamber	Cum	391.00	2.90	2.00	0.10	226.78
		Cum		Total Qty.			2147.14
15	KSRRB 400 Granular Sub-Base with Coarse Graded Material (table 400-1) KSRRB M400-7. Construction of granular sub-base by providing Coarse graded crushed stone aggregates of granite / trap / basalt material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per MORTH specifications clause 401 and Table 400-1 Grading VI. (SI.No.20.4 of KPWD SR 2018-19)						
	Pavement						
	7a-Milagres Cross Road						
	Ch.6.000 to Ch.165.000	Cum	1.00	183.00	5.30	0.15	145.49
	8-New Balmatta Road						
	Ch.0.00 to 580.00	Cum	1.00	580.00	5.30	0.15	461.10
	19a-Arya Samaj Road						
	Ch.0.00 to 330.00	Cum	1.00	595.00	5.30	0.15	473.03
	15b-Jumma Masjid Road						
	Ch.720.0 to Ch.970.0	Cum	1.00	300.00	4.60	0.15	207.00
	20-Bendre Ferry Road						
	Ch.0.00 to Ch.260.00	Cum	1.00	260.00	4.60	0.15	179.40
	19a-Balmatta Road						
	Ch.0.00 to Ch.320.00						
	RHS	Cum	1	291	0.5	0.15	21.83
	LHS	Cum	1	250	0.5	0.15	18.75
	20-Bendre Ferry Road						
	RHS						
	Ch.0.000 to Ch.170.0	Cum	1.0	170.0	1.0	0.15	25.50
	Ch.188.0 to Ch.218.0	Cum	1.0	30.0	0.9	0.15	4.19
	Ch.220.0 to Ch.270.0	Cum	1.0	50.0	2.0	0.15	15.00
	Ch.570.0 to Ch.705.0	Cum	1.0	135.0	1.1	0.15	22.28
	Ch.770.0 to Ch.870.0	Cum	1.0	100.0	1.3	0.15	19.05
	Ch.870.0 to Ch.925.0	Cum	1.0	55.0	1.2	0.15	9.90
	Ch.930.0 to Ch.1070.0	Cum	1.0	140.0	0.9	0.15	18.06
	LHS		0.0	0.0	0.0		0.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.125.0 to Ch.145.0	Cum	1.0	20.0	0.6	0.15	1.68
	Ch.180.0 to Ch.200.00	Cum	1.0	12.0	0.8	0.15	1.35
	Ch.260.0 to Ch.470.0	Cum	1.0	210.0	1.4	0.15	43.47
	Ch.530.0 to Ch.545.0	Cum	1.0	15.0	1.3	0.15	2.86
	Ch.590.0 to Ch.750.0	Cum	1.0	160.0	0.8	0.15	19.68
	Ch.780.0 to Ch.905.0	Cum	1.0	125.0	1.6	0.15	30.19
	Ch.915.0 to Ch.942.0	Cum	1.0	27.0	1.9	0.15	7.74
	Ch.950.0 to Ch.1100.0	Cum	1.0	150.0	1.6	0.15	36.68
	Road 7C						
	LHS						
	Ch.0.00 to Ch.45.0	Cum	1	45	0.7	0.15	4.73
	Ch.80.0 to Ch. 205.0	Cum	1	125	0.068	0.15	1.28
	Ch.280.0 to Ch.300.0	Cum	1	20	0.22	0.15	0.66
	Ch.305.0 to Ch.335.0	Cum	1	30	0.84	0.15	3.78
	Ch.410.0	Cum	1	5	1.2	0.15	0.90
	Ch.500.0 to Ch.660.0	Cum	1	160	0.68	0.15	16.32
	Ch.680.0 to Ch.745.0	Cum	1	65	0.26	0.15	2.54
	Ch.835.0 to Ch.880.0	Cum	1	45	0.74	0.15	5.00
	Ch.910.0 to Ch.930.0	Cum	1	20	0.07	0.15	0.21
	Ch.940.0 to Ch.950.0	Cum	1	10	0.68	0.15	1.02
	Ch.960.0	Cum	1	5	0.31	0.15	0.23
	RHS						
	Ch.215.0 to Ch.230.0	Cum	1	15	0.24	0.15	0.54
	Ch.350.0 to Ch.355.0	Cum	1	5	0.75	0.15	0.56
	Ch.385.0 to Ch.430.0	Cum	1	45	0.1	0.15	0.68
	Ch.460.0 to Ch.480.0	Cum	1	20	0.35	0.15	1.05
	Ch.765.0 to Ch.820.0	Cum	1	55	0.35	0.15	2.89
	Ch.980.0 to Ch.1004.0	Cum	1	24	0.42	0.15	1.51
	Road 15a						
	LHS						
	Ch.80.0 to Ch.90.0	Cum	1	10	0.15	0.15	0.23
	Ch.95.0 to Ch.110.0	Cum	1	15	0.13	0.15	0.29
	Ch.180.0 to Ch.210.0	Cum	1	30	0.23	0.15	1.04
	Ch.280.0 to Ch.300.0	Cum	1	20	0.13	0.15	0.39
	Ch.350.0 to Ch.375.0	Cum	1	25	0.34	0.15	1.28
	Ch.410.0	Cum	1	5	0.53	0.15	0.40
	Ch.420.0	Cum	1	5	2.24	0.15	1.68
	Ch.570.0	Cum	1	5	0.62	0.15	0.47
	RHS						
	Ch.45.0 to Ch.75.0	Cum	1	30	0.34	0.15	1.53
	Ch.395.0 to ch.410.0	Cum	1	15	0.61	0.15	1.37
	Ch.485.0 to Ch.510.0	Cum	1	25	0.46	0.15	1.73
	Ch.545.0 to Ch.570.0	Cum	1	25	0.36	0.15	1.35
	Ch.630.0 to Ch.640.0	Cum	1	10	0.24	0.15	0.36
	Consider Panel Repairing for Existing CC Road @ 5%						
	7c-Attavar -Nandigudda Road	Cum	0.05	1021.00	7.00	0.15	53.60
	10-Kudumbi Garden (DBS) Road	Cum	0.05	375.00	6.20	0.15	17.44
	Balmatta Road	Cum	0.05	330.00	15.00	0.15	37.13
	15b-Jumma Masjid Road	Cum	0.20	700.00	5.50	0.15	115.50
	20-Bendre Ferry Road	Cum	0.20	800.00	10.00	0.15	240.00
	Parking Area						
	Road 7c						
	LHS						
	Ch.530.000 to Ch.590.000	Cum	1	69.06	2.50	0.15	25.90
	RHS						
	Ch.530.000 to Ch.590.000	Cum	1	71.13	2.50	0.15	26.67
	Road 8						
	LHS						
	Ch.50.000 to Ch.80.000	Cum	1	25.32	2.00	0.15	7.60
	RHS						
	Ch.50.000 to Ch.80.000	Cum	1	24.92	2.00	0.15	7.48
	Road 19b						
	RHS						
	Ch.90.000 to Ch.250.000	Cum	1	129.7	2.50	0.15	48.64
	Road 19a						
	LHS						
	Ch.760.000 to Ch.830.000	Cum	1	53.83	2.50	0.15	20.19
	RHS						
	Ch.760.000 to Ch.830.000	Cum	1	24.1	2.50	0.15	9.04
		Cum		Total Qty.			2429.35

Sr. No.	Description	Unit	No's	L	B	H	Qty.
16	KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material (RA Attached)						
	Footpath						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Cum	1.00	150.00	2.17	0.15	48.74
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Cum	1.00	120.00	3.33	0.15	59.94
	Ch.150.000 to Ch.410.00	Cum	1.00	260.00	3.18	0.15	124.02
	Ch.420.000 to Ch.480.00	Cum	1.00	250.00	3.42	0.15	128.25
	Ch.480.000 to Ch.670.00	Cum	1.00	250.00	1.95	0.15	73.13
	Ch.680.000 to Ch.720.00	Cum	1.00	40.00	2.29	0.15	13.74
	Ch.730.000 to Ch.800.00	Cum	1.00	70.00	2.23	0.15	23.42
	Ch.810.000 to Ch.850.00	Cum	1.00	40.00	2.10	0.15	12.60
	Ch.880.000 to Ch.950.00	Cum	1.00	70.00	2.24	0.15	23.52
	Ch.960.000 to Ch.1004.00	Cum	1.00	44.00	2.43	0.15	16.04
	RHS						
	Ch.10.000 to Ch.130.00	Cum	1.00	120.00	3.02	0.15	54.36
	Ch.140.000 to Ch.350.00	Cum	1.00	210.00	3.00	0.15	94.50
	Ch.360.000 to Ch.430.00	Cum	1.00	70.00	5.21	0.15	54.71
	Ch.440.000 to Ch.610.00	Cum	1.00	170.00	5.02	0.15	128.01
	Ch.610.000 to Ch.730.00	Cum	1.00	120.00	3.59	0.15	64.62
	Ch.740.000 to Ch.840.00	Cum	1.00	100.00	2.43	0.15	36.45
	Ch.870.000 to Ch.950.00	Cum	1.00	80.00	2.64	0.15	31.68
	Ch.960.000 to Ch.1004.00	Cum	1.00	44.00	5.30	0.15	34.98
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Cum	1.00	120.00	3.10	0.15	55.80
	Ch.520.000 to Ch.580.00	Cum	1.00	60.00	3.73	0.15	33.57
	RHS						
	Ch.30.000 to Ch.80.00	Cum	1.00	50.00	4.44	0.15	33.30
	Ch.90.000 to Ch.150.00	Cum	1.00	60.00	3.05	0.15	27.45
	Ch.515.000 to Ch.560.00	Cum	1.00	45.00	2.67	0.15	18.02
	10-Kudumbi Garden (DBS)Road						
	LHS						
	Ch.10.000 to Ch.90.00	Cum	1.00	80.00	2.28	0.15	27.36
	Ch.90.000 to Ch.135.00	Cum	1.00	45.00	2.27	0.15	15.32
	Ch.140.000 to Ch.250.00	Cum	1.00	110.00	1.51	0.15	24.92
	Ch.140.000 to Ch.340.00	Cum	1.00	200.00	0.74	0.15	22.20
	RHS						
	Ch.10.000 to Ch.140.00	Cum	1.00	130.00	2.55	0.15	49.73
	Ch.190.000 to Ch.210.00	Cum	1.00	20.00	1.70	0.15	5.10
	Ch.220.000 to Ch.360.00	Cum	1.00	140.00	2.36	0.15	49.56
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Cum	1.00	270.00	4.43	0.15	179.42
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Cum	1.00	10.00	10.00	0.15	15.00
	Ch.370.000 to Ch.390.00	Cum	1.00	20.00	2.05	0.15	6.15
	Ch.390.000 to Ch.570.00	Cum	1.00	180.00	2.04	0.15	55.08
	Ch.590.000 to Ch.620.00	Cum	1.00	30.00	2.20	0.15	9.90
	Ch.700.000 to Ch.840.00	Cum	1.00	140.00	3.24	0.15	68.04
	RHS						
	Ch.30.000 to Ch.300.00	Cum	1.00	270.00	4.55	0.15	184.28
	Ch.340.000 to Ch.630.00	Cum	1.00	290.00	2.14	0.15	93.09
	Ch.700.000 to Ch.845.00	Cum	1.00	145.00	2.94	0.15	63.95
	15a-Azizuddin Road						
	LHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	2.19	0.15	29.57
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.15	0.15	38.70

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.220.000 to Ch.300.00	Cum	1.00	80.00	2.23	0.15	26.76
	Ch.310.000 to Ch.420.00	Cum	1.00	110.00	1.69	0.15	27.89
	Ch.420.000 to Ch.490.00	Cum	1.00	70.00	2.46	0.15	25.83
	Ch.490.000 to Ch.570.00	Cum	1.00	80.00	1.86	0.15	22.32
	Ch.580.000 to Ch.640.00	Cum	1.00	60.00	1.83	0.15	16.47
	Ch.650.000 to Ch.710.00	Cum	1.00	60.00	1.60	0.15	14.40
	RHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	1.82	0.15	24.57
	Ch.100.000 to Ch.220.00	Cum	1.00	220.00	1.27	0.15	41.91
	Ch.220.000 to Ch.320.00	Cum	1.00	100.00	1.67	0.15	25.05
	Ch.330.000 to Ch.410.00	Cum	1.00	80.00	2.23	0.15	26.76
	Ch.420.000 to Ch.570.00	Cum	1.00	150.00	2.24	0.15	50.40
	Ch.580.000 to Ch.710.00	Cum	1.00	130.00	1.78	0.15	34.71
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	2.19	0.15	29.57
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.15	0.15	38.70
	Ch.220.000 to Ch.300.00	Cum	1.00	80.00	2.23	0.15	26.76
	Ch.310.000 to Ch.420.00	Cum	1.00	110.00	1.69	0.15	27.89
	Ch.420.000 to Ch.490.00	Cum	1.00	70.00	2.46	0.15	25.83
	Ch.490.000 to Ch.570.00	Cum	1.00	80.00	1.86	0.15	22.32
	Ch.580.000 to Ch.640.00	Cum	1.00	60.00	1.83	0.15	16.47
	Ch.650.000 to Ch.710.00	Cum	1.00	60.00	1.60	0.15	14.40
	RHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	1.82	0.15	24.57
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.33	0.15	41.94
	Ch.220.000 to Ch.320.00	Cum	1.00	100.00	1.67	0.15	25.05
	Ch.330.000 to Ch.410.00	Cum	1.00	80.00	2.23	0.15	26.76
	Ch.420.000 to Ch.570.00	Cum	1.00	150.00	2.24	0.15	50.40
	Ch.580.000 to Ch.710.00	Cum	1.00	130.00	1.78	0.15	34.71
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Cum	1.00	80.00	1.64	0.15	19.68
	Ch.80.000 to Ch.140.00	Cum	1.00	60.00	1.77	0.15	15.93
	Ch.180.000 to Ch.220.00	Cum	1.00	40.00	2.35	0.15	14.10
	Ch.230.000 to Ch.250.00	Cum	1.00	20.00	3.40	0.15	10.20
	Ch.250.000 to Ch.530.00	Cum	1.00	280.00	2.31	0.15	97.02
	RHS						
	Ch.530.000 to Ch.580.00	Cum	1.00	50.00	5.60	0.15	42.00
	Ch.705.000 to Ch.1040.00	Cum	1.00	335.00	2.29	0.15	115.07
	Box Culvert						
	7a						
	Box Culvert-Slab	Cum	2.0	11.2	1.0	0.15	3.36
	7c		0.0	0.0	0.0		
	Box Culvert-Slab	Cum	8.0	16.7	1.0	0.15	20.04
	8		0.0	0.0	0.0		
	Box Culvert-Slab	Cum	4.0	12.5	1.5	0.15	11.25
	10		0.0	0.0	0.0		
	Box Culvert-Slab	Cum	4.0	12.5	1.5	0.15	11.25
	19a		0.0	0.0	0.0		
	Box Culvert-Slab	Cum	4.0	10.6	1.5	0.15	9.54
	19b		0.0	0.0	0.0		
	Box Culvert-Slab	Cum	4.0	26.1	1.5	0.15	23.49
	15a		0.0	0.0	0.0		
	Box Culvert-Slab	Cum	6.0	11.3	1.5	0.15	15.26
	15b		0.0	0.0	0.0		
	Box Culvert-Slab	Cum	8.0	6.8	1.5	0.15	12.15
	20		0.0	0.0	0.0		
	Box Culvert-Slab	Cum	8.0	13.0	1.5	0.15	23.31
			0.0	0.0	0.0		
	Electrical Chamber	Cum	391.0	2.9	2.0	0.15	340.17
		Cum		Total Qty.			3654.42

Sr. No.	Description	Unit	No's	L	B	H	Qty.
17	KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters confirming to IS 9103-1999 reafirmed -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 & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (SI No : 4.10 of KPWD 18-19)						
	SWD						
	Road 7a			Sides	1.00		
	Node-CO-504						
	Base	Cum	1	26.4	1.1	0.10	2.90
	Wall	Cum	2	26.4	0.15	1.04	8.24
	Slab	Cum	1	26.4	0.9	0.20	4.75
	Node-CO-505						
	Base	Cum	1	137.5	1.1	0.10	15.13
	Wall	Cum	2	137.5	0.15	1.41	58.16
	Slab	Cum	1	137.5	0.9	0.20	24.75
	Road 7c			Sides	2.00		
1	Node-CO-64						
	Base	Cum	2	127.7	1.4	0.10	35.76
	Wall	Cum	4	127.7	0.3	2.56	392.29
	Slab	Cum	2	127.7	1.2	0.15	45.97
2	Node-CO-65						
	Base	Cum	2	125.6	1.4	0.10	35.17
	Wall	Cum	4	125.6	0.3	2.59	390.36
	Slab	Cum	2	125.6	1.2	0.15	45.22
3	Node-CO-66						
	Base	Cum	2	67.9	1.4	0.10	19.01
	Wall	Cum	4	67.9	0.3	2.71	220.81
	Slab	Cum	2	67.9	1.2	0.15	24.44
4	Node-CO-67						
	Base	Cum	2	34.8	1.3	0.10	9.05
	Wall	Cum	4	34.8	0.25	2.32	80.74
	Slab	Cum	2	34.8	1.1	0.15	11.48
5	Node-CO-68						
	Base	Cum	2	29.4	1.1	0.10	6.47
	Wall	Cum	4	29.4	0.15	1.36	23.99
	Slab	Cum	2	29.4	0.9	0.15	7.94
6	Node-CO-69						
	Base	Cum	2	39.8	1.1	0.10	8.76
	Wall	Cum	4	39.8	0.15	0.79	18.75
	Slab	Cum	2	39.8	0.9	0.15	10.75
7	Node-CO-70						
	Base	Cum	2	36.5	1.1	0.10	8.03
	Wall	Cum	4	36.5	0.15	0.63	13.69
	Slab	Cum	2	36.5	0.9	0.15	9.86
8	Node-CO-80						
	Base	Cum	2	73.8	1.1	0.10	16.24
	Wall	Cum	4	73.8	0.15	1.17	51.81
	Slab	Cum	2	73.8	0.9	0.15	19.93
9	Node-CO-81						
	Base	Cum	2	40.5	1.1	0.10	8.91
	Wall	Cum	4	40.5	0.15	1.17	28.43
	Slab	Cum	2	40.5	0.9	0.15	10.94
10	Node-CO-82						
	Base	Cum	2	31.7	1.1	0.10	6.97
	Wall	Cum	4	31.7	0.15	0.89	16.93
	Slab	Cum	2	31.7	0.9	0.15	8.56
11	Node-CO-78						
	Base	Cum	2	22.3	1.1	0.10	4.91
	Wall	Cum	4	22.3	0.15	1.41	18.80
	Slab	Cum	2	22.3	0.9	0.15	6.02
12	Node-CO-77						
	Base	Cum	2	23.6	1.2	0.10	5.66
	Wall	Cum	4	23.6	0.2	1.91	35.97
	Slab	Cum	2	23.6	1	0.15	7.08
13	Node-CO-79						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	2	33.6	1.1	0.10	7.39
	Wall	Cum	4	33.6	0.15	0.86	17.24
	Slab	Cum	2	33.6	0.9	0.15	9.07
	Road 8			Sides	1.00		
1	Node-CO-35						
	Base	Cum	1	75.6	1.1	0.10	8.32
	Wall	Cum	2	75.6	0.15	1.42	32.21
	Slab	Cum	1	75.6	0.9	0.20	13.61
2	Node-CO-36						
	Base	Cum	1	33.5	1.1	0.10	3.69
	Wall	Cum	2	33.5	0.15	0.64	6.38
	Slab	Cum	1	33.5	0.9	0.20	6.03
3	Node-CO-37						
	Base	Cum	1	31	1.1	0.10	3.41
	Wall	Cum	2	31	0.15	0.66	6.14
	Slab	Cum	1	31	0.9	0.20	5.58
4	Node-CO-38						
	Base	Cum	1	48.9	1.1	0.10	5.38
	Wall	Cum	2	48.9	0.15	0.64	9.39
	Slab	Cum	1	48.9	0.9	0.20	8.80
5	Node-CO-39						
	Base	Cum	1	99.9	1.2	0.10	11.99
	Wall	Cum	2	99.9	0.2	1.58	63.14
	Slab	Cum	1	99.9	1	0.20	19.98
6	Node-CO-40						
	Base	Cum	1	95.4	1.3	0.10	12.40
	Wall	Cum	2	95.4	0.25	2.43	115.67
	Slab	Cum	1	95.4	1.1	0.20	20.99
7	Node-CO-41						
	Base	Cum	1	28	1.2	0.10	3.36
	Wall	Cum	2	28	0.2	1.85	20.72
	Slab	Cum	1	28	1	0.20	5.60
8	Node-CO-42						
	Base	Cum	1	46.1	1.2	0.10	5.53
	Wall	Cum	2	46.1	0.2	1.95	35.96
	Slab	Cum	1	46.1	1	0.20	9.22
9	Node-CO-43						
	Base	Cum	1	17	1.2	0.10	2.04
	Wall	Cum	2	17	0.2	1.68	11.42
	Slab	Cum	1	17	1	0.20	3.40
10	Node-CO-44						
	Base	Cum	1	34.7	1.1	0.10	3.82
	Wall	Cum	2	34.7	0.15	1.25	12.96
	Slab	Cum	1	34.7	0.9	0.20	6.25
11	Node-CO-45						
	Base	Cum	1	34.8	1.1	0.10	3.83
	Wall	Cum	2	34.8	0.15	0.84	8.72
	Slab	Cum	1	34.8	0.9	0.20	6.26
12	Node-CO-46						
	Base	Cum	1	9.3	1.5	0.10	1.40
	Wall	Cum	2	9.3	0.35	3.40	22.10
	Slab	Cum	1	9.3	1.3	0.20	2.42
13	Node-CO-47						
	Base	Cum	1	14.2	1.5	0.10	2.13
	Wall	Cum	2	14.2	0.35	3.40	33.80
	Slab	Cum	1	14.2	1.3	0.20	3.69
	Road 19			Sides	2.00		
1	Node-CO-163						
	Base	Cum	2	24.3	1.1	0.10	5.35
	Wall	Cum	4	24.3	0.15	1.43	20.78
	Slab	Cum	2	24.3	0.9	0.20	8.75
2	Node-CO-164						
	Base	Cum	2	29.9	1.1	0.10	6.58
	Wall	Cum	4	29.9	0.15	1.24	22.25
	Slab	Cum	2	29.9	0.9	0.20	10.76
3	Node-CO-165						
	Base	Cum	2	43.4	1.1	0.10	9.55
	Wall	Cum	4	43.4	0.15	1.15	29.95
	Slab	Cum	2	43.4	0.9	0.20	15.62
4	Node-CO-166						
	Base	Cum	2	20.9	1.1	0.10	4.60
	Wall	Cum	4	20.9	0.15	1.12	14.04

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Slab	Cum	2	20.9	0.9	0.20	7.52
5	Node-CO-167						
	Base	Cum	2	33.5	1.1	0.10	7.37
	Wall	Cum	4	33.5	0.15	1.09	21.81
	Slab	Cum	2	33.5	0.9	0.20	12.06
6	Node-CO-168						
	Base	Cum	2	47.3	1.1	0.10	10.41
	Wall	Cum	4	47.3	0.15	0.91	25.83
	Slab	Cum	2	47.3	0.9	0.20	17.03
7	Node-CO-169						
	Base	Cum	2	68.4	1.1	0.10	15.05
	Wall	Cum	4	68.4	0.15	0.77	31.40
	Slab	Cum	2	68.4	0.9	0.20	24.62
8	Node-CO-170						
	Base	Cum	2	120.2	1.1	0.10	26.44
	Wall	Cum	4	120.2	0.15	0.77	55.53
	Slab	Cum	2	120.2	0.9	0.20	43.27
9	Node-CO-171						
	Base	Cum	2	70.8	1.1	0.10	15.58
	Wall	Cum	4	70.8	0.15	0.74	31.44
	Slab	Cum	2	70.8	0.9	0.20	25.49
10	Node-CO-172						
	Base	Cum	2	103.2	1.1	0.10	22.70
	Wall	Cum	4	103.2	0.15	0.86	52.94
	Slab	Cum	2	103.2	0.9	0.20	37.15
	Road-15a			Sides	1.00		
1	Node-CO-182						
	Base	Cum	1	27.2	1.2	0.10	3.26
	Wall	Cum	2	27.2	0.2	1.62	17.57
	Slab	Cum	1	27.2	1	0.20	5.44
2	Node-CO-192						
	Base	Cum	1	59.8	1.1	0.10	6.58
	Wall	Cum	2	59.8	0.15	0.97	17.31
	Slab	Cum	1	59.8	0.9	0.20	10.76
3	Node-CO-481						
	Base	Cum	1	28.1	1.2	0.10	3.37
	Wall	Cum	2	28.1	0.2	1.62	18.21
	Slab	Cum	1	28.1	1	0.20	5.62
4	Node-CO-482						
	Base	Cum	1	58.7	1.1	0.10	6.46
	Wall	Cum	2	58.7	0.15	0.97	17.08
	Slab	Cum	1	58.7	0.9	0.20	10.57
5	Node-CO-190						
	Base	Cum	1	62.8	1.1	0.10	6.91
	Wall	Cum	2	62.8	0.15	1.25	23.55
	Slab	Cum	1	62.8	0.9	0.20	11.30
6	Node-CO-184						
	Base	Cum	1	151.1	1.1	0.10	16.62
	Wall	Cum	2	151.1	0.15	1.25	56.44
	Slab	Cum	1	151.1	0.9	0.20	27.20
7	Node-CO-195						
	Base	Cum	1	170	1.1	0.10	18.70
	Wall	Cum	2	170	0.15	1.28	65.28
	Slab	Cum	1	170	0.9	0.20	30.60
8	Node-CO-187						
	Base	Cum	1	80.5	1.1	0.10	8.86
	Wall	Cum	2	80.5	0.15	0.87	20.89
	Slab	Cum	1	80.5	0.9	0.20	14.49
9	Node-CO-188						
	Base	Cum	1	43.1	1.1	0.10	4.74
	Wall	Cum	2	43.1	0.15	1.18	15.19
	Slab	Cum	1	43.1	0.9	0.20	7.76
10	Node-CO-189						
	Base	Cum	1	97.4	1.1	0.10	10.71
	Wall	Cum	2	97.4	0.15	0.92	26.88
	Slab	Cum	1	97.4	0.9	0.20	17.53
11	Node-CO-483						
	Base	Cum	1	64.4	1.4	0.10	9.02
	Wall	Cum	2	64.4	0.3	2.89	111.67
	Slab	Cum	1	64.4	1.2	0.20	15.46
12	Node-CO-484						
	Base	Cum	1	120.6	1.2	0.10	14.47
	Wall	Cum	2	120.6	0.2	1.61	77.43

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Slab	Cum	1	120.6	1	0.20	24.12
13	Node-CO-485						
	Base	Cum	1	30.5	1.1	0.10	3.36
	Wall	Cum	2	30.5	0.15	0.72	6.54
	Slab	Cum	1	30.5	0.9	0.20	5.49
14	Node-CO-486						
	Base	Cum	1	169.2	1.1	0.10	18.61
	Wall	Cum	2	169.2	0.15	0.61	30.96
	Slab	Cum	1	169.2	0.9	0.20	30.46
	15a-New Drain			1			
1	MH-524						
	Base	Cum	1	27.7	1.2	0.10	3.32
	Wall	Cum	2	27.7	0.2	1.62	17.89
	Slab	Cum	1	27.7	1	0.20	5.54
2	MH-525						
	Base	Cum	1	59.4	1.1	0.10	6.53
	Wall	Cum	2	59.4	0.15	0.97	17.20
	Slab	Cum	1	59.4	0.9	0.20	10.69
3	MH-527						
	Base	Cum	1	62.8	1.1	0.10	6.91
	Wall	Cum	2	62.8	0.15	1.34	25.25
	Slab	Cum	1	62.8	0.9	0.20	11.30
4	MH-528						
	Base	Cum	1	120.5	1.1	0.10	13.26
	Wall	Cum	2	120.5	0.15	1.26	45.37
	Slab	Cum	1	120.5	0.9	0.20	21.69
5	MH-529						
	Base	Cum	1	29.7	1.1	0.10	3.27
	Wall	Cum	2	29.7	0.15	1.28	11.40
	Slab	Cum	1	29.7	0.9	0.20	5.35
6	MH-530						
	Base	Cum	1	170.8	1.1	0.10	18.79
	Wall	Cum	2	170.8	0.15	1.35	68.92
	Slab	Cum	1	170.8	0.9	0.20	30.74
7	MH-532						
	Base	Cum	1	80.5	1.1	0.10	8.86
	Wall	Cum	2	80.5	0.15	0.87	20.89
	Slab	Cum	1	80.5	0.9	0.20	14.49
8	MH-533						
	Base	Cum	1	43.1	1.1	0.10	4.74
	Wall	Cum	2	43.1	0.15	1.18	15.19
	Slab	Cum	1	43.1	0.9	0.20	7.76
9	MH-534						
	Base	Cum	1	97.4	1.1	0.10	10.71
	Wall	Cum	2	97.4	0.15	0.92	26.88
	Slab	Cum	1	97.4	0.9	0.20	17.53
	Road 15b			Sides	1.00		
1	Node-CO-467						
	Base	Cum	1	79.8	1.1	0.10	8.78
	Wall	Cum	2	79.8	0.15	0.61	14.60
	Slab	Cum	1	79.8	0.9	0.20	14.36
2	Node-CO-469						
	Base	Cum	1	23.8	1.1	0.10	2.62
	Wall	Cum	2	23.8	0.15	0.99	7.07
	Slab	Cum	1	23.8	0.9	0.20	4.28
3	Node-CO-470						
	Base	Cum	1	62.6	1.1	0.10	6.89
	Wall	Cum	2	62.6	0.15	0.66	12.39
	Slab	Cum	1	62.6	0.9	0.20	11.27
4	Node-CO-473						
	Base	Cum	1	30.4	1.1	0.10	3.34
	Wall	Cum	2	30.4	0.15	0.92	8.39
	Slab	Cum	1	30.4	0.9	0.20	5.47
5	Node-CO-474						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	1	62	1.1	0.10	6.82
	Wall	Cum	2	62	0.15	1.07	19.81
	Slab	Cum	1	62	0.9	0.20	11.16
6	Node-CO-472						
	Base	Cum	1	32	1.1	0.10	3.52
	Wall	Cum	2	32	0.15	1.04	9.94
	Slab	Cum	1	32	0.9	0.20	5.76
7	Node-CO-468						
	Base	Cum	1	28.4	1.1	0.10	3.12
	Wall	Cum	2	28.4	0.15	1.12	9.54
	Slab	Cum	1	28.4	0.9	0.20	5.11
8	Node-CO-495						
	Base	Cum	1	88.4	1.1	0.10	9.72
	Wall	Cum	2	88.4	0.15	0.71	18.83
	Slab	Cum	1	88.4	0.9	0.20	15.91
9	Node-CO-496						
	Base	Cum	1	76.4	1.1	0.10	8.40
	Wall	Cum	2	76.4	0.15	0.98	22.35
	Slab	Cum	1	76.4	0.9	0.20	13.75
10	Node-CO-499						
	Base	Cum	1	4.2	1.1	0.10	0.46
	Wall	Cum	2	4.2	0.15	1.05	1.32
	Slab	Cum	1	4.2	0.9	0.20	0.76
11	Node-CO-497						
	Base	Cum	1	87.6	1.1	0.10	9.64
	Wall	Cum	2	87.6	0.15	0.66	17.21
	Slab	Cum	1	87.6	0.9	0.20	15.77
12	Node-CO-498						
	Base	Cum	1	75.9	1.1	0.10	8.35
	Wall	Cum	2	75.9	0.15	0.83	18.90
	Slab	Cum	1	75.9	0.9	0.20	13.66
13	Node-CO-494						
	Base	Cum	1	77.3	1.1	0.10	8.50
	Wall	Cum	2	77.3	0.15	0.61	14.15
	Slab	Cum	1	77.3	0.9	0.20	13.91
14	Node-CO-503						
	Base	Cum	1	76.6	1.1	0.10	8.43
	Wall	Cum	2	76.6	0.15	0.61	14.02
	Slab	Cum	1	76.6	0.9	0.20	13.79
15	Node-CO-501						
	Base	Cum	1	32.5	1.1	0.10	3.58
	Wall	Cum	2	32.5	0.15	0.63	6.09
	Slab	Cum	1	32.5	0.9	0.20	5.85
16	Node-CO-502						
	Base	Cum	1	56.2	1.1	0.10	6.18
	Wall	Cum	2	56.2	0.15	0.61	10.28
	Slab	Cum	1	56.2	0.9	0.20	10.12
17	Node-CO-492						
	Base	Cum	1	30.9	1.1	0.10	3.40
	Wall	Cum	2	30.9	0.15	0.61	5.65
	Slab	Cum	1	30.9	0.9	0.20	5.56
18	Node-CO-493						
	Base	Cum	1	56.5	1.1	0.10	6.22
	Wall	Cum	2	56.5	0.15	0.61	10.34
	Slab	Cum	1	56.5	0.9	0.20	10.17
19	Node-CO-500						
	Base	Cum	1	32.4	1.1	0.10	3.56
	Wall	Cum	2	32.4	0.15	0.61	5.93
	Slab	Cum	1	32.4	0.9	0.20	5.83
20	Node-CO-491						
	Base	Cum	1	32	1.1	0.10	3.52
	Wall	Cum	2	32	0.15	0.61	5.86
	Slab	Cum	1	32	0.9	0.20	5.76
21	Node-CO-490						
	Base	Cum	1	24.8	1.1	0.10	2.73
	Wall	Cum	2	24.8	0.15	0.65	4.84
	Slab	Cum	1	24.8	0.9	0.20	4.46
22	Node-CO-488						
	Base	Cum	1	39	1.1	0.10	4.29
	Wall	Cum	2	39	0.15	0.62	7.25
	Slab	Cum	1	39	0.9	0.20	7.02
23	Node-CO-489						
	Base	Cum	1	44.3	1.1	0.10	4.87
	Wall	Cum	2	44.3	0.15	0.61	8.11

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Slab	Cum	1	44.3	0.9	0.20	7.97
24	Node-CO-487						
	Base	Cum	1	23.2	1.1	0.10	2.55
	Wall	Cum	2	23.2	0.15	0.62	4.32
	Slab	Cum	1	23.2	0.9	0.20	4.18
25	Node-CO-221						
	Base	Cum	1	101.3	1.1	0.10	11.14
	Wall	Cum	2	101.3	0.15	1.23	37.38
	Slab	Cum	1	101.3	0.9	0.20	18.23
	Road 20			Sides	2.00		
1	Node-CO-455						
	Base	Cum	2	87	1.2	0.15	31.32
	Wall	Cum	4	87	0.2	1.99	138.16
	Slab	Cum	2	87	1	0.20	34.80
2	Node-CO-456						
	Base	Cum	2	95.8	1.1	0.15	31.61
	Wall	Cum	4	95.8	0.15	1.47	84.50
	Slab	Cum	2	95.8	0.9	0.20	34.49
3	Node-CO-457						
	Base	Cum	2	82.7	1.1	0.15	27.29
	Wall	Cum	4	82.7	0.15	1.35	66.99
	Slab	Cum	2	82.7	0.9	0.20	29.77
4	Node-CO-458						
	Base	Cum	2	105.2	1.1	0.15	34.72
	Wall	Cum	4	105.2	0.15	1.40	88.05
	Slab	Cum	2	105.2	0.9	0.20	37.87
5	Node-CO-459						
	Base	Cum	2	62.5	1.1	0.15	20.63
	Wall	Cum	4	62.5	0.15	1.41	52.88
	Slab	Cum	2	62.5	0.9	0.20	22.50
6	Node-CO-460						
	Base	Cum	2	48.1	1.1	0.15	15.87
	Wall	Cum	4	48.1	0.15	1.25	35.93
	Slab	Cum	2	48.1	0.9	0.20	17.32
7	Node-CO-461						
	Base	Cum	2	47.8	1.1	0.15	15.77
	Wall	Cum	4	47.8	0.15	1.23	35.13
	Slab	Cum	2	47.8	0.9	0.20	17.21
8	Node-CO-462						
	Base	Cum	2	18.3	1.1	0.15	6.04
	Wall	Cum	4	18.3	0.15	1.30	14.27
	Slab	Cum	2	18.3	0.9	0.20	6.59
9	Node-CO-463						
	Base	Cum	2	19.9	1.1	0.15	6.57
	Wall	Cum	4	19.9	0.15	1.28	15.28
	Slab	Cum	2	19.9	0.9	0.20	7.16
10	Node-CO-464						
	Base	Cum	2	15.8	1.1	0.15	5.21
	Wall	Cum	4	15.8	0.15	1.25	11.80
	Slab	Cum	2	15.8	0.9	0.20	5.69
11	Node-CO-479						
	Base	Cum	2	244.3	1.1	0.15	80.62
	Wall	Cum	4	244.3	0.15	0.92	134.12
	Slab	Cum	2	244.3	0.9	0.20	87.95
12	Node-CO-480						
	Base	Cum	2	170.7	1.1	0.15	56.33
	Wall	Cum	4	170.7	0.15	0.64	65.04
	Slab	Cum	2	170.7	0.9	0.20	61.45
13	Node-CO-477						
	Base	Cum	2	74.2	1.1	0.15	24.49
	Wall	Cum	4	74.2	0.15	0.64	28.27
	Slab	Cum	2	74.2	0.9	0.20	26.71
14	Node-CO-348						
	Base	Cum	2	15.4	1.2	0.15	5.54
	Wall	Cum	4	15.4	0.2	1.71	21.01
	Slab	Cum	2	15.4	1	0.20	6.16
15	Node-CO-349						
	Base	Cum	2	75.2	1.2	0.15	27.07
	Wall	Cum	4	75.2	0.2	1.71	102.57
	Slab	Cum	2	75.2	1	0.20	30.08
							0.00
	Ded. Of Covers-0.6m x 0.45m	Cum	-869.00	0.6	0.45	0.20	-46.93
	Box Culvert						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	7a						
	Box Culvert-Slab	Cum	4	11.2	1.00	0.20	8.96
	Box Culvert-Wall	Cum	4	11.2	1.00	0.20	8.96
	7c						
	Box Culvert-Slab	Cum	16	16.7	1.00	0.20	53.44
	Box Culvert-Wall	Cum	16	16.7	1.00	0.20	53.44
	8						
	Box Culvert-Slab	Cum	8	12.5	1.50	0.20	30.00
	Box Culvert-Wall	Cum	8	12.5	1.50	0.20	30.00
	10						
	Box Culvert-Slab	Cum	8	12.5	1.50	0.20	30.00
	Box Culvert-Wall	Cum	8	12.5	1.50	0.20	30.00
	19a						
	Box Culvert-Slab	Cum	8	10.6	1.50	0.20	25.44
	Box Culvert-Wall	Cum	8	10.6	1.50	0.20	25.44
	19b						
	Box Culvert-Slab	Cum	8	26.1	1.50	0.20	62.64
	Box Culvert-Wall	Cum	8	26.1	1.50	0.20	62.64
	15a						
	Box Culvert-Slab	Cum	12	11.3	1.50	0.20	40.68
	Box Culvert-Wall	Cum	12	11.3	1.50	0.20	40.68
	15b						0.00
	Box Culvert-Slab	Cum	16	6.75	1.50	0.20	32.40
	Box Culvert-Wall	Cum	16	6.75	1.50	0.20	32.40
	20						0.00
	Box Culvert-Slab	Cum	16	12.95	1.50	0.20	62.16
	Box Culvert-Wall	Cum	16	12.95	1.50	0.20	62.16
	Footpath Edge Beam-PCC	Cum	1	1825.00	0.15	0.105	28.74
	Electrical Chamber						0.00
	Foundation	Cum	391	2.70	1.80	0.15	285.04
	Long Wall	Cum	782	2.40	0.15	2.10	591.19
	Short Wall	Cum	782	1.10	0.15	2.10	270.96
		Cum		Total Qty.			8501.41
18	KSRB 4.6.1 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. Specification No. KSB 4.6.2 (SI No : 4.28 of KPWD 18-19)						
	SWD						
	Road 7a			Sides	2.00		
	Node-CO-504						
	Base	Sqm	2	26.4		0.1	5.28
	Wall	Sqm	4	26.4		1.04	109.82
	Slab	Sqm	2	26.4	0.9		47.52
	Node-CO-505						
	Base	Sqm	2	137.5		0.1	27.50
	Wall	Sqm	4	137.5		1.41	775.50
	Slab	Sqm	2	137.5	0.9		247.50
	Road 7c			Sides	2		
1	Node-CO-64						
	Base	Sqm	4	127.7		0.1	51.08
	Wall	Sqm	8	127.7		2.56	2615.30
	Slab	Sqm	2	127.7	1.2		306.48
2	Node-CO-65						
	Base	Sqm	4	125.6		0.1	50.24
	Wall	Sqm	8	125.6		2.59	2602.43
	Slab	Sqm	2	125.6	1.2		301.44
3	Node-CO-66						
	Base	Sqm	4	67.9		0.1	27.16
	Wall	Sqm	8	67.9		2.71	1472.07
	Slab	Sqm	2	67.9	1.2		162.96
4	Node-CO-67						
	Base	Sqm	4	34.8		0.1	13.92
	Wall	Sqm	8	34.8		2.32	645.89
	Slab	Sqm	2	34.8	1.1		76.56
5	Node-CO-68						
	Base	Sqm	4	29.4		0.1	11.76
	Wall	Sqm	8	29.4		1.36	319.87
	Slab	Sqm	2	29.4	0.9		52.92
6	Node-CO-69						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Sqm	4	39.8		0.1	15.92
	Wall	Sqm	8	39.8		0.785	249.94
	Slab	Sqm	2	39.8	0.9		71.64
7	Node-CO-70						
	Base	Sqm	4	36.5		0.1	14.60
	Wall	Sqm	8	36.5		0.625	182.50
	Slab	Sqm	2	36.5	0.9		65.70
8	Node-CO-80						
	Base	Sqm	4	73.8		0.1	29.52
	Wall	Sqm	8	73.8		1.17	690.77
	Slab	Sqm	2	73.8	0.9		132.84
9	Node-CO-81						
	Base	Sqm	4	40.5		0.1	16.20
	Wall	Sqm	8	40.5		1.17	379.08
	Slab	Sqm	2	40.5	0.9		72.90
10	Node-CO-82						
	Base	Sqm	4	31.7		0.1	12.68
	Wall	Sqm	8	31.7		0.89	225.70
	Slab	Sqm	2	31.7	0.9		57.06
11	Node-CO-78						
	Base	Sqm	4	22.3		0.1	8.92
	Wall	Sqm	8	22.3		1.405	250.65
	Slab	Sqm	2	22.3	0.9		40.14
12	Node-CO-77						
	Base	Sqm	4	23.6		0.1	9.44
	Wall	Sqm	8	23.6		1.905	359.66
	Slab	Sqm	2	23.6	1		47.20
13	Node-CO-79						
	Base	Sqm	4	33.6		0.1	13.44
	Wall	Sqm	8	33.6		0.855	229.82
	Slab	Sqm	2	33.6	0.9		60.48
	Road 8			Sides	1		
1	Node-CO-35						
	Base	Sqm	2	75.6		0.1	15.12
	Wall	Sqm	4	75.6		1.42	429.41
	Slab	Sqm	1	75.6	0.9		68.04
2	Node-CO-36						
	Base	Sqm	2	33.5		0.1	6.70
	Wall	Sqm	4	33.5		0.635	85.09
	Slab	Sqm	1	33.5	0.9		30.15
3	Node-CO-37						
	Base	Sqm	2	31		0.1	6.20
	Wall	Sqm	4	31		0.66	81.84
	Slab	Sqm	1	31	0.9		27.90
4	Node-CO-38						
	Base	Sqm	2	48.9		0.1	9.78
	Wall	Sqm	4	48.9		0.64	125.18
	Slab	Sqm	1	48.9	0.9		44.01
5	Node-CO-39						
	Base	Sqm	2	99.9		0.1	19.98
	Wall	Sqm	4	99.9		1.58	631.37
	Slab	Sqm	1	99.9	1		99.90
6	Node-CO-40						
	Base	Sqm	2	95.4		0.1	19.08
	Wall	Sqm	4	95.4		2.425	925.38
	Slab	Sqm	1	95.4	1.1		104.94
7	Node-CO-41						
	Base	Sqm	2	28		0.1	5.60
	Wall	Sqm	4	28		1.85	207.20
	Slab	Sqm	1	28	1		28.00
8	Node-CO-42						
	Base	Sqm	2	46.1		0.1	9.22
	Wall	Sqm	4	46.1		1.95	359.58
	Slab	Sqm	1	46.1	1		46.10
9	Node-CO-43						
	Base	Sqm	2	17		0.1	3.40
	Wall	Sqm	4	17		1.68	114.24
	Slab	Sqm	1	17	1		17.00
10	Node-CO-44						
	Base	Sqm	2	34.7		0.1	6.94
	Wall	Sqm	4	34.7		1.245	172.81
	Slab	Sqm	1	34.7	0.9		31.23
11	Node-CO-45						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Sqm	2	34.8		0.1	6.96
	Wall	Sqm	4	34.8		0.835	116.23
	Slab	Sqm	1	34.8	0.9		31.32
12	Node-CO-46						
	Base	Sqm	2	9.3		0.1	1.86
	Wall	Sqm	4	9.3		3.395	126.29
	Slab	Sqm	1	9.3	1.3		12.09
13	Node-CO-47						
	Base	Sqm	2	14.2		0.1	2.84
	Wall	Sqm	4	14.2		3.4	193.12
	Slab	Sqm	1	14.2	1.3		18.46
	Road 19			Sides	2		
1	Node-CO-163						
	Base	Sqm	4	24.3		0.1	9.72
	Wall	Sqm	8	24.3		1.425	277.02
	Slab	Sqm	2	24.3	0.9		43.74
2	Node-CO-164						
	Base	Sqm	4	29.9		0.1	11.96
	Wall	Sqm	8	29.9		1.24	296.61
	Slab	Sqm	2	29.9	0.9		53.82
3	Node-CO-165						
	Base	Sqm	4	43.4		0.1	17.36
	Wall	Sqm	8	43.4		1.15	399.28
	Slab	Sqm	2	43.4	0.9		78.12
4	Node-CO-166						
	Base	Sqm	4	20.9		0.1	8.36
	Wall	Sqm	8	20.9		1.12	187.26
	Slab	Sqm	2	20.9	0.9		37.62
5	Node-CO-167						
	Base	Sqm	4	33.5		0.1	13.40
	Wall	Sqm	8	33.5		1.085	290.78
	Slab	Sqm	2	33.5	0.9		60.30
6	Node-CO-168						
	Base	Sqm	4	47.3		0.1	18.92
	Wall	Sqm	8	47.3		0.91	344.34
	Slab	Sqm	2	47.3	0.9		85.14
7	Node-CO-169						
	Base	Sqm	4	68.4		0.1	27.36
	Wall	Sqm	8	68.4		0.765	418.61
	Slab	Sqm	2	68.4	0.9		123.12
8	Node-CO-170						
	Base	Sqm	4	120.2		0.1	48.08
	Wall	Sqm	8	120.2		0.77	740.43
	Slab	Sqm	2	120.2	0.9		216.36
9	Node-CO-171						
	Base	Sqm	4	70.8		0.1	28.32
	Wall	Sqm	8	70.8		0.74	419.14
	Slab	Sqm	2	70.8	0.9		127.44
10	Node-CO-172						
	Base	Sqm	4	103.2		0.1	41.28
	Wall	Sqm	8	103.2		0.855	705.89
	Slab	Sqm	2	103.2	0.9		185.76
	Road-15a			Sides	1		
1	Node-CO-182						
	Base	Sqm	2	27.2		0.1	5.44
	Wall	Sqm	4	27.2		1.615	175.71
	Slab	Sqm	1	27.2	1		27.20
2	Node-CO-192						
	Base	Sqm	2	59.8		0.1	11.96
	Wall	Sqm	4	59.8		0.965	230.83
	Slab	Sqm	1	59.8	0.9		53.82
3	Node-CO-481						
	Base	Sqm	2	28.1		0.1	5.62
	Wall	Sqm	4	28.1		1.62	182.09
	Slab	Sqm	1	28.1	1		28.10
4	Node-CO-482						
	Base	Sqm	2	58.7		0.1	11.74
	Wall	Sqm	4	58.7		0.97	227.76
	Slab	Sqm	1	58.7	0.9		52.83
5	Node-CO-190						
	Base	Sqm	2	62.8		0.1	12.56
	Wall	Sqm	4	62.8		1.25	314.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Slab	Sqm	1	62.8	0.9		56.52
6	Node-CO-184						
	Base	Sqm	2	151.1		0.1	30.22
	Wall	Sqm	4	151.1		1.245	752.48
	Slab	Sqm	1	151.1	0.9		135.99
7	Node-CO-195						
	Base	Sqm	2	170		0.1	34.00
	Wall	Sqm	4	170		1.28	870.40
	Slab	Sqm	1	170	0.9		153.00
8	Node-CO-187						
	Base	Sqm	2	80.5		0.1	16.10
	Wall	Sqm	4	80.5		0.865	278.53
	Slab	Sqm	1	80.5	0.9		72.45
9	Node-CO-188						
	Base	Sqm	2	43.1		0.1	8.62
	Wall	Sqm	4	43.1		1.175	202.57
	Slab	Sqm	1	43.1	0.9		38.79
10	Node-CO-189						
	Base	Sqm	2	97.4		0.1	19.48
	Wall	Sqm	4	97.4		0.92	358.43
	Slab	Sqm	1	97.4	0.9		87.66
11	Node-CO-483						
	Base	Sqm	2	64.4		0.1	12.88
	Wall	Sqm	4	64.4		2.89	744.46
	Slab	Sqm	1	64.4	1.2		77.28
12	Node-CO-484						
	Base	Sqm	2	120.6		0.1	24.12
	Wall	Sqm	4	120.6		1.605	774.25
	Slab	Sqm	1	120.6	1		120.60
13	Node-CO-485						
	Base	Sqm	2	30.5		0.1	6.10
	Wall	Sqm	4	30.5		0.715	87.23
	Slab	Sqm	1	30.5	0.9		27.45
14	Node-CO-486						
	Base	Sqm	2	169.2		0.1	33.84
	Wall	Sqm	4	169.2		0.61	412.85
	Slab	Sqm	1	169.2	0.9		152.28
	15a-New Drain			1			
1	MH-524						
	Base	Sqm	2	27.7		0.10	5.54
	Wall	Sqm	4	27.7		1.62	178.94
	Slab	Sqm	1	27.7	1	0.15	4.16
2	MH-525						
	Base	Sqm	2	59.4		0.10	11.88
	Wall	Sqm	4	59.4		0.97	229.28
	Slab	Sqm	1	59.4	0.9	0.15	8.02
3	MH-527						
	Base	Sqm	2	62.8		0.10	12.56
	Wall	Sqm	4	62.8		1.34	336.61
	Slab	Sqm	1	62.8	0.9	0.15	8.48
4	MH-528						
	Base	Sqm	2	120.5		0.10	24.10
	Wall	Sqm	4	120.5		1.26	604.91
	Slab	Sqm	1	120.5	0.9	0.15	16.27
5	MH-529						
	Base	Sqm	2	29.7		0.10	5.94
	Wall	Sqm	4	29.7		1.28	152.06
	Slab	Sqm	1	29.7	0.9	0.15	4.01
6	MH-530						
	Base	Sqm	2	170.8		0.10	34.16
	Wall	Sqm	4	170.8		1.35	918.90
	Slab	Sqm	1	170.8	0.9	0.15	23.06
7	MH-532						
	Base	Sqm	2	80.5		0.10	16.10
	Wall	Sqm	4	80.5		0.87	278.53
	Slab	Sqm	1	80.5	0.9	0.15	10.87

Sr. No.	Description	Unit	No's	L	B	H	Qty.
8	MH-533						
	Base	Sqm	2	43.1		0.10	8.62
	Wall	Sqm	4	43.1		1.18	202.57
	Slab	Sqm	1	43.1	0.9	0.15	5.82
9	MH-533						
	Base	Sqm	2	97.4		0.10	19.48
	Wall	Sqm	4	97.4		0.92	358.43
	Slab	Sqm	1	97.4	0.9	0.15	13.15
	Road 15b			Sides	1		
1	Node-CO-467						
	Base	Sqm	2	79.8	1.1	0.1	17.56
	Wall	Sqm	4	79.8	0.15	0.61	29.21
	Slab	Sqm	1	79.8	0.9	0.2	14.36
2	Node-CO-469						
	Base	Sqm	2	23.8	1.1	0.1	5.24
	Wall	Sqm	4	23.8	0.15	0.99	14.14
	Slab	Sqm	1	23.8	0.9	0.2	4.28
3	Node-CO-470						
	Base	Sqm	2	62.6	1.1	0.1	13.77
	Wall	Sqm	4	62.6	0.15	0.66	24.79
	Slab	Sqm	1	62.6	0.9	0.2	11.27
4	Node-CO-473						
	Base	Sqm	2	30.4	1.1	0.1	6.69
	Wall	Sqm	4	30.4	0.15	0.92	16.78
	Slab	Sqm	1	30.4	0.9	0.2	5.47
5	Node-CO-474						
	Base	Sqm	2	62	1.1	0.1	13.64
	Wall	Sqm	4	62	0.15	1.065	39.62
	Slab	Sqm	1	62	0.9	0.2	11.16
6	Node-CO-472						
	Base	Sqm	2	32	1.1	0.1	7.04
	Wall	Sqm	4	32	0.15	1.035	19.87
	Slab	Sqm	1	32	0.9	0.2	5.76
7	Node-CO-468						
	Base	Sqm	2	28.4	1.1	0.1	6.25
	Wall	Sqm	4	28.4	0.15	1.12	19.08
	Slab	Sqm	1	28.4	0.9	0.2	5.11
8	Node-CO-495						
	Base	Sqm	2	88.4	1.1	0.1	19.45
	Wall	Sqm	4	88.4	0.15	0.71	37.66
	Slab	Sqm	1	88.4	0.9	0.2	15.91
9	Node-CO-496						
	Base	Sqm	2	76.4	1.1	0.1	16.81
	Wall	Sqm	4	76.4	0.15	0.975	44.69
	Slab	Sqm	1	76.4	0.9	0.2	13.75
10	Node-CO-499						
	Base	Sqm	2	4.2	1.1	0.1	0.92
	Wall	Sqm	4	4.2	0.15	1.05	2.65
	Slab	Sqm	1	4.2	0.9	0.2	0.76
11	Node-CO-497						
	Base	Sqm	2	87.6	1.1	0.1	19.27
	Wall	Sqm	4	87.6	0.15	0.655	34.43
	Slab	Sqm	1	87.6	0.9	0.2	15.77
12	Node-CO-498						
	Base	Sqm	2	75.9	1.1	0.1	16.70
	Wall	Sqm	4	75.9	0.15	0.83	37.80
	Slab	Sqm	1	75.9	0.9	0.2	13.66
13	Node-CO-494						
	Base	Sqm	2	77.3	1.1	0.1	17.01
	Wall	Sqm	4	77.3	0.15	0.61	28.29
	Slab	Sqm	1	77.3	0.9	0.2	13.91
14	Node-CO-503						
	Base	Sqm	2	76.6	1.1	0.1	16.85
	Wall	Sqm	4	76.6	0.15	0.61	28.04
	Slab	Sqm	1	76.6	0.9	0.2	13.79
15	Node-CO-501						
	Base	Sqm	2	32.5	1.1	0.1	7.15
	Wall	Sqm	4	32.5	0.15	0.625	12.19
	Slab	Sqm	1	32.5	0.9	0.2	5.85
16	Node-CO-502						
	Base	Sqm	2	56.2	1.1	0.1	12.36
	Wall	Sqm	4	56.2	0.15	0.61	20.57

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Slab	Sqm	1	56.2	0.9	0.2	10.12
17	Node-CO-492						
	Base	Sqm	2	30.9	1.1	0.1	6.80
	Wall	Sqm	4	30.9	0.15	0.61	11.31
	Slab	Sqm	1	30.9	0.9	0.2	5.56
18	Node-CO-493						
	Base	Sqm	2	56.5	1.1	0.1	12.43
	Wall	Sqm	4	56.5	0.15	0.61	20.68
	Slab	Sqm	1	56.5	0.9	0.2	10.17
19	Node-CO-500						
	Base	Sqm	2	32.4	1.1	0.1	7.13
	Wall	Sqm	4	32.4	0.15	0.61	11.86
	Slab	Sqm	1	32.4	0.9	0.2	5.83
20	Node-CO-491						
	Base	Sqm	2	32	1.1	0.1	7.04
	Wall	Sqm	4	32	0.15	0.61	11.71
	Slab	Sqm	1	32	0.9	0.2	5.76
21	Node-CO-490						
	Base	Sqm	2	24.8	1.1	0.1	5.46
	Wall	Sqm	4	24.8	0.15	0.65	9.67
	Slab	Sqm	1	24.8	0.9	0.2	4.46
22	Node-CO-488						
	Base	Sqm	2	39	1.1	0.1	8.58
	Wall	Sqm	4	39	0.15	0.62	14.51
	Slab	Sqm	1	39	0.9	0.2	7.02
23	Node-CO-489						
	Base	Sqm	2	44.3	1.1	0.1	9.75
	Wall	Sqm	4	44.3	0.15	0.61	16.21
	Slab	Sqm	1	44.3	0.9	0.2	7.97
24	Node-CO-487						
	Base	Sqm	2	23.2	1.1	0.1	5.10
	Wall	Sqm	4	23.2	0.15	0.62	8.63
	Slab	Sqm	1	23.2	0.9	0.2	4.18
25	Node-CO-221						
	Base	Sqm	2	101.3	1.1	0.1	22.29
	Wall	Sqm	4	101.3	0.15	1.23	74.76
	Slab	Sqm	1	101.3	0.9	0.2	18.23
	Road 20			Sides	2		
1	Node-CO-455						
	Base	Sqm	4	87		0.15	52.20
	Wall	Sqm	8	87		1.985	1381.56
	Slab	Sqm	2	87	1		174.00
2	Node-CO-456						
	Base	Sqm	4	95.8		0.15	57.48
	Wall	Sqm	8	95.8		1.47	1126.61
	Slab	Sqm	2	95.8	0.9		172.44
3	Node-CO-457						
	Base	Sqm	4	82.7		0.15	49.62
	Wall	Sqm	8	82.7		1.35	893.16
	Slab	Sqm	2	82.7	0.9		148.86
4	Node-CO-458						
	Base	Sqm	4	105.2		0.15	63.12
	Wall	Sqm	8	105.2		1.395	1174.03
	Slab	Sqm	2	105.2	0.9		189.36
5	Node-CO-459						
	Base	Sqm	4	62.5		0.15	37.50
	Wall	Sqm	8	62.5		1.41	705.00
	Slab	Sqm	2	62.5	0.9		112.50
6	Node-CO-460						
	Base	Sqm	4	48.1		0.15	28.86
	Wall	Sqm	8	48.1		1.245	479.08
	Slab	Sqm	2	48.1	0.9		86.58
7	Node-CO-461						
	Base	Sqm	4	47.8		0.15	28.68
	Wall	Sqm	8	47.8		1.225	468.44
	Slab	Sqm	2	47.8	0.9		86.04
8	Node-CO-462						
	Base	Sqm	4	18.3		0.15	10.98
	Wall	Sqm	8	18.3		1.3	190.32
	Slab	Sqm	2	18.3	0.9		32.94
9	Node-CO-463						
	Base	Sqm	4	19.9		0.15	11.94
	Wall	Sqm	8	19.9		1.28	203.78

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Slab	Sqm	2	19.9	0.9		35.82
10	Node-CO-464						
	Base	Sqm	4	15.8		0.15	9.48
	Wall	Sqm	8	15.8		1.245	157.37
	Slab	Sqm	2	15.8	0.9		28.44
11	Node-CO-479						
	Base	Sqm	4	244.3		0.15	146.58
	Wall	Sqm	8	244.3		0.915	1788.28
	Slab	Sqm	2	244.3	0.9		439.74
12	Node-CO-480						
	Base	Sqm	4	170.7		0.15	102.42
	Wall	Sqm	8	170.7		0.635	867.16
	Slab	Sqm	2	170.7	0.9		307.26
13	Node-CO-477						
	Base	Sqm	4	74.2		0.15	44.52
	Wall	Sqm	8	74.2		0.635	376.94
	Slab	Sqm	2	74.2	0.9		133.56
14	Node-CO-348						
	Base	Sqm	4	15.4		0.15	9.24
	Wall	Sqm	8	15.4		1.705	210.06
	Slab	Sqm	2	15.4	1		30.80
15	Node-CO-349						
	Base	Sqm	4	75.2		0.15	45.12
	Wall	Sqm	8	75.2		1.705	1025.73
	Slab	Sqm	2	75.2	1		150.40
	Box Culvert						
	Box Culvert						
	7a						
	Box Culvert-Slab	Sqm	2	11.2	1		22.40
	Box Culvert-Wall	Sqm	8	11.2	1		89.60
	7c						
	Box Culvert-Slab	Sqm	8	16.7	1		133.60
	Box Culvert-Wall	Sqm	32	16.7	1		534.40
	8						
	Box Culvert-Slab	Sqm	4	12.5	1.5		75.00
	Box Culvert-Wall	Sqm	16	12.5	1.5		300.00
	10						
	Box Culvert-Slab	Sqm	4	12.5	1.5		75.00
	Box Culvert-Wall	Sqm	16	12.5	1.5		300.00
	19a						
	Box Culvert-Slab	Sqm	4	10.6	1.5		63.60
	Box Culvert-Wall	Sqm	16	10.6	1.5		254.40
	19b						
	Box Culvert-Slab	Sqm	4	26.1	1.5		156.60
	Box Culvert-Wall	Sqm	16	26.1	1.5		626.40
	15a						
	Box Culvert-Slab	Sqm	6	11.3	1.5		101.70
	Box Culvert-Wall	Sqm	24	11.3	1.5		406.80
	15b						
	Box Culvert-Slab	Sqm	8	6.75	1.5		81.00
	Box Culvert-Wall	Sqm	32	6.75	1.5		324.00
	20						
	Box Culvert-Slab	Sqm	8	12.95	1.5		155.40
	Box Culvert-Wall	Sqm	32	12.95	1.5		621.60
		Sqm		Total Qty.			52432.82
19	KSRB 4.9.2 :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 thr 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.Specification No. KBS4.6.3. do with TMT bars Fe500 (SI No : 4.46.2 of KPWD 18-19)			Cum	Kg/Cum	Kg	MT
	SWD	MT	1	6634.04	80.00	530722.91	530.72
	Electrical Chamber	MT	1	1147.19	80.00	91775.52	91.78
	Box Culvert	MT	1	691.44	120.00	82972.80	82.97
		MT		8472.67	-28.74	Total	705.47
				8501.41	Check		

Sr. No.	Description	Unit	No's	L	B	H	Qty.
20	KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305IKPWD 18-19,19.62,17.1 and 17.4)						
	Footpath						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Cum	1.00	150.00	2.17	0.3	97.47
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Cum	1.00	120.00	3.33	0.3	119.88
	Ch.150.000 to Ch.410.00	Cum	1.00	260.00	3.18	0.3	248.04
	Ch.420.000 to Ch.480.00	Cum	1.00	250.00	3.42	0.3	256.50
	Ch.480.000 to Ch.670.00	Cum	1.00	250.00	1.95	0.3	146.25
	Ch.680.000 to Ch.720.00	Cum	1.00	40.00	2.29	0.3	27.48
	Ch.730.000 to Ch.800.00	Cum	1.00	70.00	2.23	0.3	46.83
	Ch.810.000 to Ch.850.00	Cum	1.00	40.00	2.10	0.3	25.20
	Ch.880.000 to Ch.950.00	Cum	1.00	70.00	2.24	0.3	47.04
	Ch.960.000 to Ch.1004.00	Cum	1.00	44.00	2.43	0.3	32.08
	RHS						
	Ch.10.000 to Ch.130.00	Cum	1.00	120.00	3.02	0.3	108.72
	Ch.140.000 to Ch.350.00	Cum	1.00	210.00	3.00	0.3	189.00
	Ch.360.000 to Ch.430.00	Cum	1.00	70.00	5.21	0.3	109.41
	Ch.440.000 to Ch.610.00	Cum	1.00	170.00	5.02	0.3	256.02
	Ch.610.000 to Ch.730.00	Cum	1.00	120.00	3.59	0.3	129.24
	Ch.740.000 to Ch.840.00	Cum	1.00	100.00	2.43	0.3	72.90
	Ch.870.000 to Ch.950.00	Cum	1.00	80.00	2.64	0.3	63.36
	Ch.960.000 to Ch.1004.00	Cum	1.00	44.00	5.30	0.3	69.96
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Cum	1.00	120.00	3.10	0.3	111.60
	Ch.520.000 to Ch.580.00	Cum	1.00	60.00	3.73	0.3	67.14
	RHS						
	Ch.30.000 to Ch.80.00	Cum	1.00	50.00	4.44	0.3	66.60
	Ch.90.000 to Ch.150.00	Cum	1.00	60.00	3.05	0.3	54.90
	Ch.515.000 to Ch.560.00	Cum	1.00	45.00	2.67	0.3	36.05
	10-Kudumbi Garden (DBS)Road						
	LHS						
	Ch.10.000 to Ch.90.00	Cum	1.00	80.00	2.28	0.3	54.72
	Ch.90.000 to Ch.135.00	Cum	1.00	45.00	2.27	0.3	30.65
	Ch.140.000 to Ch.250.00	Cum	1.00	110.00	1.51	0.3	49.83
	Ch.140.000 to Ch.340.00	Cum	1.00	200.00	0.74	0.3	44.40
	RHS						
	Ch.10.000 to Ch.140.00	Cum	1.00	130.00	2.55	0.3	99.45
	Ch.190.000 to Ch.210.00	Cum	1.00	20.00	1.70	0.3	10.20
	Ch.220.000 to Ch.360.00	Cum	1.00	140.00	2.36	0.3	99.12
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Cum	1.00	270.00	4.43	0.3	358.83
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Cum	1.00	10.00	10.00	0.3	30.00
	Ch.370.000 to Ch.390.00	Cum	1.00	20.00	2.05	0.3	12.30
	Ch.390.000 to Ch.570.00	Cum	1.00	180.00	2.04	0.3	110.16
	Ch.590.000 to Ch.620.00	Cum	1.00	30.00	2.20	0.3	19.80
	Ch.700.000 to Ch.840.00	Cum	1.00	140.00	3.24	0.3	136.08
	RHS						
	Ch.30.000 to Ch.300.00	Cum	1.00	270.00	4.55	0.3	368.55
	Ch.340.000 to Ch.630.00	Cum	1.00	290.00	2.14	0.3	186.18
	Ch.700.000 to Ch.845.00	Cum	1.00	145.00	2.94	0.3	127.89
	15a-Azizuddin Road						
	LHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	2.19	0.3	59.13
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.15	0.3	77.40
	Ch.220.000 to Ch.300.00	Cum	1.00	80.00	2.23	0.3	53.52
	Ch.310.000 to Ch.420.00	Cum	1.00	110.00	1.69	0.3	55.77
	Ch.420.000 to Ch.490.00	Cum	1.00	70.00	2.46	0.3	51.66
	Ch.490.000 to Ch.570.00	Cum	1.00	80.00	1.86	0.3	44.64
	Ch.580.000 to Ch.640.00	Cum	1.00	60.00	1.83	0.3	32.94
	Ch.650.000 to Ch.710.00	Cum	1.00	60.00	1.60	0.3	28.80
	RHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	1.82	0.3	49.14
	Ch.100.000 to Ch.220.00	Cum	1.00	220.00	1.27	0.3	83.82
	Ch.220.000 to Ch.320.00	Cum	1.00	100.00	1.67	0.3	50.10
	Ch.330.000 to Ch.410.00	Cum	1.00	80.00	2.23	0.3	53.52
	Ch.420.000 to Ch.570.00	Cum	1.00	150.00	2.24	0.3	100.80
	Ch.580.000 to Ch.710.00	Cum	1.00	130.00	1.78	0.3	69.42
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	2.19	0.3	59.13
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.15	0.3	77.40
	Ch.220.000 to Ch.300.00	Cum	1.00	80.00	2.23	0.3	53.52
	Ch.310.000 to Ch.420.00	Cum	1.00	110.00	1.69	0.3	55.77
	Ch.420.000 to Ch.490.00	Cum	1.00	70.00	2.46	0.3	51.66
	Ch.490.000 to Ch.570.00	Cum	1.00	80.00	1.86	0.3	44.64
	Ch.580.000 to Ch.640.00	Cum	1.00	60.00	1.83	0.3	32.94
	Ch.650.000 to Ch.710.00	Cum	1.00	60.00	1.60	0.3	28.80
	RHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	1.82	0.3	49.14
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.33	0.3	83.88
	Ch.220.000 to Ch.320.00	Cum	1.00	100.00	1.67	0.3	50.10
	Ch.330.000 to Ch.410.00	Cum	1.00	80.00	2.23	0.3	53.52
	Ch.420.000 to Ch.570.00	Cum	1.00	150.00	2.24	0.3	100.80
	Ch.580.000 to Ch.710.00	Cum	1.00	130.00	1.78	0.3	69.42
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Cum	1.00	80.00	1.64	0.3	39.36
	Ch.80.000 to Ch.140.00	Cum	1.00	60.00	1.77	0.3	31.86
	Ch.180.000 to Ch.220.00	Cum	1.00	40.00	2.35	0.3	28.20
	Ch.230.000 to Ch.250.00	Cum	1.00	20.00	3.40	0.3	20.40
	Ch.250.000 to Ch.530.00	Cum	1.00	280.00	2.31	0.3	194.04
	RHS	Cum	0.00	0.00	0.00	0.3	0.00
	Ch.530.000 to Ch.580.00	Cum	1.00	50.00	5.60	0.3	84.00
	Ch.705.000 to Ch.1040.00	Cum	1.00	335.00	2.29	0.3	230.15
	Parking Area						
	Road 7c						
	LHS						
	Ch.530.000 to Ch.590.000	Cum	1	60	2.5	0.30	45.00
	RHS						
	Ch.530.000 to Ch.590.000	Cum	1	71.13	2.5	0.30	53.35
	Road 8						
	LHS						
	Ch.50.000 to Ch.80.000	Cum	1	25.32	2	0.30	15.19
	RHS						
	Ch.50.000 to Ch.80.000	Cum	1	24.92	2	0.30	14.95
	Road 19b						
	RHS						
	Ch.90.000 to Ch.250.000	Cum	1	129.7	2.5	0.30	97.28
	Road 19a						
	LHS						
	Ch.760.000 to Ch.830.000	Cum	1	53.83	2.5	0.30	40.37
	RHS						
	Ch.760.000 to Ch.830.000	Cum	1	24.1	2.5	0.30	18.08
	Pavement						
	7a-Milagres Cross Road						
	Ch.6.000 to Ch.165.000	Cum	1	183	5.3	0.15	145.49
	8-New Balmatta Road						
	Ch.0.00 to 580.00	Cum	1	580	5.3	0.15	461.10
	19a-Arya Samaj Road						
	Ch.0.00 to 330.00	Cum	1	595	5.3	0.15	473.03
	15b-Jumma Masjid Road						
	Ch.720.0 to Ch.970.0	Cum	1	300	4.6	0.15	207.00
	20-Bendre Ferry Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.0.00 to Ch.260.00	Cum	1	260	4.6	0.15	179.40
	19a-Balmatta Road						
	Ch.0.00 to Ch.320.00						
	RHS	Cum	1	291	0.5	0.15	21.83
	LHS	Cum	1	250	0.5	0.15	18.75
	20-Bendre Ferry Road						
	RHS						
	Ch.0.000 to Ch.170.0	Cum	1.0	170.0	1.0	0.15	25.50
	Ch.188.0 to Ch.218.0	Cum	1.0	30.0	0.9	0.15	4.19
	Ch.220.0 to Ch.270.0	Cum	1.0	50.0	2.0	0.15	15.00
	Ch.570.0 to Ch.705.0	Cum	1.0	135.0	1.1	0.15	22.28
	Ch.770.0 to Ch.870.0	Cum	1.0	100.0	1.3	0.15	19.05
	Ch.870.0 to Ch.925.0	Cum	1.0	55.0	1.2	0.15	9.90
	Ch.930.0 to Ch.1070.0	Cum	1.0	140.0	0.9	0.15	18.06
	LHS						
	Ch.125.0 to Ch.145.0	Cum	1.0	20.0	0.6	0.15	1.68
	Ch.180.0 to Ch.200.00	Cum	1.0	12.0	0.8	0.15	1.35
	Ch.260.0 to Ch.470.0	Cum	1.0	210.0	1.4	0.15	43.47
	Ch.530.0 to Ch.545.0	Cum	1.0	15.0	1.3	0.15	2.86
	Ch.780.0 to Ch.905.0	Cum	1.0	125.0	1.6	0.15	30.19
	Ch.915.0 to Ch.942.0	Cum	1.0	27.0	1.9	0.15	7.74
	Ch.950.0 to Ch.1100.0	Cum	1.0	150.0	1.6	0.15	36.68
	Consider Panel Repairing for Existing CC Road @ 5%						
	7c-Attavar -Nandigudda Road	Cum	0.05	1021	7	0.15	53.60
	10-Kudumbi Garden (DBS) Road	Cum	0.05	375	6.2	0.15	17.44
	Balmatta Road	Cum	0.05	330	15	0.15	37.13
	15b-Jumma Masjid Road	Cum	0.2	700	5.5	0.15	115.50
	20-Bendre Ferry Road	Cum	0.2	800	10	0.15	240.00
		Cum				Total	8861.59
21	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (SI No : 22.1.1 of KPWD 18-19)						
	7a-Milagres Cross Road						
	Ch.6.000 to Ch.165.000	Cum	1	183	5.3	0.10	96.99
	8-New Balmatta Road						
	Ch.0.00 to 580.00	Cum	1	580	5.3	0.10	307.40
	19a-Arya Samaj Road						
	Ch.0.00 to 330.00	Cum	1	595	5.3	0.10	315.35
	15b-Jumma Masjid Road						
	Ch.720.0 to Ch.970.0	Cum	1	300	4.6	0.10	138.00
	20-Bendre Ferry Road						
	Ch.0.00 to Ch.260.00	Cum	1	260	4.6	0.10	119.60
	19a-Balmatta Road						
	Ch.0.00 to Ch.320.00						
	RHS	Cum	1	291	0.5	0.10	14.55
	LHS	Cum	1	250	0.5	0.10	12.50
	20-Bendre Ferry Road						
	RHS						
	Ch.0.000 to Ch.170.0	Cum	1.0	170.0	1.0	0.10	17.00
	Ch.188.0 to Ch.218.0	Cum	1.0	30.0	0.9	0.10	2.79
	Ch.220.0 to Ch.270.0	Cum	1.0	50.0	2.0	0.10	10.00
	Ch.570.0 to Ch.705.0	Cum	1.0	135.0	1.1	0.10	14.85
	Ch.770.0 to Ch.870.0	Cum	1.0	100.0	1.3	0.10	12.70
	Ch.870.0 to Ch.925.0	Cum	1.0	55.0	1.2	0.10	6.60
	Ch.930.0 to Ch.1070.0	Cum	1.0	140.0	0.9	0.10	12.04
	LHS						
	Ch.125.0 to Ch.145.0	Cum	1.0	20.0	0.6	0.10	1.12
	Ch.180.0 to Ch.200.00	Cum	1.0	12.0	0.8	0.10	0.90
	Ch.260.0 to Ch.470.0	Cum	1.0	210.0	1.4	0.10	28.98
	Ch.530.0 to Ch.545.0	Cum	1.0	15.0	1.3	0.10	1.91
	Ch.590.0 to Ch.750.0	Cum	1.0	160.0	0.8	0.10	13.12
	Ch.780.0 to Ch.905.0	Cum	1.0	125.0	1.6	0.10	20.13

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.915.0 to Ch.942.0	Cum	1.0	27.0	1.9	0.10	5.16
	Ch.950.0 to Ch.1100.0	Cum	1.0	150.0	1.6	0.10	24.45
	Road 7C						
	LHS						
	Ch.0.00 to Ch.45.0	Cum	1	10.0	0.7	0.10	0.70
	Ch.80.0 to Ch. 205.0	Cum	1	28.0	0.1	0.10	0.19
	Ch.280.0 to Ch.300.0	Cum	1	4.0	0.2	0.10	0.09
	Ch.305.0 to Ch.335.0	Cum	1	7.0	0.8	0.10	0.59
	Ch.410.0	Cum	1	1.0	1.2	0.10	0.12
	Ch.500.0 to Ch.660.0	Cum	1	36.0	0.7	0.10	2.45
	Ch.680.0 to Ch.745.0	Cum	1	14.0	0.3	0.10	0.36
	Ch.835.0 to Ch.880.0	Cum	1	10.0	0.7	0.10	0.74
	Ch.910.0 to Ch.930.0	Cum	1	4.0	0.1	0.10	0.03
	Ch.940.0 to Ch.950.0	Cum	1	2.0	0.7	0.10	0.14
	Ch.960.0	Cum	1	1.0	0.3	0.10	0.03
	RHS						
	Ch.215.0 to Ch.230.0	Cum	1	3.0	0.2	0.10	0.07
	Ch.350.0 to Ch.355.0	Cum	1	1.0	0.8	0.10	0.08
	Ch.385.0 to Ch.430.0	Cum	1	10.0	0.1	0.10	0.10
	Ch.460.0 to Ch.480.0	Cum	1	4.0	0.4	0.10	0.14
	Ch.765.0 to Ch.820.0	Cum	1	12.0	0.4	0.10	0.42
	Ch.980.0 to Ch.1004.0	Cum	1	5.0	0.4	0.10	0.21
	Road 15a						
	LHS						
	Ch.80.0 to Ch.90.0	Cum	1	2.0	0.2	0.10	0.03
	Ch.95.0 to Ch.110.0	Cum	1	3.0	0.1	0.10	0.04
	Ch.180.0 to Ch.210.0	Cum	1	7.0	0.2	0.10	0.16
	Ch.280.0 to Ch.300.0	Cum	1	4.0	0.1	0.10	0.05
	Ch.350.0 to Ch.375.0	Cum	1	6.0	0.3	0.10	0.20
	Ch.410.0	Cum	1	1.0	0.5	0.10	0.05
	Ch.420.0	Cum	1	1.0	2.2	0.10	0.22
	Ch.570.0	Cum	1	1.0	0.6	0.10	0.06
	RHS						
	Ch.45.0 to Ch.75.0	Cum	1	7.0	0.3	0.10	0.24
	Ch.395.0 to ch.410.0	Cum	1	3.0	0.6	0.10	0.18
	Ch.485.0 to Ch.510.0	Cum	1	6.0	0.5	0.10	0.28
	Ch.545.0 to Ch.570.0	Cum	1	6.0	0.4	0.10	0.22
	Ch.630.0 to Ch.640.0	Cum	1	2.0	0.2	0.10	0.05
	Consider Panel Repairing for Existing CC Road @ 5%						
	7c-Attavar -Nandigudda Road	Cum	0.05	1021	7	0.10	35.74
	10-Kudumbi Garden (DBS) Road	Cum	0.05	375	6.2	0.10	11.63
	Balmatta Road	Cum	0.05	330	15	0.10	24.75
	15a-Azzizuddin Road	Cum	0.05	717	6	0.10	21.51
	15b-Jumma Masjid Road	Cum	0.2	700	5.5	0.10	77.00
	20-Bendre Ferry Road	Cum	0.2	800	10	0.10	160.00
	Road Crossing for Utility RCC Ducts						
1	7a-Milagres Cross Road	Cum	4	11	1.182	0	0.00
2	7c-Nandigudda Road	Cum	11	16	1.182	0.1	20.80
3	8-New Balmatta Road	Cum	12	12	1.182	0	0.00
4	10-Kudumbi Garden (DBS) Road	Cum	8	12	1.182	0.1	11.35
5	19a-Arya Samaj Road	Cum	6	10	1.182	0	0.00
6	19bBalmatta Road	Cum	4	26	1.182	0.1	12.29
7	15a-Azizuddin Road	Cum	8	11	1.182	0.1	10.40
8	15b-Jumma Masjid-Old Port Road	Cum	16	6	1.182	0.1	11.35
9	20-Bendre Ferry Road	Cum	18.4	12	1.182	0.1	26.10
		Cum		Total Qty.			1607.27
22	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per MORTH specifications Clause 601. (RA attached)						
	Flush Footpath						
	7a						
	LHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.20.000 to Ch.70.00	Cum	1.00	50.00	2.03	0.10	10.15
	Ch.75.000 to Ch.160.00	Cum	1.00	85.00	0.47	0.10	4.00
	7c						
	LHS						
	Ch.850.000 to Ch.875.00	Cum	1.00	25.00	0.60	0.10	1.50
	RHS						
	Ch.260.000 to Ch.280.00	Cum	1.00	20.00	0.50	0.10	1.00
	Ch.320.000 to Ch.350.00	Cum	1.00	30.00	2.07	0.10	6.21
	Ch.620.000 to Ch.680.00	Cum	1.00	60.00	2.88	0.10	17.28
	Ch.810.000 to Ch.840.00	Cum	1.00	30.00	0.18	0.10	0.54
	Ch.850.000 to Ch.875.00	Cum	1.00	25.00	0.92	0.10	2.30
	Ch.900.000 to Ch.920.00	Cum	1.00	20.00	1.00	0.10	2.00
	8						
	LHS						
	Ch.150.000 to Ch.190.00	Cum	1.00	40.00	0.43	0.10	1.72
	Ch.190.000 to Ch.200.00	Cum	1.00	10.00	1.00	0.10	1.00
	Ch.210.000 to Ch.270.00	Cum	1.00	60.00	0.87	0.10	5.22
	Ch.270.000 to Ch.510.00	Cum	1.00	240.00	0.75	0.10	18.00
	RHS						
	Ch.150.000 to Ch.200.00	Cum	1.00	50.00	0.60	0.10	3.00
	Ch.220.000 to Ch.300.00	Cum	1.00	80.00	1.29	0.10	10.32
	Ch.310.000 to Ch.320.00	Cum	1.00	10.00	1.20	0.10	1.20
	Ch.330.000 to Ch.350.00	Cum	1.00	20.00	1.20	0.10	2.40
	Ch.360.000 to Ch.400.00	Cum	1.00	40.00	1.38	0.10	5.52
	Ch.410.000 to Ch.510.00	Cum	1.00	100.00	0.85	0.10	8.50
	10						
	LHS						
	Ch.150.000 to Ch.180.00	Cum	1.00	30.00	1.03	0.10	3.09
	19						
	LHS						
	Ch.625.000 to Ch.700.00	Cum	1.00	75.00	0.71	0.10	5.33
	Ch.850.000 to Ch.920.00	Cum	1.00	70.00	0.76	0.10	5.32
	RHS						
	Ch.625.000 to Ch.700.00	Cum	1.00	75.00	0.87	0.10	6.53
	Ch.800.000 to Ch.830.00	Cum	1.00	30.00	1.96	0.10	5.88
	Ch.850.000 to Ch.920.00	Cum	1.00	70.00	0.86	0.10	6.02
	15b						
	LHS						
	Ch.00.000 to Ch.80.00	Cum	1.00	80.00	1.24	0.10	9.92
	Ch.90.000 to Ch.200.00	Cum	1.00	110.00	0.95	0.10	10.45
	Ch.210.000 to Ch.320.00	Cum	1.00	110.00	0.68	0.10	7.48
	Ch.320.000 to Ch.420.00	Cum	1.00	100.00	0.60	0.10	6.00
	Ch.430.000 to Ch.500.00	Cum	1.00	70.00	0.63	0.10	4.41
	Ch.510.000 to Ch.530.00	Cum	1.00	20.00	0.60	0.10	1.20
	Ch.510.000 to Ch.580.00	Cum	1.00	70.00	0.37	0.10	2.59
	Ch.590.000 to Ch.720.00	Cum	1.00	30.00	3.73	0.10	11.19
	Ch.750.000 to Ch.920.00	Cum	1.00	170.00	1.75	0.10	29.75
	RHS						
	Ch.00.000 to Ch.80.00	Cum	1.00	80.00	1.76	0.10	14.08
	Ch.80.000 to Ch.210.00	Cum	1.00	130.00	0.85	0.10	11.05
	Ch.210.000 to Ch.270.00	Cum	1.00	60.00	0.83	0.10	4.98
	Ch.270.000 to Ch.280.00	Cum	1.00	10.00	0.60	0.10	0.60
	Ch.280.000 to Ch.320.00	Cum	1.00	40.00	0.83	0.10	3.32
	Ch.330.000 to Ch.470.00	Cum	1.00	140.00	0.43	0.10	6.02
	Ch.480.000 to Ch.500.00	Cum	1.00	20.00	0.77	0.10	1.54
	Ch.510.000 to Ch.680.00	Cum	1.00	170.00	0.98	0.10	16.66
	Ch.690.000 to Ch.750.00	Cum	1.00	60.00	0.73	0.10	4.38
	Ch.750.000 to Ch.800.00	Cum	1.00	50.00	1.24	0.10	6.20
	Ch.800.000 to Ch.910.00	Cum	1.00	90.00	2.13	0.10	19.17
	20						
	LHS						
	Ch.150.000 to Ch.180.00	Cum	1.00	30.00	0.80	0.10	2.40
	Ch.530.000 to Ch.550.00	Cum	1.00	20.00	1.30	0.10	2.60
	Ch.560.000 to Ch.750.00	Cum	1.00	190.00	1.55	0.10	29.45
	Ch.760.000 to Ch.900.00	Cum	1.00	140.00	2.39	0.10	33.46
	Ch.920.000 to Ch.940.00	Cum	1.00	20.00	3.10	0.10	6.20
	Ch.950.000 to Ch.1100.00	Cum	1.00	150.00	3.55	0.10	53.25
	RHS						
	Ch.45.000 to Ch.80.00	Cum	1.00	35.00	0.71	0.10	2.49
	Ch.150.000 to Ch.180.00	Cum	1.00	30.00	1.10	0.10	3.30
	Ch.200.000 to Ch.260.00	Cum	1.00	60.00	2.30	0.10	13.80
	Ch.685.000 to Ch.705.00	Cum	1.00	20.00	0.75	0.10	1.50
	Parking Area						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road 7c						
	LHS						
	Ch.530.000 to Ch.590.000	Cum	1	60	2.5	0.10	15.00
	RHS						
	Ch.530.000 to Ch.590.000	Cum	1	71.13	2.5	0.10	17.78
	Road 8						
	LHS						
	Ch.50.000 to Ch.80.000	Cum	1	25.32	2	0.10	5.06
	RHS						
	Ch.50.000 to Ch.80.000	Cum	1	24.92	2	0.10	4.98
	Road 19b						
	RHS						
	Ch.90.000 to Ch.250.000	Cum	1	129.7	2.5	0.10	32.43
	Road 19a						
	LHS						
	Ch.760.000 to Ch.830.000	Cum	1	53.83	2.5	0.10	13.46
	RHS						
	Ch.760.000 to Ch.830.000	Cum	1	24.1	2.5	0.10	6.03
						Total	548.19
23	Providing and laying cement concrete using 20mm and down size granite coarse aggregates and fine aggregates of ready mixed concrete for RCC works laid in 15 em thick layers and well compacted including vibrating curing etc., for all super structure works with all lead and lift etc., complete. (exclusve of cost of steel and fabrication charges) Note : The RMC should be obtained only from the plants certified by Quality Council of India as per CE, C&B letter, AE2, 2015-16, Dt. 12-09-2015 Ready mixed Cement concrete M-25 (KPWD,4.49.2)						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Cum	1.00	150.00	2.17	0.10	32.49
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Cum	1.00	120.00	3.33	0.10	39.96
	Ch.150.000 to Ch.410.00	Cum	1.00	260.00	3.18	0.10	82.68
	Ch.420.000 to Ch.480.00	Cum	1.00	250.00	3.42	0.10	85.50
	Ch.480.000 to Ch.670.00	Cum	1.00	250.00	1.95	0.10	48.75
	Ch.680.000 to Ch.720.00	Cum	1.00	40.00	2.29	0.10	9.16
	Ch.730.000 to Ch.800.00	Cum	1.00	70.00	2.23	0.10	15.61
	Ch.810.000 to Ch.850.00	Cum	1.00	40.00	2.10	0.10	8.40
	Ch.880.000 to Ch.950.00	Cum	1.00	70.00	2.24	0.10	15.68
	Ch.960.000 to Ch.1004.00	Cum	1.00	44.00	2.43	0.10	10.69
	RHS						
	Ch.10.000 to Ch.130.00	Cum	1.00	120.00	3.02	0.10	36.24
	Ch.140.000 to Ch.350.00	Cum	1.00	210.00	3.00	0.10	63.00
	Ch.360.000 to Ch.430.00	Cum	1.00	70.00	5.21	0.10	36.47
	Ch.440.000 to Ch.610.00	Cum	1.00	170.00	5.02	0.10	85.34
	Ch.610.000 to Ch.730.00	Cum	1.00	120.00	3.59	0.10	43.08
	Ch.740.000 to Ch.840.00	Cum	1.00	100.00	2.43	0.10	24.30
	Ch.870.000 to Ch.950.00	Cum	1.00	80.00	2.64	0.10	21.12
	Ch.960.000 to Ch.1004.00	Cum	1.00	44.00	5.30	0.10	23.32
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Cum	1.00	120.00	3.10	0.10	37.20
	Ch.520.000 to Ch.580.00	Cum	1.00	60.00	3.73	0.10	22.38
	RHS						
	Ch.30.000 to Ch.80.00	Cum	1.00	50.00	4.44	0.10	22.20
	Ch.90.000 to Ch.150.00	Cum	1.00	60.00	3.05	0.10	18.30
	Ch.515.000 to Ch.560.00	Cum	1.00	45.00	2.67	0.10	12.02
	10-Kudumbi Garden (DBS)Road						
	LHS						
	Ch.10.000 to Ch.90.00	Cum	1.00	80.00	2.28	0.10	18.24
	Ch.90.000 to Ch.135.00	Cum	1.00	45.00	2.27	0.10	10.22
	Ch.140.000 to Ch.250.00	Cum	1.00	110.00	1.51	0.10	16.61
	Ch.140.000 to Ch.340.00	Cum	1.00	200.00	0.74	0.10	14.80
	RHS						
	Ch.10.000 to Ch.140.00	Cum	1.00	130.00	2.55	0.10	33.15
	Ch.190.000 to Ch.210.00	Cum	1.00	20.00	1.70	0.10	3.40

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.220.000 to Ch.360.00	Cum	1.00	140.00	2.36	0.10	33.04
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Cum	1.00	270.00	4.43	0.10	119.61
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Cum	1.00	10.00	10.00	0.10	10.00
	Ch.370.000 to Ch.390.00	Cum	1.00	20.00	2.05	0.10	4.10
	Ch.390.000 to Ch.570.00	Cum	1.00	180.00	2.04	0.10	36.72
	Ch.590.000 to Ch.620.00	Cum	1.00	30.00	2.20	0.10	6.60
	Ch.650.000 to Ch.660.00	Cum	1.00	10.00	1.13	0.10	1.13
	Ch.700.000 to Ch.840.00	Cum	1.00	140.00	3.24	0.10	45.36
	RHS						
	Ch.30.000 to Ch.300.00	Cum	1.00	270.00	4.55	0.10	122.85
	Ch.340.000 to Ch.630.00	Cum	1.00	290.00	2.14	0.10	62.06
	Ch.650.000 to Ch.660.00	Cum	1.00	10.00	2.05	0.10	2.05
	Ch.700.000 to Ch.845.00	Cum	1.00	145.00	2.94	0.10	42.63
	15a-Azizuddin Road						
	LHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	2.19	0.10	19.71
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.15	0.10	25.80
	Ch.220.000 to Ch.300.00	Cum	1.00	80.00	2.23	0.10	17.84
	Ch.310.000 to Ch.420.00	Cum	1.00	110.00	1.69	0.10	18.59
	Ch.420.000 to Ch.490.00	Cum	1.00	70.00	2.46	0.10	17.22
	Ch.490.000 to Ch.570.00	Cum	1.00	80.00	1.86	0.10	14.88
	Ch.580.000 to Ch.640.00	Cum	1.00	60.00	1.83	0.10	10.98
	Ch.650.000 to Ch.710.00	Cum	1.00	60.00	1.60	0.10	9.60
	RHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	1.82	0.10	16.38
	Ch.100.000 to Ch.220.00	Cum	1.00	220.00	1.27	0.10	27.94
	Ch.220.000 to Ch.320.00	Cum	1.00	100.00	1.67	0.10	16.70
	Ch.330.000 to Ch.410.00	Cum	1.00	80.00	2.23	0.10	17.84
	Ch.420.000 to Ch.570.00	Cum	1.00	150.00	2.24	0.10	33.60
	Ch.580.000 to Ch.710.00	Cum	1.00	130.00	1.78	0.10	23.14
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	2.19	0.10	19.71
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.15	0.10	25.80
	Ch.220.000 to Ch.300.00	Cum	1.00	80.00	2.23	0.10	17.84
	Ch.310.000 to Ch.420.00	Cum	1.00	110.00	1.69	0.10	18.59
	Ch.420.000 to Ch.490.00	Cum	1.00	70.00	2.46	0.10	17.22
	Ch.490.000 to Ch.570.00	Cum	1.00	80.00	1.86	0.10	14.88
	Ch.580.000 to Ch.640.00	Cum	1.00	60.00	1.83	0.10	10.98
	Ch.650.000 to Ch.710.00	Cum	1.00	60.00	1.60	0.10	9.60
	RHS						
	Ch.00.000 to Ch.90.00	Cum	1.00	90.00	1.82	0.10	16.38
	Ch.100.000 to Ch.220.00	Cum	1.00	120.00	2.33	0.10	27.96
	Ch.220.000 to Ch.320.00	Cum	1.00	100.00	1.67	0.10	16.70
	Ch.330.000 to Ch.410.00	Cum	1.00	80.00	2.23	0.10	17.84
	Ch.420.000 to Ch.570.00	Cum	1.00	150.00	2.24	0.10	33.60
	Ch.580.000 to Ch.710.00	Cum	1.00	130.00	1.78	0.10	23.14
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Cum	1.00	80.00	1.64	0.10	13.12
	Ch.80.000 to Ch.140.00	Cum	1.00	60.00	1.77	0.10	10.62
	Ch.180.000 to Ch.220.00	Cum	1.00	40.00	2.35	0.10	9.40
	Ch.230.000 to Ch.250.00	Cum	1.00	20.00	3.40	0.10	6.80
	Ch.250.000 to Ch.530.00	Cum	1.00	280.00	2.31	0.10	64.68
	RHS						
	Ch.530.000 to Ch.580.00	Cum	1.00	50.00	5.60	0.10	28.00
	Ch.705.000 to Ch.1040.00	Cum	1.00	335.00	2.29	0.10	76.72
						Total	2126.25

Sr. No.	Description	Unit	No's	L	B	H	Qty.
24	KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 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, sealent primer, joints sealant, debonding strip, dowel bars, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per MORTH specifications Clause 602.with M40 @420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (SI No : 22.2.2 of KPWD 18-19)						
	7a-Milagres Cross Road						
	Ch.6.000 to Ch.165.000	Cum	1	183	5.30	0.25	242.48
	8-New Balmatta Road						
	Ch.0.00 to 580.00	Cum	1	580	5.30	0.25	768.50
	19b-Arya Samaj Road						
	Ch.330.00 to Ch.926.0	Cum	1	595	5.30	0.25	788.38
	15b-Jumma Masjid Road						
	Ch.670.0 to Ch.970.0	Cum	1	300	4.60	0.25	345.00
	20-Bendre Ferry Road						
	Ch.0.00 to Ch.260.00	Cum	1	260	4.60	0.25	299.00
	19a-Balmatta Road						
	Ch.0.00 to Ch.320.00						
	RHS	Cum	1	291	0.50	0.25	36.38
	LHS	Cum	1	250	0.50	0.25	31.25
	20-Bendre Ferry Road						
	RHS						
	Ch.0.000 to Ch.170.0	Cum	1	170	1.00	0.25	42.50
	Ch.188.0 to Ch.218.0	Cum	1	30	0.93	0.25	6.98
	Ch.220.0 to Ch.270.0	Cum	1	50	2.00	0.25	25.00
	Ch.570.0 to Ch.705.0	Cum	1	135	1.10	0.25	37.13
	Ch.770.0 to Ch.870.0	Cum	1	100	1.27	0.25	31.75
	Ch.870.0 to Ch.925.0	Cum	1	55	1.20	0.25	16.50
	Ch.930.0 to Ch.1070.0	Cum	1	140	0.86	0.25	30.10
	LHS						0.00
	Ch.125.0 to Ch.145.0	Cum	1	20	0.56	0.25	2.80
	Ch.180.0 to Ch.200.00	Cum	1	12	0.75	0.25	2.25
	Ch.260.0 to Ch.470.0	Cum	1	210	1.38	0.25	72.45
	Ch.530.0 to Ch.545.0	Cum	1	15	1.27	0.25	4.76
	Ch.590.0 to Ch.750.0	Cum	1	160	0.82	0.25	32.80
	Ch.780.0 to Ch.905.0	Cum	1	125	1.61	0.25	50.31
	Ch.915.0 to Ch.942.0	Cum	1	27	1.91	0.25	12.89
	Ch.950.0 to Ch.1100.0	Cum	1	150	1.63	0.25	61.13
	Road 7C						
	LHS						
	Ch.0.00 to Ch.45.0	Cum	1	45	0.70	0.25	7.88
	Ch.80.0 to Ch. 205.0	Cum	1	125	0.07	0.25	2.13
	Ch.280.0 to Ch.300.0	Cum	1	20	0.22	0.25	1.10
	Ch.305.0 to Ch.335.0	Cum	1	30	0.84	0.25	6.30
	Ch.410.0	Cum	1	5	1.20	0.25	1.50
	Ch.500.0 to Ch.660.0	Cum	1	160	0.68	0.25	27.20
	Ch.680.0 to Ch.745.0	Cum	1	65	0.26	0.25	4.23
	Ch.835.0 to Ch.880.0	Cum	1	45	0.74	0.25	8.33
	Ch.910.0 to Ch.930.0	Cum	1	20	0.07	0.25	0.35
	Ch.940.0 to Ch.950.0	Cum	1	10	0.68	0.25	1.70
	Ch.960.0	Cum	1	5	0.31	0.25	0.39
	RHS						
	Ch.215.0 to Ch.230.0	Cum	1	15	0.24	0.25	0.90
	Ch.350.0 to Ch.355.0	Cum	1	5	0.75	0.25	0.94
	Ch.385.0 to Ch.430.0	Cum	1	45	0.10	0.25	1.13
	Ch.460.0 to Ch.480.0	Cum	1	20	0.35	0.25	1.75
	Ch.765.0 to Ch.820.0	Cum	1	55	0.35	0.25	4.81
	Ch.980.0 to Ch.1004.0	Cum	1	24	0.42	0.25	2.52
	Road 15a						
	LHS						
	Ch.80.0 to Ch.90.0	Cum	1	10	0.15	0.25	0.38
	Ch.95.0 to Ch.110.0	Cum	1	15	0.13	0.25	0.49
	Ch.180.0 to Ch.210.0	Cum	1	30	0.23	0.25	1.73
	Ch.280.0 to Ch.300.0	Cum	1	20	0.13	0.25	0.65

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.350.0 to Ch.375.0	Cum	1	25	0.34	0.25	2.13
	Ch.410.0	Cum	1	5	0.53	0.25	0.66
	Ch.420.0	Cum	1	5	2.24	0.25	2.80
	Ch.570.0	Cum	1	5	0.62	0.25	0.78
	RHS						
	Ch.45.0 to Ch.75.0	Cum	1	30	0.34	0.25	2.55
	Ch.395.0 to ch.410.0	Cum	1	15	0.61	0.25	2.29
	Ch.485.0 to Ch.510.0	Cum	1	25	0.46	0.25	2.88
	Ch.545.0 to Ch.570.0	Cum	1	25	0.36	0.25	2.25
	Ch.630.0 to Ch.640.0	Cum	1	10	0.24	0.25	0.60
	Consider Panel Repairing for Existing CC Road @ 5%						
	7c-Attavar -Nandigudda Road	Cum	0.05	1021	7.00	0.30	107.21
	10-Kudumbi Garden (DBS) Road	Cum	0.05	375	6.20	0.30	34.88
	19a-Balmatta Road	Cum	0.05	330	15.00	0.30	74.25
	15a-Azzizuddin Road	Cum	0.05	717	6.00	0.30	64.53
	15b-Jumma Masjid Road	Cum	0.2	700	5.50	0.30	231.00
	20-Bendre Ferry Road	Cum	0.2	800	10.00	0.30	480.00
	Road Crossing for Utility RCC Ducts						
1	7a-Milagres Cross Road	Cum	4	11	1.182	0	0.00
2	7c-Nandigudda Road	Cum	11	16	1.182	0.3	62.41
3	8-New Balmatta Road	Cum	12	12	1.182	0	0.00
4	10-Kudumbi Garden (DBS) Road	Cum	8	12	1.182	0.3	34.04
5	19a-Arya Samaj Road	Cum	6	10	1.182	0	0.00
6	19bBalmatta Road	Cum	4	26	1.182	0.3	36.88
7	15a-Azizuddin Road	Cum	8	11	1.182	0.3	31.20
8	15b-Jumma Masjid-Old Port Road	Cum	16	6	1.182	0.3	34.04
9	20-Bendre Ferry Road	Cum	18.4	12	1.182	0.3	78.30
		Cum				Total	4302.34
25	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 and as shown on drawing and as per MORTH specifications clause 602. (Non SOR Item)						
	7a-Milagres Cross Road						
	Ch.6.000 to Ch.165.000	Rmt	1	41	5.3		217.30
	8-New Balmatta Road	Rmt					
	Ch.0.00 to 580.00	Rmt	1	129	5.3		683.70
	19b-Arya Samaj Road	Rmt					
	Ch.0.00 to 330.00	Rmt	1	132	5.3		699.60
	15b-Jumma Masjid Road	Rmt					
	Ch.720.0 to Ch.970.0	Rmt	1	67	4.6		308.20
	20-Bendre Ferry Road	Rmt					
	Ch.0.00 to Ch.260.00	Rmt	1	58	4.6		266.80
	19a-Balmatta Road						
	Ch.0.00 to Ch.320.00						
	RHS	Rmt	1	65	0.50		32.50
	LHS	Rmt	1	56	0.50		28.00
	20-Bendre Ferry Road						
	RHS						
	Ch.0.000 to Ch.170.0	Rmt	1	38	1		38.00
	Ch.188.0 to Ch.218.0	Rmt	1	7	0.93		6.51
	Ch.220.0 to Ch.270.0	Rmt	1	11	2		22.00
	Ch.570.0 to Ch.705.0	Rmt	1	30	1.1		33.00
	Ch.770.0 to Ch.870.0	Rmt	1	22	1.27		27.94
	Ch.870.0 to Ch.925.0	Rmt	1	12	1.2		14.40
	Ch.930.0 to Ch.1070.0	Rmt	1	31	0.86		26.66
	LHS						
	Ch.125.0 to Ch.145.0	Rmt	1	4	0.56		2.24
	Ch.180.0 to Ch.200.00	Rmt	1	3	0.75		2.25
	Ch.260.0 to Ch.470.0	Rmt	1	47	1.38		64.86
	Ch.530.0 to Ch.545.0	Rmt	1	3	1.27		3.81
	Ch.590.0 to Ch.750.0	Rmt	1	36	3.64		131.04
	Ch.780.0 to Ch.905.0	Rmt	1	28	1.61		45.08
	Ch.915.0 to Ch.942.0	Rmt	1	6	1.91		11.46
	Ch.950.0 to Ch.1100.0	Rmt	1	33	1.63		53.79

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road 7C						
	LHS						
	Ch.0.00 to Ch.45.0	Rmt	1	10	0.7		7.00
	Ch.80.0 to Ch. 205.0	Rmt	1	28	0.068		1.90
	Ch.280.0 to Ch.300.0	Rmt	1	4	0.22		0.88
	Ch.305.0 to Ch.335.0	Rmt	1	7	0.84		5.88
	Ch.410.0	Rmt	1	1	1.2		1.20
	Ch.500.0 to Ch.660.0	Rmt	1	36	0.68		24.48
	Ch.680.0 to Ch.745.0	Rmt	1	14	0.26		3.64
	Ch.835.0 to Ch.880.0	Rmt	1	10	0.74		7.40
	Ch.910.0 to Ch.930.0	Rmt	1	4	0.07		0.28
	Ch.940.0 to Ch.950.0	Rmt	1	2	0.68		1.36
	Ch.960.0	Rmt	1	1	0.31		0.31
	RHS						
	Ch.215.0 to Ch.230.0	Rmt	1	3	0.24		0.72
	Ch.350.0 to Ch.355.0	Rmt	1	1	0.75		0.75
	Ch.385.0 to Ch.430.0	Rmt	1	10	0.1		1.00
	Ch.460.0 to Ch.480.0	Rmt	1	4	0.35		1.40
	Ch.765.0 to Ch.820.0	Rmt	1	12	0.35		4.20
	Ch.980.0 to Ch.1004.0	Rmt	1	5	0.42		2.10
	Road 15a						
	LHS						
	Ch.80.0 to Ch.90.0	Rmt	1	2	0.15		0.30
	Ch.95.0 to Ch.110.0	Rmt	1	3	0.13		0.39
	Ch.180.0 to Ch.210.0	Rmt	1	7	0.23		1.61
	Ch.280.0 to Ch.300.0	Rmt	1	4	0.13		0.52
	Ch.350.0 to Ch.375.0	Rmt	1	6	0.34		2.04
	Ch.410.0	Rmt	1	1	0.53		0.53
	Ch.420.0	Rmt	1	1	2.24		2.24
	Ch.570.0	Rmt	1	1	0.62		0.62
	RHS						
	Ch.45.0 to Ch.75.0	Rmt	1	7	0.34		2.38
	Ch.395.0 to ch.410.0	Rmt	1	3	0.61		1.83
	Ch.485.0 to Ch.510.0	Rmt	1	6	0.46		2.76
	Ch.545.0 to Ch.570.0	Rmt	1	6	0.36		2.16
	Ch.630.0 to Ch.640.0	Rmt	1	2	0.24		0.48
	Consider Panel Repairing for Existing CC Road @ 5%	Rmt					
	7c-Attavar -Nandigudda Road	Rmt	0.05	227	7		79.45
	10-Kudumbi Garden (DBS) Road	Rmt	0.05	83	6.2		25.73
	19b-Balmatta Road	Rmt	0.05	73	15		54.75
	15a-Azzizuddin Road	Rmt	0.05	159	6		47.70
	15b-Jumma Masjid Road	Rmt	0.2	156	5.5		171.60
	20-Bendre Ferry Road	Rmt	0.2	178	10		356.00
						Total Qty.	3536.73
		Rmt				Consider 10% Qty of Total	353.67
26	KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (SI No : 35.8 of KPWD 18-19)						
	Consider Same Qty of Joint Filling@5% of Joint Filler	Rmt				Total Qty.	17.68
27	Providing and laying at or near ground level factory made Median 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 drawing. (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)						
	Consider Provisional Qty.	Rmt	20				20.00
		Rmt				Sub Total	20.00
		No's				Total Qty.	50
	Vol of one kerb stone=0.102cum,Total vol of kerb=	Cum					5

Sr. No.	Description	Unit	No's	L	B	H	Qty.
28	Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC M20 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Rm	1	150			150.00
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Rm	1	120			120.00
	Ch.150.000 to Ch.410.00	Rm	1	260			260.00
	Ch.420.000 to Ch.480.00	Rm	1	250			250.00
	Ch.480.000 to Ch.670.00	Rm	1	250			250.00
	Ch.680.000 to Ch.720.00	Rm	1	40			40.00
	Ch.730.000 to Ch.800.00	Rm	1	70			70.00
	Ch.810.000 to Ch.850.00	Rm	1	40			40.00
	Ch.880.000 to Ch.950.00	Rm	1	70			70.00
	Ch.960.000 to Ch.1004.00	Rm	1	44			44.00
	RHS						
	Ch.10.000 to Ch.130.00	Rm	1	120			120.00
	Ch.140.000 to Ch.350.00	Rm	1	210			210.00
	Ch.360.000 to Ch.430.00	Rm	1	70			70.00
	Ch.440.000 to Ch.610.00	Rm	1	170			170.00
	Ch.610.000 to Ch.730.00	Rm	1	120			120.00
	Ch.740.000 to Ch.840.00	Rm	1	100			100.00
	Ch.870.000 to Ch.950.00	Rm	1	80			80.00
	Ch.960.000 to Ch.1004.00	Rm	1	44			44.00
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Rm	1	120			120.00
	Ch.520.000 to Ch.580.00	Rm	1	60			60.00
	RHS						
	Ch.30.000 to Ch.80.00	Rm	1	50			50.00
	Ch.90.000 to Ch.150.00	Rm	1	60			60.00
	Ch.515.000 to Ch.560.00	Rm	1	45			45.00
	10-Kudumbi Garden (DBS)Road						
	LHS						
	Ch.10.000 to Ch.90.00	Rm	1	80			80.00
	Ch.90.000 to Ch.135.00	Rm	1	45			45.00
	Ch.140.000 to Ch.250.00	Rm	1	110			110.00
	Ch.140.000 to Ch.340.00	Rm	1	200			200.00
	RHS						
	Ch.10.000 to Ch.140.00	Rm	1	130			130.00
	Ch.190.000 to Ch.210.00	Rm	1	20			20.00
	Ch.220.000 to Ch.360.00	Rm	1	140			140.00
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Rm	1	270			270.00
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Rm	1	10			10.00
	Ch.370.000 to Ch.390.00	Rm	1	20			20.00
	Ch.390.000 to Ch.570.00	Rm	1	180			180.00
	Ch.590.000 to Ch.620.00	Rm	1	30			30.00
	Ch.700.000 to Ch.840.00	Rm	1	140			140.00
	RHS						
	Ch.30.000 to Ch.300.00	Rm	1	270			270.00
	Ch.340.000 to Ch.630.00	Rm	1	290			290.00
	Ch.700.000 to Ch.845.00	Rm	1	145			145.00
	15a-Azizuddin Road						
	LHS						
	Ch.00.000 to Ch.90.00	Rm	1	90			90.00
	Ch.100.000 to Ch.220.00	Rm	1	120			120.00
	Ch.220.000 to Ch.300.00	Rm	1	80			80.00
	Ch.310.000 to Ch.420.00	Rm	1	110			110.00
	Ch.420.000 to Ch.490.00	Rm	1	70			70.00
	Ch.490.000 to Ch.570.00	Rm	1	80			80.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.580.000 to Ch.640.00	Rm	1	60			60.00
	Ch.650.000 to Ch.710.00	Rm	1	60			60.00
	RHS						
	Ch.00.000 to Ch.90.00	Rm	1	90			90.00
	Ch.100.000 to Ch.220.00	Rm	1	220			220.00
	Ch.220.000 to Ch.320.00	Rm	1	100			100.00
	Ch.330.000 to Ch.410.00	Rm	1	80			80.00
	Ch.420.000 to Ch.570.00	Rm	1	150			150.00
	Ch.580.000 to Ch.710.00	Rm	1	130			130.00
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Rm	1	90			90.00
	Ch.100.000 to Ch.220.00	Rm	1	120			120.00
	Ch.220.000 to Ch.300.00	Rm	1	80			80.00
	Ch.310.000 to Ch.420.00	Rm	1	110			110.00
	Ch.420.000 to Ch.490.00	Rm	1	70			70.00
	Ch.490.000 to Ch.570.00	Rm	1	80			80.00
	Ch.580.000 to Ch.640.00	Rm	1	60			60.00
	Ch.650.000 to Ch.710.00	Rm	1	60			60.00
	RHS						
	Ch.00.000 to Ch.90.00	Rm	1	90			90.00
	Ch.100.000 to Ch.220.00	Rm	1	120			120.00
	Ch.220.000 to Ch.320.00	Rm	1	100			100.00
	Ch.330.000 to Ch.410.00	Rm	1	80			80.00
	Ch.420.000 to Ch.570.00	Rm	1	150			150.00
	Ch.580.000 to Ch.710.00	Rm	1	130			130.00
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Rm	1	80			80.00
	Ch.80.000 to Ch.140.00	Rm	1	60			60.00
	Ch.180.000 to Ch.220.00	Rm	1	40			40.00
	Ch.230.000 to Ch.250.00	Rm	1	20			20.00
	Ch.250.000 to Ch.530.00	Rm	1	280			280.00
	RHS						
	Ch.530.000 to Ch.580.00	Rm	1	50			50.00
	Ch.705.000 to Ch.1040.00	Rm	1	335			335.00
						Total=	8268.00
	Deduct Resuse Kerb Stone Qty.	Rm	-1	2234.50			-2234.50
							6033.50
	C= A+B/0.45m(length of one Kerb Stone)	Nos				Total(C)	13408.00
	Raised Kerb at Level Footpath (Discontinuos Kerb)						
	Total Length Kerb Stone = Total length of Level Footpath / 2	Cum	1	1825	0.15	0.35	95.81
	Vol of 1 Kerb=0.028 cum, Total Vol.=	Cum					471.24
29	Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC M20 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Rm	1	150			150.00
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Rm	1	120			120.00
	Ch.150.000 to Ch.410.00	Rm	1	260			260.00
	Ch.420.000 to Ch.480.00	Rm	1	250			250.00
	Ch.480.000 to Ch.670.00	Rm	1	250			250.00
	Ch.680.000 to Ch.720.00	Rm	1	40			40.00
	Ch.730.000 to Ch.800.00	Rm	1	70			70.00
	Ch.810.000 to Ch.850.00	Rm	1	40			40.00
	Ch.880.000 to Ch.950.00	Rm	1	70			70.00
	Ch.960.000 to Ch.1004.00	Rm	1	44			44.00
	RHS						
	Ch.10.000 to Ch.130.00	Rm	1	120			120.00
	Ch.140.000 to Ch.350.00	Rm	1	210			210.00
	Ch.360.000 to Ch.430.00	Rm	1	70			70.00
	Ch.440.000 to Ch.610.00	Rm	1	170			170.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.610.000 to Ch.730.00	Rm	1	120			120.00
	Ch.740.000 to Ch.840.00	Rm	1	100			100.00
	Ch.870.000 to Ch.950.00	Rm	1	80			80.00
	Ch.960.000 to Ch.1004.00	Rm	1	44			44.00
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Rm	1	120			120.00
	Ch.520.000 to Ch.580.00	Rm	1	60			60.00
	RHS						
	Ch.30.000 to Ch.80.00	Rm	1	50			50.00
	Ch.90.000 to Ch.150.00	Rm	1	60			60.00
	Ch.515.000 to Ch.560.00	Rm	1	45			45.00
	10-Kudumbi Garden (DBS)Road						
	LHS						
	Ch.10.000 to Ch.90.00	Rm	1	80			80.00
	Ch.90.000 to Ch.135.00	Rm	1	45			45.00
	Ch.140.000 to Ch.250.00	Rm	1	110			110.00
	Ch.140.000 to Ch.340.00	Rm	1	200			200.00
	RHS						
	Ch.10.000 to Ch.140.00	Rm	1	130			130.00
	Ch.190.000 to Ch.210.00	Rm	1	20			20.00
	Ch.220.000 to Ch.360.00	Rm	1	140			140.00
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Rm	1	270			270.00
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Rm	1	10			10.00
	Ch.370.000 to Ch.390.00	Rm	1	20			20.00
	Ch.390.000 to Ch.570.00	Rm	1	180			180.00
	Ch.590.000 to Ch.620.00	Rm	1	30			30.00
	Ch.700.000 to Ch.840.00	Rm	1	140			140.00
	RHS						
	Ch.30.000 to Ch.300.00	Rm	1	270			270.00
	Ch.340.000 to Ch.630.00	Rm	1	290			290.00
	Ch.700.000 to Ch.845.00	Rm	1	145			145.00
	15a-Azizuddin Road						
	LHS						
	Ch.00.000 to Ch.90.00	Rm	1	90			90.00
	Ch.100.000 to Ch.220.00	Rm	1	120			120.00
	Ch.220.000 to Ch.300.00	Rm	1	80			80.00
	Ch.310.000 to Ch.420.00	Rm	1	110			110.00
	Ch.420.000 to Ch.490.00	Rm	1	70			70.00
	Ch.490.000 to Ch.570.00	Rm	1	80			80.00
	Ch.580.000 to Ch.640.00	Rm	1	60			60.00
	Ch.650.000 to Ch.710.00	Rm	1	60			60.00
	RHS						
	Ch.00.000 to Ch.90.00	Rm	1	90			90.00
	Ch.100.000 to Ch.220.00	Rm	1	220			220.00
	Ch.220.000 to Ch.320.00	Rm	1	100			100.00
	Ch.330.000 to Ch.410.00	Rm	1	80			80.00
	Ch.420.000 to Ch.570.00	Rm	1	150			150.00
	Ch.580.000 to Ch.710.00	Rm	1	130			130.00
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Rm	1	90			90.00
	Ch.100.000 to Ch.220.00	Rm	1	120			120.00
	Ch.220.000 to Ch.300.00	Rm	1	80			80.00
	Ch.310.000 to Ch.420.00	Rm	1	110			110.00
	Ch.420.000 to Ch.490.00	Rm	1	70			70.00
	Ch.490.000 to Ch.570.00	Rm	1	80			80.00
	Ch.580.000 to Ch.640.00	Rm	1	60			60.00
	Ch.650.000 to Ch.710.00	Rm	1	60			60.00
	RHS						
	Ch.00.000 to Ch.90.00	Rm	1	90			90.00
	Ch.100.000 to Ch.220.00	Rm	1	120			120.00
	Ch.220.000 to Ch.320.00	Rm	1	100			100.00
	Ch.330.000 to Ch.410.00	Rm	1	80			80.00
	Ch.420.000 to Ch.570.00	Rm	1	150			150.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.580.000 to Ch.710.00	Rm	1	130			130.00
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Rm	1	80			80.00
	Ch.80.000 to Ch.140.00	Rm	1	60			60.00
	Ch.180.000 to Ch.220.00	Rm	1	40			40.00
	Ch.230.000 to Ch.250.00	Rm	1	20			20.00
	Ch.250.000 to Ch.530.00	Rm	1	280			280.00
	RHS						
	Ch.530.000 to Ch.580.00	Rm	1	50			50.00
	Ch.705.000 to Ch.1040.00	Rm	1	335			335.00
	Total Qty.	Rm					8268
	C= A+B/0.45m(length of one Kerb Stone)	Nos.					18373
	Total Vol.= 0.0118	Cum					217
30	Reusing existing kerb stone obtained from dismantling of existing footpath or by other dismantling work and laying at or near ground level 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 transportation to site from stack yard, 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).						
	Consider 50% Qty. Of Existing Dismantled Kerb available on Site	Rmt	50%	4469.00			2234.50
31	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per MORTH specifications section 8. (SI No : 24.1 of KPWD 18-19)						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Sqm	1	150		0.27	39.75
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Sqm	1	120		0.27	31.80
	Ch.150.000 to Ch.410.00	Sqm	1	260		0.27	68.90
	Ch.420.000 to Ch.480.00	Sqm	1	250		0.27	66.25
	Ch.480.000 to Ch.670.00	Sqm	1	250		0.27	66.25
	Ch.680.000 to Ch.720.00	Sqm	1	40		0.27	10.60
	Ch.730.000 to Ch.800.00	Sqm	1	70		0.27	18.55
	Ch.810.000 to Ch.850.00	Sqm	1	40		0.27	10.60
	Ch.880.000 to Ch.950.00	Sqm	1	70		0.27	18.55
	Ch.960.000 to Ch.1004.00	Sqm	1	44		0.27	11.66
	RHS						
	Ch.10.000 to Ch.130.00	Sqm	1	120		0.27	31.80
	Ch.140.000 to Ch.350.00	Sqm	1	210		0.27	55.65
	Ch.360.000 to Ch.430.00	Sqm	1	70		0.27	18.55
	Ch.440.000 to Ch.610.00	Sqm	1	170		0.27	45.05
	Ch.610.000 to Ch.730.00	Sqm	1	120		0.27	31.80
	Ch.740.000 to Ch.840.00	Sqm	1	100		0.27	26.50
	Ch.870.000 to Ch.950.00	Sqm	1	80		0.27	21.20
	Ch.960.000 to Ch.1004.00	Sqm	1	44		0.27	11.66
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Sqm	1	120		0.27	31.80
	Ch.520.000 to Ch.580.00	Sqm	1	60		0.27	15.90
	RHS		0	0		0.27	0.00
	Ch.30.000 to Ch.80.00	Sqm	1	50		0.27	13.25
	Ch.90.000 to Ch.150.00	Sqm	1	60		0.27	15.90
	Ch.515.000 to Ch.560.00	Sqm	1	45		0.27	11.93
	10-Kudumbi Garden (DBS)Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	LHS						
	Ch.10.000 to Ch.90.00	Sqm	1	80		0.27	21.20
	Ch.90.000 to Ch.135.00	Sqm	1	45		0.27	11.93
	Ch.140.000 to Ch.250.00	Sqm	1	110		0.27	29.15
	Ch.140.000 to Ch.340.00	Sqm	1	200		0.27	53.00
	RHS						
	Ch.10.000 to Ch.140.00	Sqm	1	130		0.27	34.45
	Ch.190.000 to Ch.210.00	Sqm	1	20		0.27	5.30
	Ch.220.000 to Ch.360.00	Sqm	1	140		0.27	37.10
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Sqm	1	270		0.27	71.55
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Sqm	1	10		0.27	2.65
	Ch.370.000 to Ch.390.00	Sqm	1	20		0.27	5.30
	Ch.390.000 to Ch.570.00	Sqm	1	180		0.27	47.70
	Ch.590.000 to Ch.620.00	Sqm	1	30		0.27	7.95
	Ch.700.000 to Ch.840.00	Sqm	1	140		0.27	37.10
	RHS						
	Ch.30.000 to Ch.300.00	Sqm	1	270		0.27	71.55
	Ch.340.000 to Ch.630.00	Sqm	1	290		0.27	76.85
	Ch.700.000 to Ch.845.00	Sqm	1	145		0.27	38.43
	15a-Azizuddin Road						
	LHS						
	Ch.00.000 to Ch.90.00	Sqm	1	90		0.27	23.85
	Ch.100.000 to Ch.220.00	Sqm	1	120		0.27	31.80
	Ch.220.000 to Ch.300.00	Sqm	1	80		0.27	21.20
	Ch.310.000 to Ch.420.00	Sqm	1	110		0.27	29.15
	Ch.420.000 to Ch.490.00	Sqm	1	70		0.27	18.55
	Ch.490.000 to Ch.570.00	Sqm	1	80		0.27	21.20
	Ch.580.000 to Ch.640.00	Sqm	1	60		0.27	15.90
	Ch.650.000 to Ch.710.00	Sqm	1	60		0.27	15.90
	RHS						
	Ch.00.000 to Ch.90.00	Sqm	1	90		0.27	23.85
	Ch.100.000 to Ch.220.00	Sqm	1	220		0.27	58.30
	Ch.220.000 to Ch.320.00	Sqm	1	100		0.27	26.50
	Ch.330.000 to Ch.410.00	Sqm	1	80		0.27	21.20
	Ch.420.000 to Ch.570.00	Sqm	1	150		0.27	39.75
	Ch.580.000 to Ch.710.00	Sqm	1	130		0.27	34.45
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Sqm	1	90		0.27	23.85
	Ch.100.000 to Ch.220.00	Sqm	1	120		0.27	31.80
	Ch.220.000 to Ch.300.00	Sqm	1	80		0.27	21.20
	Ch.310.000 to Ch.420.00	Sqm	1	110		0.27	29.15
	Ch.420.000 to Ch.490.00	Sqm	1	70		0.27	18.55
	Ch.490.000 to Ch.570.00	Sqm	1	80		0.27	21.20
	Ch.580.000 to Ch.640.00	Sqm	1	60		0.27	15.90
	Ch.650.000 to Ch.710.00	Sqm	1	60		0.27	15.90
	RHS						
	Ch.00.000 to Ch.90.00	Sqm	1	90		0.27	23.85
	Ch.100.000 to Ch.220.00	Sqm	1	120		0.27	31.80
	Ch.220.000 to Ch.320.00	Sqm	1	100		0.27	26.50
	Ch.330.000 to Ch.410.00	Sqm	1	80		0.27	21.20
	Ch.420.000 to Ch.570.00	Sqm	1	150		0.27	39.75
	Ch.580.000 to Ch.710.00	Sqm	1	130		0.27	34.45
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Sqm	1	80		0.27	21.20
	Ch.80.000 to Ch.140.00	Sqm	1	60		0.27	15.90
	Ch.180.000 to Ch.220.00	Sqm	1	40		0.27	10.60
	Ch.230.000 to Ch.250.00	Sqm	1	20		0.27	5.30
	Ch.250.000 to Ch.530.00	Sqm	1	280		0.27	74.20
	RHS		0	0		0.27	0.00
	Ch.530.000 to Ch.580.00	Sqm	1	50		0.27	13.25
	Ch.705.000 to Ch.1040.00	Sqm	1	335		0.27	88.78
		Sqm			Total Qty.		2191.02

Sr. No.	Description	Unit	No's	L	B	H	Qty.
32	P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting. (Rate analysis attached)						
	Power Duct Chambers	Nos.	2	391			782.00
		Nos.		Total Qty.			782.00
33	P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)						
	SWD						
	Road 7a			Sides	2.00		
	Node-CO-504						
	Base	Rm	1	26.4			26.40
	Node-CO-505						
	Base	Rm	1	137.5			137.50
	Road 7c			Sides	2.00		
	Node-CO-64						
	Base	Rm	2	127.7			255.40
	Node-CO-65						
	Base	Rm	2	125.6			251.20
	Node-CO-66						
	Base	Rm	2	67.9			135.80
	Node-CO-67						
	Base	Rm	2	34.8			69.60
	Node-CO-68						
	Base	Rm	2	29.4			58.80
	Node-CO-69						
	Base	Rm	2	39.8			79.60
	Node-CO-70						
	Base	Rm	2	36.5			73.00
	Node-CO-80						
	Base	Rm	2	73.8			147.60
	Node-CO-81						
	Base	Rm	2	40.5			81.00
	Node-CO-82						
	Base	Rm	2	31.7			63.40
	Node-CO-78						
	Base	Rm	2	22.3			44.60
	Node-CO-77						
	Base	Rm	2	23.6			47.20
	Node-CO-79						
	Base	Rm	2	33.6			67.20
	Road 8			Sides	1.00		
	Node-CO-35						
	Base	Rm	1	75.6			75.60
	Node-CO-36						
	Base	Rm	1	33.5			33.50
	Node-CO-37						
	Base	Rm	1	31			31.00
	Node-CO-38						
	Base	Rm	1	48.9			48.90
	Node-CO-39						
	Base	Rm	1	99.9			99.90
	Node-CO-40						
	Base	Rm	1	95.4			95.40
	Node-CO-41						
	Base	Rm	1	28			28.00
	Node-CO-42						
	Base	Rm	1	46.1			46.10
	Node-CO-43						
	Base	Rm	1	17			17.00
	Node-CO-44						
	Base	Rm	1	34.7			34.70
	Node-CO-45						
	Base	Rm	1	34.8			34.80
	Node-CO-46						
	Base	Rm	1	9.3			9.30
	Node-CO-47						
	Base	Rm	1	14.2			14.20
	Road 19			Sides	2.00		
	Node-CO-163						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Rm	2	24.3			48.60
	Node-CO-164						
	Base	Rm	2	29.9			59.80
	Node-CO-165						
	Base	Rm	2	43.4			86.80
	Node-CO-166						
	Base	Rm	2	20.9			41.80
	Node-CO-167						
	Base	Rm	2	33.5			67.00
	Node-CO-168						
	Base	Rm	2	47.3			94.60
	Node-CO-169						
	Base	Rm	2	68.4			136.80
	Node-CO-170						
	Base	Rm	2	120.2			240.40
	Node-CO-171						
	Base	Rm	2	70.8			141.60
	Node-CO-172						
	Base	Rm	2	103.2			206.40
	Road-15a			Sides	2.00		
	Node-CO-182						
	Base	Rm	1	27.2			27.20
	Node-CO-192						
	Base	Rm	1	59.8			59.80
	Node-CO-481						
	Base	Rm	1	28.1			28.10
	Node-CO-482						
	Base	Rm	1	58.7			58.70
	Node-CO-190						
	Base	Rm	1	62.8			62.80
	Node-CO-184						
	Base	Rm	1	151.1			151.10
	Node-CO-195						
	Base	Rm	1	170			170.00
	Node-CO-187						
	Base	Rm	1	80.5			80.50
	Node-CO-188						
	Base	Rm	1	43.1			43.10
	Node-CO-189						
	Base	Rm	1	97.4			97.40
	Node-CO-483						
	Base	Rm	1	64.4			64.40
	Node-CO-484						
	Base	Rm	1	120.6			120.60
	Node-CO-485						
	Base	Rm	1	30.5			30.50
	Node-CO-486						
	Base	Rm	1	169.2			169.20
	15a-New Drain			1			
1	MH-524						
	Base	Rm	1	27.7			27.70
2	MH-525						
	Base	Rm	1	59.4			59.40
3	MH-527						
	Base	Rm	1	62.8			62.80
4	MH-528						
	Base	Rm	1	120.5			120.50
5	MH-529						
	Base	Rm	1	29.7			29.70
6	MH-530						
	Base	Rm	1	170.8			170.80
7	MH-532						
	Base	Rm	1	80.5			80.50
8	MH-533						
	Base	Rm	1	43.1			43.10

Sr. No.	Description	Unit	No's	L	B	H	Qty.
9	MH-534						
	Base	Rm	1	97.4			97.40
	Road 15b			Sides	1.00		
	Node-CO-467						
	Base	Rm	1	79.8			79.80
	Node-CO-469						
	Base	Rm	1	23.8			23.80
	Node-CO-470						
	Base	Rm	1	62.6			62.60
	Node-CO-473						
	Base	Rm	1	30.4			30.40
	Node-CO-474						
	Base	Rm	1	62			62.00
	Node-CO-472						
	Base	Rm	1	32			32.00
	Node-CO-468						
	Base	Rm	1	28.4			28.40
	Node-CO-495						
	Base	Rm	1	88.4			88.40
	Node-CO-496						
	Base	Rm	1	76.4			76.40
	Node-CO-499						
	Base	Rm	1	4.2			4.20
	Node-CO-497						
	Base	Rm	1	87.6			87.60
	Node-CO-498						
	Base	Rm	1	75.9			75.90
	Node-CO-494						
	Base	Rm	1	77.3			77.30
	Node-CO-503						
	Base	Rm	1	76.6			76.60
	Node-CO-501						
	Base	Rm	1	32.5			32.50
	Node-CO-502						
	Base	Rm	1	56.2			56.20
	Node-CO-492						
	Base	Rm	1	30.9			30.90
	Node-CO-493						
	Base	Rm	1	56.5			56.50
	Node-CO-500						
	Base	Rm	1	32.4			32.40
	Node-CO-491						
	Base	Rm	1	32			32.00
	Node-CO-490						
	Base	Rm	1	24.8			24.80
	Node-CO-488						
	Base	Rm	1	39			39.00
	Node-CO-489						
	Base	Rm	1	44.3			44.30
	Node-CO-487						
	Base	Rm	1	23.2			23.20
	Node-CO-221						
	Base	Rm	1	101.3			101.30
	Road 20			Sides	2.00		
	Node-CO-455						
	Base	Rm	2	87			174.00
	Node-CO-456						
	Base	Rm	2	95.8			191.60
	Node-CO-457						
	Base	Rm	2	82.7			165.40
	Node-CO-458						
	Base	Rm	2	105.2			210.40
	Node-CO-459						
	Base	Rm	2	62.5			125.00
	Node-CO-460						
	Base	Rm	2	48.1			96.20
	Node-CO-461						
	Base	Rm	2	47.8			95.60
	Node-CO-462						
	Base	Rm	2	18.3			36.60
	Node-CO-463						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Rm	2	19.9			39.80
	Node-CO-464						
	Base	Rm	2	15.8			31.60
	Node-CO-479						
	Base	Rm	2	244.3			488.60
	Node-CO-480						
	Base	Rm	2	170.7			341.40
	Node-CO-477						
	Base	Rm	2	74.2			148.40
	Node-CO-348						
	Base	Rm	2	15.4			30.80
	Node-CO-349						
	Base	Rm	2	75.2			150.40
		Rm					8690.10
	Consider Chamber @10m C/C distance	Nos.					869.00
	Total no. Of covers	Nos.		Total Qty.			869.00
34	KSRRB M300- Wrought iron and mild steel welded work KSRRB M300-18. Wrought iron and mild steel welded work (using angles, square bars, tees and channel grills, gratings with grating frames, gates and tree guards of any size and design etc. including cost of screens and welding rods or bolts and nuts complete fixed in position but without the cost of excavation and concrete for fixing which will be paid separately complete as per specifications.(KPWD,18-19,SI.No.19.97)						
	Flush Footpath with Carriageway						
	7a						
	LHS						
	Ch.20.000 to Ch.70.00	Rm	1	50			50.00
	Ch.75.000 to Ch.160.00	Rm	1	85			85.00
	7c						
	LHS						
	Ch.850.000 to Ch.875.00	Rm	1	25			25.00
	RHS						
	Ch.260.000 to Ch.280.00	Rm	1	20			20.00
	Ch.320.000 to Ch.350.00	Rm	1	30			30.00
	Ch.620.000 to Ch.680.00	Rm	1	60			60.00
	Ch.810.000 to Ch.840.00	Rm	1	30			30.00
	Ch.850.000 to Ch.875.00	Rm	1	25			25.00
	Ch.900.000 to Ch.920.00	Rm	1	20			20.00
	8						
	LHS						
	Ch.150.000 to Ch.190.00	Rm	1	40			40.00
	Ch.190.000 to Ch.200.00	Rm	1	10			10.00
	Ch.210.000 to Ch.270.00	Rm	1	60			60.00
	Ch.270.000 to Ch.510.00	Rm	1	240			240.00
	RHS						
	Ch.150.000 to Ch.200.00	Rm	1	50			50.00
	Ch.220.000 to Ch.300.00	Rm	1	80			80.00
	Ch.310.000 to Ch.320.00	Rm	1	10			10.00
	Ch.330.000 to Ch.350.00	Rm	1	20			20.00
	Ch.360.000 to Ch.400.00	Rm	1	40			40.00
	Ch.410.000 to Ch.510.00	Rm	1	100			100.00
	10						
	LHS						
	Ch.150.000 to Ch.180.00	Rm	1	30			30.00
	19						
	LHS						
	Ch.625.000 to Ch.700.00	Rm	1	75			75.00
	Ch.850.000 to Ch.920.00	Rm	1	70			70.00
	RHS						
	Ch.625.000 to Ch.700.00	Rm	1	75			75.00
	Ch.800.000 to Ch.830.00	Rm	1	30			30.00
	Ch.850.000 to Ch.920.00	Rm	1	70			70.00
	15b						
	LHS						
	Ch.00.000 to Ch.80.00	Rm	1	80			80.00
	Ch.90.000 to Ch.200.00	Rm	1	110			110.00
	Ch.210.000 to Ch.320.00	Rm	1	110			110.00
	Ch.320.000 to Ch.420.00	Rm	1	100			100.00
	Ch.430.000 to Ch.500.00	Rm	1	70			70.00
	Ch.510.000 to Ch.530.00	Rm	1	20			20.00
	Ch.510.000 to Ch.580.00	Rm	1	70			70.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.590.000 to Ch.720.00	Rm	1	30			30.00
	Ch.750.000 to Ch.920.00	Rm	1	170			170.00
	RHS						
	Ch.00.000 to Ch.80.00	Rm	1	80			80.00
	Ch.80.000 to Ch.210.00	Rm	1	130			130.00
	Ch.210.000 to Ch.270.00	Rm	1	60			60.00
	Ch.270.000 to Ch.280.00	Rm	1	10			10.00
	Ch.280.000 to Ch.320.00	Rm	1	40			40.00
	Ch.330.000 to Ch.470.00	Rm	1	140			140.00
	Ch.480.000 to Ch.500.00	Rm	1	20			20.00
	Ch.510.000 to Ch.680.00	Rm	1	170			170.00
	Ch.690.000 to Ch.750.00	Rm	1	60			60.00
	Ch.750.000 to Ch.800.00	Rm	1	50			50.00
	Ch.800.000 to Ch.910.00	Rm	1	90			90.00
	20						
	LHS						
	Ch.150.000 to Ch.180.00	Rm	1	30			30.00
	Ch.530.000 to Ch.550.00	Rm	1	20			20.00
	Ch.560.000 to Ch.750.00	Rm	1	190			190.00
	Ch.760.000 to Ch.900.00	Rm	1	140			140.00
	Ch.920.000 to Ch.940.00	Rm	1	20			20.00
	Ch.950.000 to Ch.1100.00	Rm	1	150			150.00
	RHS						
	Ch.45.000 to Ch.80.00	Rm	1	35			35.00
	Ch.150.000 to Ch.180.00	Rm	1	30			30.00
	Ch.200.000 to Ch.260.00	Rm	1	60			60.00
	Ch.685.000 to Ch.705.00	Rm	1	20			20.00
	Total No. Of Gratings	Nos.					730.00
		Nos.		Total Qty.			
			Nos.	Kg/No.	Kg		Quintal
	Consider 5% of Qty		37.00	150	5550		55.5
35	P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)						
	Flush Footpath with Carriageway						
	7a						
	LHS						
	Ch.20.000 to Ch.70.00	Rm	1	50			50.00
	Ch.75.000 to Ch.160.00	Rm	1	85			85.00
	7c						
	LHS						
	Ch.850.000 to Ch.875.00	Rm	1	25			25.00
	RHS						
	Ch.260.000 to Ch.280.00	Rm	1	20			20.00
	Ch.320.000 to Ch.350.00	Rm	1	30			30.00
	Ch.620.000 to Ch.680.00	Rm	1	60			60.00
	Ch.810.000 to Ch.840.00	Rm	1	30			30.00
	Ch.850.000 to Ch.875.00	Rm	1	25			25.00
	Ch.900.000 to Ch.920.00	Rm	1	20			20.00
	8						
	LHS						
	Ch.150.000 to Ch.190.00	Rm	1	40			40.00
	Ch.190.000 to Ch.200.00	Rm	1	10			10.00
	Ch.210.000 to Ch.270.00	Rm	1	60			60.00
	Ch.270.000 to Ch.510.00	Rm	1	240			240.00
	RHS						
	Ch.150.000 to Ch.200.00	Rm	1	50			50.00
	Ch.220.000 to Ch.300.00	Rm	1	80			80.00
	Ch.310.000 to Ch.320.00	Rm	1	10			10.00
	Ch.330.000 to Ch.350.00	Rm	1	20			20.00
	Ch.360.000 to Ch.400.00	Rm	1	40			40.00
	Ch.410.000 to Ch.510.00	Rm	1	100			100.00
	10						
	LHS						
	Ch.150.000 to Ch.180.00	Rm	1	30			30.00
	19						
	LHS						
	Ch.625.000 to Ch.700.00	Rm	1	75			75.00
	Ch.850.000 to Ch.920.00	Rm	1	70			70.00
	RHS						
	Ch.625.000 to Ch.700.00	Rm	1	75			75.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.800.000 to Ch.830.00	Rm	1	30			30.00
	Ch.850.000 to Ch.920.00	Rm	1	70			70.00
	15b						
	LHS						
	Ch.00.000 to Ch.80.00	Rm	1	80			80.00
	Ch.90.000 to Ch.200.00	Rm	1	110			110.00
	Ch.210.000 to Ch.320.00	Rm	1	110			110.00
	Ch.320.000 to Ch.420.00	Rm	1	100			100.00
	Ch.430.000 to Ch.500.00	Rm	1	70			70.00
	Ch.510.000 to Ch.530.00	Rm	1	20			20.00
	Ch.510.000 to Ch.580.00	Rm	1	70			70.00
	Ch.590.000 to Ch.720.00	Rm	1	30			30.00
	Ch.750.000 to Ch.920.00	Rm	1	170			170.00
	RHS						
	Ch.00.000 to Ch.80.00	Rm	1	80			80.00
	Ch.80.000 to Ch.210.00	Rm	1	130			130.00
	Ch.210.000 to Ch.270.00	Rm	1	60			60.00
	Ch.270.000 to Ch.280.00	Rm	1	10			10.00
	Ch.280.000 to Ch.320.00	Rm	1	40			40.00
	Ch.330.000 to Ch.470.00	Rm	1	140			140.00
	Ch.480.000 to Ch.500.00	Rm	1	20			20.00
	Ch.510.000 to Ch.680.00	Rm	1	170			170.00
	Ch.690.000 to Ch.750.00	Rm	1	60			60.00
	Ch.750.000 to Ch.800.00	Rm	1	50			50.00
	Ch.800.000 to Ch.910.00	Rm	1	90			90.00
	20						
	LHS						
	Ch.150.000 to Ch.180.00	Rm	1	30			30.00
	Ch.530.000 to Ch.550.00	Rm	1	20			20.00
	Ch.560.000 to Ch.750.00	Rm	1	190			190.00
	Ch.760.000 to Ch.900.00	Rm	1	140			140.00
	Ch.920.000 to Ch.940.00	Rm	1	20			20.00
	Ch.950.000 to Ch.1100.00	Rm	1	150			150.00
	RHS						
	Ch.45.000 to Ch.80.00	Rm	1	35			35.00
	Ch.150.000 to Ch.180.00	Rm	1	30			30.00
	Ch.200.000 to Ch.260.00	Rm	1	60			60.00
	Ch.685.000 to Ch.705.00	Rm	1	20			20.00
							3650.00
	Consider @10m C/C distance of M.H.Cover	Nos.					365.00
36	KSRB 12-8.2 : Constructing brick masonry inspection chamber 500x700mm, and 450mm depth , (clear inside dimension) for pipeline with one or two inlets, using table moulded non-modular bricks of class designation 50 in cement mortar 1:5, C.I cover with frame (light duty) 455x610mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23kg and weight of frame 15 kg) R.C.C. top slab with cement concrete M 15 with 20mm and downsize granite metal , foundation concrete M 5 with 40mm and downsize granite metal inside plastering 12mm thick with cement mortar 1:3, finished smooth with a floating coat of cement on walls and bed concrete complete as per standard design including cost of materials, labour charges, curing complete as per specifications. Specification No. KBS (P.No. 74/ I.No.11.52 of PWD SR 2018-19)						
	Water Pipe and OFC Pipe						
	7a-Milagres Cross Road	Nos.	5				5.00
	7c-Nandigudda Road	Nos.	22				22.00
	8-New Balmatta Road	Nos.	7				7.00
	10-Kudumbi Garden (DBS) Road	Nos.	9				9.00
	19a-Arya Samaj Road	Nos.	13				13.00
	19bBalmatta Road	Nos.	8				8.00
	15a-Azizuddin Road	Nos.	16				16.00
	15b-Jumma Masjid-Old Port Road	Nos.	21				21.00
	20-Bendre Ferry Road	Nos.	24				24.00
							125.00
	Consider 10% qty of Total	Nos.					13

Sr. No.	Description	Unit	No's	L	B	H	Qty.
37	Providing gully pipe lowering, laying of PVC 100 mm dia pipes 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 (page No.41, Item No.7, KUWSDB SOR 2016-17)						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Rmt	1	150			150.00
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Rmt	1	120			120.00
	Ch.150.000 to Ch.410.00	Rmt	1	260			260.00
	Ch.420.000 to Ch.480.00	Rmt	1	250			250.00
	Ch.480.000 to Ch.670.00	Rmt	1	250			250.00
	Ch.680.000 to Ch.720.00	Rmt	1	40			40.00
	Ch.730.000 to Ch.800.00	Rmt	1	70			70.00
	Ch.810.000 to Ch.850.00	Rmt	1	40			40.00
	Ch.880.000 to Ch.950.00	Rmt	1	70			70.00
	Ch.960.000 to Ch.1004.00	Rmt	1	44			44.00
	RHS						
	Ch.10.000 to Ch.130.00	Rmt	1	120			120.00
	Ch.140.000 to Ch.350.00	Rmt	1	210			210.00
	Ch.360.000 to Ch.430.00	Rmt	1	70			70.00
	Ch.440.000 to Ch.610.00	Rmt	1	170			170.00
	Ch.610.000 to Ch.730.00	Rmt	1	120			120.00
	Ch.740.000 to Ch.840.00	Rmt	1	100			100.00
	Ch.870.000 to Ch.950.00	Rmt	1	80			80.00
	Ch.960.000 to Ch.1004.00	Rmt	1	44			44.00
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Rmt	1	120			120.00
	Ch.520.000 to Ch.580.00	Rmt	1	60			60.00
	RHS						
	Ch.30.000 to Ch.80.00	Rmt	1	50			50.00
	Ch.90.000 to Ch.150.00	Rmt	1	60			60.00
	Ch.515.000 to Ch.560.00	Rmt	1	45			45.00
	10-Kudumbi Garden (DBS)Road						
	LHS						
	Ch.10.000 to Ch.90.00	Rmt	1	80			80.00
	Ch.90.000 to Ch.135.00	Rmt	1	45			45.00
	Ch.140.000 to Ch.250.00	Rmt	1	110			110.00
	Ch.140.000 to Ch.340.00	Rmt	1	200			200.00
	RHS						
	Ch.10.000 to Ch.140.00	Rmt	1	130			130.00
	Ch.190.000 to Ch.210.00	Rmt	1	20			20.00
	Ch.220.000 to Ch.360.00	Rmt	1	140			140.00
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Rmt	1	270			270.00
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Rmt	1	10			10.00
	Ch.370.000 to Ch.390.00	Rmt	1	20			20.00
	Ch.390.000 to Ch.570.00	Rmt	1	180			180.00
	Ch.590.000 to Ch.620.00	Rmt	1	30			30.00
	Ch.700.000 to Ch.840.00	Rmt	1	140			140.00
	RHS						
	Ch.30.000 to Ch.300.00	Rmt	1	270			270.00
	Ch.340.000 to Ch.630.00	Rmt	1	290			290.00
	Ch.700.000 to Ch.845.00	Rmt	1	145			145.00
	15a-Azizuddin Road						
	LHS						
	Ch.00.000 to Ch.90.00	Rmt	1	90			90.00
	Ch.100.000 to Ch.220.00	Rmt	1	120			120.00
	Ch.220.000 to Ch.300.00	Rmt	1	80			80.00
	Ch.310.000 to Ch.420.00	Rmt	1	110			110.00
	Ch.420.000 to Ch.490.00	Rmt	1	70			70.00
	Ch.490.000 to Ch.570.00	Rmt	1	80			80.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.580.000 to Ch.640.00	Rmt	1	60			60.00
	Ch.650.000 to Ch.710.00	Rmt	1	60			60.00
	RHS						
	Ch.00.000 to Ch.90.00	Rmt	1	90			90.00
	Ch.100.000 to Ch.220.00	Rmt	1	220			220.00
	Ch.220.000 to Ch.320.00	Rmt	1	100			100.00
	Ch.330.000 to Ch.410.00	Rmt	1	80			80.00
	Ch.420.000 to Ch.570.00	Rmt	1	150			150.00
	Ch.580.000 to Ch.710.00	Rmt	1	130			130.00
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Rmt	1	90			90.00
	Ch.100.000 to Ch.220.00	Rmt	1	120			120.00
	Ch.220.000 to Ch.300.00	Rmt	1	80			80.00
	Ch.310.000 to Ch.420.00	Rmt	1	110			110.00
	Ch.420.000 to Ch.490.00	Rmt	1	70			70.00
	Ch.490.000 to Ch.570.00	Rmt	1	80			80.00
	Ch.580.000 to Ch.640.00	Rmt	1	60			60.00
	Ch.650.000 to Ch.710.00	Rmt	1	60			60.00
	RHS						
	Ch.00.000 to Ch.90.00	Rmt	1	90			90.00
	Ch.100.000 to Ch.220.00	Rmt	1	120			120.00
	Ch.220.000 to Ch.320.00	Rmt	1	100			100.00
	Ch.330.000 to Ch.410.00	Rmt	1	80			80.00
	Ch.420.000 to Ch.570.00	Rmt	1	150			150.00
	Ch.580.000 to Ch.710.00	Rmt	1	130			130.00
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Rmt	1	80			80.00
	Ch.80.000 to Ch.140.00	Rmt	1	60			60.00
	Ch.180.000 to Ch.220.00	Rmt	1	40			40.00
	Ch.230.000 to Ch.250.00	Rmt	1	20			20.00
	Ch.250.000 to Ch.530.00	Rmt	1	280			280.00
	RHS						
	Ch.530.000 to Ch.580.00	Rmt	1	50			50.00
	Ch.705.000 to Ch.1040.00	Rmt	1	335			335.00
						Total	8268.00
			Nos.	Rm			
	Nos. Of Pipes		827	1.2			992.40
	Total length of pipe=	Rmt		Total Qty.			992.40
38	KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10.						
	SWD						
	Same qty as pipe		Nos.	827.00			827.00
			Nos.		Total Qty.		827.00
39	KSRRB M2200- Providing Weep Holes KSRRB M2200-8. Providing weep holes in Brick masonry / Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications complete as per specifications MORTH Specification No.2706 & 2200 (PWD SR 2018-19, SI.No.28.10)						
	Total Length of SWD	Rm	1	8690.1			8690.10
	Weep Holes at 1m c/c	Nos/Rm					8690.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
40	KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2018-19,Sl.No.24.36)						
1	7a-Milagres Cross Road	Rmt	4	11			44
2	7c-Nandigudda Road	Rmt	11	16			176
3	8-New Balmatta Road	Rmt	12	12			144
4	10-Kudumbi Garden (DBS) Road	Rmt	8	12			96
5	19a-Arya Samaj Road	Rmt	6	10			60
6	19bBalmatta Road	Rmt	4	26			104
7	15a-Azizuddin Road	Rmt	8	11			88
8	15b-Jumma Masjid-Old Port Road	Rmt	20	6			120
9	20-Bendre Ferry Road	Rmt	23	12			276
		Rmt		Total Qty.			1108.00
41	Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)		Nos.	RHS	Nos.	LHS	
1	7a-Milagres Cross Road	Rmt	1	183	1	183	366
2	7c-Nandigudda Road	Rmt	2	1021	2	1021	4084
3	8-New Balmatta Road	Rmt	0	577	2	577	1154
4	10-Kudumbi Garden (DBS) Road	Rmt	2	375	4	375	2250
5	19a-Arya Samaj Road	Rmt	2	595	0	595	1190
6	19bBalmatta Road	Rmt	2	330	0	330	660
7	15a-Azizuddin Road	Rmt	2	717	2	717	2868
8	15b-Jumma Masjid-Old Port Road	Rmt	1	966	1	966	1932
9	20-Bendre Ferry Road	Rmt	2	1103	2	1103	4412
	Deduction of Chambers length		No. Of Pipes	No. Of Chambers	No. Of Pipes	No. Of Chambers	
			A	B	C	D	$E=(A*B+C*D)*2m$ chamber length
1	7a-Milagres Cross Road	Rmt	1	7	1	7	-28
2	7c-Nandigudda Road	Rmt	2	35	2	35	-280
3	8-New Balmatta Road	Rmt	0	20	2	20	-80
4	10-Kudumbi Garden (DBS) Road	Rmt	2	13	4	13	-156
5	19a-Arya Samaj Road	Rmt	2	20	0	20	-80
6	19bBalmatta Road	Rmt	2	11	0	11	-44
7	15a-Azizuddin Road	Rmt	2	24	2	24	-192
8	15b-Jumma Masjid-Old Port Road	Rmt	1	33	1	33	-132
9	20-Bendre Ferry Road	Rmt	2	37	2	37	-296
		Rmt		Total Qty.			17628.00
42	Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)		Nos.	RHS	Nos.	LHS	
1	7a-Milagres Cross Road	Rmt	2	183	0	183	366
2	7c-Nandigudda Road	Rmt	4	1021	0	1021	4084

Sr. No.	Description	Unit	No's	L	B	H	Qty.
3	8-New Balmatta Road	Rmt	0	577	4	577	2308
4	10-Kudumbi Garden (DBS) Road	Rmt	4	375	4	375	3000
5	19a-Arya Samaj Road	Rmt	4	595	2	595	3570
6	19bBalmatta Road	Rmt	4	330	2	330	1980
7	15a-Azizuddin Road	Rmt	2	717	2	717	2868
8	15b-Jumma Masjid-Old Port Road	Rmt	2	966	0	966	1932
9	20-Bendre Ferry Road	Rmt	2	1103	2	1103	4412
	Deduction of Chambers length		No. Of Pipes	No. Of Chambers	No. Of Pipes	No. Of Chambers	
			A	B	C	D	E=(A*B+C*D)*2m chamber length
1	7a-Milagres Cross Road	Rmt	2	7	0	7	-28
2	7c-Nandigudda Road	Rmt	4	35	0	35	-280
3	8-New Balmatta Road	Rmt	0	20	4	20	-160
4	10-Kudumbi Garden (DBS) Road	Rmt	4	13	4	13	-208
5	19a-Arya Samaj Road	Rmt	4	20	2	20	-240
6	19bBalmatta Road	Rmt	4	11	2	11	-132
7	15a-Azizuddin Road	Rmt	2	24	2	24	-192
8	15b-Jumma Masjid-Old Port Road	Rmt	2	33	0	33	-132
9	20-Bendre Ferry Road	Rmt	2	37	2	37	-296
		Rmt			Total Qty.		22852.00
43	Providing and Fixing Spacers for Power Ducts of size 200 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			RHS	LHS		
1	7a-Milagres Cross Road	Rmt	1	183	183		366
2	7c-Nandigudda Road	Rmt	1	1021	1021		2042
3	8-New Balmatta Road	Rmt	1	0	577		577
4	10-Kudumbi Garden (DBS) Road	Rmt	1	375	375		750
5	19a-Arya Samaj Road	Rmt	1	595	0		595
6	19bBalmatta Road	Rmt	1	330	0		330
7	15a-Azizuddin Road	Rmt	1	717	717		1434
8	15b-Jumma Masjid-Old Port Road	Rmt	1	966	966		1932
9	20-Bendre Ferry Road	Rmt	1	1103	1103		2206
							10232.00
	No. of Spacer=Total Length of Pipe / 1.5m	Nos.			Total Qty.		6821.00
44	Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			RHS	LHS		
1	7a-Milagres Cross Road	Rmt	1	183	0		183
2	7c-Nandigudda Road	Rmt	1	1021	0		1021
3	8-New Balmatta Road	Rmt	1	0	577		577
4	10-Kudumbi Garden (DBS) Road	Rmt	1	375	375		750
5	19a-Arya Samaj Road	Rmt	1	595	595		1190
6	19bBalmatta Road	Rmt	1	330	330		660
7	15a-Azizuddin Road	Rmt	1	717	717		1434
8	15b-Jumma Masjid-Old Port Road	Rmt	1	966	0		966
9	20-Bendre Ferry Road	Rmt	1	1103	1103		2206
							8987.00
	No. of Spacer=Total Length of Pipe / 1.5m	Nos.			Total Qty.		5991.00
45	Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)			RHS	LHS		
1	7a-Milagres Cross Road	Rmt	1	183	183		366
2	7c-Nandigudda Road	Rmt	1	1021	1021		2042
3	8-New Balmatta Road	Rmt	1	577			577
4	10-Kudumbi Garden (DBS) Road	Rmt	1	375	375		750
5	19a-Arya Samaj Road	Rmt	1	595	595		1190
6	19bBalmatta Road	Rmt	1	330	330		660
7	15a-Azizuddin Road	Rmt	1	717	717		1434
8	15b-Jumma Masjid-Old Port Road	Rmt	1	966	966		1932
9	20-Bendre Ferry Road	Rmt	1	1103	1103		2206

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Deduction of Chambers length		No. Of Pipes	No. Of Chambers	No. Of Pipes	No. Of Chambers	
			A	B	C	D	$E=(A*B+C*D)*0.6m$ chamber length
1	7a-Milagres Cross Road	Rmt	1	7	1	183	-114
2	7c-Nandigudda Road	Rmt	1	35	1	1021	-633.6
3	8-New Balmatta Road	Rmt	1	20	1	0	-12
4	10-Kudumbi Garden (DBS) Road	Rmt	1	13	1	375	-232.8
5	19a-Arya Samaj Road	Rmt	1	20	1	595	-369
6	19bBalmatta Road	Rmt	1	11	1	330	-204.6
7	15a-Azizuddin Road	Rmt	1	24	1	717	-444.6
8	15b-Jumma Masjid-Old Port Road	Rmt	1	33	1	966	-599.4
9	20-Bendre Ferry Road	Rmt	1	37	1	1103	-684
		Rmt			Total Qty.		7863.00
46	Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level,shape and size using approved colour shade and staping it using approved stamp pattern and antiquitting it on top with approved colour.Sealing entire area with concrete sealer.						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Sqm	1	150.00	2.17		324.9
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Sqm	1	120.00	3.33		399.6
	Ch.150.000 to Ch.410.00	Sqm	1	260.00	3.18		826.8
	Ch.420.000 to Ch.670.00	Sqm	1	250.00	3.42		855
	Ch.510.000 to Ch.660.00	Sqm	1	250.00	1.95		487.5
	Ch.680.000 to Ch.720.00	Sqm	1	40.00	2.29		91.6
	Ch.730.000 to Ch.800.00	Sqm	1	70.00	2.23		156.1
	Ch.810.000 to Ch.850.00	Sqm	1	40.00	2.1		84.00
	Ch.880.000 to Ch.950.00	Sqm	1	70.00	2.24		156.8
	Ch.960.000 to Ch.1004.00	Sqm	1	44.00	2.43		106.92
	RHS						
	Ch.10.000 to Ch.130.00	Sqm	1	120.00	3.02		362.4
	Ch.140.000 to Ch.350.00	Sqm	1	210.00	3		630
	Ch.360.000 to Ch.430.00	Sqm	1	70.00	5.21		364.7
	Ch.440.000 to Ch.610.00	Sqm	1	170.00	5.02		853.4
	Ch.610.000 to Ch.730.00	Sqm	1	120.00	3.59		430.8
	Ch.740.000 to Ch.840.00	Sqm	1	100.00	2.43		243
	Ch.870.000 to Ch.950.00	Sqm	1	80.00	2.64		211.2
	Ch.960.000 to Ch.1004.00	Sqm	1	44	5.3		233.2
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Sqm	1	120	3.1		372
	Ch.520.000 to Ch.580.00	Sqm	1	60.00	3.73		223.8
	RHS						
	Ch.30.000 to Ch.80.00	Sqm	1	50.00	4.44		222
	Ch.90.000 to Ch.150.00	Sqm	1	60	3.05		183
	Ch.515.000 to Ch.560.00	Sqm	1	45	2.67		120.15
	10-Kudumbi Garden (DBS)Road						
	LHS						
	Ch.10.000 to Ch.90.00	Sqm	1	80.00	2.28		182.4
	Ch.90.000 to Ch.135.00	Sqm	1	45.00	2.27		102.15
	Ch.140.000 to Ch.250.00	Sqm	1	110.00	1.51		166.1
	Ch.140.000 to Ch.340.00	Sqm	1	200.00	0.74		148
	RHS						
	Ch.10.000 to Ch.140.00	Sqm	1	130.00	2.55		331.5
	Ch.190.000 to Ch.210.00	Sqm	1	20.00	1.7		34
	Ch.220.000 to Ch.360.00	Sqm	1	140.00	2.36		330.4
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Sqm	1	270	4.43		1196.1

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Sqm	1	10	10		100
	Ch.370.000 to Ch.390.00	Sqm	1	20	2.05		41
	Ch.390.000 to Ch.570.00	Sqm	1	180	2.04		367.2
	Ch.590.000 to Ch.620.00	Sqm	1	30	2.2		66
	Ch.650.000 to Ch.660.00	Sqm	1	10	1.134		11.34
	Ch.700.000 to Ch.840.00	Sqm	1	140	3.24		453.6
	RHS						
	Ch.30.000 to Ch.300.00	Sqm	1	270	4.55		1228.5
	Ch.340.000 to Ch.630.00	Sqm	1	290	2.14		620.6
	Ch.650.000 to Ch.660.00	Sqm	1	10	2.052		20.52
	Ch.700.000 to Ch.845.00	Sqm	1	145	2.94		426.3
							0
	15a-Azizuddin Road						0
	LHS						
	Ch.00.000 to Ch.90.00	Sqm	1	90	2.19		197.1
	Ch.100.000 to Ch.220.00	Sqm	1	120	2.15		258
	Ch.220.000 to Ch.300.00	Sqm	1	80	2.23		178.4
	Ch.310.000 to Ch.420.00	Sqm	1	110	1.69		185.9
	Ch.420.000 to Ch.490.00	Sqm	1	70	2.46		172.2
	Ch.490.000 to Ch.570.00	Sqm	1	80	1.86		148.8
	Ch.580.000 to Ch.640.00	Sqm	1	60	1.83		109.8
	Ch.650.000 to Ch.710.00	Sqm	1	60	1.6		96
	RHS						
	Ch.00.000 to Ch.90.00	Sqm	1	90	1.82		163.8
	Ch.100.000 to Ch.220.00	Sqm	1	220	1.27		279.4
	Ch.220.000 to Ch.320.00	Sqm	1	100	1.67		167
	Ch.330.000 to Ch.410.00	Sqm	1	80	2.23		178.4
	Ch.420.000 to Ch.570.00	Sqm	1	150	2.24		336
	Ch.580.000 to Ch.710.00	Sqm	1	130	1.78		231.4
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Sqm	1	90	2.19		197.1
	Ch.100.000 to Ch.220.00	Sqm	1	120	2.15		258
	Ch.220.000 to Ch.300.00	Sqm	1	80	2.23		178.4
	Ch.310.000 to Ch.420.00	Sqm	1	110	1.69		185.9
	Ch.420.000 to Ch.490.00	Sqm	1	70	2.46		172.2
	Ch.490.000 to Ch.570.00	Sqm	1	80	1.86		148.8
	Ch.580.000 to Ch.640.00	Sqm	1	60	1.83		109.8
	Ch.650.000 to Ch.710.00	Sqm	1	60	1.6		96
	RHS						
	Ch.00.000 to Ch.90.00	Sqm	1	90	1.82		163.8
	Ch.100.000 to Ch.220.00	Sqm	1	120	2.33		279.6
	Ch.220.000 to Ch.320.00	Sqm	1	100	1.67		167
	Ch.330.000 to Ch.410.00	Sqm	1	80	2.23		178.4
	Ch.420.000 to Ch.570.00	Sqm	1	150	2.24		336
	Ch.580.000 to Ch.710.00	Sqm	1	130	1.78		231.4
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Sqm	1	80	1.64		131.2
	Ch.80.000 to Ch.140.00	Sqm	1	60	1.77		106.2
	Ch.180.000 to Ch.220.00	Sqm	1	40	2.35		94
	Ch.230.000 to Ch.250.00	Sqm	1	20	3.4		68
	Ch.250.000 to Ch.530.00	Sqm	1	280	2.31		646.8
	RHS						
	Ch.530.000 to Ch.580.00	Sqm	1	50	5.6		280
	Ch.705.000 to Ch.1040.00	Sqm	1	335	2.29		767.15
		Sqm			Total Qty.		21262.53
47.00	Cutting of Control joints panels(in Footpath) at suitable required locations using using tools and tackles.						
	7a-Milagres Cross Road						
	RHS						
	Ch.10.000 to Ch.160.00	Rm	43		2.17		93.14
	7c-Attavar-Nandiguda Road						
	LHS						
	Ch.10.000 to Ch.130.00	Rm	34		3.33		113.22
	Ch.150.000 to Ch.410.00	Rm	74		3.18		235.32
	Ch.420.000 to Ch.480.00	Rm	71		3.42		242.82
	Ch.480.000 to Ch.670.00	Rm	71		1.95		138.45

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.680.000 to Ch.720.00	Rm	11		2.29		25.19
	Ch.730.000 to Ch.800.00	Rm	20		2.23		44.6
	Ch.810.000 to Ch.850.00	Rm	11		2.10		23.1
	Ch.880.000 to Ch.950.00	Rm	20		2.24		44.8
	Ch.960.000 to Ch.1004.00	Rm	13		2.43		31.59
	RHS						
	Ch.10.000 to Ch.130.00	Rm	34		3.02		102.68
	Ch.140.000 to Ch.350.00	Rm	60		3.00		180
	Ch.360.000 to Ch.430.00	Rm	20		5.21		104.2
	Ch.440.000 to Ch.610.00	Rm	49		5.02		245.98
	Ch.610.000 to Ch.730.00	Rm	34		3.59		122.06
	Ch.740.000 to Ch.840.00	Rm	29		2.43		70.47
	Ch.870.000 to Ch.950.00	Rm	23		2.64		60.72
	Ch.960.000 to Ch.1004.00	Rm	13		5.30		68.9
	8-New Balmatta Road						
	LHS						
	Ch.30.000 to Ch.150.00	Rm	34		3.10		105.4
	Ch.520.000 to Ch.580.00	Rm	17		3.73		63.41
	RHS						
	Ch.30.000 to Ch.80.00	Rm	14		4.44		62.16
	Ch.90.000 to Ch.150.00	Rm	17		3.05		51.85
	Ch.515.000 to Ch.560.00	Rm	13		2.67		34.71
	10-Kudumbi Garden (DBS)Road						
	LHS						
	Ch.10.000 to Ch.90.00	Rm	23		2.28		52.44
	Ch.90.000 to Ch.135.00	Rm	13		2.27		29.51
	Ch.140.000 to Ch.250.00	Rm	31		1.51		46.81
	Ch.140.000 to Ch.340.00	Rm	57		0.74		42.18
	RHS						
	Ch.10.000 to Ch.140.00	Rm	37		2.55		94.35
	Ch.190.000 to Ch.210.00	Rm	6		1.70		10.2
	Ch.220.000 to Ch.360.00	Rm	40		2.36		94.4
	19b-Balmatta Road						
	LHS						
	Ch.30.000 to Ch.300.00	Rm	77		4.43		341.11
	19a						
	LHS						
	Ch.340.000 to Ch.350.00	Rm	3		10.00		30
	Ch.370.000 to Ch.390.00	Rm	6		2.05		12.3
	Ch.390.000 to Ch.570.00	Rm	51		2.04		104.04
	Ch.590.000 to Ch.620.00	Rm	9		2.20		19.8
	Ch.650.000 to Ch.660.00	Sqm	3		1.13		3.402
	Ch.700.000 to Ch.840.00	Rm	40		3.24		129.6
	RHS						
	Ch.30.000 to Ch.300.00	Rm	77		4.55		350.35
	Ch.340.000 to Ch.630.00	Rm	83		2.14		177.62
	Ch.650.000 to Ch.660.00	Sqm	3		2.05		6.156
	Ch.700.000 to Ch.845.00	Rm	41		2.94		120.54
	15a-Azizuddin Road						
	LHS						
	Ch.00.000 to Ch.90.00	Rm	26		2.19		56.94
	Ch.100.000 to Ch.220.00	Rm	34		2.15		73.1
	Ch.220.000 to Ch.300.00	Rm	23		2.23		51.29
	Ch.310.000 to Ch.420.00	Rm	31		1.69		52.39
	Ch.420.000 to Ch.490.00	Rm	20		2.46		49.2
	Ch.490.000 to Ch.570.00	Rm	23		1.86		42.78
	Ch.580.000 to Ch.640.00	Rm	17		1.83		31.11
	Ch.650.000 to Ch.710.00	Rm	17		1.60		27.2
	RHS						
	Ch.00.000 to Ch.90.00	Rm	26		1.82		47.32
	Ch.100.000 to Ch.220.00	Rm	63		1.27		80.01
	Ch.220.000 to Ch.320.00	Rm	29		1.67		48.43
	Ch.330.000 to Ch.410.00	Rm	23		2.23		51.29
	Ch.420.000 to Ch.570.00	Rm	43		2.24		96.32
	Ch.580.000 to Ch.710.00	Rm	37		1.78		65.86
	15b-Jumma Masjid-Old Port Road						
	LHS						
	Ch.00.000 to Ch.90.00	Rm	26		2.19		56.94
	Ch.100.000 to Ch.220.00	Rm	34		2.15		73.1

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.220.000 to Ch.300.00	Rm	23		2.23		51.29
	Ch.310.000 to Ch.420.00	Rm	31		1.69		52.39
	Ch.420.000 to Ch.490.00	Rm	20		2.46		49.2
	Ch.490.000 to Ch.570.00	Rm	23		1.86		42.78
	Ch.580.000 to Ch.640.00	Rm	17		1.83		31.11
	Ch.650.000 to Ch.710.00	Rm	17		1.60		27.2
	RHS						
	Ch.00.000 to Ch.90.00	Rm	26		1.82		47.32
	Ch.100.000 to Ch.220.00	Rm	34		2.33		79.22
	Ch.220.000 to Ch.320.00	Rm	29		1.67		48.43
	Ch.330.000 to Ch.410.00	Rm	23		2.23		51.29
	Ch.420.000 to Ch.570.00	Rm	43		2.24		96.32
	Ch.580.000 to Ch.710.00	Rm	37		1.78		65.86
	20-Bendre Ferry Road						
	LHS						
	Ch.00.000 to Ch.80.00	Rm	23		1.64		37.72
	Ch.80.000 to Ch.140.00	Rm	17		1.77		30.09
	Ch.180.000 to Ch.220.00	Rm	11		2.35		25.85
	Ch.230.000 to Ch.250.00	Rm	6		3.40		20.4
	Ch.250.000 to Ch.530.00	Rm	80		2.31		184.8
	RHS						
	Ch.530.000 to Ch.580.00	Rm	14		5.60		78.4
	Ch.705.000 to Ch.1040.00	Rm	96		2.29		219.84
						Total	6072.37
48	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 30mm 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. (KPWD SR 2018-19,SI No : 14.7)						
	Flush Footpath with Carriageway						
	7a						
	LHS						
	Ch.20.000 to Ch.70.00	Sqm	1	50	2.03		101.50
	Ch.75.000 to Ch.160.00	Sqm	1	85	0.47		39.95
	7c						
	LHS						
	Ch.850.000 to Ch.875.00	Sqm	1	25	0.60		15.00
	RHS						
	Ch.260.000 to Ch.280.00	Sqm	1	20	0.50		10.00
	Ch.320.000 to Ch.350.00	Sqm	1	30	2.07		62.10
	Ch.620.000 to Ch.680.00	Sqm	1	60	2.88		172.80
	Ch.810.000 to Ch.840.00	Sqm	1	30	0.18		5.40
	Ch.850.000 to Ch.875.00	Sqm	1	25	0.92		23.00
	Ch.900.000 to Ch.920.00	Sqm	1	20	1.00		20.00
	8						
	LHS						
	Ch.150.000 to Ch.190.00	Sqm	1	40	0.43		17.20
	Ch.190.000 to Ch.200.00	Sqm	1	10	1.00		10.00
	Ch.210.000 to Ch.270.00	Sqm	1	60	0.87		52.20
	Ch.270.000 to Ch.510.00	Sqm	1	240	0.75		180.00
	RHS						
	Ch.150.000 to Ch.200.00	Sqm	1	50	0.60		30.00
	Ch.220.000 to Ch.300.00	Sqm	1	80	1.29		103.20
	Ch.310.000 to Ch.320.00	Sqm	1	10	1.20		12.00
	Ch.330.000 to Ch.350.00	Sqm	1	20	1.20		24.00
	Ch.360.000 to Ch.400.00	Sqm	1	40	1.38		55.20
	Ch.410.000 to Ch.510.00	Sqm	1	100	0.85		85.00
	10						
	LHS						
	Ch.150.000 to Ch.180.00	Sqm	1	30	1.03		30.90
	19						
	LHS						
	Ch.625.000 to Ch.700.00	Sqm	1	75	0.71		53.25
	Ch.850.000 to Ch.920.00	Sqm	1	70	0.76		53.20
	RHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.625.000 to Ch.700.00	Sqm	1	75	0.87		65.25
	Ch.800.000 to Ch.830.00	Sqm	1	30	1.96		58.80
	Ch.850.000 to Ch.920.00	Sqm	1	70.00	0.86		60.20
	15b						
	LHS						
	Ch.00.000 to Ch.80.00	Sqm	1	80.00	1.24		99.20
	Ch.90.000 to Ch.200.00	Sqm	1	110.00	0.95		104.50
	Ch.210.000 to Ch.320.00	Sqm	1	110.00	0.68		74.80
	Ch.320.000 to Ch.420.00	Sqm	1	100.00	0.60		60.00
	Ch.430.000 to Ch.500.00	Sqm	1	70.00	0.63		44.10
	Ch.510.000 to Ch.530.00	Sqm	1	20.00	0.60		12.00
	Ch.510.000 to Ch.580.00	Sqm	1	70.00	0.37		25.90
	Ch.590.000 to Ch.720.00	Sqm	1	30.00	3.73		111.90
	Ch.750.000 to Ch.920.00	Sqm	1	170.00	1.75		297.50
	RHS						
	Ch.00.000 to Ch.80.00	Sqm	1	80.00	1.76		140.80
	Ch.80.000 to Ch.210.00	Sqm	1	130.00	0.85		110.50
	Ch.210.000 to Ch.270.00	Sqm	1	60.00	0.83		49.80
	Ch.270.000 to Ch.280.00	Sqm	1	10.00	0.60		6.00
	Ch.280.000 to Ch.320.00	Sqm	1	40.00	0.83		33.20
	Ch.330.000 to Ch.470.00	Sqm	1	140.00	0.43		60.20
	Ch.480.000 to Ch.500.00	Sqm	1	20.00	0.77		15.40
	Ch.510.000 to Ch.680.00	Sqm	1	170.00	0.98		166.60
	Ch.690.000 to Ch.750.00	Sqm	1	60.00	0.73		43.80
	Ch.750.000 to Ch.800.00	Sqm	1	50.00	1.24		62.00
	Ch.800.000 to Ch.910.00	Sqm	1	90.00	2.13		191.70
	20						
	LHS						
	Ch.150.000 to Ch.180.00	Sqm	1	30.00	0.80		24.00
	Ch.530.000 to Ch.550.00	Sqm	1	20.00	1.30		26.00
	Ch.560.000 to Ch.750.00	Sqm	1	190.00	1.55		294.50
	Ch.760.000 to Ch.900.00	Sqm	1	140.00	2.39		334.60
	Ch.920.000 to Ch.940.00	Sqm	1	20.00	3.10		62.00
	Ch.950.000 to Ch.1100.00	Sqm	1	150.00	3.55		532.50
	RHS						
	Ch.45.000 to Ch.80.00	Sqm	1	35.00	0.71		24.85
	Ch.150.000 to Ch.180.00	Sqm	1	30	1.10		33.00
	Ch.200.000 to Ch.260.00	Sqm	1	60	2.30		138.00
	Ch.685.000 to Ch.705.00	Sqm	1	20	0.75		15.00
	Parking Area						
	Road 7c						
	LHS						
	Ch.530.000 to Ch.590.000	Sqm	1	60	2.50		150.00
	RHS						
	Ch.530.000 to Ch.590.000	Sqm	1	71.13	2.50		177.83
	Road 8						
	LHS						
	Ch.50.000 to Ch.80.000	Sqm	1	25.32	2.00		50.64
	RHS						
	Ch.50.000 to Ch.80.000	Sqm	1	24.92	2.00		49.84
	Road 19b						
	RHS						
	Ch.90.000 to Ch.250.000	Sqm	1	129.7	2.50		324.25
	Road 19a						
	LHS						
	Ch.760.000 to Ch.830.000	Sqm	1	53.83	2.50		134.58
	RHS						
	Ch.760.000 to Ch.830.000	Sqm	1	24.1	2.50		60.25
	Table Top paver Block						
1	7a-Milagres Cross Road	Sqm	1	6.20	3.00		18.60
2	7c-Nandigudda Road	Sqm	1	7.00	3.00		21.00
3	8-New Balmatta Road	Sqm	1	5.50	3.00		16.50
4	10-Kudumbi Garden (DBS) Road	Sqm	1	6.00	3.00		18.00
5	19a-Arya Samaj Road	Sqm	3	15.00	3.00		135.00
6	19bBalmatta Road	Sqm	1	5.50	3.00		16.50
7	15a-Azizuddin Road	Sqm	1	6.00	3.00		18.00
8	15b-Jumma Masjid-Old Port Road	Sqm	1	5.50	3.00		16.50
9	20-Bendre Ferry Road	Sqm	1	10.00	3.00		30.00
		Sqm			Total Qty.		5771.99

Sr. No.	Description	Unit	No's	L	B	H	Qty.
49	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)						
	Table Top paver Block						
1	7a-Milagres Cross Road	Cum	1	6.20	7.50	0.15	6.98
2	7c-Nandigudda Road	Cum	1	7.00	7.50	0.15	7.88
3	8-New Balmatta Road	Cum	1	5.50	7.50	0.15	6.19
4	10-Kudumbi Garden (DBS) Road	Cum	1	6.00	7.50	0.15	6.75
5	19a-Arya Samaj Road	Cum	3	15.00	7.50	0.15	50.63
6	19bBalmatta Road	Cum	1	5.50	7.50	0.15	6.19
7	15a-Azizuddin Road	Cum	1	6.00	7.50	0.15	6.75
8	15b-Jumma Masjid-Old Port Road	Cum	1	5.50	7.50	0.15	6.19
9	20-Bendre Ferry Road	Cum	1	10.00	7.50	0.15	11.25
		Cum			Total Qty.		108.79
50	KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen(KPWD 18-19,S.I.No.21.22.6)						
	Table Top paver Block						
1	7a-Milagres Cross Road	Cum	1	6.20	7.50	0.04	1.86
2	7c-Nandigudda Road	Cum	1	7.00	7.50	0.04	2.10
3	8-New Balmatta Road	Cum	1	5.50	7.50	0.04	1.65
4	10-Kudumbi Garden (DBS) Road	Cum	1	6.00	7.50	0.04	1.80
5	19a-Arya Samaj Road	Cum	3	15.00	7.50	0.04	13.50
6	19bBalmatta Road	Cum	1	5.50	7.50	0.04	1.65
7	15a-Azizuddin Road	Cum	1	6.00	7.50	0.04	1.80
8	15b-Jumma Masjid-Old Port Road	Cum	1	5.50	7.50	0.04	1.65
9	20-Bendre Ferry Road	Cum	1	10.00	7.50	0.04	3.00
		Cum			Total Qty.		29.01
	Sinages						
51	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting conforming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & 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 & 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 & conveyance of all materials, equipment, machinery & 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 & 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 (KPWD 18-19,SI No : 24.2.1)						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
1	7a-Milagres Cross Road	Nos.	4				4.00
2	7c-Nandigudda Road	Nos.	25				25.00
3	8-New Balmatta Road	Nos.	1				1.00
4	10-Kudumbi Garden (DBS) Road	Nos.	9				9.00
5	19a-Arya Samaj Road	Nos.	8				8.00
6	19bBalmatta Road	Nos.	6				6.00
7	15a-Azizuddin Road	Nos.	38				38.00
8	15b-Jumma Masjid-Old Port Road	Nos.	39				39.00
9	20-Bendre Ferry Road	Nos.	24				24.00
		Nos.		Total Qty.			154.00
52	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminium skin on both sides & 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 & 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 & conveyance of all materials, equipment, machinery & 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 & 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 (KPWD 18-19,SI No : 24.2.6)						
1	7a-Milagres Cross Road	Nos.	1				1.00
2	7c-Nandigudda Road	Nos.	9				9.00
3	8-New Balmatta Road	Nos.	1				1.00
4	10-Kudumbi Garden (DBS) Road	Nos.	1				1.00
5	19a-Arya Samaj Road	Nos.	2				2.00
6	19bBalmatta Road	Nos.	2				2.00
7	15a-Azizuddin Road	Nos.	4				4.00
8	15b-Jumma Masjid-Old Port Road	Nos.	1				1.00
9	20-Bendre Ferry Road	Nos.	5				5.00
		Nos.		Total Qty.			26.00
53	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminium skin on both sides & 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 & 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 & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & 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 (KPWD 18-19,SI No : 24.2.3)						
1	7a-Milagres Cross Road	Nos.	5				5.00
2	7c-Nandigudda Road	Nos.	1				1.00
3	8-New Balmatta Road	Nos.	9				9.00
4	10-Kudumbi Garden (DBS) Road	Nos.	3				3.00
5	19a-Arya Samaj Road	Nos.	3				3.00
6	19bBalmatta Road	Nos.	8				8.00
7	15a-Azizuddin Road	Nos.	10				10.00
8	15b-Jumma Masjid-Old Port Road	Nos.	22				22.00
9	20-Bendre Ferry Road	Nos.	14				14.00
		Nos.		Total Qty.			75.00
54.00	KSRRB M800-3. Direction and Place Identification Signs upto 0.9 sqm Size Board:-Manufacturing, supply and installation of retro-reflectorised cautionary, mandatory and informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint 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 45 cm x45 cm x 60 cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the work as directed by engineer in charge. 10 years warranty for retro reflective sheeting from the original sheeting manufacturer as per clause 6.9 in IRC 2012 & a certified copy of three years outdoor						
				Area			
	7a-Milagres Cross Road	Sqm	1				0.90
	7c-Nandigudda Road	Sqm	5				4.50
	8-New Balmatta Road	Sqm	1				0.90
	10-Kudumbi Garden (DBS) Road	Sqm	1				0.90
	19a-Arya Samaj Road	Sqm	1				0.90
	19bBalmatta Road	Sqm	2				1.80
	15a-Azizuddin Road	Sqm	1				0.90
	15b-Jumma Masjid-Old Port Road	Sqm	3				2.70
	20-Bendre Ferry Road	Sqm	1				0.90
		Sqm		Total Qty.			14.40
55	Direction and Place Identification Signs with size more than 0.9 sqm Size Board: Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of high intensity grade sheeting vide Clause 801.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 45 x 45 x 60 em, 60 em below ground level as per approved drawing.						
				Area			
	7a-Milagres Cross Road	Sqm	2				4.00
	7c-Nandigudda Road	Sqm	2				4.00
	8-New Balmatta Road	Sqm	2				4.00
	10-Kudumbi Garden (DBS) Road	Sqm	1				2.00
	19a-Arya Samaj Road	Sqm	1				2.00
	19bBalmatta Road	Sqm	2				4.00
	15a-Azizuddin Road	Sqm	2				4.00
	15b-Jumma Masjid-Old Port Road	Sqm	3				6.00
	20-Bendre Ferry Road	Sqm	7				14.00
		Sqm		Total Qty.			44.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
56	KSRRB M800-3. Direction and Place Identification Signs upto 0.9 sqm Size Board:-Manufacturing, supply and installation of retro-reflectorisated cautionary, mandatory and inforatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45 cm x45 cm x 60 cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the work as directed by engineer in charge. 10 years warranty for retro reflective sheeting from the original sheeting manufacturer as per clause 6.9 in IRC 2012 & a certified copy of three years outdoor test report from an independent test lab for the product						
1	7a-Milagres Cross Road	Nos.	2				2.00
2	7c-Nandigudda Road	Nos.	2				2.00
3	8-New Balmatta Road	Nos.	2				2.00
4	10-Kudumbi Garden (DBS) Road	Nos.	2				2.00
5	19a-Arya Samaj Road	Nos.	5				5.00
6	19bBalmatta Road	Nos.	3				3.00
7	15a-Azizuddin Road	Nos.	2				2.00
8	15b-Jumma Masjid-Old Port Road	Nos.	2				2.00
9	20-Bendre Ferry Road	Nos.	2				2.00
		Nos.		Total Qty.			22.00
57	KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications (KPWD 18-19,SI No : 24.41)						
1	7a-Milagres Cross Road	Nos	36				36.00
2	7c-Nandigudda Road	Nos	200				200.00
3	8-New Balmatta Road	Nos	80				80.00
4	10-Kudumbi Garden (DBS) Road	Nos	50				50.00
5	19a-Arya Samaj Road	Nos	56				56.00
6	19bBalmatta Road	Nos	46				46.00
7	15a-Azizuddin Road	Nos	258				258.00
8	15b-Jumma Masjid-Old Port Road	Nos	361				361.00
9	20-Bendre Ferry Road	Nos	298				298.00
		Nos.		Total Qty.			1385.00
58	Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: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 (KPWD 18-19,SI No : 24.15)						
1	7a- Milagres Cross Road						
a	Continuos Line-at Edge	Sqm	2	183	0.1		36.60
b	Continuos Line-at Median	Sqm	0		0.1		0.00
c	Dash Lines	Sqm	0	109.8	0.1		0.00
d	Arrow	Sqm	18	0.76	Area/Rm		13.68
e	Pedstrian Crossing	Sqm	3	6.2	1.4		26.04
f	Table Top Crossing	Sqm	0	0	16.82		0.00
2	7c-Nandigudda Road						
a	Continuos Line-at Edge	Sqm	2	1021	0.1		204.20
b	Continuos Line-at Median	Sqm	0		0.1		0.00
c	Dash Lines	Sqm	0	612.6	0.1		0.00
d	Arrow	Sqm	74	0.76	Area/Rm		56.24
e	Pedstrian Crossing	Sqm	23	6.2	1.4		199.64

Sr. No.	Description	Unit	No's	L	B	H	Qty.
f	Table Top Crossing	Sqm	1	6.2	16.82		104.28
3	8-New Balmatta Road						
a	Continuos Line-at Edge	Sqm	2	577	0.1		115.40
b	Continuos Line-at Median	Sqm	0	90	0.1		0.00
c	Dash Lines	Sqm	0	346.2	0.1		0.00
d	Arrow	Sqm	42	0.76	Area/Rm		31.92
e	Pedstrian Crossing	Sqm	6	5.5	1.4		46.20
f	Table Top Crossing	Sqm	0	0	16.82		0.00
4	10-Kudumbi Garden (DBS) Road						
a	Continuos Line-at Edge	Sqm	2	375	0.1		75.00
b	Continuos Line-at Median	Sqm	0		0.1		0.00
c	Dash Lines	Sqm	0	225	0.1		0.00
d	Dash Lines	Sqm	0	225	0.1		0.00
e	Arrow	Sqm	36	0.76	Area/Rm		27.36
f	Pedstrian Crossing	Sqm	6	6	1.4		50.40
g	Table Top Crossing	Sqm	0	0	16.82		0.00
5	19a-Arya Samaj Road						
	Continuos Line-at Edge	Sqm	2	595	0.1		119.00
	Continuos Line-at Median	Sqm	0	0	0.1		0.00
	Dash Lines	Sqm	0	0	0.1		0.00
	Arrow	Sqm	38	0.76	Area/Rm		28.88
	Pedstrian Crossing	Sqm	5	5.5	1.4		38.50
	Table Top Crossing	Sqm	0	0	16.82		0.00
6	19-b Balmatta Road						
	Continuos Line-at Edge	Sqm	2	330	0.1		66.00
	Continuos Line-at Median	Sqm	2	330	0.1		66.00
	Dash Lines	Sqm	2	198	0.1		39.60
	Arrow	Sqm	48	0.76	Area/Rm		36.48
	Pedstrian Crossing	Sqm	6	12.5	1.4		105.00
	Table Top Crossing	Sqm	3	15	16.82		756.90
8	15a-Azizuddin Road						
	Ch.0 to Ch.478.0						
	Continuos Line-at Edge	Sqm	2	717	0.1		143.40
	Continuos Line-at Median	Sqm	2	717	0.1		143.40
	Dash Lines	Sqm	0	430.2	0.1		0.00
	Arrow	Sqm	48	0.76	Area/Rm		36.48
	Pedstrian Crossing	Sqm	25	5.5	1.4		192.50
	Table Top Crossing	Sqm	2	5.5	16.82		185.02
9	15b-Jumma Masjid-Old Port Road						
	Continuos Line-at Edge	Sqm	2	966	0.1		193.20
	Continuos Line-at Median	Sqm	2	966	0.1		193.20
	Dash Lines	Sqm	2	579.6	0.1		115.92
	Arrow	Sqm	48	0.76	Area/Rm		36.48
	Pedstrian Crossing	Sqm	34	5.5	1.4		261.80
	Table Top Crossing	Sqm	0	14.5	16.82		0.00
10	20-Bendre Ferry Road						
	Ch.0 to Ch.478.0						
	Continuos Line-at Edge	Sqm	2	1103	0.1		220.60
	Continuos Line-at Median	Sqm	0	1103	0.1		0.00
	Dash Lines	Sqm	0	661.8	0.1		0.00
	Arrow	Sqm	44	0.76	Area/Rm		33.44
	Pedstrian Crossing	Sqm	34	5.5	1.4		261.80
	Table Top Crossing	Sqm	0	14.5	16.82		0.00
							426.06
		Sqm			Total Qty.		4686.62

Sr. No.	Description	Unit	No's	L	B	H	Qty.
59	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 & 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 and treated. The materials used shall be						
1	7a-Milagres Cross Road	Nos.	0				0.00
2	7c-Nandigudda Road	Nos.	0				0.00
3	8-New Balmatta Road	Nos.	0				0.00
4	10-Kudumbi Garden (DBS) Road	Nos.	0				0.00
5	19a-Arya Samaj Road	Nos.	0				0.00
6	19bBalmatta Road	Nos.	3				3.00
7	15a-Azizuddin Road	Nos.	0				0.00
8	15b-Jumma Masjid-Old Port Road	Nos.	0				0.00
9	20-Bendre Ferry Road	Nos.	0				0.00
		Nos.		Total Qty.			3.00
60	Providing & 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.	Nos.	3				3.00
	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 provided 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. (Non SOR Item)						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
61	KSRB 6-2.3 : 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. Specification No. KBS 6.2. (KPWD 18-19,SI.No.6.7)						
	7a-Milagres Cross Road						
	Long Wall	Cum	4.00	3.00	0.23	0.65	1.79
	Short Wall	Cum	4.00	0.60	0.23	0.65	0.36
	7c-Attavar-Nandigudda Road						
	Long Wall	Cum	16.00	3.00	0.23	0.65	7.18
	Short Wall	Cum	16.00	0.60	0.23	0.65	1.44
	8-New Balmatta Road						
	Long Wall	Cum	4.00	3.00	0.23	0.65	1.79
	Short Wall	Cum	4.00	0.60	0.23	0.65	0.36
	10-Kudumbi Garden (DBS) Road						
	Long Wall	Cum	4.00	3.00	0.23	0.65	1.79
	Short Wall	Cum	4.00	0.60	0.23	0.65	0.36
	19a-Arya Samaj Road						
	Long Wall	Cum	4.00	3.00	0.23	0.65	1.79
	Short Wall	Cum	4.00	0.60	0.23	0.65	0.36
	19b-Balmatta Road						
	Long Wall	Cum	4.00	3.00	0.23	0.65	1.79
	Short Wall	Cum	4.00	0.60	0.23	0.65	0.36
	15a-Azizuddin Road						
	Long Wall	Cum	16.00	3.00	0.23	0.65	7.18
	Short Wall	Cum	16.00	0.60	0.23	0.65	1.44
	15b-Jumma Masjid-Old Port Road						
	Long Wall	Cum	16.00	3.00	0.23	0.65	7.18
	Short Wall	Cum	16.00	0.60	0.23	0.65	1.44
	20-Bendre Ferry Road						
	Long Wall	Cum	16.00	3.00	0.23	0.65	7.18
	Short Wall	Cum	16.00	0.60	0.23	0.65	1.44
		Cum		Total Qty.			45.21
62	KSRB15-3.8 : 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.(KPWD 18-19,SI No.15.16)						
	7a-Milagres Cross Road						
	Long Wall	Sqm	4.00	3.00		0.45	5.40
	Short Wall	Sqm	4.00	0.60		0.45	1.08
	7c-Attavar-Nandigudda Road						
	Long Wall	Sqm	16.00	3.00		0.45	21.60
	Short Wall	Sqm	16.00	0.60		0.45	4.32
	8-New Balmatta Road						
	Long Wall	Sqm	4.00	3.00		0.45	5.40
	Short Wall	Sqm	4.00	0.60		0.45	1.08
	10-Kudumbi Garden (DBS) Road						
	Long Wall	Sqm	4.00	3.00		0.45	5.40
	Short Wall	Sqm	4.00	0.60		0.45	1.08
	19a-Arya Samaj Road						
	Long Wall	Sqm	4.00	3.00		0.45	5.40
	Short Wall	Sqm	4.00	0.60		0.45	1.08
	19b-Balmatta Road						
	Long Wall	Sqm	4.00	3.00		0.45	5.40
	Short Wall	Sqm	4.00	0.60		0.45	1.08
	15a-Azizuddin Road						
	Long Wall	Sqm	16.00	3.00		0.45	21.60
	Short Wall	Sqm	16.00	0.60		0.45	4.32
	15b-Jumma Masjid-Old Port Road						
	Long Wall	Sqm	16.00	3.00		0.45	21.60
	Short Wall	Sqm	16.00	0.60		0.45	4.32
	20-Bendre Ferry Road						
	Long Wall	Sqm	16.00	3.00		0.45	21.60
	Short Wall	Sqm	16.00	0.60		0.45	4.32
		Sqm		Total Qty.			136.08

Sr. No.	Description	Unit	No's	L	B	H	Qty.
63	Providing and fixing 450mm wide X 600mmX 20mm thk.RIVERWASHED BLACK GRANITE CLADDING on surface of seating as directed by architect (Non SOR Item)						
	7a-Milagres Cross Road						
	Bench	Sqm	2.00	3.00		0.60	3.60
	7c-Attavar-Nandigudda Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
	8-New Balmatta Road						
	Bench	Sqm	2.00	3.00		0.60	3.60
	10-Kudumbi Garden (DBS) Road						
	Bench	Sqm	2.00	3.00		0.60	3.60
	19a-Arya Samaj Road						
	Bench	Sqm	2.00	3.00		0.60	3.60
	19b-Balmatta Road						
	Bench	Sqm	2.00	3.00		0.60	3.60
	15a-Azizuddin Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
	15b-Jumma Masjid-Old Port Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
	20-Bendre Ferry Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
		Sqm				Total Qty.	75.60
64	Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)						
1	7a-Milagres Cross Road	Nos	4				4.00
2	7c-Nandigudda Road	Nos	4				4.00
3	8-New Balmatta Road	Nos	4				4.00
4	10-Kudumbi Garden (DBS) Road	Nos	4				4.00
5	19a-Arya Samaj Road	Nos	25				25.00
6	19bBalmatta Road	Nos	20				20.00
7	15a-Azizuddin Road	Nos	4				4.00
8	15b-Jumma Masjid-Old Port Road	Nos	4				4.00
9	20-Bendre Ferry Road	Nos	4				4.00
							73.00
65	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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)						
	Handrail						
	Road						
	RHS	Rm	1	50			50.00
	LHS	Rm	1	50			50.00
		Rm				A=	100.00
	Hand Rail of length2.4 meter Steel Qty.					Wt/Rm	
	Horizontal Member-M.S.Box 25x25x3.2mm thk.	KG		3	2.4	4.536	32.66
	Vertical Member-M.S. Box 50x25x3.2mm thk.	KG		1	1.375	7.368	10.13
	Verical Bar-Dia 16mm	KG		20	0.475	0.7493296	7.12
					Area	Thk	
	Logo Plate	KG		1	0.07065	0.001	0.000071
		KG				Total Wight for 2.4 m	49.91
	Railing per 1m Weight(A / 2.4 m)	KG				B=	20.8
	Total Railing Weight (A x B)	MT					2.08
66	Providing and Fixing SS 304 Outdoor Dustbin(Pivoted Type and Mounted on SS Poles) of 55 liters capacity all complete to the satisfaction of the Engineer in charge. (NON SOR Item)						
1	7a-Milagres Cross Road	Nos.	4				4.00
2	7c-Nandigudda Road	Nos.	17				17.00
3	8-New Balmatta Road	Nos.	4				4.00
4	10-Kudumbi Garden (DBS) Road	Nos.	4				4.00
5	19a-Arya Samaj Road	Nos.	4				4.00
6	19bBalmatta Road	Nos.	4				4.00
7	15a-Azizuddin Road	Nos.	8				8.00
8	15b-Jumma Masjid-Old Port Road	Nos.	10				10.00
9	20-Bendre Ferry Road	Nos.	10				10.00
		Nos.				Total Qty.	65.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
67	KSRRB M300-14. Half brick circular tree guard, in 2nd class brick, internal diametre 1.25 metres, and height 1.2 metres, above ground and 0.20 metre below ground, bottom two courses laid dry, and top three courses in cement mortar 1:6 (1 cement 6 sand) and the intermediate courses being in dry honey comb masonry, as per design complete, complete as per specifications.KSRRB M300-Edging with 2nd class bricks, laid dry lengthwise(KPWD 18-19,19.93)	Nos.	5				5.00
68	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5 km Item No 17.4 KSRRB M100-4.1-Earth	Cum	1.00	19520.78			19520.78
69	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5km Item No 17.4 KSRRB M100-4.1-Debris	Cum	1.00	8875.86			8875.86

Assistant Engineer
MSCL Mangaluru

Executive Engineer
MSCL Mangaluru

General Manager Technical
MSCL Mangaluru

Name of the Work :- Mangalore Smart City
1.2 Rate Analysis of Road & Other Work for DPR 5

1	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)			
	Basic rate		68.16	
	Add 10% For area weightage (Mangalore City)		6.82	
		Rate	74.98	Sqm
2	KSRRB M200.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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (SI No : 18.47)			
	Basic rate		899	
	Initial Lead of 5km		13	
	Add 10% For area weightage (Mangalore City)		91.2	
		Rate	1003.20	Cum
3	KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications. MORTH Specification No.202. (Page No.139,S.I.No.18.49)			
	Basic rate		12.00	
	Add 10% For area weightage (Mangalore City)		1.2	
		Rate	13.20	Rmt
4	KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 18-19,S.I.18.20)			
	Basic rate		390	
	Add 10% For area weightage (Mangalore City)		39	
		Rate	429.00	Cum
5	KSRRB M200-17.2. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. v)Steel work in all types of Sections upto a Height of 5 m above plinth level excluding Cutting of Rivet- B. Excluding dismembering. (KPWD SOR 18-19,18.33)			
	Basic rate		1893	
	Add 10% For area weightage (Mangalore City)		189.3	
		Rate	2082.30	MT
6	KSRRB 300-50. Scarifying bituminous course 50mm to 75mm thick along with premix carpet / surface dressing by road roller attached with scarifier without disturbing the base and stacking the debris including cost of all labour charges, HOM of machineries complete as per specifications. MORTH / Section 5.(KSRRB SI No.19.56)			
	Basic rate		39	
	Add 10% For area weightage (Mangalore City)		3.9	

		Rate	42.90	Sqm
7	KSRRB 300-46. Scarifying stone metal crust 50mm to 100mm thick by road roller with scarifier along with 20mm premix carpet / surface dressing and stacking of old serviceable materials including cost of all labour charges, HOM of machinaries complete as per specifications. MORTH / Section 5. (KSRRB SI No.19.52)			
	Basic rate		39	
	Add 10% For area weightage (Mangalore City)		3.9	
		Rate	42.90	Sqm
8	KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantaling Brick/Tile work B.In Cement mortar (SI No : 18.23)			
	Basic rate		351	
	Add 10% For area weightage (Mangalore City)		35.1	
		Rate	386.10	Cum
9	Removing B.S slab of drain and stackin as directed by engineer in charge.(PWD 18-19,SI No : 5.32)			
	Basic rate		98	
	Add 10% For area weightage (Mangalore City)		9.8	
		Rate	107.80	Sqm
10	KSRRB M800-Permanent type barricade in construction zone KSRRB M800-44.1. Construction of a permanent type barricade made of steel components, 1.5 m high from road level, fitted with 3 horizontal rails 200 mm wide and 4 m long on 50 x 50 x 5 mm angle iron vertical support, painted with yellow and white strips, 150 mm in width at an angle of 45°, complete as per IRC:SP:55-2014 complete as per specifications . A. With steel components (SI No : 24.45)			
	Basic rate		3829	
	Add 10% For area weightage (Mangalore City)		382.9	
		Rate	4211.90	Each
11	KSRRB M300-14. 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 (SI No : 19.14)			
	Basic rate for 1KM		41	
	Extra for carriage beyond 1km and upto 5km		10.24	
	Add 10% For area weightage (Mangalore City)		5.12	
		Rate	56.36	Cum
12	KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 18-19,SI No.2.11)			
	Basic rate		120	
	Add 10% For area weightage (Mangalore City)		12	
		Rate	132.00	Cum
13	KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3			
	Basic rate		6	
	Add 10% For area weightage (Mangalore City)		0.6	
		Rate	6.60	Sqm

14	KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (SI.No. 4.6 of KPWD 18-19)			
	Basic Rate		5900	
	Add 10% For area weightage (Mangalore City)		590	
		Rate	6490.00	Cum
15	KSRRB 400 Granular Sub-Base with Coarse Graded Material (table 400-1) KSRRB M400-7. Construction of granular sub-base by providing Coarse graded crushed stone aggregates of granite / trap / basalt material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per MORTH specifications clause 401 and Table 400-1 Grading VI. (SI.No.20.4 of KPWD SR 2018-19)			
	Basic Rate		2166	
	Add 10% For area weightage (Mangalore City)		216.6	
		Rate	2382.60	Cum
16	KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material (RA Attached)			
	Basic Rate		2400	
	Add 10% For area weightage (Mangalore City)		240	
		Rate	2640.00	Cum
17	KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (SI No : 4.10 of KPWD 18-19)			
	Basic Rate		6198	
	Add 10% For area weightage (Mangalore City)		619.8	
		Rate	6817.80	Cum
18	KSRB 4.6.1 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. Specification No. KSB 4.6.2 (SI No : 4.28 of KPWD 18-19)			
	Basic Rate		263	
	Add 10% For area weightage (Mangalore City)		26.3	
		Rate	289.30	Sqm
19	KSRB 4.9.2 :Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr 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.Specification No. KBS4.6.3. do with TMT bars Fe500 (SI No : 4.46.2 of KPWD 18-19)			
	Basic Rate		70782	

	Add 10% For area weightage (Mangalore City)		7078.2	
		Rate	77860.20	MT
20	KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory roller compaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305IKPWD 18-19,19.62,17.1 and 17.4)			
	Basic Rate		513	
	Add 20km lead (17.4 KSRRB M100-4.1-Cost of haulage excluding loading and unloading MORTH-100/Chapter 1-case 1-Surface Road)=2.0Rs/ Tkm x 1.28 T x 20km		51.2	
	Sub Total		564.2	
	Add 10% For area weightage (Mangalore City)		56.42	
		Rate	620.62	Cum
21	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (SI No : 22.1.1 of KPWD 18-19)			
	Basic Rate		4048	
	Add 10% For area weightage (Mangalore City)		404.8	
		Rate	4452.80	Cum
22	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per MORTH specifications Clause 601. (RA attached)			
	Basic Rate		3680	
	Add 10% For area weightage (Mangalore City)		368	
		Rate	4048.00	Cum
23	Providing and laying cement concrete using 20mm and down size granite coarse aggregates and fine aggregates of ready mixed concrete for RCC works laid in 15 em thick layers and well compacted including vibrating curing etc., for all super structure works with all lead and lift etc., complete. (exculsive of cost of steel and fabrication charges) Note : The RMC should be obtained only from the plants certified by Quality Council of India as per CE, C&B letter, AE2, 2015-16, Dt. 12-09-2015 Ready mixed Cement concrete M-25 (KPWD,4.49.2)			
	Basic Rate		5497	
	Add 10% For area weightage (Mangalore City)		549.7	
		Rate	6046.70	Cum

24	KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplasticizer 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 paver spread,compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints,including groove cutting charges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per MORTH specifications Clause 602.with M40 @420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (SI No : 22.2.2 of KPWD 18-19)			
	Basic Rate			5765
	Add 10% For area weightage (Mangalore City)			576.5
		Rate		6341.50 Cum
25	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 and as shown on drawing and as per MORTH specifications clause 602. (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.2	Rate		115 Rmt
26	KSSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSSRRB M3000-8 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 (SI No : 35.8 of KPWD 18-19)			
	Basic Rate			331
	Add 10% For area weightage (Mangalore City)			33.1
		Rate		364.10 Rmt
27	Providing and laying at or near ground level factory made Median 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 drawing. (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)			
	Rate Arrived as per Rate analysis			
	Basic Rate			17708.82
	Add 10% For area weightage (Mangalore City)			1770.88
		Rate		19479.70 Cum
28	Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC M20 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)			
	Basic Rate of one kerb stone of M15 Grade =0.0279 cum	Rate		421
	Rate for 1 cum of Kerb stone			15089.61
	Add diferance in cement content of M15 to M20 Grade			392
	Total Rate			15481.61
	Add 10% For area weightage (Mangalore City)			1548.16
		Rate		17029.77 Cum

29	Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC M20 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)		
	Basic Rate of one kerb stone of M15 Grade =0.0279 cum	Rate	421
	Rate for 1 cum of Water Table		15089.61
	Add diferance in cement content of M15 to M20 Grade		392
	Total Rate		15481.61
	Add 10% For area weightage (Mangalore City)		1548.16
		Rate	17029.77 Cum
30	Reusing existing kerb stone obtained from dismantaling of existing footpath or by other dismantaling work and laying at or near ground level 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 transportation to site from stack yard, 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).		
	Basic Rate (RA Attached)		52.94
	Add 10% For area weightage (Mangalore City)		5.29
		Rate	58.23 Rmt
31	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per MORTH specifications section 8. (SI No : 24.1 of KPWD 18-19)		
	Basic Rate		80
	Add 10% For area weightage (Mangalore City)		8
		Rate	88 Sqm
32	P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting. (Rate analysis attached)		
	Rate Arrived as per Rate analysis		
	Basic Rate		10764
	Discount 30%		-3229.2
	Sub Total		7534.8
	Fixing Charges @5%		376.74
		Rate	7911.54 Nos.
33	P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)		
	Basic Rate		7179
	Discount 30%		-2153.7
	Sub Total		5025.3
	Fixing Charges @5%		251.265
		Rate	5276.565 Nos.
35	P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)		
	Basic Rate		10765
	Discount 30%		-3229.5
	Sub Total		7535.5
	Fixing Charges @5%		376.775
		Rate	7912.28 Nos.

34	KSRRB M300- Wrought iron and mild steel welded work KSRRB M300-18. Wrought iron and mild steel welded work (using angles, square bars, tees and channel grills, gratings with grating frames, gates and tree guards of any size and design etc. including cost of screens and welding rods or bolts and nuts complete fixed in position but without the cost of excavation and concrete for fixing which will be paid separately complete as per specifications.(KPWD,18-19,SI.No.19.97)			
	Basic Rate			7187
	Add 10% For area weightage (Mangalore City)			718.7
		Rate		7905.7
				Quintal
36	KSRB 12-8.2 : Constructing brick masonry inspection chamber 500x700mm, and 450mm depth, (clear inside dimension) for pipeline with one or two inlets, using table moulded non-modular bricks of class designation 50 in cement mortar 1:5, C.I cover with frame (light duty) 455x610mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23kg and weight of frame 15 kg) R.C.C. top slab with cement concrete M 15 with 20mm and downsize granite metal , foundation concrete M 5 with 40mm and downsize granite metal inside plastering 12mm thick with cement mortar 1:3, finished smooth with a floating coat of cement on walls and bed concrete complete as per standard design including cost of materials, labour charges, curing complete as per specifications. Specification No. KBS (P.No. 74/ I.No.11.52 of PWD SR 2018-19)			
	Basic Rate			8296
	Add 10% For area weightage (Mangalore City)			829.6
		Rate		9125.6
				Nos.
37	Providing gully pipe lowering,laying of PVC 100 mm dia pipes 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 testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)			
	Basic Rate			297
	Add 10% on Labor Charges=Rs.47,For area weightage (Mangalore City)			4.7
		Rate		301.7
				Rm
38	KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2018-19, SI.No.12.89)			
	Basic Rate			830
	Add 10% For area weightage (Mangalore City)			83
		Rate		913
				Nos.
38	KSRRB M2200- Providing Weep Holes KSRRB M2200-8. Providing weep holes in Brick masonry / Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications complete as per specifications MORTH Specification No.2706 & 2200 (PWD SR 2018-19, SI.No.28.10)			
	Basic Rate			147
	Add 10% For area weightage (Mangalore City)			14.7
		Rate		161.7
				Nos.

40	KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2018-19,SI.No.24.36)			5022	
	Basic Rate			5022	
	Add 10% For area weightage (Mangalore City)			502.2	
			Rate	5524.20	Rm
41	Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)				
	Basic Rate			1794	
	Deduct GST @18%			-322.92	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)			78	
	Add 10% For area weightage (Mangalore City)			7.8	
			Rate	1556.88	Rm
42	Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)				
	Basic Rate			1215	
	Deduct GST @18%			-218.7	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)			66	
	Add 10% For area weightage (Mangalore City)			6.6	
			Rate	1068.90	Rm
43	Providing and Fixing Spacers for Power Ducts of size 200 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)				
	Basic Rate (without GST@18%)			1003	
			Rate	1003.00	Nos.
44	Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)				
	Basic Rate (without GST@18%)			1947	
			Rate	1947.00	Nos.
45	Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling,lowering into trenches,laying true to line and jointing of pipe etc.Complete. (Market Rate)				
	Basic Rate			685	
	Deduct GST @18%			-123.3	

	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)		36	
	Add 10% For area weightage (Mangalore City)		3.6	
		Rate	601.30	Rm
46	Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level,shape and size using approved colour shade and staping it using approved stamp pattern and antiquitting it on top with approved colour.Sealing entire area with concrete sealer.			
	Basic rate		624.00	
		Rate	624.00	Sqm
47	Cutting of Control joints panels(in Footpath) at suitable required locations using using tools and tackles.			
	Basic rate		59.00	
		Rate	59.00	Sqm
48	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 30mm 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. (KPWD SR 2018-19,SI No : 14.7)			
	Basic rate		1114	
	Add 10% For area weightage (Mangalore City)		111.4	
		Rate	1225.40	Sqm
49	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)			
	Basic rate		7839	
	Add 10% For area weightage (Mangalore City)		783.9	
		Rate	8622.90	Cum
50	KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-30 Bitumen			
	Basic rate		8761	
	Add 10% For area weightage (Mangalore City)		876.1	
		Rate	9637.10	Cum

51	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & 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 & 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 & conveyance of all materials, equipment, machinery & 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 & 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 (KPWD 18-19,SI No : 24.2.1)			
	Basic Rate		3511	
	Add 10% For area weightage (Mangalore City)		351.1	
		Rate	3862.10	Nos
52	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & 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 & 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 & conveyance of all materials, equipment, machinery & 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 & 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 (KPWD 18-19,SI No : 24.2.6)			
	Basic Rate		4958	
	Add 10% For area weightage (Mangalore City)		495.8	
		Rate	5453.80	Nos
53	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & 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 & 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 & conveyance of all materials, equipment, machinery & 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 & 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 (KPWD 18-19,SI No : 24.2.3)			
	Basic Rate		3118	
	Add 10% For area weightage (Mangalore City)		311.8	
		Rate	3429.80	Nos
54	KSRRB M800-3. Direction and Place Identification Signs upto 0.9 sqm Size Board:-Manufacturing, supply and installation of retro- reflectorised cautionary, mandatory and inforamatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45 cm x45 cm x 60 cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the work as directed by engineer in charge. 10 years warranty for retro reflective sheeting from the original sheeting manufacturer as per clause 6.9 in IRC 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. (KPWD 18-19,SI No : 24.3)			
	Basic Rate		6927	
	Add 10% For area weightage (Mangalore City)		692.7	
		Rate	7619.70	Sqm
55	Direction and Place Identification Signs with size more than 0.9 sqm Size Board: Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of high intensity grade sheeting vide Clause 801.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 45 x 45 x 60 em, 60 em below ground level as per approved drawing.			
	Basic Rate		7206	
	Add 10% For area weightage (Mangalore City)		720.6	
		Rate	7926.60	Sqm
56	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, supply and installation of retro-reflectorised cautionary, mandatory and inforamatory signboards made out of cube corner micro prismatic grade sheeting confirming to 600x800 MM type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with (KPWD18-19,24.2.4)			
	Basic Rate		4049	
	Add 10% For area weightage (Mangalore City)		404.9	
		Rate	4453.90	Nos
57	KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications (KPWD 18-19,SI No : 24.41)			

	Basic Rate		289	
	Add 10% For area weightage (Mangalore City)		28.9	
		Rate	317.90	Nos.
58	Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: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 (KPWD 18-19,SI No : 24.15)			
	Basic Rate		429	
	Add 10% For area weightage (Mangalore City)		42.9	
		Rate	471.90	Sqm
59	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 & 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 (NON SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer	Rate	1500000	Nos.
60	Providing & 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-accs 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 Acess 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 Advertisment purpose space for advertisement dispaly to be provided 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. (Non SOR Item)			
	Baisc rate		575000	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.1	Rate	575000	Nos.

61	KSRB 6-2.3 : 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. Specification No. KBS 6.2. (KPWD 18-19,SI.No.6.7)		
	Basic rate		7797
	Add 10% For area wightage		779.7
		Rate	8576.70 Cum
62	KSRB15-3.8 : 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.(KPWD 18-19,SI No.15.16)		
	Basic rate		262
	Add 10% For area wightage		26.2
		Rate	288.2 Sqm
61	Providing and fixing 450mm wide X 600mmX 20mm thk.RIVERWASHED BLACK GRANITE CLADDING on surface of seating as directed by architect (Non SOR Item)		
	Basic Rate		3527
	Rate Approved as per EOI by MD MSCL Mangalore,Refer	Rate	3527.00 Sqm
64	Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)		
	Basic Rate		4500
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.13	Rate	4500.00 Nos.
65	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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)		
	Basic Rate		100000.00
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.26	Rate	100000.00 MT
66	Providing and Fixing SS 304 Outdoor Dustbin(Pivoted Type and Mounted on SS Poles) of 55 liters capacity all complete to the satisfaction of the Engineer in charge. (NON SOR Item)		
	Basic Rate		7500
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.14	Rate	7500.00 Nos.
67	KSRRB M300-14. Half brick circular tree guard, in 2nd class brick, internal diametre 1.25 metres, and height 1.2 metres, above ground and 0.20 metre below ground, bottom two courses laid dry, and top three courses in cement mortar 1:6 (1 cement 6 sand) and the intermediate courses being in dry honey comb masonry, as per design complete, complete as per specifications.KSRRB M300-Edging with 2nd class bricks, laid dry lengthwise(KPWD 18-19,19.93)		
	Basic Rate		2242
	Add 10% For area weightage (Mangalore City)		224.2
		Rate	2466.20 Nos.
68	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5 km Item No 17.4 KSRRB M100-4.1-Earth		
	Earth		2.0x1.28x10km
	Baisc rate		25.60

	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		57.00	
	Sub Total		82.60	
	Add 10% For area weightage (Mangalore City)		8.26	
		Rate	90.86	Cum
69	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5km Item No 17.4 KSRRB M100-4.1-Debris			
	Debris		2.0x1.30x10Km	
	Baisc rate		26.00	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		57.00	
	Sub Total		83.00	
	Add 10% For area weightage (Mangalore City)		8.3	
		Rate	91.30	Cum

**Assistant Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

**Name of the Work :- Mangalore Smart City
2.1 BOQ of Electrical lighting Works for DPR-5 Roads**

Sr.No.	Specification	Unit	Quantity	Rate	Amount	Remarks
1	Lighting Poles					
1.1	Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required	Nos.	18	1,681	30,252	
1.2	Erection of metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (As per RA)	Nos.	18	4,057	73,026	
1.3	Lighting Pole, 7 m Fabrication, supply and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor 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	Nos.	173	12,420	2,148,660	
1.4	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 (Ref Electrical SOR SI No.5.14.2)	Nos.	69	7,398	510,462	
1.5	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 (Ref Electrical SOR SI No.5.18.5)	Nos.	10	3,540	35,400	
1.6	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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	250	2,400	600,000	
1.7	Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-above 5.5 mtr to 7.5 mtr (Ref Electrical SOR SI No.16.28.2)	Nos	18	620	11,160	
2	Out door box and switch gear					
2.1	Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	No.	29	11,783	341,705	
2.2	Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	No	29	1,547	44,863	

Sr.No.	Specification	Unit	Quantity	Rate	Amount	Remarks
3	LT Cable					
3.1	Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	15039	117	1,759,516	
3.2	Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	3406	81.60	277,930	
3.3	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	2080	11.31	23,525	
3.4	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	1380	3.12	4,306	
4	Earthing system					
4.1	Chemical Earthing for grounding, conduits, IC cut outs and otherequipments on the mter 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	58	5,500.00	319,000	
4.2	Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	12907	19.50	251,687	
5	Dismantling of 7 mtr high mast pole/ strut embedded in cement concrete foundation etc. as required RA attached	Nos.	4	2,541.48	10,166	
6	Erection of 7 mtr high mast metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation,refilling,components, accessories etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (As per RA)	Nos.	4	5,476.00	21,904	
			TOTAL		64,63,562	

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Mangalore Smart City

2.1.1 M.S.of Electrical Lighting Works

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
1	Lighting Poles						
1.1	Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required						
	Milagres Cross Rd. (Road no 7a)	Nos.	1				1.00
	Nandigudda Rd. (Road no 7c)	Nos.	0				0.00
	New Balmatta Rd. (Road no 8)	Nos.	2				2.00
	Don Bosco hall cross Rd. (Road no 10)	Nos.	0				0.00
	Arya Samaj Rd. (Road no 19)	Nos.	0				0.00
	Jumma Masjid Rd. (Road no 15a)	Nos.	0				0.00
	Port Rd. (Road no 15b)	Nos.	15				15.00
	Bendre Ferry Rd. (Road no 20)	Nos.	0				0.00
						Total	18.00
1.2	Erection of metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (As per RA)						
	Milagres Cross Rd. (Road no 7a)	Nos.	1				1.00
	Nandigudda Rd. (Road no 7c)	Nos.	0				0.00
	New Balmatta Rd. (Road no 8)	Nos.	2				2.00
	Don Bosco hall cross Rd. (Road no 10)	Nos.	0				0.00
	Arya Samaj Rd. (Road no 19)	Nos.	0				0.00
	Jumma Masjid Rd. (Road no 15a)	Nos.	0				0.00
	Port Rd. (Road no 15b)	Nos.	15				15.00
	Bendre Ferry Rd. (Road no 20)	Nos.	0				0.00
						Total	18.00
1.3	Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding 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 (Ref Electrical SOR SI No. 5.14.5)						
	Milagres Cross Rd. (Road no 7a)	Nos.	5				5.00
	Nandigudda Rd. (Road no 7c)	Nos.	33				33.00
	New Balmatta Rd. (Road no 8)	Nos.	17				17.00
	Don Bosco hall cross Rd. (Road no 10)	Nos.	12				12.00
	Arya Samaj Rd. (Road no 19)	Nos.	30				30.00
	Jumma Masjid Rd. (Road no 15a)	Nos.	25				25.00
	Port Rd. (Road no 15b)	Nos.	17				17.00
	Bendre Ferry Rd. (Road no 20)	Nos.	34				34.00
						Total	173

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
1.4	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 (Ref Electrical SOR SI No.5.14.2)						
	Milagres Cross Rd. (Road no 7a)	Nos.					0.00
	Nandigudda Rd. (Road no 7c)	Nos.	26				26.00
	New Balmatta Rd. (Road no 8)	Nos.	4				4.00
	Don Bosco hall cross Rd. (Road no 10)	Nos.					0.00
	Arya Samaj Rd. (Road no 19)	Nos.	38				38.00
	Jumma Masjid Rd. (Road no 15a)	Nos.					0.00
	Port Rd. (Road no 15b)	Nos.					0.00
	Bendre Ferry Rd. (Road no 20)	Nos.	1				1.00
						Total	69.00
1.5	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						
	Milagres Cross Rd. (Road no 7a)	Nos.	0				0.00
	Nandigudda Rd. (Road no 7c)	Nos.	0				0.00
	New Balmatta Rd. (Road no 8)	Nos.	0				0.00
	Don Bosco hall cross Rd. (Road no 10)	Nos.	0				0.00
	Arya Samaj Rd. (Road no 19)	Nos.	10				10.00
	Jumma Masjid Rd. (Road no 15a)	Nos.	0				0.00
	Port Rd. (Road no 15b)	Nos.	0				0.00
	Bendre Ferry Rd. (Road no 20)	Nos.	0				0.00
						Total	10.00
1.6	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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)						
	Milagres Cross Rd. (Road no 7a)	Nos.	6				6.00
	Nandigudda Rd. (Road no 7c)	Nos.	59				59.00
	New Balmatta Rd. (Road no 8)	Nos.	23				23.00
	Don Bosco hall cross Rd. (Road no 10)	Nos.	12				12.00
	Arya Samaj Rd. (Road no 19)	Nos.	58				58.00
	Jumma Masjid Rd. (Road no 15a)	Nos.	25				25.00
	Port Rd. (Road no 15b)	Nos.	32				32.00
	Bendre Ferry Rd. (Road no 20)	Nos.	35				35.00
						Total	250

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
1.7	Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-above 5.5 mtr to 7.5 mtr (Ref Electrical SOR SI No.16.28.2)						
	Milagres Cross Rd. (Road no 7a)	Nos.	1				1.00
	Nandigudda Rd. (Road no 7c)	Nos.	0				0.00
	New Balmatta Rd. (Road no 8)	Nos.	2				2.00
	Don Bosco hall cross Rd. (Road no 10)	Nos.	0				0.00
	Arya Samaj Rd. (Road no 19)	Nos.	0				0.00
	Jumma Masjid Rd. (Road no 15a)	Nos.	0				0.00
	Port Rd. (Road no 15b)	Nos.	15				15.00
	Bendre Ferry Rd. (Road no 20)	Nos.	0				0.00
						Total	18.00
2	Lighting Panel						
2.1	Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets						
	Milagres Cross Rd. (Road no 7a)	Nos.	1				1.00
	Nandigudda Rd. (Road no 7c)	Nos.	2				2.00
	New Balmatta Rd. (Road no 8)	Nos.	3				3.00
	Don Bosco hall cross Rd. (Road no 10)	Nos.	6				6.00
	Arya Samaj Rd. (Road no 19)	Nos.	2				2.00
	Jumma Masjid Rd. (Road no 15a)	Nos.	9				9.00
	Port Rd. (Road no 15b)	Nos.	2				2.00
	Bendre Ferry Rd. (Road no 20)	Nos.	4				4.00
						Total	29
2.2	Supply and fixing of miniature circuit breaker on existing board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)						
	Milagres Cross Rd. (Road no 7a)	Nos.	1				1.00
	Nandigudda Rd. (Road no 7c)	Nos.	2				2.00
	New Balmatta Rd. (Road no 8)	Nos.	3				3.00
	Don Bosco hall cross Rd. (Road no 10)	Nos.	6				6.00
	Arya Samaj Rd. (Road no 19)	Nos.	2				2.00
	Jumma Masjid Rd. (Road no 15a)	Nos.	9				9.00
	Port Rd. (Road no 15b)	Nos.	2				2.00
	Bendre Ferry Rd. (Road no 20)	Nos.	4				4.00
						Total	29
3	LT Cable						
3.1	Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)						
	Milagres Cross Rd. (Road no 7a) (Considering 25% more length for looping)	m	2	229			458
	Nandigudda Rd. (Road no 7c) (Considering 25% more length for looping)	m	2	1276			2553

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
	New Balmatta Rd. (Road no 8) (Considering 25% more length for looping)	m	2	721			1443
	Don Bosco hall cross Rd. (Road no 10) (Considering 25% more length for looping)	m	2	469			938
	Arya Samaj Rd. (Road no 19) (Considering 30% more length for looping)	m	2	1203			2405
	Jumma Masjid Rd. (Road no 15a) (Considering 30% more length for looping)	m	2	932			1864
	Port Rd. (Road no 15b) (Considering 30% more length for looping)	m	2	1256			2512
	Bendre Ferry Rd. (Road no 20) (Considering 30% more length for looping)	m	2	1434			2868
						Total	15039
3.2	Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)						
	Milagres Cross Rd. (Road no 7a)						
	7 mtr high pole	m	6	14			84.00
	Nandigudda Rd. (Road no 7c)						
	7m high pole	m	33	14			462.00
	4m high pole	m	26	14			364.00
	New Balmatta Rd. (Road no 8)						
	7m high pole	m	19	14			266.00
	4m high pole	m	4	14			56.00
	Don Bosco hall cross Rd. (Road no 10)						
	7 mtr high pole	m	12	14			168.00
	Arya Samaj Rd. (Road no 19)						
	7 mtr high pole	m	30	14			420.00
	4 mtr high pole	m	38	8			304.00
	Jumma Masjid Rd. (Road no 15a)						
	7 mtr high pole	m	25	14			350.00
	Port Rd. (Road no 15b)						
	7 mtr high pole	m	32	14			448.00
	Bendre Ferry Rd. (Road no 20)						
	7 mtr road	m	34	14			476.00
	4 mtr high pole	m	1	8			8.00
						Total	3406
3.3	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)		No.of Poles	No.of Lugs			
	Milagres Cross Rd. (Road no 7a)						
	7 mtr high pole	Nos.	6	8			48.00
	Nandigudda Rd. (Road no 7c)						
	7m high pole	Nos.	33	8			264.00
	4m high pole	Nos.	26	8			208.00
	New Balmatta Rd. (Road no 8)						
	7m high pole	Nos.	19	8			152.00
	4m high pole	Nos.	4	8			32.00
	Don Bosco hall cross Rd. (Road no 10)						
	7 mtr high pole	Nos.	12	8			96.00
	Arya Samaj Rd. (Road no 19)						
	7 mtr high pole	Nos.	30	8			240.00
	4 mtr high pole	Nos.	38	8			304.00

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
	Jumma Masjid Rd. (Road no 15a)						
	7 mtr high pole	Nos.	25	8			200.00
	Port Rd. (Road no 15b)						
	7 mtr high pole	Nos.	32	8			256.00
	Bendre Ferry Rd. (Road no 20)						
	7 mtr road	Nos.	34	8			272.00
	4 mtr high pole	Nos.	1	8			8.00
						Total	2080
3.4	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)						
	Milagres Cross Rd. (Road no 7a)						
	7 mtr high pole	Nos.	6	6			36.00
	Nandigudda Rd. (Road no 7c)						
	7m high pole	Nos.	33	6			198.00
	4m high pole		26				
	New Balmatta Rd. (Road no 8)						
	7m high pole	Nos.	19	6			114.00
	4m high pole		4				
	Don Bosco hall cross Rd. (Road no 10)						
	7 mtr high pole	Nos.	12	6			72.00
	Arya Samaj Rd. (Road no 19)						
	7 mtr high pole	Nos.	30	6			180.00
	4 mtr high pole	Nos.	38	6			228.00
	Jumma Masjid Rd. (Road no 15a)						
	7 mtr high pole	Nos.	25	6			150.00
	Port Rd. (Road no 15b)						
	7 mtr high pole	Nos.	32	6			192.00
	Bendre Ferry Rd. (Road no 20)						
	7 mtr road	Nos.	34	6			204.00
	4 mtr high pole	Nos.	1	6			6.00
						Total	1380
4.1	Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)						
	Milagres Cross Rd. (Road no 7a)	Nos.	1	2			2.00
	Nandigudda Rd. (Road no 7c)	Nos.	2	2			4.00
	New Balmatta Rd. (Road no 8)	Nos.	3	2			6.00
	Don Bosco hall cross Rd. (Road no 10)	Nos.	6	2			12.00
	Arya Samaj Rd. (Road no 19)	Nos.	2	2			4.00
	Jumma Masjid Rd. (Road no 15a)	Nos.	9	2			18.00
	Port Rd. (Road no 15b)	Nos.	2	2			4.00
	Bendre Ferry Rd. (Road no 20)	Nos.	4	2			8.00
						Total	58

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
4.2	Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)						
	Milagres Cross Rd. (Road no 7a)	m	2	201			402.60
	Nandigudda Rd. (Road no 7c)	m	2	1123			2246.20
	New Balmatta Rd. (Road no 8)	m	2	635			1269.40
	Don Bosco hall cross Rd. (Road no 10)	m	2	413			825.00
	Arya Samaj Rd. (Road no 19)	m	2	1018			2035.00
	Jumma Masjid Rd. (Road no 15a)	m	2	789			1577.40
	Port Rd. (Road no 15b)	m	2	1063			2125.20
	Bendre Ferry Rd. (Road no 20)	m	2	1213			2426.60
						Total	12907
5	Dismantling of 7 mtr high mast pole/ strut embedded in cement concrete foundation etc. as required RA attached	No	4				4.00
6	Erection of 7 mtr high mast metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation,refilling,components, accessories etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (As per RA)	No	4				4.00

**Assistant Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Mangalore Smart City
2.1.2 Rate Analysis of Electrical Lighting works

1	Lighting Poles			
1.1	Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))			
		Rate	1,680.65	Nos.
1.2	Erection of metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (Delhi analysis of rates E & M 2016, item 11.3.2, pg 372))			
		Rate	4,057	Nos.
1.3	Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding 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 (Ref Electrical SOR SI No. 5.14.5)			
	Basic rate		12420	
		Rate	12420	Nos.

1.4	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 (Ref Electrical SOR SI No.5.14.2)			
	Basic rate		7398	
		Rate	7,398	Nos.
1.5	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 (Ref Electrical SOR SI No.5.18.5)			
	Basic rate		3540	
		Rate	3,540	Nos.
1.6	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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)			
	Basic rate		2400	
		Rate	2,400	Nos.
1.7	Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-above 5.5 mtr to 7.5 mtr (Ref Electrical SOR SI No.16.28.2)			
	Basic rate		620	
		Rate	620	Nos.
2	Out door box and switch gear			
2.1	Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets			
	Price list (Considering 30% discount , 18% GST & 10% profit)	Rate	11,783	Nos.

2.2	Supply and fixing of miniature circuit breaker on existing board using necessary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required conforming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)			1547	
	Basic rate			1547	
		Rate		1,547	Nos.
3	LT Cable				
3.1	Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)				
	Basic rate			117	
		Rate		117	Rm
3.2	Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)				
	Basic rate			81.6	
		Rate		81.60	Rm
3.3	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)				
	Basic rate			11.31	
		Rate		11.31	Nos.
3.4	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)				
	Basic rate			3.12	
		Rate		3.12	Nos.

4.1	Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)		5500	
	Basic rate			
		Rate	5500.00	Kit
4.2	Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)		19.5	
	Basic rate			
		Rate	19.50	Rmt
5	Dismantling of 7 mtr high mast pole/ strut embedded in cement concrete foundation etc. as required RA attached			
		Rate	2,541	Nos.
6	Erection of 7 mtr high mast metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation,refilling,components, accessories etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (As per RA)			
		Rate	5,476	Nos.

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**Name of the Work :- Mangalore Smart City
2.1.3 Rate Analysis of Electrical Lighting works**

Sr. No.	Description	Unit	qty	Rate	Amount	Remark
1.1	Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))					
	Line man	day	0.33	486.20	160.446	PWD SOR 2018-19, LVIII, Sl. No 38
	Khasasi	day	2.66	466.20	1240.092	PWD SOR 2018-19, LXIV, Sl. No 148
	Total				1400.538	
	Contracto's profit @10%				140.0538	
	Contractor's over head @ 10%				140.0538	
					1680.6456	
1.2	Erection of metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (Delhi analysis of rates E & M 2016, item 11.3.2, pg 372))					
	LABOUR					
	Mason, Grade 2	day	0.33	456.20	150.546	PWD SOR 2018-19, LVI, Sl. No 13
	Lineman	day	0.33	486.20	160.446	PWD SOR 2018-19, LVIII, Sl. No 38
	Khallasi	day	3.33	466.20	1552.446	PWD SOR 2018-19, LXIV, Sl. No 148
	TOTAL				1863.438	
	Contracto's profit @10%				186.3438	
	Contractor's over head @ 10%				186.3438	
	TOTAL				2236.1256	
	Excavation including refilling as required	cum	0.87	328.90	286.143	PWD SOR 2018-19, pg-6, Sl. No 2.3
	Cement concrete 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 40 mm nominal size)	cum	0.29	6279.90	1821.171	PWD SOR 2018-19, pg-13, Sl. No 4.1
	TOTAL				4057.2966	
	say				4057	
5	Dismantling of 7 mtr high mast pole/ strut embedded in cement concrete foundation etc. as required					
	Line man	day	1	486.20	486.20	PWD SOR 2018-19, LVIII, Sl. No 38
	Khasasi	day	3.5	466.20	1631.70	PWD SOR 2018-19, LXIV, Sl. No 148
	Total				2117.9	
	Contracto's profit @10%				211.79	
	Contractor's over head @ 10%				211.79	
					2541.48	

Sr. No.	Description	Unit	qty	Rate	Amount	Remark
6	Erection of metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required. Above 6.5 meter and upto 8.0 meter Existing high mast poles (Delhi analysis of rates E & M 2016, item 11.3.2, pg 372))					
	LABOUR					
	Mason, Grade 2	day	0.5	456.20	228.1	PWD SOR 2018-19, LVI, Sl. No 13
	Lineman	day	1	486.20	486.2	PWD SOR 2018-19, LVIII, Sl. No 38
	Khallasi	day	5	466.20	2331	PWD SOR 2018-19, LXIV, Sl. No 148
	TOTAL				3045.3	
	Contractor's profit @10%				304.53	
	Contractor's over head @ 10%				304.53	
	TOTAL				3654.36	
	Excavation including refilling as required	cum	0.87	328.90	286.143	PWD SOR 2018-19, pg-6, Sl. No 2.3
	Cement concrete 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 40 mm nominal size)	cum	0.29	6279.90	1821.171	PWD SOR 2018-19, pg-13, Sl. No 4.1
	TOTAL				5475.531	
	say				5476	

**Assistant Engineer
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Name of the Work :- Manglore Smart City

3.1 BOQ OF SOFTSCAPE for DPR 5

Sr.No.	Specifications	Unit	Quantity	Rate	Amount	Remarks
1.1	SOIL MIXES and Ground Preparation					
1.1.1	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% for payment). (Non SOR Item)	Cum	980.88	140.00	137,323	
1.1.2	KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. 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(Page No.152,Sl.No.19.90)	Cum	483.12	224.40	108,412	
1.1.3	KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,Sl No.19.77)	Cum	1464.00	113.30	165,871	
1.1.4	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	1464.00	23.91	35,004	
1.1.5	Soil preparation of Lawn					
	KSRRB M300-3.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 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)	Sqm	2440.00	17.60	42,944	

Sr.No.	Specifications	Unit	Quantity	Rate	Amount	Remarks
1.2	TURF					
1.2.1	ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	2440.00	156.80	382,592	
1.2	IRRIGATION					
1.2.1	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. (Non SOR Item)	Sqm	2440.00	560.00	1,366,400	
Total					22,38,546	

SOR+ RA Items Cost
GST @ 12 % of SOR and RA Items

317,227
38067

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**Name of the Work :- Manglore Smart City
3.1.1 Measurement Sheet of softscape for DPR 5**

Sr.No.	Item	Unit	No.	L	B	H	Qty.
1.1	SOIL MIXES and Ground Preparation						
1.1.1	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% for payment). (Non SOR Item)						
	Island at 8 and 10 Road	Cum	0.67	24.00	Area	0.60	9.65
	Island at 15b Road	Cum	0.67	42.00	Area	0.60	16.88
	Median at Arya Samaj Road-Median	Cum	0.67	290.00	0.60	0.60	69.95
	Road 7C,10,8,19,15A,18	Cum	0.67	2200.00	Area	0.60	884.4
	Consider 2/3rd Qty of Item No.1.1.7	Cum				Total	980.88
1.1.2	KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)						
	Island at 8 and 10 Road	Cum	0.33	24	Area	0.6	4.75
	Island at 15b Road	Cum	0.33	42	Area	0.6	8.32
	Median at Arya Samaj Road-Median	Cum	0.33	290	0.6	0.6	34.45
	Road 7C,10,8,19,15A,18	Cum	0.33	2200	Area	0.6	435.60
	Consider 1/3rd Qty of Item No.1.1.7	Cum				Total	483.12
1.1.3	KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)						
	Island at 8 and 10 Road	Cum	1	24	Area	0.6	14.40
	Island at 15b Road	Cum	1	42	Area	0.6	25.20
	Median at Arya Samaj Road-Median	Cum	1	290	0.6	0.6	104.40
	Road 7C,10,8,19,15A,18	Cum	1	2200	Area	0.6	1320.00
						Total	1464.00
1.1.4	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)						
	Consider Same Qty. of 1.1.7	Cum					1464.00

Sr.No.	Item	Unit	No.	L	B	H	Qty.
1.1.5	Soil preparation of Lawn						
	KSRRB M300-3.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 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)						
	In rows 5 cm apart in both directions						
	Island at 8 and 10 Road	Sqm	1	24.00	Area		24.00
	Island at 15b Road	Sqm	1	42.00	Area		42.00
	Median at Arya Samaj Road-Median	Sqm	1	290.00	0.6		174.00
	Road 7C,10,8,19,15A,18	Sqm	1	2200.00	Area		2200.00
						Total	2440.00
1.1.6	ZOYSIA JAPONICA (MAT) (Non SOR Item)						
	Island at 8 and 10 Road	Sqm	1	24	Area		24.00
	Island at 15b Road	Sqm	1	42	Area		42.00
	Median at Arya Samaj Road-Median	Sqm	1	290	0.6		174.00
	Road 7C,10,8,19,15A,18	Sqm	1	2200	Area		2200.00
						Total	2440.00
1.2	IRRIGATION						
1.2.1	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. (Consider Same Qty. of 1.1.6) (Non SOR Item)						
	Island at 8 and 10 Road	Sqm	1	24	Area		24.00
	Island at 15b Road	Sqm	1	42	Area		42.00
	Median at Arya Samaj Road-Median	Sqm	1	290	0.6		174.00
	Road 7C,10,8,19,15A,18	Sqm	1	2200	Area		2200.00
						Total	2440.00

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Name of the Work :- Manglore Smart City
3.1.2 Rate Analysis of SOFTSCAPE for DPR 5

RATE ANALYSIS - SOFTSCAPE

1.1.1	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% for payment). (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.27	Rate	140.00	Cum
1.1.2	KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)			
	Basic rate		204	
	Add 10% For area weightage		20.4	
		Rate	224.40	Cum
1.1.3	KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)			
	Basic rate		103	
	Add 10% For area wightage		10.3	
		Rate	113.30	Cum
1.1.4	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.28	Rate	23.91	Cum

1.1.5	Soil preparation of Lawn KSRRB M300-3.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 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)			
	Basic rate		16	
	Add 10% For area wightage		1.6	
		Rate	17.60	Sqm
1.2	TURF			
1.2.1	ZOYSIA JAPONICA (MAT) (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.32	Rate	156.80	Sqm
1.2	IRRIGATION			
1.2.1	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. (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.34	Rate	560.00	Sqm

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**Executive Engineer
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**General Manager
Technical
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Mangalore Smart City
4.1.1 Rate Analysis for Kerb Stone

Sr.No.	Description	Unit	Qty	Rate/Unit	Amount	Remarks
1	Reusing existing kerb stone obtained from dismantling of existing footpath or by other dismantling work and laying at or near ground level 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 transportation to site from stack yard, 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).					
	Material for Jointing of existing kerb stone					
	Mortar 1:3 for fixing joints = 223x1x [[((0.114+0.165)/2)*0.4*0.005] (0.25x0.165x0.005) = 0.062cum. Cement mortar 1:3 (1 cement : 3 coarse sand)	Cum	0.032	5666.00	181.31	KSRB 1.3 Pg No 2
	Mason (brick layer) 1st class	day	2.500	466.20	1165.50	KSRB Pg No LIV
	Mason (brick layer) 2nd class	day	2.500	456.20	1140.50	
	Beldar	day	2.500	446.20	1115.50	
	Coolie	day	1.650	446.20	736.23	
	Total				4339.04	
	Add 1 % Water charges				43.39	
	Add 1% Transportation from stack yard to site				43.39	
					4425.82	
	Add 10 % Contractor's profit				442.58	
	Add 10% Contractor Overhead				442.58	
	Cost of 6.22cum				5310.99	
	cost for 1 cum.				853.86	A
	Cost of Kerb per RM				52.94	Per RM
	Cost per Kerb of width 0.45m =A X 0.0279cum (Vol of one Kerb)				24	Per No

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One Precast Kerb Stone Rate	Qty.	Unit	Rate	Amount	SOR Item No.
Volume of one Kerb-M20	0.028	Cum	6272.000	175.62	4.13
Shuttering of Kerb Stone	0.60	Sqm	263.00	156.86	4.28
			Total Cost=	332.48	
Cost of Kerb Stone per Cum =	11874.13	Rs.			

Concrete Vol For One Kerb Stone	Qty.	Unit
C/s Area of Kerb=	0.0621	Sqm
Width of Kerb Stone =	0.45	M
Volume of kerb stone =	0.028	Cum

Shuttering Qty.	Nos.	Area of one side face	Total Area in Sqm
Front and Back Side of Kerb Stone=	2	0.180	0.36
Bottom Area	1	0.074	0.07
Top Area	1	0.100	0.10
One Side Area	1	0.062	0.06
	Total		0.60

Sqm

Mangalore Smart City
4.0 Rate Analysis for Kerb Stone

Sr.No.	Description	Unit	Qty	Rate/Unit	Amount	Remarks
1	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=0.114m, Bottom Width=0.165 m, Height =0.4 m Details of cost 100 metre i.e. No. of kerb stones = 100/0.45=223 Nos. width of kerb stone =0.45m Precast C.C. Kerb stone M - 20 = 223x(((0.114+0.165)/2)*0.15+0.25*0.165))*0.45=6.23cum					
	Material					
	Precast C.C. Kerb stone M - 20	Cum	6.230	11874.13	73975.86	Rate attached
	Shuttering Work					
	Mortar 1:3 for fixing joints = 223x1x [(((0.114+0.165)/2)*0.4*0.005] + (0.25x0.165x0.005) = 0.062cum. Cement mortar 1:3 (1 cement : 3 coarse sand)	Cum	0.032	5666.00	181.31	KSRB 1.3 Pg No 2
	Mason (brick layer) 1st class	day	2.500	466.20	1165.50	KSRB Pg No LIV
	Mason (brick layer) 2nd class	day	2.500	456.20	1140.50	
	Beldar	day	2.500	446.20	1115.50	
	Coolie	day	1.650	446.20	736.23	
	Total				78314.90	
	Add 1 % Water charges				783.15	
					79098.05	
	Add 10 % Contractor's profit				7909.81	
	Add 10% Contractor Overhead				7909.81	
	Cost of 6.22cum				94917.66	
	cost for 1 cum.				15260.07	A
	Cost per Kerb of width 0.45m =A X 0.0279cum (Vol of one Kerb)				426	Per No

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Manglore Smart City
4.1 Rate Analysis for Water Table (Longitudinal Gutter)

Sr.No.	Description	Unit	Qty	Rate/Unit	Amount	Remarks
1	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=0.075m, Bottom Width=0.1 m, Height =0.3 m Details of cost 100 metre i.e. No. of water table stones = $100/0.45=223$ Nos. width =0.45m Precast C.C. Kerb stone M - 20 = $223 \times ((0.075+0.1)/2) \times 0.3 \times 0.45 = 2.63 \text{cum}$					
	Material					
	Precast C.C. Kerb stone M - 20	Cum	2.630	14622.97	38458.42	Rate attached
	Shuttering Work					
	Mortar 1:3 for fixing joints = $223 \times 1 \times [((0.075+0.1)/2) \times 0.3 \times 0.005] = 0.029 \text{cum}$. Cement mortar 1:3 (1 cement : 3 coarse sand)	Cum	0.029	6996.00	202.88	KSRB 1.3 Pg No 2
	Mason (brick layer) 1st class	day	2.000	466.20	932.40	KSRB Pg No LIV
	Mason (brick layer) 2nd class	day	2.000	456.20	912.40	
	Beldar	day	2.000	446.20	892.40	
	Coolie	day	1.650	446.20	736.23	
	Total				42134.73	
	Add 1 % Water charges				421.35	
					42556.08	
	Add 10 % Contractor's profit				4255.61	
	Add 10% Contractor Overhead				4255.61	
	Cost of 2.63cum				51067.30	
	cost for 1 cum.				19417.22	A
	Cost per Kerb of width 0.45m =A X 0.0118cum (Vol of one Kerb)				229	Per No

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Mangalore Smart City

4.2 Rate Analysis for Kerb Stone 900 mm High

Sr.No.	Description	Unit	Qty	Rate/Unit	Amount	Remarks
1	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 Details of cost 100 metre i.e. No. of kerb stones = 100/0.405=247 Nos. width of kerb stone =0.4m Precast C.C. Kerb stone M - 20 = 247x(((0.25+0.3)/2)*0.6+0.3*0.3)*0.405=25.5cum					
	Material					
	Precast C.C. Kerb stone M - 20	Cum	25.500	14381.53	366729.05	Rate attached
	Mortar 1:3 for fixing joints = 246x1x [(((0.250+0.30)/2)*0.60*0.005] + (0.30x0.30x0.005) = 0.313cum. Cement mortar 1:3 (1 cement : 3 coarse sand)	Cum	0.300	5666.00	1699.80	KSRB 1.3 Pg No 2
	Mason (brick layer) 1st class	day	2.500	466.20	1165.50	KSRB Pg No LIV
	Mason (brick layer) 2nd class	day	2.500	456.20	1140.50	
	Beldar	day	2.500	446.20	1115.50	
	Coolie	day	1.650	446.20	736.23	
	Total				372586.58	
	Add 1 % Water charges				3725.87	
					376312.45	
	Add 10 % Contractor's profit				37631.24	
	Add 10% Contractor Overhead				37631.24	
	Cost of 25.5 cum				451574.93	
	cost for 1 cum.				17708.82	A
	Cost per Kerb of width 0.405m =A X 0.102cum (Vol of one Kerb)				1806	Per No

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Name of the Work :- Mangalore Smart City
4.3 Rate Analysis of Dry Lean Concrete - Footpath

	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
	Dry Lean Cement Concrete Sub- base					
	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @ 160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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, Manually laid and compacting with palte compactor ,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)					
	Unit = cum					
	Taking output = 450 cum (990 tonne)					
	a) Labour					
	Mate	day	1.120	446.200	499.74	SI.No.12,Page No.LIV,
	Mazdoor skilled	day	6.000	446.200	2677.20	SI.No.6,Page No.LIV,
	Mazdoor	day	22.000	446.200	9816.40	SI.No.6,Page No.LIV,
	b) Machinery					
	Front end loader 1 cum bucket capacity	hour	6.000	593.00	3558.00	SI.No.26,Page No.XXXVII
	Cement concrete batch mix plant @ 75 cum per hour	hour	6.000	1525.00	9150.00	SI.No.104,Page No.L
	Electric generator 100 KVA	hour	6.000	534.00	3204.00	SI.No.92,Page No.XXXXIX
	Plate Compactor	Day	1.000	254.00	254.00	SI.No.65,Page No.XXXXVIII
	Water tanker6 KL capacity	hour	8.000	550.00	4400.00	
	Tipper	tonne.km	990 x L	4.00	39600.00	
	Add 10 per cent of cost of carriage to cover cost of loading and unloading				3960.00	
	c) Material					
	Crushed stone coarse aggregate of 25 mm and 12.5 mm nominal sizes graded as per table 600-1 @ 0.90 cum/cum of concrete conforming to clause 602.2.4.	cum	405.000	1460.00	591300.00	800.00
	Coarse Sand as per IS: 383 @ 0.45 cum/cum of concrete	cum	203.000	1700.00	345100.00	800.00
	Cement @ 160 kg/cum of concrete	tonne	72.000	4906.00	353232.00	84.00
	Cost of water	KL	48.000	40.00	1920.00	818.00
	d) Overhead charges @ 10 % on (a+b+c)				136867.13	
	e) Contractor's profit @ 10 % on (a+b+c+d)				150553.85	
	Cost for 450 cum = a+b+c+d+e				1656092.33	
	Rate per cum = (a+b+c+d+e)/450				3680.21	
				say	<u>3680.00</u>	
Note	Quantity provided for aggregate is for estimating purpose. Exact quantity shall be as per mix design.					

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Name of the Work :- Mangalore Smart City

4.4 Rate Analysis for Granular Sub Base under Footpath

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
4.1	401	Granular Sub-Base with Close Graded Material (Table:- 400-1)					
	A	Plant Mix Method					
		Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401					
		Unit = cum					
		Taking output = 225 cum (450 tonne)					
		a) Labour					
		Mate	day	0.4	395	158	SI.No.12,Page No.LIV,
		Mazdoor skilled	day	2	446.2	892.4	SI.No.6,Page No.LIV,
		Mazdoor	day	8	446.2	3569.6	SI.No.6,Page No.LIV,
		b) Machinery					
		Wet mix plant @ 60 tonne capacity per hour	hour	3	960	2880	1028
		Electric generator 100KVA	hour	6	534	3204	1321
		Water tanker 6 KL capacity 5 km lead with one trip per hour	hour	4.5	51.5	231.75	1032
		Front end loader 1 cum bucket capacity	hour	6	593	3558	1012
		Tipper 10 tonne	tonne.km	450 x L	4	28800	
		Add 10 per cent of cost of carriage to cover loading and unloading				2880	
		Motor Grader 110 HP	hour	6	2125	12750	
		Plate Compactor	Day	1	254	254	SI.No.65,Page No.XXXV VIII
		c) Material					
		Close graded Granular sub-base Material as per table 400-1					
		For Grading-II Material					
		53 mm to 9.5 mm @ 50 per cent	cum	144	1460	210240	M-013
		9.5 mm to 2.36 mm @ 20 per cent	cum	57	1340	76380	M-017
		2.36 mm below @ 30 per cent	cum	86.4	1150	99360	M-020
		Cost of water	KL	27	40	1080	Page No.V,SI.No.758
4.1A	(i)	Rate per cum for grading-II Material					
		d) Overhead charges @ 10% on (a+b+c)				44623.8	
		e) Contractor's profit @ 10% on (a+b+c+d)				49086.2	
		Cost for 225 cum = a+b+c+d+e				539948	
		Rate per cum = (a+b+c+d+e)/225				2399.77	
					say	<u>2400</u>	

**Executive Engineer
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**General Manager Technical
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Name of the Work :- Mangalore Smart City

4.5 Rate Analysis of taking out paver block

Sr.No.	Description	Unit	Quantity	Rate	Amount	Reference
1	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.					
	Details of cost for 10 sqm.					
a	Labour					
b	Beldar	Day	0.25	446.2	111.55	KPWD 18-19 SOR, Pg No.LVI SI No.5
c	Collie	Day	1	446.2	446.2	KPWD18-19 SOR, Pg No.LVI,SI No.6
d	Sundries	LS	2.7	1.73	4.67	CPWD Pg No 29,
	Total				562.42	
e	Add 1% Water Charges				5.62	
	Total				568.04	
f	Add 10 % Contractor's profit				56.8	
g	Add 10 % Contractor's overheads				56.804	
	Cost of 10 sqm				681.644	
	Cost of 1 sqm				68.16	

**Executive Engineer
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5.0 Summary for Maintenance

Sr.No.	description	Total Amount Rs.
1	2nd year Maintenance	3,908,339.00
2	3rd year Maintenance	4,085,686.00
3	4th year Maintenance	4,190,218.00
	Total Maintenance Amount	12,184,243.00
	GST @12% for Maintenance Period on SOR Base Items	909,578.00
	GST @12% for Maintenance Period on Market Base Items	272,081.00
	Total	13,365,902.00

Note: Maintenance cost is approved by KUIDFC

**EXECUTIVE ENGINEER
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**GENERAL MANAGER TECHNICAL
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Name of the Work :- Mangalore Smart City
5.1 Abstract for Maintenance of Road and Other Work for DPR 5-1st Year

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
Civil Works					
1.00	Maintenance for 1st Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	14.00	77.98	1092
2.00	Maintenance for 1st Year: KSRRB M200. 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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	18.38	1028.46	18,903
3.00	Maintenance for 1st Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	20.00	13.73	275
4.00	Maintenance for 1st Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	20.00	446.16	8,923
5.00	Maintenance for 1st Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	3.45	401.54	1385
6.00	Maintenance for 1st Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tipplers,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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	250.00	57.60	14,400
7.00	Maintenance for 1st Year: KSRRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	75.00	137.28	10,296
8.00	Maintenance for 1st Year: KSRRB 300-Compaction KSRRB 300-58. 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.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	500.00	6.86	3,430

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
9.00	Maintenance for 1st Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	7.50	6749.60	50,622
10.00	Maintenance for 1st Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	18.75	2477.90	,46,461
11.00	Maintenance for 1st Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming 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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnspillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	48.00	7090.51	3,40,344
12.00	Maintenance for 1st Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	360.00	300.87	108,313
13.00	Maintenance for 1st Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,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.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	3.84	80974.61	3,10,943
14.00	Maintenance for 1st Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	36.75	643.19	23,637

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
15.00	<p>Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>	Cum	7.35	4630.91	34,037
16.00	<p>Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	20.00	4209.92	84,198
17.00	<p>Maintenance for 1st Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	16.91	6595.16	1,11,524
18.00	<p>Maintenance for 1st Year: 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 (Non SOR Item)</p>	Rmt	35.00	119.60	4,186
19.00	<p>Maintenance for 1st Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)</p>	Rmt	50.00	378.66	18,933

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
20.00	<p>Maintenance for 1st Year: 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).</p> <p>(RA Attached)</p>	Cum	0.10	20258.89	2,026
21.00	<p>Maintenance for 1st Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	2.51	17710.96	44,455
22.00	<p>Maintenance for 1st Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	0.30	17710.96	5,313
23.00	<p>Maintenance for 1st Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.</p>	m	100.00	27.46	2,746
24.00	<p>Maintenance for 1st Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)</p>	Sqm	11.55	91.52	1057
25.00	<p>Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.</p>	Nos.	3.00	8395.92	25,188
26.00	<p>Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)</p>	Nos.	8.00	5487.63	43,901
27.00	<p>Maintenance for 1st Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)</p>	Nos.	1.00	6048.15	6,048
28.00	<p>Maintenance for 1st Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes 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 testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)</p>	Rmt	6.00	313.58	1,881
29.00	<p>Maintenance for 1st Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)</p>	Nos.	10.00	949.52	9,495

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
30.00	<p>Maintenance for 1st Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)</p>	Rmt	4.00	5745.17	22,981
31.00	<p>Maintenance for 1st Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)</p>	Rmt	150.00	1619.16	2,42,874
32.00	<p>Maintenance for 1st Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)</p>	Rmt	100.00	1111.66	1,11,166
33.00	<p>Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 200 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)</p>	Nos.	20.00	1143.42	22,868
34.00	<p>Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)</p>	Nos.	20.00	2219.58	44,392
35.00	<p>Maintenance for 1st Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)</p>	Rmt	40.00	625.35	25,014
36.00	<p>Maintenance for 1st Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and anti-creasing it on top with approved colour. Sealing entire area with concrete sealer.</p>	Sqm	200.00	713.86	1,42,772
37.00	<p>Maintenance for 1st Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm 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. (Page No 101,SI No : 14.7)</p>	Sqm	30.00	1274.42	38,233

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
38.00	Maintenance for 1st Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)	Cum	12.00	8967.82	107,614
39.00	Maintenance for 1st Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	3.20	10022.58	32,072
40.00	Maintenance for 1st Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	10.00	330.62	3,306
41.00	Maintenance for 1st Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: 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 (Page No 192,SI No : 24.57)	Sqm	30.00	490.78	14,723
42.00	Maintenance for 1st Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	3.00	63648.00	1,90,944
43.00	Maintenance for 1st Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00	4680.00	9,360
44.00	Maintenance for 1st Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	0.30	104000.00	31,200
45.00	Maintenance for 1st Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	1015.00	186.16	1,88,952
46.00	Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Earth	Cum	200.00	107.08	21,416

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
47.00	Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Debris	Cum	70.00	107.54	7,528
	Electrical Works				
48.00	Maintenance for 1st Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1.00	1747.88	1748
49.00	Maintenance for 1st Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding 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 (Ref Electrical SOR SI No. 5.14.5)	Nos.	1.00	12916.80	12,917
50.00	Maintenance for 1st Year: 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, icluding 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 (Ref Electrical SOR SI No.5.14.2)	Nos.	1.00	7693.92	7,694
51.00	Maintenance for 1st Year: 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 (Ref Electrical SOR SI No.5.18.5)	Nos.	1.00	3681.60	3,682
52.00	Maintenance for 1st Year: 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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1.00	2496.00	2,496
53.00	Maintenance for 1st Year: 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 (Ref Electrical SOR SI No.16.28.3)	Nos.	242.00	644.80	156,042
54.00	Maintenance for 1st Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00	12254.24	12,254
55.00	Maintenance for 1st Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00	1608.88	1,609
	LT Cable				

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
56.00	Maintenance for 1st Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	60.00	121.68	7,301
57.00	Maintenance for 1st Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	10.00	84.86	849
58.00	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10.00	11.76	118
59.00	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8.00	3.24	26
	Earthing system				
60.00	Maintenance for 1st Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1.00	5720.00	5,720
61.00	Maintenance for 1st Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	50.00	20.28	1,014
	Landcaping Works				
	SOIL MIXES and Ground Preparation				
62.00	Maintenance for 1st Year: 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% for payment). (Non SOR Item)	Cum	1.50	145.60	218
63.00	Maintenance for 1st Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	0.75	233.38	175
64.00	Maintenance for 1st Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	2.00	117.83	236
65.00	Maintenance for 1st Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	2.00	24.87	50
	Soil preparation of Lawn				

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
66.00	Maintenance for 2nd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Sqm	382.19	117.83	45,033
	TURF				
67.00	Maintenance for 1st Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	3.00	163.07	489
	IRRIGATION				
68.00	Maintenance for 1st Year: Watering with tanker to landscape area and plants for one year	Year	1.00	31085.11	31,085
69.00	Maintenance for 1st Year: 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. (Non SOR Item)	Sqm	3.00	582.40	1,747
				Total	28,83,930

		GST
SOR Item Total	15,48,006	185761
Market Base Item	6,64,223	79707

Executive Engineer
MSCL Mangaluru

General Manager Technical
MSCL Mangaluru

Name of the Work :- Mangalore Smart City
5.2 M.S. For Maintenance of Road and Other Work for DPR 5-1st Year

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
	Civil Works						
1.00	Maintenance for 1st Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	1	7	2		14.00
2.00	Maintenance for 1st Year: KSRRB M200. 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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km Extra) (Page No 138,SI No : 18.47)	Cum	5	3.5	3.5	0.3	18.38
3.00	Maintenance for 1st Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	1	20			20.00
4.00	Maintenance for 1st Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	1	40	1	0.5	20.00
5.00	Maintenance for 1st Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	10	3	0.5	0.23	3.45
6.00	Maintenance for 1st Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	1.00	100	5	0.5	250.00
7.00	Maintenance for 1st Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	1.00	30	5	0.5	75.00
8.00	Maintenance for 1st Year: KSRRB 300-Compaction KSRRB 300-58. 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.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	1.00	100		5	500.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
9.00	Maintenance for 1st Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	1.00	15	5	0.1	7.50
10.00	Maintenance for 1st Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	1.00	50	2.5	0.15	18.75
11.00	Maintenance for 1st Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	1.00	200	0.2	1.2	48.00
12.00	Maintenance for 1st Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	2.00	200		0.9	360.00
13.00	Maintenance for 1st Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,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.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	1.00	3.84			3.84
14.00	Maintenance for 1st Year: KSRRB M300- Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murrum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	6.00	3.5	3.5	0.5	36.75
15.00	Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ratio not to exceed 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	6.00	3.5	3.5	0.1	7.35

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
16.00	Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to exceed 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, Manually laid and compacting with palte compactor ,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)	Cum	1.00	100	2	0.1	20.00
17.00	Maintenance for 1st Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed, plain cement concrete pavement 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 paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22 2 2)	Cum	6.00	3.5	3.5	0.23	16.91
18.00	Maintenance for 1st Year: 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 (Non SOR Item)	Rmt	1.00	35			35.00
19.00	Maintenance for 1st Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)	Rmt	1.00	50			50.00
20.00	Maintenance for 1st Year: 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). (RA Attached)	Cum	1	1	0.103		0.10
21.00	Maintenance for 1st Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)	Cum	1	90	0.0279		2.51
22.00	Maintenance for 1st Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)	Cum	1	25	0.0118		0.30

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
23.00	Maintenance for 1st Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Rmt	100				100.00
24.00	Maintenance for 1st Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	1	70	0.165		11.55
25.00	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	3.00				3.00
26.00	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	8.00				8.00
27.00	Maintenance for 1st Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	1.00				1.00
28.00	Maintenance for 1st Year: Providing gully pipe lowering, laying of PVC 100 mm dia pipes 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 (page No.41, Item No.7, KUWSDB SOR 2016-17)	Rmt	1.00	6.00			6.00
29.00	Maintenance for 1st Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16, P.No.86, SI.No.12.89)	Nos.	1.00	10			10.00
30.00	Maintenance for 1st Year: KSRRB M800-29.3. Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III : Triple row for three utility services. (PWD SR 2015-16, SI.No.24.36)	Rmt	1	4.00			4.00
31.00	Maintenance for 1st Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	1	150			150.00
32.00	Maintenance for 1st Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	1	100			100.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
33.00	Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 200 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
34.00	Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
35.00	Maintenance for 1st Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	1	40			40.00
36.00	Maintenance for 1st Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	1	100	2		200.00
37.00	Maintenance for 1st Year: Providing and laying heavy duty cobble stones 75mm thick , using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm 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. (Page No 101, SI No : 14.7)	Sqm	1.00	20	1.5		30.00
38.00	Maintenance for 1st Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)	Cum	4.00	2.5	8	0.15	12.00
39.00	Maintenance for 1st Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	4.00	2.5	8	0.04	3.20
40.00	Maintenance for 1st Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	10.00				10.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
41.00	Maintenance for 1st Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: 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 (Page No 192,SI No : 24.57)	Sqm	1.00	200	0.15		30.00
42.00	Maintenance for 1st Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	3.00				3.00
43.00	Maintenance for 1st Year: Providing and fixing of S.S. Bollards (SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00				2.00
44.00	Maintenance for 1st Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	1.00	0.3			0.30
45.00	Maintenance for 1st Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	2.00	7250	0.7	0.1	1015.00
46.00	Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth	Cum	1.00	200			200.00
47.00	Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris	Cum	1.00	70			70.00
Electrical Works							
48.00	Maintenance for 1st Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1				1.00
49.00	Maintenance for 1st Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding 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 (Ref Electrical SOR SI No. 5.14.5)	Nos.	1				1.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
50.00	Maintenance for 1st Year: 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 (Ref Electrical SOR SI No.5.14.2)	Nos.	1				1.00
51.00	Maintenance for 1st Year: 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 (Ref Electrical SOR SI No.5.18.5)	Nos.	1				1.00
52.00	Maintenance for 1st Year: 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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1				1.00
53.00	Maintenance for 1st Year: 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 (Ref Electrical SOR SI No.16.28.3)	Nos.	242.00				242.00
54.00	Maintenance for 1st Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00				1.00
55.00	Maintenance for 1st Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00				1.00
	LT Cable						
56.00	Maintenance for 1st Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	1	60.00			60.00
57.00	Maintenance for 1st Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	1	10.00			10.00
58.00	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10				10.00
59.00	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8				8.00
	Earthing system						

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
60.00	Maintenance for 1st Year: Chemical Earthing for grounding, conduits, IC cut outs and other equipments 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 (Ref Electrical SOR Pg.No.64, SI No.7.23.6)	Kit	1				1.00
61.00	Maintenance for 1st Year: 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 (Ref Electrical SOR SI No.7.22.3)	Rmt	1	50			50.00
	Landscaping Works						
	SOIL MIXES and Ground Preparation						
62.00	Maintenance for 1st Year: 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% for payment). (Non SOR Item)	Cum	1	20	0.5	0.15	1.50
63.00	Maintenance for 1st Year: KSRRB M300-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 (Page No.152, SI.No.19.90)	Cum	1	15	0.5	0.1	0.75
64.00	Maintenance for 1st Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 18-19, Page No.150, SI No.19.77)	Cum	1	40	0.5	0.1	2.00
65.00	Maintenance for 1st Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	1	40	0.5	0.1	2.00
	Soil preparation of Lawn						
66.00	Maintenance for 2nd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Sqm	1.00	382.19			382.19
	TURF						
67.00	Maintenance for 1st Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	1	5	0.6		3.00
	IRRIGATION						
68.00	Maintenance for 1st Year: Watering with tanker to landscape area and plants for one year						
69.00	Maintenance for 1st Year: 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. (Non SOR Item)	Sqm	1	5	0.6		3.00

Assistant Engineer
MSCL Mangaluru

Executive Engineer
MSCL Mangaluru

General Manager Technical
MSCL Mangaluru

**Name of the Work :- Mangalore Smart City
5.3 R.A. For Maintenance of 1st Year- DPR 5**

1	Maintenance for 1st Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)			
	Basic rate		68.16	
	Maintenance -1st year escalation of 4%		2.73	
	Add 10% For area weightage (Mangalore City)		7.09	
		Rate	77.98	Sqm
2	Maintenance for 1st Year: KSRRB M200.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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)			
	Basic rate		899	
	Maintenance -1st year escalation of 4%		35.96	
	Add 10% For area weightage (Mangalore City)		93.5	
		Rate	1028.46	Cum
3	Maintenance for 1st Year: KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)			
	Basic rate		12.00	
	Maintenance -1st year escalation of 4%		0.48	
	Add 10% For area weightage (Mangalore City)		1.25	
		Rate	13.73	Rmt
4	Maintenance for 1st Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 18-19,18.20,Page No.137)			
	Basic rate		390	
	Maintenance -1st year escalation of 4%		15.6	
	Add 10% For area weightage (Mangalore City)		40.56	
		Rate	446.16	Cum
5	Maintenance for 1st Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)			
	Basic rate		351	
	Maintenance -1st year escalation of 4%		14.04	
	Add 10% For area weightage		36.5	
		Rate	401.54	Cum

6	<p>Maintenance for 1st Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)</p>				
	Basic rate			41	
				10.24	
	Maintenance -1st year escalation of 4%			2.05	
	Add 10% For area weightage (Mangalore City)			4.31	
			Rate	57.60	Cum
7	<p>Maintenance for 1st Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 18-19,SI No.2.11,Pg. No.6)</p>				
	Basic rate			120	
	Maintenance -1st year escalation of 4%			4.8	
	Add 10% For area weightage (Mangalore City)			12.48	
			Rate	137.28	Cum
8	<p>Maintenance for 1st Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 18-19,SI No.19.64,Pg. No.149)</p>				
	Basic rate			6	
	Maintenance -1st year escalation of 4%			0.24	
	Add 10% For area weightage (Mangalore City)			0.62	
			Rate	6.86	Sqm
9	<p>Maintenance for 1st Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2018-19)</p>				
	Basic Rate			5900	
	Maintenance -1st year escalation of 4%			236	
	Add 10% For area weightage (Mangalore City)			613.6	
			Rate	6749.60	Cum
10	<p>Maintenance for 1st Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading-II Material</p>				
	Basic Rate			2166	
	Maintenance -1st year escalation of 4%			86.64	
	Add 10% For area weightage (Mangalore City)			225.26	
			Rate	2477.90	Cum

11	<p>Maintenance for 1st Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)</p>				
	Basic Rate			6198	
	Maintenance -1st year escalation of 4%			247.92	
	Add 10% For area weightage (Mangalore City)			644.59	
			Rate	7090.51	Cum
12	<p>Maintenance for 1st Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)</p>				
	Basic Rate			263	
	Maintenance -1st year escalation of 4%			10.52	
	Add 10% For area weightage (Mangalore City)			27.35	
			Rate	300.87	Sqm
13	<p>Maintenance for 1st Year: KSRB 4.9.2 :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 thr adjoing 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.Specification No. KBS4.6.3. do with TMT bars Fe500</p>				
	Basic Rate			70782	
	Maintenance -1st year escalation of 4%			2831.28	
	Add 10% For area weightage (Mangalore City)			7361.33	
			Rate	80974.61	MT
14	<p>Maintenance for 1st Year: KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305</p>				
	Basic Rate			513	
	Maintenance -1st year escalation of 4%			20.52	
	Add 20km lead (17.4 KSRRB M100-4.1-Cost of haulage excluding loading and unloading MORTH-100/Chapter 1-case 1-Surface Road)=2.5 Rs/ Tkm x 1.28 T x 20km			51.2	
	Sub Total			584.72	
	Add 10% For area weightage (Mangalore City)			58.47	
			Rate	643.19	Cum

15	<p>Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>			
	Basic Rate		4048	
	Maintenance -1st year escalation of 4%		161.92	
	Add 10% For area weightage (Mangalore City)		420.99	
		Rate	4630.91	Cum
16	<p>Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>			
	Basic Rate		3680	
	Maintenance -1st year escalation of 4%		147.2	
	Add 10% For area weightage (Mangalore City)		382.72	
		Rate	4209.92	Cum
17	<p>Maintenance for 1st Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>			
	Basic Rate		5765	
	Maintenance -1st year escalation of 4%		230.6	
	Add 10% For area weightage (Mangalore City)		599.56	
		Rate	6595.16	Cum
18	<p>Maintenance for 1st Year: 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 (Non SOR Item)</p>			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.2		115	
	Maintenance -1st year escalation of 4%		4.6	
		Rate	119.6	Rmt

19	Maintenance for 1st Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)			
	Basic Rate			331
	Maintenance -1st year escalation of 4%			13.24
	Add 10% For area weightage (Mangalore City)			34.42
		Rate		378.66 Rmt
20	Maintenance for 1st Year: 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). (RA Attached)			
	Rate Arrived as per Rate analysis			
	Basic Rate			17708.82
	Maintenance -1st year escalation of 4%			708.35
	Add 10% For area weightage (Mangalore City)			1841.72
		Rate		20258.89 Cum
21	Maintenance for 1st Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)			
	Basic rate			15481.61
	Maintenance -1st year escalation of 4%			619.26
	Add 10% For area weightage			1610.09
		Rate		17710.96 Cum
22	Maintenance for 1st Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)			
	Basic rate			15481.61
	Maintenance -1st year escalation of 4%			619.26
	Add 10% For area weightage			1610.09
		Rate		17710.96 Cum
23	Maintenance for 1st Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic rate			24
	Maintenance -1st year escalation of 4%			0.96
	Add 10% For area weightage			2.5
		Rate		27.46 Rm
24	Maintenance for 1st Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)			
	Basic Rate			80

	Maintenance -1st year escalation of 4%		3.2	
	Add 10% For area weightage (Mangalore City)		8.32	
		Rate	91.52	Sqm
25	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.			
	As per Quotation			
	Basic Rate		10764	
	Discount 30%		-3229.2	
	Sub Total		7534.8	
	Fixing Charges @5%		538.2	
	Maintenance -1st year escalation of 4%		322.92	
		Rate	8395.92	Nos.
26	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7179.00	
	Discount 30%		-2153.7	
	Sub Total		5025.3	
	Fixing Charges @5%		251.265	
	Maintenance -1st year escalation of 4%		211.06	
		Rate	5487.63	Nos.
27	Maintenance for 1st Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7912.28	
	Discount 30%		-2373.68	
	Sub Total		5538.6	
	Fixing Charges @5%		276.93	
	Maintenance -1st year escalation of 4%		232.62	
		Rate	6048.15	Nos.
28	Maintenance for 1st Year: Providing gully pipe lowering, laying of PVC 100 mm dia pipes 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 (page No.41, Item No.7, KUWSDB SOR 2016-17)			
	Basic Rate		297	
	Maintenance -1st year escalation of 4%		11.88	
	Add 10% on Labor Charges=Rs.47, For area weightage (Mangalore City)		4.7	
		Rate	313.58	Rm
29	Maintenance for 1st Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-19, P.No.86, SI.No.12.89)			
	Basic Rate		830	
	Maintenance -1st year escalation of 4%		33.2	
	Add 10% For area weightage (Mangalore City)		86.32	
		Rate	949.52	Nos.

30	Maintenance for 1st Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2018-19,Sl.No.24.36)			
	Basic Rate		5022	
	Maintenance -1st year escalation of 4%		200.88	
	Add 10% For area weightage (Mangalore City)		522.29	
		Rate	5745.17	Rm
31	Maintenance for 1st Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)			
	Basic Rate (Without GST@18%)		1471.08	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)		78	
	Add 10% For area weightage (Mangalore City)		7.8	
	Sub Total		1556.88	
	Maintenance -1st year escalation of 4%		62.28	
		Rate	1619.16	Rm
32	Maintenance for 1st Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)			
	Basic Rate (Without GST@18%)		996.3	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)		66	
	Add 10% For area weightage (Mangalore City)		6.6	
	Sub Total		1068.9	
	Maintenance -1st year escalation of 4%		42.76	
		Rate	1111.66	Rm
33	Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 200 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate (Without GST@18%)		1003	
	Contractor Profit@10%		100.3	
	Maintenance -1st year escalation of 4%		40.12	
		Rate	1143.42	Nos.
34	Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate (Without GST@18%)		1947	
	Contractor Profit@10%		194.7	
	Maintenance -1st year escalation of 4%		77.88	
		Rate	2219.58	Nos.

35	Maintenance for 1st Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)			
	Basic Rate (Without GST@18%)			561.7
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)			36
	Add 10% For area weightage (Mangalore City)			3.6
	Sub Total			601.3
	Maintenance -1st year escalation of 4%			24.05
		Rate		625.35 Rm
36	Maintenance for 1st Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquiting it on top with approved colour. Sealing entire area with concrete sealer.			
	Basic Rate (Without GST@18%)			624.00
	Maintenance -1st year escalation of 4%			24.96
	Add 10% For area weightage (Mangalore City)			64.9
		Rate		713.86 Sqm
37	Maintenance for 1st Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm 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. (Page No 101, SI No : 14.7)			
	Basic rate			1114
	Maintenance -1st year escalation of 4%			44.56
	Add 10% For area weightage (Mangalore City)			115.86
		Rate		1274.42 Sqm
38	Maintenance for 1st Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 18-19, S.I.No.21.17.1, Page No.163)			
	Basic rate			7839
	Maintenance -1st year escalation of 4%			313.56
	Add 10% For area weightage (Mangalore City)			815.26
		Rate		8967.82 Cum
39	Maintenance for 1st Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen			
	Basic rate			8761
	Maintenance -1st year escalation of 4%			350.44
	Add 10% For area weightage (Mangalore City)			911.14
		Rate		10022.58 Cum

40	Maintenance for 1st Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications			
	Basic rate		289	
	Maintenance -1st year escalation of 4%		11.56	
	Add 10% For area weightage (Mangalore City)		30.06	
		Rate	330.62	Nos.
41	Maintenance for 1st Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: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 (Page No 192,SI No : 24.57)			
	Basic Rate		429	
	Maintenance -1st year escalation of 4%		17.16	
	Add 10% For area weightage (Mangalore City)		44.62	
		Rate	490.78	Sqm
42	Maintenance for 1st Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.			
	Baisc rate		61200	
	Maintenance -1st year escalation of 4%		2448	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.1	Rate	63648	Nos.
43	Maintenance for 1st Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.13		4500.00	
	Maintenance -1st year escalation of 4%		180	
		Rate	4680	Nos.
44	Maintenance for 1st Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.26		100000.00	
	Maintenance -1st year escalation of 4%		4000	
		Rate	104000	MT
45	Maintenance for 1st Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic Rate		179.00	
	Maintenance -1st year escalation of 4%		7.16	
		Rate	186.16	Nos.

46	Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth			
	Earth		2.0x1.28x10km	
	Baisc rate		25.60	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00	
	Sub Total-1		93.60	
	Add 10% For area weightage (Mangalore City)		9.36	
	Sub Total-2		102.96	
	Maintenance -1st year escalation of 4%		4.12	
		Rate	107.08	Cum
47	Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris			
	Debris		2.0x1.30x10Km	
	Baisc rate		26.00	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00	
	Sub Total-1		94.00	
	Add 10% For area weightage (Mangalore City)		9.4	
	Sub Total-2		103.40	
	Maintenance -1st year escalation of 4%		4.14	
		Rate	107.54	Cum
	Lighting Poles			
48	Maintenance for 1st Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))			
	Basic Rate		1,681	
	Maintenance -1st year escalation of 4%		67.23	
		Rate	1747.8756	Nos.
49	Maintenance for 1st Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding 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 (Ref Electrical SOR SI No. 5.14.5)			
	Basic rate		12420	
	Maintenance -1st year escalation of 4%		496.8	
		Rate	12,916.80	Nos.
50	Maintenance for 1st Year: 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, icluding 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 (Ref Electrical SOR SI No.5.14.2)			
	Basic rate		7398	
	Maintenance -1st year escalation of 4%		295.92	
		Rate	7,693.92	Nos.

51	Maintenance for 1st Year: 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 (Ref Electrical SOR SI No.5.18.5)				
	Basic rate			3540	
	Maintenance -1st year escalation of 4%			141.6	
			Rate	3,681.60	Nos.
52	Maintenance for 1st Year: 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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)				
	Basic rate			2400	
	Maintenance -1st year escalation of 4%			96	
			Rate	2,496	Nos.
53	Maintenance for 1st Year: 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 (Ref Electrical SOR SI No.16.28.2)				
	Basic rate			620	
	Maintenance -1st year escalation of 4%			24.8	
			Rate	645	Nos.
	Outdoor Box and Switch Gear				
54	Maintenance for 1st Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets				
	Price list (Considering 30% discount , 18% GST & 10% profit)			11782.92	
	Maintenance -1st year escalation of 4%			471.32	
			Rate	12,254	Nos.
55	Maintenance for 1st Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)				
	Basic rate			1547	
	Maintenance -1st year escalation of 4%			61.88	
			Rate	1,609	Nos.
	LT Cable				
56	Maintenance for 1st Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)				
	Basic rate			117	
	Maintenance -1st year escalation of 4%			4.68	
			Rate	121.68	Rm
57	Maintenance for 1st Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)				
	Basic rate			81.6	
	Maintenance -1st year escalation of 4%			3.26	
			Rate	84.86	Rm

58	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)			
	Basic rate		11.31	
	Maintenance -1st year escalation of 4%		0.45	
		Rate	11.76	Nos.
59	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)			
	Basic rate		3.12	
	Maintenance -1st year escalation of 4%		0.12	
		Rate	3.24	Nos.
60	Maintenance for 1st Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)			
	Basic rate		5500	
	Maintenance -1st year escalation of 4%		220	
		Rate	5720	Kit
61	Maintenance for 1st Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)			
	Basic rate		19.5	
	Maintenance -1st year escalation of 4%		0.78	
		Rate	20.28	Rmt
62	Maintenance for 1st Year: 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% for payment). (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.27		140.00	
	Maintenance -1st year escalation of 4%		5.6	
		Rate	145.60	Cum
63	Maintenance for 1st Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)			
	Basic rate		204	
	Maintenance -1st year escalation of 4%		8.16	
	Add 10% For area weightage		21.22	
		Rate	233.38	Cum
64	Maintenance for 1st Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)			
	Basic rate		103	

	Maintenance -1st year escalation of 4%		4.12	
	Add 10% For area wightage		10.71	
		Rate	117.83	Cum
65	Maintenance for 1st Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.28		23.91	
	Maintenance -1st year escalation of 4%		0.96	
		Rate	24.87	Cum
66	Maintenance for 1st Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic rate		103	
	Maintenance -1st year escalation of 4%		4.12	
	Add 10% For area wightage		10.71	
		Rate	117.83	Sqm
	TURF			
67	Maintenance for 1st Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.32		156.80	
	Maintenance -1st year escalation of 4%		6.27	
		Rate	163.07	Sqm
	IRRIGATION			
68	Maintenance for 1st Year: Watering with tanker to landscape area and plants for one year			
	Water Tanker =61 Rs/ Hour,One Year Cost=92 days x 3 hrs/day x 61rs/hr (365days-90 days of mansoon=275 days/3 days=92 days,consider watering at every 3 days)		16836	
	Mazdoor = 0.5 days x 258.88		11908.48	
	Add 10% For area wightage		1190.848	
	Maintenance -1st year escalation of 4%		1149.78	
		Rate	31085.11	Sqm
69	Maintenance for 1st Year: 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. (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.34		560.00	
	Maintenance -1st year escalation of 4%		22.4	
		Rate	582.40	Sqm

Assistant Engineer
MSCL Mangaluru

Executive Engineer
MSCL Mangaluru

General Manager Technical
MSCL Mangaluru

Name of the Work :- Mangalore Smart City

6.1 Abstract for Maintenance of Road and Other Work for DPR 5-2nd Year

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
Civil Works					
1.00	Maintenance for 2nd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	14.00	80.97	1134
2.00	Maintenance for 2nd Year: KSRRB M200. 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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	18.38	1068.01	19,630
3.00	Maintenance for 2nd Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	20.00	14.26	285
4.00	Maintenance for 2nd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 18-19,18.20,Page No.137)	Cum	20.00	463.32	9,266
5.00	Maintenance for 2nd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	3.45	416.99	1,439
6.00	Maintenance for 2nd Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	250.00	48.71	12,178
7.00	Maintenance for 2nd Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	75.00	142.56	10,692
8.00	Maintenance for 2nd Year: KSRRB 300-Compaction KSRRB 300-58. 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.(KPWD 18-19,SI No.19.64,Pg. No.149)	Sqm	500.00	7.13	3,565

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
9.00	Maintenance for 2nd Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2018-19)	Cum	7.50	7009.20	52,569
10.00	Maintenance for 2nd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	37.50	2573.21	96,495
11.00	Maintenance for 2nd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming 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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnspillers, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	48.00	7363.22	3,53,435
12.00	Maintenance for 2nd Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	360.00	312.44	1,12,478
13.00	Maintenance for 2nd Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,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.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	3.84	84089.02	3,22,902
14.00	Maintenance for 2nd Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	61.25	665.76	40,778

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
15.00	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>	Cum	12.25	4809.02	58,910
16.00	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	20.00	4371.84	87,437
17.00	<p>Maintenance for 2nd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	28.18	6848.82	1,93,000
18.00	<p>Maintenance for 2nd Year: 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 (Non SOR Item)</p>	Rmt	650.00	124.20	80,730
19.00	<p>Maintenance for 2nd Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)</p>	Rmt	650.00	393.23	2,55,600

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
20.00	<p>Maintenance for 2nd Year: 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). (RA Attached)</p>	Cum	0.10	21038.08	2,104
21.00	<p>Maintenance for 2nd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	2.79	18392.15	51,314
22.00	<p>Maintenance for 2nd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1.18	18392.15	21,703
23.00	<p>Maintenance for 2nd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.</p>	Rmt	100.00	28.51	2,851
24.00	<p>Maintenance for 2nd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)</p>	Sqm	82.50	95.04	7,841
25.00	<p>Maintenance for 2nd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.</p>	Nos.	5.00	9900.72	49,504
26.00	<p>Maintenance for 2nd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)</p>	Nos.	5.00	5698.70	28,493
27.00	<p>Maintenance for 2nd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)</p>	Nos.	5.00	6280.77	31,404
28.00	<p>Maintenance for 2nd Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes 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 testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)</p>	Rmt	20.00	325.46	6,509
29.00	<p>Maintenance for 2nd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2018-19,P.No.86, SI.No.12.89)</p>	Nos.	20.00	986.04	19,721

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
30.00	<p>Maintenance for 2nd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2018-19,SI.No.24.36)</p>	Rmt	20.00	5966.14	1,19,323
31.00	<p>Maintenance for 2nd Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)</p>	Rmt	150.00	1681.43	2,52,215
32.00	<p>Maintenance for 2nd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)</p>	Rmt	100.00	1154.41	1,15,441
33.00	<p>Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 200 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)</p>	Nos.	20.00	1183.54	23,671
34.00	<p>Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)</p>	Nos.	20.00	2297.46	45,949
35.00	<p>Maintenance for 2nd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)</p>	Rmt	40.00	649.40	25,976
36.00	<p>Maintenance for 2nd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.</p>	Sqm	200.00	741.31	1,48,262
37.00	<p>Maintenance for 2nd Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm 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. (Page No 101,SI No : 14.7)</p>	Sqm	75.00	1323.43	99,257

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
38.00	Maintenance for 2nd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)	Cum	6.00	9312.73	55,876
39.00	Maintenance for 2nd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	1.60	10408.07	16,653
40.00	Maintenance for 2nd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00	343.33	17,167
41.00	Maintenance for 2nd Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: 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 (Page No 192,SI No : 24.57)	Sqm	600.00	509.65	3,05,790
42.00	Maintenance for 1st Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	3.00	66096.00	1,98,288
43.00	Maintenance for 2nd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00	4860.00	9,720
44.00	Maintenance for 2nd Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	0.10	108000.00	10,800
45.00	Maintenance for 2nd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	1015.00	193.32	1,96,220
46.00	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Earth	Cum	200.00	111.20	22,240
47.00	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Debris	Cum	70.00	111.67	7,817
	Electrical Works				

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
48.00	Maintenance for 2nd Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1.00	1815.10	1,815
49.00	Maintenance for 2nd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding 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 (Ref Electrical SOR SI No. 5.14.5)	Nos.	1.00	13413.60	13,414
50.00	Maintenance for 2nd Year: 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, icluding 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 (Ref Electrical SOR SI No.5.14.2)	Nos.	1.00	7989.84	7,990
51.00	Maintenance for 2nd Year: 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 (Ref Electrical SOR SI No.5.18.5)	Nos.	1.00	3823.20	3,823
52.00	Maintenance for 2nd Year: 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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1.00	2592.00	2,592
53.00	Maintenance for 2nd Year: 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 (Ref Electrical SOR SI No.16.28.3)	Nos.	242.00	669.60	162,043
54.00	Maintenance for 2nd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00	12725.55	12,726
55.00	Maintenance for 2nd Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00	1670.76	1,671
	LT Cable				
56.00	Maintenance for 2nd Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	60.00	126.36	7,582

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
57.00	Maintenance for 2nd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	10.00	88.13	881
58.00	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10.00	12.21	122
59.00	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8.00	3.37	27
	Earthing system				
60.00	Maintenance for 2nd Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipments on the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1.00	5940.00	5,940
61.00	Maintenance for 2nd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	50.00	21.06	1,053
	Landcaping Works				
	SOIL MIXES and Ground Preparation				
62.00	Maintenance for 2nd Year: 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% for payment). (Non SOR Item)	Cum	1.50	151.20	227
63.00	Maintenance for 2nd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	0.75	242.35	182
64.00	Maintenance for 2nd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	2.00	122.36	245
65.00	Maintenance for 2nd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	2.00	25.82	52
	Soil preparation of Lawn				
66.00	Maintenance for 2nd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Sqm	382.19	122.36	46,765
	TURF				
67.00	Maintenance for 2nd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	3.00	169.34	508
	IRRIGATION				

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
68.00	Maintenance for 2nd Year: Watering with tanker to landscape area and plants for one year	Year	1.00	32234.89	32,235
69.00	Maintenance for 2nd Year: 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. (Non SOR Item)	Sqm	3.00	604.80	1,814
				Total	39,08,339

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

**Name of the Work :- Mangalore Smart City
6.2 M.S. For Maintenance of Road and Other Work for DPR 5-2nd Year**

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
Civil Works							
1.00	Maintenance for 2nd Year: Taking out existing CC interlocking paver blocks from footpath/central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA	Sqm	1	7	2		14.00
2.00	Maintenance for 2nd Year: KSRRB M200. 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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	5	3.5	3.5	0.3	18.38
3.00	Maintenance for 2nd Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	1	20			20.00
4.00	Maintenance for 2nd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	1	40	1	0.5	20.00
5.00	Maintenance for 2nd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	10	3	0.5	0.23	3.45
6.00	Maintenance for 2nd Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	1.00	100	5	0.5	250.00
7.00	Maintenance for 2nd Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	1.00	30	5	0.5	75.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
8.00	Maintenance for 2nd Year: KSRRB 300-Compaction KSRRB 300-58. 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.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	1.00	100		5	500.00
9.00	Maintenance for 2nd Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications.	Cum	1.00	15	5	0.1	7.50
10.00	Maintenance for 2nd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	1.00	50	5	0.15	37.50
11.00	Maintenance for 2nd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	1.00	200	0.2	1.2	48.00
12.00	Maintenance for 2nd Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	2.00	200		0.9	360.00
13.00	Maintenance for 2nd Year: KSRB 4.9.2 : 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 thr 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.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	1.00	3.84			3.84
14.00	Maintenance for 2nd Year: KSRRB M300- Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	10.00	3.5	3.5	0.5	61.25

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
15.00	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>	Cum	10.00	3.5	3.5	0.1	12.25
16.00	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	1.00	100	2	0.1	20.00
17.00	<p>Maintenance for 2nd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	10.00	3.5	3.5	0.23	28.18
18.00	<p>Maintenance for 2nd Year: 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 (Non SOR Item)</p>	Rmt	1.00	650			650.00
19.00	<p>Maintenance for 2nd Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)</p>	Rmt	1.00	650			650.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
20.00	<p>Maintenance for 2nd Year: 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). (RA Attached)</p>	Cum	1	1	0.103		0.10
21.00	<p>Maintenance for 2nd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.2)</p>	Cum	1	100	0.0279		2.79
22.00	<p>Maintenance for 2nd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete</p>	Cum	1	100	0.0118		1.18
23.00	<p>Maintenance for 2nd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.</p>	Rmt	100				100.00
24.00	<p>Maintenance for 2nd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)</p>	Sqm	1	500	0.165		82.50
25.00	<p>Maintenance for 2nd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.</p>	Nos.	5.00				5.00
26.00	<p>Maintenance for 2nd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)</p>	Nos.	5.00				5.00
27.00	<p>Maintenance for 2nd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)</p>	Nos.	5.00				5.00
28.00	<p>Maintenance for 2nd Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes 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 testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)</p>	Rmt	20.00	1.00			20.00
29.00	<p>Maintenance for 2nd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)</p>	Nos.	20.00				20.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
30.00	Maintenance for 2nd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case III: Triple row for three utility services.	Rmt	1	20.00			20.00
31.00	Maintenance for 2nd Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.	Rmt	1	150			150.00
32.00	Maintenance for 2nd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	1	100			100.00
33.00	Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 200 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
34.00	Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
35.00	Maintenance for 2nd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	1	40			40.00
36.00	Maintenance for 2nd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	1	100	2		200.00
37.00	Maintenance for 2nd Year: Providing and laying heavy duty cobble stones 75mm thick , using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm 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	1.00	50	1.5		75.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
38.00	Maintenance for 2nd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30	Cum	2.00	2.5	8	0.15	6.00
39.00	Maintenance for 2nd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30	Cum	2.00	2.5	8	0.04	1.60
40.00	Maintenance for 2nd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973	Nos.	50.00				50.00
41.00	Maintenance for 2nd Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: 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 (Page No 192, SI No : 24.57)	Sqm	1.00	4000	0.15		600.00
42.00	Maintenance for 2nd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	3.00				3.00
43.00	Maintenance for 2nd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00				2.00
44.00	Maintenance for 2nd Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	1.00	0.1			0.10
45.00	Maintenance for 2nd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer.	Cum	2.00	7250	0.7	0.1	1015.00
46.00	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Earth	Cum	1.00	200			200.00
47.00	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Debris	Cum	1.00	70			70.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
	Electrical Works						
48.00	Maintenance for 2nd Year: Dismantling, removal, transportation to client's storage place existing lighting poles (Non SOR Item)	Nos.	1				1.00
49.00	Maintenance for 2nd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor 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 (Ref Electrical SOR SI No. 5.14.5)	Nos.	1				1.00
50.00	Maintenance for 2nd Year: 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 (Ref Electrical SOR SI No.5.14.2)	Nos.	1				1.00
51.00	Maintenance for 2nd Year: 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 (Ref Electrical SOR SI No.5.18.5)	Nos.	1				1.00
52.00	Maintenance for 2nd Year: 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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1				1.00
53.00	Maintenance for 2nd Year: 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 (Ref Electrical SOR SI No.16.28.3)	Nos.	242.00				242.00
54.00	Maintenance for 2nd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00				1.00
55.00	Maintenance for 2nd Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00				1.00
	LT Cable						

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
56.00	Maintenance for 2nd Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	1	60.00			60.00
57.00	Maintenance for 2nd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	1	10.00			10.00
58.00	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10				10.00
59.00	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8				8.00
	Earthing system						
60.00	Maintenance for 2nd Year: Chemical Earthing for grounding,conduits,IC cut outs and other equipments 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1				1.00
61.00	Maintenance for 2nd Year: 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 (Ref Electrical SOR SI No.7.22.3)	Rmt	1	50			50.00
	Landcaping Works						
	SOIL MIXES and Ground Preparation						
62.00	Maintenance for 2nd Year: 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% for payment). (Non SOR Item)	Cum	1	20	0.5	0.15	1.50
63.00	Maintenance for 2nd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	1	15	0.5	0.1	0.75
64.00	Maintenance for 2nd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (Ref Electrical SOR SI No.7.22.3)	Cum	1	40	0.5	0.1	2.00
65.00	Maintenance for 2nd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	1	40	0.5	0.1	2.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
	Soil preparation of Lawn						
66.00	Maintenance for 2nd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer.	Sqm	1.00	382.19			382.19
	TURF						
67.00	Maintenance for 2nd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	1	5	0.6		3.00
	IRRIGATION						
68.00	Maintenance for 2nd Year: Watering with tanker to landscape area and plants for one year	Year	1.00				1.00
69.00	Maintenance for 2nd Year: 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	Sqm	1	5	0.6		3.00

**Assistant Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

**Name of the Work :- Mangalore Smart City
6.3 R.A. For Maintenance of 2nd Year - DPR 5**

1	Maintenance for 2nd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)			
	Basic rate		68.16	
	Maintenance- 2nd year escalation of 8%		5.45	
	Add 10% For area weightage (Mangalore City)		7.36	
		Rate	80.97	Sqm
2	Maintenance for 2nd Year: KSRRB M200.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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)			
	Basic rate		899	
	Maintenance- 2nd year escalation of 8%		71.92	
	Add 10% For area weightage (Mangalore City)		97.09	
		Rate	1068.01	Cum
3	Maintenance for 2nd Year: KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)			
	Basic rate		12.00	
	Maintenance- 2nd year escalation of 8%		0.96	
	Add 10% For area weightage (Mangalore City)		1.3	
		Rate	14.26	Rmt
4	Maintenance for 2nd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)			
	Basic rate		390	
	Maintenance- 2nd year escalation of 8%		31.2	
	Add 10% For area weightage (Mangalore City)		42.12	
		Rate	463.32	Cum
5	Maintenance for 2nd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)			
	Basic rate		351	
	Maintenance- 2nd year escalation of 8%		28.08	
	Add 10% For area weightage		37.91	
		Rate	416.99	Cum

6	<p>Maintenance for 2nd Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)</p>				
	Basic rate			41	
	Maintenance- 2nd year escalation of 8%			3.28	
	Add 10% For area weightage (Mangalore City)			4.43	
			Rate	48.71	Cum
7	<p>Maintenance for 2nd Year: KSRRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)</p>				
	Basic rate			120	
	Maintenance- 2nd year escalation of 8%			9.6	
	Add 10% For area weightage (Mangalore City)			12.96	
			Rate	142.56	Cum
8	<p>Maintenance for 2nd Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)</p>				
	Basic rate			6	
	Maintenance- 2nd year escalation of 8%			0.48	
	Add 10% For area weightage (Mangalore City)			0.65	
			Rate	7.13	Sqm
9	<p>Maintenance for 2nd Year: KSRRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)</p>				
	Basic Rate			5900	
	Maintenance- 2nd year escalation of 8%			472	
	Add 10% For area weightage (Mangalore City)			637.2	
			Rate	7009.20	Cum
10	<p>Maintenance for 2nd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material</p>				
	Basic Rate			2166	
	Maintenance- 2nd year escalation of 8%			173.28	
	Add 10% For area weightage (Mangalore City)			233.93	
			Rate	2573.21	Cum

11	<p>Maintenance for 2nd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming 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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)</p>				
	Basic Rate			6198	
	Maintenance- 2nd year escalation of 8%			495.84	
	Add 10% For area weightage (Mangalore City)			669.38	
			Rate	7363.22	Cum
12	<p>Maintenance for 2nd Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)</p>				
	Basic Rate			263	
	Maintenance- 2nd year escalation of 8%			21.04	
	Add 10% For area weightage (Mangalore City)			28.4	
			Rate	312.44	Sqm
13	<p>Maintenance for 2nd Year: KSRB 4.9.2 :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 thr 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.Specification No. KBS4.6.3. do with TMT bars Fe500</p>				
	Basic Rate			70782	
	Maintenance- 2nd year escalation of 8%			5662.56	
	Add 10% For area weightage (Mangalore City)			7644.46	
			Rate	84089.02	MT
14	<p>Maintenance for 2nd Year: KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305</p>				
	Basic Rate			513	
	Maintenance- 2nd year escalation of 8%			41.04	
	Add 20km lead (17.4 KSRRB M100-4.1-Cost of haulage excluding loading and unloading MORTH-100/Chapter 1-case 1-Surface Road)=2.5 Rs/ Tkm x 1.28 T x 20km			51.2	
	Sub Total			605.24	
	Add 10% For area weightage (Mangalore City)			60.52	
			Rate	665.76	Cum
15	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>				

	Basic Rate		4048	
	Maintenance- 2nd year escalation of 8%		323.84	
	Add 10% For area weightage (Mangalore City)		437.18	
		Rate	4809.02	Cum
16	Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)			
	Basic Rate		3680	
	Maintenance- 2nd year escalation of 8%		294.4	
	Add 10% For area weightage (Mangalore City)		397.44	
		Rate	4371.84	Cum
17	Maintenance for 2nd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)			
	Basic Rate		5765	
	Maintenance- 2nd year escalation of 8%		461.2	
	Add 10% For area weightage (Mangalore City)		622.62	
		Rate	6848.82	Cum
18	Maintenance for 2nd Year: 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 (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.2		115	
	Maintenance- 2nd year escalation of 8%		9.2	
		Rate	124.2	Rmt
19	Maintenance for 2nd Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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			
	Basic Rate		331	
	Maintenance- 2nd year escalation of 8%		26.48	
	Add 10% For area weightage (Mangalore City)		35.75	
		Rate	393.23	Rmt

20	<p>Maintenance for 2nd Year: 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). (RA Attached)</p>			
Rate Arrived as per Rate analysis				
	Basic Rate		17708.82	
	Maintenance- 2nd year escalation of 8%		1416.71	
	Add 10% For area weightage (Mangalore City)		1912.55	
		Rate	21038.08	Cum
21	<p>Maintenance for 2nd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>			
	Basic rate		15481.61	
	Maintenance- 2nd year escalation of 8%		1238.5288	
	Add 10% For area weightage		1672.01	
		Rate	18392.15	Cum
22	<p>Maintenance for 2nd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>			
	Basic rate		15481.61	
	Maintenance- 2nd year escalation of 8%		1238.5288	
	Add 10% For area weightage		1672.01	
		Rate	18392.15	Cum
23	<p>Maintenance for 2nd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.</p>			
	Basic rate		24	
	Maintenance- 2nd year escalation of 8%		1.92	
	Add 10% For area weightage		2.59	
		Rate	28.51	Nos.
24	<p>Maintenance for 2nd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)</p>			
	Basic Rate		80	
	Maintenance- 2nd year escalation of 8%		6.4	
	Add 10% For area weightage (Mangalore City)		8.64	
		Rate	95.04	Sqm
25	<p>Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.</p>			
As per Quotation				
	Basic Rate		10764	
	Discount 30%		-3229.2	

	Sub Total		7534.8	
	GST 18%		1356.26	
	Fixing Charges @5%		376.74	
	Maintenance- 2nd year escalation of 8%		632.92	
		Rate	9900.72	Nos.
26	Maintenance for 2nd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.			
	As per Quotation			
	Basic Rate		7179.00	
	Discount 30%		-2153.7	
	Sub Total		5025.3	
	Fixing Charges @5%		251.265	
	Maintenance- 2nd year escalation of 8%		422.13	
		Rate	5698.70	Nos.
27	Maintenance for 2nd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7912.28	
	Discount 30%		-2373.68	
	Sub Total		5538.6	
	Fixing Charges @5%		276.93	
	Maintenance- 2nd year escalation of 8%		465.24	
		Rate	6280.77	Nos.
28	Maintenance for 2nd Year: Providing gully pipe lowering, laying of PVC 100 mm dia pipes 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 (page No.41, Item No.7, KUWSDB SOR 2016-17)			
	Basic Rate		297	
	Maintenance- 2nd year escalation of 8%		23.76	
	Add 10% on Labor Charges=Rs.47, For area weightage (Mangalore City)		4.7	
		Rate	325.46	Rm
29	Maintenance for 2nd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16, P.No.86, SI.No.12.89)			
	Basic Rate		830	
	Maintenance- 2nd year escalation of 8%		66.4	
	Add 10% For area weightage (Mangalore City)		89.64	
		Rate	986.04	Nos.
30	Maintenance for 2nd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16, SI.No.24.36)			
	Basic Rate		5022	
	Maintenance- 2nd year escalation of 8%		401.76	
	Add 10% For area weightage (Mangalore City)		542.38	

		Rate	5966.14	Rm
31	Maintenance for 2nd Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)			
	Basic Rate		1471.08	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		78	
	Add 10% For area weightage (Mangalore City)		7.8	
	Contractor Profit@10%		154.908	
	Sub Total		1556.88	
	Maintenance- 2nd year escalation of 8%		124.55	
		Rate	1681.43	Rm
32	Maintenance for 2nd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)			
	Basic Rate		996.3	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		66	
	Add 10% For area weightage (Mangalore City)		6.6	
	Contractor Profit@10%		106.23	
	Sub Total		1068.9	
	Maintenance- 2nd year escalation of 8%		85.51	
		Rate	1154.41	Rm
33	Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 200 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1003	
	Contractor Profit@10%		100.3	
	Maintenance- 2nd year escalation of 8%		80.24	
		Rate	1183.54	Nos.
34	Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1947	
	Contractor Profit@10%		194.7	
	Maintenance- 2nd year escalation of 8%		155.76	
		Rate	2297.46	Nos.
35	Maintenance for 2nd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)			
	Basic Rate		561.7	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		36	
	Add 10% For area weightage (Mangalore City)		3.6	
	Contractor Profit@10%		56.17	
	Sub Total		601.3	
	Maintenance- 2nd year escalation of 8%		48.1	

		Rate	649.40	Rm
36	Maintenance for 2nd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.			
	Basic rate		624.00	
	Maintenance- 2nd year escalation of 8%		49.92	
	Add 10% For area weightage (Mangalore City)		67.39	
		Rate	741.31	Sqm
37	Maintenance for 2nd Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm 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. (Page No 101,SI No : 14.7)			
	Basic rate		1114	
	Maintenance- 2nd year escalation of 8%		89.12	
	Add 10% For area weightage (Mangalore City)		120.31	
		Rate	1323.43	Sqm
38	Maintenance for 2nd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)			
	Basic rate		7839	
	Maintenance- 2nd year escalation of 8%		627.12	
	Add 10% For area weightage (Mangalore City)		846.61	
		Rate	9312.73	Cum
39	Maintenance for 2nd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen			
	Basic rate		8761	
	Maintenance- 2nd year escalation of 8%		700.88	
	Add 10% For area weightage (Mangalore City)		946.19	
		Rate	10408.07	Cum
40	Maintenance for 2nd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications			
	Basic rate		289	
	Maintenance- 2nd year escalation of 8%		23.12	
	Add 10% For area weightage (Mangalore City)		31.21	
		Rate	343.33	Nos.

41	Maintenance for 2nd Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: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 (Page No 192,SI No : 24.57)		
	Basic Rate		429
	Maintenance- 2nd year escalation of 8%		34.32
	Add 10% For area weightage (Mangalore City)		46.33
		Rate	509.65 Sqm
42	Maintenance for 2nd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.		
	Baisc rate		61200
	Maintenance- 2nd year escalation of 8%		4896
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.1	Rate	66096 Nos.
43	Maintenance for 2nd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)		
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.13		4500.00
	Maintenance- 2nd year escalation of 8%		360
		Rate	4860 Nos.
44	Maintenance for 2nd Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)		
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.26		100000.00
	Maintenance- 2nd year escalation of 8%		8000
		Rate	108000 MT
45	Maintenance for 2nd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.		
	Basic Rate		179.00
	Maintenance- 2nd year escalation of 8%		14.32
		Rate	193.32 Nos.
46	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth		
	Earth	2.0x1.28x10km	
	Baisc rate		25.60
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00
	Sub Total-1		93.60
	Add 10% For area weightage (Mangalore City)		9.36
	Sub Total-2		102.96
	Maintenance- 2nd year escalation of 8%		8.24
		Rate	111.20 Cum

47	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris			
	Debris		2.0x1.30x10Km	
	Basic rate			26.00
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)			68.00
	Sub Total-1			94.00
	Add 10% For area weightage (Mangalore City)			9.4
	Sub Total-2			103.40
	Maintenance- 2nd year escalation of 8%			8.27
		Rate		111.67
				Cum
	Lighting Poles			
48	Maintenance for 2nd Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))			
	Basic Rate			1,681
	Maintenance- 2nd year escalation of 8%			134.45
		Rate		1815.0956
				Nos.
49	Maintenance for 2nd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding 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 (Ref Electrical SOR SI No. 5.14.5)			
	Basic rate			12420
	Maintenance- 2nd year escalation of 8%			993.6
		Rate		13,413.60
				Nos.
50	Maintenance for 2nd Year: 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, icluding 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 (Ref Electrical SOR SI No.5.14.2)			
	Basic rate			7398
	Maintenance- 2nd year escalation of 8%			591.84
		Rate		7,989.84
				Nos.
51	Maintenance for 2nd Year: 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 (Ref Electrical SOR SI No.5.18.5)			
	Basic rate			3540
	Maintenance- 2nd year escalation of 8%			283.2
		Rate		3,823.20
				Nos.
52	Maintenance for 2nd Year: 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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)			
	Basic rate			2400
	Maintenance- 2nd year escalation of 8%			192
		Rate		2,592
				Nos.

53	Maintenance for 2nd Year: 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 (Ref Electrical SOR SI No.16.28.3)			
	Basic rate			620
	Maintenance- 2nd year escalation of 8%			49.6
		Rate		670 Nos.
	Outdoor Box and Switch Gear			
54	Maintenance for 2nd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets			
	Price list (Considering 30% discount , 18% GST & 10% profit)			11782.92
	Maintenance- 2nd year escalation of 8%			942.63
		Rate		12,726 Nos.
55	Maintenance for 2nd Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)			
	Basic rate			1547
	Maintenance- 2nd year escalation of 8%			123.76
		Rate		1,671 Nos.
	LT Cable			
56	Maintenance for 2nd Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)			
	Basic rate			117
	Maintenance- 2nd year escalation of 8%			9.36
		Rate		126.36 Rm
57	Maintenance for 2nd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)			
	Basic rate			81.6
	Maintenance- 2nd year escalation of 8%			6.53
		Rate		88.13 Rm
58	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)			
	Basic rate			11.31
	Maintenance- 2nd year escalation of 8%			0.9
		Rate		12.21 Nos.
59	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)			
	Basic rate			3.12
	Maintenance- 2nd year escalation of 8%			0.25
		Rate		3.37 Nos.

60	Maintenance for 2nd Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)			
	Basic rate			5500
	Maintenance- 2nd year escalation of 8%			440
		Rate		5940 Kit
61	Maintenance for 2nd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)			
	Basic rate			19.5
	Maintenance- 2nd year escalation of 8%			1.56
		Rate		21.06 Rmt
62	Maintenance for 2nd Year: 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% for payment). (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.27			140.00
	Maintenance- 2nd year escalation of 8%			11.2
		Rate		151.20 Cum
63	Maintenance for 2nd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)			
	Basic rate			204
	Maintenance- 2nd year escalation of 8%			16.32
	Add 10% For area weightage			22.03
		Rate		242.35 Cum
64	Maintenance for 2nd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)			
	Basic rate			103
	Maintenance- 2nd year escalation of 8%			8.24
	Add 10% For area wightage			11.12
		Rate		122.36 Cum
65	Maintenance for 2nd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.28			23.91
	Maintenance- 2nd year escalation of 8%			1.91
		Rate		25.82 Cum
66	Maintenance for 2nd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic rate			103
	Maintenance- 2nd year escalation of 8%			8.24

	Add 10% For area wightage		11.12	
		Rate	122.36	Sqm
	TURF			
67	Maintenance for 2nd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.32		156.80	
	Maintenance- 2nd year escalation of 8%		12.54	
		Rate	169.34	Sqm
	IRRIGATION			
68	Maintenance for 2nd Year: Watering with tanker to landscape area and plants for one year			
	Water Tanker =61 Rs/ Hour,One Year Cost=92 days x 3 hrs x 61rs/hr (365days-90 days of mansoon=275 days/3 days=92 days,consider watering at every 3 days)		16836	
	Mazdoor = 0.5 days x 258.88		11908.48	
	Add 10% For area wightage		1190.848	
	Maintenance- 2nd year escalation of 8%		2299.56	
		Rate	32234.89	Year
69	Maintenance for 2nd Year: 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. (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.34		560.00	
	Maintenance- 2nd year escalation of 8%		44.8	
		Rate	604.80	Sqm

**Assistant Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Mangalore Smart City

7.1 Abstract for Maintenance of Road and Other Work for DPR 5 - 3rd Year

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
Civil Works					
1.00	Maintenance for 3rd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	14.00	76.34	1069
2.00	Maintenance for 3rd Year: KSRRB M200. 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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	18.38	1107.57	20,357
3.00	Maintenance for 3rd Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	20.00	14.78	296
4.00	Maintenance for 3rd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	20.00	480.48	9,610
5.00	Maintenance for 3rd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantaling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	3.45	432.43	1,492
6.00	Maintenance for 3rd Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	250.00	50.51	12,628
7.00	Maintenance for 3rd Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	75.00	147.84	11,088
8.00	Maintenance for 3rd Year: KSRRB 300-Compaction KSRRB 300-58. 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.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	500.00	7.39	3,695

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
9.00	Maintenance for 3rd Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	7.50	7268.80	54,516
10.00	Maintenance for 3rd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	37.50	2668.51	100,069
11.00	Maintenance for 3rd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming 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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	48.00	7635.94	3,66,525
12.00	Maintenance for 3rd Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	360.00	324.02	1,16,647
13.00	Maintenance for 3rd Year: KSRB 4.9.2 : 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 thr 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.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	3.84	87203.42	3,34,861
14.00	Maintenance for 3rd Year: KSRRB M300- Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	61.25	688.34	42,161
15.00	Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	12.25	4987.14	61,092

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
16.00	Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate conforming to IS:383) aggregate cement ration not to exceed 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, Manually laid and compacting with palte compactor ,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)	Cum	20.00	4533.76	90,675
17.00	Maintenance for 3rd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed, plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplasticizer 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 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, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)	Cum	28.18	7102.48	2,00,148
18.00	Maintenance for 3rd Year: 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 (Non SOR Item)	Rmt	650.00	126.50	82,225
19.00	Maintenance for 3rd Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)	Rmt	650.00	407.79	2,65,064
20.00	Maintenance for 3rd Year: 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). (RA Attached)	Cum	0.10	21817.27	2,182
21.00	Maintenance for 3rd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)	Cum	2.79	19073.34	53,215
22.00	Maintenance for 3rd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)	Cum	1.18	19073.34	22,507

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
23.00	Maintenance for 3rd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Rmt	100.00	29.57	2,957
24.00	Maintenance for 3rd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	82.50	98.56	8,131
25.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	5.00	9192.46	,45,962
26.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	5.00	6130.87	30,654
27.00	Maintenance for 3rd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	5.00	6757.09	33,785
28.00	Maintenance for 3rd Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes 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 testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)	Rmt	20.00	337.34	6,747
29.00	Maintenance for 3rd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)	Nos.	20.00	1022.56	20,451
30.00	Maintenance for 3rd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)	Rmt	20.00	6187.10	1,23,742
31.00	Maintenance for 3rd Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil presuure and other physical properties conforming to ASTMF 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	150.00	1908.47	2,86,270
32.00	Maintenance for 3rd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil presuure and other physical properties conforming to ASTMF 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)	Rmt	100.00	1308.75	1,30,875

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
33.00	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 225 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20.00	1183.54	23,671
34.00	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20.00	2375.34	47,507
35.00	Maintenance for 3rd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	40.00	736.37	29,455
36.00	Maintenance for 3rd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	200.00	768.77	1,53,754
37.00	Maintenance for 3rd Year: 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 30mm 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. (Page No 101, SI No : 14.7)	Sqm	75.00	1372.45	102,934
38.00	Maintenance for 3rd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)	Cum	6.00	9657.65	57,946
39.00	Maintenance for 3rd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	1.60	10793.55	17,270
40.00	Maintenance for 3rd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00	356.05	17,803

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
41.00	Maintenance for 3rd Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: 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 (Page No 192,SI No : 24.57)	Sqm	600.00	528.53	3,17,118
42.00	Maintenance for 3rd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	3.00	68544.00	2,05,632
43.00	Maintenance for 3rd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00	5040.00	10,080
44.00	Maintenance for 3rd Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	0.10	112000.00	11,200
45.00	Maintenance for 3rd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	1015.00	200.48	2,03,487
46.00	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Earth	Cum	200.00	115.32	23,064
47.00	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Debris	Cum	70.00	115.81	8,107
	Electrical Works				
48.00	Maintenance for 3rd Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1.00	1050.56	1,051
49.00	Maintenance for 3rd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding 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 (Ref Electrical SOR SI No. 5.14.5)	Nos.	1.00	13910.40	13,910
50.00	Maintenance for 3rd Year: 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, icluding 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 (Ref Electrical SOR SI No.5.14.2)	Nos.	1.00	8285.76	8,286

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
51.00	Maintenance for 3rd Year: 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 (Ref Electrical SOR SI No.5.18.5)	Nos.	1.00	3964.80	3,965
52.00	Maintenance for 3rd Year: 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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1.00	2688.00	2,688
53.00	Maintenance for 3rd Year: 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 (Ref Electrical SOR SI No.16.28.3)	Nos.	242.00	694.40	168,045
54.00	Maintenance for 3rd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00	13196.96	13,197
55.00	Maintenance for 3rd Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00	1732.64	1,733
	LT Cable				
56.00	Maintenance for 3rd Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	60.00	131.04	7,862
57.00	Maintenance for 3rd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	10.00	91.39	914
58.00	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10.00	12.67	127
59.00	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8.00	3.49	28
	Earthing system				
60.00	Maintenance for 3rd Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipments on the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1.00	6160.00	6,160
61.00	Maintenance for 3rd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	50.00	21.84	1,092
	Landcaping Works				
	SOIL MIXES and Ground Preparation				

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
62.00	Maintenance for 3rd Year: 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% for payment). (Non SOR Item)	Cum	1.50	156.80	235
63.00	Maintenance for 3rd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	0.75	251.33	188
64.00	Maintenance for 3rd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	2.00	126.90	254
65.00	Maintenance for 3rd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	2.00	26.78	54
	Soil preparation of Lawn				
66.00	Maintenance for 3rd Year: KSRRB M300-3.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 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)	Sqm	382.19	129.20	49,379
	TURF				
67.00	Maintenance for 3rd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	3.00	175.62	527
	IRRIGATION				
68.00	Maintenance for 3rd Year: Watering with tanker to landscape area and plants for one year	Year	1.00	33384.67	33,385
69.00	Maintenance for 3rd Year: 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. (Non SOR Item)	Sqm	3.00	627.20	1,882
				Total	40,85,686

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

**Name of the Work :- Mangalore Smart City
7.2 M.S. For Maintenance of Road and Other Work for DPR 5 - 3rd Year**

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
Civil Works							
1.00	Maintenance for 3rd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	1	7	2		14.00
2.00	Maintenance for 3rd Year: KSRRB M200. 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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	5	3.5	3.5	0.3	18.38
3.00	Maintenance for 3rd Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	1	20			20.00
4.00	Maintenance for 3rd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	1	40	1	0.5	20.00
5.00	Maintenance for 3rd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	10	3	0.5	0.23	3.45
6.00	Maintenance for 3rd Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	1.00	100	5	0.5	250.00
7.00	Maintenance for 3rd Year: KSRRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	1.00	30	5	0.5	75.00
8.00	Maintenance for 3rd Year: KSRRB 300-Compaction KSRRB 300-58. 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.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	1.00	100		5	500.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
9.00	Maintenance for 3rd Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	1.00	15	5	0.1	7.50
10.00	Maintenance for 3rd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	1.00	50	5	0.15	37.50
11.00	Maintenance for 3rd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming 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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	1.00	200	0.2	1.2	48.00
12.00	Maintenance for 3rd Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	2.00	200		0.9	360.00
13.00	Maintenance for 3rd Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,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.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	1.00	3.84			3.84
14.00	Maintenance for 3rd Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	10.00	3.5	3.5	0.5	61.25
15.00	Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate conforming to IS:383) aggregate cement ratio not to exceed 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	10.00	3.5	3.5	0.1	12.25

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
16.00	<p>Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	1.00	100	2	0.1	20.00
17.00	<p>Maintenance for 3rd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	10.00	3.5	3.5	0.23	28.18
18.00	<p>Maintenance for 3rd Year: 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 (Non SOR Item)</p>	Rmt	1.00	650			650.00
19.00	<p>Maintenance for 3rd Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)</p>	Rmt	1.00	650			650.00
20.00	<p>Maintenance for 3rd Year: 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). (RA Attached)</p>	Cum	1	1	0.1		0.10
21.00	<p>Maintenance for 3rd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1	100	0.03		2.79
22.00	<p>Maintenance for 3rd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1	100	0.01		1.18

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
23.00	Maintenance for 3rd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Rmt	100				100.00
24.00	Maintenance for 3rd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	1	500	0.17		82.50
25.00	Maintenance for 3rd Year: P/F Square shape 600mmx450 mm precast R.C.C. manhole cover with frame (Rate analysis attached)	Nos.	5.00				5.00
26.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	5.00				5.00
27.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	5.00				5.00
28.00	Maintenance for 3rd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos	20.00	1.00			20.00
29.00	Maintenance for 3rd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)	Nos.	20.00				20.00
30.00	Maintenance for 3rd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)	Rmt	1	20.00			20.00
31.00	Maintenance for 3rd Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	1	150			150.00
32.00	Maintenance for 3rd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)	Rmt	1	100			100.00
33.00	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 225 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
34.00	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
35.00	Maintenance for 3rd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	1	40			40.00
36.00	Maintenance for 3rd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	1	100	2		200.00
37.00	Maintenance for 3rd Year: 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 30mm 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. (Page No 101, SI No : 14.7)	Sqm	1.00	50	1.5		75.00
38.00	Maintenance for 3rd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (KPWD 16-17, S.I.No.21.17.1, Page No.163)	Cum	2.00	2.5	8	0.15	6.00
39.00	Maintenance for 3rd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	2.00	2.5	8	0.04	1.60
40.00	Maintenance for 3rd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00				50.00
41.00	Maintenance for 3rd Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: 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 (Page No 192, SI No : 24.57)	Sqm	1.00	4000	0.15		600.00
42.00	Maintenance for 3rd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	3.00				3.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
43.00	Maintenance for 3rd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00				2.00
44.00	Maintenance for 3rd Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	1.00	0.1			0.10
45.00	Maintenance for 3rd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	2.00	7250	0.7	0.1	1015.00
46.00	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Earth	Cum	1.00	200			200.00
47.00	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Debris	Cum	1.00	70			70.00
	Electrical Works						
48.00	Maintenance for 3rd Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1				1.00
49.00	Maintenance for 3rd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor 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 (Ref Electrical SOR SI No. 5.14.5)	Nos.	1				1.00
50.00	Maintenance for 3rd Year: 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 (Ref Electrical SOR SI No.5.14.2)	Nos.	1				1.00
51.00	Maintenance for 3rd Year: 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 (Ref Electrical SOR SI No.5.18.5)	Nos.	1				1.00
52.00	Maintenance for 3rd Year: 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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1				1.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
53.00	Maintenance for 3rd Year: 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 (Ref Electrical SOR SI No.16.28.3)	Nos.	242.00				242.00
54.00	Maintenance for 2nd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00				1.00
55.00	Maintenance for 2nd Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00				1.00
	LT Cable						
56.00	Maintenance for 3rd Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	1	60.00			60.00
57.00	Maintenance for 3rd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	1	10.00			10.00
58.00	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10				10.00
59.00	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8				8.00
	Earthing system						
60.00	Maintenance for 3rd Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1				1.00
61.00	Maintenance for 3rd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	1	50			50.00
	Landcaping Works						
	SOIL MIXES and Ground Preparation						
62.00	Maintenance for 3rd Year: 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% for payment). (Non SOR Item)	Cum	1	20	0.5	0.15	1.50
63.00	Maintenance for 3rd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	1	15	0.5	0.1	0.75

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
64.00	Maintenance for 3rd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	1	40	0.5	0.1	2.00
65.00	Maintenance for 3rd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	1	40	0.5	0.1	2.00
	Soil preparation of Lawn						
66.00	Maintenance for 3rd Year: KSRRB M300-3.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 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)	Sqm	1.00	382.19			382.19
	TURF						
67.00	Maintenance for 3rd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	1	5	0.6		3.00
	IRRIGATION						
68.00	Maintenance for 3rd Year: Watering with tanker to landscape area and plants for one year	Year	1.00				1.00
69.00	Maintenance for 3rd Year: 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. (Non SOR Item)	Sqm	1	5	0.6		3.00

**Assistant Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

**Name of the Work :- Mangalore Smart City
7.3 R.A. For Maintenance of 3rd Year - DPR 5**

1	Maintenance for 3rd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)				
	Basic rate			68.16	
	Maintenance- 3rd year escalation of 12%			8.18	
			Rate	76.34	Sqm
2	Maintenance for 3rd Year: KSRRB M200.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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)				
	Basic rate			899	
	Maintenance- 3rd year escalation of 12%			107.88	
	Add 10% For area weightage (Mangalore City)			100.69	
			Rate	1107.57	Cum
3	Maintenance for 3rd Year: KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)				
	Basic rate			12.00	
	Maintenance- 3rd year escalation of 12%			1.44	
	Add 10% For area weightage (Mangalore City)			1.34	
			Rate	14.78	Rmt
4	Maintenance for 3rd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)				
	Basic rate			390	
	Maintenance- 3rd year escalation of 12%			46.8	
	Add 10% For area weightage (Mangalore City)			43.68	
			Rate	480.48	Cum
5	Maintenance for 3rd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)				
	Basic rate			351	
	Maintenance- 3rd year escalation of 12%			42.12	
	Add 10% For area weightage			39.31	
			Rate	432.43	Cum

6	<p>Maintenance for 3rd Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)</p>				
	Basic rate			41	
	Maintenance- 3rd year escalation of 12%			4.92	
	Add 10% For area weightage (Mangalore City)			4.59	
			Rate	50.51	Cum
7	<p>Maintenance for 3rd Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)</p>				
	Basic rate			120	
	Maintenance- 3rd year escalation of 12%			14.4	
	Add 10% For area weightage (Mangalore City)			13.44	
			Rate	147.84	Cum
8	<p>Maintenance for 3rd Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)</p>				
	Basic rate			6	
	Maintenance- 3rd year escalation of 12%			0.72	
	Add 10% For area weightage (Mangalore City)			0.67	
			Rate	7.39	Sqm
9	<p>Maintenance for 3rd Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)</p>				
	Basic Rate			5900	
	Maintenance- 3rd year escalation of 12%			708	
	Add 10% For area weightage (Mangalore City)			660.8	
			Rate	7268.80	Cum
10	<p>Maintenance for 3rd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material</p>				
	Basic Rate			2166	
	Maintenance- 3rd year escalation of 12%			259.92	
	Add 10% For area weightage (Mangalore City)			242.59	
			Rate	2668.51	Cum

11	Maintenance for 3rd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming 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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)			
	Basic Rate		6198	
	Maintenance- 3rd year escalation of 12%		743.76	
	Add 10% For area weightage (Mangalore City)		694.18	
		Rate	7635.94	Cum
12	Maintenance for 3rd Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)			
	Basic Rate		263	
	Maintenance- 3rd year escalation of 12%		31.56	
	Add 10% For area weightage (Mangalore City)		29.46	
		Rate	324.02	Sqm
13	Maintenance for 3rd Year: KSRB 4.9.2 :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 thr 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.Specification No. KBS4.6.3. do with TMT bars Fe500			
	Basic Rate		70782	
	Maintenance- 3rd year escalation of 12%		8493.84	
	Add 10% For area weightage (Mangalore City)		7927.58	
		Rate	87203.42	MT
14	Maintenance for 3rd Year: KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305			
	Basic Rate		513	
	Maintenance- 3rd year escalation of 12%		61.56	
	Add 20km lead (17.4 KSRRB M100-4.1-Cost of haulage excluding loading and unloading MORTH-100/Chapter 1-case 1-Surface Road)=2.5 Rs/ Tkm x 1.28 T x 20km		51.2	
	Sub Total		625.76	
	Add 10% For area weightage (Mangalore City)		62.58	
		Rate	688.34	Cum

15	<p>Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>				
	Basic Rate			4048	
	Maintenance- 3rd year escalation of 12%			485.76	
	Add 10% For area weightage (Mangalore City)			453.38	
			Rate	4987.14	Cum
16	<p>Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>				
	Basic Rate			3680	
	Maintenance- 3rd year escalation of 12%			441.6	
	Add 10% For area weightage (Mangalore City)			412.16	
			Rate	4533.76	Cum
17	<p>Maintenance for 3rd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>				
	Basic Rate			5765	
	Maintenance- 3rd year escalation of 12%			691.8	
	Add 10% For area weightage (Mangalore City)			645.68	
			Rate	7102.48	Cum
18	<p>Maintenance for 3rd Year: 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 (Non SOR Item)</p>				
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.2			115	
	Maintenance- 3rd year escalation of 10%			11.5	
			Rate	126.5	Rmt

19	<p>Maintenance for 3rd Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)</p>				
	Basic Rate			331	
	Maintenance- 3rd year escalation of 12%			39.72	
	Add 10% For area weightage (Mangalore City)			37.07	
			Rate	407.79	Rmt
20	<p>Maintenance for 3rd Year: 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). (RA Attached)</p>				
	Rate Arrived as per Rate analysis				
	Basic Rate			17708.82	
	Maintenance- 3rd year escalation of 12%			2125.06	
	Add 10% For area weightage (Mangalore City)			1983.39	
			Rate	21817.27	Cum
21	<p>Maintenance for 3rd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>				
	Basic rate			15481.61	
	Maintenance- 3rd year escalation of 12%			1857.79	
	Add 10% For area weightage			1733.94	
			Rate	19073.34	Cum
22	<p>Maintenance for 3rd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>				
	Basic rate			15481.61	
	Maintenance- 3rd year escalation of 12%			1857.79	
	Add 10% For area weightage			1733.94	
			Rate	19073.34	Cum
23	<p>Maintenance for 3rd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.</p>				
	Basic rate			24	
	Maintenance- 3rd year escalation of 12%			2.88	
	Add 10% For area weightage			2.69	
			Rate	29.57	Cum

24	Maintenance for 3rd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)			
	Basic Rate		80	
	Maintenance- 3rd year escalation of 12%		9.6	
	Add 10% For area weightage (Mangalore City)		8.96	
		Rate	98.56	Sqm
25	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.			
	As per Quotation			
	Basic Rate		10764	
	Discount 30%		-3229.2	
	Sub Total		7534.8	
	Fixing Charges @5%		753.48	
	Maintenance- 3rd year escalation of 12%		904.18	
		Rate	9192.46	Nos.
26	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7179.00	
	Discount 30%		-2153.7	
	Sub Total		5025.3	
	Fixing Charges @5%		502.53	
	Maintenance- 3rd year escalation of 12%		603.04	
		Rate	6130.87	Nos.
27	Maintenance for 3rd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7912.28	
	Discount 30%		-2373.68	
	Sub Total		5538.6	
	Fixing Charges @5%		553.86	
	Maintenance- 3rd year escalation of 12%		664.63	
		Rate	6757.09	Nos.
28	Maintenance for 3rd Year: Providing gully pipe lowering, laying of PVC 100 mm dia pipes 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 (page No.41, Item No.7, KUWSDB SOR 2016-17)			
	Basic Rate		297	
	Maintenance- 3rd year escalation of 12%		35.64	
	Add 10% on Labor Charges=Rs.47, For area weightage (Mangalore City)		4.7	
		Rate	337.34	Rm

29	Maintenance for 3rd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)			
	Basic Rate		830	
	Maintenance- 3rd year escalation of 12%		99.6	
	Add 10% For area weightage (Mangalore City)		92.96	
		Rate	1022.56	Nos.
30	Maintenance for 3rd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)			
	Basic Rate		5022	
	Maintenance- 3rd year escalation of 12%		602.64	
	Add 10% For area weightage (Mangalore City)		562.46	
		Rate	6187.10	Rm
31	Maintenance for 3rd Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)			
	Basic Rate		1471.08	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)		78	
	Contractor Profit@10%		147.108	
	Add 10% For area weightage (Mangalore City)		7.8	
	Sub Total		1703.988	
	Maintenance- 3rd year escalation of 12%		204.48	
		Rate	1908.47	Rm
32	Maintenance for 3rd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)			
	Basic Rate		996.3	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)		66	
	Contractor Profit@10%		99.63	
	Add 10% For area weightage (Mangalore City)		6.6	
	Sub Total		1168.53	
	Maintenance- 3rd year escalation of 12%		140.22	
		Rate	1308.75	Rm

33	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 225 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1003	
	Maintenance- 3rd year escalation of 12%		80.24	
	Contractor Profit@10%		100.3	
		Rate	1183.54	Nos.
34	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1947	
	Maintenance- 3rd year escalation of 12%		233.64	
	Contractor Profit@10%		194.7	
		Rate	2375.34	Nos.
35	Maintenance for 3rd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)			
	Basic Rate		561.7	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		36	
	Contractor Profit@10%		56.17	
	Add 12% For area weightage (Mangalore City)		3.6	
	Sub Total		657.47	
	Maintenance- 3rd year escalation of 12%		78.9	
		Rate	736.37	Rm
36	Maintenance for 3rd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquiting it on top with approved colour. Sealing entire area with concrete sealer.			
	Basic rate		624.00	
	Maintenance- 3rd year escalation of 12%		74.88	
	Add 10% For area weightage (Mangalore City)		69.89	
		Rate	768.77	Sqm
37	Maintenance for 3rd Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm 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. (Page No 101, SI No : 14.7)			
	Basic rate		1114	
	Maintenance- 3rd year escalation of 12%		133.68	
	Add 10% For area weightage (Mangalore City)		124.77	
		Rate	1372.45	Sqm

38	Maintenance for 3rd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)			
	Basic rate		7839	
	Maintenance- 3rd year escalation of 12%		940.68	
	Add 10% For area weightage (Mangalore City)		877.97	
		Rate	9657.65	Cum
39	Maintenance for 3rd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen			
	Basic rate		8761	
	Maintenance- 3rd year escalation of 12%		1051.32	
	Add 10% For area weightage (Mangalore City)		981.23	
		Rate	10793.55	Cum
40	Maintenance for 3rd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications			
	Basic rate		289	
	Maintenance- 3rd year escalation of 12%		34.68	
	Add 10% For area weightage (Mangalore City)		32.37	
		Rate	356.05	Nos.
41	Maintenance for 3rd Year: Road Marking with hot applied Thermoplastic Compound with Reflecting Glass Beads on Concrete Surface: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 (Page No 192,SI No : 24.57)			
	Basic Rate		429	
	Maintenance- 3rd year escalation of 12%		51.48	
	Add 10% For area weightage (Mangalore City)		48.05	
		Rate	528.53	Sqm
42	Maintenance for 3rd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.			
	Basic rate		61200	
	Maintenance- 3rd year escalation of 12%		7344	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.1	Rate	68544	Nos.

43	Maintenance for 3rd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)		
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.13		4500.00
	Maintenance- 3rd year escalation of 12%		540
		Rate	5040
			Nos.
44	Maintenance for 3rd Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)		
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.26		100000.00
	Maintenance- 3rd year escalation of 12%		12000
		Rate	112000
			MT
45	Maintenance for 3rd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.		
	Basic Rate		179.00
	Maintenance- 3rd year escalation of 12%		21.48
		Rate	200.48
			Nos.
46	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth		
	Earth	2.0x1.28x10km	
	Baisc rate		25.60
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00
	Sub Total-1		93.60
	Add 10% For area weightage (Mangalore City)		9.36
	Sub Total-2		102.96
	Maintenance- 3rd year escalation of 12%		12.36
		Rate	115.32
			Cum
47	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris		
	Debris	2.0x1.30x10Km	
	Baisc rate		26.00
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00
	Sub Total-1		94.00
	Add 10% For area weightage (Mangalore City)		9.4
	Sub Total-2		103.40
	Maintenance- 3rd year escalation of 12%		12.41
		Rate	115.81
			Cum
	Lighting Poles		

48	Maintenance for 3rd Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.22			938
	Maintenance- 3rd year escalation of 12%			112.56
		Rate	1050.56	Nos.
49	Maintenance for 3rd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding 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 (Ref Electrical SOR SI No. 5.14.5)			
	Basic rate			12420
	Maintenance- 3rd year escalation of 12%			1490.4
		Rate	13,910.40	Nos.
50	Operation & Maintenance for 3rd Year: 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, icluding 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 (Ref Electrical SOR SI No.5.14.2)			
	Basic rate			7398
	Maintenance- 3rd year escalation of 12%			887.76
		Rate	8,285.76	Nos.
51	Maintenance for 3rd Year: Supplying and fixing of hot dip Galvinized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)			
	Basic rate			3540
	Maintenance- 3rd year escalation of 12%			424.8
		Rate	3,964.80	Nos.
52	Operation & Maintenance for 3rd Year: Supplying and fixing of hot dip Galvinized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)			
	Basic rate			2400
	Maintenance- 3rd year escalation of 12%			288
		Rate	2,688	Nos.
53	Maintenance for 3rd Year: 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 (Ref Electrical SOR SI No.16.28.3)			
	Basic rate			620

	Maintenance- 3rd year escalation of 12%		74.4	
		Rate	694	Nos.
	Outdoor Box and Switch Gear			
54	Maintenance for 3rd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets			
	Price list (Considering 30% discount , 18% GST & 10% profit)		11783	
	Maintenance- 3rd year escalation of 12%		1413.96	
		Rate	13,197	Nos.
55	Maintenance for 3rd Year: Supply and fixing of miniature circuit breaker on existings board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)			
	Basic rate		1547	
	Maintenance- 3rd year escalation of 12%		185.64	
		Rate	1,733	Nos.
	LT Cable			
56	Maintenance for 3rd Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)			
	Basic rate		117	
	Maintenance- 3rd year escalation of 12%		14.04	
		Rate	131.04	Rm
57	Maintenance for 3rd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)			
	Basic rate		81.6	
	Maintenance- 3rd year escalation of 12%		9.79	
		Rate	91.39	Rm
58	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)			
	Basic rate		11.31	
	Maintenance- 3rd year escalation of 12%		1.36	
		Rate	12.67	Nos.
59	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)			
	Basic rate		3.12	
	Maintenance- 3rd year escalation of 12%		0.37	
		Rate	3.49	Nos.

60	Maintenance for 3rd Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipments on the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)			
	Basic rate			5500
	Maintenance- 3rd year escalation of 12%			660
		Rate	6160	Kit
61	Maintenance for 3rd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)			
	Basic rate			19.5
	Maintenance- 3rd year escalation of 12%			2.34
		Rate	21.84	Rmt
62	Maintenance for 3rd Year: 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% for payment). (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.27			140.00
	Maintenance- 3rd year escalation of 12%			16.8
		Rate	156.80	Cum
63	Maintenance for 3rd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)			
	Basic rate			204
	Maintenance- 3rd year escalation of 12%			24.48
	Add 10% For area weightage			22.85
		Rate	251.33	Cum
64	Maintenance for 3rd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)			
	Basic rate			103
	Maintenance- 3rd year escalation of 12%			12.36
	Add 10% For area wightage			11.54
		Rate	126.90	Cum
65	Maintenance for 3rd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.28			23.91
	Maintenance- 3rd year escalation of 12%			2.87
		Rate	26.78	Cum

66	Maintenance for 3rd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic rate		103	
	Maintenance- 3rd year escalation of 12%		12.36	
	Add 12% For area wightage		13.84	
		Rate	129.20	Sqm
TURF				
67	Maintenance for 3rd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.32		156.80	
	Maintenance- 3rd year escalation of 12%		18.82	
		Rate	175.62	Sqm
IRRIGATION				
68	Maintenance for 3rd Year: Watering with tanker to landscape area and plants for one year			
	Water Tanker =61 Rs/ Hour,One Year Cost=92 days x 3 hrs x 61rs/hr (365days-90 days of mansoon=275 days/3 days=92 days,consider watering at every 3 days)		16836	
	Mazdoor = 0.5 days x 258.88		11908.48	
	Add 10% For area wightage		1190.848	
	Maintenance- 3rd year escalation of 12%		3449.34	
		Rate	33384.67	Year
69	Maintenance for 3rd Year: 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. (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.34		560.00	
	Maintenance- 3rd year escalation of 12%		67.2	
		Rate	627.20	Sqm

**Assistant Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Mangalore Smart City

8.1 Abstract for Maintenance of Road and Other Work for DPR 5 - 4th Year

	Specification	Unit	Total Qty.	Rate	Amount
	Civil Works				
1.00	Maintenance for 4th Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	14.00	79.07	1107
2.00	Maintenance for 4th Year: KSRRB M200. 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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	18.38	1147.12	21,084
3.00	Maintenance for 4th Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	20.00	15.31	306
4.00	Maintenance for 4th Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	20.00	497.64	9,953
5.00	Maintenance for 4th Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	3.45	447.88	1545
6.00	Operation & Maintenance for 4th Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	250.00	52.32	13,080
7.00	Maintenance for 4th Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	75.00	153.12	11,484
8.00	Maintenance for 4th Year: KSRRB 300-Compaction KSRRB 300-58. 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.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	500.00	7.66	3,830

	Specification	Unit	Total Qty.	Rate	Amount
9.00	Maintenance for 4th Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	7.50	7528.40	56,463
10.00	Maintenance for 4th Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	37.50	2763.82	103,643
11.00	Maintenance for 4th Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnspillers, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	48.00	7908.65	3,79,615
12.00	Maintenance for 4th Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	360.00	335.59	1,20,812
13.00	Maintenance for 4th Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr 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.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	3.84	90317.83	3,46,820
14.00	Maintenance for 4th Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	61.25	710.91	43,543
15.00	Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	12.25	5165.25	63,274

	Specification	Unit	Total Qty.	Rate	Amount
16.00	<p>Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	20.00	4695.68	93,914
17.00	<p>Maintenance for 4th Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	28.18	7489.89	2,11,065
18.00	<p>Maintenance for 4th Year: 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 (Non SOR Item)</p>	Rmt	650.00	133.40	86,710
19.00	<p>Maintenance for 4th Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)</p>	Rmt	650.00	422.36	2,74,534
20.00	<p>Maintenance for 4th Year: 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). (RA Attached)</p>	Cum	0.10	22596.45	2,260
21.00	<p>Maintenance for 4th Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	2.79	20113.71	56,117
22.00	<p>Maintenance for 4th Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1.18	20113.71	23,734

	Specification	Unit	Total Qty.	Rate	Amount
23.00	Maintenance for 4th Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Rmt	100.00	30.62	3,062
24.00	Maintenance for 4th Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	82.50	102.08	8,422
25.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	5.00	9493.85	47,469
26.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	5.00	6331.88	31,659
27.00	Maintenance for 3rd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	5.00	6978.64	34,893
28.00	Maintenance for 4th Year: Providing gully pipe lowering, laying of PVC 100 mm dia pipes 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 (page No.41, Item No.7, KUWSDB SOR 2016-17)	Rmt	20.00	349.22	6,984
29.00	Maintenance for 4th Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)	Nos.	20.00	1059.08	21,182
30.00	Maintenance for 4th Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)	Rmt	20.00	6408.07	1,28,161
31.00	Maintenance for 4th Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	150.00	1805.98	2,70,897
32.00	Maintenance for 4th Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	100.00	1239.92	1,23,992

	Specification	Unit	Total Qty.	Rate	Amount
33.00	Maintenance for 4thYear: Providing and Fixixng Spacers for Power Ducts of size 225 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20.00	1163.48	23,270
34.00	Maintenance for 4th Year: Providing and Fixixng Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20.00	2258.52	45,170
35.00	Maintenance for 4th Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling,lowering into trenches,laying true to line and jointing of pipe etc.Complete. (Market Rate)	Rmt	40.00	697.51	27,900
36.00	Maintenance for 4th Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level,shape and size using approved colour shade and staping it using approved stamp pattern and antiquitting it on top with approved colour.Sealing entire area with concrete sealer.	Sqm	200.00	796.22	1,59,244
37.00	Maintenance for 4th Year: 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 30mm 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. (Page No 101,SI No : 14.7)	Sqm	75.00	1421.46	106,610
38.00	Maintenance for 4th Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)	Cum	6.00	10002.56	60,015
39.00	Maintenance for 4th Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	1.60	11179.04	17,886
40.00	Maintenance for 4th Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00	335.24	16,762

	Specification	Unit	Total Qty.	Rate	Amount
41.00	Maintenance for 4th Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: 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 (Page No 192, SI No : 24.57)	Sqm	600.00	547.40	3,28,440
42.00	Maintenance for 4th Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	3.00	70992.00	2,12,976
43.00	Maintenance for 4th Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00	5220.00	10,440
44.00	Maintenance for 4th Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect. (Non SOR Item)	MT	0.10	116000.00	11,600
45.00	Maintenance for 4th Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	1015.00	207.64	2,10,755
46.00	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Earth	Cum	200.00	119.43	23,886
47.00	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Debris	Cum	70.00	119.94	8,396
	Electrical Works				
48.00	Maintenance for 4th Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1.00	1088.08	1,088
49.00	Maintenance for 4th Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor 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 (Ref Electrical SOR SI No. 5.14.5)	Nos.	1.00	14407.20	14,407

	Specification	Unit	Total Qty.	Rate	Amount
50.00	Operation & Maintenance for 4th Year: 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 (Ref Electrical SOR SI No.5.14.2)	Nos.	1.00	8581.68	8,582
51.00	Maintenance for 4th Year: 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 (Ref Electrical SOR SI No.5.18.5)	Nos.	1.00	4106.40	4,106
52.00	Maintenance for 4thYear: 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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1.00	2784.00	2,784
53.00	Maintenance for 4th Year: 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 (Ref Electrical SOR SI No.16.28.3)	Nos.	242.00	719.20	174,046
54.00	Maintenance for 4th Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00	13668.28	13,668
55.00	Maintenance for 4th Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00	1794.52	1,795
LT Cable					
56.00	Maintenance for 4th Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	60.00	135.72	8,143
57.00	Maintenance for 4th Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	10.00	94.66	947
58.00	Maintenance for 4th Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10.00	13.12	131
59.00	Maintenance for 4thYear: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8.00	3.62	29
Earthing system					

	Specification	Unit	Total Qty.	Rate	Amount
60.00	Maintenance for 4th Year: Chemical Earthing for grounding, conduits, IC cut outs and other equipments 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 (Ref Electrical SOR Pg.No.64, SI No.7.23.6)	Kit	1.00	6380.00	6,380
61.00	Maintenance for 4th Year: 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 (Ref Electrical SOR SI No.7.22.3)	Rmt	50.00	22.62	1,131
	Landcaping Works				
	SOIL MIXES and Ground Preparation				
62.00	Maintenance for 4th Year: 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% for payment). (Non SOR Item)	Cum	1.50	162.40	244
63.00	Maintenance for 4th Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. 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(Page No.152,SI.No.19.90)	Cum	0.75	260.30	195
64.00	Maintenance for 4th Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	2.00	131.43	263
65.00	Maintenance for 4th Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	2.00	27.74	55
	Soil preparation of Lawn				
66.00	Maintenance for 4th Year: KSRRB M300-3.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 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)	Sqm	382.19	131.43	50,231
	TURF				
67.00	Operation & Maintenance for 4th Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	3.00	181.89	546
	IRRIGATION				
68.00	Operation & Maintenance for 4th Year: Watering with tanker to landscape area and plants for one year	Year	1.00	34534.45	34,534
69.00	Operation & Maintenance for 4th Year: 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. (Non SOR Item)	Sqm	3.00	649.60	1,949
				Total	41,90,218

Executive Engineer
MSCL Mangaluru

General Manager Technical
MSCL Mangaluru

**Name of the Work :- Mangalore Smart City
8.2 M.S. For Maintenance of Road and Other Work for DPR 5- 4th Year**

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
Civil Works							
1.00	Maintenance for 4th Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	1	7	2		14.00
2.00	Maintenance for 4th Year: KSRRB M200. 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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	5	3.5	3.5	0.3	18.38
3.00	Maintenance for 4th Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	1	20			20.00
4.00	Maintenance for 4th Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	1	40	1	0.5	20.00
5.00	Maintenance for 4th Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	10	3	0.5	0.23	3.45
6.00	Maintenance for 4th Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	1.00	100	5	0.5	250.00
7.00	Maintenance for 4th Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	1.00	30	5	0.5	75.00
8.00	Maintenance for 4th Year: KSRRB 300-Compaction KSRRB 300-58. 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.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	1.00	100		5	500.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
9.00	Maintenance for 4th Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	1.00	15	5	0.1	7.50
10.00	Maintenance for 4th Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	1.00	50	5	0.15	37.50
11.00	Maintenance for 4th Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming 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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	1.00	200	0.2	1.2	48.00
12.00	Maintenance for 4th Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	2.00	200		0.9	360.00
13.00	Maintenance for 4th Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr 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.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	1.00	3.84			3.84
14.00	Maintenance for 4th Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	10.00	3.5	3.5	0.5	61.25
15.00	Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	10.00	3.5	3.5	0.1	12.25

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
16.00	<p>Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	1.00	100	2	0.1	20.00
17.00	<p>Maintenance for 4th Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 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, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	10.00	3.5	3.5	0.23	28.18
18.00	<p>Maintenance for 4th Year: 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 (Non SOR Item)</p>	Rmt	1.00	650			650.00
19.00	<p>Maintenance for 4th Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)</p>	Rmt	1.00	650			650.00
20.00	<p>Maintenance for 4th Year: 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). (RA Attached)</p>	Cum	1	1	0.1		0.10
21.00	<p>Maintenance for 4th Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1	100	0.03		2.79
22.00	<p>Maintenance for 4th Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1	100	0.01		1.18

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
23.00	Maintenance for 4th Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Rmt	100				100.00
24.00	Maintenance for 4th Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	1	500	0.17		82.50
25.00	Maintenance for 4th Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	5.00				5.00
26.00	Maintenance for 4th Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	5.00				5.00
27.00	Maintenance for 4th Year: P/F FRP Water gully cover with frame (2.5T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	5.00				5.00
28.00	Maintenance for 4th Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes 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 testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)	Rmt	20.00	1.00			20.00
29.00	Maintenance for 4th Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)	Nos.	20.00				20.00
30.00	Maintenance for 4th Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)	Rmt	1	20.00			20.00
31.00	Maintenance for 4th Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil presuure and other physical properties comforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	1	150			150.00
32.00	Maintenance for 4th Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil presuure and other physical properties comforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)	Rmt	1	100			100.00
33.00	Maintenance for 4thYear: Providing and Fixixng Spacers for Power Ducts of size 225 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
34.00	Maintenance for 4th Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
35.00	Maintenance for 4th Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	1	40			40.00
36.00	Maintenance for 4th Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	1	100	2		200.00
37.00	Maintenance for 4th Year: Providing and laying heavy duty cobble stones 75mm thick , using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm 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. (Page No 101, SI No : 14.7)	Sqm	1.00	50	1.5		75.00
38.00	Maintenance for 4th Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (KPWD 16-17, S.I.No.21.17.1, Page No.163)	Cum	2.00	2.5	8	0.15	6.00
39.00	Maintenance for 4th Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	2.00	2.5	8	0.04	1.60
40.00	Maintenance for 4th Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00				50.00
41.00	Maintenance for 4th Year: Road Marking with hot applied Thermoplastic Compound with Reflecting Glass Beads on Concrete Surface: 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 (Page No 192, SI No : 24.57)	Sqm	1.00	4000	0.15		600.00
42.00	Maintenance for 4th Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	3.00				3.00
43.00	Maintenance for 4th Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00				2.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
44.00	Maintenance for 4th Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	1.00	0.1			0.10
45.00	Maintenance for 4th Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	2.00	7250	0.7	0.1	1015.00
46.00	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Earth	Cum	1.00	200			200.00
47.00	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Debris	Cum	1.00	70			70.00
	Electrical Works						
48.00	Maintenance for 4th Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1				1.00
49.00	Maintenance for 4th Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding 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 (Ref Electrical SOR SI No. 5.14.5)	Nos.	1				1.00
50.00	Maintenance for 4th Year: 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, icluding 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 (Ref Electrical SOR SI No.5.14.2)	Nos.	1				1.00
51.00	Maintenance for 4th Year: Supplying and fixing of hot dip Galvinized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)	Nos.	1				1.00
52.00	Maintenance for 4thYear: Supplying and fixing of hot dip Galvinized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1				1.00
53.00	Maintenance for 4th Year: 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 (Ref Electrical SOR SI No.16.28.3)	Nos.	242.00				242.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
54.00	Maintenance for 4th Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00				1.00
55.00	Maintenance for 4th Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00				1.00
	LT Cable						
56.00	Maintenance for 4th Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	1	60.00			60.00
57.00	Maintenance for 4th Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	1	10.00			10.00
58.00	Operation & Maintenance for 4th Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10				10.00
59.00	Operation & Maintenance for 4thYear: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8				8.00
	Earthing system						
60.00	Maintenance for 4th Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1				1.00
61.00	Maintenance for 4th Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	1	50			50.00
	Landcaping Works						
	SOIL MIXES and Ground Preparation						
62.00	Maintenance for 4th Year: 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% for payment). (Non SOR Item)	Cum	1	20	0.5	0.15	1.50
63.00	Maintenance for 4th Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	1	15	0.5	0.1	0.75
64.00	Maintenance for 4th Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	1	40	0.5	0.1	2.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
65.00	Maintenance for 4th Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	1	40	0.5	0.1	2.00
	Soil preparation of Lawn						
66.00	Maintenance for 4th Year: KSRRB M300-3.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 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)	Sqm	1.00	382.19			382.19
	TURF						
67.00	Maintenance for 4th Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	1	5	0.6		3.00
	IRRIGATION						
68.00	Maintenance for 4th Year: Watering with tanker to landscape area and plants for one year	Year	1.00				1.00
69.00	Maintenance for 4th Year: 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. (Non SOR Item)	Sqm	1	5	0.6		3.00

**Assistant Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

**Name of the Work :- Mangalore Smart City
8.3 R.A. For Maintenance of 4th Year - DPR 5**

1	Maintenance for 4th Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)				
	Basic rate			68.16	
	Maintenance- 4th year escalation of 16%			10.91	
		Rate		79.07	Sqm
2	Maintenance for 4th Year: KSRRB M200.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 serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)				
	Basic rate			899	
	Maintenance- 4th year escalation of 16%			143.84	
	Add 10% For area weightage (Mangalore City)			104.28	
		Rate		1147.12	Cum
3	Maintenance for 4th Year: KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)				
	Basic rate			12.00	
	Maintenance- 4th year escalation of 16%			1.92	
	Add 10% For area weightage (Mangalore City)			1.39	
		Rate		15.31	Rmt
4	Maintenance for 4th Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&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. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)				
	Basic rate			390	
	Maintenance- 4th year escalation of 16%			62.4	
	Add 10% For area weightage (Mangalore City)			45.24	
		Rate		497.64	Cum
5	Maintenance for 4th Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&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)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)				
	Basic rate			351	
	Maintenance- 4th year escalation of 16%			56.16	
	Add 10% For area weightage			40.72	
		Rate		447.88	Cum

6	<p>Maintenance for 4th Year: KSRRB M300-14. 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 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)</p>				
	Basic rate			41	
	Maintenance- 4th year escalation of 16%			6.56	
	Add 10% For area weightage (Mangalore City)			4.76	
		Rate		52.32	Cum
7	<p>Maintenance for 4th Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)</p>				
	Basic rate			120	
	Maintenance- 4th year escalation of 16%			19.2	
	Add 10% For area weightage (Mangalore City)			13.92	
		Rate		153.12	Cum
8	<p>Maintenance for 4th Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)</p>				
	Basic rate			6	
	Maintenance- 4th year escalation of 16%			0.96	
	Add 10% For area weightage (Mangalore City)			0.7	
		Rate		7.66	Sqm
9	<p>Maintenance for 4th Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)</p>				
	Basic Rate			5900	
	Maintenance- 4th year escalation of 16%			944	
	Add 10% For area weightage (Mangalore City)			684.4	
		Rate		7528.40	Cum
10	<p>Maintenance for 4th Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material</p>				
	Basic Rate			2166	
	Maintenance- 4th year escalation of 16%			346.56	
	Add 10% For area weightage (Mangalore City)			251.26	
		Rate		2763.82	Cum

11	<p>Maintenance for 4th Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @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, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)</p>				
	Basic Rate			6198	
	Maintenance- 4th year escalation of 16%			991.68	
	Add 10% For area weightage (Mangalore City)			718.97	
			Rate	7908.65	Cum
12	<p>Maintenance for 4th Year: KSRB 4.6.1 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. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)</p>				
	Basic Rate			263	
	Maintenance- 4th year escalation of 16%			42.08	
	Add 10% For area weightage (Mangalore City)			30.51	
			Rate	335.59	Sqm
13	<p>Maintenance for 4th Year: KSRB 4.9.2 :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 thr 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.Specification No. KBS4.6.3. do with TMT bars Fe500</p>				
	Basic Rate			70782	
	Maintenance- 4th year escalation of 16%			11325.12	
	Add 10% For area weightage (Mangalore City)			8210.71	
			Rate	90317.83	MT
14	<p>Maintenance for 4th Year: KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305</p>				
	Basic Rate			513	
	Maintenance- 4th year escalation of 16%			82.08	
	Add 20km lead (17.4 KSRRB M100-4.1-Cost of haulage excluding loading and unloading MORTH-100/Chapter 1-case 1-Surface Road)=2.5 Rs/ Tkm x 1.28 T x 20km			51.2	
	Sub Total			646.28	
	Add 10% For area weightage (Mangalore City)			64.63	
			Rate	710.91	Cum

15	Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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 double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)			
	Basic Rate		4048	
	Maintenance- 4th year escalation of 16%		647.68	
	Add 10% For area weightage (Mangalore City)		469.57	
		Rate	5165.25	Cum
16	Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming 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,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)			
	Basic Rate		3680	
	Maintenance- 4th year escalation of 16%		588.8	
	Add 10% For area weightage (Mangalore City)		426.88	
		Rate	4695.68	Cum
17	Maintenance for 4th Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement 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 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, sealent 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 M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)			
	Basic Rate		5765	
	Maintenance- 4th year escalation of 16%		922.4	
	Add 12% For area weightage (Mangalore City)		802.49	
		Rate	7489.89	Cum
18	Maintenance for 4th Year: 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 (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.2		115	
	Maintenance- 4th year escalation of 16%		18.4	
		Rate	133.4	Rmt

19	Operation & Maintenance for 4th Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 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 (Page No 257,SI No : 35.8)			
	Basic Rate		331	
	Maintenance- 4th year escalation of 16%		52.96	
	Add 10% For area weightage (Mangalore City)		38.4	
		Rate	422.36	Rmt
20	Maintenance for 4th Year: 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). (RA Attached)			
	Rate Arrived as per Rate analysis			
	Basic Rate		17708.82	
	Maintenance- 4th year escalation of 16%		2833.41	
	Add 10% For area weightage (Mangalore City)		2054.22	
		Rate	22596.45	Cum
21	Maintenance for 4th Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)			
	Basic rate		15481.61	
	Maintenance- 4th year escalation of 16%		2477.06	
	Add 12% For area weightage		2155.04	
		Rate	20113.71	Cum
22	Maintenance for 4th Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)			
	Basic rate		15481.61	
	Maintenance- 4th year escalation of 16%		2477.06	
	Add 10% For area weightage		1795.87	
		Rate	19754.54	Cum
23	Maintenance for 4th Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic rate		24	
	Maintenance- 4th year escalation of 16%		3.84	
	Add 10% For area weightage		2.78	
		Rate	30.62	Rmt

24	Maintenance for 4th Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)			
	Basic Rate		80	
	Maintenance- 4th year escalation of 16%		12.8	
	Add 12% For area weightage (Mangalore City)		9.28	
		Rate	102.08	Sqm
25	Maintenance for 4th Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.			
	As per Quotation			
	Basic Rate		10764	
	Discount 30%		-3229.2	
	Sub Total		7534.8	
	Fixing Charges @5%		753.48	
	Maintenance- 4th year escalation of 16%		1205.57	
		Rate	9493.85	Nos.
26	Maintenance for 4th Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7179.00	
	Discount 30%		-2153.7	
	Sub Total		5025.3	
	Fixing Charges @5%		502.53	
	Maintenance- 4th year escalation of 16%		804.05	
		Rate	6331.88	Nos.
27	Maintenance for 4th Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7912.28	
	Discount 30%		-2373.68	
	Sub Total		5538.6	
	Fixing Charges @5%		553.86	
	Maintenance- 4th year escalation of 16%		886.18	
		Rate	6978.64	Nos.
28	Maintenance for 4th Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes 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 testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)			
	Basic Rate		297	
	Maintenance- 4th year escalation of 16%		47.52	
	Add 12% on Labor Charges=Rs.47,For area weightage (Mangalore City)		4.7	
		Rate	349.22	Rm

29	<p>Maintenance for 4th Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)</p>				
	Basic Rate			830	
	Maintenance- 4th year escalation of 16%			132.8	
	Add 12% For area weightage (Mangalore City)			96.28	
			Rate	1059.08	Nos.
30	<p>Maintenance for 4th Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)</p>				
	Basic Rate			5022	
	Maintenance- 4th year escalation of 16%			803.52	
	Add 12% For area weightage (Mangalore City)			582.55	
			Rate	6408.07	Rm
31	<p>Maintenance for 4th Year: Providing and laying Dia 200mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)</p>				
	Basic Rate			1471.08	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)			78	
	Add 12% For area weightage (Mangalore City)			7.8	
	Sub Total			1556.88	
	Maintenance- 4th year escalation of 16%			249.1	
			Rate	1805.98	Rm
32	<p>Maintenance for 4th Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)</p>				
	Basic Rate			996.3	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)			66	
	Add 12% For area weightage (Mangalore City)			6.6	
	Sub Total			1068.9	
	Maintenance- 4th year escalation of 16%			171.02	
			Rate	1239.92	Rm

33	Maintenance for 4th Year: Providing and Fixing Spacers for Power Ducts of size 225 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1003	
	O&M 4th year escalation of 16%		160.48	
		Rate	1163.48	Nos.
34	Maintenance for 4th Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1947	
	Maintenance- 4th year escalation of 16%		311.52	
		Rate	2258.52	Nos.
35	Maintenance for 4th Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)			
	Basic Rate		561.7	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		36	
	Add 12% For area weightage (Mangalore City)		3.6	
	Sub Total		601.3	
	Maintenance- 4th year escalation of 16%		96.21	
		Rate	697.51	Rm
36	Maintenance for 4th Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.			
	Basic rate		624.00	
	Maintenance- 4th year escalation of 16%		99.84	
	Add 12% For area weightage (Mangalore City)		72.38	
		Rate	796.22	Sqm
37	Maintenance for 4th Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm 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. (Page No 101, SI No : 14.7)			
	Basic rate		1114	
	Maintenance- 4th year escalation of 16%		178.24	
	Add 10% For area weightage (Mangalore City)		129.22	
		Rate	1421.46	Nos.

38	Maintenance for 4th Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)			
	Basic rate		7839	
	Maintenance- 4th year escalation of 16%		1254.24	
	Add 10% For area weightage (Mangalore City)		909.32	
		Rate	10002.56	Cum
39	Maintenance for 4th Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen			
	Basic rate		8761	
	Maintenance- 4th year escalation of 16%		1401.76	
	Add 10% For area weightage (Mangalore City)		1016.28	
		Rate	11179.04	Cum
40	Maintenance for 4th Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.12		289.00	
	Maintenance- 4th year escalation of 16%		46.24	
		Rate	335.24	Sqm
41	Maintenance for 4th Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: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 (Page No 192,SI No : 24.57)			
	Basic Rate		429	
	Maintenance- 4th year escalation of 16%		68.64	
	Add 10% For area weightage (Mangalore City)		49.76	
		Rate	547.40	Sqm
42	Maintenance for 4th Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.			
	Baisc rate		61200	
	Maintenance- 4th year escalation of 16%		9792	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.1	Rate	70992	Nos.

43	Maintenance for 4th Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.13		4500.00	
	O&M 4th year escalation of 16%		720	
		Rate	5220	Nos.
44	Maintenance for 4th Year: 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 @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.26		100000.00	
	Maintenance- 4th year escalation of 16%		16000	
		Rate	116000	MT
45	Maintenance for 4th Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic Rate		179.00	
	Maintenance- 4th year escalation of 16%		28.64	
		Rate	207.64	Nos.
46	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth			
	Earth	2.0x1.28x10km		
	Baisc rate		25.60	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00	
	Sub Total-1		93.60	
	Add 12% For area weightage (Mangalore City)		9.36	
	Sub Total-2		102.96	
	Maintenance- 4th year escalation of 16%		16.47	
		Rate	119.43	Cum
47	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris			
	Debris	2.0x1.30x10Km		
	Baisc rate		26.00	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00	
	Sub Total-1		94.00	
	Add 12% For area weightage (Mangalore City)		9.4	
	Sub Total-2		103.40	
	Maintenance- 4th year escalation of 16%		16.54	
		Rate	119.94	Cum

Lighting Poles			
48	Maintenance for 4th Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))		
	Basic Rate		938
	Maintenance- 4th year escalation of 16%		150.08
		Rate	1088.08
			Nos.
49	Maintenance for 4th Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor 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 (Ref Electrical SOR SI No. 5.14.5)		
	Basic rate		12420
	Maintenance- 4th year escalation of 16%		1987.2
		Rate	14,407.20
			Nos.
50	Maintenance for 4th Year: 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 (Ref Electrical SOR SI No.5.14.2)		
	Basic rate		7398
	Maintenance- 4th year escalation of 16%		1183.68
		Rate	8,581.68
			Nos.
51	Maintenance for 4th Year: 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 (Ref Electrical SOR SI No.5.18.5)		
	Basic rate		3540
	Maintenance- 4th year escalation of 16%		566.4
		Rate	4,106.40
			Nos.
52	Maintenance for 4th Year: 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 Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)		
	Basic rate		2400
	O&M 4th year escalation of 16%		384
		Rate	2,784
			Nos.
53	Maintenance for 4th Year: 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 (Ref Electrical SOR SI No.16.28.3)		
	Basic rate		620
	Maintenance- 4th year escalation of 16%		99.2
		Rate	719
			Nos.

	Outdoor Box and Switch Gear			
54	Maintenance for 4th Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets			
	Price list (Considering 30% discount , 18% GST & 10% profit)		11783	
	Maintenance- 4th year escalation of 16%		1885.28	
		Rate	13,668	Nos.
55	Maintenance for 4th Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)			
	Basic rate		1547	
	Maintenance- 4th year escalation of 16%		247.52	
		Rate	1,795	Nos.
	LT Cable			
56	Maintenance for 4th Year: Supplying of 1.1 kV LT 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 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)			
	Basic rate		117	
	Maintenance- 4th year escalation of 16%		18.72	
		Rate	135.72	Rm
57	Maintenance for 4th Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)			
	Basic rate		81.6	
	Maintenance- 4th year escalation of 16%		13.06	
		Rate	94.66	Rm
58	Maintenance for 4th Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)			
	Basic rate		11.31	
	Maintenance- 4th year escalation of 16%		1.81	
		Rate	13.12	Nos.
59	Maintenance for 4th Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)			
	Basic rate		3.12	
	Maintenance- 4th year escalation of 16%		0.5	
		Rate	3.62	Nos.

60	Maintenance for 4th Year: Chemical Earthing for grounding, conduits, IC cut outs and other equipmentson the mter boardby 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 (Ref Electrical SOR Pg.No.64,SI No.7.23.6)			
	Basic rate		5500	
	Maintenance- 4th year escalation of 16%		880	
		Rate	6380	Kit
61	Maintenance for 4th Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)			
	Basic rate		19.5	
	Maintenance- 4th year escalation of 16%		3.12	
		Rate	22.62	Rmt
62	Maintenance for 4th Year: 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% for payment). (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.27		140.00	
	Maintenance- 4th year escalation of 16%		22.4	
		Rate	162.40	Cum
63	Maintenance for 4th Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)			
	Basic rate		204	
	Maintenance- 4th year escalation of 16%		32.64	
	Add 10% For area weightage		23.66	
		Rate	260.30	Cum
64	Maintenance for 4th Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. 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 (KPWD SR 16-17,Page No.150,SI No.19.77)			
	Basic rate		103	
	Maintenance- 4th year escalation of 16%		16.48	
	Add 10% For area wightage		11.95	
		Rate	131.43	Cum
65	Maintenance for 4th Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.28		23.91	
	Maintenance- 4th year escalation of 16%		3.83	
		Rate	27.74	Cum

66	Maintenance for 4th Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic rate		103	
	Maintenance- 4th year escalation of 16%		16.48	
	Add 10% For area wightage		11.95	
		Rate	131.43	Sqm
	TURF			
67	Maintenance for 4th Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.32		156.80	
	Maintenance- 4th year escalation of 16%		25.09	
		Rate	181.89	Sqm
	IRRIGATION			
68	Maintenance for 4th Year: Watering with tanker to landscape area and plants for one year			
	Water Tanker =61 Rs/ Hour,One Year Cost=92 days x 3 hrs x 61rs/hr (365days-90 days of mansoon=275 days/3 days=92 days,consider watering at every 3 days)		16836	
	Mazdoor = 0.5 days x 258.88		11908.48	
	Add 10% For area wightage		1190.848	
	Maintenance- 4th year escalation of 16%		4599.12	
		Rate	34534.45	Year
69	Maintenance for 4th Year: 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. (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.34		560.00	
	Maintenance- 4th year escalation of 16%		89.6	
		Rate	649.60	Sqm

**Assistant Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**