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Government of Nepal
Madhyapur Thimi Municipality
Office of Municipality
Province No.3
Bhaktapur



Analysis of Rates of Road Works

CONTRACT



FY 076/077

of

Madhyapur Thimi Municipality

(According to Work Norms of Department of Roads and Agricultural Roads)
SUMMARY OF RATE ANALYSIS FOR ROADS FOR FY 076/077

CONTRACT RATE

SN	SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
	Section 2	SITE CLEARANCE		
1	Item No 2.01	Clearing and grubbing of forest including uprooting, carrying and disposing of vegetation, grass, bush, sapling and trees of girth upto 300mm (measured at a height of 1m above the ground level). lead 10m.		
		a) Trees & sapling less than 15 numbers per 100 sq.m	sqm	21.32
		b) Trees & sapling less than 15 numbers per 100 sq.m	sqm	31.98
2	Item No 2.02	Clearing of grass, removing roots breaking sods, levelling the surface and disposal to 10m.	sqm	24.52
3	Item No 2.03	Felling and uprooting of bamboo, clearing the area, stacking of bamboo and disposing of wastes to 1000m. (Volume of the excavated area should be measured.)	cum	2,481.93
4	Item No 2.04	Felling trees (the girth measured at a height of 1 m above ground level) including cutting of trunks and branches, removing the roots, stacking serviceable materials and disposal of unserviceable materials to 10m distance and back filling the depressions/pits		
		a) above 300mm to 600mm	no	1,117.80
		b) above 600mm to 900mm	no	3,353.40
		c) above 900mm to 1800mm	no	8,776.80
		d) above 1800mm to 2500mm	no	20,389.50
		e) above 2500mm	no	67,068.00
5	item no:2.05	Dressing and levelling of the construction surface including cutting and filling of small undulation.	sqm	10.66
6	item no:2.06	Excavation of top soil (sub grade) and carrying away from construction site lead 10m.	sqm	170.57
7	item no:2.07	Spreading, Shaping and light compacting of top soil on slopes.	sqm	53.30
8	item no:2.08.01	Dismantling Bridge, culvert and other structures including stockpiling the reusable materials and disposal of unusable materials within 50m. Lead.. (By Manual Means)		
	(i)	By Manual Means		
		a. Lime concrete, cement concrete grade M10 and below	cum	1,693.95
		b. Cement Concrete Grade M15 & M20	cum	2,004.45
		c. Pre- stressed / Reinforced cement concrete grade M20 & above	cum	4,422.90
	(ii)	By Mechanical Means		
		a. Cement Concrete Grade M15 & M20	cum	2,737.92
		b. Pre- stressed / Reinforced cement concrete grade M20 & above	cum	3,289.92
9	item no:2.08.02 (i)	Dismantling Bridge, culvert and other structures including stockpiling the reusable materials and disposal of unusable materials within 50m. Lead..		
		Dismantling Brick/Tile Work		
		a. Brick work in lime mortar	cum	1,072.95
		b. Brick work in cement mortar	cum	1,938.90
10	item no:2.08.02 (ii)	Dismantling Stone Masonry		
		a. Random rubble stone masonry in cement mortar	cum	1,938.90
11	item no:2.09	Dismantling of Flexible Pavements		
		Dismantling of flexible pavements and disposal of dismantled Material up to a lead of 1000 metres, stacking serviceable and unserviceable Material separately		
	(i)	By Manual Means		
		(a) water bound Macadam materials including soling/sub-base.	cum	2,145.90
		(b) Bituminous materials	cum	2,456.40
	(ii)	By Mechanical Means		
		(a) Bituminous course	cum	1,311.69
12	item no:2.10	Dismantling of Cement Concrete Pavement		
		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 up to a lead of 1000 metres, stacking serviceable and unserviceable Material separately	cum	4,441.53

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SN	SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
13	item no:2.11	Removing all type of Hume Pipes and Stacking within a lead of 50 metres including Earthwork and Dismantling of Masonry Works.		
		i) upto 600mm dia.	m	675.17
		ii) above 600mm to 900mm dia.	m	994.98
		iii) above 900mm dia.	m	1,421.40
14	item no:2.12	Dismantling gabion works including stockpiling the reusable materials and disposal of reusable materials within 50m lead	cum	1,208.19
	Section 4	FENCING		
15	item no:4.1.a	GI Barbed wire fencing		
	a.	GI Barbed wire fencing 1.2m high with RCC Post		
		Providing and fixing 1.2m high GI barbed wire fencing with 1.8m RCC posts 150mm*150mm placed every 3m center to center founded in M15 grade cement concrete, 0.6m below ground level, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on end post one side only and provided with 9 horizontal lines and 2 diagonals interwoven with horizontal wires, fixed with GI staples, turn buckles etc., complete as per Drawing and Technical Specification.	m	964.27
	b.	GI Barbed wire fencing 1.8m high with RCC Post		
		Providing and fixing 1.8m high GI barbed wire fencing with 12.4m RCC posts 150mm*150mm placed every 3m center to center founded in M15 grade cement concrete, 0.6m below ground level, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on end post one side only and provided with 9 horizontal lines and 2 diagonals interwoven with horizontal wires, fixed with GI staples, turn buckles etc., complete as per Drawing and Technical Specification.	m	1,296.66
	c.	GI Barbed wire fencing 1.2m high		
		Providing and fixing 1.2m high GI barbed wire fencing with 1.8m angle iron posts 40mm x 40mm x 6mm placed every 3m center to center founded in M15 grade cement concrete, 0.6m below ground level, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on end post one side only and provided with 9 horizontal lines and 2 diagonals interwoven with horizontal wires, fixed with GI staples, turn buckles etc., complete as per Drawing and Technical Specification.	m	520.76
	d.	GI Barbed wire fencing 1.8m high		
		Providing and fixing 1.8m high GI barbed wire fencing with 2.4m angle iron posts 50mm x 50mm x 6mm placed every 3m center to center founded in M15 grade cement concrete, 0.6m below ground level, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on end post one side only and provided with 12 horizontal lines and 2 diagonals interwoven with horizontal wires, fixed with GI staples, turn buckles etc., complete as per Drawing and Technical Specification.	m	924.94
16	item no:4.2	Fencing with welded steel wire fabric 75mm x 50mm		
		Providing and fixing 1.2m high fencing with angle iron posts 50mm x 50mm x 6mm placed every 3m center to center with 0.4m embedded in M15 grade cement concrete, corner, end and every 10th post to strutted, provided with welded steel wire fabric of 75mm x 50mm mesh or 75mm x 25mm mesh and fixed to iron posts by flat iron 50 x 5mm and bolts etc. complete as per Drawing and Technical Specification.	m	2,312.52
	Section 7	PIPE DRAIN, PIPE CULVERTS AND CONCRETE		
17	item no:7.01	Providing, jointing and laying HDP pipes with or without collar etc. complete in place as per specification.		
		a) 110 mm/125mm outer diameter	m	1,107.61

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SN	SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
18	item no:7.02	Providing and Laying Reinforced Cement Concrete Flush jointed Pipe for culverts Providing and Laying Reinforced cement concrete NP3 Flush jointed pipe for culverts including fixing with cement mortar 1:2 as per Drawing and Technical Specifications.		
		i) 300mm dia (Int.)	m	4,559.99
		ii) 450mm dia (Int.)	m	6,368.98
		iii) 600mm dia (Int.)	m	8,585.03
		iv) 900mm dia (Int.)	m	16,128.56
		v) 1200mm dia (Int.)	m	21,569.55
19	item no:7.03	Providing and Laying Reinforced Cement Concrete Pipe for culverts including fixing collar Providing and Laying Reinforced cement concrete NP3 Collar jointed pipe for culverts including fixing collar with cement mortar 1:2 as per Drawing and Technical Specifications.		
		i) 300mm dia (Int.)	m	4,843.72
		ii) 450mm dia (Int.)	m	6,776.36
		iii) 600mm dia (Int.)	m	9,146.60
		iv) 900mm dia (Int.)	m	17,231.09
		v) 1200mm dia (Int.)	m	23,027.19
	Section 9	EARTH WORKS		
20	item no:9.01	Earthwork Excavation in Cutting.		
		Roadway Excavation in All types of Soil		
	a.	Manual means		
		Roadway Excavation in all types of soil as per drawing and technical specification, including removal of stumps and other deleterious matter, with all lifts and lead as per Drawing and instruction of the Engineer.	cum	829.15
		Mechanical Means		
		Road way Excavation in all types of soil as per Drawing and technical specifications including removal of stumps and other deleterious matter, all lifts and lead as per Drawing and instruction of the Engineer.	cum	80.88
	b.	Manual means		
		Roadway Excavation in ordinary rock as per Drawing and Technical specification, including all lift and lead as per Drawing and instruction of the Engineer.	cum	959.45
		Roadway Excavation in ordinary rock by Mechanical Means		
		Roadway Excavation in ordinary rock as per Drawing and Technical specification, including all lift and lead as per Drawing and instruction of the Engineer.	cum	242.65
	c.	Roadway Excavation in Hard Rock		
		Roadway Excavation in Hard Rock, mechanical Drilling Roadway Excavation in hard rock with mechanical drilling, including blasting and breaking, and disposal of cut road within all lifts and leads as per Drawing and instruction of the Engineer.	cum	3,338.77
21	item no:9.02	Removal of Unserviceable Soil with Disposal upto 1000 meters Removal of unserviceable soil including excavation, loading and disposal upto 1000 meters lead	cum	167.36
22	item no:9.04	Excavation for Structures Foundation		
		Earth work in excavation of foundation of structures, including construction of shoring and bracing, removal of stumps and other deleterious matter and backfilling with approved Material as per Drawing and Technical Specifications.		
		Manual Means		
	a.	Ordinary soil		
		(i) Depth upto 3m	cum	966.00
		(ii) Depth 3m to 6m	cum	1,380.00
		(iii) Depth above 6m	cum	2,139.00
	b.	Mechanical Means		
		(i) Depth upto 3m	cum	121.33
		(ii) Depth 3m to 6m	cum	145.59

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		(iii) Depth above 6m	cum	192.70
23	item no:9.05	Stripping and Storing Top Soil		
		Stripping, storing of top soil by road side at 15 m internal and re-application on embankment slopes, cut slopes and other areas in localities where the available embankment Material is not conducive to plant growth as per Drawing and Technical Specifications.	cum	179.19
24	item no:9.07	Preparation and Surface Treatment of Formation.		
		Preparation and surface treatment of Formation by removing mud and slurry, watering to the extent needed to maintain desired moisture content, compacting all complete as per Drawing and Technical Specifications.	sqm	81.60
25	item no:9.08	Construction of Embankment		
		a. Construction of Embankment with Material obtained from Borrow pits Providing, laying, spreading and compacting embankment with borrow material as per Drawing and Technical Specifications.	cum	759.08
		b. Providing, laying, spreading and compacting embankment with roadway cutting material and compact to the required density as per Drawing and Technical Specifications. (With machine)	cum	385.07
26	item no:9.10	Construction of Rock fill Embankment		
		Providing and laying of rock fill embankment with broken hard rock fragments of size not exceeding 300 mm laid in layers not exceeding 500 mm thick including filling of surface voids with stone spalls, blinding top layer with granular Material, rolled to required density all complete as per Drawing and Technical Specifications. (Excluding transportation)	cum	484.10
27	item no:9.12	Providing and laying of Filter media with granular Material/stone crushed aggregates to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification.	cum	4,867.04
28	item no:9.13	Providing and filling sand in Foundation Trenches as per Drawing & Technical Specification	cum	4,608.70
	Section 10	SUB-GRADE		
29	item no 10.01	Scarifying Existing road Surface to a Depth of 50 mm by Manual Means		
		a. Scarifying the existing road surface to a depth of 50 mm and disposal of scarified Material with all lifts and leads as per Drawing and Technical Specifications.	cum	51.34
		b. Scarifying the existing granular road surface to a depth of 50 mm and disposal of scarified Material with all lifts and leads within Right of way as per Drawing and Technical Specifications. (lead Upto 30m)	cum	46.00
30	item no 10.02	Scarifying Existing road Surface to a depth of 50 mm by Mechanical Means		
		a. Scarifying the existing road surface to a depth of 50 mm and disposal of scarified Material with in all lifts and 30m lead as per Drawing and Technical Specifications.	sqm	35.81
		b. Scarifying the existing bituminous road surface to a depth of 50 mm and disposal of scarified Material with in all lifts and lead as per Drawing and Technical Specifications.	sqm	153.02
31	item no 10.03	Construction of Subgrade and Earthen Shoulders with approved Material (capping layer)		
		Providing and laying sub-grade and earthen shoulders with approved Material obtained from borrow pits with all lifts & leads as per Drawing and Technical Specifications.	cum	784.89
32	item no 10.04	Compacting Original Ground		

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SN	SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
	(i)	Compacting original ground supporting sub-grade Loosening of the ground upto a level of 500 mm below the sub-grade level, watered, graded and compacted in layers as per Drawing and Technical Specifications.	cum	126.89
	(ii)	Loosening, leveling and Compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve dry density as per Drawing and Technical Specifications.	cum	80.11
33	item no 10.08	Providing and laying of hand pack Stone soling with 150 to 200 mm thick stones and packing with smaller stone on prepared surface as per Drawing and Technical Specifications.	cum	7,888.85
34	item no 10.09	Providing and laying of hand pack Cobble Stone (approx size 10 cm * 9 cm * 9cm)with granular material bedding on prepared surface as per Drawing and Technical Specifications.	sqm	816.49
	Section 12	SUB BASE, BASE, HARD SHOULDER		
35	item no 12.1	Providing and laying Granular Sub-Base Material		
		Providing and laying granular sub-base on prepared surface, mixing at OMC, and compacting to achieve the desired density, complete as per Drawing and Technical Specifications.		
		A. By Mechanical means	cum	4,307.19
		B. By Manual means	cum	4,350.35
36	item no 12.2	Water Bound Macadam		
		Providing, laying, spreading and compacting Water bound macadam including brooming requisite type of screening/ binding Materials to fill up the interstices of coarse aggregate, watering and compacting to the required density as per Drawing and Technical Specifications.		
		A. By Manual means	cum	6,523.20
		B. By Mechanical means	cum	5,537.60
37	item no 12.3	Crusher Run Macadam Base and sub-base		
		a. Providing and laying Crusher Run Macadam on a prepared surface, spreading and mixing , watering and compacting to form a layer of 63mm maximum size sub-base course as per Drawing and Technical Specifications.	cum	4,991.94
		b. Providing and laying Crusher Run Macadam on a prepared surface, spreading and mixing , watering and compacting to form a layer of 45mm maximum size base course as per Drawing and Technical Specifications.	cum	5,426.12
38	item no 12.4	Footpaths and Separators		
		A. By Mix in Place Method		
		Providing and making footpath/separator of 150 mm compacted granular sub base and 25 mm thick cement concrete grade M 15, over laid with pre-cast concrete tiles in cement mortar 1:3 including provision of all drainage arrangements but excluding Kerb channel as per Drawing and Technical Specifications.	sqm	25,982.44
39	item no 12.5	Dry Bound Macadam		
		A. By Manual Means		
		Providing, laying, spreading and compacting stone aggregates of specific sizes to dry bound macadam including spreading in uniform thickness, hand packing, rolling and brooming requisite type of screening/ binding Materials to fill up the interstices of coarse aggregate, and compacting to the required density as per Drawing and Technical Specifications.	cum	7,224.98
40	item no 12.6	Wet Mix Macadam		
		Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC laying in uniform layers in sub- base / base course on well prepared surface and compacting to achieve required density as per Drawing and Technical Specifications.		

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SN	SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
		A. Base course with B1 material	cum	5,653.65
		B. Base course with B2 material	cum	5,675.52
		C. Sub Base course with S1 material	cum	5,676.65
		D. Sub Base course with S2 material	cum	5,698.52
	Section 13	BITUMINOUS SURFACE AND BASE COURSE		
41	item no 13.1	Providing and applying prime coat with Hot Bitumen (including cutter) on prepared surface of granular base including cleaning of road surface and spraying as per Technical Specification .		
		A. Prime Coat, with MC 30 / 70 by Mechanical Means	sqm	110.76
		B. Prime Coat, with MC 30 / 70 by Bitumen , by manual means	sqm	230.65
		C. Prime Coat, with Emulsion by Mechanical Means	sqm	188.40
		D. Prime Coat with emulsion, for manual works	sqm	201.49
42	item no 13.2	Tack Coat		
		Providing and applying tack coat with hot Bitumen at specified rate on the prepared non-bituminous surfaces including cleaning as per Technical Speciation .		
		A. Tack coat with Bitumen By Mechanical Means	sqm	109.51
		B. Tack coat with Bitumen by Manual Means	sqm	194.89
		C. Tack coat with Emulsion By Mechanical Means	sqm	102.37
		D. Tack coat with Emulsion By Manual Means	sqm	147.23
43	Item No 13.06	Penetration Mecadam		
44	Item No 13.06.01	Providing and laying semi-grouting with compaction 50mm thickness	sqm	1,043.32
45	Item No 13.06.02	Providing and laying semi-grouting with compaction 75 mm thickness	sqm	1,373.55
46	Item No 13.06.03	Providing and laying full-grouting with compacted 50mm thickness	sqm	1,222.45
47	Item No 13.07	Providing and laying sand Seal	sqm	151.94
48	Item No 13.08	Providing mixing and laying slurry seal		
49	Item No 13.08.01	Fine slurry mix	sqm	174.34
50	Item No 13.08.02	Normal slurry mix	sqm	190.65
51	Item No 13.08.03	Coarse slurry mix	sqm	217.10
52	Item No 13.09	Providing, Mixing, Laying and Compaction of Premix Carpet	cum	19,546.60
53	Item No 13.10	Bituminous Concrete / Asphalt Concrete		
		Providing and laying Bituminous concrete/ Asphalt concrete using crushed aggregates of specified grading, premixed with bituminous binder and filler as per Drawing and Technical Specifications	cum	22,831.84
	Section 14	KERBS AND FOOTPATH		
54	Item No 14.10	Precast Cement Concrete M 20 Kerb		
		Providing and laying of M25/20 precast cement concrete Kerb 38 cm * 20 cm * 25 cm (H*B*L) with 12 mm thick 1:3 cement sand mortar bedding and joints including foundation excavation levelling but excluding foundation concrete for foundation or sand gravel material, all complete as per Drawing and Technical Specifications.	rm	1,589.40
55	Item No 14.20	Cast in Situ Cement Concrete or natural stone block for footpath		
		A. Providing and laying of precast / cast in situ 50 mm thick cement concrete slab footpath on 12 mm thick 1: 3 cement sand mortar over the prepared base, all complete as per Drawing and Technical Specifications.	sqm	1,494.92
		B. Providing and laying 25 mm thick Natural stone slab footpath on 12 mm thick 1: 3 cement sand mortar over the prepared base, all complete as per specification.	sqm	1,817.66
	Item No 14.30	Brick work for footpath		
		A. Providing and laying brick on edge over 60 mm thick sand bed in footpath including excavation sand bedding all complete as per Drawing and Technical Specifications.	sqm	1,949.05
		B. Providing and laying flat brick over 60 mm thick sand bed in footpath including excavation sand bedding all complete as per specification.	sqm	1,185.74
	Section 15	TRAFFIC SIGN, ROAD MARKING , ROAD SAFETY		

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SN	SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
157	Item no 15.01	supplying and erecting traffic sign in place including 50mm dia steel tube ,2mm thick steel plate ,cement concrete,painting, writing and supporting steel angle nuts and bolt etc complete		
		a).60 cm Dia. circular 60 cm .equilateral triangle and 60cm*45cm rectangular shapped sign(single post)	nos	2,547.58
		b).1.2m*0.75m size bigger traffic sign with back support and two or more post	nos	6,747.75
158	Item no 15.02	supplying and applying paint for road marking including cleaning ,watering,brooming ect all complete(10cm wide strip)		
		a).Two coats over old painted surface	m	37.28
		b).more than two coats over new surface	m	64.08
159	Item no 15.03	Supplying and placing R.C.C .kilometer post including excavation ,backfill ,painting and writing etc.all complete as per specification		
		a).standard kilometer post (placed at each kilometer)	nos	4,158.64
		b).Bigger Km post(placed at each 5 KM)		
160	Item no 15.04	Supplying and fixing in place R.C.C delineator and guard post including excavation ,back filling,painting and errection etc.all complete as per drawing.	nos	1,632.65
	Section 16	PILE FOUNDATION		
161	Item No 16.1	Providing, Boring and installing bored cast-in-situ RCC Pile excluding Reinforcement and Concrete in all types of soil including Bentonite and other consumable and removal of excavated earth with necessary lifts and lead all complete as per Drawing and Technical Specifications.		
		(i) Pile diameter-500 mm	rm	5,360.15
		(ii) Pile diameter-600 mm	rm	6,771.43
		(iii) Pile diameter-750 mm	rm	10,295.15
		(iv) Pile diameter-1000 mm	rm	13,669.36
		(v) Pile diameter-1200 mm	rm	17,509.33
162	Item No 16.2	Providing, Boring and installing bored cast-in-situ RCC Pile excluding Reinforcement and Concrete in all types of Rock including Bentonite and other consumable and removal of excavated material with necessary lifts and lead all complete as per Drawing and Technical Specifications .		
		(i) Pile diameter-300 mm	rm	7,608.06
		(ii) Pile diameter-500 mm	rm	10,065.49
		(iii) Pile diameter-600 mm	rm	13,992.05
		(iv) Pile diameter-750 mm	rm	14,940.11
		(v) Pile diameter-1000 mm	rm	23,583.17
	Section 18	FALSEWORK, FORMWORK AND SURFACE FINISH FOR CONCRETE STRUCTURES		
180	Item no 18.01	Providing , Preparing and Installing form work including necessary supports and removing after completion for foundation and footings.		
		a) Using timber (soft wood)	sqm	781.53
181	Item no 18.04a	Providing , Preparing and Installing form work including necessary supports and removing after completion for slab structure [class F2 finish] (Falsework not included).		
		a)Using timber planks	sqm	1,012.22
182	Item no 18.05	Providing , Preparing and Installing form work & removing after completion for Slab & beam structure.		
		a)Using timber	sqm	1,393.37
183	Item no 18.08.1	Providing and assembling in position falsework for the construction of RCC superstructure and removing after completion including design & drawings as per specification.		
		a) Using timber		
		ii)Height more than 2m and upto 4m	sqm	5,041.98
184	Item no 18.08.2	For RCC Beam Bridges		
		I) Height upto 3m	sqm	9,957.60
	Section 20	CONCRETE FOR STRUCTURES		

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SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
Item no 20.1	CONCRETE FOR STRUCTURES		
	Providing and laying of Plain Cement Concrete M 10 (or 1:3:6 for nominal mix) in Foundation complete as per Drawing and Technical Specifications.		
	By Mechanical means	cum	12,718.35
	By Manual Means	cum	12,279.51
Item no 20.2	Providing and laying of Plain/Reinforced Cement Concrete in Foundation complete as per Drawing and Technical Specifications.		
	By Mechanical means		
	a. PCC Grade M 15/40	cum	14,811.58
	b. PCC Grade M 20/40	cum	16,172.99
	c. PCC Grade M 20/20	cum	16,230.72
	d. PCC Grade M 25/20	cum	17,304.49
	e. PCC Grade M 30/20	cum	17,328.26
	By Manual means		
	a. PCC Grade M 15/40	cum	14,690.07
	b. PCC Grade M 20/40	cum	16,051.48
	c. PCC Grade M 20/20	cum	16,109.21
	d. PCC Grade M 25/20	cum	17,183.27
	e. PCC Grade M 30/20	cum	17,207.33
Item no 20.3	Providing and laying , fitting and placing un-coated Mild steel / HYSD reinforcement complete in foundation as per drawing and technical specification	ton	124,471.40
Item no 20.4	Providing and laying of Plain/Reinforced cement concrete in sub-structure complete as per drawing and Technical Specifications		
	a. PCC Grade M 15 (Height upto 5 m)	cum	15,666.10
	b. PCC Grade M 20/40 (Height upto 5 m)	cum	17,106.05
	c1. PCC Grade M 25/20 (Height upto 5 m)	cum	18,346.93
	c2. PCC Grade M 25/20 (Height upto 5-10 m)	cum	19,014.09
	c3. PCC Grade M 25/20 (Height above 10 m)	cum	19,848.04
	d1. PCC Grade M 30/20 (Height upto 5 m)	cum	18,416.51
	d2. PCC Grade M 30/20 (Height above 5 m to 10 m)	cum	19,086.20
	d3. PCC Grade M 30/20 (Height above 10 m)	cum	19,923.31
Item no 20.5	Providing and laying , fitting and placing HYSD bar reinforcement in sub-structure complete as per Drawing and Technical Specifications	ton	126,555.20
Item no 20.6	Providing and laying ,fitting and placing Mild steel reinforcement complete in sub-structure as per drawing and Technical Specification	ton	130,537.20
Item no 20.7	Providing and laying weep holes in Brick dry/Plain/ Reinforced concrete abutment, wing wall/ return wall with 110 mm dia HDPE pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face Complete as per Drawing and Technical Specifications.(the size of the weep hole shall be 150 mm x 80 mm or circular with 150 mm diameter)	m	607.07
	SUPER STRUCTURE		
Item no 20.8	Providing and laying of Reinforced/ Pre-stressed cement concrete in super-structure as per drawing and Technical Specification		
	A. PCC Grade M 20/20		
	a. For solid slab super-structure		
	(i)Height upto 5 m	cum	23,253.87
	(ii) Height above 5 m to 10 m	cum	24,029.00
	(iii) Height above 10 m	cum	24,804.13
	b. For T-beam & slab,		
	(i)Height upto 5 m	cum	24,804.13
	(ii) Height above 5 m to 10 m	cum	25,579.25
	(iii) Height above 10 m	cum	26,354.38
	B. PCC Grade M 25/20		
	a. For solid slab super-structure		
	(i)Height upto 5 m	cum	24,904.69
	(ii) Height above 5 m to 10 m	cum	25,734.85
	(iii) Height above 10 m	cum	26,565.01
	b. For T-beam & slab,		
	(i)Height upto 5 m	cum	26,565.01

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SUMMARY OF RATE ANALYSIS FOR ROADS FOR FY 076/077

CONTRACT RATE

SN	SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
		(ii) Height above 5 m to 10 m	cum	27,395.16
		(iii) Height above 10 m	cum	28,225.32
		C. PCC Grade M 30/20		
		a. For solid slab super-structure		
		(i) Height upto 5 m	cum	25,320.42
		(ii) Height above 5 m to 10 m	cum	26,164.43
		(iii) Height above 10 m	cum	27,008.45
		b. For T-beam & slab,		
		(i) Height upto 5 m	cum	27,008.45
		(ii) Height above 5 m to 10 m	cum	27,852.46
		(iii) Height above 10 m	cum	28,696.47
75	Item no 20.9	Providing and laying , fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications	ton	126,311.40
76	Item no 20.10	Providing and laying of PCC M 15 Grade leveling course below approach slab complete as per drawing and Technical specification	cum	14,241.91
	Section 24	RIVER TRAINING AND PROTECTION WORKS		
77	Item no 24.1	Gabion Structure for Retaining Earth		
		Providing and laying Gabion structure for retaining earth with diaphragm including rolling, cutting weaving , placing, laying sides and diaphragms with binding wire and filling boulders all complete as per Drawing and Technical Specification		
		A. Mesh wire- 10 Swg(0.0615 kg/m), Seldedge Wire 8 Swg (0.1057 kg/m), binding wire 12 Swg (0.0409 kg/m) Hexagonal mesh Type 100 mm X 120 mm,		
		(i) Box size 3 X 1 X 1 m (16 sqm)	cum	6,967.93
			cum	7,039.48
		(iii) Box size 1.5 X 1 X 1 m (9 sqm)	cum	7,401.84
		(iv) Box size 1.0 X 1 X 1 m (6 sqm)	cum	7,418.63
		B. Mesh wire- 10 Swg(0.0615 kg/m), Seldedge Wire 8 Swg (/m), binding wire 12 Swg (0.0409 kg/m) Hexagonal mesh Type 80 mm X 100 mm,		
		(i) Box size 3 X 1 X 1 m (16 sqm)	cum	7,398.80
		(ii) Box size 2 X 1 X 1 m (11 sqm)	cum	7,476.84
		(iii) Box size 1.5 X 1 X 1 m (9 sqm)	cum	7,694.57
		(iv) Box size 1.0 X 1 X 1 m (6 sqm)	cum	7,711.82
78	Item no 24.7	GEOSYNTHETIC AND REINFORCED EARTH		
		Sub-Surface Drain with Geotextiles		
		Providing and laying sub surface drain 200 mm dia using geotextiles treated with carbon black to a stable network and a planar geo-composite structure, joints wrapped with geotextile to prevent ingress of soil, including excavation and backfilling as per Drawing and Technical Specifications.	m	2,175.50
79	Item no 24.17	Providing and laying Grouted Stone Pitching in protection work, with stone size not less than 0.01 cum and cement: sand mortar (1:3) all complete as per Drawing and Technical Specifications.	cum	14,942.71
80	Item no 24.20	Providing and laying HDPE pipes with perforations including joining, providing and laying HDPE pipes with perforations including joining series II		
		(i) series II, HDPE pipe 250 mm dia	m	2,232.98
		(ii) series II, HDPE pipe 160 mm dia	m	615.04
	Section 25	BRICK WORKS FOR STRUCTURES		
81	Item no 25.1	Providing and laying Brick Masonry Work in Cement mortar in Foundation / structure complete excluding Pointing and Plastering, as per Drawing and Technical Specifications.		
		A. Cement sand mortar (1:2)	cum	17,641.74
		B. Cement sand mortar (1:3)	cum	17,020.65
		C. Cement sand mortar (1:4)	cum	16,591.57
		D. Cement sand mortar (1:6)	cum	16,169.63

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CONTRACT RATE

SN	SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
82	Item no 25.2	Providing and laying Brick masonry work in superstructure/ sub-structure complete excluding pointing and plastering, as per drawing and Technical Specifications		
		A. Cement sand mortar (1:2)	cum	17,688.84
		B. Cement sand mortar (1:3)	cum	18,378.84
		C. Cement sand mortar (1:4)	cum	17,928.30
		D. Cement sand mortar (1:6)	cum	17,485.26
83	Item no 25.3	Providing, and applying Pointing with cement mortar (1:3) on brick work in structure as per Technical Specifications .	sqm	302.39
84	Item no 25.4	Providing and applying 12.5 mm thick Plaster with cement mortar on brick work structure as per Technical Specifications		
		A. Cement Mortar 1:2 (1 cement : 2 sand)	sqm	494.53
		B. Cement Mortar 1:3 (1 cement : 3 sand)	sqm	452.97
		C. Cement Mortar 1:4 (1 cement : 4 sand)	sqm	429.89
85	Item no 25.5	Providing and laying weep holes in Brick works / Masonry/ Plain/ Reinforced concrete abutment, wing wall/ return wall with 100 mm dia HDPE pipe as per Drawing and Technical Specifications.	m	774.95
	Section 26	MASONRY FOR STRUCTURES		
86	Item no 26.1	Providing and laying of dry Stone Masonry Work as per Drawing and Technical Specifications.	cum	6,352.65
87	Item no 26.2	Providing and laying of Random rubble stone Masonry in mud Mortar as per Drawing and Technical Specifications.	cum	7,915.73
		Rubble Random Masonry		
88	Item no 26.3.1	Providing and laying of Stone Masonry Work in Cement Mortar 1:3 in Foundation complete as per Drawing and Technical Specifications.	cum	12,885.93
89	Item no 26.3.2	Providing and laying of Stone Masonry Work in Cement Mortar 1:4 in Foundation complete as per Drawing and Technical Specifications.	cum	12,319.33
90	Item no 26.3.3	Providing and laying of Stone Masonry Work in Cement Mortar 1:6 in Foundation complete as per Drawing and Technical Specifications.	cum	11,675.46
91	Item no 26.4	Providing and laying Stone Masonry work in cement mortar 1:3 in structure complete as per drawing and Technical Specifications		
		A. Random Rubble Masonry	cum	14,451.19
		B. Coursed rubble Masonry (first sort)	cum	14,802.93
92	Item no 26.5	Providing and laying Stone Masonry work in cement mortar 1:4 in structure complete as per Drawing and Technical Specifications		
		A. Random Rubble Masonry (uncoursed)	cum	13,853.77
		B. Coursed rubble Masonry (first sort)	cum	14,229.18
93	Item no 26.6	Providing and lying Stone Masonry work in cement mortar 1:6 in structure complete as per Drawing and Technical Specifications		
		A. Random Rubble Masonry (coursed/uncoursed)	cum	13,263.50
		B. Coursed rubble Masonry (first sort)	cum	13,707.67
94	Item no 26.7	Providing and Pointing with cement mortar on masonry work in structure as per Technical Specifications		
		A. cement mortar (1:3)	sqm	298.82
		B. cement mortar (1:2)	sqm	313.45
		C. cement mortar (1:1)	sqm	348.39
	Section 29	MAINTENANCE OF ROAD		
95	Item no 29.1	Carryout Routine (regular maintenance) of Black top/ Gravel road in Hilly area as per Technical Specifications and direction of the Engineer.	km-day	62.10
96	Item no 29.3	Providing required material and carryout Routine (regular + reactive maintenance) of Black top road as per Technical Specifications.	km/yr	218,606.01
97	Item no 29.4	Restoration of Rain Cuts		
		Providing and restoration of rain cuts in embankment slopes as per specification and direction of the Engineer.	cum	914.25

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SUMMARY OF RATE ANALYSIS FOR ROADS FOR FY 076/077

CONTRACT RATE

SN	SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
98	Item no 29.5	Providing and restoration of rain cuts with surrounding material benching for 300mm width, laying fresh Material in layers not exceeding 250mm and compacting to restore the original alignment, levels and slopes as per Technical Specification and direction of the Engineer.		
		A. Manual means	cum	923.91
		B. Mechanical Means including conveyance of earth from other surrounding area with 10m lead	cum	727.26
99	Item no 29.7	Maintenance of Earthen Shoulder (filling with fresh soil)		
		Providing and making up loss of Material/irregularities on shoulder to the design level by adding fresh approved soil and compacting as per Technical Specification and direction of the Engineer.	sqm	82.29
100	Item no 29.8	Maintenance of Earth Shoulder (stripping excess soil)		
		Stripping excess soil from the shoulder surface to achieve the approved level and compacting as per Technical Specifications and direction of the Engineer.	sqm	51.06
101	Item no 29.9	Providing, laying and restoration of rain cut with gravel or river bed Material, benching for 300mm width, laying fresh Material in layers not exceeding 250mm and compacting to restore the original alignment, levels and slopes as per Technical specifications and direction of the Engineer.	cum	5,158.42
102	Item no 29.10	Maintenance of bituminous surface road with Emulsion		
		(i) Providing required material and repair to potholes including removal of failed material, trimming the sides to vertical, leveling the bottom, cleaning, filled with 75mm Bituminous macadam applying bitumen/emulsion prime coat and tack coat as per Technical Specifications and direction of the Engineer.	cum	15,588.04
		(ii) Providing required material and repair potholes including removal of loose material, trimming of sides, cleaning of surface applying tack coat, 20mm thick pre-mix carpet and seal coat with bitumen emulsion as per Technical Specifications and direction of the Engineer.	sqm	342.87
103	Item no 29.11	Filling Pot-holes and Patch Repairs		
		Providing required material and repair the the pot holes including removal of failed material, trimming and finishing the surface applying tack coat on the sides and base of excavation, backfilling with hot bituminous Material and compaction as per Technical Specification and instruction of the Engineer.		
		A. Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20 mm.	sqm	375.41
		B. Filling Pot-holes and Patch Repairs with Bituminous concrete, 40 mm.	sqm	978.36
104	Item no 29.12	Crack Filling		
		Providing and filling of crack using low-curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm as per Technical Specifications and instruction of the Engineer	m	12.73
105	Item no 29.13	Dusting		
		Providing and applying crusher dust to areas of road where bleeding of excess bitumen has occurred as per Technical Specifications and direction of the Engineer.	sqm	6.41
106	Item no 29.14	Slurry Seal		
		Providing and laying slurry seal consisting of a mixture of fine aggregates, Portland cement filler, bituminous emulsion and water on a road surface including cleaning of surface, mixing of slurry seal in a suitable mobile plant, laying and compacting to provide even riding surface		
		A. 5 mm thickness	sqm	304.73
		B. 3 mm thickness	sqm	550.54
		C. 1.5 mm thickness	sqm	528.29
107	Item no 29.19	Land Slide Clearance in soil		
		A. Clearance of land slides in soil and ordinary rock by machine and disposal of the same on the valley side	cum	18.63

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CONTRACT RATE

SECTION	ITEMS DESCRIPTION	UNIT	Rate (Nrs)
	B. Clearance of land slides in soil and ordinary rock by machine and disposal of the same on the valley side or loaded to a truck.	cum	37.95
Section 30	SUB-SURFACE GEOTECHNICAL INVESTIGATION		
Item no 30.1	Excavation of pits/trenches for sub-surface Geo-technical investigation in mixed soil and lifting of material all complete (Length & breath depending upon working condition) as per direction of the Engineer.		
	I. Depth up to 3 m	cum	862.50
	II. Depth up to 3 - 4.5 m	cum	1,069.50
Item no 30.2	Mobilisation and Demobilisation of drilling / Boring equipments, accessories, etc for sub-surface Geo-technical investigation as per direction .		
	I. BT Surfaced Road (Speed with load : 15 km / hour.)	km-job	462.30
Item no	RCC Hume Pipe		
	A) Rcc hume pipe - NP2		
	For one or first pipe.		
	Pipe having 150 mm diameter.	R.m	844.97
	Pipe having 200 mm diameter.	R.m	1,100.85
	Pipe having 250 mm diameter.	R.m	1,351.20
	Pipe having 300 mm diameter.	R.m	1,838.53
	Pipe having 400 mm diameter.	R.m	2,500.03
	Pipe having 450 mm diameter.	R.m	2,638.43
	Pipe having 500 mm diameter.	R.m	2,938.65
	Pipe having 600 mm diameter.	R.m	3,932.64
	Pipe having 700 mm diameter.	R.m	5,050.08
	Pipe having 750 mm diameter.	R.m	5,488.55
	Pipe having 900 mm diameter.	R.m	8,176.14
	Pipe having 1000 mm diameter.	R.m	9,474.72
	Pipe having 1200 mm diameter.	R.m	11,634.85
	Pipe having 1500 mm diameter.	R.m	21,890.25
	For every subsequent pipe having a length of minimum 1 m		
	Pipe having 150 mm diameter.	R.m	827.63
	Pipe having 200 mm diameter.	R.m	1,110.13
	Pipe having 250 mm diameter.	R.m	1,360.48
	Pipe having 300 mm diameter.	R.m	1,874.99
	Pipe having 375 mm diameter.	R.m	2,043.21
	Pipe having 400 mm diameter.	R.m	2,536.49
	Pipe having 450 mm diameter.	R.m	2,674.89
	Pipe having 500 mm diameter.	R.m	2,975.11
	Pipe having 600 mm diameter.	R.m	4,119.19
	Pipe having 750 mm diameter.	R.m	5,854.94
	Pipe having 800 mm diameter.	R.m	6,461.50
	Pipe having 900 mm diameter.	R.m	8,862.71
	Pipe having 1000 mm diameter.	R.m	10,161.29
	Pipe having 1200 mm diameter.	R.m	13,002.80
	Pipe having 1500 mm diameter.	R.m	23,413.45
Section	HDPE DOUBLE WALL CORRUGATED PIPE		
Item no	Providing and laying HDPE DWC pipes for sewage and rain water Non-pressure pipes		
	(i) Laying of HDPE Double Wall Corrugated Pipes (internal dia. 150mm)	rm	1,232.92
	(ii) Laying of HDPE Double Wall Corrugated Pipes (internal dia. 200mm)	rm	1,842.42
	(iii) Laying of HDPE Double Wall Corrugated Pipes (internal dia. 250mm)	rm	2,336.92
	(iv) Laying of HDPE Double Wall Corrugated Pipes (internal dia. 300mm)	rm	3,820.42
	(v) Laying of HDPE Double Wall Corrugated Pipes (internal dia. 400mm)	rm	4,935.92

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SN	SECTION	ITEMS DESCRIPTION	CONTRACT RATE	
			UNIT	Rate (Nrs)
		(vi) Laying of HDPE Double Wall Corrugated Pipes (internal dia. 500mm)	rm	5,924.92
		(vii) Laying of HDPE Double Wall Corrugated Pipes (internal dia. 600mm)	rm	9,997.53
		(viii) Laying of HDPE Double Wall Corrugated Pipes (internal dia. 800mm)	rm	16,477.78
		(ix) Laying of HDPE Double Wall Corrugated Pipes (internal dia. 1000mm)	rm	24,591.03

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