

**Project Name: Manglore Smart City
Grand Summary for Priority Road DPR 6**

Sr. No.	Description	Cost In INR
1	Road and Other Works	39,63,36,592
2	Street Lighting	64,45,368
3	Landscape Work	2,20,184
	Construction Cost Sub Total	40,30,02,144
	GST @ 12% on Civil Constrction Cost (Refer 1.0 Abstract)	4,72,99,932
	Provision for Third Party Damages and Maintenance at 1 st Year(DLP-	39,63,351
	GST @12% on DLP Cost (Refer 5.1 Abstract)	2,76,713
	Maintenance Cost of 2nd,3rd and 4th Year	1,23,21,456
	GST @12% on Maintenanace Cost	11,73,949
	Escalation and Tender Premium @10%	403,00,214
	Add 3% Contengency	120,90,064
	Miscellaneous and Rounding off	72,177
	Grand Total	52,05,00,000

**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 6

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	2032.08	74.98	1,52,365	
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	15.00	1003.20	15,048	
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	2396.00	13.20	31,627	
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	5771.42	429.00	24,75,939	
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	7.20	2082.30	14,993	
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	36877.35	42.90	15,82,038	
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	82988.60	42.90	35,60,211	
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)Dismantling 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	8241.60	107.80	8,88,444	

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.	187.50	4,211.90	7,89,731	
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	67366.10	56.36	37,96,754	
12.00	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)	Cum	46232.58	132.00	61,02,700	
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	43500.98	6.60	2,87,106	
14.00	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. (SI.No. 4.6 of KPWD 18-19)	Cum	1818.24	6,490.00	1,18,00,401	
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	3567.48	2,382.60	84,99,871	
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	3480.74	2,640.00	91,89,154	
17.00	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. (SI No : 4.10 of KPWD 18-19)	Cum	9799.67	6,817.80	6,68,12,197	

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	79195.16	289.30	2,29,11,159	
19.00	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)	MT	796.64	77,860.20	6,20,26,550	
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	7890.85	620.62	48,97,219	
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	2448.57	4,452.80	1,09,02,992	
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	263.47	4,048.00	10,66,527	
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. (exclsive 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	1713.06	6,046.70	1,03,58,360	

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 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, 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	5945.80	6,341.50	3,77,05,291	
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	523.69	115.00	60,224	
26.00	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)	Rmt	26.18	364.10	9,534	
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	366.75	17,029.77	62,45,685	
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	142.83	17,029.77	24,32,404	
30.00	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).	Rmt	1,198.00	58.23	69,760	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
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	1,497.97	88.00	1,31,821	
32.00	P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting. (Rate analysis attached)	Nos.	594.00	7,911.54	46,99,455	
33.00	P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	1,007.00	5,276.57	53,13,501	
34.00	P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	195.00	7,912.28	15,42,895	
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	15.00	7,905.70	1,18,586	
36.00	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 (S.I.No.11.52 of PWD SR 2018-19)	Nos.	10.00	9,125.60	91,256	
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	817.50	301.70	2,46,640	
38.00	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)	Nos.	545.00	913.00	4,97,585	
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	10,068.00	161.70	16,27,996	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
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	1,554.85	5,524.20	85,89,302	
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	27,350.00	1,556.88	4,25,80,668	
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	7,420.00	1,068.90	79,31,238	
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.	5,209.00	1,003.00	52,24,627	
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.	5,312.00	1,947.00	1,03,42,464	
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	7,806.60	601.30	46,94,109	
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	17,130.40	624.00	1,06,89,370	
47.00	Cutting of Control joints panels(in Footpath) at suitable required locations using using tools and tackles.	Rmt	4,901.40	59.00	2,89,183	
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	3,808.38	1,225.40	46,66,789	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
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	150.98	8,622.90	13,01,842	
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	40.26	9,637.10	3,87,990	
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.	49.00	3,862.10	1,89,243	
	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)					
52.00	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.	8.00	5,453.80	43,630	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
	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)					
53.00	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.	81.00	3,429.80	2,77,814	
	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)					
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	Sqm	7.20	7619.70	54,862	
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	16.00	7926.60	1,26,826	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
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.	20.00	4453.90	89,078	
	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.	550.00	317.90	1,74,845	
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	3054.70	471.90	14,41,514	
59.00	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	4.00	5,75,000	23,00,000	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
	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 center and web portal facilities for registering compliance and tracking usage,coin collection etc.Status display in LED,Printed instruction stickers are to be provided.For Advertisement purpose space for advertisement display 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)					
60.00	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 superstructu/re 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	55.97	8576.70	4,80,062	
61.00	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	168.48	288.20	48,556	
62.00	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	93.60	3527.00	3,30,127	
63.00	Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	95.00	4,500	4,27,500	
64.00	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	4.16	100,000	4,16,000	
65.00	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.	92.00	7,500	6,90,000	
66.00	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	Nos.	10.00	2,466	24,662	
67.00	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	21,133.53	90.86	19,20,193	
68.00	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	16,975.31	91.30	15,49,845	
			Total		39,63,36,592	

SOR+ RA Items Cost	30,08,58,591
GST @12%	36103031
Market Rate	9,33,07,510
GST @12%	11196901

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 6

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)						
	2/19 Old Kent Road						
	LHS						
	Ch.0.00 to Ch.60.0	Sqm	1	60.0	1.75		105.00
	Ch.210.0 to Ch.260.0	Sqm	1	50.0	2.48		124.00
	Ch.260.0 to Ch.300.0	Sqm	1	40.0	6.13		245.20
	6/24 Mangaladevi Temple Road						
	Ch.270.0 to Ch.628.0(LHS and RHS)	Sqm	2	358.0	1.20		859.20
	7/25-Monkey Stand New Road	Sqm	2	50.0	2.00		200.00
	8/26-Jeppu Market Road-Ch.50.0 to Ch.130.0	Sqm	1	80.0	2.00		160.00
	Consider 20% Extra Qty.						338.68
		Sqm		Total Qty.			2032.08
	Consider 60mm Paver Block	Cum					121.92
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-						
	Provisional Qty.	Cum	1	10.00	5.00	0.30	15.00
		Cum		Total Qty.			15.00
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						
	2/19 - Old Kent Road	Rm	0	790			0.00
	3/20 - Pandeshwar Road	Rm	0	280			0.00
	4/22 - Bolar Fisheries Road	Rm	0	155			0.00
	5/23 - Milihithuli Road	Rm	0	760			0.00
	6/24 - Mangaladevi Temple Road	Rm	2	628			1256.00
	7/25 - Monkey Stand New Road	Rm	2	570			1140.00
	8/26 - Jeppu Market Road	Rm	0	225			0.00
	9/27 - Gujjarkere Road	Rm	0	576			0.00
		Rm		Total Qty.			2396.00
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						
2	2/19-Old Kent Road						
	SWD-Base	Cum	2	790.00	1.35	0.15	319.95
	SWD-Wall	Cum	4	790.00	0.20	1.10	695.20
	SWD-Slab	Cum	2	790.00	1.15	0.15	272.55
3	3/20-Pandeshwar Road						
	SWD-Base	Cum	1	280.00	0.90	0.15	37.80
	SWD-Wall	Cum	2	280.00	0.20	1.10	123.20
	SWD-Slab	Cum	1	280.00	0.70	0.15	29.40
4	5/23-Milithithlu Road						
	SWD-Base	Cum	2	760.00	1.10	0.15	250.80
	SWD-Wall	Cum	4	760.00	0.20	1.00	608.00
	SWD-Slab	Cum	2	760.00	0.90	0.15	205.20
5	6/24-Mangaladevi Temple Road						
	SWD-Base	Cum	2	628.00	1.10	0.15	207.24
	SWD-Wall	Cum	4	628.00	0.20	1.00	502.40
	SWD-Slab	Cum	2	628.00	0.90	0.15	169.56
6	7/25-Monkeystand New Road						
	SWD-Base	Cum	2	570.00	1.10	0.15	188.10
	SWD-Wall	Cum	4	570.00	0.20	1.00	456.00
	SWD-Slab	Cum	2	570.00	0.90	0.15	153.90
7	8/26-Jeppu Market Road						
	SWD-Base	Cum	2	225.00	1.10	0.15	74.25
	SWD-Wall	Cum	4	225.00	0.20	1.00	180.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	SWD-Slab	Cum	2	225.00	0.90	0.15	60.75
8	9/27-Gujjarkere Road						
	SWD-Base	Cum	2	576.00	1.10	0.15	190.08
	SWD-Wall	Cum	4	576.00	0.20	1.00	460.80
	SWD-Slab	Cum	2	576.00	0.90	0.15	155.52
	Cross Drain						
	Box Culvert						
	1/18-Old Port Road						
	Box Culvert-Slab	Cum	2	22.9	1.00	0.20	9.16
	Box Culvert-Wall	Cum	2	22.9	1.00	0.20	9.16
	2/19-Old Kent Road						
	Box Culvert-Slab	Cum	8	20.5	1.00	0.20	32.80
	Box Culvert-Wall	Cum	8	20.5	1.00	0.20	32.80
	3/20-Pandeshwar Road						
	Box Culvert-Slab	Cum	4	8.2	1.50	0.20	9.84
	Box Culvert-Wall	Cum	4	8.2	1.50	0.20	9.84
	4/22-Bollar Fisheries College Road						
	Box Culvert-Slab	Cum	2	10.9	1.50	0.20	6.54
	Box Culvert-Wall	Cum	2	10.9	1.50	0.20	6.54
	5/23-Milithuli Road						
	Box Culvert-Slab	Cum	8	11.4	1.50	0.20	27.36
	Box Culvert-Wall	Cum	8	11.4	1.50	0.20	27.36
	6/24-Mangaladevi Temple Road						
	Box Culvert-Slab	Cum	4	32.9	1.50	0.20	39.48
	Box Culvert-Wall	Cum	4	32.9	1.50	0.20	39.48
	7/25-Monkeystand New Road						
	Box Culvert-Slab	Cum	4	15.6	1.50	0.20	18.72
	Box Culvert-Wall	Cum	4	15.6	1.50	0.20	18.72
	8/26-Jeppu Market Road						
	Box Culvert-Slab	Cum	4	20.55	1.50	0.20	24.66
	Box Culvert-Wall	Cum	4	20.55	1.50	0.20	24.66
	9/27-Gujjarkere Road						
	Box Culvert-Slab	Cum	8	19.5	1.50	0.20	46.80
	Box Culvert-Wall	Cum	8	19.5	1.50	0.20	46.80
		Cum					5771.42
					Total Qty.		
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		
			100	50	5000		5.00
			Nos.	Mt/Nos			
	Bus Shelter		2	1.1			2.20
		MT				Total	7.2
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)						
	2/19 - Old Kent Road	Sqm	1	790	7.1		5609.00
	3/20 - Pandeshwar Road	Sqm	1	280	5.88		1646.40
	4/22 - Bolar Fisheries Road	Sqm	0	155	7.1		0.00
	5/23 - Milithuli Road	Sqm	1	760	7		5320.00
	6/24 - Mangaladevi Temple Road	Sqm	1	628	19.8		12434.40
	7/25 - Monkey Stand New Road	Sqm	1	570	7.4		4218.00
	8/26 - Jeppu Market Road	Sqm	1	225	12.75		2868.75
	9/27 - Gujjarkere Road	Sqm	1	576	8.3		4780.80
		Sqm			Total Qty.		36877.35
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)						
	2/19 - Old Kent Road	Sqm	2	790	7.1		11218.00
	3/20 - Pandeshwar Road	Sqm	2	280	5.88		3292.80
	4/22 - Bolar Fisheries Road	Sqm	2	155	7.1		2201.00
	5/23 - Milithuli Road	Sqm	2	760	7		10640.00
	6/24 - Mangaladevi Temple Road	Sqm	2	628	19.8		24868.80
	7/25 - Monkey Stand New Road	Sqm	2	570	7.4		8436.00
	8/26 - Jeppu Market Road	Sqm	2	225	12.75		5737.50
	9/27 - Gujjarkere Road	Sqm	2	576	8.3		9561.60
	RCC Pipe Crossing-						
	2/19 - Old Kent Road	Sqm	64	20.50		1.182	1550.78
	3/20 - Pandeshwar Road	Sqm	24	8.20		1.182	232.62
	4/22 - Bolar Fisheries Road	Sqm	16	10.90		1.182	206.14
	5/23 - Milithuli Road	Sqm	64	11.40		1.182	862.39
	6/24 - Mangaladevi Temple Road	Sqm	52	32.90		1.182	2022.17
	7/25 - Monkey Stand New Road	Sqm	48	15.60		1.182	885.08
	8/26 - Jeppu Market Road	Sqm	16	20.55		1.182	388.64

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	9/27 - Gujjarkere Road	Sqm	38.4	19.50		1.182	885.08
		Sqm			Total Qty.		82988.60
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)Dismantling 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)						
	2/19 - Old Kent Road	Sqm	1	790	1.2		948.00
	3/20 - Pandeshwar Road	Sqm	2	280	1.2		672.00
	4/22 - Bolar Fisheries Road	Sqm	0	155	1.2		0.00
	5/23 - Milihithuli Road	Sqm	2	760	1.2		1824.00
	6/24 - Mangaladevi Temple Road	Sqm	2	628	1.2		1507.20
	7/25 - Monkey Stand New Road	Sqm	2	570	1.2		1368.00
	8/26 - Jeppu Market Road	Sqm	2	225	1.2		540.00
	9/27 - Gujjarkere Road	Sqm	2	576	1.2		1382.40
		Sqm		Total Qty.			8241.60
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						
	Considered 250m length at 3 locations work will be in progress	Rm	3	250.00			750.00
						Total Length	750.00
	No. of Barricade = Length of Road / Length of one barricade (4.0m)	Nos.				Total Qty.	187.50
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						
	2/19-Old Kent Road						
	Ch.200.0 to Ch.260.0	Cum	1	60	6.53	1.00	391.80
	Ch.260.0 to Ch.310.0	Cum	1	50	4.47	1.00	223.50
	Ch.310.0 to Ch.360.0	Cum	1	50	4.89	1.00	244.50
	Ch.360.0 to Ch.410.0	Cum	1	50	6.53	1.00	326.50
	Ch.410.0 to Ch.470.0	Cum	1	60	3.69	1.00	221.40
	Ch.470.0 to Ch.530.0	Cum	1	60	4.09	1.00	245.40
	Ch.530.0 to Ch.580.0	Cum	1	50	4.4	1.00	220.00
	Ch.580.0 to ch.630.0	Cum	1	50	6.23	1.00	311.50
	Ch.630.0 to Ch.680.0	Cum	1	50	4.23	1.00	211.50
	Ch.680.0 to Ch.720.0	Cum	1	40	5.27	1.00	210.72
	Ch.720.0 to Ch.790.0	Cum	1	70	2.40	1.00	168.00
	3/20-Pandeshwar New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	2.81	0.65	36.53
	Ch.20.0 to Ch.70.0	Cum	1	50	4.19	0.65	136.24
	Ch.70.0 to Ch.120.0	Cum	1	50	3.70	0.65	120.12
	Ch.120.0 to ch.180.0	Cum	1	60	4.37	0.65	170.31
	Ch.180.0 to Ch.220.0	Cum	1	40	2.77	0.65	71.99
	Ch.220.0 to Ch.280.0	Cum	1	60	2.19	0.65	85.41
	Road No.4/22-Bolar Fisheries College Road						
	Ch.0 to Ch.10.0	Cum	1	10	4.90	1.00	49.00
	Ch.10.0 to Ch.60.0	Cum	1	50	4.20	1.00	210.00
	Ch.60.0 to Ch.110.0	Cum	1	50	5.50	1.00	275.00
	Ch.110.0 to Ch.155.0	Cum	1	45	5.38	1.00	242.10
	Road No.5/23-Milihithuli Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	2.54	0.65	33.02
	Ch.20.0 to Ch.70.0	Cum	1	50	3.92	0.65	127.40
	Ch.70.0 to Ch.120.0	Cum	1	50	4.80	0.65	156.00
	Ch.120.0 to ch.160.0	Cum	1	40	3.88	0.65	100.88
	Ch.160.0 to Ch.210.0	Cum	1	50	4.40	0.65	143.00
	Ch.210.0 to Ch.260.0	Cum	1	50	2.36	0.65	76.70
	Ch.260.0 to Ch.310.0	Cum	1	50	2.03	0.65	65.98
	Ch.310.0 to Ch.360.0	Cum	1	50	3.52	0.65	114.40
	Ch.360.0 to Ch.420.0	Cum	1	60	3.07	0.65	119.73
	Ch.420.0 to Ch.470.0	Cum	1	50	2.25	0.65	73.13
	Ch.470.0 to Ch.520.0	Cum	1	50	2.66	0.65	86.45
	Ch.520.0 to Ch.560.0	Cum	1	40	3.22	0.65	83.72
	Ch.560.0 to Ch.610.0	Cum	1	50	2.96	0.65	96.20
	Ch.610.0 to Ch.670.0	Cum	1	60	6.20	0.65	241.80

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.670.0 to Ch.710.0	Cum	1	40	4.72	0.65	122.72
	Ch.710.0 to Ch.760.0	Cum	1	50	2.69	0.65	87.43
	Road No.6/24-Mangaladevi Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1	30	12.10	0.65	235.95
	Ch.30.0 to Ch.80.0	Cum	1	50	12.10	0.65	393.25
	Ch.80.0 to Ch.130.0	Cum	1	50	12.10	0.65	393.25
	Ch.130.0 to Ch.180.0	Cum	1	50	12.10	0.65	393.25
	Ch.180.0 to Ch.270.0	Cum	1	90	12.10	0.65	707.85
	Ch.270.0 to Ch.310.0	Cum	1	40	12.10	0.65	314.60
	Ch.310.0 to Ch.360.0	Cum	1	50	14.60	0.65	474.50
	Ch.360.0 to Ch.410.0	Cum	1	50	14.60	0.65	474.50
	Ch.410.0 to Ch.460.0	Cum	1	50	12.10	0.65	393.25
	Ch.460.0 to Ch.510.0	Cum	1	50	12.10	0.65	393.25
	Ch.510.0 to Ch.560.0	Cum	1	50	12.10	0.65	393.25
	Ch.560.0 to Ch.628.0	Cum	1	68	12.10	0.65	534.82
	Road No.7/25-Monkeystand New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	6.36	0.65	82.68
	Ch.20.0 to Ch.70.0	Cum	1	50	6.36	0.65	206.70
	Ch.70.0 to Ch.120.0	Cum	1	50	4.40	0.65	143.00
	Ch.120.0 to Ch.170	Cum	1	50	5.00	0.65	162.50
	Ch.170.0 to Ch.220.0	Cum	1	50	5.30	0.65	172.25
	Ch.220.0 to Ch.270.0	Cum	1	50	6.36	0.65	206.70
	Ch.270.0 to Ch.310.0	Cum	1	40	5.30	0.65	137.80
	Ch.310.0 to Ch.370.0	Cum	1	60	4.78	0.65	186.42
	Ch.370.0 to Ch.420.0	Cum	1	50	5.30	0.65	172.25
	Ch.420.0 to Ch.470.0	Cum	1	50	3.63	0.65	117.98
	Ch.470.0 to Ch.570.0	Cum	1	100	6.37	0.65	414.05
	Road No.8/26-Jeppu Market Road						
	Ch.0.0 to Ch.50.0	Cum	1	50	9.87	0.65	320.78
	Ch.50.0 to Ch.90.0	Cum	1	40	9.30	0.65	241.80
	Ch.90.0 to Ch.130.0	Cum	1	40	10.22	0.65	265.72
	Ch.130.0 to Ch.225.0	Cum	1	95	8.22	0.65	507.59
	Road No.9/27-Gujjarkere Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	4.40	0.65	57.20
	Ch.20.0 to Ch.70.0	Cum	1	50	4.40	0.65	143.00
	Ch.70.0 to Ch.110.0	Cum	1	60	4.40	0.65	171.60
	Ch.110.0 to Ch.170.0	Cum	1	60	5.30	0.65	206.70
	Ch.170.0 to Ch.220.0	Cum	1	50	8.32	0.65	270.40
	Ch.220.0 to Ch.270.0	Cum	1	50	5.30	0.65	172.25
	Ch.270.0 to Ch.320.0	Cum	1	50	4.40	0.65	143.00
	Ch.320.0 to Ch.370.0	Cum	1	50	4.40	0.65	143.00
	Ch.370.0 to Ch.420.0	Cum	1	50	4.40	0.65	143.00
	Ch.420.0 to Ch.470.0	Cum	1	50	3.53	0.65	114.73
	Ch.470.0 to Ch.520.0	Cum	1	50	3.88	0.65	126.10
	Ch.520.0 to Ch.570.0	Cum	1	50	3.88	0.65	126.10
	Footpath						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Cum	1	150	3.76	0.2	112.8
	Ch.165.0 to Ch.180.0	Cum	1	15	4.6	0.2	13.8
	Ch.230.0 to Ch.440.0	Cum	1	210	3.4	0.2	142.8
	Ch.450.0 to Ch.530.0	Cum	1	80	1.98	0.2	31.68
	Ch.540.0 to Ch.570.0	Cum	1	30	1.73	0.2	10.38
	Ch.580.0 to Ch.730.0	Cum	1	150	2.07	0.2	62.1
	RHS						
	Ch.0.0 to Ch.130.0	Cum	1	130	2.78	0.2	72.28
	Ch.130.0 to Ch.740.0	Cum	1	610	2.36	0.2	287.92
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Cum	1	170	1.85	0.2	62.9
	Ch.175.0 to Ch.205.0	Cum	1	30	2.2	0.2	13.2
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Cum	1	150	2.83	0.2	84.9
	RHS						
	Ch.105.0 to Ch.125.0	Cum	1	20	1.65	0.2	6.6
	Road No.5/23-Milihithuli Road						
	LHS						
	Ch.135.0 to Ch.180.0	Cum	1	45	2.42	0.2	21.78
	Ch.190.0 to Ch.230.0	Cum	1	40	5.85	0.2	46.8
	Ch.320.0 to Ch.340.0	Cum	1	20	3.12	0.2	12.48
	Ch.355.0 to Ch.370.0	Cum	1	15	2.53	0.2	7.59
	Ch.380.0 to Ch.390.0	Cum	1	10	3.4	0.2	6.8
	Ch.390.0 to Ch.420.0	Cum	1	30	3.13	0.2	18.78
	Ch.560.0 to Ch.570.0	Cum	1	10	2.64	0.2	5.28
	Ch.580.0 to Ch.600.0	Cum	1	20	1.75	0.2	7
	Ch.630.0 to Ch.640.0	Cum	1	20	0.81	0.2	3.24
	RHS						
	Ch.190.0 to Ch.210.0	Cum	1	20	4.25	0.2	17
	Ch.570.0 to Ch.590.0	Cum	1	20	1.88	0.2	7.52
	Ch.590.0 to ch.600.0	Cum	1	10	1.34	0.2	2.68
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Cum	1	60	7.75	0.2	93
	Ch.70.0 to Ch.230.0	Cum	1	160	5.1	0.2	163.2
	Ch.260.0 to ch.620.0	Cum	1	360	4.13	0.2	297.36

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	RHS						
	Ch.0.0 to Ch.620.0	Cum	1	620	4.57	0.2	566.68
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.0.0 to Ch.25.0	Cum	1	25	2.68	0.2	13.4
	Ch.30.0 to Ch.100.0	Cum	1	70	1.85	0.2	25.9
	Ch.160.0 to Ch.180.0	Cum	1	20	3.03	0.2	12.12
	Ch.270.0 to Ch.290.0	Cum	1	20	2.88	0.2	11.52
	Ch.515.0 to Ch.550.0	Cum	1	35	2.28	0.2	15.96
	RHS						
	Ch.0.0 to Ch.570.0	Cum	1	570	2.38	0.2	271.32
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Cum	1	195	2.47	0.2	96.33
	Ch.210.0 to Ch.220.0	Cum	1	10	2.9	0.2	5.8
	RHS						
	Ch.0.0 to Ch.200	Cum	1	200	4.05	0.2	162
	Ch.210.0 to Ch.220.0	Cum	1	10	2.2	0.2	4.4
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Cum	1	85	1.36	0.2	23.12
	Ch.95.0 to ch.115.0	Cum	1	20	4	0.2	16
	Ch.125.0 to Ch.560.0	Cum	1	435	4.11	0.2	357.57
	Ch.570.0 to Ch.576.0	Cum	1	6	3	0.2	3.6
	RHS						
	Ch.35.0 to Ch.330.0	Cum	1	295	2.33	0.2	137.47
	Ch.330.0 to Ch.576.0	Cum	1	246	1.85	0.2	91.02
	Flush Footpath with Carriageway						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.180.0 to Ch.230.0	Cum	1	50	1.38	0.27	18.63
	Ch.460.0 to Ch.480.0	Cum	1	20	1.31	0.27	7.07
	Ch.690.0 to Ch.710.0	Cum	1	20	2.2	0.27	11.88
	Ch.730.0 to Ch.770.0	Cum	1	40	1.2	0.27	12.96
	Ch.770.0 to Ch.790.0	Cum	1	20	2.58	0.27	13.93
	RHS						
	Ch.60.0 to Ch.70.0	Cum	1	10	2.72	0.27	7.34
	Ch.75.0 to Ch.80.0	Cum	1	5	4.5	0.27	6.08
	Ch.195.0 to Ch.213.0	Cum	1	18	0.91	0.27	4.42
	Ch.740.0 to Ch.780.0	Cum	1	40	0.78	0.27	8.42
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.10.0 to Ch.55.0	Cum	1	45	1.1	0.27	13.37
	Ch.100.0 to Ch.170.0	Cum	1	70	1.31	0.27	24.76
	Ch.170.0 to Ch.225.0	Cum	1	55	0.83	0.27	12.33
	Ch.225.0 to Ch.290.0	Cum	1	65	0.3	0.27	5.27
	LHS						
	Ch.150.0 to Ch.220.0	Cum	1	70	0.52	0.27	9.83
	Road No.4/22-Bolar Fisheries College Road						
	RHS						
	Ch.0.0 to ch.30.0	Cum	1	30	0.49	0.27	3.97
	Ch.50.0 to Ch.105.0	Cum	1	55	0.66	0.27	9.80
	Ch.128.0 to Ch.150.0	Cum	1	22	0.73	0.27	4.34
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.0.0 to Ch.20.0	Cum	1	20	2.25	0.27	12.15
	Ch.48.0 to Ch.52	Cum	1	4	3.5	0.27	3.78
	Ch.118.0 to Ch.124.0	Cum	1	6	8.5	0.27	13.77
	Ch.134.0 to Ch.180.0	Cum	1	46	1.28	0.27	15.90
	Ch.212.0 to Ch.250.0	Cum	1	38	1.55	0.27	15.90
	Ch.318.0 to Ch.345.0	Cum	1	27	1.44	0.27	10.50
	Ch.355.0 to Ch.368.0	Cum	1	13	3.4	0.27	11.93
	Ch.375.0 to Ch.400.0	Cum	1	25	1.84	0.27	12.42
	Ch.400.0 to Ch.420.0	Cum	1	20	2.85	0.27	15.39
	Ch.472.0 to Ch.480.0	Cum	1	8	1.38	0.27	2.98
	Ch.485.0 to Ch.495.0	Cum	1	10	1.9	0.27	5.13
	Ch.535.0 to Ch.570.0	Cum	1	35	0.63	0.27	5.95
	Ch.580.0 to Ch.590.0	Cum	1	10	3.3	0.27	8.91
	Ch.590.0 to Ch.595.0	Cum	1	5	1.33	0.27	1.80
	Ch.595.0 to Ch.605.0	Cum	1	10	0.72	0.27	1.94
	Ch.610.0 to Ch.645.0	Cum	1	35	1.02	0.27	9.64
	Ch.645.0 to Ch.670.0	Cum	1	25	2.38	0.27	16.07
	Ch.675.0 to Ch.740.0	Cum	1	65	0.83	0.27	14.57
	RHS						
	Ch.0.0 to Ch.70.00	Cum	1	70	2.02	0.27	38.18
	Ch.70.0 to ch.115.0	Cum	1	45	2.64	0.27	32.08
	Ch.115.0 to ch.135.0	Cum	1	20	4.63	0.27	25.00
	Ch.180.0 to Ch.190.0	Cum	1	10	1.5	0.27	4.05
	Ch.235.0 to Ch.240.0	Cum	1	5	3.5	0.27	4.73
	Ch.245.0 to ch.300.0	Cum	1	55	1.85	0.27	27.47
	Ch.300.00 to Ch.320.0	Cum	1	20	3.3	0.27	17.82
	Ch.340.0 to Ch.358.0	Cum	1	18	3.56	0.27	17.30
	Ch.378.0 to ch.380.0	Cum	1	2	1.5	0.27	0.81
	Ch.420.0 to ch. 440.0	Cum	1	20	3.1	0.27	16.74
	Ch.460.0 to Ch.474.0	Cum	1	14	0.64	0.27	2.42
	Ch.474.0 to Ch.528.0	Cum	1	54	1.87	0.27	27.26
	Ch.528.0 to Ch.550.0	Cum	1	22	0.52	0.27	3.09

Sr. No.	Description	Unit	No's	L	B	H	Qty.
8	MH-299 to MH 300						
	Base	Cum	2	12.9	1.7	1.525	66.89
9	MH-300 to MH 301						
	Base	Cum	2	43.7	1.7	1.555	231.04
10	MH-301 to MH 302						
	Base	Cum	2	27.9	1.7	1.55	147.03
11	MH-302 to MH 303						
	Base	Cum	2	18.8	1.7	1.485	94.92
12	MH-303 to MH 304						
	Base	Cum	2	35.3	1.7	1.51	181.23
13	MH-304 to MH305						
	Base	Cum	2	32	1.7	1.56	169.73
14	MH-305 to MH306						
	Base	Cum	2	59.9	1.7	1.55	315.67
15	MH-306 to O-33						
	Base	Cum	2	48	1.7	1.54	251.33
16	MH-546 to MH-547						
	Base	Cum	2	21.5	2	1.465	125.99
17	MH-547 to MH-549						
	Base	Cum	2	55.8	2	1.57	350.42
18	MH-549 to MH-548						
	Base	Cum	2	42.7	2	1.67	285.24
19	MH-548 to MH-531						
	Base	Cum	2	66.9	2	1.68	449.57
20	MH-531 to MH-532						
	Base	Cum	2	41.6	2.05	1.985	338.56
21	MH-532 to MH-533						
	Base	Cum	2	25.7	2.05	1.955	206.00
22	MH-533 to MH-534						
	Base	Cum	2	36.6	2.05	1.835	275.36
23	MH-534 to MH-535						
	Base	Cum	2	50	2.05	1.82	373.10
24	MH-535 to MH-536						
	Base	Cum	2	22.2	2.05	1.775	161.56
25	MH-536 to MH-537						
	Base	Cum	2	29.7	2.05	1.9	231.36
26	MH-537 to MH-538						
	Base	Cum	2	36.2	2	1.78	257.74
27	MH-538 to MH-539						
	Base	Cum	2	51.6	2	1.785	368.42
28	MH-539 to MH-540						
	Base	Cum	2	9.5	2	1.76	66.88
29	MH-540 to O-59						
	Base	Cum	2	45.3	2	1.76	318.91
	Road 20/3 Pandeshwar New Road			Sides	1		
1	Node-O-61						
	Slab	Cum	1	112.8	1.05	1.61	190.10
2	MH-528						
	Base	Cum	1	17.3	1.7	1.505	44.26
3	Node-O-58						
	Base	Cum	1	88.8	1.7	1.475	222.67
4	MH-527						
	Base	Cum	1	44.9	1.7	1.525	116.40
	Road 22/4 Bolar Fisheries College Road			Sides	1		
1	MH-377 to O-39						
	Base	Cum	1	114.8	1.7	1.575	307.38
	Road-23/5 Milihithulu Road			Sides	1		
1	MH-261						
	Base	Cum	1	41	2	1.57	128.74
2	MH-262						
	Base	Cum	1	49.9	2	1.525	152.20
3	MH-263						
	Base	Cum	1	55.3	2	1.475	163.14
4	MH-615						
	Base	Cum	1	31.4	2	1.465	92.00
5	O-29						
	Base	Cum	1	27.2	2	1.46	79.42
6	MH-578						
	Base	Cum	1	16.4	2	1.495	49.04
7	MH-577						
	Base	Cum	1	19.7	1.4	1.495	41.23
8	MH-576						
	Base	Cum	1	31.8	1.4	1.48	65.89
9	MH-575						
	Base	Cum	1	33.2	1.4	1.465	68.09
10	O-68						
	Base	Cum	1	31.3	1.4	1.68	73.62
11	MH-582			Sides	2		
	Base	Cum	2	36.3	1.3	2.57	242.56
12	MH-583						
	Base	Cum	2	20.9	1.2	2.33	116.87
13	MH-584						
	Base	Cum	2	17.4	1.15	1.875	75.04
14	MH-585						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	2	13.8	1.1	1.67	50.70
15	MH-586						
	Base	Cum	2	28.4	1.1	1.595	99.66
16	MH-587						
	Base	Cum	2	9	1.1	1.51	29.90
17	O-69						
	Base	Cum	2	21.6	1.1	1.475	70.09
18	MH-618						
	Base	Cum	2	12.9	1.3	2.45	82.17
19	MH-619						
	Base	Cum	2	24	1.2	2.25	129.60
20	MH-620						
	Base	Cum	2	16.9	1.2	2.01	81.53
21	MH-621						
	Base	Cum	2	21.4	1.1	1.555	73.21
22	MH-622						
	Base	Cum	2	10.1	1.1	1.555	34.55
23	MH-623						
	Base	Cum	2	41.4	1.2	1.845	183.32
24	O-70						
	Base	Cum	2	23.8	1.2	2.06	117.67
25	MH-366						
	Base	Cum	1	24.8	1.7	2.125	89.59
26	MH-258						
	Base	Cum	1	52	1.7	1.98	175.03
27	MH-259						
	Base	Cum	1	28.1	1.7	2.04	97.45
28	MH-260						
	Base	Cum	1	101.5	1.7	1.92	331.30
	Road-24/6 Mangaladevi Temple Road		Side	2			
1	MH-223 to MH-224						
	Base	Cum	2	92.7	2.33	1.77	764.61
2	MH-224 to MH-225						
	Base	Cum	2	56	2.33	1.775	463.20
3	MH-225 to MH-226						
	Base	Cum	2	65.3	2.33	1.765	537.09
4	MH-226 to MH-257						
	Base	Cum	2	145.2	2.33	1.83	1238.24
5	MH-207 to MH-208						
	Base	Cum	2	48	2	1.51	289.92
6	MH-208 to MH-209						
	Base	Cum	2	37.2	2	1.51	224.69
7	MH-209 to MH-210						
	Base	Cum	2	22.3	2	1.52	135.58
8	MH-210 to MH-211						
	Base	Cum	2	71.7	2	1.495	428.77
9	MH-211 to MH-212						
	Base	Cum	2	35.3	2	1.48	208.98
10	MH-212 to MH-213						
	Base	Cum	2	85.6	2	1.495	511.89
11	MH-213 to MH-214						
	Base	Cum	2	55.1	2	1.49	328.40
12	MH-214 to MH-215						
	Base	Cum	2	64.3	2	1.5	385.80
13	MH-215 to MH-216						
	Base	Cum	2	101.3	2	1.51	611.85
14	MH-216 to MH-256						
	Base	Cum	2	36.8	2.1	2.085	322.26
15	MH-256 to O-62						
	Base	Cum	2	40.5	2.03	1.9	312.42
16	MH-218 to MH-219						
	Base	Cum	2	50.7	1.73	1.855	325.41
17	MH-219 to MH-220						
	Base	Cum	2	34.9	1.73	1.795	216.75
18	MH-220 to MH-221						
	Base	Cum	2	25.1	1.73	1.82	158.06
19	MH-221 to MH-222						
	Base	Cum	2	85.8	1.73	1.79	531.39
	Road 25/7 Monkeystand New Road		Sides	1			
1	MH-564						
	Base	Cum	1	80.8	1.72	1.845	256.41
2	MH-565						
	Base	Cum	1	17.9	1.72	1.835	56.50
3	MH-566						
	Base	Cum	1	43.3	1.7	1.655	121.82
4	MH-567						
	Base	Cum	1	120.8	1.7	1.48	303.93
5	O-34						
	Base	Cum	1	9.7	1.7	1.475	24.32
6	MH-613						
	Base	Cum	1	72.9	1.8	2.09	274.25
7	MH-614						
	Base	Cum	1	40.1	1.72	1.77	122.08
8	MH-568						
	Base	Cum	1	49.2	1.72	1.765	149.36

Sr. No.	Description	Unit	No's	L	B	H	Qty.
9	MH-309						
	Base	Cum	1	53.2	1.7	1.695	153.30
10	O-34						
	Base	Cum	1	54.8	1.7	1.52	141.60
11	MH-569						
	Base	Cum	1	52.7	1.7	1.75	156.78
12	MH-570						
	Base	Cum	1	36.1	1.7	1.56	95.74
13	MH-567						
	Base	Cum	1	17.1	1.7	1.495	43.46
	Road 26/8 Jeppu Market Road			Sides	2		
1	MH-229						
	Base	Cum	2	121.2	1.9	2.715	1250.42
2	MJ-230						
	Base	Cum	2	62.8	1.9	2.735	652.68
3	MH-605						
	Base	Cum	2	136	1.7	1.595	737.53
4	O-66						
	Base	Cum	2	12.8	1.7	1.465	63.76
5	MH-608						
	Base	Cum	2	21.6	1.7	1.48	108.69
6	MH-609						
	Base	Cum	2	38.2	1.7	1.47	190.92
	Road 27/9 Gujarkere Road			Sides	2		
1	MH-234 to MH-235						
	Base	Cum	2	16.9	2.32	2.02	158.40
2	MH-235 to MH-236						
	Base	Cum	2	29.4	2.32	2.205	300.80
3	MH-236 to MH-237						
	Base	Cum	2	70.4	2.3	2.21	715.69
4	MH-237 to MH-238						
	Base	Cum	2	68.4	2.3	2.06	648.16
5	MH-238 to MH-239						
	Base	Cum	2	19.1	2.3	1.975	173.52
6	MH-239 to MH-240						
	Base	Cum	2	37.7	2.4	1.96	354.68
7	MH-240 to MH-241						
	Base	Cum	2	21.3	2.32	1.875	185.31
8	MH-241 to MH-242						
	Base	Cum	2	25.9	2.32	1.81	217.52
9	MH-242 to MH-591						
	Base	Cum	2	31.2	2.3	1.785	256.18
10	MH-591 to MH-246						
	Base	Cum	2	48.3	2.3	1.785	396.59
11	MH-246 to MH-245						
	Base	Cum	2	31	2.3	1.805	257.39
12	MH-245 to O-65						
	Base	Cum	2	39.4	2.3	2.125	385.14
13	MH-592 to MH-593						
	Base	Cum	2	37.3	2	1.925	287.21
14	MH-593 to MH-594						
	Base	Cum	2	4.1	2	1.905	31.24
15	MH-594 to MH-595						
	Base	Cum	2	58.3	2	1.78	415.10
16	MH-595 to MH-596						
	Base	Cum	2	56.8	2	1.57	356.70
17	MH-596 to MH-597						
	Base	Cum	2	3.1	2	1.5	18.60
18	MH-597 to MH-598						
	Base	Cum	2	41.5	2	1.515	251.49
19	MH-598 to MH-599						
	Base	Cum	2	42.3	2	1.49	252.11
20	MH-599 to MH-600						
	Base	Cum	2	43.3	2	1.515	262.40
21	MH-600 to MH-601						
	Base	Cum	2	21.7	2	1.57	136.28
22	MH-601 to MH-602						
	Base	Cum	2	62.1	2	1.565	388.75
23	MH-602 to MH-603						
	Base	Cum	2	7.4	2	1.575	46.62
24	MH-603 to O-64						
	Base	Cum	2	72.7	2	1.965	571.42
25	MH-229 to MH-230						
	Base	Cum	2	62.8	2	2.735	687.03
26	MH-230 to MH-231						
	Base	Cum	2	20.1	2	2.68	215.47
27	MH-231 to MH-589						
	Base	Cum	2	37.5	2	2.38	357.00
28	MH-589 to MH-232						
	Base	Cum	2	57.6	2	2.18	502.27
29	MH-232 to O-63						
	Base	Cum	2	29.2	2	2.16	252.29
30	MH-607 to MH-608						
	Base	Cum	2	21.6	2	1.48	127.87
31	MH-608 to MH-609						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Slab	Cum	2	38.2	1.2	0.15	13.75
32	MH-609 to MH-610						
	Base	Cum	2	101.6	2	1.54	625.86
33	MH-610 to O-67						
	Base	Cum	2	41.6	2	1.615	268.74
	Deduction of Existing SWD-Consider 50% Qty.						
	2/19-Old Kent Road						
	SWD-Base	Cum	-1	790	1.15	1.1	-999.35
	3/20-Pandeshwar Road						
	SWD-Base	Cum	-0.5	280	0.7	1.1	-107.80
	5/23-Milithulu Road						
	SWD-Base	Cum	-1	760	0.9	1	-684.00
	6/24-Mangaladevi Temple Road						
	SWD-Base	Cum	-1	628	0.9	1	-565.20
	7/25-Monkeystand New Road						
	SWD-Base	Cum	-1	570	0.9	1	-513.00
	8/26-Jeppu Market Road						
	SWD-Base	Cum	-1	225	0.9	1	-202.50
	9/27-Gujarkere Road						
	SWD-Base	Cum	-1	576	0.9	1	-518.40
	RCC Pipe Crossing-						
	2/19 - Old Kent Road	Cum	16	20.5	1.182	0.5	193.85
	3/20 - Pandeshwar Road	Cum	6	8.2	1.182	0.5	29.08
	4/22 - Bolar Fisheries Road	Cum	4	10.9	1.182	0.5	25.77
	5/23 - Milithulu Road	Cum	16	11.4	1.182	0.5	107.80
	6/24 - Mangaladevi Temple Road	Cum	13	32.9	1.182	0.5	252.77
	7/25 - Monkey Stand New Road	Cum	12	15.6	1.182	0.5	110.64
	8/26 - Jeppu Market Road	Cum	5	20.55	1.182	0.5	60.73
	9/27 - Gujarkere Road	Cum	12	19.5	1.182	0.5	138.29
		Cum		Total Qty.			67366.10
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	Cum					67366.10
	Pipe Volume-Dia 200mm	Cum		Length	C/s Area		
	2/19 - Old Kent Road	Cum	-6	790	0.031		-148.84
	3/20 - Pandeshwar Road	Cum	-8	280	0.031		-70.34
	4/22 - Bolar Fisheries Road	Cum	-2	155	0.031		-9.73
	5/23 - Milithulu Road	Cum	-8	760	0.031		-190.91
	6/24 - Mangaladevi Temple Road	Cum	-8	628	0.031		-157.75
	7/25 - Monkey Stand New Road	Cum	-8	570	0.031		-143.18
	8/26 - Jeppu Market Road	Cum	-8	225	0.031		-56.52
	9/27 - Gujarkere Road	Cum	-8	576	0.031		-144.69
	Pipe Volume-Dia 160mm	Cum					
	2/19 - Old Kent Road	Cum	-2	790	0.020		-31.75
	3/20 - Pandeshwar Road	Cum	-2	280	0.020		-11.25
	4/22 - Bolar Fisheries Road	Cum	-2	155	0.020		-6.23
	5/23 - Milithulu Road	Cum	-2	760	0.020		-30.55
	6/24 - Mangaladevi Temple Road	Cum	-2	628	0.020		-25.24
	7/25 - Monkey Stand New Road	Cum	-2	570	0.020		-22.91
	8/26 - Jeppu Market Road	Cum	-2	225	0.020		-9.04
	9/27 - Gujarkere Road	Cum	-2	576	0.020		-23.15
	Elctrical Chamber Volume	Cum	-297	2	0.9		-534.60
	Concrete Volume of SWD	Cum	-1	5989.98			-5989.98
	PCC Volume of SWD	Cum	-1	620.17			-620.17
	Void Area of SWD	Cum					
	Road 19/1 Old Kent Road			Sides	2		
1	MH-542 to MH 543						
	Base	Cum	-2	50.4	0.6	1.21	-73.18
2	MH-543 to MH 544						
	Base	Cum	-2	13.1	0.6	1.21	-19.02
3	MH-544 to MH 545						
	Base	Cum	-2	49.4	0.6	1.385	-82.10
4	MH-545 to MH 296						
	Base	Cum	-2	118.7	0.6	1.415	-201.55
5	MH-296 to MH 297						
	Base	Cum	-2	21.1	0.6	1.285	-32.54
6	MH-297 to MH 298						
	Base	Cum	-2	19.2	0.6	1.3	-29.95
7	MH-298 to MH 299						
	Base	Cum	-2	18.8	0.6	1.29	-29.10
8	MH-299 to MH 300						
	Base	Cum	-2	12.9	0.6	1.275	-19.74
9	MH-300 to MH 301						
	Base	Cum	-2	43.7	0.6	1.305	-68.43
10	MH-301 to MH 302						
	Base	Cum	-2	27.9	0.6	1.3	-43.52
11	MH-302 to MH 303						
	Base	Cum	-2	18.8	0.6	1.235	-27.86
12	MH-303 to MH 304						
	Base	Cum	-2	35.3	0.6	1.26	-53.37

Sr. No.	Description	Unit	No's	L	B	H	Qty.
13	MH-304 to MH305						
	Base	Cum	-2	32	0.6	1.31	-50.30
14	MH-305 to MH306						
	Base	Cum	-2	59.9	0.6	1.3	-93.44
15	MH-306 to O-33						
	Base	Cum	-2	48	0.6	1.29	-74.30
16	MH-546 to MH-547						
	Base	Cum	-2	21.5	0.9	1.215	-47.02
17	MH-547 to MH-549						
	Base	Cum	-2	55.8	0.9	1.32	-132.58
18	MH-549 to MH-548						
	Base	Cum	-2	42.7	0.9	1.42	-109.14
19	MH-548 to MH-531						
	Base	Cum	-2	66.9	0.9	1.43	-172.20
20	MH-531 to MH-532						
	Base	Cum	-2	41.6	0.9	1.735	-129.92
21	MH-532 to MH-533						
	Base	Cum	-2	25.7	0.9	1.705	-78.87
22	MH-533 to MH-534						
	Base	Cum	-2	36.6	0.9	1.585	-104.42
23	MH-534 to MH-535						
	Base	Cum	-2	50	0.9	1.57	-141.30
24	MH-535 to MH-536						
	Base	Cum	-2	22.2	0.9	1.525	-60.94
25	MH-536 to MH-537						
	Base	Cum	-2	29.7	0.9	1.65	-88.21
26	MH-537 to MH-538						
	Base	Cum	-2	36.2	0.9	1.53	-99.69
27	MH-538 to MH-539						
	Base	Cum	-2	51.6	0.9	1.535	-142.57
28	MH-539 to MH-540						
	Base	Cum	-2	9.5	0.9	1.51	-25.82
29	MH-540 to O-59						
	Base	Cum	-2	45.3	0.9	1.51	-123.13
	Road 20/3 Pandeshwar New Road			Sides	1		
1	Node-O-61						
	Base	Cum	-1	112.8	0.75	1.355	-114.63
2	MH-528						
	Base	Cum	-1	17.3	0.6	1.255	-13.03
3	Node-O-58						
	Base	Cum	-1	88.8	0.6	1.225	-65.27
4	MH-527						
	Base	Cum	-1	44.9	0.6	1.275	-34.35
	Road 22/4 Bolar Fisheries College Road			Sides	1		
1	MH-377 to O-39						
	Base	Cum	-1	114.8	0.6	1.325	-91.27
	Road-23/5 Milihithulu Road			Sides	1		
1	MH-261						
	Base	Cum	-1	41	0.9	1.32	-48.71
2	MH-262						
	Base	Cum	-1	49.9	0.9	1.275	-57.26
3	MH-263						
	Base	Cum	-1	55.3	0.9	1.225	-60.97
4	MH-615						
	Base	Cum	-1	31.4	0.9	1.215	-34.34
5	O-29						
	Base	Cum	-1	27.2	0.9	1.21	-29.62
6	MH-578						
	Base	Cum	-1	16.4	0.9	1.245	-18.38
7	MH-577						
	Base	Cum	-1	19.7	0.9	1.245	-22.07
8	MH-576						
	Base	Cum	-1	31.8	0.9	1.23	-35.20
9	MH-575						
	Base	Cum	-1	33.2	0.9	1.215	-36.30
10	O-68						
	Base	Cum	-1	31.3	0.9	1.43	-40.28
11	MH-582						
	Base	Cum	-2	36.3	0.6	2.32	-101.06
12	MH-583						
	Base	Cum	-2	20.9	0.6	2.08	-52.17
13	MH-584						
	Base	Cum	-2	17.4	0.6	1.625	-33.93
14	MH-585						
	Base	Cum	-2	13.8	0.6	1.42	-23.52
15	MH-586						
	Base	Cum	-2	28.4	0.6	1.345	-45.84
16	MH-587						
	Base	Cum	-2	9	0.6	1.26	-13.61
17	O-69						
	Base	Cum	-2	21.6	0.6	1.225	-31.75
18	MH-618						
	Slab	Cum	-2	12.9	1.1	0.15	-4.26
19	MH-619						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	-2	24	0.6	2	-57.60
20	MH-620						
	Base	Cum	-2	16.9	0.6	1.76	-35.69
21	MH-621						
	Base	Cum	-2	21.4	0.6	1.305	-33.51
22	MH-622						
	Base	Cum	-2	10.1	0.6	1.305	-15.82
23	MH-623						
	Base	Cum	-2	41.4	0.6	1.595	-79.24
24	O-70						
	Base	Cum	-2	23.8	0.6	1.81	-51.69
25	MH-366						
	Base	Cum	-1	24.8	1.2	1.875	-55.80
26	MH-258						
	Base	Cum	-1	52	1.2	1.73	-107.95
27	MH-259						
	Base	Cum	-1	28.1	1.2	1.79	-60.36
28	MH-260						
	Base	Cum	-1	101.5	1.2	1.67	-203.41
	Road-24/6 Mangaladevi Temple Road		Side	2			
1	MH-223 to MH-224						
	Base	Cum	-2	92.7	1.2	1.52	-338.17
2	MH-224 to MH-225						
	Base	Cum	-2	56	1.2	1.525	-204.96
3	MH-225 to MH-226						
	Base	Cum	-2	65.3	1.2	1.515	-237.43
4	MH-226 to MH-257						
	Base	Cum	-2	145.2	1.2	1.58	-550.60
5	MH-207 to MH-208						
	Base	Cum	-2	48	0.9	1.26	-108.86
6	MH-208 to MH-209						
	Base	Cum	-2	37.2	0.9	1.26	-84.37
7	MH-209 to MH-210						
	Base	Cum	-2	22.3	0.9	1.27	-50.98
8	MH-210 to MH-211						
	Base	Cum	-2	71.7	0.9	1.245	-160.68
9	MH-211 to MH-212						
	Base	Cum	-2	35.3	0.9	1.23	-78.15
10	MH-212 to MH-213						
	Base	Cum	-2	85.6	0.9	1.245	-191.83
11	MH-213 to MH-214						
	Base	Cum	-2	55.1	0.9	1.24	-122.98
12	MH-214 to MH-215						
	Base	Cum	-2	64.3	0.9	1.25	-144.68
13	MH-215 to MH-216						
	Base	Cum	-2	101.3	0.9	1.26	-229.75
14	MH-216 to MH-256						
	Base	Cum	-2	36.8	0.9	1.835	-121.55
15	MH-256 to O-62						
	Base	Cum	-2	40.5	0.9	1.65	-120.29
16	MH-218 to MH-219						
	Base	Cum	-2	50.7	0.6	1.605	-97.65
17	MH-219 to MH-220						
	Base	Cum	-2	34.9	0.6	1.545	-64.70
18	MH-220 to MH-221						
	Base	Cum	-2	25.1	0.6	1.57	-47.29
19	MH-221 to MH-222						
	Base	Cum	-2	85.8	0.6	1.54	-158.56
	Road 25/7 Monkeystand New Road			Sides	1		
1	MH-564						
	Base	Cum	-1	80.8	0.6	1.595	-77.33
2	MH-565						
	Base	Cum	-1	17.9	0.6	1.585	-17.02
3	MH-566						
	Base	Cum	-1	43.3	0.6	1.405	-36.50
4	MH-567						
	Base	Cum	-1	120.8	0.6	1.23	-89.15
5	O-34						
	Base	Cum	-1	9.7	0.6	1.225	-7.13
6	MH-613						
	Base	Cum	-1	72.9	0.6	1.84	-80.48
7	MH-614						
	Base	Cum	-1	40.1	0.6	1.52	-36.57
8	MH-568						
	Base	Cum	-1	49.2	0.6	1.515	-44.72
9	MH-309						
	Base	Cum	-1	53.2	0.6	1.445	-46.12
10	O-34						
	Base	Cum	-1	54.8	0.6	1.27	-41.76
11	MH-569						
	Base	Cum	-1	52.7	0.6	1.5	-47.43
12	MH-570						
	Base	Cum	-1	36.1	0.6	1.31	-28.37
13	MH-567						
	Base	Cum	-1	17.1	0.6	1.245	-12.77

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road 26/8 Jeppu Market Road			Sides	2		
1	MH-229						
	Base	Cum	-2	121.2	0.6	2.465	-358.51
2	MJ-230						
	Base	Cum	-2	62.8	0.6	2.485	-187.27
3	MH-605						
	Base	Cum	-2	136	0.6	1.345	-219.50
4	O-66						
	Base	Cum	-2	12.8	0.6	1.215	-18.66
5	MH-608						
	Base	Cum	-2	21.6	0.6	1.23	-31.88
6	MH-609						
	Base	Cum	-2	38.2	0.6	1.22	-55.92
	Road 27/9 Gujjarkere Road			Sides	2		
1	MH-234 to MH-235						
	Base	Cum	-2	16.9	1.2	1.77	-71.79
2	MH-235 to MH-236						
	Base	Cum	-2	29.4	1.2	1.955	-137.94
3	MH-236 to MH-237						
	Base	Cum	-2	70.4	1.2	1.96	-331.16
4	MH-237 to MH-238						
	Base	Cum	-2	68.4	1.2	1.81	-297.13
5	MH-238 to MH-239						
	Base	Cum	-2	19.1	1.2	1.725	-79.07
6	MH-239 to MH-240						
	Base	Cum	-2	37.7	1.2	1.71	-154.72
7	MH-240 to MH-241						
	Base	Cum	-2	21.3	1.2	1.625	-83.07
8	MH-241 to MH-242						
	Base	Cum	-2	25.9	1.2	1.56	-96.97
9	MH-242 to MH-591						
	Base	Cum	-2	31.2	1.2	1.535	-114.94
10	MH-591 to MH-246						
	Base	Cum	-2	48.3	1.2	1.535	-177.94
11	MH-246 to MH-245						
	Base	Cum	-2	31	1.2	1.555	-115.69
12	MH-245 to O-65						
	Base	Cum	-2	39.4	1.2	1.875	-177.30
13	MH-592 to MH-593						
	Base	Cum	-2	37.3	0.9	1.675	-112.46
14	MH-593 to MH-594						
	Base	Cum	-2	4.1	0.9	1.655	-12.21
15	MH-594 to MH-595						
	Base	Cum	-2	58.3	0.9	1.53	-160.56
16	MH-595 to MH-596						
	Base	Cum	-2	56.8	0.9	1.32	-134.96
17	MH-596 to MH-597						
	Base	Cum	-2	3.1	0.9	1.25	-6.98
18	MH-597 to MH-598						
	Base	Cum	-2	41.5	0.9	1.265	-94.50
19	MH-598 to MH-599						
	Base	Cum	-2	42.3	0.9	1.24	-94.41
20	MH-599 to MH-600						
	Base	Cum	-2	43.3	0.9	1.265	-98.59
21	MH-600 to MH-601						
	Base	Cum	-2	21.7	0.9	1.32	-51.56
22	MH-601 to MH-602						
	Base	Cum	-2	62.1	0.9	1.315	-146.99
23	MH-602 to MH-603						
	Base	Cum	-2	7.4	0.9	1.325	-17.65
24	MH-603 to O-64						
	Base	Cum	-2	72.7	0.9	1.715	-224.42
25	MH-229 to MH-230						
	Base	Cum	-2	62.8	0.9	2.485	-280.90
26	MH-230 to MH-231						
	Base	Cum	-2	20.1	0.9	2.43	-87.92
27	MH-231 to MH-589						
	Base	Cum	-2	37.5	0.9	2.13	-143.78
28	MH-589 to MH-232						
	Base	Cum	-2	57.6	0.9	1.93	-200.10
29	MH-232 to O-63						
	Base	Cum	-2	29.2	0.9	1.91	-100.39
30	MH-607 to MH-608						
	Base	Cum	-2	21.6	0.9	1.23	-47.82
31	MH-608 to MH-609						
	Base	Cum	-2	38.2	0.9	1.22	-83.89
32	MH-609 to MH-610						
	Base	Cum	-2	101.6	0.9	1.29	-235.92
33	MH-610 to O-67						
	Base	Cum	-2	41.6	0.9	1.365	-102.21
		Cum		Total Qty.			46232.58

Sr. No.	Description	Unit	No's	L	B	H	Qty.
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						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Sqm	1	150	3.76		564
	Ch.165.0 to Ch.180.0	Sqm	1	15	4.6		69
	Ch.230.0 to Ch.440.0	Sqm	1	210	3.4		714
	Ch.450.0 to Ch.530.0	Sqm	1	80	1.98		158.4
	Ch.540.0 to Ch.570.0	Sqm	1	30	1.73		51.9
	Ch.580.0 to Ch.730.0	Sqm	1	150	2.07		310.5
	RHS						
	Ch.0.0 to Ch.130.0	Sqm	1	130	2.78		361.4
	Ch.130.0 to Ch.740.0	Sqm	1	610	2.36		1439.6
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Sqm	1	170	1.85		314.5
	Ch.175.0 to Ch.205.0	Sqm	1	30	2.2		66
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Sqm	1	150	2.83		424.5
	RHS						
	Ch.105.0 to Ch.125.0	Sqm	1	20	1.65		33
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.135.0 to Ch.180.0	Sqm	1	45	2.42		108.9
	Ch.190.0 to Ch.230.0	Sqm	1	40	5.85		234
	Ch.320.0 to Ch.340.0	Sqm	1	20	3.12		62.4
	Ch.355.0 to Ch.370.0	Sqm	1	15	2.53		37.95
	Ch.380.0 to Ch.390.0	Sqm	1	10	3.4		34
	Ch.390.0 to Ch.420.0	Sqm	1	30	3.13		93.9
	Ch.560.0 to Ch.570.0	Sqm	1	10	2.64		26.4
	Ch.580.0 to Ch.600.0	Sqm	1	20	1.75		35
	Ch.630.0 to Ch.640.0	Sqm	1	20	0.81		16.2
	RHS						
	Ch.190.0 to Ch.210.0	Sqm	1	20	4.25		85
	Ch.570.0 to Ch.590.0	Sqm	1	20	1.88		37.6
	Ch.590.0 to ch.600.0	Sqm	1	10	1.34		13.4
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Sqm	1	60	7.75		465
	Ch.70.0 to Ch.230.0	Sqm	1	160	5.1		816
	Ch.260.0 to ch.620.0	Sqm	1	360	4.13		1486.8
	RHS						
	Ch.0.0 to Ch.620.0	Sqm	1	620	4.57		2833.4
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.0.0 to Ch.25.0	Sqm	1	25	2.68		67
	Ch.30.0 to Ch.100.0	Sqm	1	70	1.85		129.5
	Ch.160.0 to Ch.180.0	Sqm	1	20	3.03		60.6
	Ch.270.0 to Ch.290.0	Sqm	1	20	2.88		57.6
	Ch.515.0 to Ch.550.0	Sqm	1	35	2.28		79.8
	RHS						
	Ch.0.0 to Ch.570.0	Sqm	1	570	2.38		1356.6
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Sqm	1	195	2.47		481.65
	Ch.210.0 to Ch.220.0	Sqm	1	10	2.9		29
	RHS						
	Ch.0.0 to Ch.200	Sqm	1	200	4.05		810
	Ch.210.0 to Ch.220.0	Sqm	1	10	2.2		22
	Road No.9/27-Gujarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Sqm	1	85	1.36		115.6
	Ch.95.0 to ch.115.0	Sqm	1	20	4		80
	Ch.125.0 to Ch.560.0	Sqm	1	435	4.11		1787.85
	Ch.570.0 to Ch.576.0	Sqm	1	6	3		18
	RHS						
	Ch.35.0 to Ch.330.0	Sqm	1	295	2.33		687.35
	Ch.330.0 to Ch.576.0	Sqm	1	246	1.85		455.1
	Flush Footpath with Carriageway						
	Road No.1/18-Old Port Road						
	LHS						
	Ch.80.0 to Ch.95.0	Sqm	1	15	1.32		19.80
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.180.0 to Ch.230.0	Sqm	1	50	1.38		69.00
	Ch.460.0 to Ch.480.0	Sqm	1	20	1.31		26.20
	Ch.690.0 to Ch.710.0	Sqm	1	20	2.2		44.00
	Ch.730.0 to Ch.770.0	Sqm	1	40	1.2		48.00
	Ch.770.0 to Ch.790.0	Sqm	1	20	2.58		51.60
	RHS						
	Ch.60.0 to Ch.70.0	Sqm	1	10	2.72		27.20
	Ch.75.0 to Ch.80.0	Sqm	1	5	4.5		22.50

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.195.0 to Ch.213.0	Sqm	1	18	0.91		16.38
	Ch.740.0 to Ch.780.0	Sqm	1	40	0.78		31.20
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.10.0 to Ch.55.0	Sqm	1	45	1.1		49.50
	Ch.100.0 to Ch.170.0	Sqm	1	70	1.31		91.70
	Ch.170.0 to Ch.225.0	Sqm	1	55	0.83		45.65
	Ch.225.0 to Ch.290.0	Sqm	1	65	0.3		19.50
	LHS						
	Ch.150.0 to Ch.220.0	Sqm	1	70	0.52		36.40
	Road No.4/22-Bolar Fisheries College Road						
	RHS						
	Ch.0.0 to ch.30.0	Sqm	1	30	0.49		14.70
	Ch.50.0 to Ch.105.0	Sqm	1	55	0.66		36.30
	Ch.128.0 to Ch.150.0	Sqm	1	22	0.73		16.06
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.0.0 to Ch.20.0	Sqm	1	20	2.25		45.00
	Ch.48.0 to Ch.52	Sqm	1	4	3.5		14.00
	Ch.118.0 to Ch.124.0	Sqm	1	6	8.5		51.00
	Ch.134.0 to Ch.180.0	Sqm	1	46	1.28		58.88
	Ch.212.0 to Ch.250.0	Sqm	1	38	1.55		58.90
	Ch.318.0 to Ch.345.0	Sqm	1	27	1.44		38.88
	Ch.355.0 to Ch.368.0	Sqm	1	13	3.4		44.20
	Ch.375.0 to Ch.400.0	Sqm	1	25	1.84		46.00
	Ch.400.0 to Ch.420.0	Sqm	1	20	2.85		57.00
	Ch.472.0 to Ch.480.0	Sqm	1	8	1.38		11.04
	Ch.485.0 to Ch.495.0	Sqm	1	10	1.9		19.00
	Ch.535.0 to Ch.570.0	Sqm	1	35	0.63		22.05
	Ch.580.0 to Ch.590.0	Sqm	1	10	3.3		33.00
	Ch.590.0 to Ch.595.0	Sqm	1	5	1.33		6.65
	Ch.595.0 to Ch.605.0	Sqm	1	10	0.72		7.20
	Ch.610.0 to Ch.645.0	Sqm	1	35	1.02		35.70
	Ch.645.0 to Ch.670.0	Sqm	1	25	2.38		59.50
	Ch.675.0 to Ch.740.0	Sqm	1	65	0.83		53.95
	RHS						
	Ch.0.0 to Ch.70.00	Sqm	1	70	2.02		141.40
	Ch.70.0 to ch.115.0	Sqm	1	45	2.64		118.80
	Ch.115.0 to ch.135.0	Sqm	1	20	4.63		92.60
	Ch.180.0 to Ch.190.0	Sqm	1	10	1.5		15.00
	Ch.235.0 to Ch.240.0	Sqm	1	5	3.5		17.50
	Ch.245.0 to ch.300.0	Sqm	1	55	1.85		101.75
	Ch.300.00 to Ch.320.0	Sqm	1	20	3.3		66.00
	Ch.340.0 to Ch.358.0	Sqm	1	18	3.56		64.08
	Ch.378.0 to ch.380.0	Sqm	1	2	1.5		3.00
	Ch.420.0 to ch. 440.0	Sqm	1	20	3.1		62.00
	Ch.460.0 to Ch.474.0	Sqm	1	14	0.64		8.96
	Ch.474.0 to Ch.528.0	Sqm	1	54	1.87		100.98
	Ch.528.0 to Ch.550.0	Sqm	1	22	0.52		11.44
	Ch.605.0 to Ch.630.0	Sqm	1	25	0.77		19.25
	Ch.640.0 to Ch.660.0	Sqm	1	20	0.6		12.00
	Ch.670.0 to ch.740.0	Sqm	1	70	1.67		116.90
	Ch.758.0 to Ch.762.0	Sqm	1	4	1.08		4.32
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.28.0 to Ch.30.0	Sqm	1	2	3		6.00
	Ch.100.0 to Ch.160.0	Sqm	1	60	0.73		43.80
	Ch.195.0 to Ch.230.0	Sqm	1	35	0.46		16.10
	Ch.250.0 to Ch.270.0	Sqm	1	20	1.8		36.00
	Ch.290.0 to Ch.295.0	Sqm	1	5	1.4		7.00
	Ch.295.0 to Ch.318.0	Sqm	1	23	1.04		23.92
	Ch.325.0 to Ch.355.0	Sqm	1	30	0.83		24.90
	Ch.395.0 to Ch.440.0	Sqm	1	45	1		45.00
	Ch.458.0 to Ch.470.0	Sqm	1	12	0.5		6.00
	Ch.470.0 to Ch.508.0	Sqm	1	38	0.74		28.12
	Ch.530.0 to Ch.550.0	Sqm	1	20	2.05		41.00
	RHS						
	Ch.358.0 to Ch.410.0	Sqm	1	52	1.24		64.48
	Ch.445.0 to Ch.475.0	Sqm	1	30	1.07		32.10
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.198.0 to Ch.212.0	Sqm	1	14	1.43		20.02
	RHS						
	Ch.190.0 to Ch.212.0	Sqm	1	22	0.73		16.06
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.88.0 to Ch.98.0	Sqm	1	10	0.9		9.00
	Ch.565.0 to Ch.576.0	Sqm	1	11	0.91		10.01
	RHS						
	Ch.25.0 to Ch.35.0	Sqm	1	10	1		10.00
	Parking Area						
	2/19 - Old Kent Road						
	Ch.30.0 to Ch.90.00	Sqm	1	60	2.4		144.00
	6/24 - Mangaladevi Temple Road						
	Ch.320.0 to CH.440.0	Sqm	1	120	2.47		296.40
	9/27 - Gujjarkere Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.140.0 to Ch.200.0	Sqm	1	60	2.81		168.60
	Ch.240.0 to Ch.275.0	Sqm	1	35	2.67		93.45
	Pavment						
	2/19-Old Kent Road						
	Ch.200.0 to Ch.260.0	Cum	1	60	6.53		391.80
	Ch.260.0 to Ch.310.0	Cum	1	50	4.47		223.50
	Ch.310.0 to Ch.360.0	Cum	1	50	4.89		244.50
	Ch.360.0 to Ch.410.0	Cum	1	50	6.53		326.50
	Ch.410.0 to Ch.470.0	Cum	1	60	3.69		221.40
	Ch.470.0 to Ch.530.0	Cum	1	60	4.09		245.40
	Ch.530.0 to Ch.580.0	Cum	1	50	4.4		220.00
	Ch.580.0 to ch.630.0	Cum	1	50	6.23		311.50
	Ch.630.0 to Ch.680.0	Cum	1	50	4.23		211.50
	Ch.680.0 to Ch.720.0	Cum	1	40	5.268		210.72
	Ch.720.0 to Ch.790.0	Cum	1	70	2.4		168.00
	3/20-Pandeshwar New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	2.81		56.20
	Ch.20.0 to Ch.70.0	Cum	1	50	4.192		209.60
	Ch.70.0 to Ch.120.0	Cum	1	50	3.696		184.80
	Ch.120.0 to ch.180.0	Cum	1	60	4.367		262.02
	Ch.180.0 to Ch.220.0	Cum	1	40	2.769		110.76
	Ch.220.0 to Ch.280.0	Cum	1	60	2.19		131.40
	Road No.4/22-Bolar Fisheries College Road						
	Ch.0 to Ch.10.0	Cum	1	10	4.9		49.00
	Ch.10.0 to Ch.60.0	Cum	1	50	4.2		210.00
	Ch.60.0 to Ch.110.0	Cum	1	50	5.5		275.00
	Ch.110.0 to Ch.155.0	Cum	1	45	5.38		242.10
	Road No.5/23-Milithuli Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	2.54		50.80
	Ch.20.0 to Ch.70.0	Cum	1	50	3.92		196.00
	Ch.70.0 to Ch.120.0	Cum	1	50	4.8		240.00
	Ch.120.0 to ch.160.0	Cum	1	40	3.88		155.20
	Ch.160.0 to Ch.210.0	Cum	1	50	4.4		220.00
	Ch.210.0 to Ch.260.0	Cum	1	50	2.36		118.00
	Ch.260.0 to Ch.310.0	Cum	1	50	2.03		101.50
	Ch.310.0 to Ch.360.0	Cum	1	50	3.52		176.00
	Ch.360.0 to Ch.420.0	Cum	1	60	3.07		184.20
	Ch.420.0 to Ch.470.0	Cum	1	50	2.25		112.50
	Ch.470.0 to Ch.520.0	Cum	1	50	2.66		133.00
	Ch.520.0 to Ch.560.0	Cum	1	40	3.22		128.80
	Ch.560.0 to Ch.610.0	Cum	1	50	2.96		148.00
	Ch.610.0 to Ch.670.0	Cum	1	60	6.2		372.00
	Ch.670.0 to Ch.710.0	Cum	1	40	4.72		188.80
	Ch.710.0 to Ch.760.0	Cum	1	50	2.69		134.50
	Road No.6/24-Mangaladevi Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1	30	12.1		363.00
	Ch.30.0 to Ch.80.0	Cum	1	50	12.1		605.00
	Ch.80.0 to Ch.130.0	Cum	1	50	12.1		605.00
	Ch.130.0 to Ch.180.0	Cum	1	50	12.1		605.00
	Ch.180.0 to Ch.270.0	Cum	1	90	12.1		1089.00
	Ch.270.0 to Ch.310.0	Cum	1	40	12.1		484.00
	Ch.310.0 to Ch.360.0	Cum	1	50	14.6		730.00
	Ch.360.0 to Ch.410.0	Cum	1	50	14.6		730.00
	Ch.410.0 to Ch.460.0	Cum	1	50	12.1		605.00
	Ch.460.0 to Ch.510.0	Cum	1	50	12.1		605.00
	Ch.510.0 to Ch.560.0	Cum	1	50	12.1		605.00
	Ch.560.0 to Ch.628.0	Cum	1	68	12.1		822.80
	Road No.7/25-Monkeystand New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	6.36		127.20
	Ch.20.0 to Ch.70.0	Cum	1	50	6.36		318.00
	Ch.70.0 to Ch.120.0	Cum	1	50	4.4		220.00
	Ch.120.0 to Ch.170	Cum	1	50	5		250.00
	Ch.170.0 to Ch.220.0	Cum	1	50	5.3		265.00
	Ch.220.0 to Ch.270.0	Cum	1	50	6.36		318.00
	Ch.270.0 to Ch.310.0	Cum	1	40	5.3		212.00
	Ch.310.0 to Ch.370.0	Cum	1	60	4.78		286.80
	Ch.370.0 to Ch.420.0	Cum	1	50	5.3		265.00
	Ch.420.0 to Ch.470.0	Cum	1	50	3.63		181.50
	Ch.470.0 to Ch.570.0	Cum	1	100	6.37		637.00
	Road No.8/26-Jeppu Market Road						
	Ch.0.0 to Ch.50.0	Cum	1	50	9.87		493.50
	Ch.50.0 to Ch.90.0	Cum	1	40	9.3		372.00
	Ch.90.0 to Ch.130.0	Cum	1	40	10.22		408.80
	Ch.130.0 to Ch.225.0	Cum	1	95	8.22		780.90
	Road No.9/27-Gujjarkere Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	4.4		88.00
	Ch.20.0 to Ch.70.0	Cum	1	50	4.4		220.00
	Ch.70.0 to Ch.110.0	Cum	1	60	4.4		264.00
	Ch.110.0 to Ch.170.0	Cum	1	60	5.3		318.00
	Ch.170.0 to Ch.220.0	Cum	1	50	8.32		416.00
	Ch.220.0 to Ch.270.0	Cum	1	50	5.3		265.00
	Ch.270.0 to Ch.320.0	Cum	1	50	4.4		220.00
	Ch.320.0 to Ch.370.0	Cum	1	50	4.4		220.00
	Ch.370.0 to Ch.420.0	Cum	1	50	4.4		220.00
	Ch.420.0 to Ch.470.0	Cum	1	50	3.53		176.50
	Ch.470.0 to Ch.520.0	Cum	1	50	3.88		194.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.520.0 to Ch.570.0	Cum	1	50	3.88		194.00
		Sqm		Total Qty.			43500.98
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)						
SWD							
	Road 18/1 Old Port Road			Sides	1.00		
	Road 19/1 Old Kent Road			Sides	2		
1	MH-542 to MH 543						
	Base	Cum	2	50.4	1.1	0.075	8.32
2	MH-543 to MH 544						
	Base	Cum	2	13.1	1.1	0.075	2.16
3	MH-544 to MH 545						
	Base	Cum	2	49.4	1.1	0.075	8.15
4	MH-545 to MH 296						
	Base	Cum	2	118.7	1.1	0.075	19.59
5	MH-296 to MH 297						
	Base	Cum	2	21.1	1.1	0.075	3.48
6	MH-297 to MH 298						
	Base	Cum	2	19.2	1.1	0.075	3.17
7	MH-298 to MH 299						
	Base	Cum	2	18.8	1.1	0.075	3.10
8	MH-299 to MH 300						
	Base	Cum	2	12.9	1.1	0.075	2.13
9	MH-300 to MH 301						
	Base	Cum	2	43.7	1.1	0.075	7.21
10	MH-301 to MH 302						
	Base	Cum	2	27.9	1.1	0.075	4.60
11	MH-302 to MH 303						
	Base	Cum	2	18.8	1.1	0.075	3.10
12	MH-303 to MH 304						
	Base	Cum	2	35.3	1.1	0.075	5.82
13	MH-304 to MH305						
	Base	Cum	2	32	1.1	0.075	5.28
14	MH-305 to MH306						
	Base	Cum	2	59.9	1.1	0.075	9.88
15	MH-306 to O-33						
	Base	Cum	2	48	1.1	0.075	7.92
16	MH-546 to MH-547						
	Base	Cum	2	21.5	1.4	0.075	4.52
17	MH-547 to MH-549						
	Base	Cum	2	55.8	1.4	0.075	11.72
18	MH-549 to MH-548						
	Base	Cum	2	42.7	1.4	0.075	8.97
19	MH-548 to MH-531						
	Base	Cum	2	66.9	1.4	0.075	14.05
20	MH-531 to MH-532						
	Base	Cum	2	41.6	1.45	0.075	9.05
21	MH-532 to MH-533						
	Base	Cum	2	25.7	1.45	0.075	5.59
22	MH-533 to MH-534						
	Base	Cum	2	36.6	1.45	0.075	7.96
23	MH-534 to MH-535						
	Base	Cum	2	50	1.45	0.075	10.88
24	MH-535 to MH-536						
	Base	Cum	2	22.2	1.45	0.075	4.83
25	MH-536 to MH-537						
	Base	Cum	2	29.7	1.45	0.075	6.46
26	MH-537 to MH-538						
	Base	Cum	2	36.2	1.4	0.075	7.60
27	MH-538 to MH-539						
	Base	Cum	2	51.6	1.4	0.075	10.84
28	MH-539 to MH-540						
	Base	Cum	2	9.5	1.4	0.075	2.00
29	MH-540 to O-59						
	Base	Cum	2	45.3	1.4	0.075	9.51
	Road 20/3 Pandeshwar New Road			Sides	1		
1	Node-O-61						
	Base	Cum	1	112.8	1.25	0.075	10.58
2	MH-528						
	Base	Cum	1	17.3	1.1	0.075	1.43
3	Node-O-58						
	Base	Cum	1	88.8	1.1	0.075	7.33
4	MH-527						
	Base	Cum	1	44.9	1.1	0.075	3.70
	Road 22/4 Bolar Fisheries College Road			Sides	1		
1	MH-377 to O-39						
	Base	Cum	1	114.8	1.1	0.075	9.47

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road-23/5 Milihithulu Road			Sides	1		
1	MH-261						
	Base	Cum	1	41	1.4	0.075	4.31
2	MH-262						
	Base	Cum	1	49.9	1.4	0.075	5.24
3	MH-263						
	Base	Cum	1	55.3	1.4	0.075	5.81
4	MH-615						
	Base	Cum	1	31.4	1.4	0.075	3.30
5	O-29						
	Base	Cum	1	27.2	1.4	0.075	2.86
6	MH-578						
	Base	Cum	1	16.4	1.4	0.075	1.72
7	MH-577						
	Base	Cum	1	19.7	1.4	0.075	2.07
8	MH-576						
	Base	Cum	1	31.8	1.4	0.075	3.34
9	MH-575						
	Base	Cum	1	33.2	1.4	0.075	3.49
10	O-68						
	Base	Cum	1	31.3	1.4	0.075	3.29
11	MH-582		Side	2			
	Base	Cum	2	36.3	1.3	0.075	7.08
12	MH-583						
	Base	Cum	2	20.9	1.2	0.075	3.76
13	MH-584						
	Base	Cum	2	17.4	1.15	0.075	3.00
14	MH-585						
	Base	Cum	2	13.8	1.1	0.075	2.28
15	MH-586						
	Base	Cum	2	28.4	1.1	0.075	4.69
16	MH-587						
	Base	Cum	2	9	1.1	0.075	1.49
17	O-69						
	Base	Cum	2	21.6	1.1	0.075	3.56
18	MH-618						
	Base	Cum	2	12.9	1.3	0.075	2.52
19	MH-619						
	Base	Cum	2	24	1.2	0.075	4.32
20	MH-620						
	Base	Cum	2	16.9	1.2	0.075	3.04
21	MH-621						
	Base	Cum	2	21.4	1.1	0.075	3.53
22	MH-622						
	Base	Cum	2	10.1	1.1	0.075	1.67
23	MH-623						
	Base	Cum	2	41.4	1.2	0.075	7.45
24	O-70						
	Base	Cum	2	23.8	1.2	0.075	4.28
25	MH-366						
	Base	Cum	1	24.8	1.7	0.075	3.16
26	MH-258						
	Base	Cum	1	52	1.7	0.075	6.63
27	MH-259						
	Base	Cum	1	28.1	1.7	0.075	3.58
28	MH-260						
	Base	Cum	1	101.5	1.7	0.075	12.94
	Road-24/6 Mangaladevi Temple Road		Side	2			
1	MH-223 to MH-224						
	Base	Cum	2	92.7	1.73	0.075	24.06
2	MH-224 to MH-225						
	Base	Cum	2	56	1.73	0.075	14.53
3	MH-225 to MH-226						
	Base	Cum	2	65.3	1.73	0.075	16.95
4	MH-226 to MH-257						
	Base	Cum	2	145.2	1.73	0.075	37.68
5	MH-207 to MH-208						
	Base	Cum	2	48	1.4	0.075	10.08
6	MH-208 to MH-209						
	Base	Cum	2	37.2	1.4	0.075	7.81
7	MH-209 to MH-210						
	Base	Cum	2	22.3	1.4	0.075	4.68
8	MH-210 to MH-211						
	Base	Cum	2	71.7	1.4	0.075	15.06
9	MH-211 to MH-212						
	Base	Cum	2	35.3	1.4	0.075	7.41
10	MH-212 to MH-213						
	Base	Cum	2	85.6	1.4	0.075	17.98
11	MH-213 to MH-214						
	Base	Cum	2	55.1	1.4	0.075	11.57
12	MH-214 to MH-215						
	Base	Cum	2	64.3	1.4	0.075	13.50
13	MH-215 to MH-216						
	Base	Cum	2	101.3	1.4	0.075	21.27
14	MH-216 to MH-256						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	2	36.8	1.5	0.075	8.28
15	MH-256 to O-62						
	Base	Cum	2	40.5	1.43	0.075	8.69
16	MH-218 to MH-219						
	Base	Cum	2	50.7	1.13	0.075	8.59
17	MH-219 to MH-220						
	Base	Cum	2	34.9	1.13	0.075	5.92
18	MH-220 to MH-221						
	Base	Cum	2	25.1	1.13	0.075	4.25
19	MH-221 to MH-222						
	Base	Cum	2	85.8	1.13	0.075	14.54
	Road 25/7 Monkeystand New Road			Sides	1		
1	MH-564						
	Base	Cum	1	80.8	1.12	0.075	6.79
2	MH-565						
	Base	Cum	1	17.9	1.12	0.075	1.50
3	MH-566						
	Base	Cum	1	43.3	1.1	0.075	3.57
4	MH-567						
	Base	Cum	1	120.8	1.1	0.075	9.97
5	O-34						
	Base	Cum	1	9.7	1.1	0.075	0.80
6	MH-613						
	Base	Cum	1	72.9	1.2	0.075	6.56
7	MH-614						
	Base	Cum	1	40.1	1.12	0.075	3.37
8	MH-568						
	Base	Cum	1	49.2	1.12	0.075	4.13
9	MH-309						
	Base	Cum	1	53.2	1.1	0.075	4.39
10	O-34						
	Base	Cum	1	54.8	1.1	0.075	4.52
11	MH-569						
	Base	Cum	1	52.7	1.1	0.075	4.35
12	MH-570						
	Base	Cum	1	36.1	1.1	0.075	2.98
13	MH-567						
	Base	Cum	1	17.1	1.1	0.075	1.41
	Road 26/8 Jeppu Market Road			Sides	2		
1	MH-229						
	Base	Cum	2	121.2	1.3	0.075	23.63
2	MJ-230						
	Base	Cum	2	62.8	1.3	0.075	12.25
3	MH-605						
	Base	Cum	2	136	1.1	0.075	22.44
4	O-66						
	Base	Cum	2	12.8	1.1	0.075	2.11
5	MH-608						
	Base	Cum	2	21.6	1.1	0.075	3.56
6	MH-609						
	Base	Cum	2	38.2	1.1	0.075	6.30
	Road 27/9 Gujjarkere Road			Sides	2		
1	MH-234 to MH-235						
	Base	Cum	2	16.9	1.72	0.075	4.36
2	MH-235 to MH-236						
	Base	Cum	2	29.4	1.72	0.075	7.59
3	MH-236 to MH-237						
	Base	Cum	2	70.4	1.7	0.075	17.95
4	MH-237 to MH-238						
	Base	Cum	2	68.4	1.7	0.075	17.44
5	MH-238 to MH-239						
	Base	Cum	2	19.1	1.7	0.075	4.87
6	MH-239 to MH-240						
	Base	Cum	2	37.7	1.8	0.075	10.18
7	MH-240 to MH-241						
	Base	Cum	2	21.3	1.72	0.075	5.50
8	MH-241 to MH-242						
	Base	Cum	2	25.9	1.72	0.075	6.68
9	MH-242 to MH-591						
	Base	Cum	2	31.2	1.7	0.075	7.96
10	MH-591 to MH-246						
	Base	Cum	2	48.3	1.7	0.075	12.32
11	MH-246 to MH-245						
	Base	Cum	2	31	1.7	0.075	7.91
12	MH-245 to O-65						
	Base	Cum	2	39.4	1.7	0.075	10.05
13	MH-592 to MH-593						
	Base	Cum	2	37.3	1.4	0.075	7.83
14	MH-593 to MH-594						
	Base	Cum	2	4.1	1.4	0.075	0.86
15	MH-594 to MH-595						
	Base	Cum	2	58.3	1.4	0.075	12.24
16	MH-595 to MH-596						
	Base	Cum	2	56.8	1.4	0.075	11.93

Sr. No.	Description	Unit	No's	L	B	H	Qty.
17	MH-596 to MH-597						
	Base	Cum	2	3.1	1.4	0.075	0.65
18	MH-597 to MH-598						
	Base	Cum	2	41.5	1.4	0.075	8.72
19	MH-598 to MH-599						
	Base	Cum	2	42.3	1.4	0.075	8.88
20	MH-599 to MH-600						
	Base	Cum	2	43.3	1.4	0.075	9.09
21	MH-600 to MH-601						
	Base	Cum	2	21.7	1.4	0.075	4.56
22	MH-601 to MH-602						
	Base	Cum	2	62.1	1.4	0.075	13.04
23	MH-602 to MH-603						
	Base	Cum	2	7.4	1.4	0.075	1.55
24	MH-603 to O-64						
	Base	Cum	2	72.7	1.4	0.075	15.27
25	MH-229 to MH-230						
	Base	Cum	2	62.8	1.4	0.075	13.19
26	MH-230 to MH-231						
	Base	Cum	2	20.1	1.4	0.075	4.22
27	MH-231 to MH-589						
	Base	Cum	2	37.5	1.4	0.075	7.88
28	MH-589 to MH-232						
	Base	Cum	2	57.6	1.4	0.075	12.10
29	MH-232 to O-63						
	Base	Cum	2	29.2	1.4	0.075	6.13
30	MH-607 to MH-608						
	Base	Cum	2	21.6	1.4	0.075	4.54
31	MH-608 to MH-609						
	Base	Cum	2	38.2	1.4	0.075	8.02
32	MH-609 to MH-610						
	Base	Cum	2	101.6	1.4	0.075	21.34
33	MH-610 to O-67						
	Base	Cum	2	41.6	1.4	0.075	8.74
	PCC Below Kerb Stone	Cum	1	5447.00	0.47	0.10	253.29
	PCC Below Water Table	Cum	1.00	5447.00	0.50	0.10	272.35
	Box Culvert						
	2/19-Old Kent Road						
	Box Culvert-Slab	Cum	8.0	12.2	1.0	0.1	9.76
	3/20-Pandeshwar New Road						
	Box Culvert-Slab	Cum	3.0	10.0	1.5	0.1	4.50
	4/22-Bolar Fisheries College Road						
	Box Culvert-Slab	Cum	1.0	8.8	1.5	0.1	1.32
	5/23-Mulihithlu Road						
	Box Culvert-Slab	Cum	8.0	11.4	1.5	0.1	13.68
	6/24-Mangaladevi Temple Road						
	Box Culvert-Slab	Cum	9.0	27.5	1.5	0.1	37.13
	7/25-Monkeystand New Road						
	Box Culvert-Slab	Cum	5.0	18.1	1.5	0.1	13.54
	8/26-Jeppu Market Road						
	Box Culvert-Slab	Cum	3.0	13.1	1.5	0.1	5.90
	9/27-Gujjarkere Road						
	Box Culvert-Slab	Cum	7.0	8.3	1.5	0.1	8.72
	Electrical Chamber	Cum	297.00	2.90	2.00	0.10	172.26
		Cum		Total Qty.			1818.24
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						
	Pavement						
	2/19-Old Kent Road						
	Ch.200.0 to Ch.260.0	Cum	1	60	6.53	0.15	58.77
	Ch.260.0 to Ch.310.0	Cum	1	50	4.47	0.15	33.53
	Ch.310.0 to Ch.360.0	Cum	1	50	4.89	0.15	36.68
	Ch.360.0 to Ch.410.0	Cum	1	50	6.53	0.15	48.98
	Ch.410.0 to Ch.470.0	Cum	1	60	3.69	0.15	33.21
	Ch.470.0 to Ch.530.0	Cum	1	60	4.09	0.15	36.81
	Ch.530.0 to Ch.580.0	Cum	1	50	4.4	0.15	33.00
	Ch.580.0 to ch.630.0	Cum	1	50	6.23	0.15	46.73
	Ch.630.0 to Ch.680.0	Cum	1	50	4.23	0.15	31.73
	Ch.680.0 to Ch.720.0	Cum	1	40	5.268	0.15	31.61
	Ch.720.0 to Ch.790.0	Cum	1	70	2.4	0.15	25.20
	3/20-Pandeshwar New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	4.15	0.15	12.45
	Ch.20.0 to Ch.70.0	Cum	1	50	5.51	0.15	41.33
	Ch.70.0 to Ch.120.0	Cum	1	50	5.02	0.15	37.65
	Ch.120.0 to ch.180.0	Cum	1	60	5.83	0.15	52.47

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.180.0 to Ch.220.0	Cum	1	40	4.089	0.15	24.53
	Ch.220.0 to Ch.280.0	Cum	1	60	3.51	0.15	31.59
	Road No.4/22-Bolar Fisheries College Road						
	Ch.0 to Ch.10.0	Cum	1	10	4.9	0.15	7.35
	Ch.10.0 to Ch.60.0	Cum	1	50	4.2	0.15	31.50
	Ch.60.0 to Ch.110.0	Cum	1	50	5.5	0.15	41.25
	Ch.110.0 to Ch.155.0	Cum	1	45	5.38	0.15	36.32
	Road No.5/23-Milihithuli Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	3.42	0.15	10.26
	Ch.20.0 to Ch.70.0	Cum	1	50	4.83	0.15	36.23
	Ch.70.0 to Ch.120.0	Cum	1	50	4.81	0.15	36.08
	Ch.120.0 to ch.160.0	Cum	1	40	4.79	0.15	28.74
	Ch.160.0 to Ch.210.0	Cum	1	50	5.3	0.15	39.75
	Ch.210.0 to Ch.260.0	Cum	1	50	3.27	0.15	24.53
	Ch.260.0 to Ch.310.0	Cum	1	50	2.94	0.15	22.05
	Ch.310.0 to Ch.360.0	Cum	1	50	4.43	0.15	33.23
	Ch.360.0 to Ch.420.0	Cum	1	60	3.97	0.15	35.73
	Ch.420.0 to Ch.470.0	Cum	1	50	3.15	0.15	23.63
	Ch.470.0 to Ch.520.0	Cum	1	50	3.52	0.15	26.40
	Ch.520.0 to Ch.560.0	Cum	1	40	4.12	0.15	24.72
	Ch.560.0 to Ch.610.0	Cum	1	50	2.96	0.15	22.20
	Ch.610.0 to Ch.670.0	Cum	1	60	6.2	0.15	55.80
	Ch.670.0 to Ch.710.0	Cum	1	40	4.72	0.15	28.32
	Ch.710.0 to Ch.760.0	Cum	1	50	2.69	0.15	20.18
	Road No.6/24-Mangaladevi Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1	30	12.1	0.15	54.45
	Ch.30.0 to Ch.80.0	Cum	1	50	12.1	0.15	90.75
	Ch.80.0 to Ch.130.0	Cum	1	50	12.1	0.15	90.75
	Ch.130.0 to Ch.180.0	Cum	1	50	12.1	0.15	90.75
	Ch.180.0 to Ch.270.0	Cum	1	90	12.1	0.15	163.35
	Ch.270.0 to Ch.310.0	Cum	1	40	12.1	0.15	72.60
	Ch.310.0 to Ch.360.0	Cum	1	50	14.6	0.15	109.50
	Ch.360.0 to Ch.410.0	Cum	1	50	14.6	0.15	109.50
	Ch.410.0 to Ch.460.0	Cum	1	50	12.1	0.15	90.75
	Ch.460.0 to Ch.510.0	Cum	1	50	12.1	0.15	90.75
	Ch.510.0 to Ch.560.0	Cum	1	50	12.1	0.15	90.75
	Ch.560.0 to Ch.628.0	Cum	1	68	12.1	0.15	123.42
	Road No.7/25-Monkeystand New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	6.36	0.15	19.08
	Ch.20.0 to Ch.70.0	Cum	1	50	6.36	0.15	47.70
	Ch.70.0 to Ch.120.0	Cum	1	50	4.4	0.15	33.00
	Ch.120.0 to Ch.170	Cum	1	50	5	0.15	37.50
	Ch.170.0 to Ch.220.0	Cum	1	50	5.3	0.15	39.75
	Ch.220.0 to Ch.270.0	Cum	1	50	6.36	0.15	47.70
	Ch.270.0 to Ch.310.0	Cum	1	40	5.3	0.15	31.80
	Ch.310.0 to Ch.370.0	Cum	1	60	4.78	0.15	43.02
	Ch.370.0 to Ch.420.0	Cum	1	50	5.3	0.15	39.75
	Ch.420.0 to Ch.470.0	Cum	1	50	3.63	0.15	27.23
	Ch.470.0 to Ch.570.0	Cum	1	100	6.37	0.15	95.55
	Road No.8/26-Jeppu Market Road						
	Ch.0.0 to Ch.50.0	Cum	1	50	9.87	0.15	74.03
	Ch.50.0 to Ch.90.0	Cum	1	40	9.3	0.15	55.80
	Ch.90.0 to Ch.130.0	Cum	1	40	10.22	0.15	61.32
	Ch.130.0 to Ch.225.0	Cum	1	95	8.22	0.15	117.14
	Road No.9/27-Gujjarkere Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	4.4	0.15	13.20
	Ch.20.0 to Ch.70.0	Cum	1	50	4.4	0.15	33.00
	Ch.70.0 to Ch.110.0	Cum	1	60	4.4	0.15	39.60
	Ch.110.0 to Ch.170.0	Cum	1	60	5.3	0.15	47.70
	Ch.170.0 to Ch.220.0	Cum	1	50	8.32	0.15	62.40
	Ch.220.0 to Ch.270.0	Cum	1	50	5.3	0.15	39.75
	Ch.270.0 to Ch.320.0	Cum	1	50	4.4	0.15	33.00
	Ch.320.0 to Ch.370.0	Cum	1	50	4.4	0.15	33.00
	Ch.370.0 to Ch.420.0	Cum	1	50	4.4	0.15	33.00
	Ch.420.0 to Ch.470.0	Cum	1	50	3.53	0.15	26.48
	Ch.470.0 to Ch.520.0	Cum	1	50	3.88	0.15	29.10
	Ch.520.0 to Ch.570.0	Cum	1	50	3.88	0.15	29.10
		Cum		Total Qty.			3567.48
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						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Cum	1	150	3.76	0.15	84.6
	Ch.165.0 to Ch.180.0	Cum	1	15	4.6	0.15	10.35
	Ch.230.0 to Ch.440.0	Cum	1	210	3.4	0.15	107.1
	Ch.450.0 to Ch.530.0	Cum	1	80	1.98	0.15	23.76
	Ch.540.0 to Ch.570.0	Cum	1	30	1.73	0.15	7.79
	Ch.580.0 to Ch.730.0	Cum	1	150	2.07	0.15	46.58
	RHS						
	Ch.0.0 to Ch.130.0	Cum	1	130	2.78	0.15	54.21

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.130.0 to Ch.740.0	Cum	1	610	2.36	0.15	215.94
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Cum	1	170	1.85	0.15	47.18
	Ch.175.0 to Ch.205.0	Cum	1	30	2.2	0.15	9.9
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Cum	1	150	2.83	0.15	63.68
	RHS						
	Ch.105.0 to Ch.125.0	Cum	1	20	1.65	0.15	4.95
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.135.0 to Ch.180.0	Cum	1	45	2.42	0.15	16.34
	Ch.190.0 to Ch.230.0	Cum	1	40	5.85	0.15	35.1
	Ch.320.0 to Ch.340.0	Cum	1	20	3.12	0.15	9.36
	Ch.355.0 to Ch.370.0	Cum	1	15	2.53	0.15	5.69
	Ch.380.0 to Ch.390.0	Cum	1	10	3.4	0.15	5.1
	Ch.390.0 to Ch.420.0	Cum	1	30	3.13	0.15	14.09
	Ch.560.0 to Ch.570.0	Cum	1	10	2.64	0.15	3.96
	Ch.580.0 to Ch.600.0	Cum	1	20	1.75	0.15	5.25
	Ch.630.0 to Ch.640.0	Cum	1	20	0.81	0.15	2.43
	RHS						
	Ch.190.0 to Ch.210.0	Cum	1	20	4.25	0.15	12.75
	Ch.570.0 to Ch.590.0	Cum	1	20	1.88	0.15	5.64
	Ch.590.0 to ch.600.0	Cum	1	10	1.34	0.15	2.01
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Cum	1	60	7.75	0.15	69.75
	Ch.70.0 to Ch.230.0	Cum	1	160	5.1	0.15	122.4
	Ch.260.0 to ch.620.0	Cum	1	360	4.13	0.15	223.02
	RHS						
	Ch.0.0 to Ch.620.0	Cum	1	620	4.57	0.15	425.01
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.0.0 to Ch.25.0	Cum	1	25	2.68	0.15	10.05
	Ch.30.0 to Ch.100.0	Cum	1	70	1.85	0.15	19.43
	Ch.160.0 to Ch.180.0	Cum	1	20	3.03	0.15	9.09
	Ch.270.0 to Ch.290.0	Cum	1	20	2.88	0.15	8.64
	Ch.515.0 to Ch.550.0	Cum	1	35	2.28	0.15	11.97
	RHS						
	Ch.0.0 to Ch.570.0	Cum	1	570	2.38	0.15	203.49
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Cum	1	195	2.47	0.15	72.25
	Ch.210.0 to Ch.220.0	Cum	1	10	2.9	0.15	4.35
	RHS						
	Ch.0.0 to Ch.200	Cum	1	200	4.05	0.15	121.5
	Ch.210.0 to Ch.220.0	Cum	1	10	2.2	0.15	3.3
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Cum	1	85	1.36	0.15	17.34
	Ch.95.0 to ch.115.0	Cum	1	20	4	0.15	12
	Ch.125.0 to Ch.560.0	Cum	1	435	4.11	0.15	268.18
	Ch.570.0 to Ch.576.0	Cum	1	6	3	0.15	2.7
	RHS						
	Ch.35.0 to Ch.330.0	Cum	1	295	2.33	0.15	103.1
	Ch.330.0 to Ch.576.0	Cum	1	246	1.85	0.15	68.27
	Flush Footpath with Carriageway						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.180.0 to Ch.230.0	Cum	1	50	1.38	0.15	10.35
	Ch.460.0 to Ch.480.0	Cum	1	20	1.31	0.15	3.93
	Ch.690.0 to Ch.710.0	Cum	1	20	2.2	0.15	6.60
	Ch.730.0 to Ch.770.0	Cum	1	40	1.2	0.15	7.20
	Ch.770.0 to Ch.790.0	Cum	1	20	2.58	0.15	7.74
	RHS						
	Ch.60.0 to Ch.70.0	Cum	1	10	2.72	0.15	4.08
	Ch.75.0 to Ch.80.0	Cum	1	5	4.5	0.15	3.38
	Ch.195.0 to Ch.213.0	Cum	1	18	0.91	0.15	2.46
	Ch.740.0 to Ch.780.0	Cum	1	40	0.78	0.15	4.68
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.10.0 to Ch.55.0	Cum	1	45	1.1	0.15	7.43
	Ch.100.0 to Ch.170.0	Cum	1	70	1.31	0.15	13.76
	Ch.170.0 to Ch.225.0	Cum	1	55	0.83	0.15	6.85
	Ch.225.0 to Ch.290.0	Cum	1	65	0.3	0.15	2.93
	LHS						
	Ch.150.0 to Ch.220.0	Cum	1	70	0.52	0.15	5.46
	Road No.4/22-Bolar Fisheries College Road						
	RHS						
	Ch.0.0 to ch.30.0	Cum	1	30	0.49	0.15	2.21
	Ch.50.0 to Ch.105.0	Cum	1	55	0.66	0.15	5.45
	Ch.128.0 to Ch.150.0	Cum	1	22	0.73	0.15	2.41
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.0.0 to Ch.20.0	Cum	1	20	2.25	0.15	6.75

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	9/27-Gujjarkere Road						
	Box Culvert-Slab	Cum	7.0	8.3	1.5	0.15	13.07
	Electrical Chamber	Cum	297.0	2.9	2.0	0.15	258.39
		Cum		Total Qty.			3480.74
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)						
	SWD						
	Road 19/1 Old Kent Road			Sides	2.00		
1	MH-542 to MH 543						
	Base	Cum	2	50.4	1.1	0.10	11.09
	Wall	Cum	4	50.4	0.15	1.21	36.59
	Slab	Cum	2	50.4	0.9	0.15	13.61
2	MH-543 to MH 544						
	Base	Cum	2	13.1	1.1	0.10	2.88
	Wall	Cum	4	13.1	0.15	1.21	9.51
	Slab	Cum	2	13.1	0.9	0.15	3.54
3	MH-544 to MH 545						
	Base	Cum	2	49.4	1.1	0.10	10.87
	Wall	Cum	4	49.4	0.15	1.39	41.05
	Slab	Cum	2	49.4	0.9	0.15	13.34
4	MH-545 to MH 296						
	Base	Cum	2	118.7	1.1	0.10	26.11
	Wall	Cum	4	118.7	0.15	1.42	100.78
	Slab	Cum	2	118.7	0.9	0.15	32.05
5	MH-296 to MH 297						
	Base	Cum	2	21.1	1.1	0.10	4.64
	Wall	Cum	4	21.1	0.15	1.29	16.27
	Slab	Cum	2	21.1	0.9	0.15	5.70
6	MH-297 to MH 298						
	Base	Cum	2	19.2	1.1	0.10	4.22
	Wall	Cum	4	19.2	0.15	1.30	14.98
	Slab	Cum	2	19.2	0.9	0.15	5.18
7	MH-298 to MH 299						
	Base	Cum	2	18.8	1.1	0.10	4.14
	Wall	Cum	4	18.8	0.15	1.29	14.55
	Slab	Cum	2	18.8	0.9	0.15	5.08
8	MH-299 to MH 300						
	Base	Cum	2	12.9	1.1	0.10	2.84
	Wall	Cum	4	12.9	0.15	1.28	9.87
	Slab	Cum	2	12.9	0.9	0.15	3.48
9	MH-300 to MH 301						
	Base	Cum	2	43.7	1.1	0.10	9.61
	Wall	Cum	4	43.7	0.15	1.31	34.22
	Slab	Cum	2	43.7	0.9	0.15	11.80
10	MH-301 to MH 302						
	Base	Cum	2	27.9	1.1	0.10	6.14
	Wall	Cum	4	27.9	0.15	1.30	21.76
	Slab	Cum	2	27.9	0.9	0.15	7.53
11	MH-302 to MH 303						
	Base	Cum	2	18.8	1.1	0.10	4.14
	Wall	Cum	4	18.8	0.15	1.24	13.93
	Slab	Cum	2	18.8	0.9	0.15	5.08
12	MH-303 to MH 304						
	Base	Cum	2	35.3	1.1	0.10	7.77
	Wall	Cum	4	35.3	0.15	1.26	26.69
	Slab	Cum	2	35.3	0.9	0.15	9.53
13	MH-304 to MH305						
	Base	Cum	2	32	1.1	0.10	7.04
	Wall	Cum	4	32	0.15	1.31	25.15
	Slab	Cum	2	32	0.9	0.15	8.64
14	MH-305 to MH306						
	Base	Cum	2	59.9	1.1	0.10	13.18
	Wall	Cum	4	59.9	0.15	1.30	46.72
	Slab	Cum	2	59.9	0.9	0.15	16.17
15	MH-306 to O-33						
	Base	Cum	2	48	1.1	0.10	10.56
	Wall	Cum	4	48	0.15	1.29	37.15
	Slab	Cum	2	48	0.9	0.15	12.96
16	MH-546 to MH-547						
	Base	Cum	2	21.5	1.4	0.10	6.02
	Wall	Cum	4	21.5	0.15	1.22	15.67
	Slab	Cum	2	21.5	1.2	0.15	7.74
17	MH-547 to MH-549						
	Base	Cum	2	55.8	1.4	0.10	15.62
	Wall	Cum	4	55.8	0.15	1.32	44.19

Sr. No.	Description	Unit	No's	L	B	H	Qty.
18	Slab	Cum	2	55.8	1.2	0.15	20.09
	MH-549 to MH-548						
	Base	Cum	2	42.7	1.4	0.10	11.96
	Wall	Cum	4	42.7	0.15	1.42	36.38
19	Slab	Cum	2	42.7	1.2	0.15	15.37
	MH-548 to MH-531						
	Base	Cum	2	66.9	1.4	0.10	18.73
	Wall	Cum	4	66.9	0.15	1.43	57.40
20	Slab	Cum	2	66.9	1.2	0.15	24.08
	MH-531 to MH-532						
	Base	Cum	2	41.6	1.45	0.10	12.06
	Wall	Cum	4	41.6	0.175	1.74	50.52
21	Slab	Cum	2	41.6	1.25	0.15	15.60
	MH-532 to MH-533						
	Base	Cum	2	25.7	1.45	0.10	7.45
	Wall	Cum	4	25.7	0.175	1.71	30.67
22	Slab	Cum	2	25.7	1.25	0.15	9.64
	MH-533 to MH-534						
	Base	Cum	2	36.6	1.45	0.10	10.61
	Wall	Cum	4	36.6	0.175	1.59	40.61
23	Slab	Cum	2	36.6	1.25	0.15	13.73
	MH-534 to MH-535						
	Base	Cum	2	50	1.45	0.10	14.50
	Wall	Cum	4	50	0.175	1.57	54.95
24	Slab	Cum	2	50	1.25	0.15	18.75
	MH-535 to MH-536						
	Base	Cum	2	22.2	1.45	0.10	6.44
	Wall	Cum	4	22.2	0.175	1.53	23.70
25	Slab	Cum	2	22.2	1.25	0.15	8.33
	MH-536 to MH-537						
	Base	Cum	2	29.7	1.45	0.10	8.61
	Wall	Cum	4	29.7	0.175	1.65	34.30
26	Slab	Cum	2	29.7	1.25	0.15	11.14
	MH-537 to MH-538						
	Base	Cum	2	36.2	1.4	0.10	10.14
	Wall	Cum	4	36.2	0.15	1.53	33.23
27	Slab	Cum	2	36.2	1.2	0.15	13.03
	MH-538 to MH-539						
	Base	Cum	2	51.6	1.4	0.10	14.45
	Wall	Cum	4	51.6	0.15	1.54	47.52
28	Slab	Cum	2	51.6	1.2	0.15	18.58
	MH-539 to MH-540						
	Base	Cum	2	9.5	1.4	0.10	2.66
	Wall	Cum	4	9.5	0.15	1.51	8.61
29	Slab	Cum	2	9.5	1.2	0.15	3.42
	MH-540 to O-59						
	Base	Cum	2	45.3	1.4	0.10	12.68
	Wall	Cum	4	45.3	0.15	1.51	41.04
	Slab	Cum	2	45.3	1.2	0.15	16.31
	Road 20/3 Pandeshwar New Road			Sides	1.00		
	1 Node-O-61						
	Base	Cum	1	112.8	1.25	0.10	14.10
	Wall	Cum	2	112.8	0.15	1.36	45.85
	Slab	Cum	1	112.8	1.05	0.15	17.77
	2 MH-528						
	Base	Cum	1	17.3	1.1	0.10	1.90
	Wall	Cum	2	17.3	0.15	1.26	6.51
	Slab	Cum	1	17.3	0.9	0.15	2.34
	3 Node-O-58						
	Base	Cum	1	88.8	1.1	0.10	9.77
	Wall	Cum	2	88.8	0.15	1.23	32.63
	Slab	Cum	1	88.8	0.9	0.15	11.99
	4 MH-527						
	Base	Cum	1	44.9	1.1	0.10	4.94
	Wall	Cum	2	44.9	0.15	1.28	17.17
	Slab	Cum	1	44.9	0.9	0.15	6.06
	Road 22/4 Bolar Fisheries College Road			Sides	1.00		
	1 MH-377 to O-39						
	Base	Cum	1	114.8	1.1	0.10	12.63
	Wall	Cum	2	114.8	0.15	1.33	45.63
	Slab	Cum	1	114.8	0.9	0.15	15.50
	Road-23/5 Milihithulu Road			Sides	1.00		
1 MH-261							
	Base	Cum	1	41	1.4	0.10	5.74
	Wall	Cum	2	41	0.15	1.32	16.24
	Slab	Cum	1	41	1.2	0.15	7.38
	2 MH-262						
	Base	Cum	1	49.9	1.4	0.10	6.99
	Wall	Cum	2	49.9	0.15	1.28	19.09
	Slab	Cum	1	49.9	1.2	0.15	8.98
	3 MH-263						
	Base	Cum	1	55.3	1.4	0.10	7.74
	Wall	Cum	2	55.3	0.15	1.23	20.32
	Slab	Cum	1	55.3	1.2	0.15	9.95

Sr. No.	Description	Unit	No's	L	B	H	Qty.
4	MH-615						
	Base	Cum	1	31.4	1.4	0.10	4.40
	Wall	Cum	2	31.4	0.15	1.22	11.45
	Slab	Cum	1	31.4	1.2	0.15	5.65
5	O-29						
	Base	Cum	1	27.2	1.4	0.10	3.81
	Wall	Cum	2	27.2	0.15	1.21	9.87
	Slab	Cum	1	27.2	1.2	0.15	4.90
6	MH-578						
	Base	Cum	1	16.4	1.4	0.10	2.30
	Wall	Cum	2	16.4	0.15	1.25	6.13
	Slab	Cum	1	16.4	1.2	0.15	2.95
7	MH-577						
	Base	Cum	1	19.7	1.4	0.10	2.76
	Wall	Cum	2	19.7	0.15	1.25	7.36
	Slab	Cum	1	19.7	1.2	0.15	3.55
8	MH-576						
	Base	Cum	1	31.8	1.4	0.10	4.45
	Wall	Cum	2	31.8	0.15	1.23	11.73
	Slab	Cum	1	31.8	1.2	0.15	5.72
9	MH-575						
	Base	Cum	1	33.2	1.4	0.10	4.65
	Wall	Cum	2	33.2	0.15	1.22	12.10
	Slab	Cum	1	33.2	1.2	0.15	5.98
10	O-68						
	Base	Cum	1	31.3	1.4	0.10	4.38
	Wall	Cum	2	31.3	0.15	1.43	13.43
	Slab	Cum	1	31.3	1.2	0.15	5.63
11	MH-582		Side	2			
	Base	Cum	2	36.3	1.3	0.10	9.44
	Wall	Cum	4	36.3	0.25	2.32	84.22
	Slab	Cum	2	36.3	1.1	0.15	11.98
12	MH-583						
	Base	Cum	2	20.9	1.2	0.10	5.02
	Wall	Cum	4	20.9	0.2	2.08	34.78
	Slab	Cum	2	20.9	1	0.15	6.27
13	MH-584						
	Base	Cum	2	17.4	1.15	0.10	4.00
	Wall	Cum	4	17.4	0.175	1.63	19.79
	Slab	Cum	2	17.4	0.95	0.15	4.96
14	MH-585						
	Base	Cum	2	13.8	1.1	0.10	3.04
	Wall	Cum	4	13.8	0.15	1.42	11.76
	Slab	Cum	2	13.8	0.9	0.15	3.73
15	MH-586						
	Base	Cum	2	28.4	1.1	0.10	6.25
	Wall	Cum	4	28.4	0.15	1.35	22.92
	Slab	Cum	2	28.4	0.9	0.15	7.67
16	MH-587						
	Base	Cum	2	9	1.1	0.10	1.98
	Wall	Cum	4	9	0.15	1.26	6.80
	Slab	Cum	2	9	0.9	0.15	2.43
17	O-69						
	Base	Cum	2	21.6	1.1	0.10	4.75
	Wall	Cum	4	21.6	0.15	1.23	15.88
	Slab	Cum	2	21.6	0.9	0.15	5.83
18	MH-618						
	Base	Cum	2	12.9	1.3	0.10	3.35
	Wall	Cum	4	12.9	0.25	2.20	28.38
	Slab	Cum	2	12.9	1.1	0.15	4.26
19	MH-619						
	Base	Cum	2	24	1.2	0.10	5.76
	Wall	Cum	4	24	0.2	2.00	38.40
	Slab	Cum	2	24	1	0.15	7.20
20	MH-620						
	Base	Cum	2	16.9	1.2	0.10	4.06
	Wall	Cum	4	16.9	0.2	1.76	23.80
	Slab	Cum	2	16.9	1	0.15	5.07
21	MH-621						
	Base	Cum	2	21.4	1.1	0.10	4.71
	Wall	Cum	4	21.4	0.15	1.31	16.76
	Slab	Cum	2	21.4	0.9	0.15	5.78
22	MH-622						
	Base	Cum	2	10.1	1.1	0.10	2.22
	Wall	Cum	4	10.1	0.15	1.31	7.91
	Slab	Cum	2	10.1	0.9	0.15	2.73
23	MH-623						
	Base	Cum	2	41.4	1.2	0.10	9.94
	Wall	Cum	4	41.4	0.2	1.60	52.83
	Slab	Cum	2	41.4	1	0.15	12.42
24	O-70						
	Base	Cum	2	23.8	1.2	0.10	5.71
	Wall	Cum	4	23.8	0.2	1.81	34.46
	Slab	Cum	2	23.8	1	0.15	7.14
25	MH-366						
	Base	Cum	1	24.8	1.7	0.10	4.22
	Wall	Cum	2	24.8	0.15	1.88	13.95

Sr. No.	Description	Unit	No's	L	B	H	Qty.
26	Slab	Cum	1	24.8	1.5	0.15	5.58
	MH-258						
	Base	Cum	1	52	1.7	0.10	8.84
	Wall	Cum	2	52	0.15	1.73	26.99
27	Slab	Cum	1	52	1.5	0.15	11.70
	MH-259						
	Base	Cum	1	28.1	1.7	0.10	4.78
	Wall	Cum	2	28.1	0.15	1.79	15.09
28	Slab	Cum	1	28.1	1.5	0.15	6.32
	MH-260						
	Base	Cum	1	101.5	1.7	0.10	17.26
	Wall	Cum	2	101.5	0.15	1.67	50.85
1	Slab	Cum	1	101.5	1.5	0.15	22.84
	Road-24/6 Mangaladevi Temple Road						
	MH-223 to MH-224	Side		2			
	Base	Cum	2	92.7	1.73	0.10	32.07
2	Wall	Cum	4	92.7	0.165	1.52	93.00
	Slab	Cum	2	92.7	1.53	0.15	42.55
	MH-224 to MH-225						
	Base	Cum	2	56	1.73	0.10	19.38
3	Wall	Cum	4	56	0.165	1.53	56.36
	Slab	Cum	2	56	1.53	0.15	25.70
	MH-225 to MH-226						
	Base	Cum	2	65.3	1.73	0.10	22.59
4	Wall	Cum	4	65.3	0.165	1.52	65.29
	Slab	Cum	2	65.3	1.53	0.15	29.97
	MH-226 to MH-257						
	Base	Cum	2	145.2	1.73	0.10	50.24
5	Wall	Cum	4	145.2	0.165	1.58	151.41
	Slab	Cum	2	145.2	1.53	0.15	66.65
	MH-207 to MH-208						
	Base	Cum	2	48	1.4	0.10	13.44
6	Wall	Cum	4	48	0.15	1.26	36.29
	Slab	Cum	2	48	1.2	0.15	17.28
	MH-208 to MH-209						
	Base	Cum	2	37.2	1.4	0.10	10.42
7	Wall	Cum	4	37.2	0.15	1.26	28.12
	Slab	Cum	2	37.2	1.2	0.15	13.39
	MH-209 to MH-210						
	Base	Cum	2	22.3	1.4	0.10	6.24
8	Wall	Cum	4	22.3	0.15	1.27	16.99
	Slab	Cum	2	22.3	1.2	0.15	8.03
	MH-210 to MH-211						
	Base	Cum	2	71.7	1.4	0.10	20.08
9	Wall	Cum	4	71.7	0.15	1.25	53.56
	Slab	Cum	2	71.7	1.2	0.15	25.81
	MH-211 to MH-212						
	Base	Cum	2	35.3	1.4	0.10	9.88
10	Wall	Cum	4	35.3	0.15	1.23	26.05
	Slab	Cum	2	35.3	1.2	0.15	12.71
	MH-212 to MH-213						
	Base	Cum	2	85.6	1.4	0.10	23.97
11	Wall	Cum	4	85.6	0.15	1.25	63.94
	Slab	Cum	2	85.6	1.2	0.15	30.82
	MH-213 to MH-214						
	Base	Cum	2	55.1	1.4	0.10	15.43
12	Wall	Cum	4	55.1	0.15	1.24	40.99
	Slab	Cum	2	55.1	1.2	0.15	19.84
	MH-214 to MH-215						
	Base	Cum	2	64.3	1.4	0.10	18.00
13	Wall	Cum	4	64.3	0.15	1.25	48.23
	Slab	Cum	2	64.3	1.2	0.15	23.15
	MH-215 to MH-216						
	Base	Cum	2	101.3	1.4	0.10	28.36
14	Wall	Cum	4	101.3	0.15	1.26	76.58
	Slab	Cum	2	101.3	1.2	0.15	36.47
	MH-216 to MH-256						
	Base	Cum	2	36.8	1.5	0.10	11.04
15	Wall	Cum	4	36.8	0.2	1.84	54.02
	Slab	Cum	2	36.8	1.3	0.15	14.35
	MH-256 to O-62						
	Base	Cum	2	40.5	1.43	0.10	11.58
16	Wall	Cum	4	40.5	0.165	1.65	44.10
	Slab	Cum	2	40.5	1.23	0.15	14.94
	MH-218 to MH-219						
	Base	Cum	2	50.7	1.13	0.10	11.46
17	Wall	Cum	4	50.7	0.165	1.61	53.71
	Slab	Cum	2	50.7	0.93	0.15	14.15
	MH-219 to MH-220						
	Base	Cum	2	34.9	1.13	0.10	7.89
18	Wall	Cum	4	34.9	0.165	1.55	35.59
	Slab	Cum	2	34.9	0.93	0.15	9.74
	MH-220 to MH-221						
	Base	Cum	2	25.1	1.13	0.10	5.67
	Wall	Cum	4	25.1	0.165	1.57	26.01
	Slab	Cum	2	25.1	0.93	0.15	7.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
19	MH-221 to MH-222						
	Base	Cum	2	85.8	1.13	0.10	19.39
	Wall	Cum	4	85.8	0.165	1.54	87.21
	Slab	Cum	2	85.8	0.93	0.15	23.94
	Road 25/7 Monkeystand New Road			Sides	1.00		
1	MH-564						
	Base	Cum	1	80.8	1.12	0.10	9.05
	Wall	Cum	2	80.8	0.16	1.60	41.24
	Slab	Cum	1	80.8	0.92	0.15	11.15
2	MH-565						
	Base	Cum	1	17.9	1.12	0.10	2.00
	Wall	Cum	2	17.9	0.16	1.59	9.08
	Slab	Cum	1	17.9	0.92	0.15	2.47
3	MH-566						
	Base	Cum	1	43.3	1.1	0.10	4.76
	Wall	Cum	2	43.3	0.15	1.41	18.25
	Slab	Cum	1	43.3	0.9	0.15	5.85
4	MH-567						
	Base	Cum	1	120.8	1.1	0.10	13.29
	Wall	Cum	2	120.8	0.15	1.23	44.58
	Slab	Cum	1	120.8	0.9	0.15	16.31
5	O-34						
	Base	Cum	1	9.7	1.1	0.10	1.07
	Wall	Cum	2	9.7	0.15	1.23	3.56
	Slab	Cum	1	9.7	0.9	0.15	1.31
6	MH-613						
	Base	Cum	1	72.9	1.2	0.10	8.75
	Wall	Cum	2	72.9	0.2	1.84	53.65
	Slab	Cum	1	72.9	1	0.15	10.94
7	MH-614						
	Base	Cum	1	40.1	1.12	0.10	4.49
	Wall	Cum	2	40.1	0.16	1.52	19.50
	Slab	Cum	1	40.1	0.92	0.15	5.53
8	MH-568						
	Base	Cum	1	49.2	1.12	0.10	5.51
	Wall	Cum	2	49.2	0.16	1.52	23.85
	Slab	Cum	1	49.2	0.92	0.15	6.79
9	MH-309						
	Base	Cum	1	53.2	1.1	0.10	5.85
	Wall	Cum	2	53.2	0.15	1.45	23.06
	Slab	Cum	1	53.2	0.9	0.15	7.18
10	O-34						
	Base	Cum	1	54.8	1.1	0.10	6.03
	Wall	Cum	2	54.8	0.15	1.27	20.88
	Slab	Cum	1	54.8	0.9	0.15	7.40
11	MH-569						
	Base	Cum	1	52.7	1.1	0.10	5.80
	Wall	Cum	2	52.7	0.15	1.50	23.72
	Slab	Cum	1	52.7	0.9	0.15	7.11
12	MH-570						
	Base	Cum	1	36.1	1.1	0.10	3.97
	Wall	Cum	2	36.1	0.15	1.31	14.19
	Slab	Cum	1	36.1	0.9	0.15	4.87
13	MH-567						
	Base	Cum	1	17.1	1.1	0.10	1.88
	Wall	Cum	2	17.1	0.15	1.25	6.39
	Slab	Cum	1	17.1	0.9	0.15	2.31
	Road 26/8 Jeppu Market Road			Sides	2.00		
1	MH-229						
	Base	Cum	2	121.2	1.3	0.15	47.27
	Wall	Cum	4	121.2	0.25	2.47	298.76
	Slab	Cum	2	121.2	1.1	0.15	40.00
2	MJ-230						
	Base	Cum	2	62.8	1.3	0.15	24.49
	Wall	Cum	4	62.8	0.25	2.49	156.06
	Slab	Cum	2	62.8	1.1	0.15	20.72
3	MH-605						
	Base	Cum	2	136	1.1	0.15	44.88
	Wall	Cum	4	136	0.15	1.35	109.75
	Slab	Cum	2	136	0.9	0.15	36.72
4	O-66						
	Base	Cum	2	12.8	1.1	0.15	4.22
	Wall	Cum	4	12.8	0.15	1.22	9.33
	Slab	Cum	2	12.8	0.9	0.15	3.46
5	MH-608						
	Base	Cum	2	21.6	1.1	0.15	7.13
	Wall	Cum	4	21.6	0.15	1.23	15.94
	Slab	Cum	2	21.6	0.9	0.15	5.83
6	MH-609						
	Base	Cum	2	38.2	1.1	0.15	12.61
	Wall	Cum	4	38.2	0.15	1.22	27.96
	Slab	Cum	2	38.2	0.9	0.15	10.31
	Road 27/9 Gujjarkere Road			Sides	2.00		
1	MH-234 to MH-235						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	2	16.9	1.72	0.10	5.81
	Wall	Cum	4	16.9	0.16	1.77	19.14
	Slab	Cum	2	16.9	1.52	0.15	7.71
2	MH-235 to MH-236						
	Base	Cum	2	29.4	1.72	0.10	10.11
	Wall	Cum	4	29.4	0.16	1.96	36.79
	Slab	Cum	2	29.4	1.52	0.15	13.41
3	MH-236 to MH-237						
	Base	Cum	2	70.4	1.7	0.10	23.94
	Wall	Cum	4	70.4	0.15	1.96	82.79
	Slab	Cum	2	70.4	1.5	0.15	31.68
4	MH-237 to MH-238						
	Base	Cum	2	68.4	1.7	0.10	23.26
	Wall	Cum	4	68.4	0.15	1.81	74.28
	Slab	Cum	2	68.4	1.5	0.15	30.78
5	MH-238 to MH-239						
	Base	Cum	2	19.1	1.7	0.10	6.49
	Wall	Cum	4	19.1	0.15	1.73	19.77
	Slab	Cum	2	19.1	1.5	0.15	8.60
6	MH-239 to MH-240						
	Base	Cum	2	37.7	1.8	0.10	13.57
	Wall	Cum	4	37.7	0.2	1.71	51.57
	Slab	Cum	2	37.7	1.6	0.15	18.10
7	MH-240 to MH-241						
	Base	Cum	2	21.3	1.72	0.10	7.33
	Wall	Cum	4	21.3	0.16	1.63	22.15
	Slab	Cum	2	21.3	1.52	0.15	9.71
8	MH-241 to MH-242						
	Base	Cum	2	25.9	1.72	0.10	8.91
	Wall	Cum	4	25.9	0.16	1.56	25.86
	Slab	Cum	2	25.9	1.52	0.15	11.81
9	MH-242 to MH-591						
	Base	Cum	2	31.2	1.7	0.10	10.61
	Wall	Cum	4	31.2	0.15	1.54	28.74
	Slab	Cum	2	31.2	1.5	0.15	14.04
10	MH-591 to MH-246						
	Base	Cum	2	48.3	1.7	0.10	16.42
	Wall	Cum	4	48.3	0.15	1.54	44.48
	Slab	Cum	2	48.3	1.5	0.15	21.74
11	MH-246 to MH-245						
	Base	Cum	2	31	1.7	0.10	10.54
	Wall	Cum	4	31	0.15	1.56	28.92
	Slab	Cum	2	31	1.5	0.15	13.95
12	MH-245 to O-65						
	Base	Cum	2	39.4	1.7	0.10	13.40
	Wall	Cum	4	39.4	0.15	1.88	44.33
	Slab	Cum	2	39.4	1.5	0.15	17.73
13	MH-592 to MH-593						
	Base	Cum	2	37.3	1.4	0.10	10.44
	Wall	Cum	4	37.3	0.15	1.68	37.49
	Slab	Cum	2	37.3	1.2	0.15	13.43
14	MH-593 to MH-594						
	Base	Cum	2	4.1	1.4	0.10	1.15
	Wall	Cum	4	4.1	0.15	1.66	4.07
	Slab	Cum	2	4.1	1.2	0.15	1.48
15	MH-594 to MH-595						
	Base	Cum	2	58.3	1.4	0.10	16.32
	Wall	Cum	4	58.3	0.15	1.53	53.52
	Slab	Cum	2	58.3	1.2	0.15	20.99
16	MH-595 to MH-596						
	Base	Cum	2	56.8	1.4	0.10	15.90
	Wall	Cum	4	56.8	0.15	1.32	44.99
	Slab	Cum	2	56.8	1.2	0.15	20.45
17	MH-596 to MH-597						
	Base	Cum	2	3.1	1.4	0.10	0.87
	Wall	Cum	4	3.1	0.15	1.25	2.33
	Slab	Cum	2	3.1	1.2	0.15	1.12
18	MH-597 to MH-598						
	Base	Cum	2	41.5	1.4	0.10	11.62
	Wall	Cum	4	41.5	0.15	1.27	31.50
	Slab	Cum	2	41.5	1.2	0.15	14.94
19	MH-598 to MH-599						
	Base	Cum	2	42.3	1.4	0.10	11.84
	Wall	Cum	4	42.3	0.15	1.24	31.47
	Slab	Cum	2	42.3	1.2	0.15	15.23
20	MH-599 to MH-600						
	Base	Cum	2	43.3	1.4	0.10	12.12
	Wall	Cum	4	43.3	0.15	1.27	32.86
	Slab	Cum	2	43.3	1.2	0.15	15.59
21	MH-600 to MH-601						
	Base	Cum	2	21.7	1.4	0.10	6.08
	Wall	Cum	4	21.7	0.15	1.32	17.19
	Slab	Cum	2	21.7	1.2	0.15	7.81
22	MH-601 to MH-602						
	Base	Cum	2	62.1	1.4	0.10	17.39
	Wall	Cum	4	62.1	0.15	1.32	49.00
	Slab	Cum	2	62.1	1.2	0.15	22.36

Sr. No.	Description	Unit	No's	L	B	H	Qty.
23	MH-602 to MH-603						
	Base	Cum	2	7.4	1.4	0.10	2.07
	Wall	Cum	4	7.4	0.15	1.33	5.88
	Slab	Cum	2	7.4	1.2	0.15	2.66
24	MH-603 to O-64						
	Base	Cum	2	72.7	1.4	0.10	20.36
	Wall	Cum	4	72.7	0.15	1.72	74.81
	Slab	Cum	2	72.7	1.2	0.15	26.17
25	MH-229 to MH-230						
	Base	Cum	2	62.8	1.4	0.10	17.58
	Wall	Cum	4	62.8	0.15	2.49	93.63
	Slab	Cum	2	62.8	1.2	0.15	22.61
26	MH-230 to MH-231						
	Base	Cum	2	20.1	1.4	0.10	5.63
	Wall	Cum	4	20.1	0.15	2.43	29.31
	Slab	Cum	2	20.1	1.2	0.15	7.24
27	MH-231 to MH-589						
	Base	Cum	2	37.5	1.4	0.10	10.50
	Wall	Cum	4	37.5	0.15	2.13	47.93
	Slab	Cum	2	37.5	1.2	0.15	13.50
28	MH-589 to MH-232						
	Base	Cum	2	57.6	1.4	0.10	16.13
	Wall	Cum	4	57.6	0.15	1.93	66.70
	Slab	Cum	2	57.6	1.2	0.15	20.74
29	MH-232 to O-63						
	Base	Cum	2	29.2	1.4	0.10	8.18
	Wall	Cum	4	29.2	0.15	1.91	33.46
	Slab	Cum	2	29.2	1.2	0.15	10.51
30	MH-607 to MH-608						
	Base	Cum	2	21.6	1.4	0.10	6.05
	Wall	Cum	4	21.6	0.15	1.23	15.94
	Slab	Cum	2	21.6	1.2	0.15	7.78
31	MH-608 to MH-609						
	Base	Cum	2	38.2	1.4	0.10	10.70
	Wall	Cum	4	38.2	0.15	1.22	27.96
	Slab	Cum	2	38.2	1.2	0.15	13.75
32	MH-609 to MH-610						
	Base	Cum	2	101.6	1.4	0.10	28.45
	Wall	Cum	4	101.6	0.15	1.29	78.64
	Slab	Cum	2	101.6	1.2	0.15	36.58
33	MH-610 to O-67						
	Base	Cum	2	41.6	1.4	0.10	11.65
	Wall	Cum	4	41.6	0.15	1.37	34.07
	Slab	Cum	2	41.6	1.2	0.15	14.98
	Ded. Of Covers-0.6m x 0.45m	Cum	-1007.00	0.6	0.45	0.15	-40.78
	Box Culvert						
	2/19-Old Kent Road						
	Box Culvert-Slab	Cum	16	12.2	1.00	0.20	39.04
	Box Culvert-Wall	Cum	16	12.2	1.00	0.20	39.04
	3/20-Pandeshwar New Road						
	Box Culvert-Slab	Cum	6	10	1.50	0.20	18.00
	Box Culvert-Wall	Cum	6	10	1.50	0.20	18.00
	4/22-Bolar Fisheries College Road						
	Box Culvert-Slab	Cum	2	8.8	1.50	0.20	5.28
	Box Culvert-Wall	Cum	2	8.8	1.50	0.20	5.28
	5/23-Mulihithlu Road						
	Box Culvert-Slab	Cum	16	11.4	1.50	0.20	54.72
	Box Culvert-Wall	Cum	16	11.4	1.50	0.20	54.72
	6/24-Mangaladevi Temple Road						
	Box Culvert-Slab	Cum	18	27.5	1.50	0.20	148.50
	Box Culvert-Wall	Cum	18	27.5	1.50	0.20	148.50
	7/25-Monkeystand New Road						
	Box Culvert-Slab	Cum	10	18.05	1.50	0.20	54.15
	Box Culvert-Wall	Cum	10	18.05	1.50	0.20	54.15
	8/26-Jeppu Market Road						0.00
	Box Culvert-Slab	Cum	6	13.1	1.50	0.20	23.58
	Box Culvert-Wall	Cum	6	13.1	1.50	0.20	23.58
	9/27-Gujjarkere Road						0.00
	Box Culvert-Slab	Cum	14	8.3	1.50	0.20	34.86
	Box Culvert-Wall	Cum	14	8.3	1.50	0.20	34.86
	Footpath Edge Beam	Cum	1	1950	0.15	0.105	30.71
	Electrical Chamber						0.00
	Foundation	Cum	297	2.70	1.80	0.15	216.51
	Long Wall	Cum	594	2.40	0.15	2.10	449.06
	Short Wall	Cum	594	1.10	0.15	2.10	205.82
		Cum		Total Qty.			9799.67
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						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road 19/1 Old Kent Road			Sides	2		
1	MH-542 to MH 543						
	Base	Sqm	4	50.4		0.1	20.16
	Wall	Sqm	8	50.4		1.21	487.87
	Slab	Sqm	2	50.4	0.9		90.72
2	MH-543 to MH 544						
	Base	Sqm	4	13.1		0.1	5.24
	Wall	Sqm	8	13.1		1.21	126.81
	Slab	Sqm	2	13.1	0.9		23.58
3	MH-544 to MH 545						
	Base	Sqm	4	49.4		0.1	19.76
	Wall	Sqm	8	49.4		1.385	547.35
	Slab	Sqm	2	49.4	0.9		88.92
4	MH-545 to MH 296						
	Base	Sqm	4	118.7		0.1	47.48
	Wall	Sqm	8	118.7		1.415	1343.68
	Slab	Sqm	2	118.7	0.9		213.66
5	MH-296 to MH 297						
	Base	Sqm	4	21.1		0.1	8.44
	Wall	Sqm	8	21.1		1.285	216.91
	Slab	Sqm	2	21.1	0.9		37.98
6	MH-297 to MH 298						
	Base	Sqm	4	19.2		0.1	7.68
	Wall	Sqm	8	19.2		1.3	199.68
	Slab	Sqm	2	19.2	0.9		34.56
7	MH-298 to MH 299						
	Base	Sqm	4	18.8		0.1	7.52
	Wall	Sqm	8	18.8		1.29	194.02
	Slab	Sqm	2	18.8	0.9		33.84
8	MH-299 to MH 300						
	Base	Sqm	4	12.9		0.1	5.16
	Wall	Sqm	8	12.9		1.275	131.58
	Slab	Sqm	2	12.9	0.9		23.22
9	MH-300 to MH 301						
	Base	Sqm	4	43.7		0.1	17.48
	Wall	Sqm	8	43.7		1.305	456.23
	Slab	Sqm	2	43.7	0.9		78.66
10	MH-301 to MH 302						
	Base	Sqm	4	27.9		0.1	11.16
	Wall	Sqm	8	27.9		1.3	290.16
	Slab	Sqm	2	27.9	0.9		50.22
11	MH-302 to MH 303						
	Base	Sqm	4	18.8		0.1	7.52
	Wall	Sqm	8	18.8		1.235	185.74
	Slab	Sqm	2	18.8	0.9		33.84
12	MH-303 to MH 304						
	Base	Sqm	4	35.3		0.1	14.12
	Wall	Sqm	8	35.3		1.26	355.82
	Slab	Sqm	2	35.3	0.9		63.54
13	MH-304 to MH305						
	Base	Sqm	4	32		0.1	12.80
	Wall	Sqm	8	32		1.31	335.36
	Slab	Sqm	2	32	0.9		57.60
14	MH-305 to MH306						
	Base	Sqm	4	59.9		0.1	23.96
	Wall	Sqm	8	59.9		1.3	622.96
	Slab	Sqm	2	59.9	0.9		107.82
15	MH-306 to O-33						
	Base	Sqm	4	48		0.1	19.20
	Wall	Sqm	8	48		1.29	495.36
	Slab	Sqm	2	48	0.9		86.40
16	MH-546 to MH-547						
	Base	Sqm	4	21.5		0.1	8.60
	Wall	Sqm	8	21.5		1.215	208.98
	Slab	Sqm	2	21.5	1.2		51.60
17	MH-547 to MH-549						
	Base	Sqm	4	55.8		0.1	22.32
	Wall	Sqm	8	55.8		1.32	589.25
	Slab	Sqm	2	55.8	1.2		133.92
18	MH-549 to MH-548						
	Base	Sqm	4	42.7		0.1	17.08
	Wall	Sqm	8	42.7		1.42	485.07
	Slab	Sqm	2	42.7	1.2		102.48
19	MH-548 to MH-531						
	Base	Sqm	4	66.9		0.1	26.76
	Wall	Sqm	8	66.9		1.43	765.34
	Slab	Sqm	2	66.9	1.2		160.56
20	MH-531 to MH-532						
	Base	Sqm	4	41.6		0.1	16.64
	Wall	Sqm	8	41.6		1.735	577.41
	Slab	Sqm	2	41.6	1.25		104.00
21	MH-532 to MH-533						
	Base	Sqm	4	25.7		0.1	10.28
	Wall	Sqm	8	25.7		1.705	350.55
	Slab	Sqm	2	25.7	1.25		64.25
22	MH-533 to MH-534						
	Base	Sqm	4	36.6		0.1	14.64

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Wall	Sqm	8	36.6		1.585	464.09
	Slab	Sqm	2	36.6	1.25		91.50
23	MH-534 to MH-535						
	Base	Sqm	4	50		0.1	20.00
	Wall	Sqm	8	50		1.57	628.00
	Slab	Sqm	2	50	1.25		125.00
24	MH-535 to MH-536						
	Base	Sqm	4	22.2		0.1	8.88
	Wall	Sqm	8	22.2		1.525	270.84
	Slab	Sqm	2	22.2	1.25		55.50
25	MH-536 to MH-537						
	Base	Sqm	4	29.7		0.1	11.88
	Wall	Sqm	8	29.7		1.65	392.04
	Slab	Sqm	2	29.7	1.25		74.25
26	MH-537 to MH-538						
	Base	Sqm	4	36.2		0.1	14.48
	Wall	Sqm	8	36.2		1.53	443.09
	Slab	Sqm	2	36.2	1.2		86.88
27	MH-538 to MH-539						
	Base	Sqm	4	51.6		0.1	20.64
	Wall	Sqm	8	51.6		1.535	633.65
	Slab	Sqm	2	51.6	1.2		123.84
28	MH-539 to MH-540						
	Base	Sqm	4	9.5		0.1	3.80
	Wall	Sqm	8	9.5		1.51	114.76
	Slab	Sqm	2	9.5	1.2		22.80
29	MH-540 to O-59						
	Base	Sqm	4	45.3		0.1	18.12
	Wall	Sqm	8	45.3		1.51	547.22
	Slab	Sqm	2	45.3	1.2		108.72
	Road 20/3 Pandeshwar New Road			Sides	1.00		
1	Node-O-61						
	Base	Sqm	1	112.80		0.10	11.28
	Wall	Sqm	4	112.80		1.36	611.38
	Slab	Sqm	1	112.80	1.05		118.44
2	MH-528						
	Base	Sqm	1	17.30		0.10	1.73
	Wall	Sqm	4	17.30		1.26	86.85
	Slab	Sqm	1	17.30	0.90		15.57
3	Node-O-58						
	Base	Sqm	1	88.80		0.10	8.88
	Wall	Sqm	4	88.80		1.23	435.12
	Slab	Sqm	1	88.80	0.90		79.92
4	MH-527						
	Base	Sqm	1	44.90		0.10	4.49
	Wall	Sqm	4	44.90		1.28	228.99
	Slab	Sqm	1	44.90	0.90		40.41
	Road 22/4 Bolar Fisheries College Road			Sides	1.00		
1	MH-377 to O-39						
	Base	Sqm	2	114.80	1.10	0.10	25.26
	Wall	Sqm	4	114.80	0.15	1.33	91.27
	Slab	Sqm	1	114.80	0.90	0.15	15.50
	Road-23/5 Milihithulu Road			Sides	1.00		
1	MH-261						
	Base	Sqm	2	41.00		0.10	8.20
	Wall	Sqm	4	41.00		1.32	216.48
	Slab	Sqm	1	41.00	1.20		49.20
2	MH-262						
	Base	Sqm	2	49.90		0.10	9.98
	Wall	Sqm	4	49.90		1.28	254.49
	Slab	Sqm	1	49.90	1.20		59.88
3	MH-263						
	Base	Sqm	2	55.30		0.10	11.06
	Wall	Sqm	4	55.30		1.23	270.97
	Slab	Sqm	1	55.30	1.20		66.36
4	MH-615						
	Base	Sqm	2	31.40		0.10	6.28
	Wall	Sqm	4	31.40		1.22	152.60
	Slab	Sqm	1	31.40	1.20		37.68
5	O-29						
	Base	Sqm	2	27.20		0.10	5.44
	Wall	Sqm	4	27.20		1.21	131.65
	Slab	Sqm	1	27.20	1.20		32.64
6	MH-578						
	Base	Sqm	2	16.40		0.10	3.28
	Wall	Sqm	4	16.40		1.25	81.67
	Slab	Sqm	1	16.40	1.20		19.68
7	MH-577						
	Base	Sqm	2	19.70		0.10	3.94
	Wall	Sqm	4	19.70		1.25	98.11
	Slab	Sqm	1	19.70	1.20		23.64
8	MH-576						
	Base	Sqm	2	31.80		0.10	6.36
	Wall	Sqm	4	31.80		1.23	156.46

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Slab	Sqm	1	31.80	1.20		38.16
9	MH-575						
	Base	Sqm	2	33.20		0.10	6.64
	Wall	Sqm	4	33.20		1.22	161.35
	Slab	Sqm	1	33.20	1.20		39.84
10	O-68						
	Base	Sqm	2	31.30		0.10	6.26
	Wall	Sqm	4	31.30		1.43	179.04
	Slab	Sqm	1	31.30	1.20		37.56
11	MH-582			Sides	2.00		
	Base	Sqm	4	36.30		0.10	14.52
	Wall	Sqm	8	36.30		2.32	673.73
	Slab	Sqm	2	36.30	1.10		79.86
12	MH-583						
	Base	Sqm	4	20.90		0.10	8.36
	Wall	Sqm	8	20.90		2.08	347.78
	Slab	Sqm	2	20.90	1.00		41.80
13	MH-584						
	Base	Sqm	4	17.40		0.10	6.96
	Wall	Sqm	8	17.40		1.63	226.20
	Slab	Sqm	2	17.40	0.95		33.06
14	MH-585						
	Base	Sqm	4	13.80		0.10	5.52
	Wall	Sqm	8	13.80		1.42	156.77
	Slab	Sqm	2	13.80	0.90		24.84
15	MH-586						
	Base	Sqm	4	28.40		0.10	11.36
	Wall	Sqm	8	28.40		1.35	305.58
	Slab	Sqm	2	28.40	0.90		51.12
16	MH-587						
	Base	Sqm	4	9.00		0.10	3.60
	Wall	Sqm	8	9.00		1.26	90.72
	Slab	Sqm	2	9.00	0.90		16.20
17	O-69						
	Base	Sqm	4	21.60		0.10	8.64
	Wall	Sqm	8	21.60		1.23	211.68
	Slab	Sqm	2	21.60	0.90		38.88
18	MH-618						
	Base	Sqm	4	12.90		0.10	5.16
	Wall	Sqm	8	12.90		2.20	227.04
	Slab	Sqm	2	12.90	1.10		28.38
19	MH-619						
	Base	Sqm	4	24.00		0.10	9.60
	Wall	Sqm	8	24.00		2.00	384.00
	Slab	Sqm	2	24.00	1.00		48.00
20	MH-620						
	Base	Sqm	4	16.90		0.10	6.76
	Wall	Sqm	8	16.90		1.76	237.95
	Slab	Sqm	2	16.90	1.00		33.80
21	MH-621						
	Base	Sqm	4	21.40		0.10	8.56
	Wall	Sqm	8	21.40		1.31	223.42
	Slab	Sqm	2	21.40	0.90		38.52
22	MH-622						
	Base	Sqm	4	10.10		0.10	4.04
	Wall	Sqm	8	10.10		1.31	105.44
	Slab	Sqm	2	10.10	0.90		18.18
23	MH-623						
	Base	Sqm	4	41.40		0.10	16.56
	Wall	Sqm	8	41.40		1.60	528.26
	Slab	Sqm	2	41.40	1.00		82.80
24	O-70						
	Base	Sqm	4	23.80		0.10	9.52
	Wall	Sqm	8	23.80		1.81	344.62
	Slab	Sqm	2	23.80	1.00		47.60
25	MH-366						
	Base	Sqm	2	24.80		0.10	4.96
	Wall	Sqm	4	24.80		1.88	186.00
	Slab	Sqm	1	24.80	1.50		37.20
26	MH-258						
	Base	Sqm	2	52.00		0.10	10.40
	Wall	Sqm	4	52.00		1.73	359.84
	Slab	Sqm	1	52.00	1.50		78.00
27	MH-259						
	Base	Sqm	2	28.10		0.10	5.62
	Wall	Sqm	4	28.10		1.79	201.20
	Slab	Sqm	1	28.10	1.50		42.15
28	MH-260						
	Base	Sqm	2	101.50		0.10	20.30
	Wall	Sqm	4	101.50		1.67	678.02
	Slab	Sqm	1	101.50	1.50		152.25
	Road-24/6 Mangaladevi Temple Road		Side	2.00			
1	MH-223 to MH-224						
	Base	Sqm	4	92.70		0.10	37.08
	Wall	Sqm	8	92.70		1.52	1127.23
	Slab	Sqm	2	92.70	1.53		283.66

Sr. No.	Description	Unit	No's	L	B	H	Qty.
2	MH-224 to MH-225						
	Base	Sqm	4	56.00		0.10	22.40
	Wall	Sqm	8	56.00		1.53	683.20
	Slab	Sqm	2	56.00	1.53		171.36
3	MH-225 to MH-226						
	Base	Sqm	4	65.30		0.10	26.12
	Wall	Sqm	8	65.30		1.52	791.44
	Slab	Sqm	2	65.30	1.53		199.82
4	MH-226 to MH-257						
	Base	Sqm	4	145.20		0.10	58.08
	Wall	Sqm	8	145.20		1.58	1835.33
	Slab	Sqm	2	145.20	1.53		444.31
5	MH-207 to MH-208						
	Base	Sqm	4	48.00		0.10	19.20
	Wall	Sqm	8	48.00		1.26	483.84
	Slab	Sqm	2	48.00	1.20		115.20
6	MH-208 to MH-209						
	Base	Sqm	4	37.20		0.10	14.88
	Wall	Sqm	8	37.20		1.26	374.98
	Slab	Sqm	2	37.20	1.20		89.28
7	MH-209 to MH-210						
	Base	Sqm	4	22.30		0.10	8.92
	Wall	Sqm	8	22.30		1.27	226.57
	Slab	Sqm	2	22.30	1.20		53.52
8	MH-210 to MH-211						
	Base	Sqm	4	71.70		0.10	28.68
	Wall	Sqm	8	71.70		1.25	714.13
	Slab	Sqm	2	71.70	1.20		172.08
9	MH-211 to MH-212						
	Base	Sqm	4	35.30		0.10	14.12
	Wall	Sqm	8	35.30		1.23	347.35
	Slab	Sqm	2	35.30	1.20		84.72
10	MH-212 to MH-213						
	Base	Sqm	4	85.60		0.10	34.24
	Wall	Sqm	8	85.60		1.25	852.58
	Slab	Sqm	2	85.60	1.20		205.44
11	MH-213 to MH-214						
	Base	Sqm	4	55.10		0.10	22.04
	Wall	Sqm	8	55.10		1.24	546.59
	Slab	Sqm	2	55.10	1.20		132.24
12	MH-214 to MH-215						
	Base	Sqm	4	64.30		0.10	25.72
	Wall	Sqm	8	64.30		1.25	643.00
	Slab	Sqm	2	64.30	1.20		154.32
13	MH-215 to MH-216						
	Base	Sqm	4	101.30		0.10	40.52
	Wall	Sqm	8	101.30		1.26	1021.10
	Slab	Sqm	2	101.30	1.20		243.12
14	MH-216 to MH-256						
	Base	Sqm	4	36.80		0.10	14.72
	Wall	Sqm	8	36.80		1.84	540.22
	Slab	Sqm	2	36.80	1.30		95.68
15	MH-256 to O-62						
	Base	Sqm	4	40.50		0.10	16.20
	Wall	Sqm	8	40.50		1.65	534.60
	Slab	Sqm	2	40.50	1.23		99.63
16	MH-218 to MH-219						
	Base	Sqm	4	50.70		0.10	20.28
	Wall	Sqm	8	50.70		1.61	650.99
	Slab	Sqm	2	50.70	0.93		94.30
17	MH-219 to MH-220						
	Base	Sqm	4	34.90		0.10	13.96
	Wall	Sqm	8	34.90		1.55	431.36
	Slab	Sqm	2	34.90	0.93		64.91
18	MH-220 to MH-221						
	Base	Sqm	4	25.10		0.10	10.04
	Wall	Sqm	8	25.10		1.57	315.26
	Slab	Sqm	2	25.10	0.93		46.69
19	MH-221 to MH-222						
	Base	Sqm	4	85.80		0.10	34.32
	Wall	Sqm	8	85.80		1.54	1057.06
	Slab	Sqm	2	85.80	0.93		159.59
	Road 25/7 Monkeystand New Road			Sides	1.00		
1	MH-564						
	Base	Sqm	2	80.80		0.10	16.16
	Wall	Sqm	4	80.80		1.60	515.50
	Slab	Sqm	1	80.80	0.92		74.34
2	MH-565						
	Base	Sqm	2	17.90		0.10	3.58
	Wall	Sqm	4	17.90		1.59	113.49
	Slab	Sqm	1	17.90	0.92		16.47
3	MH-566						
	Base	Sqm	2	43.30		0.10	8.66
	Wall	Sqm	4	43.30		1.41	243.35
	Slab	Sqm	1	43.30	0.90		38.97
4	MH-567						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Sqm	2	120.80		0.10	24.16
	Wall	Sqm	4	120.80		1.23	594.34
	Slab	Sqm	1	120.80	0.90		108.72
5	O-34						
	Base	Sqm	2	9.70		0.10	1.94
	Wall	Sqm	4	9.70		1.23	47.53
	Slab	Sqm	1	9.70	0.90		8.73
6	MH-613						
	Base	Sqm	2	72.90		0.10	14.58
	Wall	Sqm	4	72.90		1.84	536.54
	Slab	Sqm	1	72.90	1.00		72.90
7	MH-614						
	Base	Sqm	2	40.10		0.10	8.02
	Wall	Sqm	4	40.10		1.52	243.81
	Slab	Sqm	1	40.10	0.92		36.89
8	MH-568						
	Base	Sqm	2	49.20		0.10	9.84
	Wall	Sqm	4	49.20		1.52	298.15
	Slab	Sqm	1	49.20	0.92		45.26
9	MH-309						
	Base	Sqm	2	53.20		0.10	10.64
	Wall	Sqm	4	53.20		1.45	307.50
	Slab	Sqm	1	53.20	0.90		47.88
10	O-34						
	Base	Sqm	2	54.80		0.10	10.96
	Wall	Sqm	4	54.80		1.27	278.38
	Slab	Sqm	1	54.80	0.90		49.32
11	MH-569						
	Base	Sqm	2	52.70		0.10	10.54
	Wall	Sqm	4	52.70		1.50	316.20
	Slab	Sqm	1	52.70	0.90		47.43
12	MH-570						
	Base	Sqm	2	36.10		0.10	7.22
	Wall	Sqm	4	36.10		1.31	189.16
	Slab	Sqm	1	36.10	0.90		32.49
13	MH-567						
	Base	Sqm	2	17.10		0.10	3.42
	Wall	Sqm	4	17.10		1.25	85.16
	Slab	Sqm	1	17.10	0.90		15.39
	Road 26/8 Jeppu Market Road			Sides	2.00		
1	MH-229						
	Base	Sqm	4	121.20		0.15	72.72
	Wall	Sqm	8	121.20		2.47	2390.06
	Slab	Sqm	2	121.20	1.10		266.64
2	MJ-230						
	Base	Sqm	4	62.80		0.15	37.68
	Wall	Sqm	8	62.80		2.49	1248.46
	Slab	Sqm	2	62.80	1.10		138.16
3	MH-605						
	Base	Sqm	4	136.00		0.15	81.60
	Wall	Sqm	8	136.00		1.35	1463.36
	Slab	Sqm	2	136.00	0.90		244.80
4	O-66						
	Base	Sqm	4	12.80		0.15	7.68
	Wall	Sqm	8	12.80		1.22	124.42
	Slab	Sqm	2	12.80	0.90		23.04
5	MH-608						
	Base	Sqm	4	21.60		0.15	12.96
	Wall	Sqm	8	21.60		1.23	212.54
	Slab	Sqm	2	21.60	0.90		38.88
6	MH-609						
	Base	Sqm	4	38.20		0.15	22.92
	Wall	Sqm	8	38.20		1.22	372.83
	Slab	Sqm	2	38.20	0.90		68.76
	Road 27/9 Gujarkere Road			Sides	2.00		
1	MH-234 to MH-235						
	Base	Sqm	4	16.90		0.10	6.76
	Wall	Sqm	8	16.90		1.77	239.30
	Slab	Sqm	2	16.90	1.52		51.38
2	MH-235 to MH-236						
	Base	Sqm	4	29.40		0.10	11.76
	Wall	Sqm	8	29.40		1.96	459.82
	Slab	Sqm	2	29.40	1.52		89.38
3	MH-236 to MH-237						
	Base	Sqm	4	70.40		0.10	28.16
	Wall	Sqm	8	70.40		1.96	1103.87
	Slab	Sqm	2	70.40	1.50		211.20
4	MH-237 to MH-238						
	Base	Sqm	4	68.40		0.10	27.36
	Wall	Sqm	8	68.40		1.81	990.43
	Slab	Sqm	2	68.40	1.50		205.20
5	MH-238 to MH-239						
	Base	Sqm	4	19.10		0.10	7.64
	Wall	Sqm	8	19.10		1.73	263.58
	Slab	Sqm	2	19.10	1.50		57.30

Sr. No.	Description	Unit	No's	L	B	H	Qty.
6	MH-239 to MH-240						
	Base	Sqm	4	37.70		0.10	15.08
	Wall	Sqm	8	37.70		1.71	515.74
	Slab	Sqm	2	37.70	1.60		120.64
7	MH-240 to MH-241						
	Base	Sqm	4	21.30		0.10	8.52
	Wall	Sqm	8	21.30		1.63	276.90
	Slab	Sqm	2	21.30	1.52		64.75
8	MH-241 to MH-242						
	Base	Sqm	4	25.90		0.10	10.36
	Wall	Sqm	8	25.90		1.56	323.23
	Slab	Sqm	2	25.90	1.52		78.74
9	MH-242 to MH-591						
	Base	Sqm	4	31.20		0.10	12.48
	Wall	Sqm	8	31.20		1.54	383.14
	Slab	Sqm	2	31.20	1.50		93.60
10	MH-591 to MH-246						
	Base	Sqm	4	48.30		0.10	19.32
	Wall	Sqm	8	48.30		1.54	593.12
	Slab	Sqm	2	48.30	1.50		144.90
11	MH-246 to MH-245						
	Base	Sqm	4	31.00		0.10	12.40
	Wall	Sqm	8	31.00		1.56	385.64
	Slab	Sqm	2	31.00	1.50		93.00
12	MH-245 to O-65						
	Base	Sqm	4	39.40		0.10	15.76
	Wall	Sqm	8	39.40		1.88	591.00
	Slab	Sqm	2	39.40	1.50		118.20
13	MH-592 to MH-593						
	Base	Sqm	4	37.30		0.10	14.92
	Wall	Sqm	8	37.30		1.68	499.82
	Slab	Sqm	2	37.30	1.20		89.52
14	MH-593 to MH-594						
	Base	Sqm	4	4.10		0.10	1.64
	Wall	Sqm	8	4.10		1.66	54.28
	Slab	Sqm	2	4.10	1.20		9.84
15	MH-594 to MH-595						
	Base	Sqm	4	58.30		0.10	23.32
	Wall	Sqm	8	58.30		1.53	713.59
	Slab	Sqm	2	58.30	1.20		139.92
16	MH-595 to MH-596						
	Base	Sqm	4	56.80		0.10	22.72
	Wall	Sqm	8	56.80		1.32	599.81
	Slab	Sqm	2	56.80	1.20		136.32
17	MH-596 to MH-597						
	Base	Sqm	4	3.10		0.10	1.24
	Wall	Sqm	8	3.10		1.25	31.00
	Slab	Sqm	2	3.10	1.20		7.44
18	MH-597 to MH-598						
	Base	Sqm	4	41.50		0.10	16.60
	Wall	Sqm	8	41.50		1.27	419.98
	Slab	Sqm	2	41.50	1.20		99.60
19	MH-598 to MH-599						
	Base	Sqm	4	42.30		0.10	16.92
	Wall	Sqm	8	42.30		1.24	419.62
	Slab	Sqm	2	42.30	1.20		101.52
20	MH-599 to MH-600						
	Base	Sqm	4	43.30		0.10	17.32
	Wall	Sqm	8	43.30		1.27	438.20
	Slab	Sqm	2	43.30	1.20		103.92
21	MH-600 to MH-601						
	Base	Sqm	4	21.70		0.10	8.68
	Wall	Sqm	8	21.70		1.32	229.15
	Slab	Sqm	2	21.70	1.20		52.08
22	MH-601 to MH-602						
	Base	Sqm	4	62.10		0.10	24.84
	Wall	Sqm	8	62.10		1.32	653.29
	Slab	Sqm	2	62.10	1.20		149.04
23	MH-602 to MH-603						
	Base	Sqm	4	7.40		0.10	2.96
	Wall	Sqm	8	7.40		1.33	78.44
	Slab	Sqm	2	7.40	1.20		17.76
24	MH-603 to O-64						
	Base	Sqm	4	72.70		0.10	29.08
	Wall	Sqm	8	72.70		1.72	997.44
	Slab	Sqm	2	72.70	1.20		174.48
25	MH-229 to MH-230						
	Base	Sqm	4	62.80		0.10	25.12
	Wall	Sqm	8	62.80		2.49	1248.46
	Slab	Sqm	2	62.80	1.20		150.72
26	MH-230 to MH-231						
	Base	Sqm	4	20.10		0.10	8.04
	Wall	Sqm	8	20.10		2.43	390.74
	Slab	Sqm	2	20.10	1.20		48.24
27	MH-231 to MH-589						
	Base	Sqm	4	37.50		0.10	15.00
	Wall	Sqm	8	37.50		2.13	639.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
28	Slab	Sqm	2	37.50	1.20		90.00
	MH-589 to MH-232						
	Base	Sqm	4	57.60		0.10	23.04
	Wall	Sqm	8	57.60		1.93	889.34
29	Slab	Sqm	2	57.60	1.20		138.24
	MH-232 to O-63						
	Base	Sqm	4	29.20		0.10	11.68
	Wall	Sqm	8	29.20		1.91	446.18
30	Slab	Sqm	2	29.20	1.20		70.08
	MH-607 to MH-608						
	Base	Sqm	4	21.60		0.10	8.64
	Wall	Sqm	8	21.60		1.23	212.54
31	Slab	Sqm	2	21.60	1.20		51.84
	MH-608 to MH-609						
	Base	Sqm	4	38.20		0.10	15.28
	Wall	Sqm	8	38.20		1.22	372.83
32	Slab	Sqm	2	38.20	1.20		91.68
	MH-609 to MH-610						
	Base	Sqm	4	101.60		0.10	40.64
	Wall	Sqm	8	101.60		1.29	1048.51
33	Slab	Sqm	2	101.60	1.20		243.84
	MH-610 to O-67						
	Base	Sqm	4	41.60		0.10	16.64
	Wall	Sqm	8	41.60		1.37	454.27
	Slab	Sqm	2	41.60	1.20		99.84
	Box Culvert						
	2/19-Old Kent Road						
	Box Culvert-Slab	Sqm	8	12.2	1		97.60
	Box Culvert-Wall	Sqm	32	12.2	1		390.40
	3/20-Pandeshwar New Road						
	Box Culvert-Slab	Sqm	3	10	1.5		45.00
	Box Culvert-Wall	Sqm	12	10	1.5		180.00
	4/22-Bolar Fisheries College Road						
	Box Culvert-Slab	Sqm	1	8.8	1.5		13.20
	Box Culvert-Wall	Sqm	4	8.8	1.5		52.80
	5/23-Mulihithlu Road						
	Box Culvert-Slab	Sqm	8	11.4	1.5		136.80
	Box Culvert-Wall	Sqm	32	11.4	1.5		547.20
	6/24-Mangaladevi Temple Road						
	Box Culvert-Slab	Sqm	9	27.5	1.5		371.25
	Box Culvert-Wall	Sqm	36	27.5	1.5		1485.00
	7/25-Monkeystand New Road						
	Box Culvert-Slab	Sqm	5	18.05	1.5		135.38
	Box Culvert-Wall	Sqm	20	18.05	1.5		541.50
	8/26-Jeppu Market Road						
	Box Culvert-Slab	Sqm	3	13.1	1.5		58.95
	Box Culvert-Wall	Sqm	12	13.1	1.5		235.80
	9/27-Gujjarkere Road						
	Box Culvert-Slab	Sqm	7	8.3	1.5		87.15
	Box Culvert-Wall	Sqm	28	8.3	1.5		348.60
		Sqm		Total Qty.			79195.16
19	KSRRB 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)						
				Cum	Kg/Cum	Kg	MT
	SWD	MT	1	8141.30	80.00	651304.04	651.30
	Electrical Chamber	MT	1	871.40	80.00	69711.84	69.71
	Box Culvert	MT	1	756.26	100.00	75626.00	75.63
		MT		9768.96	-30.71	Total	796.64
					Check		
20	KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of subgrade with approved material Gravel/Murram 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						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Cum	1	150	3.76	0.15	84.6
	Ch.165.0 to Ch.180.0	Cum	1	15	4.6	0.15	10.35
	Ch.230.0 to Ch.440.0	Cum	1	210	3.4	0.15	107.1
	Ch.450.0 to Ch.530.0	Cum	1	80	1.98	0.15	23.76
	Ch.540.0 to Ch.570.0	Cum	1	30	1.73	0.15	7.79
	Ch.580.0 to Ch.730.0	Cum	1	150	2.07	0.15	46.58
	RHS						
	Ch.0.0 to Ch.130.0	Cum	1	130	2.78	0.15	54.21
Ch.130.0 to Ch.740.0	Cum	1	610	2.36	0.15	215.94	

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Cum	1	170	1.85	0.15	47.18
	Ch.175.0 to Ch.205.0	Cum	1	30	2.2	0.15	9.9
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Cum	1	150	2.83	0.15	63.68
	RHS						
	Ch.105.0 to Ch.125.0	Cum	1	20	1.65	0.15	4.95
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.135.0 to Ch.180.0	Cum	1	45	2.42	0.15	16.34
	Ch.190.0 to Ch.230.0	Cum	1	40	5.85	0.15	35.1
	Ch.320.0 to Ch.340.0	Cum	1	20	3.12	0.15	9.36
	Ch.355.0 to Ch.370.0	Cum	1	15	2.53	0.15	5.69
	Ch.380.0 to Ch.390.0	Cum	1	10	3.4	0.15	5.1
	Ch.390.0 to Ch.420.0	Cum	1	30	3.13	0.15	14.09
	Ch.560.0 to Ch.570.0	Cum	1	10	2.64	0.15	3.96
	Ch.580.0 to Ch.600.0	Cum	1	20	1.75	0.15	5.25
	Ch.630.0 to Ch.640.0	Cum	1	20	0.81	0.15	2.43
	RHS						
	Ch.190.0 to Ch.210.0	Cum	1	20	4.25	0.15	12.75
	Ch.570.0 to Ch.590.0	Cum	1	20	1.88	0.15	5.64
	Ch.590.0 to ch.600.0	Cum	1	10	1.34	0.15	2.01
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Cum	1	60	7.75	0.15	69.75
	Ch.70.0 to Ch.230.0	Cum	1	160	5.1	0.15	122.4
	Ch.260.0 to ch.620.0	Cum	1	360	4.13	0.15	223.02
	RHS						
	Ch.0.0 to Ch.620.0	Cum	1	620	4.57	0.15	425.01
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.0.0 to Ch.25.0	Cum	1	25	2.68	0.15	10.05
	Ch.30.0 to Ch.100.0	Cum	1	70	1.85	0.15	19.43
	Ch.160.0 to Ch.180.0	Cum	1	20	3.03	0.15	9.09
	Ch.270.0 to Ch.290.0	Cum	1	20	2.88	0.15	8.64
	Ch.515.0 to Ch.550.0	Cum	1	35	2.28	0.15	11.97
	RHS						
	Ch.0.0 to Ch.570.0	Cum	1	570	2.38	0.15	203.49
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Cum	1	195	2.47	0.15	72.25
	Ch.210.0 to Ch.220.0	Cum	1	10	2.9	0.15	4.35
	RHS						
	Ch.0.0 to Ch.200	Cum	1	200	4.05	0.15	121.5
	Ch.210.0 to Ch.220.0	Cum	1	10	2.2	0.15	3.3
	Road No.9/27-Gujarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Cum	1	85	1.36	0.15	17.34
	Ch.95.0 to ch.115.0	Cum	1	20	4	0.15	12
	Ch.125.0 to Ch.560.0	Cum	1	435	4.11	0.15	268.18
	Ch.570.0 to Ch.576.0	Cum	1	6	3	0.15	2.7
	RHS						
	Ch.35.0 to Ch.330.0	Cum	1	295	2.33	0.15	103.1
	Ch.330.0 to Ch.576.0	Cum	1	246	1.85	0.15	68.27
	Flush Footpath with Carriageway						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.180.0 to Ch.230.0	Cum	1	50	1.38	0.15	10.35
	Ch.460.0 to Ch.480.0	Cum	1	20	1.31	0.15	3.93
	Ch.690.0 to Ch.710.0	Cum	1	20	2.2	0.15	6.60
	Ch.730.0 to Ch.770.0	Cum	1	40	1.2	0.15	7.20
	Ch.770.0 to Ch.790.0	Cum	1	20	2.58	0.15	7.74
	RHS						
	Ch.60.0 to Ch.70.0	Cum	1	10	2.72	0.15	4.08
	Ch.75.0 to Ch.80.0	Cum	1	5	4.5	0.15	3.38
	Ch.195.0 to Ch.213.0	Cum	1	18	0.91	0.15	2.46
	Ch.740.0 to Ch.780.0	Cum	1	40	0.78	0.15	4.68
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.10.0 to Ch.55.0	Cum	1	45	1.1	0.15	7.43
	Ch.100.0 to Ch.170.0	Cum	1	70	1.31	0.15	13.76
	Ch.170.0 to Ch.225.0	Cum	1	55	0.83	0.15	6.85
	Ch.225.0 to Ch.290.0	Cum	1	65	0.3	0.15	2.93
	LHS						
	Ch.150.0 to Ch.220.0	Cum	1	70	0.52	0.15	5.46
	Road No.4/22-Bolar Fisheries College Road						
	RHS						
	Ch.0.0 to ch.30.0	Cum	1	30	0.49	0.15	2.21
	Ch.50.0 to Ch.105.0	Cum	1	55	0.66	0.15	5.45
	Ch.128.0 to Ch.150.0	Cum	1	22	0.73	0.15	2.41
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.0.0 to Ch.20.0	Cum	1	20	2.25	0.15	6.75
	Ch.48.0 to Ch.52	Cum	1	4	3.5	0.15	2.10
	Ch.118.0 to Ch.124.0	Cum	1	6	8.5	0.15	7.65

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.134.0 to Ch.180.0	Cum	1	46	1.28	0.15	8.83
	Ch.212.0 to Ch.250.0	Cum	1	38	1.55	0.15	8.84
	Ch.318.0 to Ch.345.0	Cum	1	27	1.44	0.15	5.83
	Ch.355.0 to Ch.368.0	Cum	1	13	3.4	0.15	6.63
	Ch.375.0 to Ch.400.0	Cum	1	25	1.84	0.15	6.90
	Ch.400.0 to Ch.420.0	Cum	1	20	2.85	0.15	8.55
	Ch.472.0 to Ch.480.0	Cum	1	8	1.38	0.15	1.66
	Ch.485.0 to Ch.495.0	Cum	1	10	1.9	0.15	2.85
	Ch.535.0 to Ch.570.0	Cum	1	35	0.63	0.15	3.31
	Ch.580.0 to Ch.590.0	Cum	1	10	3.3	0.15	4.95
	Ch.590.0 to Ch.595.0	Cum	1	5	1.33	0.15	1.00
	Ch.595.0 to Ch.605.0	Cum	1	10	0.72	0.15	1.08
	Ch.610.0 to Ch.645.0	Cum	1	35	1.02	0.15	5.36
	Ch.645.0 to Ch.670.0	Cum	1	25	2.38	0.15	8.93
	Ch.675.0 to Ch.740.0	Cum	1	65	0.83	0.15	8.09
	RHS						
	Ch.0.0 to Ch.70.00	Cum	1	70	2.02	0.15	21.21
	Ch.70.0 to ch.115.0	Cum	1	45	2.64	0.15	17.82
	Ch.115.0 to ch.135.0	Cum	1	20	4.63	0.15	13.89
	Ch.180.0 to Ch.190.0	Cum	1	10	1.5	0.15	2.25
	Ch.235.0 to Ch.240.0	Cum	1	5	3.5	0.15	2.63
	Ch.245.0 to ch.300.0	Cum	1	55	1.85	0.15	15.26
	Ch.300.00 to Ch.320.0	Cum	1	20	3.3	0.15	9.90
	Ch.340.0 to Ch.358.0	Cum	1	18	3.56	0.15	9.61
	Ch.378.0 to ch.380.0	Cum	1	2	1.5	0.15	0.45
	Ch.420.0 to ch. 440.0	Cum	1	20	3.1	0.15	9.30
	Ch.460.0 to Ch.474.0	Cum	1	14	0.64	0.15	1.34
	Ch.474.0 to Ch.528.0	Cum	1	54	1.87	0.15	15.15
	Ch.528.0 to Ch.550.0	Cum	1	22	0.52	0.15	1.72
	Ch.605.0 to Ch.630.0	Cum	1	25	0.77	0.15	2.89
	Ch.640.0 to Ch.660.0	Cum	1	20	0.6	0.15	1.80
	Ch.670.0 to ch.740.0	Cum	1	70	1.67	0.15	17.54
	Ch.758.0 to Ch.762.0	Cum	1	4	1.08	0.15	0.65
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.28.0 to Ch.30.0	Cum	1	2	3	0.15	0.90
	Ch.100.0 to Ch.160.0	Cum	1	60	0.73	0.15	6.57
	Ch.195.0 to Ch.230.0	Cum	1	35	0.46	0.15	2.42
	Ch.250.0 to Ch.270.0	Cum	1	20	1.8	0.15	5.40
	Ch.290.0 to Ch.295.0	Cum	1	5	1.4	0.15	1.05
	Ch.295.0 to Ch.318.0	Cum	1	23	1.04	0.15	3.59
	Ch.325.0 to Ch.355.0	Cum	1	30	0.83	0.15	3.74
	Ch.395.0 to Ch.440.0	Cum	1	45	1	0.15	6.75
	Ch.458.0 to Ch.470.0	Cum	1	12	0.5	0.15	0.90
	Ch.470.0 to Ch.508.0	Cum	1	38	0.74	0.15	4.22
	Ch.530.0 to Ch.550.0	Cum	1	20	2.05	0.15	6.15
	RHS						
	Ch.358.0 to Ch.410.0	Cum	1	52	1.24	0.15	9.67
	Ch.445.0 to Ch.475.0	Cum	1	30	1.07	0.15	4.82
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.198.0 to Ch.212.0	Cum	1	14	1.43	0.15	3.00
	RHS						
	Ch.190.0 to Ch.212.0	Cum	1	22	0.73	0.15	2.41
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.88.0 to Ch.98.0	Cum	1	10	0.9	0.15	1.35
	Ch.565.0 to Ch.576.0	Cum	1	11	0.91	0.15	1.50
	RHS						
	Ch.25.0 to Ch.35.0	Cum	1	10	1	0.15	1.50
	Pavement						
	2/19-Old Kent Road						
	Ch.200.0 to Ch.260.0	Cum	1	60	6.53	0.50	195.90
	Ch.260.0 to Ch.310.0	Cum	1	50	4.47	0.50	111.75
	Ch.310.0 to Ch.360.0	Cum	1	50	4.89	0.50	122.25
	Ch.360.0 to Ch.410.0	Cum	1	50	6.53	0.50	163.25
	Ch.410.0 to Ch.470.0	Cum	1	60	3.69	0.50	110.70
	Ch.470.0 to Ch.530.0	Cum	1	60	4.09	0.50	122.70
	Ch.530.0 to Ch.580.0	Cum	1	50	4.4	0.50	110.00
	Ch.580.0 to ch.630.0	Cum	1	50	6.23	0.50	155.75
	Ch.630.0 to Ch.680.0	Cum	1	50	4.23	0.50	105.75
	Ch.680.0 to Ch.720.0	Cum	1	40	5.268	0.50	105.36
	Ch.720.0 to Ch.790.0	Cum	1	70	2.4	0.50	84.00
	3/20-Pandeshwar New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	4.15	0.15	12.45
	Ch.20.0 to Ch.70.0	Cum	1	50	5.51	0.15	41.33
	Ch.70.0 to Ch.120.0	Cum	1	50	5.02	0.15	37.65
	Ch.120.0 to ch.180.0	Cum	1	60	5.83	0.15	52.47
	Ch.180.0 to Ch.220.0	Cum	1	40	4.089	0.15	24.53
	Ch.220.0 to Ch.280.0	Cum	1	60	3.51	0.15	31.59
	Road No.4/22-Bolar Fisheries College Road						
	Ch.0 to Ch.10.0	Cum	1	10	4.9	0.50	24.50
	Ch.10.0 to Ch.60.0	Cum	1	50	4.2	0.50	105.00
	Ch.60.0 to Ch.110.0	Cum	1	50	5.5	0.50	137.50
	Ch.110.0 to Ch.155.0	Cum	1	45	5.38	0.50	121.05
	Road No.5/23-Miihithuli Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.0.0 to Ch.20.0	Cum	1	20	3.42	0.15	10.26
	Ch.20.0 to Ch.70.0	Cum	1	50	4.83	0.15	36.23
	Ch.70.0 to Ch.120.0	Cum	1	50	4.81	0.15	36.08
	Ch.120.0 to ch.160.0	Cum	1	40	4.79	0.15	28.74
	Ch.160.0 to Ch.210.0	Cum	1	50	5.3	0.15	39.75
	Ch.210.0 to Ch.260.0	Cum	1	50	3.27	0.15	24.53
	Ch.260.0 to Ch.310.0	Cum	1	50	2.94	0.15	22.05
	Ch.310.0 to Ch.360.0	Cum	1	50	4.43	0.15	33.23
	Ch.360.0 to Ch.420.0	Cum	1	60	3.97	0.15	35.73
	Ch.420.0 to Ch.470.0	Cum	1	50	3.15	0.15	23.63
	Ch.470.0 to Ch.520.0	Cum	1	50	3.52	0.15	26.40
	Ch.520.0 to Ch.560.0	Cum	1	40	4.12	0.15	24.72
	Ch.560.0 to Ch.610.0	Cum	1	50	2.96	0.15	22.20
	Ch.610.0 to Ch.670.0	Cum	1	60	6.2	0.15	55.80
	Ch.670.0 to Ch.710.0	Cum	1	40	4.72	0.15	28.32
	Ch.710.0 to Ch.760.0	Cum	1	50	2.69	0.15	20.18
	Road No.6/24-Mangaladevi Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1	30	12.1	0.15	54.45
	Ch.30.0 to Ch.80.0	Cum	1	50	12.1	0.15	90.75
	Ch.80.0 to Ch.130.0	Cum	1	50	12.1	0.15	90.75
	Ch.130.0 to Ch.180.0	Cum	1	50	12.1	0.15	90.75
	Ch.180.0 to Ch.270.0	Cum	1	90	12.1	0.15	163.35
	Ch.270.0 to Ch.310.0	Cum	1	40	12.1	0.15	72.60
	Ch.310.0 to Ch.360.0	Cum	1	50	14.6	0.15	109.50
	Ch.360.0 to Ch.410.0	Cum	1	50	14.6	0.15	109.50
	Ch.410.0 to Ch.460.0	Cum	1	50	12.1	0.15	90.75
	Ch.460.0 to Ch.510.0	Cum	1	50	12.1	0.15	90.75
	Ch.510.0 to Ch.560.0	Cum	1	50	12.1	0.15	90.75
	Ch.560.0 to Ch.628.0	Cum	1	68	12.1	0.15	123.42
	Road No.7/25-Monkeystand New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	6.36	0.15	19.08
	Ch.20.0 to Ch.70.0	Cum	1	50	6.36	0.15	47.70
	Ch.70.0 to Ch.120.0	Cum	1	50	4.4	0.15	33.00
	Ch.120.0 to Ch.170	Cum	1	50	5	0.15	37.50
	Ch.170.0 to Ch.220.0	Cum	1	50	5.3	0.15	39.75
	Ch.220.0 to Ch.270.0	Cum	1	50	6.36	0.15	47.70
	Ch.270.0 to Ch.310.0	Cum	1	40	5.3	0.15	31.80
	Ch.310.0 to Ch.370.0	Cum	1	60	4.78	0.15	43.02
	Ch.370.0 to Ch.420.0	Cum	1	50	5.3	0.15	39.75
	Ch.420.0 to Ch.470.0	Cum	1	50	3.63	0.15	27.23
	Ch.470.0 to Ch.570.0	Cum	1	100	6.37	0.15	95.55
	Road No.8/26-Jeppu Market Road						
	Ch.0.0 to Ch.50.0	Cum	1	50	9.87	0.15	74.03
	Ch.50.0 to Ch.90.0	Cum	1	40	9.3	0.15	55.80
	Ch.90.0 to Ch.130.0	Cum	1	40	10.22	0.15	61.32
	Ch.130.0 to Ch.225.0	Cum	1	95	8.22	0.15	117.14
	Road No.9/27-Gujjarkere Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	4.4	0.15	13.20
	Ch.20.0 to Ch.70.0	Cum	1	50	4.4	0.15	33.00
	Ch.70.0 to Ch.110.0	Cum	1	60	4.4	0.15	39.60
	Ch.110.0 to Ch.170.0	Cum	1	60	5.3	0.15	47.70
	Ch.170.0 to Ch.220.0	Cum	1	50	8.32	0.15	62.40
	Ch.220.0 to Ch.270.0	Cum	1	50	5.3	0.15	39.75
	Ch.270.0 to Ch.320.0	Cum	1	50	4.4	0.15	33.00
	Ch.320.0 to Ch.370.0	Cum	1	50	4.4	0.15	33.00
	Ch.370.0 to Ch.420.0	Cum	1	50	4.4	0.15	33.00
	Ch.420.0 to Ch.470.0	Cum	1	50	3.53	0.15	26.48
	Ch.470.0 to Ch.520.0	Cum	1	50	3.88	0.15	29.10
	Ch.520.0 to Ch.570.0	Cum	1	50	3.88	0.15	29.10
	Parking Area						
	2/19 - Old Kent Road						
	Ch.30.0 to Ch.90.00	Sqm	1	60	2.4	0.15	21.60
	6/24 - Mangaladevi Temple Road						
	Ch.320.0 to CH.440.0	Sqm	1	120	2.47	0.15	44.46
	9/27 - Gujjarkere Road						
	Ch.140.0 to Ch.200.0	Sqm	1	60	2.81	0.15	25.29
	Ch.240.0 to Ch.275.0	Sqm	1	35	2.67	0.15	14.02
		Cum				Total	7890.85
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)						
	Pavement						
	2/19-Old Kent Road						
	Ch.200.0 to Ch.260.0	Cum	1	60	6.53	0.10	39.18
	Ch.260.0 to Ch.310.0	Cum	1	50	4.47	0.10	22.35
	Ch.310.0 to Ch.360.0	Cum	1	50	4.89	0.10	24.45
	Ch.360.0 to Ch.410.0	Cum	1	50	6.53	0.10	32.65

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.410.0 to Ch.470.0	Cum	1	60	3.69	0.10	22.14
	Ch.470.0 to Ch.530.0	Cum	1	60	4.09	0.10	24.54
	Ch.530.0 to Ch.580.0	Cum	1	50	4.4	0.10	22.00
	Ch.580.0 to ch.630.0	Cum	1	50	6.23	0.10	31.15
	Ch.630.0 to Ch.680.0	Cum	1	50	4.23	0.10	21.15
	Ch.680.0 to Ch.720.0	Cum	1	40	5.268	0.10	21.07
	Ch.720.0 to Ch.790.0	Cum	1	70	2.4	0.10	16.80
	3/20-Pandeshwar New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	4.15	0.10	8.30
	Ch.20.0 to Ch.70.0	Cum	1	50	5.51	0.10	27.55
	Ch.70.0 to Ch.120.0	Cum	1	50	5.02	0.10	25.10
	Ch.120.0 to ch.180.0	Cum	1	60	5.83	0.10	34.98
	Ch.180.0 to Ch.220.0	Cum	1	40	4.089	0.10	16.36
	Ch.220.0 to Ch.280.0	Cum	1	60	3.51	0.10	21.06
	Road No.4/22-Bolar Fisheries College Road						
	Ch.0 to Ch.10.0	Cum	1	10	4.9	0.10	4.90
	Ch.10.0 to Ch.60.0	Cum	1	50	4.2	0.10	21.00
	Ch.60.0 to Ch.110.0	Cum	1	50	5.5	0.10	27.50
	Ch.110.0 to Ch.155.0	Cum	1	45	5.38	0.10	24.21
	Road No.5/23-Milithuli Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	3.42	0.10	6.84
	Ch.20.0 to Ch.70.0	Cum	1	50	4.83	0.10	24.15
	Ch.70.0 to Ch.120.0	Cum	1	50	4.81	0.10	24.05
	Ch.120.0 to ch.160.0	Cum	1	40	4.79	0.10	19.16
	Ch.160.0 to Ch.210.0	Cum	1	50	5.3	0.10	26.50
	Ch.210.0 to Ch.260.0	Cum	1	50	3.27	0.10	16.35
	Ch.260.0 to Ch.310.0	Cum	1	50	2.94	0.10	14.70
	Ch.310.0 to Ch.360.0	Cum	1	50	4.43	0.10	22.15
	Ch.360.0 to Ch.420.0	Cum	1	60	3.97	0.10	23.82
	Ch.420.0 to Ch.470.0	Cum	1	50	3.15	0.10	15.75
	Ch.470.0 to Ch.520.0	Cum	1	50	3.52	0.10	17.60
	Ch.520.0 to Ch.560.0	Cum	1	40	4.12	0.10	16.48
	Ch.560.0 to Ch.610.0	Cum	1	50	2.96	0.10	14.80
	Ch.610.0 to Ch.670.0	Cum	1	60	6.2	0.10	37.20
	Ch.670.0 to Ch.710.0	Cum	1	40	4.72	0.10	18.88
	Ch.710.0 to Ch.760.0	Cum	1	50	2.69	0.10	13.45
	Road No.6/24-Mangaladevi Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1	30	12.1	0.10	36.30
	Ch.30.0 to Ch.80.0	Cum	1	50	12.1	0.10	60.50
	Ch.80.0 to Ch.130.0	Cum	1	50	12.1	0.10	60.50
	Ch.130.0 to Ch.180.0	Cum	1	50	12.1	0.10	60.50
	Ch.180.0 to Ch.270.0	Cum	1	90	12.1	0.10	108.90
	Ch.270.0 to Ch.310.0	Cum	1	40	12.1	0.10	48.40
	Ch.310.0 to Ch.360.0	Cum	1	50	14.6	0.10	73.00
	Ch.360.0 to Ch.410.0	Cum	1	50	14.6	0.10	73.00
	Ch.410.0 to Ch.460.0	Cum	1	50	12.1	0.10	60.50
	Ch.460.0 to Ch.510.0	Cum	1	50	12.1	0.10	60.50
	Ch.510.0 to Ch.560.0	Cum	1	50	12.1	0.10	60.50
	Ch.560.0 to Ch.628.0	Cum	1	68	12.1	0.10	82.28
	Road No.7/25-Monkeystand New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	6.36	0.10	12.72
	Ch.20.0 to Ch.70.0	Cum	1	50	6.36	0.10	31.80
	Ch.70.0 to Ch.120.0	Cum	1	50	4.4	0.10	22.00
	Ch.120.0 to Ch.170	Cum	1	50	5	0.10	25.00
	Ch.170.0 to Ch.220.0	Cum	1	50	5.3	0.10	26.50
	Ch.220.0 to Ch.270.0	Cum	1	50	6.36	0.10	31.80
	Ch.270.0 to Ch.310.0	Cum	1	40	5.3	0.10	21.20
	Ch.310.0 to Ch.370.0	Cum	1	60	4.78	0.10	28.68
	Ch.370.0 to Ch.420.0	Cum	1	50	5.3	0.10	26.50
	Ch.420.0 to Ch.470.0	Cum	1	50	3.63	0.10	18.15
	Ch.470.0 to Ch.570.0	Cum	1	100	6.37	0.10	63.70
	Road No.8/26-Jeppu Market Road						
	Ch.0.0 to Ch.50.0	Cum	1	50	9.87	0.10	49.35
	Ch.50.0 to Ch.90.0	Cum	1	40	9.3	0.10	37.20
	Ch.90.0 to Ch.130.0	Cum	1	40	10.22	0.10	40.88
	Ch.130.0 to Ch.225.0	Cum	1	95	8.22	0.10	78.09
	Road No.9/27-Gujjarkere Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	4.4	0.10	8.80
	Ch.20.0 to Ch.70.0	Cum	1	50	4.4	0.10	22.00
	Ch.70.0 to Ch.110.0	Cum	1	60	4.4	0.10	26.40
	Ch.110.0 to Ch.170.0	Cum	1	60	5.3	0.10	31.80
	Ch.170.0 to Ch.220.0	Cum	1	50	8.32	0.10	41.60
	Ch.220.0 to Ch.270.0	Cum	1	50	5.3	0.10	26.50
	Ch.270.0 to Ch.320.0	Cum	1	50	4.4	0.10	22.00
	Ch.320.0 to Ch.370.0	Cum	1	50	4.4	0.10	22.00
	Ch.370.0 to Ch.420.0	Cum	1	50	4.4	0.10	22.00
	Ch.420.0 to Ch.470.0	Cum	1	50	3.53	0.10	17.65
	Ch.470.0 to Ch.520.0	Cum	1	50	3.88	0.10	19.40
	Ch.520.0 to Ch.570.0	Cum	1	50	3.88	0.10	19.40
	Parking Area						
	2/19 - Old Kent Road						
	Ch.30.0 to Ch.90.00	Cum	1	60	2.4	0.10	14.40
	6/24 - Mangaladevi Temple Road						
	Ch.320.0 to CH.440.0	Cum	1	120	2.47	0.10	29.64
	9/27 - Gujjarkere Road						
	Ch.140.0 to Ch.200.0	Cum	1	60	2.81	0.10	16.86
	Ch.240.0 to Ch.275.0	Cum	1	35	2.67	0.10	9.35

Sr. No.	Description	Unit	No's	L	B	H	Qty.
		Cum		Total Qty.			2448.57
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 with Carriageway						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.180.0 to Ch.230.0	Cum					
	Ch.460.0 to Ch.480.0	Cum	1.0	20.0	1.3	0.1	2.62
	Ch.690.0 to Ch.710.0	Cum	1.0	20.0	2.2	0.1	4.40
	Ch.730.0 to Ch.770.0	Cum	1.0	40.0	1.2	0.1	4.80
	Ch.770.0 to Ch.790.0	Cum	1.0	20.0	2.6	0.1	5.16
	RHS						
	Ch.60.0 to Ch.70.0	Cum	1.0	10.0	2.7	0.1	2.72
	Ch.75.0 to Ch.80.0	Cum	1.0	5.0	4.5	0.1	2.25
	Ch.195.0 to Ch.213.0	Cum	1.0	18.0	0.9	0.1	1.64
	Ch.740.0 to Ch.780.0	Cum	1.0	40.0	0.8	0.1	3.12
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.10.0 to Ch.55.0	Cum	1.0	45.0	1.1	0.1	4.95
	Ch.100.0 to Ch.170.0	Cum	1.0	70.0	1.3	0.1	9.17
	Ch.170.0 to Ch.225.0	Cum	1.0	55.0	0.8	0.1	4.57
	Ch.225.0 to Ch.290.0	Cum	1.0	65.0	0.3	0.1	1.95
	LHS						
	Ch.150.0 to Ch.220.0	Cum	1.0	70.0	0.5	0.1	3.64
	Road No.4/22-Bolar Fisheries College Road						
	RHS						
	Ch.0.0 to ch.30.0	Cum	1.0	30.0	0.5	0.1	1.47
	Ch.50.0 to Ch.105.0	Cum	1.0	55.0	0.7	0.1	3.63
	Ch.128.0 to Ch.150.0	Cum	1.0	22.0	0.7	0.1	1.61
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.0.0 to Ch.20.0	Cum	1.0	20.0	2.3	0.1	4.50
	Ch.48.0 to Ch.52	Cum	1.0	4.0	3.5	0.1	1.40
	Ch.118.0 to Ch.124.0	Cum	1.0	6.0	8.5	0.1	5.10
	Ch.134.0 to Ch.180.0	Cum	1.0	46.0	1.3	0.1	5.89
	Ch.212.0 to Ch.250.0	Cum	1.0	38.0	1.6	0.1	5.89
	Ch.318.0 to Ch.345.0	Cum	1.0	27.0	1.4	0.1	3.89
	Ch.355.0 to Ch.368.0	Cum	1.0	13.0	3.4	0.1	4.42
	Ch.375.0 to Ch.400.0	Cum	1.0	25.0	1.8	0.1	4.60
	Ch.400.0 to Ch.420.0	Cum	1.0	20.0	2.9	0.1	5.70
	Ch.472.0 to Ch.480.0	Cum	1.0	8.0	1.4	0.1	1.10
	Ch.485.0 to Ch.495.0	Cum	1.0	10.0	1.9	0.1	1.90
	Ch.535.0 to Ch.570.0	Cum	1.0	35.0	0.6	0.1	2.21
	Ch.580.0 to Ch.590.0	Cum	1.0	10.0	3.3	0.1	3.30
	Ch.590.0 to Ch.595.0	Cum	1.0	5.0	1.3	0.1	0.67
	Ch.595.0 to Ch.605.0	Cum	1.0	10.0	0.7	0.1	0.72
	Ch.610.0 to Ch.645.0	Cum	1.0	35.0	1.0	0.1	3.57
	Ch.645.0 to Ch.670.0	Cum	1.0	25.0	2.4	0.1	5.95
	Ch.675.0 to Ch.740.0	Cum	1.0	65.0	0.8	0.1	5.40
	RHS						
	Ch.0.0 to Ch.70.00	Cum	1.0	70.0	2.0	0.1	14.14
	Ch.70.0 to ch.115.0	Cum	1.0	45.0	2.6	0.1	11.88
	Ch.115.0 to ch.135.0	Cum	1.0	20.0	4.6	0.1	9.26
	Ch.180.0 to Ch.190.0	Cum	1.0	10.0	1.5	0.1	1.50
	Ch.235.0 to Ch.240.0	Cum	1.0	5.0	3.5	0.1	1.75
	Ch.245.0 to ch.300.0	Cum	1.0	55.0	1.9	0.1	10.18
	Ch.300.00 to Ch.320.0	Cum	1.0	20.0	3.3	0.1	6.60
	Ch.340.0 to Ch.358.0	Cum	1.0	18.0	3.6	0.1	6.41
	Ch.378.0 to ch.380.0	Cum	1.0	2.0	1.5	0.1	0.30
	Ch.420.0 to ch. 440.0	Cum	1.0	20.0	3.1	0.1	6.20
	Ch.460.0 to Ch.474.0	Cum	1.0	14.0	0.6	0.1	0.90
	Ch.474.0 to Ch.528.0	Cum	1.0	54.0	1.9	0.1	10.10
	Ch.528.0 to Ch.550.0	Cum	1.0	22.0	0.5	0.1	1.14
	Ch.605.0 to Ch.630.0	Cum	1.0	25.0	0.8	0.1	1.93
	Ch.640.0 to Ch.660.0	Cum	1.0	20.0	0.6	0.1	1.20
	Ch.670.0 to ch.740.0	Cum	1.0	70.0	1.7	0.1	11.69
	Ch.758.0 to Ch.762.0	Cum	1.0	4.0	1.1	0.1	0.43
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.28.0 to Ch.30.0	Cum	1.0	2.0	3.0	0.1	0.60
	Ch.100.0 to Ch.160.0	Cum	1.0	60.0	0.7	0.1	4.38
	Ch.195.0 to Ch.230.0	Cum	1.0	35.0	0.5	0.1	1.61
	Ch.250.0 to Ch.270.0	Cum	1.0	20.0	1.8	0.1	3.60
	Ch.290.0 to Ch.295.0	Cum	1.0	5.0	1.4	0.1	0.70
	Ch.295.0 to Ch.318.0	Cum	1.0	23.0	1.0	0.1	2.39
	Ch.325.0 to Ch.355.0	Cum	1.0	30.0	0.8	0.1	2.49
	Ch.395.0 to Ch.440.0	Cum	1.0	45.0	1.0	0.1	4.50

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.458.0 to Ch.470.0	Cum	1.0	12.0	0.5	0.1	0.60
	Ch.470.0 to Ch.508.0	Cum	1.0	38.0	0.7	0.1	2.81
	Ch.530.0 to Ch.550.0	Cum	1.0	20.0	2.1	0.1	4.10
	RHS						
	Ch.358.0 to Ch.410.0	Cum	1.0	52.0	1.2	0.1	6.45
	Ch.445.0 to Ch.475.0	Cum	1.0	30.0	1.1	0.1	3.21
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.198.0 to Ch.212.0	Cum	1.0	14.0	1.4	0.1	2.00
	RHS						
	Ch.190.0 to Ch.212.0	Cum	1.0	22.0	0.7	0.1	1.61
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.88.0 to Ch.98.0	Cum	1.0	10.0	0.9	0.1	0.90
	Ch.565.0 to Ch.576.0	Cum	1.0	11.0	0.9	0.1	1.00
	RHS						
	Ch.25.0 to Ch.35.0	Cum	1.0	10.0	1.0	0.1	1.00
						Total	263.47
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. (exclsive 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)						
	Footpath						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Cum	1	150	3.76	0.1	56.4
	Ch.165.0 to Ch.180.0	Cum	1	15	4.6	0.1	6.9
	Ch.230.0 to Ch.440.0	Cum	1	210	3.4	0.1	71.4
	Ch.450.0 to Ch.530.0	Cum	1	80	1.98	0.1	15.84
	Ch.540.0 to Ch.570.0	Cum	1	30	1.73	0.1	5.19
	Ch.580.0 to Ch.730.0	Cum	1	150	2.07	0.1	31.05
	RHS						
	Ch.0.0 to Ch.130.0	Cum	1	130	2.78	0.1	36.14
	Ch.130.0 to Ch.740.0	Cum	1	610	2.36	0.1	143.96
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Cum	1	170	1.85	0.1	31.45
	Ch.175.0 to Ch.205.0	Cum	1	30	2.2	0.1	6.6
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Cum	1	150	2.83	0.1	42.45
	RHS						
	Ch.105.0 to Ch.125.0	Cum	1	20	1.65	0.1	3.3
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.135.0 to Ch.180.0	Cum	1	45	2.42	0.1	10.89
	Ch.190.0 to Ch.230.0	Cum	1	40	5.85	0.1	23.4
	Ch.320.0 to Ch.340.0	Cum	1	20	3.12	0.1	6.24
	Ch.355.0 to Ch.370.0	Cum	1	15	2.53	0.1	3.8
	Ch.380.0 to Ch.390.0	Cum	1	10	3.4	0.1	3.4
	Ch.390.0 to Ch.420.0	Cum	1	30	3.13	0.1	9.39
	Ch.560.0 to Ch.570.0	Cum	1	10	2.64	0.1	2.64
	Ch.580.0 to Ch.600.0	Cum	1	20	1.75	0.1	3.5
	Ch.630.0 to Ch.640.0	Cum	1	20	0.81	0.1	1.62
	RHS						
	Ch.190.0 to Ch.210.0	Cum	1	20	4.25	0.1	8.5
	Ch.570.0 to Ch.590.0	Cum	1	20	1.88	0.1	3.76
	Ch.590.0 to ch.600.0	Cum	1	10	1.34	0.1	1.34
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Cum	1	60	7.75	0.1	46.5
	Ch.70.0 to Ch.230.0	Cum	1	160	5.1	0.1	81.6
	Ch.260.0 to ch.620.0	Cum	1	360	4.13	0.1	148.68
	RHS						
	Ch.0.0 to Ch.620.0	Cum	1	620	4.57	0.1	283.34
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.0.0 to Ch.25.0	Cum	1	25	2.68	0.1	6.7
	Ch.30.0 to Ch.100.0	Cum	1	70	1.85	0.1	12.95
	Ch.160.0 to Ch.180.0	Cum	1	20	3.03	0.1	6.06
	Ch.270.0 to Ch.290.0	Cum	1	20	2.88	0.1	5.76
	Ch.515.0 to Ch.550.0	Cum	1	35	2.28	0.1	7.98
	RHS						
	Ch.0.0 to Ch.570.0	Cum	1	570	2.38	0.1	135.66
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Cum	1	195	2.47	0.1	48.17
	Ch.210.0 to Ch.220.0	Cum	1	10	2.9	0.1	2.9
	RHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.0.0 to Ch.200	Cum	1	200	4.05	0.1	81
	Ch.210.0 to Ch.220.0	Cum	1	10	2.2	0.1	2.2
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Cum	1	85	1.36	0.1	11.56
	Ch.95.0 to ch.115.0	Cum	1	20	4	0.1	8
	Ch.125.0 to Ch.560.0	Cum	1	435	4.11	0.1	178.79
	Ch.570.0 to Ch.576.0	Cum	1	6	3	0.1	1.8
	RHS						
	Ch.35.0 to Ch.330.0	Cum	1	295	2.33	0.1	68.74
	Ch.330.0 to Ch.576.0	Cum	1	246	1.85	0.1	45.51
						Total	1713.06
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)						
	Pavement						
	2/19-Old Kent Road						
	Ch.200.0 to Ch.260.0	Cum	1	60	6.53	0.25	97.95
	Ch.260.0 to Ch.310.0	Cum	1	50	4.47	0.25	55.88
	Ch.310.0 to Ch.360.0	Cum	1	50	4.89	0.25	61.13
	Ch.360.0 to Ch.410.0	Cum	1	50	6.53	0.25	81.63
	Ch.410.0 to Ch.470.0	Cum	1	60	3.69	0.25	55.35
	Ch.470.0 to Ch.530.0	Cum	1	60	4.09	0.25	61.35
	Ch.530.0 to Ch.580.0	Cum	1	50	4.4	0.25	55.00
	Ch.580.0 to ch.630.0	Cum	1	50	6.23	0.25	77.88
	Ch.630.0 to Ch.680.0	Cum	1	50	4.23	0.25	52.88
	Ch.680.0 to Ch.720.0	Cum	1	40	5.27	0.25	52.68
	Ch.720.0 to Ch.790.0	Cum	1	70	2.40	0.25	42.00
	3/20-Pandeshwar New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	4.15	0.25	20.75
	Ch.20.0 to Ch.70.0	Cum	1	50	5.51	0.25	68.88
	Ch.70.0 to Ch.120.0	Cum	1	50	5.02	0.25	62.75
	Ch.120.0 to ch.180.0	Cum	1	60	5.83	0.25	87.45
	Ch.180.0 to Ch.220.0	Cum	1	40	4.09	0.25	40.89
	Ch.220.0 to Ch.280.0	Cum	1	60	3.51	0.25	52.65
	Road No.4/22-Bolar Fisheries College Road						
	Ch.0 to Ch.10.0	Cum	1	10	4.90	0.25	12.25
	Ch.10.0 to Ch.60.0	Cum	1	50	4.20	0.25	52.50
	Ch.60.0 to Ch.110.0	Cum	1	50	5.50	0.25	68.75
	Ch.110.0 to Ch.155.0	Cum	1	45	5.38	0.25	60.53
	Road No.5/23-Miihithuli Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	3.42	0.25	17.10
	Ch.20.0 to Ch.70.0	Cum	1	50	4.83	0.25	60.38
	Ch.70.0 to Ch.120.0	Cum	1	50	4.81	0.25	60.13
	Ch.120.0 to ch.160.0	Cum	1	40	4.79	0.25	47.90
	Ch.160.0 to Ch.210.0	Cum	1	50	5.30	0.25	66.25
	Ch.210.0 to Ch.260.0	Cum	1	50	3.27	0.25	40.88
	Ch.260.0 to Ch.310.0	Cum	1	50	2.94	0.25	36.75
	Ch.310.0 to Ch.360.0	Cum	1	50	4.43	0.25	55.38
	Ch.360.0 to Ch.420.0	Cum	1	60	3.97	0.25	59.55
	Ch.420.0 to Ch.470.0	Cum	1	50	3.15	0.25	39.38
	Ch.470.0 to Ch.520.0	Cum	1	50	3.52	0.25	44.00
	Ch.520.0 to Ch.560.0	Cum	1	40	4.12	0.25	41.20
	Ch.560.0 to Ch.610.0	Cum	1	50	2.96	0.25	37.00
	Ch.610.0 to Ch.670.0	Cum	1	60	6.20	0.25	93.00
	Ch.670.0 to Ch.710.0	Cum	1	40	4.72	0.25	47.20
	Ch.710.0 to Ch.760.0	Cum	1	50	2.69	0.25	33.63
	Road No.6/24-Mangaladevi Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1	30	12.10	0.25	90.75
	Ch.30.0 to Ch.80.0	Cum	1	50	12.10	0.25	151.25
	Ch.80.0 to Ch.130.0	Cum	1	50	12.10	0.25	151.25
	Ch.130.0 to Ch.180.0	Cum	1	50	12.10	0.25	151.25
	Ch.180.0 to Ch.270.0	Cum	1	90	12.10	0.25	272.25
	Ch.270.0 to Ch.310.0	Cum	1	40	12.10	0.25	121.00
	Ch.310.0 to Ch.360.0	Cum	1	50	14.60	0.25	182.50
	Ch.360.0 to Ch.410.0	Cum	1	50	14.60	0.25	182.50
	Ch.410.0 to Ch.460.0	Cum	1	50	12.10	0.25	151.25
	Ch.460.0 to Ch.510.0	Cum	1	50	12.10	0.25	151.25
	Ch.510.0 to Ch.560.0	Cum	1	50	12.10	0.25	151.25
	Ch.560.0 to Ch.628.0	Cum	1	68	12.10	0.25	205.70
	Road No.7/25-Monkeystand New Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	6.36	0.25	31.80
	Ch.20.0 to Ch.70.0	Cum	1	50	6.36	0.25	79.50
	Ch.70.0 to Ch.120.0	Cum	1	50	4.40	0.25	55.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.120.0 to Ch.170	Cum	1	50	5.00	0.25	62.50
	Ch.170.0 to Ch.220.0	Cum	1	50	5.30	0.25	66.25
	Ch.220.0 to Ch.270.0	Cum	1	50	6.36	0.25	79.50
	Ch.270.0 to Ch.310.0	Cum	1	40	5.30	0.25	53.00
	Ch.310.0 to Ch.370.0	Cum	1	60	4.78	0.25	71.70
	Ch.370.0 to Ch.420.0	Cum	1	50	5.30	0.25	66.25
	Ch.420.0 to Ch.470.0	Cum	1	50	3.63	0.25	45.38
	Ch.470.0 to Ch.570.0	Cum	1	100	6.37	0.25	159.25
	Road No.8/26-Jeppu Market Road						
	Ch.0.0 to Ch.50.0	Cum	1	50	9.87	0.25	123.38
	Ch.50.0 to Ch.90.0	Cum	1	40	9.30	0.25	93.00
	Ch.90.0 to Ch.130.0	Cum	1	40	10.22	0.25	102.20
	Ch.130.0 to Ch.225.0	Cum	1	95	8.22	0.25	195.23
	Road No.9/27-Gujjarkere Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	4.40	0.25	22.00
	Ch.20.0 to Ch.70.0	Cum	1	50	4.40	0.25	55.00
	Ch.70.0 to Ch.110.0	Cum	1	60	4.40	0.25	66.00
	Ch.110.0 to Ch.170.0	Cum	1	60	5.30	0.25	79.50
	Ch.170.0 to Ch.220.0	Cum	1	50	8.32	0.25	104.00
	Ch.220.0 to Ch.270.0	Cum	1	50	5.30	0.25	66.25
	Ch.270.0 to Ch.320.0	Cum	1	50	4.40	0.25	55.00
	Ch.320.0 to Ch.370.0	Cum	1	50	4.40	0.25	55.00
	Ch.370.0 to Ch.420.0	Cum	1	50	4.40	0.25	55.00
	Ch.420.0 to Ch.470.0	Cum	1	50	3.53	0.25	44.13
	Ch.470.0 to Ch.520.0	Cum	1	50	3.88	0.25	48.50
	Ch.520.0 to Ch.570.0	Cum	1	50	3.88	0.25	48.50
		Cum				Total	5945.80
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)						
	Pavement						
	2/19-Old Kent Road						
	Ch.200.0 to Ch.260.0	Rmt	1	13	6.53		84.89
	Ch.260.0 to Ch.310.0	Rmt	1	11	4.47		49.17
	Ch.310.0 to Ch.360.0	Rmt	1	11	4.89		53.79
	Ch.360.0 to Ch.410.0	Rmt	1	11	6.53		71.83
	Ch.410.0 to Ch.470.0	Rmt	1	13	3.69		47.97
	Ch.470.0 to Ch.530.0	Rmt	1	13	4.09		53.17
	Ch.530.0 to Ch.580.0	Rmt	1	11	4.4		48.40
	Ch.580.0 to ch.630.0	Rmt	1	11	6.23		68.53
	Ch.630.0 to Ch.680.0	Rmt	1	11	4.23		46.53
	Ch.680.0 to Ch.720.0	Rmt	1	9	5.268		47.41
	Ch.720.0 to Ch.790.0	Rmt	1	16	2.4		38.40
	3/20-Pandeshwar New Road						
	Ch.0.0 to Ch.20.0	Rmt	1	4	4.15		16.60
	Ch.20.0 to Ch.70.0	Rmt	1	11	5.51		60.61
	Ch.70.0 to Ch.120.0	Rmt	1	11	5.02		55.22
	Ch.120.0 to ch.180.0	Rmt	1	13	5.83		75.79
	Ch.180.0 to Ch.220.0	Rmt	1	9	4.089		36.80
	Ch.220.0 to Ch.280.0	Rmt	1	13	3.51		45.63
	Road No.4/22-Bolar Fisheries College Road						
	Ch.0 to Ch.10.0	Rmt	1	2	4.9		9.80
	Ch.10.0 to Ch.60.0	Rmt	1	11	4.2		46.20
	Ch.60.0 to Ch.110.0	Rmt	1	11	5.5		60.50
	Ch.110.0 to Ch.155.0	Rmt	1	10	5.38		53.80
	Road No.5/23-Milithuli Road						
	Ch.0.0 to Ch.20.0	Rmt	1	4	3.42		13.68
	Ch.20.0 to Ch.70.0	Rmt	1	11	4.83		53.13
	Ch.70.0 to Ch.120.0	Rmt	1	11	4.81		52.91
	Ch.120.0 to ch.160.0	Rmt	1	9	4.79		43.11
	Ch.160.0 to Ch.210.0	Rmt	1	11	5.3		58.30
	Ch.210.0 to Ch.260.0	Rmt	1	11	3.27		35.97
	Ch.260.0 to Ch.310.0	Rmt	1	11	2.94		32.34
	Ch.310.0 to Ch.360.0	Rmt	1	11	4.43		48.73
	Ch.360.0 to Ch.420.0	Rmt	1	13	3.97		51.61
	Ch.420.0 to Ch.470.0	Rmt	1	11	3.15		34.65
	Ch.470.0 to Ch.520.0	Rmt	1	11	3.52		38.72
	Ch.520.0 to Ch.560.0	Rmt	1	9	4.12		37.08
	Ch.560.0 to Ch.610.0	Rmt	1	11	2.96		32.56
	Ch.610.0 to Ch.670.0	Rmt	1	13	6.2		80.60
	Ch.670.0 to Ch.710.0	Rmt	1	9	4.72		42.48
	Ch.710.0 to Ch.760.0	Rmt	1	11	2.69		29.59
	Road No.6/24-Mangaladevi Temple Road						
	Ch.0.0 to Ch.30.0	Rmt	1	7	12.1		84.70
	Ch.30.0 to Ch.80.0	Rmt	1	11	12.1		133.10
	Ch.80.0 to Ch.130.0	Rmt	1	11	12.1		133.10
	Ch.130.0 to Ch.180.0	Rmt	1	11	12.1		133.10
	Ch.180.0 to Ch.270.0	Rmt	1	20	12.1		242.00
	Ch.270.0 to Ch.310.0	Rmt	1	9	12.1		108.90
	Ch.310.0 to Ch.360.0	Rmt	1	11	14.6		160.60

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.360.0 to Ch.410.0	Rmt	1	11	14.6		160.60
	Ch.410.0 to Ch.460.0	Rmt	1	11	12.1		133.10
	Ch.460.0 to Ch.510.0	Rmt	1	11	12.1		133.10
	Ch.510.0 to Ch.560.0	Rmt	1	11	12.1		133.10
	Ch.560.0 to Ch.628.0	Rmt	1	15	12.1		181.50
	Road No.7/25-Monkeystand New Road						
	Ch.0.0 to Ch.20.0	Rmt	1	4	6.36		25.44
	Ch.20.0 to Ch.70.0	Rmt	1	11	6.36		69.96
	Ch.70.0 to Ch.120.0	Rmt	1	11	4.4		48.40
	Ch.120.0 to Ch.170	Rmt	1	11	5		55.00
	Ch.170.0 to Ch.220.0	Rmt	1	11	5.3		58.30
	Ch.220.0 to Ch.270.0	Rmt	1	11	6.36		69.96
	Ch.270.0 to Ch.310.0	Rmt	1	9	5.3		47.70
	Ch.310.0 to Ch.370.0	Rmt	1	13	4.78		62.14
	Ch.370.0 to Ch.420.0	Rmt	1	11	5.3		58.30
	Ch.420.0 to Ch.470.0	Rmt	1	11	3.63		39.93
	Ch.470.0 to Ch.570.0	Rmt	1	22	6.37		140.14
	Road No.8/26-Jeppu Market Road						
	Ch.0.0 to Ch.50.0	Rmt	1	11	9.87		108.57
	Ch.50.0 to Ch.90.0	Rmt	1	9	9.3		83.70
	Ch.90.0 to Ch.130.0	Rmt	1	9	10.22		91.98
	Ch.130.0 to Ch.225.0	Rmt	1	21	8.22		172.62
	Road No.9/27-Gujjarkere Road						
	Ch.0.0 to Ch.20.0	Rmt	1	4	4.4		17.60
	Ch.20.0 to Ch.70.0	Rmt	1	11	4.4		48.40
	Ch.70.0 to Ch.110.0	Rmt	1	13	4.4		57.20
	Ch.110.0 to Ch.170.0	Rmt	1	13	5.3		68.90
	Ch.170.0 to Ch.220.0	Rmt	1	11	8.32		91.52
	Ch.220.0 to Ch.270.0	Rmt	1	11	5.3		58.30
	Ch.270.0 to Ch.320.0	Rmt	1	11	4.4		48.40
	Ch.320.0 to Ch.370.0	Rmt	1	11	4.4		48.40
	Ch.370.0 to Ch.420.0	Rmt	1	11	4.4		48.40
	Ch.420.0 to Ch.470.0	Rmt	1	11	3.53		38.83
	Ch.470.0 to Ch.520.0	Rmt	1	11	3.88		42.68
	Ch.520.0 to Ch.576.0	Rmt	1	11	3.88		42.68
					Total Qty.		5236.85
		Rmt			Consider 10% Qty of Total		523.69
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.		26.18
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
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)						
	Footpath						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Rm	1	150			150
	Ch.165.0 to Ch.180.0	Rm	1	15			15
	Ch.230.0 to Ch.440.0	Rm	1	210			210
	Ch.450.0 to Ch.530.0	Rm	1	80			80
	Ch.540.0 to Ch.570.0	Rm	1	30			30
	Ch.580.0 to Ch.730.0	Rm	1	150			150
	RHS						
	Ch.0.0 to Ch.130.0	Rm	1	130			130
	Ch.130.0 to Ch.740.0	Rm	1	610			610
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Rm	1	170			170
	Ch.175.0 to Ch.205.0	Rm	1	30			30
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Rm	1	150			150
	RHS						
	Ch.105.0 to Ch.125.0	Rm	1	20			20
	Road No.5/23-Milithuli Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	LHS						
	Ch.135.0 to Ch.180.0	Rm	1	45			45
	Ch.190.0 to Ch.230.0	Rm	1	40			40
	Ch.320.0 to Ch.340.0	Rm	1	20			20
	Ch.355.0 to Ch.370.0	Rm	1	15			15
	Ch.380.0 to Ch.390.0	Rm	1	10			10
	Ch.390.0 to Ch.420.0	Rm	1	30			30
	Ch.560.0 to Ch.570.0	Rm	1	10			10
	Ch.580.0 to Ch.600.0	Rm	1	20			20
	Ch.630.0 to Ch.640.0	Rm	1	20			20
	RHS						
	Ch.190.0 to Ch.210.0	Rm	1	20			20
	Ch.570.0 to Ch.590.0	Rm	1	20			20
	Ch.590.0 to ch.600.0	Rm	1	10			10
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Rm	1	60			60
	Ch.70.0 to Ch.230.0	Rm	1	160			160
	Ch.260.0 to ch.620.0	Rm	1	360			360
	RHS						
	Ch.0.0 to Ch.620.0	Rm	1	620			620
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.0.0 to Ch.25.0	Rm	1	25			25
	Ch.30.0 to Ch.100.0	Rm	1	70			70
	Ch.160.0 to Ch.180.0	Rm	1	20			20
	Ch.270.0 to Ch.290.0	Rm	1	20			20
	Ch.515.0 to Ch.550.0	Rm	1	35			35
	RHS						
	Ch.0.0 to Ch.570.0	Rm	1	570			570
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Rm	1	195			195
	Ch.210.0 to Ch.220.0	Rm	1	10			10
	RHS						
	Ch.0.0 to Ch.200	Rm	1	200			200
	Ch.210.0 to Ch.220.0	Rm	1	10			10
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Rm	1	85			85
	Ch.95.0 to ch.115.0	Rm	1	20			20
	Ch.125.0 to Ch.560.0	Rm	1	435			435
	Ch.570.0 to Ch.576.0	Rm	1	6			6
	RHS						
	Ch.35.0 to Ch.330.0	Rm	1	295			295
	Ch.330.0 to Ch.576.0	Rm	1	246			246
						Total=	5447.00
	Deduct Resuse Kerb Stone Qty.	Rm	-1	1198.00			-1198.00
							4249.00
	C= A+B/0.45m(length of one Kerb Stone)	Nos				Total(C)	9442.00
	Dicontinuos Kerb at Level Footpath(D)	Cum	1	1950	0.15	0.35	102.38
	Vol of 1 Kerb=0.028 cum, Total Vol.C*0.028+(D)=	Cum					366.75
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)						
	Footpath						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Rm	1	150			150
	Ch.165.0 to Ch.180.0	Rm	1	15			15
	Ch.230.0 to Ch.440.0	Rm	1	210			210
	Ch.450.0 to Ch.530.0	Rm	1	80			80
	Ch.540.0 to Ch.570.0	Rm	1	30			30
	Ch.580.0 to Ch.730.0	Rm	1	150			150
	RHS						
	Ch.0.0 to Ch.130.0	Rm	1	130			130
	Ch.130.0 to Ch.740.0	Rm	1	610			610
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Rm	1	170			170
	Ch.175.0 to Ch.205.0	Rm	1	30			30
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Rm	1	150			150
	RHS						
	Ch.105.0 to Ch.125.0	Rm	1	20			20
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.135.0 to Ch.180.0	Rm	1	45			45
	Ch.190.0 to Ch.230.0	Rm	1	40			40
	Ch.320.0 to Ch.340.0	Rm	1	20			20
	Ch.355.0 to Ch.370.0	Rm	1	15			15

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.380.0 to Ch.390.0	Rm	1	10			10
	Ch.390.0 to Ch.420.0	Rm	1	30			30
	Ch.560.0 to Ch.570.0	Rm	1	10			10
	Ch.580.0 to Ch.600.0	Rm	1	20			20
	Ch.630.0 to Ch.640.0	Rm	1	20			20
	RHS						
	Ch.190.0 to Ch.210.0	Rm	1	20			20
	Ch.570.0 to Ch.590.0	Rm	1	20			20
	Ch.590.0 to ch.600.0	Rm	1	10			10
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Rm	1	60			60
	Ch.70.0 to Ch.230.0	Rm	1	160			160
	Ch.260.0 to ch.620.0	Rm	1	360			360
	RHS						
	Ch.0.0 to Ch.620.0	Rm	1	620			620
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.0.0 to Ch.25.0	Rm	1	25			25
	Ch.30.0 to Ch.100.0	Rm	1	70			70
	Ch.160.0 to Ch.180.0	Rm	1	20			20
	Ch.270.0 to Ch.290.0	Rm	1	20			20
	Ch.515.0 to Ch.550.0	Rm	1	35			35
	RHS						
	Ch.0.0 to Ch.570.0	Rm	1	570			570
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Rm	1	195			195
	Ch.210.0 to Ch.220.0	Rm	1	10			10
	RHS						
	Ch.0.0 to Ch.200	Rm	1	200			200
	Ch.210.0 to Ch.220.0	Rm	1	10			10
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Rm	1	85			85
	Ch.95.0 to ch.115.0	Rm	1	20			20
	Ch.125.0 to Ch.560.0	Rm	1	435			435
	Ch.570.0 to Ch.576.0	Rm	1	6			6
	RHS						
	Ch.35.0 to Ch.330.0	Rm	1	295			295
	Ch.330.0 to Ch.576.0	Rm	1	246			246
	Total Qty.	Rm					5447
	C= A+B/0.45m(length of one Kerb Stone)	Nos.					12104
	Total Vol.= 0.0118	Cum					143
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 Dismantaled Kerb available on Site	Rmt	50%	2396.00			1198.00
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)						
	Footpath						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Sqm	1	150		0.275	41.25
	Ch.165.0 to Ch.180.0	Sqm	1	15		0.275	4.13
	Ch.230.0 to Ch.440.0	Sqm	1	210		0.275	57.75
	Ch.450.0 to Ch.530.0	Sqm	1	80		0.275	22
	Ch.540.0 to Ch.570.0	Sqm	1	30		0.275	8.25
	Ch.580.0 to Ch.730.0	Sqm	1	150		0.275	41.25
	RHS						
	Ch.0.0 to Ch.130.0	Sqm	1	130		0.275	35.75
	Ch.130.0 to Ch.740.0	Sqm	1	610		0.275	167.75
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Sqm	1	170		0.275	46.75
	Ch.175.0 to Ch.205.0	Sqm	1	30		0.275	8.25
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Sqm	1	150		0.275	41.25
	RHS						
	Ch.105.0 to Ch.125.0	Sqm	1	20		0.275	5.5
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.135.0 to Ch.180.0	Sqm	1	45		0.275	12.38

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.190.0 to Ch.230.0	Sqm	1	40		0.275	11
	Ch.320.0 to Ch.340.0	Sqm	1	20		0.275	5.5
	Ch.355.0 to Ch.370.0	Sqm	1	15		0.275	4.13
	Ch.380.0 to Ch.390.0	Sqm	1	10		0.275	2.75
	Ch.390.0 to Ch.420.0	Sqm	1	30		0.275	8.25
	Ch.560.0 to Ch.570.0	Sqm	1	10		0.275	2.75
	Ch.580.0 to Ch.600.0	Sqm	1	20		0.275	5.5
	Ch.630.0 to Ch.640.0	Sqm	1	20		0.275	5.5
	RHS						
	Ch.190.0 to Ch.210.0	Sqm	1	20		0.275	5.5
	Ch.570.0 to Ch.590.0	Sqm	1	20		0.275	5.5
	Ch.590.0 to ch.600.0	Sqm	1	10		0.275	2.75
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Sqm	1	60		0.275	16.5
	Ch.70.0 to Ch.230.0	Sqm	1	160		0.275	44
	Ch.260.0 to ch.620.0	Sqm	1	360		0.275	99
	RHS						
	Ch.0.0 to Ch.620.0	Sqm	1	620		0.275	170.5
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.0.0 to Ch.25.0	Sqm	1	25		0.275	6.88
	Ch.30.0 to Ch.100.0	Sqm	1	70		0.275	19.25
	Ch.160.0 to Ch.180.0	Sqm	1	20		0.275	5.5
	Ch.270.0 to Ch.290.0	Sqm	1	20		0.275	5.5
	Ch.515.0 to Ch.550.0	Sqm	1	35		0.275	9.63
	RHS						
	Ch.0.0 to Ch.570.0	Sqm	1	570		0.275	156.75
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Sqm	1	195		0.275	53.63
	Ch.210.0 to Ch.220.0	Sqm	1	10		0.275	2.75
	RHS						
	Ch.0.0 to Ch.200	Sqm	1	200		0.275	55
	Ch.210.0 to Ch.220.0	Sqm	1	10		0.275	2.75
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Sqm	1	85		0.275	23.38
	Ch.95.0 to ch.115.0	Sqm	1	20		0.275	5.5
	Ch.125.0 to Ch.560.0	Sqm	1	435		0.275	119.63
	Ch.570.0 to Ch.576.0	Sqm	1	6		0.275	1.65
	RHS						
	Ch.35.0 to Ch.330.0	Sqm	1	295		0.275	81.13
	Ch.330.0 to Ch.576.0	Sqm	1	246		0.275	67.65
		Sqm			Total Qty.		1497.97
32	P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.						
	Power Duct Chambers	Nos.	2	297			594.00
		Nos.			Total Qty.		594.00
33	P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)						
	SWD						
	SWD						
	Road 19/1 Old Kent Road			Sides	2		
1	MH-542 to MH 543						
	Base	Rm	2	50.4			100.80
2	MH-543 to MH 544						
	Base	Rm	2	13.1			26.20
3	MH-544 to MH 545						
	Base	Rm	2	49.4			98.80
4	MH-545 to MH 296						
	Base	Rm	2	118.7			237.40
5	MH-296 to MH 297						
	Base	Rm	2	21.1			42.20
6	MH-297 to MH 298						
	Base	Rm	2	19.2			38.40
7	MH-298 to MH 299						
	Base	Rm	2	18.8			37.60
8	MH-299 to MH 300						
	Base	Rm	2	12.9			25.80
9	MH-300 to MH 301						
	Base	Rm	2	43.7			87.40
10	MH-301 to MH 302						
	Base	Rm	2	27.9			55.80
11	MH-302 to MH 303						
	Base	Rm	2	18.8			37.60
12	MH-303 to MH 304						
	Base	Rm	2	35.3			70.60
13	MH-304 to MH305						
	Base	Rm	2	32			64.00
14	MH-305 to MH306						
	Base	Rm	2	59.9			119.80
15	MH-306 to O-33						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Rm	2	48			96.00
16	MH-546 to MH-547						
	Base	Rm	2	21.5			43.00
17	MH-547 to MH-549						
	Base	Rm	2	55.8			111.60
18	MH-549 to MH-548						
	Base	Rm	2	42.7			85.40
19	MH-548 to MH-531						
	Base	Rm	2	66.9			133.80
20	MH-531 to MH-532						
	Base	Rm	2	41.6			83.20
21	MH-532 to MH-533						
	Base	Rm	2	25.7			51.40
22	MH-533 to MH-534						
	Base	Rm	2	36.6			73.20
23	MH-534 to MH-535						
	Base	Rm	2	50			100.00
24	MH-535 to MH-536						
	Base	Rm	2	22.2			44.40
25	MH-536 to MH-537						
	Base	Rm	2	29.7			59.40
26	MH-537 to MH-538						
	Base	Rm	2	36.2			72.40
27	MH-538 to MH-539						
	Base	Rm	2	51.6			103.20
28	MH-539 to MH-540						
	Base	Rm	2	9.5			19.00
29	MH-540 to O-59						
	Base	Rm	2	45.3			90.60
	Road 20/3 Pandeshwar New Road			Sides	1		
1	Node-O-61						
	Base	Rm	1	112.8			112.80
2	MH-528						
	Base	Rm	1	17.3			17.30
3	Node-O-58						
	Base	Rm	1	88.8			88.80
4	MH-527						
	Base	Rm	1	44.9			44.90
	Road 22/4 Bolar Fisheries College Road			Sides	1		
1	MH-377 to O-39						
	Base	Rm	1	114.8			114.80
	Road-23/5 Milihithulu Road			Sides	1		
1	MH-261						
	Base	Rm	1	41			41.00
2	MH-262						
	Base	Rm	1	49.9			49.90
3	MH-263						
	Base	Rm	1	55.3			55.30
4	MH-615						
	Base	Rm	1	31.4			31.40
5	O-29						
	Base	Rm	1	27.2			27.20
6	MH-578						
	Base	Rm	1	16.4			16.40
7	MH-577						
	Base	Rm	1	19.7			19.70
8	MH-576						
	Base	Rm	1	31.8			31.80
9	MH-575						
	Base	Rm	1	33.2			33.20
10	O-68						
	Base	Rm	1	31.3			31.30
11	MH-582						
	Base	Rm	2	36.3			72.60
12	MH-583						
	Base	Rm	2	20.9			41.80
13	MH-584						
	Base	Rm	2	17.4			34.80
14	MH-585						
	Base	Rm	2	13.8			27.60
15	MH-586						
	Base	Rm	2	28.4			56.80
16	MH-587						
	Base	Rm	2	9			18.00
17	O-69						
	Base	Rm	2	21.6			43.20
18	MH-618						
	Base	Rm	2	12.9			25.80
19	MH-619						
	Base	Rm	2	24			48.00
20	MH-620						
	Base	Rm	2	16.9			33.80
21	MH-621						
	Base	Rm	2	21.4			42.80

Sr. No.	Description	Unit	No's	L	B	H	Qty.
22	MH-622						
	Base	Rm	2	10.1			20.20
23	MH-623						
	Base	Rm	2	41.4			82.80
24	O-70						
	Base	Rm	2	23.8			47.60
25	MH-366						
	Base	Rm	1	24.8			24.80
26	MH-258						
	Base	Rm	1	52			52.00
27	MH-259						
	Base	Rm	1	28.1			28.10
28	MH-260						
	Base	Rm	1	101.5			101.50
	Road-24/6 Mangaladevi Temple Road		Side	2			
1	MH-223 to MH-224						
	Base	Rm	2	92.7			185.40
2	MH-224 to MH-225						
	Base	Rm	2	56			112.00
3	MH-225 to MH-226						
	Base	Rm	2	65.3			130.60
4	MH-226 to MH-257						
	Base	Rm	2	145.2			290.40
5	MH-207 to MH-208						
	Base	Rm	2	48			96.00
6	MH-208 to MH-209						
	Base	Rm	2	37.2			74.40
7	MH-209 to MH-210						
	Base	Rm	2	22.3			44.60
8	MH-210 to MH-211						
	Base	Rm	2	71.7			143.40
9	MH-211 to MH-212						
	Base	Rm	2	35.3			70.60
10	MH-212 to MH-213						
	Base	Rm	2	85.6			171.20
11	MH-213 to MH-214						
	Base	Rm	2	55.1			110.20
12	MH-214 to MH-215						
	Base	Rm	2	64.3			128.60
13	MH-215 to MH-216						
	Base	Rm	2	101.3			202.60
14	MH-216 to MH-256						
	Base	Rm	2	36.8			73.60
15	MH-256 to O-62						
	Base	Rm	2	40.5			81.00
16	MH-218 to MH-219						
	Base	Rm	2	50.7			101.40
17	MH-219 to MH-220						
	Base	Rm	2	34.9			69.80
18	MH-220 to MH-221						
	Base	Rm	2	25.1			50.20
19	MH-221 to MH-222						
	Base	Rm	2	85.8			171.60
	Road 25/7 Monkeystand New Road			Sides	1		
1	MH-564						
	Base	Rm	1	80.8			80.80
2	MH-565						
	Base	Rm	1	17.9			17.90
3	MH-566						
	Base	Rm	1	43.3			43.30
4	MH-567						
	Base	Rm	1	120.8			120.80
5	O-34						
	Base	Rm	1	9.7			9.70
6	MH-613						
	Base	Rm	1	72.9			72.90
7	MH-614						
	Base	Rm	1	40.1			40.10
8	MH-568						
	Base	Rm	1	49.2			49.20
9	MH-309						
	Base	Rm	1	53.2			53.20
10	O-34						
	Base	Rm	1	54.8			54.80
11	MH-569						
	Base	Rm	1	52.7			52.70
12	MH-570						
	Base	Rm	1	36.1			36.10
13	MH-567						
	Base	Rm	1	17.1			17.10
	Road 26/8 Jeppu Market Road			Sides	2		
1	MH-229						
	Base	Rm	2	121.2			242.40
2	MJ-230						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Rm	2	62.8			125.60
3	MH-605						
	Base	Rm	2	136			272.00
4	O-66						
	Base	Rm	2	12.8			25.60
5	MH-608						
	Base	Rm	2	21.6			43.20
6	MH-609						
	Base	Rm	2	38.2			76.40
	Road 27/9 Gujjarkere Road			Sides	2		
1	MH-234 to MH-235						
	Base	Rm	2	16.9			33.80
2	MH-235 to MH-236						
	Base	Rm	2	29.4			58.80
3	MH-236 to MH-237						
	Base	Rm	2	70.4			140.80
4	MH-237 to MH-238						
	Base	Rm	2	68.4			136.80
5	MH-238 to MH-239						
	Base	Rm	2	19.1			38.20
6	MH-239 to MH-240						
	Base	Rm	2	37.7			75.40
7	MH-240 to MH-241						
	Base	Rm	2	21.3			42.60
8	MH-241 to MH-242						
	Base	Rm	2	25.9			51.80
9	MH-242 to MH-591						
	Base	Rm	2	31.2			62.40
10	MH-591 to MH-246						
	Base	Rm	2	48.3			96.60
11	MH-246 to MH-245						
	Base	Rm	2	31			62.00
12	MH-245 to O-65						
	Base	Rm	2	39.4			78.80
13	MH-592 to MH-593						
	Base	Rm	2	37.3			74.60
14	MH-593 to MH-594						
	Base	Rm	2	4.1			8.20
15	MH-594 to MH-595						
	Base	Rm	2	58.3			116.60
16	MH-595 to MH-596						
	Base	Rm	2	56.8			113.60
17	MH-596 to MH-597						
	Base	Rm	2	3.1			6.20
18	MH-597 to MH-598						
	Base	Rm	2	41.5			83.00
19	MH-598 to MH-599						
	Base	Rm	2	42.3			84.60
20	MH-599 to MH-600						
	Base	Rm	2	43.3			86.60
21	MH-600 to MH-601						
	Base	Rm	2	21.7			43.40
22	MH-601 to MH-602						
	Base	Rm	2	62.1			124.20
23	MH-602 to MH-603						
	Base	Rm	2	7.4			14.80
24	MH-603 to O-64						
	Base	Rm	2	72.7			145.40
25	MH-229 to MH-230						
	Base	Rm	2	62.8			125.60
26	MH-230 to MH-231						
	Base	Rm	2	20.1			40.20
27	MH-231 to MH-589						
	Base	Rm	2	37.5			75.00
28	MH-589 to MH-232						
	Base	Rm	2	57.6			115.20
29	MH-232 to O-63						
	Base	Rm	2	29.2			58.40
30	MH-607 to MH-608						
	Base	Rm	2	21.6			43.20
31	MH-608 to MH-609						
	Base	Rm	2	38.2			76.40
32	MH-609 to MH-610						
	Base	Rm	2	101.6			203.20
33	MH-610 to O-67						
	Base	Rm	2	41.6			83.20
		Rm					10068.00
	Consider Chamber @10m C/C distance	Nos.					1007.00
	Total no. Of covers	Nos.		Total Qty.			1007.00
34	P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)						
	Flush Footpath with Carriageway						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.180.0 to Ch.230.0	Rm	1	50			50.00
	Ch.460.0 to Ch.480.0	Rm	1	20			20.00
	Ch.690.0 to Ch.710.0	Rm	1	20			20.00
	Ch.730.0 to Ch.770.0	Rm	1	40			40.00
	Ch.770.0 to Ch.790.0	Rm	1	20			20.00
	RHS						
	Ch.60.0 to Ch.70.0	Rm	1	10			10.00
	Ch.75.0 to Ch.80.0	Rm	1	5			5.00
	Ch.195.0 to Ch.213.0	Rm	1	18			18.00
	Ch.740.0 to Ch.780.0	Rm	1	40			40.00
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.10.0 to Ch.55.0	Rm	1	45			45.00
	Ch.100.0 to Ch.170.0	Rm	1	70			70.00
	Ch.170.0 to Ch.225.0	Rm	1	55			55.00
	Ch.225.0 to Ch.290.0	Rm	1	65			65.00
	LHS						
	Ch.150.0 to Ch.220.0	Rm	1	70			70.00
	Road No.4/22-Bolar Fisheries College Road						
	RHS						
	Ch.0.0 to ch.30.0	Rm	1	30			30.00
	Ch.50.0 to Ch.105.0	Rm	1	55			55.00
	Ch.128.0 to Ch.150.0	Rm	1	22			22.00
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.0.0 to Ch.20.0	Rm	1	20			20.00
	Ch.48.0 to Ch.52	Rm	1	4			4.00
	Ch.118.0 to Ch.124.0	Rm	1	6			6.00
	Ch.134.0 to Ch.180.0	Rm	1	46			46.00
	Ch.212.0 to Ch.250.0	Rm	1	38			38.00
	Ch.318.0 to Ch.345.0	Rm	1	27			27.00
	Ch.355.0 to Ch.368.0	Rm	1	13			13.00
	Ch.375.0 to Ch.400.0	Rm	1	25			25.00
	Ch.400.0 to Ch.420.0	Rm	1	20			20.00
	Ch.472.0 to Ch.480.0	Rm	1	8			8.00
	Ch.485.0 to Ch.495.0	Rm	1	10			10.00
	Ch.535.0 to Ch.570.0	Rm	1	35			35.00
	Ch.580.0 to Ch.590.0	Rm	1	10			10.00
	Ch.590.0 to Ch.595.0	Rm	1	5			5.00
	Ch.595.0 to Ch.605.0	Rm	1	10			10.00
	Ch.610.0 to Ch.645.0	Rm	1	35			35.00
	Ch.645.0 to Ch.670.0	Rm	1	25			25.00
	Ch.675.0 to Ch.740.0	Rm	1	65			65.00
	RHS						
	Ch.0.0 to Ch.70.00	Rm	1	70			70.00
	Ch.70.0 to ch.115.0	Rm	1	45			45.00
	Ch.115.0 to ch.135.0	Rm	1	20			20.00
	Ch.180.0 to Ch.190.0	Rm	1	10			10.00
	Ch.235.0 to Ch.240.0	Rm	1	5			5.00
	Ch.245.0 to ch.300.0	Rm	1	55			55.00
	Ch.300.00 to Ch.320.0	Rm	1	20			20.00
	Ch.340.0 to Ch.358.0	Rm	1	18			18.00
	Ch.378.0 to ch.380.0	Rm	1	2			2.00
	Ch.420.0 to ch. 440.0	Rm	1	20			20.00
	Ch.460.0 to Ch.474.0	Rm	1	14			14.00
	Ch.474.0 to Ch.528.0	Rm	1	54			54.00
	Ch.528.0 to Ch.550.0	Rm	1	22			22.00
	Ch.605.0 to Ch.630.0	Rm	1	25			25.00
	Ch.640.0 to Ch.660.0	Rm	1	20			20.00
	Ch.670.0 to ch.740.0	Rm	1	70			70.00
	Ch.758.0 to Ch.762.0	Rm	1	4			4.00
	Road No.7/25-Monkeystand New Road						0.00
	LHS						
	Ch.28.0 to Ch.30.0	Rm	1	2			2.00
	Ch.100.0 to Ch.160.0	Rm	1	60			60.00
	Ch.195.0 to Ch.230.0	Rm	1	35			35.00
	Ch.250.0 to Ch.270.0	Rm	1	20			20.00
	Ch.290.0 to Ch.295.0	Rm	1	5			5.00
	Ch.295.0 to Ch.318.0	Rm	1	23			23.00
	Ch.325.0 to Ch.355.0	Rm	1	30			30.00
	Ch.395.0 to Ch.440.0	Rm	1	45			45.00
	Ch.458.0 to Ch.470.0	Rm	1	12			12.00
	Ch.470.0 to Ch.508.0	Rm	1	38			38.00
	Ch.530.0 to Ch.550.0	Rm	1	20			20.00
	RHS						
	Ch.358.0 to Ch.410.0	Rm	1	52			52.00
	Ch.445.0 to Ch.475.0	Rm	1	30			30.00
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.198.0 to Ch.212.0	Rm	1	14			14.00
	RHS						
	Ch.190.0 to Ch.212.0	Rm	1	22			22.00
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.88.0 to Ch.98.0	Rm	1	10			10.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.565.0 to Ch.576.0	Rm	1	11			11.00
	RHS						
	Ch.25.0 to Ch.35.0	Rm	1	10			10.00
							1950.00
	Consider @10m C/C distance of M.H.Cover	Nos.					195.00
35	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						
	Road No.1/18-Old Port Road						
	LHS						
	Ch.80.0 to Ch.95.0	Rm	1	15			
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.180.0 to Ch.230.0	Rm	1	50			50.00
	Ch.460.0 to Ch.480.0	Rm	1	20			20.00
	Ch.690.0 to Ch.710.0	Rm	1	20			20.00
	Ch.730.0 to Ch.770.0	Rm	1	40			40.00
	Ch.770.0 to Ch.790.0	Rm	1	20			20.00
	RHS						
	Ch.60.0 to Ch.70.0	Rm	1	10			10.00
	Ch.75.0 to Ch.80.0	Rm	1	5			5.00
	Ch.195.0 to Ch.213.0	Rm	1	18			18.00
	Ch.740.0 to Ch.780.0	Rm	1	40			40.00
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.10.0 to Ch.55.0	Rm	1	45			45.00
	Ch.100.0 to Ch.170.0	Rm	1	70			70.00
	Ch.170.0 to Ch.225.0	Rm	1	55			55.00
	Ch.225.0 to Ch.290.0	Rm	1	65			65.00
	LHS		0	0			
	Ch.150.0 to Ch.220.0	Rm	1	70			70.00
	Road No.4/22-Bolar Fisheries College Road						
	RHS						
	Ch.0.0 to ch.30.0	Rm	1	30			30.00
	Ch.50.0 to Ch.105.0	Rm	1	55			55.00
	Ch.128.0 to Ch.150.0	Rm	1	22			22.00
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.0.0 to Ch.20.0	Rm	1	20			20.00
	Ch.48.0 to Ch.52	Rm	1	4			4.00
	Ch.118.0 to Ch.124.0	Rm	1	6			6.00
	Ch.134.0 to Ch.180.0	Rm	1	46			46.00
	Ch.212.0 to Ch.250.0	Rm	1	38			38.00
	Ch.318.0 to Ch.345.0	Rm	1	27			27.00
	Ch.355.0 to Ch.368.0	Rm	1	13			13.00
	Ch.375.0 to Ch.400.0	Rm	1	25			25.00
	Ch.400.0 to Ch.420.0	Rm	1	20			20.00
	Ch.472.0 to Ch.480.0	Rm	1	8			8.00
	Ch.485.0 to Ch.495.0	Rm	1	10			10.00
	Ch.535.0 to Ch.570.0	Rm	1	35			35.00
	Ch.580.0 to Ch.590.0	Rm	1	10			10.00
	Ch.590.0 to Ch.595.0	Rm	1	5			5.00
	Ch.595.0 to Ch.605.0	Rm	1	10			10.00
	Ch.610.0 to Ch.645.0	Rm	1	35			35.00
	Ch.645.0 to Ch.670.0	Rm	1	25			25.00
	Ch.675.0 to Ch.740.0	Rm	1	65			65.00
	RHS						
	Ch.0.0 to Ch.70.00	Rm	1	70			70.00
	Ch.70.0 to ch.115.0	Rm	1	45			45.00
	Ch.115.0 to ch.135.0	Rm	1	20			20.00
	Ch.180.0 to Ch.190.0	Rm	1	10			10.00
	Ch.235.0 to Ch.240.0	Rm	1	5			5.00
	Ch.245.0 to ch.300.0	Rm	1	55			55.00
	Ch.300.00 to Ch.320.0	Rm	1	20			20.00
	Ch.340.0 to Ch.358.0	Rm	1	18			18.00
	Ch.378.0 to ch.380.0	Rm	1	2			2.00
	Ch.420.0 to ch. 440.0	Rm	1	20			20.00
	Ch.460.0 to Ch.474.0	Rm	1	14			14.00
	Ch.474.0 to Ch.528.0	Rm	1	54			54.00
	Ch.528.0 to Ch.550.0	Rm	1	22			22.00
	Ch.605.0 to Ch.630.0	Rm	1	25			25.00
	Ch.640.0 to Ch.660.0	Rm	1	20			20.00
	Ch.670.0 to ch.740.0	Rm	1	70			70.00
	Ch.758.0 to Ch.762.0	Rm	1	4			4.00
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.28.0 to Ch.30.0	Rm	1	2			2.00
	Ch.100.0 to Ch.160.0	Rm	1	60			60.00
	Ch.195.0 to Ch.230.0	Rm	1	35			35.00
	Ch.250.0 to Ch.270.0	Rm	1	20			20.00
	Ch.290.0 to Ch.295.0	Rm	1	5			5.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.295.0 to Ch.318.0	Rm	1	23			23.00
	Ch.325.0 to Ch.355.0	Rm	1	30			30.00
	Ch.395.0 to Ch.440.0	Rm	1	45			45.00
	Ch.458.0 to Ch.470.0	Rm	1	12			12.00
	Ch.470.0 to Ch.508.0	Rm	1	38			38.00
	Ch.530.0 to Ch.550.0	Rm	1	20			20.00
	RHS						
	Ch.358.0 to Ch.410.0	Rm	1	52			52.00
	Ch.445.0 to Ch.475.0	Rm	1	30			30.00
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.198.0 to Ch.212.0	Rm	1	14			14.00
	RHS						
	Ch.190.0 to Ch.212.0	Rm	1	22			22.00
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.88.0 to Ch.98.0	Rm	1	10			10.00
	Ch.565.0 to Ch.576.0	Rm	1	11			11.00
	RHS						
	Ch.25.0 to Ch.35.0	Rm	1	10			10.00
	Total No. Of Gratings	Nos.					195.00
		Nos.					
					Total Qty.		
			Nos.	Kg/No.	Kg		Quintal
	Consider 5% of Qty		10.00	150	1500		15
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						
	2/19 - Old Kent Road	Nos.	17				17.00
	3/20 - Pandeshwar Road	Nos.	7				7.00
	4/22 - Bolar Fisheries Road	Nos.	5				5.00
	5/23 - Milihithuli Road	Nos.	17				17.00
	6/24 - Mangaladevi Temple Road	Nos.	14				14.00
	7/25 - Monkey Stand New Road	Nos.	13				13.00
	8/26 - Jeppu Market Road	Nos.	6				6.00
	9/27 - Gujjarkere Road	Nos.	13				13.00
							92.00
	Consider 10% qty of Total	Nos.					10
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)						
	Footpath						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Rm	1	150			150
	Ch.165.0 to Ch.180.0	Rm	1	15			15
	Ch.230.0 to Ch.440.0	Rm	1	210			210
	Ch.450.0 to Ch.530.0	Rm	1	80			80
	Ch.540.0 to Ch.570.0	Rm	1	30			30
	Ch.580.0 to Ch.730.0	Rm	1	150			150
	RHS						
	Ch.0.0 to Ch.130.0	Rm	1	130			130
	Ch.130.0 to Ch.740.0	Rm	1	610			610
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Rm	1	170			170
	Ch.175.0 to Ch.205.0	Rm	1	30			30
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Rm	1	150			150
	RHS						
	Ch.105.0 to Ch.125.0	Rm	1	20			20
	Road No.5/23-Milithithuli Road						
	LHS						
	Ch.135.0 to Ch.180.0	Rm	1	45			45
	Ch.190.0 to Ch.230.0	Rm	1	40			40
	Ch.320.0 to Ch.340.0	Rm	1	20			20
	Ch.355.0 to Ch.370.0	Rm	1	15			15
	Ch.380.0 to Ch.390.0	Rm	1	10			10
	Ch.390.0 to Ch.420.0	Rm	1	30			30
	Ch.560.0 to Ch.570.0	Rm	1	10			10
	Ch.580.0 to Ch.600.0	Rm	1	20			20

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.630.0 to Ch.640.0	Rm	1	20			20
	RHS						
	Ch.190.0 to Ch.210.0	Rm	1	20			20
	Ch.570.0 to Ch.590.0	Rm	1	20			20
	Ch.590.0 to ch.600.0	Rm	1	10			10
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Rm	1	60			60
	Ch.70.0 to Ch.230.0	Rm	1	160			160
	Ch.260.0 to ch.620.0	Rm	1	360			360
	RHS						
	Ch.0.0 to Ch.620.0	Rm	1	620			620
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.0.0 to Ch.25.0	Rm	1	25			25
	Ch.30.0 to Ch.100.0	Rm	1	70			70
	Ch.160.0 to Ch.180.0	Rm	1	20			20
	Ch.270.0 to Ch.290.0	Rm	1	20			20
	Ch.515.0 to Ch.550.0	Rm	1	35			35
	RHS						
	Ch.0.0 to Ch.570.0	Rm	1	570			570
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Rm	1	195			195
	Ch.210.0 to Ch.220.0	Rm	1	10			10
	RHS						
	Ch.0.0 to Ch.200	Rm	1	200			200
	Ch.210.0 to Ch.220.0	Rm	1	10			10
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Rm	1	85			85
	Ch.95.0 to ch.115.0	Rm	1	20			20
	Ch.125.0 to Ch.560.0	Rm	1	435			435
	Ch.570.0 to Ch.576.0	Rm	1	6			6
	RHS						
	Ch.35.0 to Ch.330.0	Rm	1	295			295
	Ch.330.0 to Ch.576.0	Rm	1	246			246
						Total	5447.00
	Consider @10m c/c distance		Nos.	Rm			
	Nos. Of Pipes		545	1.5			817.50
	Total length of pipe=	Rmt		Total Qty.			817.50
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)						
	SWD						
	Same qty as pipe	Nos.	545.00				545.00
		Nos.			Total Qty.		545.00
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	10068			10068.00
	Weep Holes at 1m c/c	Nos/Rm					10068.00
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 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 2018-19,SI.No.24.36)						
1	1/18 - Old Port Road	Rmt	5	23			
2	2/19 - Old Kent Road	Rmt	16	20.5			328
3	3/20 - Pandeshwar Road	Rmt	6	8.2			49.2
4	4/22 - Bolar Fisheries Road	Rmt	4	10.9			43.6
5	5/23 - Milihithuli Road	Rmt	16	11.4			182.4
6	6/24 - Mangaladevi Temple Road	Rmt	13	32.9			427.7
7	7/25 - Monkey Stand New Road	Rmt	12	15.6			187.2
8	8/26 - Jeppu Market Road	Rmt	5	20.55			102.75
9	9/27 - Gujjarkere Road	Rmt	12	19.5			234
		Rmt			Total Qty.		1554.85

Sr. No.	Description	Unit	No's	L	B	H	Qty.
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	
	2/19 - Old Kent Road	Rmt	2	790	4	790	4740
	3/20 - Pandeshwar Road	Rmt	4	280	4	280	2240
	4/22 - Bolar Fisheries Road	Rmt	2	155	0	155	310
	5/23 - Milihithuli Road	Rmt	4	760	4	760	6080
	6/24 - Mangaladevi Temple Road	Rmt	4	628	4	628	5024
	7/25 - Monkey Stand New Road	Rmt	4	570	4	570	4560
	8/26 - Jeppu Market Road	Rmt	4	225	4	225	1800
	9/27 - Gujjarkere Road	Rmt	4	576	4	576	4608
	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
	2/19 - Old Kent Road	Rmt	2	27	4	27	-324
	3/20 - Pandeshwar Road	Rmt	4	10	4	10	-160
	4/22 - Bolar Fisheries Road	Rmt	2	6	0	6	-24
	5/23 - Milihithuli Road	Rmt	4	26	4	26	-416
	6/24 - Mangaladevi Temple Road	Rmt	4	21	4	21	-336
	7/25 - Monkey Stand New Road	Rmt	4	19	4	19	-304
	8/26 - Jeppu Market Road	Rmt	4	8	4	8	-128
	9/27 - Gujjarkere Road	Rmt	4	20	4	20	-320
		Rmt		Total Qty.			27350.00
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		Nos.	RHS	Nos.	LHS	
	2/19 - Old Kent Road	Rmt	1	790	1	790	1580
	3/20 - Pandeshwar Road	Rmt	1	280	1	280	560
	4/22 - Bolar Fisheries Road	Rmt	1	155	1	155	310
	5/23 - Milihithuli Road	Rmt	1	760	1	760	1520
	6/24 - Mangaladevi Temple Road	Rmt	1	628	1	628	1256
	7/25 - Monkey Stand New Road	Rmt	1	570	1	570	1140
	8/26 - Jeppu Market Road	Rmt	1	225	1	225	450
	9/27 - Gujjarkere Road	Rmt	1	576	1	576	1152
	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
	2/19 - Old Kent Road	Rmt	1	27	1	27	-108
	3/20 - Pandeshwar Road	Rmt	1	10	1	10	-40
	4/22 - Bolar Fisheries Road	Rmt	1	6	1	6	-24
	5/23 - Milihithuli Road	Rmt	1	26	1	26	-104
	6/24 - Mangaladevi Temple Road	Rmt	1	21	1	21	-84
	7/25 - Monkey Stand New Road	Rmt	1	19	1	19	-76
	8/26 - Jeppu Market Road	Rmt	1	8	1	8	-32
	9/27 - Gujjarkere Road	Rmt	1	20	1	20	-80
		Rmt		Total Qty.			7420.00
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		
	2/19 - Old Kent Road	Rmt	1	790	790		1580
	3/20 - Pandeshwar Road	Rmt	1	280	280		560
	4/22 - Bolar Fisheries Road	Rmt	1	155	0		155
	5/23 - Milihithuli Road	Rmt	1	760	760		1520
	6/24 - Mangaladevi Temple Road	Rmt	1	628	628		1256
	7/25 - Monkey Stand New Road	Rmt	1	570	570		1140
	8/26 - Jeppu Market Road	Rmt	1	225	225		450
	9/27 - Gujjarkere Road	Rmt	1	576	576		1152
							7813.00
	No. of Spacer=Total Length of Pipe / 1.5m	Nos.			Total Qty.		5209.00
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		
	2/19 - Old Kent Road	Rmt	1	790	790		1580
	3/20 - Pandeshwar Road	Rmt	1	280	280		560
	4/22 - Bolar Fisheries Road	Rmt	1	155	155		310
	5/23 - Milihithuli Road	Rmt	1	760	760		1520
	6/24 - Mangaladevi Temple Road	Rmt	1	628	628		1256

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	7/25 - Monkey Stand New Road	Rmt	1	570	570		1140
	8/26 - Jeppu Market Road	Rmt	1	225	225		450
	9/27 - Gujjarkere Road	Rmt	1	576	576		1152
							7968.00
	No. of Spacer=Total Length of Pipe / 1.5m	Nos.		Total Qty.			5312.00
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.						
				RHS	LHS		
	2/19 - Old Kent Road	Rmt	1	790	790		1580
	3/20 - Pandeshwar Road	Rmt	1	280	280		560
	4/22 - Bolar Fisheries Road	Rmt	1	155	155		310
	5/23 - Milihithuli Road	Rmt	1	760	760		1520
	6/24 - Mangaladevi Temple Road	Rmt	1	628	628		1256
	7/25 - Monkey Stand New Road	Rmt	1	570	570		1140
	8/26 - Jeppu Market Road	Rmt	1	225	225		450
	9/27 - Gujjarkere Road	Rmt	1	576	576		1152
	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
	2/19 - Old Kent Road	Rmt	1	27	1	26	-31.8
	3/20 - Pandeshwar Road	Rmt	1	10	1	9	-11.4
	4/22 - Bolar Fisheries Road	Rmt	1	6	1	5	-6.6
	5/23 - Milihithuli Road	Rmt	1	26	1	25	-30.6
	6/24 - Mangaladevi Temple Road	Rmt	1	21	1	21	-25.2
	7/25 - Monkey Stand New Road	Rmt	1	19	1	19	-22.8
	8/26 - Jeppu Market Road	Rmt	1	8	1	8	-9.6
	9/27 - Gujjarkere Road	Rmt	1	20	1	19	-23.4
		Rmt			Total Qty.		7806.60
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						
	Footpath						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Sqm	1	150.00	3.76		564
	Ch.165.0 to Ch.180.0	Sqm	1	15.00	4.60		69
	Ch.230.0 to Ch.440.0	Sqm	1	210	3.40		714
	Ch.450.0 to Ch.530.0	Sqm	1	80.00	1.98		158.4
	Ch.540.0 to Ch.570.0	Sqm	1	30.00	1.73		51.9
	Ch.580.0 to Ch.730.0	Sqm	1	150.00	2.07		310.5
	RHS						
	Ch.0.0 to Ch.130.0	Sqm	1	130.00	2.78		361.4
	Ch.130.0 to Ch.740.0	Sqm	1	610.00	2.36		1439.6
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Sqm	1	170.00	1.85		314.5
	Ch.175.0 to Ch.205.0	Sqm	1	30.00	2.20		66
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Sqm	1	150.00	2.83		424.5
	RHS						
	Ch.105.0 to Ch.125.0	Sqm	1	20.00	1.65		33
	Road No.5/23-Milithithuli Road						
	LHS						
	Ch.135.0 to Ch.180.0	Sqm	1	45.00	2.42		108.9
	Ch.190.0 to Ch.230.0	Sqm	1	40.00	5.85		234
	Ch.320.0 to Ch.340.0	Sqm	1	20.00	3.12		62.4
	Ch.355.0 to Ch.370.0	Sqm	1	15.00	2.53		37.95
	Ch.380.0 to Ch.390.0	Sqm	1	10.00	3.40		34
	Ch.390.0 to Ch.420.0	Sqm	1	30.00	3.13		93.9
	Ch.560.0 to Ch.570.0	Sqm	1	10.00	2.64		26.4
	Ch.580.0 to Ch.600.0	Sqm	1	20.00	1.75		35
	Ch.630.0 to Ch.640.0	Sqm	1	20.00	0.81		16.2
	RHS						
	Ch.190.0 to Ch.210.0	Sqm	1	20.00	4.25		85
	Ch.570.0 to Ch.590.0	Sqm	1	20.00	1.88		37.6
	Ch.590.0 to ch.600.0	Sqm	1	10.00	1.34		13.4
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Sqm	1	60.00	7.75		465
	Ch.70.0 to Ch.230.0	Sqm	1	160.00	5.10		816
	Ch.260.0 to ch.620.0	Sqm	1	360.00	4.13		1486.8
	RHS						
	Ch.0.0 to Ch.620.0	Sqm	1	620.00	4.57		2833.4
	Road No.7/25-Monkeystand New Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	LHS						
	Ch.0.0 to Ch.25.0	Sqm	1	25	2.68		67
	Ch.30.0 to Ch.100.0	Sqm	1	70.00	1.85		129.5
	Ch.160.0 to Ch.180.0	Sqm	1	20	3.03		60.6
	Ch.270.0 to Ch.290.0	Sqm	1	20.00	2.88		57.6
	Ch.515.0 to Ch.550.0	Sqm	1	35	2.28		79.8
	RHS						
	Ch.0.0 to Ch.570.0	Sqm	1	570.00	2.38		1356.6
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Sqm	1	195	2.47		481.65
	Ch.210.0 to Ch.220.0	Sqm	1	10	2.90		29
	RHS						
	Ch.0.0 to Ch.200	Sqm	1	200.00	4.05		810
	Ch.210.0 to Ch.220.0	Sqm	1	10.00	2.20		22
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Sqm	1	85	1.36		115.6
	Ch.95.0 to ch.115.0	Sqm	1	20	4.00		80
	Ch.125.0 to Ch.560.0	Sqm	1	435	4.11		1787.85
	Ch.570.0 to Ch.576.0	Sqm	1	6	3.00		18
	RHS						
	Ch.35.0 to Ch.330.0	Sqm	1	295	2.33		687.35
	Ch.330.0 to Ch.576.0	Sqm	1	246	1.85		455.1
		Sqm			Total Qty.		17130.40
47.00	Cutting of Control joints panels(in Footpath) at suitable required locations using tools and tackles.						
	Footpath						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.0.0 to Ch.150.0	Rm	43		3.76		161.68
	Ch.165.0 to Ch.180.0	Rm	4		4.6		18.4
	Ch.230.0 to Ch.440.0	Rm	60		3.4		204
	Ch.450.0 to Ch.530.0	Rm	23		1.98		45.54
	Ch.540.0 to Ch.570.0	Rm	9		1.73		15.57
	Ch.580.0 to Ch.730.0	Rm	43		2.07		89.01
	RHS						
	Ch.0.0 to Ch.130.0	Rm	37		2.78		102.86
	Ch.130.0 to Ch.740.0	Rm	174		2.36		410.64
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.0.0 to Ch.170.0	Rm	49		1.85		90.65
	Ch.175.0 to Ch.205.0	Rm	9		2.2		19.8
	Road No.4/22-Bolar Fisheries College Road						
	LHS						
	Ch.0.0 to Ch.150.0	Rm	43		2.83		121.69
	RHS						
	Ch.105.0 to Ch.125.0	Rm	6		1.65		9.9
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.135.0 to Ch.180.0	Rm	13		2.42		31.46
	Ch.190.0 to Ch.230.0	Rm	11		5.85		64.35
	Ch.320.0 to Ch.340.0	Rm	6		3.12		18.72
	Ch.355.0 to Ch.370.0	Rm	4		2.53		10.12
	Ch.380.0 to Ch.390.0	Rm	3		3.4		10.2
	Ch.390.0 to Ch.420.0	Rm	9		3.13		28.17
	Ch.560.0 to Ch.570.0	Rm	3		2.64		7.92
	Ch.580.0 to Ch.600.0	Rm	6		1.75		10.5
	Ch.630.0 to Ch.640.0	Rm	6		0.81		4.86
	RHS						
	Ch.190.0 to Ch.210.0	Rm	6		4.25		25.5
	Ch.570.0 to Ch.590.0	Rm	6		1.88		11.28
	Ch.590.0 to ch.600.0	Rm	3		1.34		4.02
	Road No.6/24-Mangaladevi Temple Road						
	LHS						
	Ch.0.0 to Ch.60.0	Rm	17		7.75		131.75
	Ch.70.0 to Ch.230.0	Rm	46		5.1		234.6
	Ch.260.0 to ch.620.0	Rm	103		4.13		425.39
	RHS						
	Ch.0.0 to Ch.620.0	Rm	177		4.57		808.89
	Road No.7/25-Monkeystand New Road						
	LHS						
	Ch.0.0 to Ch.25.0	Rm	7		2.68		18.76
	Ch.30.0 to Ch.100.0	Rm	20		1.85		37
	Ch.160.0 to Ch.180.0	Rm	6		3.03		18.18
	Ch.270.0 to Ch.290.0	Rm	6		2.88		17.28
	Ch.515.0 to Ch.550.0	Rm	10		2.28		22.8
	RHS		0		0		0
	Ch.0.0 to Ch.570.0	Rm	163		2.38		387.94
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.0.0 to Ch.195.0	Rm	56		2.47		138.32
	Ch.210.0 to Ch.220.0	Rm	3		2.9		8.7
	RHS						
	Ch.0.0 to Ch.200	Rm	57		4.05		230.85
	Ch.210.0 to Ch.220.0	Rm	3		2.2		6.6

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.0.00 to Ch.85.00	Rm	24		1.36		32.64
	Ch.95.0 to ch.115.0	Rm	6		4		24
	Ch.125.0 to Ch.560.0	Rm	124		4.11		509.64
	Ch.570.0 to Ch.576.0	Rm	2		3		6
	RHS						
	Ch.35.0 to Ch.330.0	Rm	84		2.33		195.72
	Ch.330.0 to Ch.576.0	Rm	70		1.85		129.5
						Total	4901.40
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						
	Road No.2/19-Old Kent Road						
	LHS						
	Ch.180.0 to Ch.230.0	Sqm	1	50	1.38		69.00
	Ch.460.0 to Ch.480.0	Sqm	1	20	1.31		26.20
	Ch.690.0 to Ch.710.0	Sqm	1	20	2.20		44.00
	Ch.730.0 to Ch.770.0	Sqm	1	40	1.20		48.00
	Ch.770.0 to Ch.790.0	Sqm	1	20	2.58		51.60
	RHS						
	Ch.60.0 to Ch.70.0	Sqm	1	10	2.72		27.20
	Ch.75.0 to Ch.80.0	Sqm	1	5	4.50		22.50
	Ch.195.0 to Ch.213.0	Sqm	1	18	0.91		16.38
	Ch.740.0 to Ch.780.0	Sqm	1	40	0.78		31.20
	Road No.3/20-Pandeshwar New Road						
	RHS						
	Ch.10.0 to Ch.55.0	Sqm	1	45	1.10		49.50
	Ch.100.0 to Ch.170.0	Sqm	1	70	1.31		91.70
	Ch.170.0 to Ch.225.0	Sqm	1	55	0.83		45.65
	Ch.225.0 to Ch.290.0	Sqm	1	65	0.30		19.50
	LHS						
	Ch.150.0 to Ch.220.0	Sqm	1	70	0.52		36.40
	Road No.4/22-Bolar Fisheries College Road						
	RHS						
	Ch.0.0 to ch.30.0	Sqm	1	30	0.49		14.70
	Ch.50.0 to Ch.105.0	Sqm	1	55	0.66		36.30
	Ch.128.0 to Ch.150.0	Sqm	1	22	0.73		16.06
	Road No.5/23-Milithuli Road						
	LHS						
	Ch.0.0 to Ch.20.0	Sqm	1	20	2.25		45.00
	Ch.48.0 to Ch.52	Sqm	1	4	3.50		14.00
	Ch.118.0 to Ch.124.0	Sqm	1	6	8.50		51.00
	Ch.134.0 to Ch.180.0	Sqm	1	46	1.28		58.88
	Ch.212.0 to Ch.250.0	Sqm	1	38	1.55		58.90
	Ch.318.0 to Ch.345.0	Sqm	1	27	1.44		38.88
	Ch.355.0 to Ch.368.0	Sqm	1	13	3.40		44.20
	Ch.375.0 to Ch.400.0	Sqm	1	25	1.84		46.00
	Ch.400.0 to Ch.420.0	Sqm	1	20.00	2.85		57.00
	Ch.472.0 to Ch.480.0	Sqm	1	8.00	1.38		11.04
	Ch.485.0 to Ch.495.0	Sqm	1	10.00	1.90		19.00
	Ch.535.0 to Ch.570.0	Sqm	1	35.00	0.63		22.05
	Ch.580.0 to Ch.590.0	Sqm	1	10.00	3.30		33.00
	Ch.590.0 to Ch.595.0	Sqm	1	5.00	1.33		6.65
	Ch.595.0 to Ch.605.0	Sqm	1	10.00	0.72		7.20
	Ch.610.0 to Ch.645.0	Sqm	1	35.00	1.02		35.70
	Ch.645.0 to Ch.670.0	Sqm	1	25.00	2.38		59.50
	Ch.675.0 to Ch.740.0	Sqm	1	65.00	0.83		53.95
	RHS						
	Ch.0.0 to Ch.70.00	Sqm	1	70.00	2.02		141.40
	Ch.70.0 to ch.115.0	Sqm	1	45.00	2.64		118.80
	Ch.115.0 to ch.135.0	Sqm	1	20.00	4.63		92.60
	Ch.180.0 to Ch.190.0	Sqm	1	10.00	1.50		15.00
	Ch.235.0 to Ch.240.0	Sqm	1	5.00	3.50		17.50
	Ch.245.0 to ch.300.0	Sqm	1	55.00	1.85		101.75
	Ch.300.00 to Ch.320.0	Sqm	1	20.00	3.30		66.00
	Ch.340.0 to Ch.358.0	Sqm	1	18.00	3.56		64.08
	Ch.378.0 to ch.380.0	Sqm	1	2.00	1.50		3.00
	Ch.420.0 to ch. 440.0	Sqm	1	20.00	3.10		62.00
	Ch.460.0 to Ch.474.0	Sqm	1	14.00	0.64		8.96
	Ch.474.0 to Ch.528.0	Sqm	1	54.00	1.87		100.98
	Ch.528.0 to Ch.550.0	Sqm	1	22.00	0.52		11.44
	Ch.605.0 to Ch.630.0	Sqm	1	25.00	0.77		19.25
	Ch.640.0 to Ch.660.0	Sqm	1	20.00	0.60		12.00
	Ch.670.0 to ch.740.0	Sqm	1	70.00	1.67		116.90
	Ch.758.0 to Ch.762.0	Sqm	1	4.00	1.08		4.32
	Road No.7/25-Monkeystand New Road						0.00
	LHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.28.0 to Ch.30.0	Sqm	1	2.00	3.00		6.00
	Ch.100.0 to Ch.160.0	Sqm	1	60.00	0.73		43.80
	Ch.195.0 to Ch.230.0	Sqm	1	35.00	0.46		16.10
	Ch.250.0 to Ch.270.0	Sqm	1	20.00	1.80		36.00
	Ch.290.0 to Ch.295.0	Sqm	1	5.00	1.40		7.00
	Ch.295.0 to Ch.318.0	Sqm	1	23	1.04		23.92
	Ch.325.0 to Ch.355.0	Sqm	1	30	0.83		24.90
	Ch.395.0 to Ch.440.0	Sqm	1	45	1.00		45.00
	Ch.458.0 to Ch.470.0	Sqm	1	12	0.50		6.00
	Ch.470.0 to Ch.508.0	Sqm	1	38	0.74		28.12
	Ch.530.0 to Ch.550.0	Sqm	1	20	2.05		41.00
	RHS						
	Ch.358.0 to Ch.410.0	Sqm	1	52	1.24		64.48
	Ch.445.0 to Ch.475.0	Sqm	1	30	1.07		32.10
	Road No.8/26-Jeppu Market Road						
	LHS						
	Ch.198.0 to Ch.212.0	Sqm	1	14	1.43		20.02
	RHS						
	Ch.190.0 to Ch.212.0	Sqm	1	22	0.73		16.06
	Road No.9/27-Gujjarkere Road						
	LHS						
	Ch.88.0 to Ch.98.0	Sqm	1	10	0.90		9.00
	Ch.565.0 to Ch.576.0	Sqm	1	11	0.91		10.01
	RHS						
	Ch.25.0 to Ch.35.0	Sqm	1	10	1.00		10.00
	Parking Area						
	2/19 - Old Kent Road						
	Ch.30.0 to Ch.90.00	Sqm	1	60	2.40		144.00
	6/24 - Mangaladevi Temple Road						
	Ch.320.0 to CH.440.0	Sqm	1	120	2.47		296.40
	9/27 - Gujjarkere Road						
	Ch.140.0 to Ch.200.0	Sqm	1	60	2.81		168.60
	Ch.240.0 to Ch.275.0	Sqm	1	35	2.67		93.45
	Table Top paver Block						
	2/19 - Old Kent Road	Sqm	2	12.00	3.00		72.00
	3/20 - Pandeshwar Road	Sqm	2	5.50	3.00		33.00
	4/22 - Bolar Fisheries Road	Sqm	2	5.50	3.00		33.00
	5/23 - Milihithuli Road	Sqm	2	6.20	3.00		37.20
	6/24 - Mangaladevi Temple Road	Sqm	2	14.50	3.00		87.00
	7/25 - Monkey Stand New Road	Sqm	2	6.20	3.00		37.20
	8/26 - Jeppu Market Road	Sqm	2	11.00	3.00		66.00
	9/27 - Gujjarkere Road	Sqm	2	6.20	3.00		37.20
		Sqm			Total Qty.		3808.38
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						
	2/19 - Old Kent Road	Cum	2	12.00	7.50	0.15	27.00
	3/20 - Pandeshwar Road	Cum	2	5.50	7.50	0.15	12.38
	4/22 - Bolar Fisheries Road	Cum	2	5.50	7.50	0.15	12.38
	5/23 - Milihithuli Road	Cum	2	6.20	7.50	0.15	13.95
	6/24 - Mangaladevi Temple Road	Cum	2	14.50	7.50	0.15	32.63
	7/25 - Monkey Stand New Road	Cum	2	6.20	7.50	0.15	13.95
	8/26 - Jeppu Market Road	Cum	2	11.00	7.50	0.15	24.75
	9/27 - Gujjarkere Road	Cum	2	6.20	7.50	0.15	13.95
		Cum			Total Qty.		150.98
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						
	2/19 - Old Kent Road	Cum	2	12.00	7.50	0.04	7.20
	3/20 - Pandeshwar Road	Cum	2	5.50	7.50	0.04	3.30
	4/22 - Bolar Fisheries Road	Cum	2	5.50	7.50	0.04	3.30
	5/23 - Milihithuli Road	Cum	2	6.20	7.50	0.04	3.72
	6/24 - Mangaladevi Temple Road	Cum	2	14.50	7.50	0.04	8.70
	7/25 - Monkey Stand New Road	Cum	2	6.20	7.50	0.04	3.72
	8/26 - Jeppu Market Road	Cum	2	11.00	7.50	0.04	6.60
	9/27 - Gujjarkere Road	Cum	2	6.20	7.50	0.04	3.72
		Cum			Total Qty.		40.26

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	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 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)						
	2/19 - Old Kent Road	Nos.	12				12.00
	3/20 - Pandeshwar Road	Nos.	4				4.00
	4/22 - Bolar Fisheries Road	Nos.	2				2.00
	5/23 - Milihithuli Road	Nos.	10				10.00
	6/24 - Mangaladevi Temple Road	Nos.	4				4.00
	7/25 - Monkey Stand New Road	Nos.	6				6.00
	8/26 - Jeppu Market Road	Nos.	4				4.00
	9/27 - Gujarkere Road	Nos.	7				7.00
		Nos.				Total Qty.	49.00
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 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)						
	2/19 - Old Kent Road	Nos.	1				1.00
	3/20 - Pandeshwar Road	Nos.	1				1.00
	4/22 - Bolar Fisheries Road	Nos.	1				1.00
	5/23 - Milihithuli Road	Nos.	1				1.00
	6/24 - Mangaladevi Temple Road	Nos.	1				1.00
	7/25 - Monkey Stand New Road	Nos.	1				1.00
	8/26 - Jeppu Market Road	Nos.	1				1.00
	9/27 - Gujarkere Road	Nos.	1				1.00
		Nos.				Total Qty.	8.00
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 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)						
	2/19 - Old Kent Road	Nos.	21				21.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	3/20 - Pandeshwar Road	Nos.	8				8.00
	4/22 - Bolar Fisheries Road	Nos.	6				6.00
	5/23 - Milihithuli Road	Nos.	17				17.00
	6/24 - Mangaladevi Temple Road	Nos.	7				7.00
	7/25 - Monkey Stand New Road	Nos.	8				8.00
	8/26 - Jeppu Market Road	Nos.	2				2.00
	9/27 - Gujjarkere Road	Nos.	12				12.00
		Nos.				Total Qty.	81.00
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 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)						
				Area			
	2/19 - Old Kent Road	Sqm	1	0.9			0.90
	3/20 - Pandeshwar Road	Sqm	1	0.9			0.90
	4/22 - Bolar Fisheries Road	Sqm	1	0.9			0.90
	5/23 - Milihithuli Road	Sqm	1	0.9			0.90
	6/24 - Mangaladevi Temple Road	Sqm	1	0.9			0.90
	7/25 - Monkey Stand New Road	Sqm	1	0.9			0.90
	8/26 - Jeppu Market Road	Sqm	1	0.9			0.90
	9/27 - Gujjarkere Road	Sqm	1	0.9			0.90
		Sqm				Total Qty.	7.20
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			
	2/19 - Old Kent Road	Sqm	1	2			2.00
	3/20 - Pandeshwar Road	Sqm	1	2			2.00
	4/22 - Bolar Fisheries Road	Sqm	1	2			2.00
	5/23 - Milihithuli Road	Sqm	1	2			2.00
	6/24 - Mangaladevi Temple Road	Sqm	1	2			2.00
	7/25 - Monkey Stand New Road	Sqm	1	2			2.00
	8/26 - Jeppu Market Road	Sqm	1	2			2.00
	9/27 - Gujjarkere Road	Sqm	1	2			2.00
		Sqm				Total Qty.	16.00
56	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)						
	2/19 - Old Kent Road	Nos.	2				2.00
	3/20 - Pandeshwar Road	Nos.	2				2.00
	4/22 - Bolar Fisheries Road	Nos.	2				2.00
	5/23 - Milihithuli Road	Nos.	5				5.00
	6/24 - Mangaladevi Temple Road	Nos.	3				3.00
	7/25 - Monkey Stand New Road	Nos.	2				2.00
	8/26 - Jeppu Market Road	Nos.	2				2.00
	9/27 - Gujjarkere Road	Nos.	2				2.00
		Nos.				Total Qty.	20.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
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)						
	2/19 - Old Kent Road	Nos	108				108.00
	3/20 - Pandeshwar Road	Nos	38				38.00
	4/22 - Bolar Fisheries Road	Nos	16				16.00
	5/23 - Milhithuli Road	Nos	80				80.00
	6/24 - Mangaladevi Temple Road	Nos	108				108.00
	7/25 - Monkey Stand New Road	Nos	20				20.00
	8/26 - Jeppu Market Road	Nos	84				84.00
	9/27 - Gujjarkere Road	Nos	96				96.00
		Nos.		Total Qty.			550.00
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						
2	2/19 - Old Kent Road						
a	Continuos Line-at Edge	Sqm	2	820	0.1		164.00
b	Continuos Line-at Median	Sqm	0		0.1		0.00
c	Dash Lines	Sqm	0	492	0.1		0.00
d	Arrow	Sqm	18	0.76	Area/Rm		13.68
e	Pedstrian Crossing	Sqm	6	6.2	1.4		52.08
f	Table Top Crossing	Sqm	1	12	16.82		201.84
3	3/20 - Pandeshwar Road						
a	Continuos Line-at Edge	Sqm	2	280	0.1		56.00
b	Continuos Line-at Median	Sqm	0	90	0.1		0.00
c	Dash Lines	Sqm	0	168	0.1		0.00
d	Arrow	Sqm	126	0.76	Area/Rm		95.76
e	Pedstrian Crossing	Sqm	3	5.5	1.4		23.10
f	Table Top Crossing	Sqm	1	5.5	16.82		92.51
4	4/22 - Bolar Fisheries Road						
a	Continuos Line-at Edge	Sqm	2	150	0.1		30.00
b	Continuos Line-at Median	Sqm	0		0.1		0.00
c	Dash Lines	Sqm	0	90	0.1		0.00
d	Arrow	Sqm	8	0.76	Area/Rm		6.08
e	Pedstrian Crossing	Sqm	2	5.5	1.4		15.40
f	Table Top Crossing	Sqm	1	5.5	16.82		92.51
5	5/23 - Milhithuli Road						
a	Continuos Line-at Edge	Sqm	2	920	0.1		184.00
b	Continuos Line-at Median	Sqm	0	0	0.1		0.00
c	Dash Lines	Sqm	0	0	0.1		0.00
d	Arrow	Sqm	36	0.76	Area/Rm		27.36
e	Pedstrian Crossing	Sqm	8	6.2	1.4		69.44
f	Table Top Crossing	Sqm	1	6.2	16.82		104.28
6	6/24 - Mangaladevi Temple Road						
a	Continuos Line-at Edge	Sqm	2	830	0.1		166.00
b	Continuos Line-at Median	Sqm	0	830	0.1		0.00
c	Dash Lines	Sqm	2	498	0.1		99.60
d	Arrow	Sqm	48	0.76	Area/Rm		36.48
e	Pedstrian Crossing	Sqm	4	14.5	1.4		81.20
f	Table Top Crossing	Sqm	1	14.5	16.82		243.89
7	7/25 - Monkey Stand New Road						
	Ch.0 to Ch.478.0						
a	Continuos Line-at Edge	Sqm	2	539	0.1		107.80
b	Continuos Line-at Median	Sqm	0	539	0.1		0.00
c	Dash Lines	Sqm	0	323.4	0.1		0.00
d	Arrow	Sqm	34	0.76	Area/Rm		25.84
e	Pedstrian Crossing	Sqm	5	6.2	1.4		43.40
f	Table Top Crossing	Sqm	1	6.2	16.82		104.28
8	8/26 - Jeppu Market Road						
a	Continuos Line-at Edge	Sqm	2	225	0.1		45.00
b	Continuos Line-at Median	Sqm	0	225	0.1		0.00
c	Dash Lines	Sqm	2	135	0.1		27.00
d	Arrow	Sqm	16	0.76	Area/Rm		12.16
e	Pedstrian Crossing	Sqm	4	11	1.4		61.60
f	Table Top Crossing	Sqm	1	11	16.82		185.02
9	9/27 - Gujjarkere Road						
a	Ch.0 to Ch.478.0						
b	Continuos Line-at Edge	Sqm	2	645	0.1		129.00
c	Continuos Line-at Median	Sqm	0	645	0.1		0.00
d	Dash Lines	Sqm	0	387	0.1		0.00
e	Arrow	Sqm	32	0.76	Area/Rm		24.32

Sr. No.	Description	Unit	No's	L	B	H	Qty.
f	Pedstrian Crossing	Sqm	6	6.2	1.4		52.08
	Table Top Crossing	Sqm	1	6.2	16.82		104.28
	Add 10% Extra qty.						277.70
		Sqm			Total Qty.		3054.70
59	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.	4				4.00
	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 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)						
60	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 superstructu/re including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2. (KPWD 18-19,SI.No.6.7)						
2	2/19-Old Kent Road						
	Long Wall	Cum	32.00	3.00	0.23	0.65	14.35
	Short Wall	Cum	32.00	0.60	0.23	0.65	2.87
3	3/20- Pandeshwar New Road						
	Long Wall	Cum	6.00	3.00	0.23	0.65	2.69
	Short Wall	Cum	6.00	0.60	0.23	0.65	0.54
4	4/22-Bolar Fisheries College Road						
	Long Wall	Cum	6.00	3.00	0.23	0.65	2.69
	Short Wall	Cum	6.00	0.60	0.23	0.65	0.54
5	5/23-Mulihithlu 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
6	6/24-Mangaladevi Temple 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
7	7/25-Monkey stand New Road						
	Long Wall	Cum	8.00	3.00	0.23	0.65	3.59
	Short Wall	Cum	8.00	0.60	0.23	0.65	0.72
8	8/26-Jeppu Market 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
9	9/27-Gujjarkere 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.		55.97
61	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)						
2	2/19-Old Kent Road						
	Long Wall	Sqm	32.00	3.00		0.45	43.20
	Short Wall	Sqm	32.00	0.60		0.45	8.64
3	3/20- Pandeshwar New Road						
	Long Wall	Sqm	6.00	3.00		0.45	8.10
	Short Wall	Sqm	6.00	0.60		0.45	1.62
4	4/22-Bolar Fisheries College Road						
	Long Wall	Sqm	6.00	3.00		0.45	8.10
	Short Wall	Sqm	6.00	0.60		0.45	1.62
5	5/23-Mulihithlu Road						
	Long Wall	Sqm	16.00	3.00		0.45	21.60
	Short Wall	Sqm	16.00	0.60		0.45	4.32
6	6/24-Mangaladevi Temple Road						
	Long Wall	Sqm	16.00	3.00		0.45	21.60
	Short Wall	Sqm	16.00	0.60		0.45	4.32

Sr. No.	Description	Unit	No's	L	B	H	Qty.
7	7/25-Monkey stand New Road						
	Long Wall	Sqm	8.00	3.00		0.45	10.80
	Short Wall	Sqm	8.00	0.60		0.45	2.16
8	8/26-Jeppu Market Road						
	Long Wall	Sqm	4.00	3.00		0.45	5.40
	Short Wall	Sqm	4.00	0.60		0.45	1.08
9	9/27-Gujjarkere 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.			168.48
62	Providing and fixing 450mm wide X 600mmX 20mm thk.RIVERWASHED BLACK GRANITE CLADDING on surface of seating as directed by architect (Non SOR Item)						
2	2/19-Old Kent Road						
	Bench	Sqm	16.00	3.00		0.60	28.80
3	3/20- Pandeshwar New Road						
	Bench	Sqm	3.00	3.00		0.60	5.40
4	4/22-Bolar Fisheries College Road						
	Bench	Sqm	3.00	3.00		0.60	5.40
5	5/23-Mulihithlu Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
6	6/24-Mangaladevi Temple Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
7	7/25-Monkey stand New Road						
	Bench	Sqm	4.00	3.00		0.60	7.20
8	8/26-Jeppu Market Road						
	Bench	Sqm	2.00	3.00		0.60	3.60
9	9/27-Gujjarkere Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
		Sqm		Total Qty.			93.60
63	Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)						
	2/19 - Old Kent Road	Nos	20				20.00
	3/20 - Pandeshwar Road	Nos	4				4.00
	4/22 - Bolar Fisheries Road	Nos	6				6.00
	5/23 - Milihithuli Road	Nos	33				33.00
	6/24 - Mangaladevi Temple Road	Nos	0				0.00
	7/25 - Monkey Stand New Road	Nos	17				17.00
	8/26 - Jeppu Market Road	Nos	8				8.00
	9/27 - Gujjarkere Road	Nos	7				7.00
							95.00
64	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	100			100.00
	LHS	Rm	1	100			100.00
		Rm				A=	200.00
	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
	Logo Plate	KG		1	0.07065	0.001	0.000071
		KG				Total Wight for 2.4 m Railing (A)	49.91
	Railing per 1m Weight(A / 2.4 m)	KG				B=	20.8
	Total Railing Weight (A x B)	MT					4.16
65	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.						
	2/19 - Old Kent Road	Nos.	17				17.00
	3/20 - Pandeshwar Road	Nos.	6				6.00
	4/22 - Bolar Fisheries Road	Nos.	4				4.00
	5/23 - Milihithuli Road	Nos.	19				19.00
	6/24 - Mangaladevi Temple Road	Nos.	17				17.00
	7/25 - Monkey Stand New Road	Nos.	11				11.00
	8/26 - Jeppu Market Road	Nos.	5				5.00
	9/27 - Gujjarkere Road	Nos.	13				13.00
		Nos.		Total Qty.			92.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
66	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	Nos.	10				10.00
67	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	21133.53			21133.53
68	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	16975.31			16975.31

**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 6

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.
34	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.

35	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)		
	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	<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>			
	<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 Equilateral Triangle-TYPE XI (KPWD 18-19,SI No : 24.2.1)</p>			
	Basic Rate		3511	
	Add 10% For area weightage (Mangalore City)		351.1	
		Rate	3862.10	Nos
52	<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>			
	<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>			
	Basic Rate		4958	
	Add 10% For area weightage (Mangalore City)		495.8	
		Rate	5453.80	Nos
53	<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>			

	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 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 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 inforatory 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
0	Providing and Fixing of Bus shelter(on prepared foundation) made of SS 304 frame work with brush steel finish, Galvanised Aluminium powder coated roofing and electronic circuit to control its lighting.The seating shall be made of SS 304 tubular sections for seat and back rest.each unit size of 4500mm x 600mm with a minimum backrest support of 450mm.Bus shelter shall have the Side Display board to have 1100X400mm Electronic display.The electronic display board to be of LED Scrolling type with Oval, 4.3 x 5.1mm dia. Diffused. LED's having Amber colour.Dual bin system should be adopted one for recycle waste & 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.
59	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.

60	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
61	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
63	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.
64	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
65	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.
66	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		
	Basic Rate		2242
	Add 10% For area weightage (Mangalore City)		224.2
		Rate	2466.20 Nos.
67	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
68	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-6 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.	7	1,681	11,765	
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.	7	4,057	28,399	
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 door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with	Nos.	204	12,420	2,533,680	
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.	36	7,398	266,328	
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.	4	3,540	14,160	
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.	207	2,400	496,800	
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	7	620	4,340	
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.	48	11,783	565,580	
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	48	1,547	74,256	

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	12210	117	1,428,570	
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	3194	81.60	260,630	
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	1664	11.31	18,820	
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	1446	3.12	4,512	
4	Earthing system					
4.1	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	96	5,500.00	528,000	
4.2	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	10745	19.50	209,528	
5	Dismantling of 7 mtr high mast pole/ strut embedded in cement concrete foundation etc. as required RA attached	Nos.	0	2,541.48	-	
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.	0	5,476.00	-	
				TOTAL	64,45,368	

**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						
	Old Port road (Road no 1)	Nos.	6				6.00
	Old Kent road (Road no 2)	Nos.	0				0.00
	Pandeshwar new road (Road no 3)	Nos.	0				0.00
	Bollar fisheries college road (Road no 4)	Nos.	1				1.00
	Monkeystand New Road (Road no 7)	Nos.	0				0.00
	Mangaladevi Temple Road (Road no 6)	Nos.	0				0.00
	Jeppu Market Road (Road no 8)	Nos.	0				0.00
	Gujjarkere Road (Road no 9)	Nos.	0				0.00
	Mulihithlu Road (Road no 5)	Nos.	0				0.00
						Total	7.00
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)						
	Old Port road (Road no 1)	Nos.	6				6.00
	Old Kent road (Road no 2)	Nos.	0				0.00
	Pandeshwar new road (Road no 3)	Nos.	0				0.00
	Bollar fisheries college road (Road no 4)	Nos.	1				1.00
	Monkeystand New Road (Road no 7)	Nos.	0				0.00
	Mangaladevi Temple Road (Road no 6)	Nos.	0				0.00
	Jeppu Market Road (Road no 8)	Nos.	0				0.00
	Gujjarkere Road (Road no 9)	Nos.	0				0.00
	Mulihithlu Road (Road no 5)	Nos.	0				0.00
						Total	7.00
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)						
	Old Port road (Road no 1)	Nos.	5				5.00
	Old Kent road (Road no 2)	Nos.	33				33.00
	Pandeshwar new road (Road no 3)	Nos.	11				11.00
	Bollar fisheries college road (Road no 4)	Nos.	7				7.00
	Monkeystand New Road (Road no 7)	Nos.	22				22.00
	Mangaladevi Temple Road (Road no 6)	Nos.	47				47.00
	Jeppu Market Road (Road no 8)	Nos.	16				16.00
	Gujjarkere Road (Road no 9)	Nos.	33				33.00
	Mulihithlu Road (Road no 5)	Nos.	30				30.00

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
						Total	204
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)						
	Old Port road (Road no 1)	Nos.	4				4.00
	Old Kent road (Road no 2)	Nos.	11				11.00
	Pandeshwar new road (Road no 3)	Nos.	0				0.00
	Bollar fisheries college road (Road no 4)	Nos.					
	Monkeystand New Road (Road no 7)	Nos.	5				5.00
	Mangaladevi Temple Road (Road no 6)	Nos.	10				10.00
	Jeppu Market Road (Road no 8)	Nos.					0.00
	Gujjarkere Road (Road no 9)	Nos.					0.00
	Mulihithlu Road (Road no 5)	Nos.	6				6.00
						Total	36.00
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						
	Old Port road (Road no 1)	Nos.	4				4.00
	Old Kent road (Road no 2)	Nos.	0				0.00
	Pandeshwar new road (Road no 3)	Nos.	0				0.00
	Bollar fisheries college road (Road no 4)	Nos.	0				0.00
	Monkeystand New Road (Road no 7)	Nos.	0				
	Mangaladevi Temple Road (Road no 6)	Nos.	0				0.00
	Jeppu Market Road (Road no 8)	Nos.	0				0.00
	Gujjarkere Road (Road no 9)	Nos.	0				0.00
	Mulihithlu Road (Road no 5)	Nos.	0				0.00
						Total	4.00
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)						
	Old Port road (Road no 1)	Nos.	7				7.00
	Old Kent road (Road no 2)	Nos.	33				33.00
	Pandeshwar new road (Road no 3)	Nos.	11				11.00
	Bollar fisheries college road (Road no 4)	Nos.	8				8.00
	Monkeystand New Road (Road no 7)	Nos.	22				22.00
	Mangaladevi Temple Road (Road no 6)	Nos.	47				47.00
	Jeppu Market Road (Road no 8)	Nos.	16				16.00
	Gujjarkere Road (Road no 9)	Nos.	33				33.00
	Mulihithlu Road (Road no 5)	Nos.	30				30.00
						Total	207

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)						
	Old Port road (Road no 1)	Nos.	6				6.00
	Old Kent road (Road no 2)	Nos.	0				0.00
	Pandeshwar new road (Road no 3)	Nos.	0				0.00
	Bollar fisheries college road (Road no 4)	Nos.	1				1.00
	Monkeystand New Road (Road no 7)	Nos.	0				0.00
	Mangaladevi Temple Road (Road no 6)	Nos.	0				0.00
	Jeppu Market Road (Road no 8)	Nos.	0				0.00
	Gujjarkere Road (Road no 9)	Nos.	0				0.00
	Mulihithlu Road (Road no 5)	Nos.	0				0.00
						Total	7.00
2	Lighting Panel						
2.1	Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets						
	Old Port road (Road no 1)	Nos.	4				4.00
	Old Kent road (Road no 2)	Nos.	14				14.00
	Pandeshwar new road (Road no 3)	Nos.	5				5.00
	Bollar fisheries college road (Road no 4)	Nos.	1				1.00
	Monkeystand New Road (Road no 7)	Nos.	3				3.00
	Mangaladevi Temple Road (Road no 6)	Nos.	5				5.00
	Jeppu Market Road (Road no 8)	Nos.	4				4.00
	Gujjarkere Road (Road no 9)	Nos.	4				4.00
	Mulihithlu Road (Road no 5)	Nos.	8				8.00
						Total	48
2.2	Supply and fixing of miniature circuit breaker on existig 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)						
	Old Port road (Road no 1)	Nos.	4				4.00
	Old Kent road (Road no 2)	Nos.	14				14.00
	Pandeshwar new road (Road no 3)	Nos.	5				5.00
	Bollar fisheries college road (Road no 4)	Nos.	1				1.00
	Monkeystand New Road (Road no 7)	Nos.	3				3.00
	Mangaladevi Temple Road (Road no 6)	Nos.	5				5.00
	Jeppu Market Road (Road no 8)	Nos.	4				4.00
	Gujjarkere Road (Road no 9)	Nos.	4				4.00
	Mulihithlu Road (Road no 5)	Nos.	8				8.00
						Total	48
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)						

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
	Old Port road (Road no 1) (Considering 25% more length for looping)	m	2	581			1163
	Old Kent road (Road no 2)(Considering 25% more length for looping)	m	2	1038			2075
	Pandeshwar new road (Road no 3) (Considering 25% more length for looping)	m	2	350			700
	Bollar fisheries college road (Road no 4) (Considering 25% more length for looping)	m	2	188			375
	Monkeystand New Road (Road no 7) (Considering 25% more length for looping)	m	2	674			1348
	Mangaladevi Temple Road (Road no 6) (Considering 25% more length for looping)	m	2	1038			2075
	Jeppu Market Road (Road no 8)(Considering 25% more length for looping)	m	2	281			563
	Gujjarkere Road (Road no 9) (Considering 25% more length for looping)	m	2	806			1613
	Mulihithlu Road (Road no 5) ((Considering 25% more length for looping)	m	2	1150			2300
						Total	12210
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)						
	Old Port road (Road no 1)						
	7 mtr high pole	m	11	14			154.00
	4m high pole	m	4	8			32.00
	Old Kent road (Road no 2)						
	7m high pole	m	33	14			462.00
	4m high pole	m	11	8			88.00
	Pandeshwar new road (Road no 3)						
	7m high pole	m	11	14			154.00
	4m high pole	m	0	8			0.00
	Bollar fisheries college road (Road no 4)						
	7 mtr high pole	m	8	14			112.00
	Monkeystand New Road (Road no 7)						
	7 mtr high pole	m	22	14			308.00
	4 mtr high pole	m	5	8			40.00
	Mangaladevi Temple Road (Road no 6)						
	7 mtr high pole	m	47	14			658.00
	4 mtr high pole	m	10	8			80.00
	Jeppu Market Road (Road no 8)						
	7 mtr high pole	m	16	14			224.00
	Gujjarkere Road (Road no 9)						
	7 mtr high pole	m	33	14			462.00
	Mulihithlu Road (Road no 5)						
	7 mtr road	m	30	14			420.00
	4 mtr high pole	m	0	8			0.00
						Total	3194
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			
	Old Port road (Road no 1)						
	7 mtr high pole	Nos.	11	8			88.00
	4m high pole	Nos.	4	8			32.00

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
	Old Kent road (Road no 2)						
	7m high pole	Nos.	33	8			264.00
	4m high pole	Nos.	11	8			88.00
	Pandeshwar new road (Road no 3)						
	7m high pole	Nos.	11	8			88.00
	4m high pole	Nos.	0	8			0.00
	Bollar fisheries college road (Road no 4)						
	7 mtr high pole	Nos.	8	8			64.00
	Monkeystand New Road (Road no 7)						
	7 mtr high pole	Nos.	22	8			176.00
	4 mtr high pole	Nos.	5	8			40.00
	Mangaladevi Temple Road (Road no 6)						
	7 mtr high pole	Nos.	47	8			376.00
	4m high pole	Nos.	10	8			80.00
	Jeppu Market Road (Road no 8)						
	7 mtr high pole	Nos.	16	8			128.00
	Gujjarkere Road (Road no 9)						
	7 mtr high pole		33				
	Mulihithlu Road (Road no 5)						
	7 mtr road	Nos.	30	8			240.00
	4 mtr high pole	Nos.	0	8			0.00
						Total	1664
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)						
	Old Port road (Road no 1)						
	7 mtr high pole	Nos.	11	6			66.00
	4m high pole	Nos.	4	6			24.00
	Old Kent road (Road no 2)						
	7m high pole	Nos.	33	6			198.00
	4m high pole		11	6			66.00
	Pandeshwar new road (Road no 3)						
	7m high pole	Nos.	11	6			66.00
	4m high pole		0	6			0.00
	Bollar fisheries college road (Road no 4)						
	7 mtr high pole	Nos.	8	6			48.00
	Monkeystand New Road (Road no 7)						
	7 mtr high pole	Nos.	22	6			132.00
	4 mtr high pole	Nos.	5	6			30.00
	Mangaladevi Temple Road (Road no 6)						
	7 mtr high pole	Nos.	47	6			282.00
	4 mtr high pole	Nos.	10	6			60.00
	Jeppu Market Road (Road no 8)						
	7 mtr high pole	Nos.	16	6			96.00
	Gujjarkere Road (Road no 9)						
	7 mtr high pole	Nos.	33	6			198.00
	Mulihithlu Road (Road no 5)						
	7 mtr road	Nos.	30	6			180.00
	4 mtr high pole	Nos.	0	6			0.00
						Total	1446

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
4.1	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)						
	Old Port road (Road no 1)	Nos.	4	2			8.00
	Old Kent road (Road no 2)	Nos.	14	2			28.00
	Pandeshwar new road (Road no 3)	Nos.	5	2			10.00
	Bollar fisheries college road (Road no 4)	Nos.	1	2			2.00
	Monkeystand New Road (Road no 7)	Nos.	3	2			6.00
	Mangaladevi Temple Road (Road no 6)	Nos.	5	2			10.00
	Jeppu Market Road (Road no 8)	Nos.	4	2			8.00
	Gujjarkere Road (Road no 9)	Nos.	4	2			8.00
	Mulihithlu Road (Road no 5)	Nos.	8	2			16.00
						Total	96
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)						
	Old Port road (Road no 1)	m	2	512			1023.00
	Old Kent road (Road no 2)	m	2	913			1826.00
	Pandeshwar new road (Road no 3)	m	2	308			616.00
	Bollar fisheries college road (Road no 4)	m	2	165			330.00
	Monkeystand New Road (Road no 7)	m	2	593			1185.80
	Mangaladevi Temple Road (Road no 6)	m	2	913			1826.00
	Jeppu Market Road (Road no 8)	m	2	248			495.00
	Gujjarkere Road (Road no 9)	m	2	710			1419.00
	Mulihithlu Road (Road no 5)	m	2	1012			2024.00
						Total	10745
5	Dismantling of 7 mtr high mast pole/ strut embedded in cement concrete foundation etc. as required RA attached	No	0				0.00
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	0				0.00

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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 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)		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 necessary 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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MSCL Mangaluru**

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MSCL Mangaluru**

**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
	Khallas	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, SI. No 13
	Lineman	day	1	486.20	486.2	PWD SOR 2018-19, LVIII, SI. No 38
	Khallasi	day	5	466.20	2331	PWD SOR 2018-19, LXIV, SI. 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, SI. 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, SI. No 4.1
	TOTAL				5475.531	
	say				5476	

**Assistant Engineer
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**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Manglore Smart City

3.1 BOQ OF SOFTSCAPE for DPR 6

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	96.48	140.00	13,507	
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	47.52	224.40	10,663	
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	144.00	113.30	16,315	
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	144.00	23.91	3,443	
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	240.00	17.60	4,224	

Sr.No.	Specifications	Unit	Quantity	Rate	Amount	Remarks
1.2	TURF					
1.2.1	ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	240.00	156.80	37,632	
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	240.00	560.00	134,400	
Total					2,20,184	

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

31,202
3744

Executive Engineer
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General Manager Technical
MSCL Mangaluru

**Name of the Work :- Manglore Smart City
3.1.1 Measurement Sheet of softscape for DPR 6**

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)						
	Road	Cum	0.67	24.00	Area	0.60	9.65
	Road	Cum	0.67	42.00	Area	0.60	16.88
	median	Cum	0.67	290.00	0.60	0.60	69.95
	Consider 2/3rd Qty of Item No.1.1.7	Cum					96.48
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)						
	Road	Cum	0.33	24	Area	0.6	4.75
	Road	Cum	0.33	42	Area	0.6	8.32
	median	Cum	0.33	290	0.6	0.6	34.45
	Consider 1/3rd Qty of Item No.1.1.7	Cum					47.52
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)						
	Road	Cum	1	24	Area	0.6	14.40
	Road	Cum	1	42	Area	0.6	25.20
	median	Cum	1	290	0.6	0.6	104.40
						Total	144.00
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					144.00

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						
	Road	Sqm	1	24.00	Area		24.00
	Road	Sqm	1	42.00	Area		42.00
	median	Sqm	1	290.00	0.6		174.00
						Total	240.00
1.1.6	ZOYSIA JAPONICA (MAT) (Non SOR Item)						
	Road	Sqm	1	24	Area		24.00
	Road	Sqm	1	42	Area		42.00
	median	Sqm	1	290	0.6		174.00
						Total	240.00
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)						
	Road	Sqm	1	24	Area		24.00
	Road	Sqm	1	42	Area		42.00
	median	Sqm	1	290	0.6		174.00
						Total	240.00

**Assistant Engineer
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**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Manglore Smart City
3.1.2 Rate Analysis of SOFTSCAPE for DPR 6

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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MSCL Mangaluru**

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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 be 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 $(((0.114+0.165)/2)*0.4*0.005) + (0.25*0.165*0.005) = 0.062\text{cum.}$ 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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Mangalore 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 = 223x(((0.075+0.1)/2)*0.3)*0.45=2.63cum					
	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 = 223x1x [(((0.075+0.1)/2)*0.3*0.005] = 0.029cum. 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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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	Sl.No.12,Page No.LIV,
		Mazdoor skilled	day	2	446.2	892.4	Sl.No.6,Page No.LIV,
		Mazdoor	day	8	446.2	3569.6	Sl.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	Sl.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,Sl.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>	

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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	

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5.0 Summary for Maintenance

Sr.No.	description	Total Amount Rs.
1	2nd year Maintenance	3,952,443.00
2	3rd year Maintenance	4,131,423.00
3	4th year Maintenance	4,237,590.00
	Total Maintenance Amount	12,321,456.00
	GST @12% for Maintenance Period on SOR Base Items	901,868.00
	GST @12% for Maintenance Period on Market Base Items	272,081.00
	Total	13,495,405.00

Note: Maintenance cost is approved by KUIDFC

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Name of the Work :- Mangalore Smart City
5.1 Abstract for Maintenance of Road and Other Work for DPR 6-1st 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	0.27	1028.46	,278
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 18-19,18.20,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	0.02	401.54	8
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	350.00	57.60	20,160
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 18-19,SI No.2.11,Pg. No.6)	Cum	250.00	137.28	34,320

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
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 18-19,SI No.19.64,Pg. No.149)	Sqm	250.00	6.86	1,715
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 chills , 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)	Cum	9.00	6749.60	60,746
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 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	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, 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	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 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	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	14.70	4630.91	68,074
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	8.00	4209.92	33,679
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	33.81	6595.16	2,22,982
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	5.00	119.60	,598
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	100.00	378.66	37,866

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). (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 2018-19,P.No.86, SI.No.12.89)</p>	Nos.	5.00	949.52	4,748

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 2018-19,SI.No.24.36)</p>	Rmt	8.00	5745.17	45,961
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 antiquitting 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	6.00	8967.82	53,807
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 - 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	10022.58	16,036
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.	50.00	330.62	16,531
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	4.00	63648.00	2,54,592
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	1452.22	186.16	2,70,345
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.	240.00	644.80	154,752
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.	70.00	12254.24	857,797
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	39,63,351

		GST
SOR Item Total	16,41,721	197007
Market Base Item	6,64,223	119560

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 6 -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	1	1	1	0.27	0.27
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 18-19,18.20,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	1	1	0.2	0.1	0.02
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 tipper,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	7	0.5	350.00
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 18-19,SI No.2.11,Pg. No.6)	Cum	1.00	100	5	0.5	250.00
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 18-19,SI No.19.64,Pg. No.149)	Sqm	1.00	50		5	250.00

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 2018-19)	Cum	1.00	15	6	0.1	9.00
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/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	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 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,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	7	3.5	0.1	14.70

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 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)	Cum	1.00	40	2	0.1	8.00
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	7	3.5	0.23	33.81
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	5			5.00
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	100			100.00
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: 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, P.No.86, SI.No.12.89)	Nos.	1.00	5			5.00
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	8.00			8.00
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 anti-quitting 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	2.00	2.5	8	0.15	6.00
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	2.00	2.5	8	0.04	1.60
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 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

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	4.00				4.00
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	10373	0.7	0.1	1452.22
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

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
	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
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				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.	240.00				240.00
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.	70.00				70.00
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

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
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						
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				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 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 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 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 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 machineris 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

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
	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 6**

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 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 -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	<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>			
	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	<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 antiquitting it on top with approved colour. Sealing entire area with concrete sealer.</p>			
	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	<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>			
	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	<p>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)</p>			
	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	<p>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</p>			
	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, 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 -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 6-2nd 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	0.30	1068.01	,320
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	0.23	416.99	,96
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, 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	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/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	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 2nd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	4.00	66096.00	2,64,384
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

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
	Electrical Works				
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, 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	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, 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	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.	240.00	669.60	160,704
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 machineris 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	39,52,443

**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 6-2nd 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 attached)	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	1	1	1	0.3	0.30
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	2	1	0.5	0.23	0.23
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 (PWD 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. <i>Case III: Triple row for three utility services.</i>	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.	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	4.00				4.00
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.	240.00				240.00
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 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 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	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-in-charge.	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 6**

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 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)</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 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- 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 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- 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 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 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 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	<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>			
	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	<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>			
	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	<p>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)</p>			
	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	<p>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</p>			
	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	<p>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</p>			
	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 6 - 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	0.30	1107.57	,332
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 18-19,18.20,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	0.23	432.43	,99
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 18-19,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 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)	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 2018-19)	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 superplastisizer at 3 lts conforming 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 testing 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 2018-19,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 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	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 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	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 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	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 18-19,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
41.00	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)	Sqm	600.00	528.53	3,17,118

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
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	4.00	68544.00	2,74,176
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, 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	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, 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	8285.76	8,286
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

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
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.	240.00	694.40	166,656
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 conforming 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 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	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				
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

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
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	41,31,423

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 6 - 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	1	1	1	0.3	0.30
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)Dismantaling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	2	1	0.5	0.23	0.23
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/Murram 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 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 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: 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 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 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 3rd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	4.00				4.00

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, 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 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				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.	240.00				240.00
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 6**

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	<p>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)</p>				
	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	<p>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)</p>				
	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	<p>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</p>				
	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	<p>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</p>				
	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	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)				
	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	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)				
	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	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)				
	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	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)				
	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	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)				
	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	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)				
	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	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)				
	Basic rate			15481.61	
	Maintenance- 3rd year escalation of 12%			1857.79	
	Add 10% For area weightage			1733.94	
			Rate	19073.34	Cum
22	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)				
	Basic rate			15481.61	
	Maintenance- 3rd year escalation of 12%			1857.79	
	Add 10% For area weightage			1733.94	
			Rate	19073.34	Cum
23	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.				
	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 antiquitting 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 6 - 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	0.30	1147.12	,344
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 18-19,18.20,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	0.23	447.88	103
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: 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,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 18-19,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 , 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	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 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	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 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	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 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	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 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,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

	Specification	Unit	Total Qty.	Rate	Amount
22.00	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)	Cum	1.18	20113.71	23,734
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 4th 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 4th 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 4th 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 testi g 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 2018-19,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 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 2018-19,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 presuure 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

	Specification	Unit	Total Qty.	Rate	Amount
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
33.00	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)	Nos.	20.00	1163.48	23,270
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.	20.00	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 stamping it using approved stamp pattern and antiquiting 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 - 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	11179.04	17,886

	Specification	Unit	Total Qty.	Rate	Amount
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
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	4.00	70992.00	2,83,968
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, 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	14407.20	14,407

	Specification	Unit	Total Qty.	Rate	Amount
	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
50.00					
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.	240.00	719.20	172,608
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 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)	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 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	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 necessasary 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 stackin 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	42,37,590

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 6- 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	1	1	1	0.3	0.30
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	2	1	0.5	0.23	0.23
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
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 , 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

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
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	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 confirming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedastals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnspillars, posts, struts, buttresses, bed blocks,anchor blocks & 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 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 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 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	10.00	3.5	3.5	0.1	12.25
16.00	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, 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

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
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 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 at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per specifications 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: 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 (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	0.103		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	0.0279		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	0.0118		1.18
23.00	<p>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.</p>	Rmt	100				100.00
24.00	<p>Maintenance for 4th Year: KSSRRB 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 4th 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 4th 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

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
27.00	Maintenance for 4th Year: P/F FRP Water gully cover with frame (25T) 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 testing 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, Sl.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 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, Sl.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 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 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	1	100			100.00
33.00	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)	Nos.	20				20.00
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

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
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	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 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				50.00
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	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	4.00				4.00
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
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

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
	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, 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 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				1.00
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				1.00
52.00	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 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.	240.00				240.00
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

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
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 varigin 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
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

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
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 6**

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	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)			
	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	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)			
	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	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)			
	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	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)			
	Basic Rate		5900	
	Maintenance- 4th year escalation of 16%		944	
	Add 10% For area weightage (Mangalore City)		684.4	
		Rate	7528.40	Cum
10	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			
	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, 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)</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 - 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- 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 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			
	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	
	Basic 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	
	Basic 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 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- 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**