

Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.
			Labour	Composite	
21-1	Excavation or cutting to a required grade, camber and side slopes including dressing top and sides and disposal of excavated material within a lift of 5ft (1.5m) and lead upto 100 ft. (30m)				21.1.1
a)	In all kinds of soil except gravelley, murum, wet silt, clay or mud.	Cu.m. Cu.ft.	179.95 5.10	179.95 5.10	
b)	Wet silt, clay or mud	Cu.m. Cu.ft.	278.30 7.90	278.30 7.90	
c)	Gravelly soil	Cu.m. Cu.ft.	210.45 5.95	210.45 5.95	
d)	Murum soil	Cu.m. Cu.ft.	256.20 7.25	256.20 7.25	
e)	Existing shingle road for placing sub-base or base course	Cu.m. Cu.ft.	270.70 7.65	270.70 7.65	
f)	Extra if excavated earth is required to be filled in road embankment by placing it in layers not exceeding 9" (230 mm) in depth including dressing top and sides of the bank.	Cu.m. Cu.ft.	72.45 2.05	72.45 2.05	
21-2	Excavation or cutting in soft rock by hammering, chiselling and pick or jumper work including storing and stacking the excavated material within a lift 5 ft. (1.5 m) and lead upto 100 ft. (30 m)	Cu.m. Cu.ft.	465.15 13.15	465.15 13.15	21.1.1
21-3	Excavation or cutting in soft rock by blasting including sorting and stacking the excavated material within a lift of 5 ft. (1.5 m) and lead upto 100 ft. (30 m)	Cu.m. Cu.ft.	465.15 13.15	523.55 14.85	21.1.1
21-4	Excavation or cutting in hard rock by blasting including sorting and stacking the excavated material within a lift of 5 ft. (1.5 m) and lead upto 100 ft. (30 m)	Cu.m. Cu.ft.	777.75 22.00	894.60 25.35	21.1.1
21-5	Excavation or cutting in hard rock by hammering & chiselling including sorting and stacking the excavated material within a lift of 5 ft (1.5m) and lead upto 100 ft (30m)				21.1.1
a)	Soft rock, slate, shale, schist or laterite work with pick and crow bar	Cu.m. Cu.ft.	282.70 8.00	339.30 9.60	
b)	Medium hard rock requiring occasional blasting	Cu.m. Cu.ft.	442.85 12.55	531.40 15.05	
21-6	Making earthen embankment with earth taken from approved borrow pits including cost of excavation, placing in layers not exceeding 9" (230mm) in depth including dressing top and sides of the bank within a lift of 5 ft. (1.5 m) and lead upto 100 ft. (30 m)				21.1.5
a)	In all kinds of soil except gravelley, murum, wet silt, clay or mud.	Cu.m. Cu.ft.	251.65 7.15	251.65 7.15	
b)	Wet silt, clay or mud	Cu.m. Cu.ft.	297.40 8.40	297.40 8.40	
c)	Gravelly soil	Cu.m. Cu.ft.	282.15 8.00	282.15 8.00	

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	d) Murum soil	Cu.m. Cu.ft.	297.40 8.40	297.40 8.40	
21-7	a) Extra for every 50 ft (15 m) additional lead or part thereof upto 820 ft.(250m) over items 21-1 and 21-6 for soft, ordinary, hard and very hard soil	Cu.m. Cu.ft.	4.90 0.15	4.90 0.15	
	b) Extra for lift beyond first 5 ft. (1.5 m.) and upto 10 ft. (3m.) over items 21-1 and 21-6.	Cu.m. Cu.ft.	61.00 1.75	61.00 1.75	
21-8	a) Extra for every 50 ft. (15m) additional lead or part thereof upto 820 ft. (250m) for items 21-2 to 21-5 for gravel, shingle or rock.	Cu.m. Cu.ft.	6.10 0.15	6.10 0.15	
	b) Extra for lift beyond first 5 ft. (1.5 m) and upto 10 ft. (3 m.) over items 21-2 to 21-5.	Cu.m. Cu.ft.	76.25 2.15	76.25 2.15	
21-9	Compaction of earthen embankments to full depth and width below sub-grade level by mechanical means in layers not exceeding 8" (200mm) in depth at optimum moisture content including watering and mixing by mechanical means. The sub-grade embankments shall be compacted to at least 95% modified AASHTO maximum dry density for their full depth and width.	Cu.m. Cu.ft.	15.25 0.45	201.35 5.70	21.1.5
21-10	a) Preparation and compaction upto 90% modified AASHTO of natural ground upto a depth of 8" (20mm) in ordinary soil.	Sq.m. Sq.ft.	3.30 0.30	16.50 1.55	
	b) Clearing and grubbing (removal) of roots including scarifying natural ground upto 8" (20mm) depth and disposal of roots.	Sq.m. Sq.ft.	14.65 1.35	21.70 2.00	
21-11	Preparation of subgrade over top of compacted embankment to at least 95% modified AASHTO maximum dry density with required dressing including cutting to required grade, camber and side slopes and disposal of surplus material within a lead of 90m	Sq.m. Sq.ft.	15.25 1.40	23.10 2.15	
21-12	Preparation of sub-grade over bottom of excavation with required dressing to required grade, camber and side slopes including cutting to required depth and breaking clods, watering and consolidation with suitable mechanical means to attain maximum density of 95% modified AASHO for top 6" (150 mm) layer including disposal of surplus earth within a lead of 90 m	Sq.m. Sq.ft.	32.05 3.00	93.20 8.65	21.1.3
21-13	Providing and spreading murum (stone dust) of approved quality over stone metalling (water bound macadam) or brick ballast. Watering and consolidation with road roller including all lead and lift. (murum upto 25% of road metal)	Cu.m. Cu.ft.	305.00 8.65	1195.30 33.85	21.1.12
21-14	Spreading already excavated material available at site over metalling, watering, consolidation with road roller, pre-stacking of excavated material including all lead and lift.	Cu.m. Cu.ft.	305.00 8.65	561.20 15.90	21.1.12
21-14A	Providing and laying stone soling 6" thick with stone available at site to required grade and camber including packing with spawls, chips, watering, compacting with road roller and with all lead and lift.	Cu.m. Cu.ft.	237.00 6.70	573.45 16.25	
21-14B	Providing and laying stone soling 6" thick with locally available stone to required grade and camber including packing with spawls, chips, watering, compacting with road roller and with all lead and lift.	Cu.m. Cu.ft.	237.00 6.70	742.20 21.00	

Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.	
			Labour	Composite		
21-15	a) Providing and laying crushed stone of any thickness to required grade and camber including packing with spawls, chips, watering, compacting with road roller with all lead and lift.	Cu.m. Cu.ft.	497.15 14.10	1283.80 36.35	21.1.13	
	b) Providing and laying pitrun gravel in sub base or base course of any thickness to required grade and camber including watering and compacting with road roller with all lead and lift. (compacted thickness to be measured)	Cu.m. Cu.ft.	552.80 15.65	1169.25 33.10		21.1.10
	c) Providing and laying Granular sub base of any thickness to required grade and camber including watering compacting with road roller and with all lead and lift. (compacted thickness to be measured)	Cu.m. Cu.ft.	552.80 15.65	929.45 26.30		
21-16	Providing and laying, soling bricks sand grouted laid on edges in herring bond or any other approved pattern to required grade and camber including rolling with power roller with all lead and lift	Sq.m.	85.00	860.00	21.1.14	
		Sq.ft.	7.90	79.95		
21-17	a) Providing and laying graded aggregate base course of crushed stone of approved quality, including placing, mixing, spreading, watering and compacting base course to required depth, camber and grade to achieve 100% max. modified AASHTO dry density conforming to AASHTO specifications T -180, with mechanical means and with all lead and lift. (Carriage of crushed stone is included in the rate, within 5km of Project premises).	Cu.m. Cu.ft.	77.00 2.20	1399.60 39.65	21.1.12	
	b) Providing and laying graded Margalla crushed aggregate base course confirming to AASHTO specification upto any thickness in required grade and camber and compacting to the required density by approved mechanical means including watering with all lead and lift.	Cu.m. Cu.ft.	77.00 2.20	2000.00 56.65		
21-18	Providing and laying stone ballast 1.5" to 2.5" (37.5mm - 62.5mm) as per NHA specification (Class -B) hand broken stacked at site including blending with the stone dust or any other granular material approved by the Engineer-in-charge. Consolidating by mechanical interlocking through rolling to required grade depth and camber to achieve 100% modified AASHTO dry density including placing, mixing, spreading watering and compacting with all lead and lift. (Carriage of stone ballast is included in the rate, within 5km of Project premises)	Cu.m.	397.00	1846.00	21.1.11.6	
		Cu.ft.	11.25	52.25		
21-19	Surface dressing in one coat with bitumen 80/100 or any other approved grade using 40 lbs of bitumen and 5 cu.ft. of 1/2" size Margalla crushed aggregate per 100 Sq.ft (1.95 kg. of bitumen and 0.015 cu.m. of 1/2" size crushed aggregate per sq.m.) of road surface compacted with rolling.	Sq.m.	19.10	244.65	21.1.16	
		Sq.ft.	1.80	22.75		
21-20	Surface dressing in two coats including supply of bitumen 80/100 or any approved grade and Margalla crushed aggregate of approved size and grade for road surface with rolling	Sq.m. Sq.ft.	24.35 2.25	375.05 34.85	21.1.16	
	i) <b>First coat</b> 40 lbs of bitumen blended with 5.5 Cu.ft. of 3/4" crushed aggregate per 100 sq.ft. (1.96 kg. of bitumen blended with 0.017 Cu.m. of 13mm size crushed aggregate per Sq.m.)					
	ii) <b>Second coat</b> 25 lbs of bitumen blended with 2.75 Cu.ft. of 1/2" crushed aggregate per 100 sq.ft. (1.23 kg. of bitumen blended with 0.008 Cu.m. of 6.4mm size crushed aggregate per Sq.m.)					

Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.
			Labour	Composite	
21-21	Surface dressing in three coats including supply of bitumen 80/100 or any approved grade and bajri of approved size and grade, of road surface with rolling.	Sq.m.	31.80	399.15	21.1.16
		Sq.ft.	2.95	37.10	
	i) <b>First coat</b> 35 lbs of bitumen blended with 4 Cu.ft. of 3/4" Margalla crushed aggregate per 100 sq.ft. (1.72 kg. of bitumen blended with 0.013 Cu.m. of 20mm size crushed aggregate per Sq.m.)				
	ii) <b>Second coat</b> 18 lbs of bitumen blended with 2 Cu.ft. of 3/8" crushed aggregate per 100 sq.ft. (0.89 kg. of bitumen blended with 0.006 Cu.m. of 10mm size crushed aggregate per Sq.m.)				
	iii) <b>Third coat</b> 14 lbs of bitumen blended with 1.5 Cu.ft. of 1/4" crushed aggregate per 100 sq.ft. (0.69 kg. of bitumen blended with 0.005 Cu.m. of 6 mm size crushed aggregate per Sq.m.)				
21-22	Surface dressing on old surface with bitumen 80/100 or any other approved grade using 27 lbs. of bitumen with 4 Cu.ft of 1/4" or down grade Margalla crushed aggregate per 100 Sq.ft (1.22 kg. of bitumen with 0.012 Cu.m. per Sq.m. of 6.4 mm standard size crushed aggregate) of road surface with rolling	Sq.m.	48.35	213.60	21.1.18
		Sq.ft.	4.50	19.85	
21-23	Providing and applying prime coat of liquid asphalt (cut back) of any approved grade using asphalt (cut back) at 22 lbs. per 100 sq. ft. (1.07 kg. per sq.m.) including cleaning and brooming of road surface.	Sq.m.	32.40	150.15	21.1.17
		Sq.ft.	3.00	13.95	
21-24	Providing and applying tack coat of bitumen 80/100 or 60/70 or of any approved grade using bitumen at 15 lbs. per 100 sq. ft. (0.75 kg. of bitumen per sq.m.) including cleaning and brooming of road surface	Sq.m.	21.95	104.25	
		Sq.ft.	2.05	9.70	
21-25	Surface dressing with bitumen 80/100 or any other approved grade on a priming coat of liquid asphalt (cut-back) of any approved grade using primer at 22 lbs. and bitumen at 35 lbs. with 5 cu.ft. of 1/2" and down gauge crushed aggregate per 100 sq.ft (primer at 1.07 kg and bitumen 1.71 kg with 0.015 cu.m. of 13 mm and down gauge crushed aggregate per sq.m.) of road surface with rolling.	Sq.m.	43.10	384.60	
		Sq.ft.	4.00	35.75	
21-26	Providing and laying 1-1/2" (37.5 mm) consolidated thickness of asphalt concrete (road mix) using bitumen 80/100 of 60/70 of any approved grade with premixed Lawrencepur coarse sand flushing including compaction etc.	Sq.m.	117.75	840.60	21.1.20
		Sq.ft.	10.95	78.10	
	i) Using 3.5 lbs of bitumen per cu.ft. of 1/2" size crushed stone aggregate at 12 cu.ft per 100 sq.ft and 8 lbs of bitumen per cu.ft of coarse sand at 6 cu.ft per 100 sq.ft (56.06 kg bitumen per cu.m of 13 mm standard size crushed aggregate at 0.037 cu.m per sq.m. and 128.14 kg of bitumen per cu.m. of coarse sand at 0.018 cu.m. per sq.m) for asphalt concrete.				
	ii) Sand flushing with 2 cu.ft of sand mixed with 16 lbs of bitumen per 100 sq.ft.of road surface including 5 lb of bitumen per 100 sq.ft. of road surface (0.006 sq.m of sand mixed with 0.78 kg of bitumen per sq.m of road surface including 0.24 kg of bitumen per sq.m.of road surface for painting edging with rolling.				

Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.
			Labour	Composite	
21-27	Providing and laying 2" (50 mm) consolidated thickness of asphalt concrete (road mix) using bitumen 80/100 of 60/70 of any approved grade with premixed Lawrencepur coarse sand flushing.	Sq.m.	117.75	1052.50	21.1.20
		Sq.ft.	10.95	97.80	
i)	Using 3.5 lbs of bitumen per cu.ft. of 3/4" size crushed stone aggregate at 16 cu.ft per 100 sq.ft and 8 lbs of bitumen per cu.ft of coarse sand at 8 cu.ft per 100 sq.ft (56.06 kg bitumen per cu.m of 19 mm standard size crushed aggregate at 0.049 cu.m per sq.m. and 128.14 kg of bitumen per cu.m. of coarse sand at 0.024 cu.m. per sq.m) for asphalt concrete.				21.1.21
		ii)	Sand flushing with 2 cu.ft of sand mixed with 16 lbs of bitumen per 100 sq.ft. of road surface including 5 lb of bitumen per 100 sq.ft. of road surface (0.006 sq.m of sand mixed with 0.78 kg of bitumen per sq.m of road surface including 0.24 kg of bitumen per sq.m. of road surface for painting edging with rolling.		
21-28	Providing and laying 2-1/2" (62.5 mm) consolidated thickness of asphalt concrete (road mix) using bitumen 80/100 of 60/70 of any approved grade with premixed Lawrencepur coarse sand flushing.	Sq.m.	117.75	1255.25	21.1.20
		Sq.ft.	10.95	116.65	
i)	Using 3.5 lbs of bitumen per cu.ft. of 1" size crushed stone aggregate at 20 cu.ft per 100 sq.ft and 8 lbs of bitumen per cu.ft of coarse sand at 10 cu.ft per 100 sq.ft (56.06 kg bitumen per cu.m of 25 mm standard size crushed aggregate at 0.06 cu.m per sq.m. and 128.14 kg of bitumen per cu.m. of coarse sand at 0.03 cu.m. per sq.m) for asphalt concrete.				21.1.20
		ii)	Sand flushing with 2 cu.ft of sand mixed with 16 lbs of bitumen per 100 sq.ft. of road surface including 5 lb of bitumen per 100 sq.ft. of road surface (0.006 sq.m of sand mixed with 0.78 kg of bitumen per sq.m of road surface including 0.24 kg of bitumen per sq.m. of road surface for painting edging with rolling.		
21-29	Providing and laying 1" (25 mm) consolidated thickness of premixed sheet asphalt using liquid asphalt (cut-backs) of approved grade using cut-backs at 20 lbs per 100 sq.ft (0.976 kg per sq.m.) for tack coat 3.5 lbs per cu.ft of 1/2" (56.06 kg per cu.m of 13 mm) standard size crushed stone at 5.50 cu.ft per sq.ft and 8 lbs of bitumen per cu.ft (0.016 cu.m. per sq.m. and 128.14 kg per cu.m.) or coarse sand at 5.50 cu.ft per 100 sq.ft (0.016 cu.m. per sq.m) of road surface, with rolling	Sq.m.	64.10	658.25	21.1.20
		Sq.ft.	5.95	61.20	
21-30	Providing and laying hot-mix bituminous concrete runway pavement laid with mechanical paver and mixed in central mixing plant in required thickness and density, rolled hot with different types of rollers complete as per specifications and job-mix formula and design upto 1.5 " (37.5 mm) thickness.	Tonne	1314.85	9673.70	21.1.20
		Ton	1335.95	9828.95	
21-31	Providing and laying hot-mix bituminous concrete runway pavement laid with mechanical paver and mixed in central mixing plant in required thickness and density, roled hot with different types of rollers complete as per specifications and job-mix formula and design upto 3" (75mm) thickness.	Tonne	1199.70	8999.40	21.1.20
		Ton	1218.95	9143.85	

Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.
			Labour	Composite	
21-32	Providing and laying hot-mix bituminous concrete in road pavement laid with mechanical paver and mixed in central mixing plant in required thickness and density, rolled hot with different types of rollers complete as per specifications and job-mix formula and design in single layer				21.1.20
a)	1" (25 mm) thick	Sq.m. Sq.ft.	114.75 10.65	574.05 53.35	
b)	1-1/2" (37.5 mm) thick	Sq.m. Sq.ft.	172.15 16.00	861.05 80.00	
c)	2" (50 mm) thick	Sq.m. Sq.ft.	229.55 21.35	1148.10 106.70	
21-33	Providing and laying hot-mix bituminous concrete in road pavement laid with mechanical paver and mixed in central mixing plant in required thickness and density, rolled hot with different types of rollers complete as per specifications and job-mix formula and design in double layers				21.1.20
a)	2-1/2" (63 mm) thick	Sq.m. Sq.ft.	251.95 23.40	1314.90 122.20	
b)	3" (75 mm) thick	Sq.m. Sq.ft.	302.35 28.10	1577.90 146.65	
21-34	a) Providing and laying 4" (100 mm) thick not leaner than 1:2:4 cement concrete in roads, paths, creteways using 3/4" (19mm) and down gauge crushed stone in panels of approved size laid to required gradient and camber over any sub-grade including cost of necessary formwork and its removal, compacting with vibrators (immersion or screed or both) belting the surface with canvas belt, roughening the surface after laying concrete with brush and curing.	Sq.m. Sq.ft.	91.90 8.55	629.50 58.50	21.1.22
b)	Extra for every additional thickness of 1/2" (13 mm) concrete	Sq.m. Sq.ft.	11.95 1.10	81.85 7.60	
c)	Deduction for every lesser thickness of 1/2" (13mm)	Sq.m. Sq.ft.	11.95 1.10	81.85 7.60	
d)	Extra if 3/4" (19mm) and down gauge Margalla crushed stone is used instead of local crushed stone	Sq.m. Sq.ft.	- -	166.25 15.45	
21-35	a) Same as Item No.21-34 but with 1:3:6 cement concrete instead of 1:2:4	Sq.m. Sq.ft.	91.90 8.55	510.95 47.50	21.1.22
b)	Extra for every additional thickness of 1/2" (13 mm) concrete	Sq.m. Sq.ft.	11.95 1.10	66.40 6.15	
c)	Deduction for every lesser thickness of 1/2" (13mm)	Sq.m. Sq.ft.	11.95 1.10	66.40 6.15	
d)		Sq.m. Sq.ft.	- -	173.80 16.15	
21-36	a) Same as Item No.21- 34 but with 1: 1.5 :3 cement concrete instead of 1:2:4	Sq.m. Sq.ft.	91.90 8.55	723.35 67.25	21.1.22

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			Labour	Composite	
b)	Extra for every additional thickness of 1/2" (13 mm) concrete	Sq.m.	11.95	94.05	
		Sq.ft.	1.10	8.75	
c)	Deduction for every lesser thickness of 1/2" (13mm)	Sq.m.	11.95	94.05	
		Sq.ft.	1.10	8.75	
d)	Extra if 3/4" (19mm) and down gauge Margalla crushed stone is used instead of local crushed stone	Sq.m.	-	158.70	
		Sq.ft.	-	14.75	
21-37	Providing and laying bitumenised water proof paper of best quality under cement concrete.	Sq.m.	24.40	283.80	21.1.22.1 (i)
		Sq.ft.	2.25	26.40	
21-38	Providing and laying polythene sheet 0.005" thick (0.05mm = 500gauge) under cement concrete.	Sq.m.	24.40	116.65	21.1.22
		Sq.ft.	2.25	10.85	
21-39	Providing and laying 2" (50 mm) thick sand cushion (blanket course) under cement concrete.	Sq.m.	18.30	56.55	21.1.22.1 (g)
		Sq.ft.	1.70	5.25	
21-40	Providing and laying 1:4:8 cement concrete in any thickness using 1-1/2" (37mm) and down gauge stone ballast of approved grade and quality over prepared sub-grade or sand cushion in roads, paths crete-ways laid to required gradient and camber including cost of necessary formwork and its removal compacting with vibrators including curing.	Cu.m.	1066.75	4204.45	5.3
		Cu.ft.	30.20	119.05	
21-41 a)	Providing fabricating and laying M.S. reinforcement bars Grade 36 with and including the cost of straightening, cutting, bending, binding, wastage and such overlaps as are not shown in the drawings, binding wire, cement concrete 1:2:4 precast or M.S. chairs and placing in position on cement concrete precast or M.S. chairs, tying with binding wire etc., in all kinds of R.C.C. roads, paths and runways etc.	Tonne	5063.00	97578.65	5.3
		Ton	5144.25	99144.80	
b)	Same as Item no. 21-41 (a) except Grade 40 steel reinforcement bars to be used instead of M.S. Grade 36 reinforcing bars.	Tonne	5063.00	108382.95	5.3
		Ton	5144.25	110122.50	
c)	Extra over item no. 21- 41 (b) for deformed Grade 60 bars instead of Grade 40 reinforcing bars.	Tonne	-	3294.00	5.3
		Ton	-	3346.85	
d)	Extra over item no. 21- 41 (b) for Tor steel Grade 60 bars instead of Grade 40 reinforcing bars.	Tonne	-	1098.00	5.3
		Ton	-	1115.60	
21-42	Providing and laying M.S. ties or dowel bars of required length and diameters in longitudinal, transverse or other type of joints of cement concrete slabs laid and held in position in formwork or on precast chairs at various spacings including straightening, cutting, wastage, etc. and including the cost of M.S sheet caps, painting and greasing of bars where required as per design.	Tonne	5063.00	99959.55	4
		Ton	5144.25	101563.90	
21-43	Providing and spreading bajri of any size and upto any thickness to template in paths and drive ways including watering and rolling with hand roller complete with all lead and lift.	Cu.m.	244.00	1647.45	
		Cu.ft.	6.90	46.65	
21-44	Providing and spreading coarse sand to template in paths and drive ways including watering and rolling with hand roller complete, with all lead and lift.	Cu.m.	244.00	2833.95	
		Cu.ft.	6.90	80.25	

Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.
			Labour	Composite	
21-45	Providing bitumen filler of approved proprietary brand in expansion joints using 90lbs of bitumen, 0.2lbs of cement and 0.8cu.ft of sand per cu.ft (1442 kg of bitumen, 3.2kg of cement and 0.8cu.m. per cu.m.) of filler and fixing in position in an approved manner or as directed by the Engineer.	R.M.	2.10	311.15	21.1.22 (f)
		R.ft.	0.65	94.85	
21-46	Providing and fixing PVC water-stop expansion joint plain 6" to 7" (150mm to 175mm) wide placed horizontally at 2" (50mm) depth from top surface of pavement, 1/2" (13mm) wide joint filler of fibre board in bottom and top filled with premoulded bitumen filler of approved proprietary brand.	R.M.	10.15	1494.40	21.1.22 (f)
		R.ft.	3.10	455.50	
21-47	Providing and filling dummy joint 1/4" (6.4mm) wide and 3" (75mm) deep in roads, paths or crete-ways etc. with premoulded bitumen filler of approved proprietary brand.	R.M.	2.10	79.35	21.1.22 (f)
		R.ft.	0.65	24.20	
21-48	Providing and making formwork for longitudinal joint of tongued and grooved type in RCC or cement concrete pavement	R.M.	-	17.05	21.22.3(h)
		R.ft.	-	5.20	
21-49	Providing water tight joint, with 5" (125mm) wide copper strip of 24 BWG corrugated at centre and 1-1/2" (37.5mm) dia. staggered holes at 4" (100mm) pitch placed horizontally at 2" (50mm) depth from top surface of pavement, 1/2" (13mm) wide joint filler of soft wood at bottom and top filled with plastic bitumen No.4	R.M.	40.05	510.80	
		R.ft.	12.20	155.70	
21-50	Same as 21-49 but with joint filler of fiber board instead of soft wood.	R.M.	40.05	699.75	
		R.ft.	12.20	213.30	
21-51	Filling longitudinal construction keyed joints with rubber sealing compound of approved brand.	R.M.	20.00	77.35	21.1.22 (f)
		R.ft.	6.10	23.60	
21-52	Providing and fixing in position cork sheet of required width and depth in expansion joints including painting two coats with tar coal.	Cu.m.	2.10	126.75	
		Cu.ft.	0.05	3.60	
21-53	Providing and fixing 6" x 6" x 30" (150mm x 150mm x 750mm) precast 1:2:4 cement concrete boundary pillars using graded crushed aggregate embedded in cement concrete 1:4:8 including formwork and its removal, compacting and curing including cost of excavation.	Each	127.70	712.85	21.1.23.2
21-54	Providing and fixing 6"x6"x30" (150mmx150mmx750mm) stone boundary pillars embedded in cement concrete 1:4:8 including cost of excavation, cement concrete 1:4:8, backfilling of excavated stuff, cement plaster with 1:3 cement mortar, engraving and writing	Each	209.70	652.75	21.23.3
21-55	Providing and fixing 9" x 4" x 30" (230mm x 100mm x 750mm) precast 1:2:4 cement concrete kilometer stone using graded screened bajri, embedded in cement concrete 1:4:8, formwork and its removal, compacting and curing including the cost of excavation, cement cost 1:4:8 backfilling of excavated stuff, cement plaster with 1:3 cement engraving and writing letters of approved size, painting two coats as desired.	Each	125.80	752.55	21.1.23.4




Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.
			Labour	Composite	
21-56	Providing and fixing 9" x 4" x 30" (230mm x 100mm x 750mm) kilometer stone of local quarry of hard texture with top one foot chisel-dressed on all sides as per approved design embedded in cement concrete 1:4:8 including cost of excavation, cement concrete 1:4:8 backfilling of excavated stuff engraving and writing letters of approved size, painting 2 coats as desired.	Each	209.70	578.90	21.1.24
21-57	Providing and fixing 42" x 18" x 12" (1050mm x 450mm x 300mm) 1:2:4 cement concrete precast kilometer stone of approved design with triangular face using graded screened bajri embedded in cement concrete 1:4:8, formwork and its removal, compacting curing including cost of excavation, embedding in cement concrete 1:4:8, backfilling of excavated stuff cement plaster with 1:3 cement mortar, engraving and writing letters of approved size and painting 2 coats as desired.	Each	620.70	2830.05	21.1.24
21-58	Providing and laying kerb stone 18" x 12" x 6" (450mm x 300mm x 150mm) obtained from approved quarry, chisel dressed on top and sides, laid in cement mortar 1:4 ruled cement pointing in cement mortar 1:3 including cost of excavation and backfilling of excavated stuff and its disposal within 30 m.	R.M. R.ft.	202.15 61.60	293.30 89.40	21.1.25
21-59	Providing and laying road kerb of 1st class burnt brick masonry laid in cement mortar 1:4, 9" (230mm) wide and 12" (300mm) deep with round moulded corners of bricks including cost of excavation and backfilling of excavated stuff and its disposal within 30m.	R.M. R.ft.	115.65 35.25	661.45 201.60	21.1.25
21-60	Providing and laying road kerb of precast cement concrete 24"x6"x12" (600mm x150mm x300mm) using crushed aggregate, formwork and its removal, compacting and curing laid in cement mortar 1:4 & cement plaster 1:4 neatly finished including cost of excavation, backfilling of excavated stuff & its disposal within 30m				
a)	Road kerb of precast cement concrete 1:2:4	R.M. R.ft.	22.00 6.70	651.10 198.45	
b)	Road kerb of precast cement concrete 1:3:6	R.M. R.ft.	22.00 6.70	595.55 181.55	
21-61	Providing and laying road kerb 4" wide and 12" deep (100mm x 300mm) cast in situ, of cement concrete using using crushed aggregate, formwork and its removal, compacting and curing, filling joints with bitumen, cement plaster 1:4 neatly finished including cost of excavation, backfilling of excavated stuff and its disposal with 30m. lead.				21.1.25
a)	Road kerb of precast cement concrete 1:2:4	R.M. R.ft.	30.00 9.15	511.00 155.75	
b)	Road kerb of precast cement concrete 1:3:6	R.M. R.ft.	30.00 9.15	471.05 143.60	

Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.
			Labour	Composite	
21-62	Removing the existing worn out bituminous surface, having pot holes and ruts in patches of regular shape brushing and recarpeting with asphalt macadam as per specifications including disposal of excavated stuff within one chain (30m.) lead.				21.1.18
a)	1" (25 mm) thick consolidated recarpeting.	Sq.m. Sq.ft.	108.65 10.10	658.25 61.20	
b)	2" (50mm) thick consolidated recarpeting.	Sq.m. Sq.ft.	174.15 16.20	1108.90 103.05	
c)	2-1/2" (63mm) thick consolidated recarpeting.	Sq.m. Sq.ft.	174.15 16.20	1311.65 121.90	
21-63	Dismantling bitumen carpet/TST of any description from existing road surface including its removal and disposal within 90m lead.	Sq.m. Sq.ft.	488.00 45.35	488.00 45.35	4
21-64	Dismantling of stone metalling from existing road from where bitumen carpet has already been removed including disposal within 90m lead.	Sq.m. Sq.ft.	732.00 68.05	732.00 68.05	4
21-65	Dismantling brick metalling from existing road from where bitumen carpet has already been removed including disposal within 90m lead.	Sq.m. Sq.ft.	610.00 56.70	610.00 56.70	4
21-66	Dismantling brick soling from existing road from where bitumen carpet & stone metalling has already been removed including disposal of excavated stuff within 90m lead.	Sq.m. Sq.ft.	335.50 31.20	335.50 31.20	4
21-67	Dismantling soling stone from existing road from where bitumen carpet and stone metalling have already been removed including disposal of surplus material within 90m lead.	Sq.m. Sq.ft.	488.00 45.35	488.00 45.35	4
21-68	Cutting the worn out surface in all kinds of cement concrete roads having pot holes and ruts upto any depth and any shape including disposal of excavated stuff within 90 m. lead.	Sq.m. Sq.ft.	197.60 18.35	197.60 18.35	4
21-69	a) Scarifying sub-base, base or wearing coat surface of flexible pavement with pick axes or/by any other approved means upto required depth including disposal of rubbish within 90 m.	Sq.m. Sq.ft.	30.50 2.85	30.50 2.85	21.1.18
	b) Making grooves in existing bitumen carpet/TST of any description including removal and disposal within 90 m. lead	Sq.m. Sq.ft.	33.55 3.10	33.55 3.10	
21-70	Screening existing stone or brick metal or crushed aggregate in different screens of any size and mesh along side of alignment including stacking in different grades and disposal of surplus stuff within 90 m. lead.	Cu.m. Cu.ft.	183.00 5.20	183.00 5.20	
21-71	Filling joints or cracks with bitumen upto any depth and width including brushing, washing with kerosene oil and blinding with sand.	Cu.m. Cu.ft.	1198.95 33.95	160858.00 4555.15	

Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.
			Labour	Composite	
21-72	Cutting trenches through bituminous road for laying pipe etc. in any width and upto required depth including dismantling kerb stones, edge stones or channels, replacing soling stones (old and 10% new) with hand refilling with (old and 25% new) ballast blinded with murum, watering and ramming complete, refixing edge stone, kerb stones in cement mortar 1:3 including recarpeting with (consolidated) asphalt macadam as per specification (cost of new stone, ballast and new murum is inclusive).				
a)	1"(25mm) thick consolidated asphalt macadam recarpeting	Sq.m. Sq.ft.	420.90 39.10	1051.35 97.70	
b)	2" (50 mm) thick consolidated asphalt macadam recarpeting	Sq.m. Sq.ft.	420.90 39.10	1391.90 129.35	
c)	2-1/2" (63 mm) thick consolidated asphalt macadam recarpeting	Sq.m. Sq.ft.	420.90 39.10	1594.65 148.20	
21-73	Cutting trenches through cement concrete road with chisel etc. in any width upto required depth including dismantling kerb stones, edge stones, refilling with cement concrete 1:2:4 using crushed graded boulders of required size and grade including compacting with vibrators refixing edge stones, kerb stones in cement mortar 1:3				
a)	4" (100 mm) thick 1:2:4 concrete relaying	Sq.m. Sq.ft.	860.50 79.95	1490.00 138.50	
b)	Extra for every 1/2" (13mm) thickness over 4" (100mm) thick cement concrete 1:2:4.	Sq.m. Sq.ft.	112.60 10.45	194.45 18.05	
21-74	Excavation in all kind of soils in trenches and channels including dressing to required section and back-filling of excavated stuff including watering, ramming in layers including disposal of surplus earth.				
a)	Lift upto 5 ft. (1.5 m.) and lead upto 100 ft. (30 m.)	Cu.m. Cu.ft.	305.00 8.65	305.00 8.65	
b)	Extra for additional lift above 5 ft. to 10 ft. (1.5 m to 3 m.) and lead upto 100 ft. (30 m.)	Cu.m. Cu.ft.	44.00 1.25	44.00 1.25	
21-75	Providing and laying open jointed pipe without collar of class "C" or equivalent and fixing in trenches over prepared bed including cutting, wastage, with all lead and lift.				
a)	4 " (100 mm) dia.	R.M. R.ft.	99.65 30.35	307.60 93.75	
b)	6" (150 mm) dia.	R.M. R.ft.	99.65 30.35	353.25 107.65	
c)	4" (100mm) dia A.C pipe	R.M. R.ft.	99.65 30.35	555.05 169.20	
d)	6" (150mm) dia A.C pipe	R.M. R.ft.	99.65 30.35	678.20 206.70	

Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.
			Labour	Composite	
21-76	Providing and fixing R.C.C. pipe of class "C" or equivalent in trenches including cutting, wastage, fitting and jointing, with maxphalt composition and cement mortar 1 : 1 and testing with water including all lead and lift.				
a)	9" (225 mm) dia.	R.M. R.ft.	99.65 30.35	537.75 163.90	
b)	12" (300 mm) dia.	R.M. R.ft.	99.65 30.35	899.75 274.25	
21-77	Filling in trenches locally available aggregate of any size or grade available at site with or without blinding with coarse sand or fine aggregate including watering, dressing, consolidation by ramming in layers not exceeding 9" (225mm) in depth to full compaction including all lead and lift.	Cu.m. Cu.ft.	122.00 345.50	122.00 345.50	
21-78	Providing and laying dry stone uncoarsed rubble pitching upto 12" (300mm) thick in bottom and sides of channel or drain.	Cu.m. Cu.ft.	610.00 17.25	610.00 17.25	
21-79	Cement pointing to stone pitching in 1 : 2 cement mortar in channels or drains including curing and raking out joints.	Sq.m. Sq.ft.	366.00 34.00	592.20 55.05	
21-80	Providing and fixing G.I. pipe railing of required diameter, comprising vertical posts and horizontal bracings of G.I. pipe of the same dia including cost of specials, bends, threading cutting and making good the floor or wall and or slab of any kind in cement concrete 1:2:4 (Actual pipe length used for vertical posts and horizontal bracings to be measured, length of specials used not to be deducted)				
a)	2" (50 mm) dia.	R.M. R.ft.	137.10 41.80	929.45 283.30	
b)	1.5" (40 mm) dia.	R.M. R.ft.	137.10 41.80	824.40 251.30	
c)	1" (25 mm) dia.	R.M. R.ft.	137.10 41.80	641.30 195.45	
21-81	Providing and fixing steel bearings of standard quality and type weighing not less than 90kg	Each set of one end	765.85	16082.95	
21-82	Providing and fixing rubber bearing pad not less than 1" (25 mm) thick.	Sq.m. Sq.ft.	89.10 8.30	9971.10 926.70	
21-83	Providing and laying dry brick pavement and/or soling in streets or roads over 1/2" (13mm) thick sand cushion including sand grouting, watering, compacting of bed to proper camber.	Cu.m. Cu.ft.	945.50 26.75	9084.75 257.25	
21-84	Providing and fixing road sign boards such as caution etc as approved by the Engineer with reflective paints, having superficial area of 1.125 sq.ft including cost of post etc.	Each	1342.00	2183.35	

Sr. No.	Description	Unit	Rate (Rs.)		Ref. Tech. Specs.
			Labour	Composite	
21-85	Providing and laying 1" thick (25 mm) consolidated thickness of asphalt concrete (premixed bituminous carpet) using bitumen 60/70 or of any approved grade with following percentage including compaction and finishing to required camber, grade and density.				21.5
a)	3% Bitumen content	Sq.m.	106.55	377.20	
		Sq.ft.	9.90	35.05	
b)	3.5% Bitumen content	Sq.m.	106.55	410.30	
		Sq.ft.	9.90	38.15	
c)	4% Bitumen content	Sq.m.	106.55	446.30	
		Sq.ft.	9.90	41.50	
d)	4.5% Bitumen content	Sq.m.	106.55	485.45	
		Sq.ft.	9.90	45.10	
e)	5% Bitumen content	Sq.m.	106.55	528.00	
		Sq.ft.	9.90	49.05	
f)	5.5% Bitumen content	Sq.m.	106.55	574.30	
		Sq.ft.	9.90	53.35	
g)	6% Bitumen content	Sq.m.	106.55	624.65	
		Sq.ft.	9.90	58.05	