ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar

BIHAR RURAL ROADS PROJECT

DETAILED PROJECT REPORT

STATE :- BIHAR

DISTRICT :- Rohtas

BLOCK :- Bikramganj

Ara - Sasaram PWD Road - Niuga Khelariya Upto Karakat PWD Road (At 2.20 Km)

REPAIR LENGTH	:-	50.0 m
TOTAL COST OF CONSTRUCTION	:-	Rs. 40.234 Lacs

Submitted By:
Executive Engineer
RWD WORKS DIV -
~~Jaynagar~~ Bikramganj
Rohtas

Prepared By:
Shambhavi Techno Solutions Pvt. Ltd.
E/82 , Rajesh Kumar Path
S.k. Puri , Boring Road , Patna - 1 (Bihar)

प्रतिवेदन

पथ का नाम :- Ara- Sasaram PWD Road- Niuga Khelariya Upto Karakat PWD Road (At 2.20 km)

पथ का लम्बाई :- 13.930 कि0मी0 (Damage Length- 0. 05 KM)

प्राक्कलित राशि :- 40.234 लाख।

प्रमण्डल का नाम :- बिक्रमगंज।

प्रखंड का नाम :- बिक्रमगंज।

कार्य अंचल का नाम :- सासाराम।

जिला का नाम :- रोहतास।

प्रस्तुत प्राक्कलन मुख्य अभियंता–4 ग्रामीण कार्य विभाग, बिहार पटना का पत्रांक–मु0अ0–4 (मु0) विविध कार्य–23–291/2019 4555 पटना दिनांक--05.11.2021 के द्वारा दिये गये निर्देश के आलोक में बाढ़/अतिवृष्टि से क्षतिग्रस्त पथ का पूर्ण पूर्नस्थापन (Restoration Work) करने हेतु तैयार किया गया है। इस पथ की कुल लम्बाई–13.930 कि0मी0 है, एवं बाढ़ द्वारा क्षतिग्रस्त भाग की कुल लम्बाई–0.050 कि0मी0 है, जिसका पूर्ण पूर्नस्थापन हेतु उक्त लम्बाई में 100mm GSB Gr-I, 75mm WBM Gr-III एवं 20mm Mix Seal Surface का प्रावधान किया गया है। बाढ़ से मिट्टी कटाव के बचाव हेतु 90 मीटर PCC Retaining wall का भी प्रावधान किया गया है।

यह प्रस्तुत प्राक्कलन सम्पादीत कार्य के समय लागू अनुसूचित दर पर, जो संवेदक लभांश को छोड़ कर था उसे प्रावधान करते हुए तैयार किया गया है।

अतः किये गये कार्यो के भुगतान हेतु प्राक्कलन की प्रशासनिक स्वीकृति अपेक्षित है।

24/11/2021	24/11/2021	24/11/21
कनीय अभियंता ग्रामीण कार्य विभाग कार्य प्रशाखा,बिक्रमगंज।	सहायक अभियंता ग्रामीण कार्य विभाग कार्य अवर प्रमण्डल,बिक्रमगंज।	कार्यपालक अभियंता ग्रामीण कार्य विभाग कार्य प्रमण्डल,बिक्रमगंज।

GENERAL ABSTRACT OF COST

lock:--Bikramganj District:--Rohtas

ame of Road:-- Ara - Sasaram PWD Road - Niuga Khelariya Upto Karakat PWD Road (At 2.20 Km)

SL. No.	Item of Work		Amount	
1	TOTAL COST OF CONSTRUCTION	:	35,30,180.00	
	ADD 1% LABOUR CESS	:	35,301.80	
	ADD 12% GST	:	4,23,621.60	
	SEIGNIORAGE FEE 10% ON BASIC COST OF MINES MATERIAL	:	34,301.00	
	COST OF CONSTRUCTION	:	40,23,404.40	
	SAY IN LACS	:	40.23	Lacs

24-11-2021
unior Engineer

24/11/21
Asstt. Engineer

24/11/21
Executive Engineer
RWD (w) Division, -
Bikramganj

R.W.D , Works Circle
Sasaram

SUMMARY OF COST ESTIMATE FOR THE PROJECT

NAME OF ROAD : Ara - Sasaram PWD Road - Niuga Khelariya Upto Karakat PWD Road (At 2.20 Km)

DISTRICT Rohtas

BLOCK Bikramganj

Sl. No.	DESCRIPTION	AMOUNT
1	EARTHWORK	6938.00
2	GSB	47236.00
3	WBM GRADE III	44798.00
4	PRIME COAT	9169.00
5	TACK COAT	3073.00
6	MIX SEAL SURFACE	38505.00
7	PROTECTION WORKS / RETAINING WALL	3380461.00
	SUB TOTAL OF PAVEMENT COST IN LACS =	**3530180.00**

24-11-2021
Junior Engineer

24/11/21
Assistant Engineer

24/11/21
Executive Engineer
RWD (w) Division, - Bikramganj

ABSTRACT OF SEIGNIORAGE FEE

Name Of Road :- Ara - Sasaram PWD Road - Niuga Khelariya Upto Karakat PWD Road (At 2.20 Km)

For Construction

Name of Material	Earth	GSB 53 mm to 26.5 mm	GSB 26 mm to 9.5 mm	GSB 9.5 mm to 2.36 mm	Local sand	Gr - III Stone Screening Type B 11.2 mm Type B 11.2 mm	Gr - III 53-22.4	MSS 13.2 mm to 0.09 mm	RCC CONC . Agg 40	RCC CONC . Agg 20	RCC CONC . Agg 10	Stone spalls	Coarse sand	PCC Crushed stone Agg	Brick	Total Amount
unit	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	
Quantity	33.75	8.51	10.94	0.00	0.00	3.37	17.01	5.06	256.41	169.57	70.32	0.00	282.27	0.00	0.00	
Basic Rate	34.82	503.85	544.89			392.53	503.85		486.92	595.36	657.91		175.80	572.92		
Amount	1175.18	4285.24	5958.37	0.00	0.00	1324.55	8571.80	0.00	124849.40	100957.81	46261.07	0.00	49622.54	0.00	0.00	343006
S. fee 10%	117.52	428.52	595.84	0.00	0.00	132.46	857.18	0.00	12484.94	10095.78	4626.11	0.00	4962.25	0.00	0.00	34301

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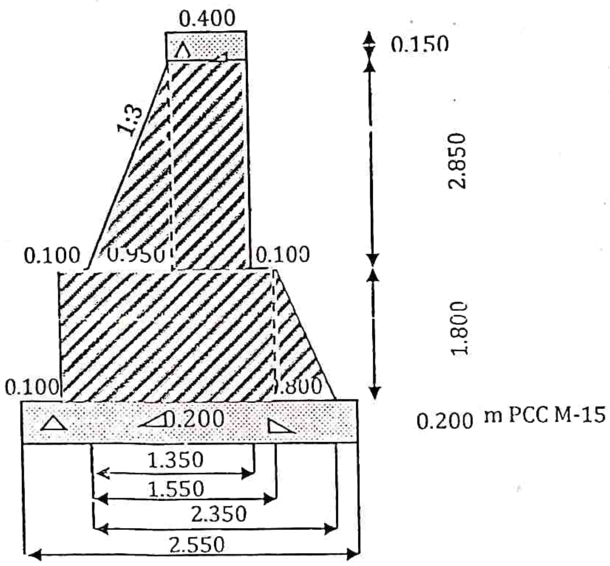
Name of Road	Ara - Sasaram PWD Road - Niuga Khelariya Upto Karakat PWD Road (At 2.20 Km)																
Sl. No.	Description	Unit	Quantity	Material													
				Earth	GSB 53 mm to 26.5 mm	GSB 26 mm to 9.5 mm	GSB 9.5 mm to 2.36 mm	Local sand	Gr - III Stone Screening Type B 11.2	Gr - III 53-22.4	MSS 13.2 mm to 0.09 mm	RCC CONC . Agg 40	RCC CONC . Agg 20	RCC CONC . Agg 10	Stone spalls	Coarse sand	PCC Crushed stone Agg
1	Construction of Embankment	m3	33.75	33.75													
2	GSB Gr- I	m3	20.25		8.51	10.94										4.86	
3	WBM Grading 3	m3	14.06						3.37	17.01							
4	Mix Seal Surface	m2	187.50								5.06						
5	Providing M15 (PCC 1:2.5:5)	m3	361.80									173.66	86.83	28.94		173.66	
6	Plain/Reinforced cement concrete (PCCM-20) in substructure	m3	229.84									82.74	82.74	41.37		103.43	
7	Providing Weepholes in brick masonary , Plain / Reinforced	m3	180.00													0.32	
				33.75	8.51	10.94	0.00	0.00	3.37	17.01	5.06	256.41	169.57	70.32	0.00	282.27	0.00



Section of Return Wall

SOR No.	Description of Items							Total Qty	Unit	Rate (₹)	Amount (₹)
2	3							4	5	6	7
11.1	Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material.										
	Return Wall	1	x	90.000 x	2.550 x	2.000	=	459.000			
	Total							459.000	cum	285.82	1,31,191.00
11.4 (II)	Providing PCC M 15 (1:2.5:5) concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203										
	Return Wall	1	x	90.000 x	2.550 x	0.200	=	45.900			
	Total							45.900	cum	4,448.74	2,04,197.00
11.4 (II)	Providing PCC M 15 (1:2.5:5) concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203										
	Qty below GL :										
	Return Wall	1	x	90.000 x	1.950 x	1.800	=	315.900			
	Total							315.900	cum	5,802.53	18,33,019.00

SOR No.	Description of Items	Total Qty.	Unit	Rate (रु)	Amount (रु)
12.5	Plain/Reinforced cement concrete(M-20) in substructure complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204				
	Qty above GL :				
	Return Wall 1 x 90.000 x 0.875 x 2.850 =	224.44			
	Total	**224.440**	cum	5,190.44	11,64,942.00
12.5 II	**Plain/Reinforced cement concrete(M-20) in substructure** complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204				
	Return Wall Coping 1 x 90.000 x 0.400 x 0.150 =	5.400			
	Total	5.400	cum	5,190.44	28,028.00
12.9	Providing **Weepholes** in brick masonary , Plain / Reinforced concrete abutement , 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				
	2 x 90 =	180	Nos.	106.02	19,084.00
				Total रु	33,80,461.00

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REPAIR ROAD

SOR Item No	Description of Items	Unit	Qty	Rate (₹)	Amount (₹)
3.4	Construction of embankment with approved material obtained from borrow pits with a lift upto 1.5 m, transporting to site, spreading, grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a lead upto 1000 m as per Technical Specification Clause 301.5				
	2 x 50.000 x 1.125 x 0.300 = 33.750				
	33.750	cum	33.750	205.56	6,938.00
4.1	Construction of granular sub-base by providing coarse graded 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 clause 401.				
	1 x 50.000 x 4.050 x 0.100 = 20.250				
	20.250	cum	20.250	2,332.64	47,236.00
4.7	WBM Grading 3 :- Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405.				
	1 x 50.000 x 3.750 x 0.075 = 14.063				
	14.060	cum	14.060	3,186.22	44,798.00
5.1	Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per Technical Specification Clause 502				
	1 x 50.000 x 3.75 av x 187.500				
	187.500	Sqm	187.500	48.90	9,169.00
5.2	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.3 kg per sqm on the prepared bituminous surface cleaned with Hydraulic broom as per Technical Specification Clause 503.				
	1 x 50.000 x 3.75 av x 187.500				
	187.500	Sqm	187.500	16.39	3,073.00
5.11	Mix Seal Surface :- Providing laying and rolling of close - graded premix surface material 20 mm thickness composed of 11.2 mm to 0.9 mm (Type - A) or 13.2 mm to 0.9 mm (Type - B) aggregates using penetration grade bitumen to required line ,grade and level to serve as static roller and finising to required level and grades as per Technical Specification Clause 509				
	1 x 50.000 x 3.75 av x 187.500				
	187.500	Sqm	187.500	205.36	38,505.00

Total Amount 1,49,719.00

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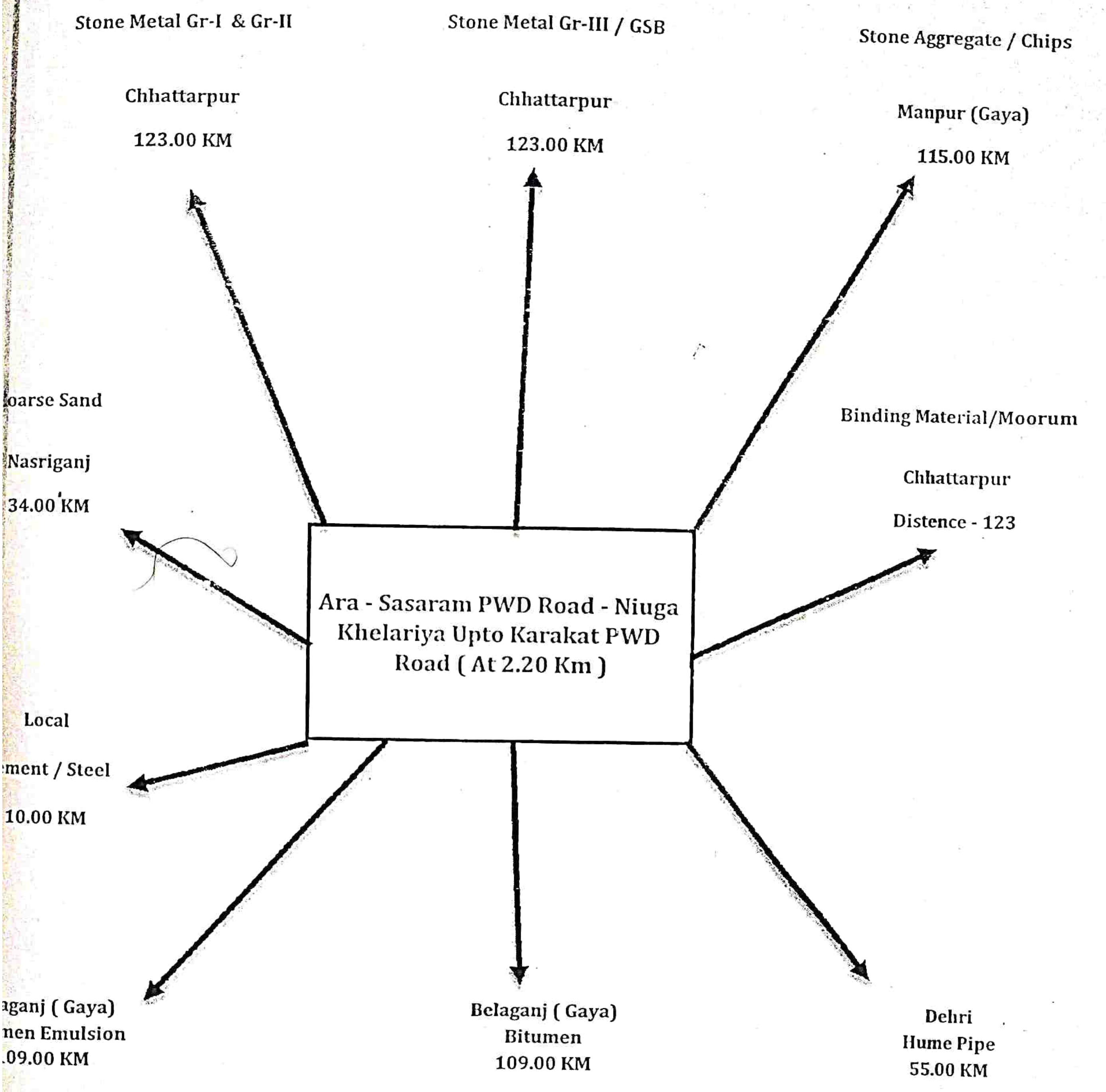
Quarry Map



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E.E
RWD (w) Division, - Bikramganj

R.W.D , Works Circle
Sasaram

Name of Work :- **Ara - Sasaram PWD Road - Niuga Khelariya Upto Karakat PWD Road (At 2.20 Km)**

Sl No	Item with Source	Unit	Source	Pucka / Surface	Katcha	Loading & Unloading Cost	Carriage Cost by Rail Head	Total	Min Total
1	Stone Metal Gr-I & Gr-II	Cum	Chhattarpur	$\frac{8.00}{4.59}$ x 7.22 x 123.00 Km = Rs 1547.82	$\frac{8.00}{4.59}$ x 17.48 x 0.00 Km = Rs 0.00	191.44		1739.26	Rs. 1739.26
2	Stone Metal Gr-III / GSB	Cum	Chhattarpur	$\frac{8.00}{4.99}$ x 7.22 x 123.00 Km = Rs 1423.74	$\frac{8.00}{4.99}$ x 22.10 x 0.00 Km = Rs 0.00	100.31		1524.05	Rs. 1524.05
3	Stone Aggregate / Chips	Cum	Manpur (Gaya)	$\frac{8.00}{4.99}$ x 7.22 x 115.00 Km = Rs 1331.14	$\frac{8.00}{4.99}$ x 22.10 x 0.00 Km = Rs 0.00	100.31		1431.45	Rs. 1431.45
4	Stone Boulder	Cum	Chhattarpur	$\frac{8.00}{4.00}$ x 7.22 x 115.00 Km = Rs 1660.60	$\frac{8.00}{4.00}$ x 22.10 x 0.00 Km = Rs 0.00	100.31		1760.91	Rs. 1760.91
5	Coarse Sand	Cum	Nasriganj	$\frac{8.00}{4.99}$ x 7.22 x 34.00 Km = Rs 393.56	$\frac{8.00}{4.99}$ x 22.10 x 0.00 Km = Rs 0.00	103.52		497.08	Rs. 497.08
6	Binding Material/Moorum	Cum	Chhattarpur	$\frac{8.00}{6.00}$ x 7.22 x 123.00 Km = Rs 1184.08	$\frac{8.00}{6.00}$ x 22.10 x 0.00 Km = Rs 0.00	62.42		1246.50	Rs. 1246.50
7	Local Sand	Cum	Local	$\frac{8.00}{4.00}$ x 7.22 x 2.00 Km = Rs 23.15	$\frac{8.00}{4.00}$ x 22.10 x 1.00 Km = Rs 35.43	103.52		162.10	Rs. 162.10
8	Brick	1000 Nos	Local	$\frac{8.00}{2.00}$ x 7.22 x 7.00 Km = Rs 202.16	$\frac{8.00}{2.00}$ x 17.48 x 1.00 Km = Rs 69.92	434.72		706.80	Rs. 706.80
9	Cement	MT	Local	$\frac{8.00}{8.00}$ x 7.22 x 10.00 Km = Rs 72.20	$\frac{8.00}{8.00}$ x 17.48 x 0.00 Km = Rs 0.00	316.52		388.72	Rs. 388.72
10	Steel	MT	Local	$\frac{8.00}{8.00}$ x 7.22 x 10.00 Km = Rs 72.20	$\frac{8.00}{8.00}$ x 17.48 x 0.00 Km = Rs 0.00	337.80		410.00	Rs. 410.00
11	Bitumen Emulsion	MT	Belaganj (Gaya)	$\frac{8.00}{8.00}$ x 7.22 x 109.00 Km = Rs 786.98	$\frac{8.00}{8.00}$ x 17.48 x 0.00 Km = Rs 0.00	351.63		1148.61	Rs. 1148.61
12	Bitumen	MT	Belaganj (Gaya)	$\frac{8.00}{8.00}$ x 7.22 x 109.00 Km = Rs 786.98	$\frac{8.00}{8.00}$ x 17.48 x 0.00 Km = Rs 0.00	361.63		1148.61	Rs. 1148.61
13	Hume Pipe (1000 mm)	m	Dehri	$\frac{8.00}{10.00}$ x 7.22 x 55.00 Km = Rs 317.68	$\frac{8.00}{10.00}$ x 17.48 x 0.00 Km = Rs 0.00	74.54			Rs. 392.22

Cost of Haulage Excluding Loading & Unloading as per SOR

Type of Road	Per Ton. Km by Tipper	Per Ton. Km by Truck
For Surface Road	9.10	7.22
Unsurface Gravel Road	11.00	8.69
Kachha Road	22.10	17.48

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BASIC RATES
(A) Labour

Sl. No.	Description of Labour	Unit	Rate (Rs.)
L-01	Bhisti	day	306
L-02	Bitumen Sprayer	day	322
L-03	Blacksmith	day	413
L-04	Blaster	day	508
L-05	Carpenter 1st Class	day	413
L-06	Chips spreader	day	369
L-07	Chiseller	day	388
L-08	Dresser (Skilled)	day	388
L-09	Driller	day	369
L-10	Electrician	day	391
L-11	Fitter	day	420
L-12	Mason (1st class)	day	413
L-13	Mason (2nd Class)	day	369
L-14	Mate	day	325
L-15	Mazdoor (Unskilled)	day	306
L-16	Mazdoor (Semi skilled)	day	318
L-17	Mazdoor (Skilled)	day	388
L-18	Painter (Ist class)	day	391
L-19	Plumber	day	391
L-20	Surveyor	day	373
L-21	White Washer	day	391

BASIC RATES
(B) Material

Sl. No.	Description	Unit	Basic Rate Exclusive, Royality	ADD Royality	Basic Rate Inclusive, Royality
M-001	AC pipe 100 mm	m	42.54		42.54
M-002	Aggregate - For 37.5 mm Maximum size - 22.4 mm to 5.6 mm	cum	422.92	150	572.92
M-003	Aggregate - For 37.5 mm Maximum size - 45 mm to 22.5 mm	cum	374.49	150	524.49
M-004	Aggregate - For 37.5 mm Maximum size - Below 5.6 mm	cum	99.22	150	249.22
M-005	Aggregate - For 53 mm Maximum size - 22.5 mm to 5.6 mm	cum	422.92	150	572.92
M-006	Aggregate - For 53 mm Maximum size - 63 mm to 45 mm	cum	323.70	150	473.70
M-007	Aggregate - For 53 mm Maximum size - Below 5.6 mm	cum	99.22	150	249.22
M-008	Aggregate - Grading I (40 mm nominal Size) 10 mm - 5 mm	cum	423.71	150	573.71
M-009	Aggregate - Grading I (40 mm nominal Size) 25 mm – 10 mm	cum	506.34	150	656.34
M-010	Aggregate - Grading I (40 mm nominal Size) 37.25 mm - 25 mm	cum	374.49	150	524.49
M-011	Aggregate - Grading I (40 mm nominal Size) 5 mm and below	cum	99.22	150	249.22
M-012	Aggregate - Grading II (19 mm nominal Size) 10 mm - 5 mm	cum	423.71	150	573.71
M-013	Aggregate - Grading II (19 mm nominal Size) 25 mm – 10 mm	cum	506.34	150	656.34
M-014	Aggregate - Grading II (19 mm nominal Size) 5 mm and below	cum	99.22	150	249.22
M-015	Aggregate 10 mm	cum	507.91	150	657.91
M-016	Aggregate 20 mm	cum	445.36	150	595.36
M-017	Aggregate 40 mm	cum	336.92	150	486.92
M-018	Aggregate- Crushable type such as moorum or Gravel for Grading I	cum	75.35	83	158.35
M-019	Aggregate- Crushable type such as moorum or Gravel for Grading II	cum	75.35	83	158.35
M-020	Aggregate- Crushable type such as moorum or Gravel for Grading III	cum	75.35	83	158.35
M-021	Aggregate-Grading I 90 mm to 45 mm	cum	292.63	150	442.63
M-022	Aggregate-Grading II 63 mm to 45 mm	cum	323.70	150	473.7
M-023	Aggregate-Grading III 53 mm to 22.4 mm	cum	353.85	150	503.85
M-024	Aggregates 22.4 mm to 2.36 mm for wet mix macadam	cum	422.92	150	572.92
M-025	Aggregates 45 mm to 22.4 mm for wet mix macadam	cum	374.49	150	524.49
M-026	Aluminium sheeting (1.5 mm thick)	sqm	7846.87		7846.87
M-027	Aluminium Studs 100 mm x 100 mm fitted with lense reflectors	Nos.	169.19		169.19
M-028	Bamboo (1st Class) 85 mm - 100 mm dia, 2.0 m long	No.	15		15
M-029	Bamboo (1st Class) 85 mm - 100 mm dia, 2.5 m long	No.	20		20
M-029	Bamboo (1st Class) 85 mm - 100 mm dia, 3.0 m long	No.	20		20
M-030	Bamboo (1st Class) 85 mm - 100 mm dia 4.5 m - 5.5 m long	No.	20		20

Sl. No.	Description	Unit	Basic Rate Exclusive, Royality	ADD Royality	Basic Rate Inclusive, Royality
M-029	Bamboo (2nd Class) 75mm dia, 1.8 m - 2.5 m long	No.	20		20
M-030	Bamboo (2nd Class) 75mm dia, 2.1 m - 3.0 m long	No.	20		20
M-031	Barbed wire	kg	57.95		57.95
M-032	Binding Material	cum	75.35	83	158.35
M-033	Binding wire	kg	58.95		58.95
M-034	Bitumen (Crumb Rubber Modified)	tonne			
M-035	Bitumen (Natural Rubber Modified)	tonne			
M-036	Bitumen (Polymer Modified)	tonne			
M-037	**Bitumen (S-65) (Excluding the cost of empty drum @ Rs778.18 /Per MT)**	t	44379.82		44379.82
M-038	**Bitumen (S-90) (Excluding the cost of empty drum @ Rs 778.18 /Per MT)**	t	43945.82		43945.82
M-039	**Bitumen Emulsion (RS-1) (Excluding the cost of empty drum @ Rs 778.18 /Per MT)**	t	45360.82		45360.82
M-040	**Bitumen Emulsion (SS-1) (Excluding the cost of empty drum @ Rs 778.18 /Per MT)**	t	48195.82		48195.82
M-041	Bituminous sealant	litre	24.51		24.51
M-042	Blasted rubble	cum	190.55		190.55
M-043	Blasting material	kg	134.16		134.16
M-044	Bond stone (400 mm x 150 mm x 150 mm)	No.	10.57		10.57
M-045	Brick 1st Class	No.	6.030	0.045	6.075
M-046	Cement (OPC - 43 Grade) (Excluding the cost of Empty Bag@ Rs 5.87 /Per Bag)	t	4882.60		4882.6
M-047	Cement Primer	litre	122.56		122.56
M-048	Chlorprene Elastomer or Closed Cell Foam Sealing Element	m	24868.88		24868.88
M-049	Compensation for earth taken from private land (Including royality @ Rs. 33.0 per cum & compensation @ Rs. 1.82 per cum)	cum	1.82	33	34.82
M-050	Compressible Fibre Board	sqm	930.96		930.96
M-051	Copper plate	kg	749.21		749.21
M-052	Corbelling Stones (300 mm x 150 mm x 150 mm)	No.			0
M-053	Corrosion Resistant Structural Steel Grating	kg	43.85		43.85
M-054	Credit for excavated rock found suitable for use	cum	106.98	32.09	139.07
M-055	Crow bars 40 mm dia (hire charges)	hour	5		5
M-056	Crushed Sand or Grit Passing 2.36 mm and retained on 180 micron	cum	87.43	75	162.43
M-057	Crushed Slag	cum	705.46		705.46
M-058	Crushed Stone Aggregate 26.5 mm to 75 micron	cum	394.89	150	544.89
M-059	Crushed Stone chipping 13.2 mm nominal size				

Sl. No.	Description	Unit	Basic Rate Exclusive, Royality	ADD Royality	Basic Rate Inclusive, Royality
M-060	Crushed Stone Chipping 6.7 mm size 100% passing 11.2 mm and retained on 2.36 mm	cum	311.52	150	461.52
M-061	Crushed Stone Chipping 6.7 mm size 100% passing 9.5 mm and retained on 2.36 mm	cum	311.52	150	461.52
M-062	Crushed Stone chipping 9.5 mm nominal size	cum	507.91	150	657.91
M-063	Crushed Stone Coarse Aggregate Passing 53 mm and retained on 2.8 mm	cum	366.41	150	516.41
M-064	Curing compound	litre	123.05		123.05
M-065	Debonding strips	m	45		45
M-066	Edge Stone (450 mm x 350 mm x 100 mm)	No.			0
M-067	Edge Stone (450 mm x 350 mm x 200 mm)	No.			0
M-068	Elastomeric bearing assembly	Nos.	27202.73		27202.73
M-069	Electric Detonator	each	5.7458		5.75
M-070	Epoxy Paint	litre	676.96		676.96
M-071	Epoxy Primer	litre	114.14		114.14
M-072	Farmyard manure	cum	522		522
M-073	Fevicol adhesive	kg	125		125
M-074	Filter media	cum	354.46	150	504.46
M-075	Fine aggregate/Crushed sand 2.36 mm to 75 micron	cum	87.43	75	162.43
M-076	Galvanised angle	kg	42.7		42.70
M-077	Galvanised angle Section 100 mm x 100 mm of 12 mm thickness	kg	42.7		42.70
M-078	Gelatine 80 per cent	kg	806.65		806.65
M-079	GI Pipe 100 mm dia	m	522.42		522.42
M-080	GI Pipe 50 mm dia	m	211.02		211.02
M-081	GI wires	kg	96.39		96.39
M-082	Graded stone aggregate	cum	309.21		309.21
M-083	Granular material (Natural occuring, soil gravel mixture / quarry waste, kankar, laterite, dhandla	cum	201.36	150	351.36
M-084	Hand Broken Metal 40 mm size	cum	201.36	150	351.36
M-085	Indigo	kg	416		416
M-086	Interlocking Blocks with 60 mm thickness	sqm	416		
M-087	Interlocking Blocks with 80 mm thickness	sqm			0
M-088	Joint filler board	sqm	961.32		961.32
M-089	Jute netting, open weave 25 mm square opening	sqm	34.2		36.94
M-090	Jute rope 12 mm dia	m	43.28		43.28

Sl. No.	Description	Unit	Basic Rate Exclusive, Royality	ADD Royality	Basic Rate Inclusive, Royality
M-092	Lime	t	3637.51		3637.51
M-093	Lime putty	t	3637.51		3637.51
M-094	Local Wood Piles (1st Class) 150-200 mm dia ,6m long	No.	258		258
M-095	Local Wood Piles (1st Class) 100 mm x 75 mm	cum	27700		27700
M-096	Loose stone	cum	201.36	150	351.36
M-097	MS clamps	Nos.	34.06		34.06
M-098	MS Flat / Structural Steel	t	43845.55		43845.55
M-099	MS Sheet Tube (47 mm x 47 mm x 12 SWG Sheet)	kg	44.927		44.93
M-100	MS Sheet 1.5 mm thick	sqm	416		416
M-101	MS Sheet 2 mm thick	sqm	832		832
M-102	Nuts, Bolts and Rivets	t	61.74		61.74
M-103	Paint (Synthetic Enamel)	litre	224.02		224.02
M-104	Plasticizer	litre	156.84		156.84
M-105	Polythene sheet (125 micron)	sqm	15.02		15.02
M-106	Polythene Sheething	Nos.	15.02		15.02
M-107	Quarried Stone 150-200 mm size	cum	201.36	150	351.36
M-108	RCC Pipe NP3 (1200 mm dia)	m	3901.83		3901.83
M-109	RCC Pipe NP3 (1000 mm dia)	m	2744.5		2744.5
M-110	RCC Pipe NP3 (750 mm dia)	m			
M-111	RCC Pipe NP3 (600 mm dia)	m	1582.72		1582.72
M-112	RCC Pipe NP3 (500 mm dia)	m			0
	RCC Pipe NP3 (300 mm dia)	m	502.61		502.61
M-113	RCC Pipe NP4 (1200 mm dia)	m	6510		6510
M-114	RCC Pipe NP4 (1000 mm dia)	m	5565		5565
M-115	RCC Pipe NP4 (750 mm dia)	m			
M-116	RCC Pipe NP4 (600 mm dia)	m	2310		2310
M-117	RCC Pipe NP4 (500 mm dia)	m	516.74		516.74
M-118	Red-oxide Primer	litre	219.05		219.05
M-119	Road marking paint	litre	224.02		224.02
M-120	Sand (Coarse)	cum	100.8	75	175.8
M-121	Sand (Fine)	cum	66.85	75	141.85
M-122	Seeds	kg	34.47		34.47

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Sl. No.	Description	Unit	Basic Rate Exclusive, Royality	ADD Royality	Basic Rate Inclusive, Royality
M-123	Steel Pipe 50 mm dia	m	221.22		221.22
M-124	Steel Reinforcement (HYSD Bars) (AVERAG RATE)	t	48456.50		48456.5
M-125	Steel Reinforcement (MS Round Bars)	t	48456.50		48456.5
M-126	Steel Reinforcement (TMT Bars) (AVERAG RATE)	t	48456.50		48456.5
M-127	Stone Boulder of size 150 mm and below	cum	201.36	150	351.36
M-128	Stone Chips 12 mm size	cum	536.05	150	686.05
M-129	Stone Chips 13.2 mm to 5.6 mm	cum	507.91	150	657.91
M-130	Stone Crushed Aggregate 11.2 mm to 0.09 mm	cum	242.53	150	392.53
M-131	Stone for Coarse Rubble Masonry 1st Sort	cum			
M-132	Stone for Coarse Rubble Masonry 2nd Sort	cum			
M-133	Stone for Random Rubble Masonry	cum	190.55	150	340.55
M-134	Stone for Stone Set Pavement (300 mm x 200 mm x 150 mm)	No.			
M-135	Stone Screening - Type A 13.2 mm for Grading-1	cum	365.23	150	515.23
M-136	Stone Screening - Type A 13.2 mm for Grading-2	cum	365.23	150	515.23
M-137	Stone Screening - Type B 11.2 mm for Grading-2	cum	242.53	150	392.53
M-138	Stone Screening - Type B 11.2 mm for Grading-3	cum	242.53	150	392.53
M-139	Stone spall	cum	201.36	150	351.36
M-140	Traffic cones	No.			
M-141	Water	kl	40		40
M-142	Well graded Granular Base Material - Grading A 2.36 mm below	cum	136.72	150	286.72
M-143	Well graded Granular Base Material - Grading A 26.5 mm to 4.75 mm	cum	394.89	150	544.89
M-144	Well graded Granular Base Material - Grading A 53 mm to 26.5 mm	cum	353.85	150	503.85
M-145	Well graded Granular Base Material - Grading B 2.36 mm below	cum	136.72	150	286.72
M-146	Well graded Granular Base Material - Grading B 26.5 mm to 4.75 mm	cum	394.89	150	544.89
M-147	Well graded Granular Base Material - Grading C 2.36 mm below	cum	136.72	150	286.72
M-148	Well graded Granular Base Material - Grading C 9.5 mm to 4.75 mm	cum	423.71	150	573.71
M-149	Well Graded Material for Sub-Base - Grading I 2.36 mm below	cum	136.72	150	286.72
M-150	Well Graded Material for Sub-Base - Grading I 53 mm to 9.5 mm	cum	460.74	150	610.74
M-151	Well Graded Material for Sub-Base - Grading I 9.5 mm to 2.36 mm	cum	356.92	150	506.92
M-152	Well Graded Material for Sub-Base - Grading II 2.36 mm below	cum	136.72	150	286.72
M-153	Well Graded Material for Sub-Base - Grading II 26.5 mm to 9.5 mm	cum	497.19	150	647.19
M-154	Well Graded Material for Sub-Base - Grading II 9.5 mm to 2.36 mm	cum	356.92	150	506.92

Sl. No.	Description	Unit	Basic Rate Exclusive, Royality	ADD Royality	Basic Rate Inclusive Royality
M-156	Well Graded Material for Sub-Base - Grading III 4.75 mm to 2.36 mm	cum	151.05	150	301.05
M-157	Well Graded Material for Sub-Base - Grading III 9.5 mm to 4.75 mm	cum	423.71	150	573.71
M-158	Wooden sleepers (250 mm x 250 mm x 125 mm) (hire charges)	No.	5		5
RCD					
M-118	Hot applied thermoplastic compound (Sp. Gravity - 2.10)	litre	183.25		183.25
M-152	Reflectorising glass beads	kg	65.04		65.04
M-153	Stone Crushed Aggregate 13.2 mm to 0.09 mm	cum	365.53	150	515.53

BASIC RATES
(C) USAGE RATES OF PLANT & MACHINERY

Sr. No.	Description of Machine	Description of Activity	Output of Machine Unit	Output of Machine Output	Usage Rates in Rs. Unit	Usage Rates in Rs. Rate
PM-001	Air Compressor 210 cfm	Supplying compressed air	cfm	210.00	per hour	416.00
PM-002	Batch mix HMP 40-60 TPH	BM, DBM, SDBC, PM	t/h	50.00	per hour	23018.00
PM-003	Batch type HMP 30/40 TPH	BM, DBM, SDBC, PM	t/h	35.00	per hour	3062.00
PM-004	Bitumen boiler oil fired	Heating of bitumen				Input Rate
	200 litre		litre / h	400.00	per hour	299.70
	1000 litre		litre / h	2000.00	per hour	299.70
PM-005	Bitumen emulsion pressure distributor	Applying bitumen tack coat	sqm/h	1750.00	per hour	1645.00
PM-006	Concrete mixer 0.28/0.4 cum	Mixing of ingradients	cum/h	2.50	per hour	86.30
PM-007	Crane upto 3.5T	Lifting of materials			per hour	1289.00
PM-008	Dozer D 50	Dozing cutting	cum/h	200.00	per hour	3274.00
			cum/h	100.00		3274.00
PM-009	Electric generator set, 125 KVA	Electricity generation	KVA	100.00	per hour	2653.00
PM-010	Emulsion Sprayer with Tractor	Spraying of Emulsion			per hour	1209.90
PM-011	Front end-loader 1 cum bucket capacity @ 45 cum/hour	Loading Aggregates	cum/h	45.00	per hour	1594.00
		Loading Soil	cum/h	100.00		1594.00
PM-012	Hydraulic broom with tractor	Surface cleaning	sqm/h	1250.00	per hour	572.00
PM-013	Hydraulic Excavator 0.9 cum	Excavation	cum/h	100.00	per hour	2702.00
PM-014	Hydraulic self propelled chip spreader	Surface Dressing	sqm/h	1500.00	per hour	2146.00
PM-015	Jack Hammer with tractor	Pavement breaking & rock drilling	cum/h	05. to 1	per hour	206.00
PM-016	Joint Cutting Machine with 2-3 blades	Cutting of Joints	h		per hour	317.00
PM-017	Mixall 6-10 t capacity	Mixing of bituminous materials	t/h	8.00	per hour	1547.50
PM-018	Motor Grader	Scarifier & levelling	cum/h	200.00	per hour	2982.00
	Tractor Mounted Grader			50.00		573.00
PM-019	Needle vibrator	Vibrating cement concrete mix	cum/h	3.50	per hour	99.14
PM-020	Paver finisher	Laying/spreading	t/h	75.00	per hour	1583.00
PM-021	Plate compactor	Compaction	cum/h		per hour	352.00
PM-022	Plate vibrator	Compaction	cum/h		per hour	469.70
PM-023	Screed vibrator	Compaction	cum/h		per hour	102.64

FORM F8

Sr. No.	Description of Machine	Activity	Output of Machine: Unit	Output	Usage Rates in Rs.: Unit	Rate
PM-024	Smooth wheeled 80-100 kN tandem roller	Compaction of Sub-base/ Asphalt	cum/h	30.00	per hour	901
PM-025	Stone crusher (Integrated) of 200 TPH	Crushing of Spalls	t/h	200.00	per hour	27425
PM-026	Three wheel 80-100 kN Static Roller	Compaction/ Rolling			per hour	901
		Earth:- Embankment or sub-grade	cum/h	80/70		901
		Sub-base G-I	cum/h	10.00		901
		Sub-base G-II/G-III	cum/h	8.00		901
		WMM	cum/h	16.00		901
		BUSG	cum/h	10.00		901
		BM 50/75 mm	cum/h	12.00		901
		Premix 20 mm	sqm/h	250.00		901
		Seal Coat	sqm/h	500.00		901
		Surface Dressing 1st Coat	sqm/h	400.00		901
		Surface Dressing 2ndCoat	sqm/h	500.00		901
PM-027	Tipper 5.5 cum/10 t	Carriage	cum/trip	5.50	per hour	118
PM-028	Tractor with Disc Harrows	Pulverisation of soil	cum/h	80.00	per hour	48
PM-029	Tractor with ripper @ 60 cum per hour	Ripping Pavements, uprooting trees	cum/h	60.00	per hour	59
PM-030	Tractor with trolley/with Grading equipment	Transportation of materials	t/trip	3 to 5	per hour	61
PM-031	Tractor with Rotavator	Scarifier	cum/h	25.00	per hour	57
PM-032	Truck 10 t capacity	Carriage	cum/trip	5.50	per hour	93
PM-033	Vibratory roller 80-100 kN	Compaction of soil WMM	cum/h	100.00	per hour	233
		Compaction of BM	cum/h	60.00		233
PM-034	Water tanker 6 kl capacity (Truck Mounted)	Carriage of water	litre / h	12000.00	per hour	1
PM-035	Wet mix plant (Pug Mill)	Wet Mix	cum/h	25.00	per hour	18
RCD						
P&M-043	Road marking machine	Road marking	Sqm/h	100.00	per hour	141.8
	Pneumatic Lyred roller 12-15 tonnes	Road marking	tonnes	42339.00	per hour	40270
PM-024	Hot Mix Plant - (40-60) TPH	BM, DBM, SDBC , Primix	cum/h	17.00	per hour	40270
	Mini Hot Mix Plant		cum/h	2.70	per hour	40270

Analysis of Rates (FORMAT F8)

SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		Haulage BY TIPPER				
1.10	(i)	**Haulage excluding Loading & Unloading**				
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.				
		Unit = t.km				
		Taking output 10 t load and lead 10 km = 100 t.km				
		Case-I : Surfaced Road				
		Speed with load: 25 km per hour				
		Speed while returning empty: 35 km per hour				
	a)	**Machinery**				
		Tipper 10 t capacity				
		Haulage with load	hour	0.40	1183.00	473.20
		Empty return trip	hour	0.29	1183.00	343.07
	b)	Overheads @ 12 % on (a)				97.95
		Cost for 100 t-km = a+b				914.22
		Rate per cum = (a+b) /100				9.14
		Rate Per Km.	Cum			9.10
1.10	(ii)	**Haulage excluding Loading & Unloading**				
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.				
		Unit = t.km				
		Taking output 10 t load and lead 10 km = 100 t.km				
		Case-II: Unsurfaced Gravel Road.				
		Speed with load: 20 km/hour				
		Speed for empty return trip: 30 km/hour				
	a)	**Machinery**				
		Tipper 10 t capacity				
		Haulage with load	hour	0.50	1183.00	591.50
		Empty return trip	hour	0.33	1183.00	390.39
	b)	Overheads @ 12% on (a)				117.83
		Cost for 100 t-km = a+b				1099.72
		Rate per cum = (a+b) /100				**11.00**
		Rate Per Km.	Cum			11.00
1.10	(iii)	**Haulage excluding Loading & Unloading**				
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.				
		Unit = t.km				
		Taking output 10 t load and lead 10 km = 100 t.km				
		Case-III : Katcha Track and Track in River Bed/Nallah Bed and Choe Bed.				
		Speed with load: 10 km per hour				
		Speed while returning empty: 15 km per hour				
	a)	**Machinery**				
		Tipper 10 t capacity				
		Haulage with load	hour	1.00	1183.00	1183.00
		Empty return trip	hour	0.67	1183.00	792.61
	b)	Overheads @ 12% on (a)				237.07
		Cost for 100 t-km = a+b+c				2212.68
		Rate per cum = (a+b+c) /100				22.13
		Rate Per Km.	Cum			22.10

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount
			Haulage BY TRUCK				
4	1.10	(i)	**Haulage excluding Loading & Unloading**				
			Haulage of materials by tipper excluding cost of loading, unloading and stacking.				
			Unit = t.km				
			Taking output 10 t load and lead 10 km = 100 t.km				
			Case-I : Surfaced Road				
			Speed with load: 25 km per hour				
			Speed while returning empty: 35 km per hour				
		a)	**Machinery**				
			Truck 10 t capacity				
			Haulage with load	hour	0.40	934.50	[illegible]
			Empty return trip	hour	0.29	934.50	[illegible]
		b)	Overheads @ 12 % on (a)				[illegible]
			Cost for 100 t-km = a+b+c				[illegible]
			Rate per cum = (a+b+c) /100				
			Rate Per Km.	Cum			[illegible]
5	1.10	(ii)	**Haulage excluding Loading & Unloading**				
			Haulage of materials by tipper excluding cost of loading, unloading and stacking.				
			Unit = t.km				
			Taking output 10 t load and lead 10 km = 100 t.km				
			Case-II: Unsurfaced Gravel Road.				
			Speed with load: 20 km/hour				
			Speed for empty return trip: 30 km/hour				
		a)	Machinery				
			Truck 10 t capacity				
			Haulage with load	hour	0.50	934.50	[illegible]
			Empty return trip	hour	0.33	934.50	[illegible]
		b)	Overheads @12 % on (a)				[illegible]
			Cost for 100 t-km = a+b+c				[illegible]
			Rate per cum = (a+b+c) /100				
			Rate Per Km.	Cum			[illegible]
6	1.10	(iii)	**Haulage excluding Loading & Unloading**				
			Haulage of materials by tipper excluding cost of loading, unloading and stacking.				
			Unit = t.km				
			Taking output 10 t load and lead 10 km = 100 t.km				
			Case-III : Katcha Track and Track in River Bed/Nallah Bed and Choe Bed.				
			Speed with load: 10 km per hour				
			Speed while returning empty: 15 km per hour				
		a)	**Machinery**				
			Truck 10 t capacity				
			Haulage with load	hour	1.00	934.50	[illegible]
			Empty return trip	hour	0.67	934.50	[illegible]
		b)	Overheads @12 % on (a)				[illegible]
			Cost for 100 t-km = a+b+c				[illegible]
			Rate per cum = (a+b+c) /100				[illegible]
			Rate Per Km.	Cum			[illegible]
7	1.1	RCD	Loading and Unloading of Stone Boulder/Stone aggregates/Sand/Kanker/Moorum.				
			Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return [illegible]				
			Unit = cum				
			Taking output = 5.5 cum				
			Time required for				
			i) Positioning of tipper at loading point		1 Min		
			ii) Loading by front end loader 1 cum bucket capacity @ 25 cum per hour		13 Min		
			iii) Maneuvering, reversing, dumping and turning for return		2 Min		
			iv) Waiting time, unforeseen contingencies etc		4 Min		
			Total		20 Min		

SUB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		a) Machinery				
		Tipper 5.5 tonnes capacity	hour	0.330	1183.00	390.39
		Front end-loader 1 cum bucket capacity @ 25 cum/hour	hour	0.330	1594.00	526.02
		(b) Overheads @ 12 % on (a)				109.97
		Cost for 5.5 cum = a+b+c				1026.38
		Rate per cum = (a+b+c)/ 5.5				186.61
		Unloading will be by tipping.			say	186.60
8	1.2	RCD	Loading and Unloading of Boulders by Manual Means			
		Unit = cum				
		Taking output = 5.5 cum				
		a) Labour				
		Mate	day	0.110	325.00	35.75
		Mazdoor for loading and unloading	day	0.750	306.00	229.50
		b) Machinery				
		Tipper 5.5 tonne capacity	hour	0.750	1183.00	887.25
		c) Overheads 12% on (a+b)				138.30
		Cost for5.5 cum = a+b+c+d				1290.80
		Rate per cum = (a+b+c+d)/5.5				234.69
		Unloading will be by tipping.			say	234.70
9	1.3	RCD	Loading and Unloading of Cement or Steel by Manual Means and Stacking.			
		Unit = tonne				
		Taking output = 10 tonnes				
		a) Labour				
		Mate	day	0.080	325.00	26.00
		Mazdoor for loading and unloading	day	2.000	306.00	612.00
		b) Machinery				
		Truck 10 tonne capacity	hour	2.000	934.50	1869.00
		c) Overheads 12 % on (a+b)				300.84
		Cost for10 tonnes = a+b+c+d				2807.84
		Rate per tonnes = (a+b+c+d)/10				280.78
					say	280.80
10	1.1	(i)	Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by manual means including a lead upto 30 m			
		Unit = cum				
		Taking output = 5.5 cum				
	a)	Labour				
		Mate	day	0.02	325.00	6.50
		Mazdoor (Unskilled)	day	0.50	306.00	153.00
	b)	Machinery				
		Truck	hour	0.50	934.50	467.25
	c)	Overheads 12 % on (a+b)				75.21
		Cost for 5.5 cum = a+b+c+d				701.96
		Rate per cum = (a+b+c+d) /5.5				127.63
		Total Cost	Cum			127.63
11		(ii)	Loading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m.			
		Unit = cum (Taking output = 5.5 cum)				
	a)	Labour				
		Mate	day	0.01	325.00	3.25
		Mazdoor (Unskilled)	day	0.25	306.00	76.50
	b)	Machinery				
		Truck	hour	0.25	934.50	233.63
	c)	Overheads 12 % on (a+b)				37.61
		Cost for 5.5 cum = a+b+c+d				350.98
		Rate per cum = (a+b+c+d) /5.5				63.81
		Total Cost	Cum			63.81

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in
		(II) B	Loading of Earth, Sand, Moorum, Manure, Flyash by mechanical means including a lead upto 30 m.				
			Unit = cum (Taking output = 5.5 cum)				
			Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.				
			Unit = cum				
			Taking output = 5.5 cum				
			Time required for	Min	1.00		
			Positioning of tipper at loading point				
			Loading by front end loader 1 cum bucket capacity @ 45 cum per hour	Min	3.30		
			Waiting time, unforeseen contingencies, etc.	Min	2.00		
			Total		6.30		
			Machinery				
			Tipper 10 t capacity	hour	0.105	1,183.00	124.22
			Front end-loader 1 cum bucket capacity @ 45 cum per hour	hour	0.055	1,594.00	87.67
			Overheads @ 12.0% on (a)				25.43
			Cost for 5.5 cum = a+b				237.31
			Rate per cum = (a+b) /5.5				43.15
12		(iii)	Unloading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by mechanical means including a lead upto 30 m				
			Unit = cum				
			Taking output = 5.5 cum				
		a)	**Labour**				
			Mate	day	0.01	325.00	3.25
			Mazdoor (Unskilled)	day	0.25	306.00	76.50
		b)	**Machinery**				
			Truck	hour	0.25	934.50	233.63
		c)	Overheads 12% on (a+b)				37.61
			Cost for 5.5 cum = a+b+c+d				350.98
			Rate per cum = (a+b+c+d) /5.5				63.81
			Total Cost	Cum			63.81
			Total Loding & Unloading of Stone Aggregate	*Cum*	*= 127.63 + 63.81 =*		191.44
13		(iv)A	Unloading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m.				
			Unit = cum				
			Taking output = 5.5 cum				
		a)	**Labour**				
			Mate	day	0.01	325.00	1.63
			Mazdoor (Unskilled)	day	0.13	306.00	38.25
		b)	**Machinery**				
			Truck	hour	0.166	934.50	155.13
		c)	Overheads 12 % on (a+b)				23.40
			Cost for 5.5 cum = a+b+c+d				218.40
			Rate per cum = (a+b+c+d) /5.5				39.71
			Total Cost	Cum			39.71

SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		Total Loding & Unloading of Sand / Moorum	*Cum*	*= 63.81 + 39.71 =*		*103.52*
	(IV) B	Unloading of Earth, Sand, Moorum, Manure, Flyash by mechanical means including a lead upto 30 m.				
		Unit = cum (Taking output = 5.5 cum)				
		Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.				
		Unit = cum				
		Taking output = 5.5 cum				
		Time required for				
		Positioning of tipper at loading point	Min	1.00		
		Loading by front end loader 1 cum bucket capacity @ 45 cum per hour	Min	2.00		
		Waiting time, unforeseen contingencies, etc.	Min	2.00		
		Total		5.00		
		Machinery				
		Tipper 10 t capacity	hour	0.080	1,183.00	94.64
		Overheads @ **12.0%** on (a)				11.36
		Cost for 5.5 cum = a+b				106.00
		Rate per cum = (a+b) /5.5				*19.27*
14	*1.2*	Loading and Unloading Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Mechanical Means				
	(i)	Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by mechanical means including a lead upto 30 m				
		Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.				
		Unit = cum				
		Taking output = 5.5 cum				
		Time required for				
		Positioning of tipper at loading point	Min	1.00		
		Loading by front end loader 1 cum bucket capacity @ 45	Min	7.33		
		Waiting time, unforeseen contingencies, etc.	Min	2.00		
		Total		10.33		
	a)	**Machinery**				
		Tipper 10 t capacity	hour	0.172	1,183.00	203.48
		Front end-loader 1 cum bucket capacity @ 45 cum per hour	hour	0.122	1,594.00	194.47
		Overheads @ 12.0% on (a)				47.75
		Cost for 5.5 cum = a+b				445.70
		Rate per cum = (a+b) /5.5				*81.04*

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
15		iii	Unloading of Earth, Sand, Lime, Moorum, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Manure, Crushed Slag, Flyash, Stone for Masonry Work by mechanical means.				
			Unit = cum				
			Taking output = 5.5 cum				
			Placing tipper at unloading point excluding time for haulage				
			Time required for				
			Positioning of tipper at unloading point	min	1.00		
			Manoeuvering, reversing, dumping and turning for return	min	2.00		
			Waiting time, unforeseen contingencies, etc.	min	2.00		
			Total	min	5.00		
		a)	**Machinery**				
			Tipper 10 t capacity	*Hour*	*0.08*	*1,183.00*	94.64
			Overheads @ 12.0% on (a)				11.36
			Cost for 5.5 cum = a+b+c				106.00
			Rate per cum = (a+b+c)/5.5				*19.27*
16	1.3		**Loading, Unloading and Stacking of Bricks by Manual Means**				
		(i)	Loading of Bricks by manual means including a lead upto 30				
			Unit = 1000 Nos.				
			Taking output = 2000 Nos.				
		a)	**Labour**				
			Mate	day	0.01	325.00	3.25
			Mazdoor (Unskilled)	day	0.25	306.00	76.50
		b)	**Machinery**				
			Truck	hour	0.33	934.50	308.39
		c)	Overheads 12% on (a+b)				46.58
			Cost for 2000 Nos. = a+b+c+d				434.71
			Rate for 1000 bricks = (a+b+c+d)/2				217.36
			Total Cost	no.			217.36
17		(ii)	Unloading and Stacking of Bricks by manual means including				
			Unit = 1000 Nos.				
			Taking output = 2000 Nos.				
		a)	**Labour**				
			Mate	day	0.01	325.00	3.25
			Mazdoor (Unskilled)	day	0.25	306.00	76.50
		b)	**Machinery**				
			Truck	hour	0.33	934.50	308.39
		c)	Overheads 12 % on (a+b)				46.58
			Cost for 2000 Nos. = a+b+c+d				434.71
			Rate for 1000 bricks = (a+b+c+d)/2				217.36
			Total Cost	no.			217.36
			Total Loding & Unloading of Brick Per 1000 = 217.36 + 217.36 =				*434.72*

SDB Sl. No.	MORD Ref No.		DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
18			**Loading and Unloading of Cement by Manual Means**				
		(i)	Loading of Cement by manual means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	Labour				
			Mate	day	0.06	325.00	19.50
			Mazdoor (Unskilled)	day	1.50	306.00	459.00
		b)	Machinery				
			Truck	hour	1.00	934.50	934.50
		c)	Overheads 12 % on (a+b)				169.56
			Cost for 10 t = a+b+c+d				1582.56
			Rate per tonnes = (a+b+c+d)/10				**158.26**
			Total Cost including	t			**158.26**
19		(ii)	Unloading of Cement by manual means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	Labour				
			Mate	day	0.06	325.00	19.50
			Mazdoor (Unskilled)	day	1.50	306.00	459.00
		b)	Machinery				
			Truck	hour	1.00	934.50	934.50
		c)	Overheads 12 % on (a+b)				169.56
			Cost for 10 t = a+b+c+d				1582.56
			Rate per tonnes = (a+b+c+d)/10				**158.26**
			Total Cost	t			**158.26**
			Total Loding & Unloading of Cement	*t*	*= 158.26 + 158.26 =*		***316.52***
20	1.5		**Loading and Unloading of Structural Steel and Steel Bars by manual means**				
		(i)	Loading of Structural Steel, Steel Bars by manual means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	Labour				
			Mate	day	0.07	325.00	22.75
			Mazdoor (Unskilled)	day	1.80	306.00	550.80
		b)	Machinery				
			Truck	hour	1.00	934.50	934.50
		c)	Overheads 12 % on (a+b)				180.97
			Cost for 10 t = a+b+c+d				1689.02
			Rate per tonnes = (a+b+c+d)/10				**168.90**
			Total Cost	t			**168.90**
21		(ii)	Unloading of Structural Steel, Steel Bars by manual means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	Labour				
			Mate	day	0.07	325.00	22.75
			Mazdoor (Unskilled)	day	1.80	306.00	550.80
		b)	Machinery				
			Truck	hour	1.00	934.50	934.50
		c)	Overheads 12% on (a+b)				180.97
							1689.02
							168.90
			Total Cost	t			**168.90**
			Total Loding & Unloading of Steel	*t*	*= 168.9 + 168.9 =*		***337.80***

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
22	1.6		**Loading and Unloading of Bitumen Drums by Manual Means**				
		(i)	Loading of Bitumen Drums by manual means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	**Labour**				
			Mate	day	0.06	325.00	19.50
			Mazdoor (Unskilled)	day	1.60	306.00	489.60
		b)	**Machinery**				
			Truck	hour	1.25	934.50	1168.13
		c)	Overheads 12% on (a+b)				201.27
			Cost for 10 t = a+b+c+d				1878.49
			Rate per tonnes = (a+b+c+d)/10				**187.85**
			Total Cost	t			187.85
23		(ii)	Unloading of Bitumen Drums by Manual Means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	Labour				
			Mate	day	0.05	325.00	16.25
			Mazdoor (Unskilled)	day	1.20	306.00	367.20
		b)	**Machinery**				
			Truck	hour	1.25	934.50	1168.13
		c)	Overheads12% on (a+b)				186.19
			Cost for 10 t = a+b+c+d				1737.76
			Rate per tonnes = (a+b+c+d)/10				**173.78**
		Note :-	The rate is inclusive of the self weight of drum				
			Total Cost	t			173.78
			Total Loding & Unloading of Bitumen Drums	*t*	*= 187.85 + 173.78 =*		*361.63*
24	1.9		**Loading and Unloading of Hume Pipes**				
		(i)	Loading of RCC Hume pipes by mechanical means including a lead upto 30 m				
		A.	**1000 / 1200 mm dia Hume pipe**				
			Unit = per pipe				
			Taking output = 9 pipes				
		a)	**Labour**				
			Mate	day	0.02	325.00	6.50
			Mazdoor (Unskilled)	day	0.50	306.00	153.00
		b)	**Machinery**				
			Truck	hour	0.33	934.50	308.39
			Crane	hour	0.33	1289.00	425.37
		c)	Overheads 12 % on (a+b)				107.19
			Cost for 9 pipes = a+b+c+d				1000.45
			Rate per pipe = (a+b+c+d)/9				**111.16**
			Total Cost	per p			111.16
25		C.	**600/450 mm dia Hume pipe**				
			Unit = per pipe				
			Taking output = 21 pipe				
		a)	**Labour**				
			Mate	day	0.02	325.00	6.50
			Mazdoor (Unskilled)	day	0.50	306.00	153.00
		b)	**Machinery**				
			Truck	hour	0.33	934.50	308.39
			Crane	hour	0.33	1289.00	425.37
		c)	Overheads 12 % on (a+b)				107.19
			Cost for 21 pipes = a+b+c+d				1000.45
			Rate per pipe = (a+b+c+d)/21				47.64
			Total Cost	per p			47.64

SDB Sl No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
16	(ii)	Unloading of RCC Hume pipe by mechanical means including a lead upto 30 m				
	A.	**1000/1200 mm dia RCC Hume pipes**				
		Unit = per pipe				
		Taking output = 9 pipes				
	a)	**Labour**				
		Mate	day	0.02	325.00	6.50
		Mazdoor (Unskilled)	day	0.50	306.00	153.00
	b)	**Machinery**				
		Truck	hour	0.20	934.50	186.90
		Crane	hour	0.20	1289.00	257.80
	c)	Overheads12% on (a+b)				72.50
		Cost for 9 pipes = a+b+c+d				676.70
		Rate per pipe = (a+b+c+d)/9				**75.19**
		Total Cost	per p			75.19
		Total Loding & Unloading of RCC Hume Pipe per Pipe		= 111.16 + 75.19 =		***186.35***
		Total Loding & Unloading of RCC Hume Pipe	m	= 186.35 / 2.50 =		***74.54***
17	C.	**600/450 mm dia Hume pipe**				
		Unit = per pipe				
		Taking output = 21 pipes				
	a)	**Labour**				
		Mate	day	0.02	325.00	6.50
		Mazdoor (Unskilled)	day	0.50	306.00	153.00
	b)	**Machinery**				
		Truck	hour	0.20	934.50	186.90
		Crane	hour	0.20	1289.00	257.80
	c)	Overheads 12 % on (a+b)				72.50
		Cost for 21 pipes = a+b+c+d				676.70
		Rate per pipe = (a+b+c+d)/21				**32.22**
		Total Cost	per p			32.22
		Total Loding & Unloading of RCC Hume Pipe per Pipe		= 47.64 + 32.22 =		***79.86***
		Total Loding & Unloading of RCC Hume Pipe	m	= 79.86 / 2.50 =		***31.94***
30 2.2 (I)	201	**Clearing and Grubbing Road Land**				
		Clearing and Grubbing Road Land including uprooting wild vegetation , grass,bushes,shurbs,saplings and trees of girth upto 300mm, removal of stumps of such trees cut earlier and unseviceable materials & stacking of serviceable materials to be used or auctioned upto a lead of 1000m including removal and disposal of top organic soil not exceeding 150mm in thickness as per technical specification(clause201.1)				
		By Manual Means				
	(A)	In area of non-thorny jungle				
	a)	Labour				
		Mate	day	6.00	325.00	1,950.00
		Mazdoor (Unskilled)	day	150.00	306.00	45,900.00
	b)	Machinery				
		Tractor with trolley	hour	1.00	612.00	612.00
	c)	Overheads @ 12 % on (a+b)				5815.44
		Rate per hectare = a+b+c+d=				54,277.44
		Total Cost including	Ha.			54,277.44

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in	Sl No.
38	3.4	301.5	**Construction of Embankment with Material Obtained from Borrow Pits**					
		(A)	Construction of embankment with approved material obtained from borrow pits with a lift upto 1.5 m, transporting to site spreading, grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a *lead upto 1000 m* as per Technical Specification Clause 301.5					44
			Unit = cum					
			Taking output = 100 cum					
		a)	Labour					
			Mate	day	0.04	325.00	13.0	
			Mazdoor (Unskilled)	day	1.00	306.00	306.0	
		b)	Machinery					
			Hydraulic Excavator 0.9 cum bucket capacity @ 60 cum per hour	hour	1.67	2702.00	4,512.3	
			Tipper 5.5 cum with 10 t capacity	hour	4.50	1,183.00	5,323.5	
			Add 10 % of the cost of carriage by tipper				532.3	
			Dozer D-50 for spreading @ 100 cum per hour	hour	0.50	3,274.00	1,637.0	
			Tractar mounted grader arrangement @ 100 cum per hour	hour	1.00	573.00	573.0	
			Water tanker 6 kl capacity	hour	2.00	184.00	368.0	
			Three wheel 80-100 kN Static Roller @ 80 cum per hour	hour	1.25	901.00	1,126.25	
		c)	Material					
			Water	kl	12.00	40.00	480.00	
			Compensation for earth taken from private land	cum	100.00	34.82	3,482.00	
		d)	Overheads @ 12 % on (a+b+c)				2202.41	
			Cost for 100 cum = a+b+c+d+e				20,555.85	
			Rate per cum = (a+b+c+d+e)/100=				205.56	
			Total Cost including	CUM			205.56	
			PAVEMENT CRUST LAYERS					
42	4.2	401	**Granular Sub-Base with Coarse Graded Material *Grading I* (Table:- 400- 2)**					
			Construction of granular sub-base by providing coarse graded 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 clause 401.					
			Unit = cum					
			Taking output = 300 cum					
		a)	**Labour**					
			Mate	day	0.40	325.00	130.00	
			Mazdoor (Skilled)	day	2.00	388.00	776.00	
			Mazdoor (Unskilled)	day	8.00	306.00	2448.00	
		b)	**Machinery**					
			Motor Grader 110 HP @ 50 cum per hour	hour	6.00	2982.00	17892.00	
			Vibratory roller 8 -10 tonne	hour	6.00	2338.00	14028.00	
			Water tanker 6 kl capacity	hour	3.00	184.00	552.00	
		c)	**Material**					
			For coarse graded Granular sub-base Materials per table 400-2					
			For grading-I Material					
			Well graded granular sub-base material as per Table 400.1					
			53 mm to 26.5 mm @ 35 per cent	cum	126.00	503.85	63485.10	
			26.5 mm to 4.75 mm @ 45 per cent	cum	162.00	544.89	88272.18	
			2.36 mm below @ 20 per cent (Coarse Sand)	cum	72.00	175.80	12657.60	
			Cost of water	kl	18.00	40.00	720.00	
	4.2	(i)	**Rate per cum for grading-I Material**					
		d)	Overheads @ 12 % on (a+b+c)				24115.31	
			Cost of GSB without carriage				225076.19	
			Rate per cum = (a+b+c+d+e)/300	cum			750.25	
			Carriage Cost					
			Carriage for material		0.96	1524.05	1463.09	
			Carriage for material below 2.36 mm (Coarse Sand)	cum	0.24	497.08	119.30	
			Rate per cum with carriage	cum			2332.64	
			Total Cost including	CUM			2,332.64	

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
44	4.8 (3-A)	405	**Water Bound Macadam with Crushable Screenings WBM Grading 3**				
			Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405.				
		(B)	**By Mechanical Means**				
			Unit = cum				
			Taking output = 360 cum				
		a)	**Labour**				
			Mate	day	0.68	325.00	221.00
			Mazdoor (Skilled)	day	2.00	388.00	776.00
			Mazdoor (Unskilled)	day	15.00	306.00	4590.00
		b)	**Machinery**				
			Tractor mounted grader arrangement 1	hour	7.20	573.00	4125.60
			Three wheel 80-100 kN @ Static roller 8 cum per hour	hour	45.00	901.00	40545.00
			Water tanker 6 kl capacity	hour	24.00	184.00	4416.00
		c)	**Material (Refer Tables 400.7, 8, 9 and 10)**				
			Aggregate				
			Grading 3 53 mm to 22.4 mm @ 0.91 cum per 10 sqm for compacted thickness of 75 mm	cum	435.60	503.85	219477.06
			Type B 11.2mm for **Grading 3** @ 0.22 cum per 10 sqm	cum	86.40	392.53	33914.59
			Water	kl	144.00	40.00	5760.00
		d)	Overheads @ 12 % on (a+b+c)				37659.03
		f)	*CARRIAGE*				
			GR-III	Cum	435.60	1524.05	663876.18
			Crushable type such as Moorum	Cum	86.40	1524.05	131677.92
			Cost for 360 cum = a+b+c+d+e				1147038.38
			Rate per cum = (a+b+c+d+e)/360				**3186.22**
			Total Cost including	cum			3,186.22
			BITUMINOUS ITEMS				
45	5.1 (I)	502	Prime Coat (Low Porosity)				
			Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per Technical Specification Clause 502				
			Unit = sqm				
			Taking output = 1750 sqm				
		a)	**Labour**				
			Mate	day	0.04	325.00	13.00
			Mazdoor (Unskilled)	day	1.00	306.00	306.00
		b)	**Machinery**				
			Hydraulic broom @ 1250 sqm per hour	hour	1.40	572.00	800.80
			Air compressor 210 cfm	hour	1.40	416.00	582.40
			Bitumen emulsion pressure distributor @ 1750 sqm per hour	hour	1.00	1,645.00	1,645.00
			Water tanker 6 kl capacity 1 trip per hour	hour	0.50	184.00	92.00
		c)	**Material**				
			Bitumen emulsion (SS-1) @ 0.85 kg per sqm	t	1.48	48,195.82	71,329.81
			Water	kl	3.00	40.00	120.00
		d)	Overheads @ 12 % on (a+b+c)				8986.68
			Cost of 1750 sqm = a+b+c+d+e				83875.70
			Rate per sqm = (a+b+c+d+e)/1750				47.93
		f)	*Carriage Cost*				
			Bitumen Emulsion	ton	0.00085	1148.61	0.97
			Rate per sqm with carriage				48.90
			Total Cost including	sqm			48.90

Sl. No.	SDB Sl No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in R
46	5.2	503	Tack Coat				
	(I)		Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.3 kg per sqm on the prepared bituminous surface cleaned with Hydraulic broom as per Technical Specification Clause 503.				
			Unit = sqm				
			Taking output = 1750 sqm				
		a)	Labour				
			Mate	day	0.04	325.00	13.00
			Mazdoor (Unskilled)	day	1.00	306.00	306.00
		b)	Machinery				
			Hydraulic broom @ 1250 sqm per hour	hour	1.40	572.00	800.80
			Air compressor 210 cfm	hour	1.40	416.00	582.40
			Emulsion pressure distributor @1750 sqm per hour	hour	1.00	1,645.00	1,645.00
		c)	Material				
			Bitumen emulsion (RS-1) @ 0.275 kg per sqm	t	0.48	45,360.82	21,773.19
		d)	Overheads @ 12 % on (a+b+c)				3014.45
			Cost of 1750 sqm = a+b+c+d+e				28134.84
			Rate per sqm = (a+b+c+d+e)/1750				16.08
			Carriage Cost				
			Bitumen Emulsion	ton	0.00027	1148.61	0.32
			Rate per sqm with carriage				16.39
			Total Cost including	sqm			16.39
46	5.11	508	Mix Seal Surface				
			Providing laying and rolling of close - graded premix surface material 20 mm thickness composed of 11.2 mm to 0.9 mm (Type - A) or 13.2 mm to 0.9 mm (Type - B) aggregates using penetration grade bitumen to required line ,grade and level to serve as static roller and finising to required level and grades as per Technical Specification Clause 509				
	(I)		Bitumen (VG - 10)				
			Unit = sqm				
			Taking output = 4000 sqm (80 cum)				
		a)	Labour				
			Mate	day	0.52	325.00	169.00
			Mazdoor (Unskilled)	day	10.00	306.00	3,060.00
			Mazdoor (Skilled)	day	3.00	388.00	1,164.00
		b)	Machinery				
			HMP of appropriate Capacity	hour	6.00	23,018.00	1,38,108.00
			Electric generator set 125 KVA	hour	6.00	2,653.00	15,918.00
			Front end loader 1 Cum bucket capacity	hour	6.00	1,594.00	9,564.00
			Tipper 5.5 10 t capacity	hour	3.60	1,183.00	4,258.80
			Paver finisher	hour	6.00	1,583.00	9,498.00
			Three wheel 80-10 kN static roller	hour	18.00	901.00	16,218.00
		c)	Material				
			Bitumen (S-90) @ 19 kg per 10 sqm	t	7.60	43,945.82	3,33,988.23
			Stone crushed aggregate 11.2 mm to 0.09 mm @ 0.27	cum	108.00	515.53	55,677.24
		d)	**Overheads @ 12.0% on (a+b+c)**				70,514.79
			Cost of 4000 sqm = a+b+c+d				6,58,138.06
			Rate per sqm = (a+b+c+d)/4000				164.53
			Carriage Cost				
			Bitumen (S-90)	ton	0.0019	1,148.61	2.18
			Stone Chips	cum	0.0270	1,431.45	38.65
			Sub Total				205.36
			Total Cost	Sqm			205.36

SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
8.13 RCD	803	**Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface** Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes.				
		Unit = sqm				
		Taking output = 640 sqm				
		a) Labour				
		Mate	day	0.500	325.00	162.50
		Mazdoor	day	2.000	306.00	612.00
		b) Machinery				
		Road marking machine @ 80 sqm per hour	hour	8.000	141.80	1134.40
		Tractor-trolley	hour	8.000	612.00	4896.00
		c) Material				
		Hot applied thermoplastic compound	Litre	2000.000	183.25	366500.00
		Reflectorising glass beads	kg	200.000	65.04	13008.00
		(d) Overheads @ 12 % on (a+b+c)				46357.55
		Cost for 640 sqm = a+b+c+d+e				432670.45
		Rate per sqm = a+b+c+d+e)/640				676.05
		Total Cost including	sqm			676.05

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			SUB HEAD - ANALYSIS OF CULVERT / MINOR BRIDGES ITEMS				
58	11.1	300	*Excavation for Structures*				
			Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material.				
		I.	**Ordinary soil**				
		(i)	**Upto 3 m depth**				
			Unit = cum				
			Taking output = 10 cum				
		a)	**Labour**				
			Mate	day	0.32	325.00	104.00
			Mazdoor (Unskilled)	day	8.00	306.00	2,440.00
		b)	Overheads @ 12 % on (a)				306.24
			Cost for 10 cum = a+b+c				2,858.24
			Rate per cum = (a+b+c)/10	cum			285.82
			Rate per cum = (a+b+c)/10	cum			285.82
59	9.2 (I)	1100 & 800	Type B (First Class) Bedding				
			Laying (First Class) bedding on well compacted sand, moorum or approved granular material as per Clause 1105 (ii)				
			Fillling in foundation trenches as per drawing and technical specification Clause 305.3.9				
		I.	**Sand filling**				
			Unit = cum				
		a)	**Labour**				
			Mate	day	0.01	325.00	3.25
			Mazdoor (Unskilled)	day	0.30	306.00	91.80
		b)	**Material**				
			Sand (assuming 20 per cent voids)	cum	1.20	175.80	210.96
		c)	Overheads @ 12% on (a+b)				36.72
			CARRIAGE COST				
			sand	Cum	1.2	497.08	596.50
			Rate per cum = a+b+c				939.23
			Total Cost including	CUM			939.23

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
60	11.5	800 & 1200	Providing concrete for plain/reinforced ***concrete in open foundations*** complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203				
		I.	**P.C.C grade M 10**				
		(i)	**Nominal mix 1:3:6**				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.250	4,882.60	1,220.65
			Coarse sand	cum	0.48	175.80	84.38
			40 mm aggregate	cum	0.576	486.92	280.47
			20 mm aggregate	cum	0.288	595.36	171.46
			10 mm aggregate	cum	0.096	657.91	63.16
		b)	**Labour**				
			Mate	day	0.08	325.00	26.00
			Mason (1st Class)	day	0.10	413.00	41.30
			Mazdoor (Unskilled)	day	1.63	306.00	498.78
			Bhisti	day	0.27	306.00	82.62
		c)	**Machinery**				
			Mechnical concrete mixer 0.4/0.28 cum capacity fitted with water measuring device and preferably also with load cell.	hour	0.40	86.30	34.52
		d)	Formwork @ 4% on cost of material, labour and machinery (a+b+c)				100.13
		e)	Overheads @ 12 % on (a+b+c+d)				312.42
			Rate per cum =(a+b+c+d+e+f)				2915.89
			Carrige cost:-				
			Cement	t	0.250	388.72	97.18
			Coarse sand	cum	0.48	497.08	238.60
			Aggregate	cum	0.960	1,431.45	1,374.19
			Rate per cum including Carrige				4,625.86
			Rate per cum = a+b+c+d+e+f	**cum**			**4625.86**
		II.	**P.C.C grade M 15**				
		(i)	**Nominal mix (1:2.5:5)**				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.275	4,882.60	1,342.72
			Coarse sand	cum	0.48	175.80	84.38
			40 mm aggregate	cum	0.48	486.92	233.72
			20 mm aggregate	cum	0.24	595.36	142.89
			10 mm aggregate	cum	0.08	657.91	52.63
		b)	**Labour**				
			Mate	day	0.08	325.00	26.00
			Mason (1st Class0	day	0.10	413.00	41.30
			Mazdoor (Unskilled)	day	1.63	306.00	498.78
			Bhisti	day	0.27	306.00	82.62
		c)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	86.30	34.52
		d)	Formwork @ 4% on cost of material, labour and machinery (a+b+c)				101.58
		e)	Overheads @ 12 % on (a+b+c+d)				316.94
			Rate per cum =(a+b+c+d+e+f)				2958.08
			Carrige cost:-				
			Cement	t	0.275	388.72	106.90
			Coarse sand	cum	0.48	497.08	238.60
			Aggregate	cum	0.80	1,431.45	1,145.16
			Rate per cum including Carrige				4,448.74
			Rate per cum = a+b+c+d+e+f	**cum**			**4448.74**
	(i)	III.	P.C.C. grade M 20				
			Nominal mix (1:2:4)				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.33	4,882.60	1,611.26
			Sand	cum	0.45	175.80	79.11
			40 mm aggregate	cum	0.36	486.92	175.29
			20 mm aggregate	cum	0.36	595.36	214.33
			10 mm aggregate	cum	0.18	657.91	118.42
		b)	**Labour**				
			Mate	day	0.08	325.00	26.00
			Mason (1st Class)	day	0.10	413.00	41.30
			Mazdoor (Unskilled)	day	1.63	306.00	498.78
			Bhisti	day	0.27	306.00	82.62

Sl No.	SDR Sl No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount
		c)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	86.30	34.52
		d)	Formwork @ 4% on (a+b+c)				288.16
		e)	Overheads @ 12 % on (a+b+c+d)				380.38
			Rate per cum =(a+b+c+d+e+f)				3550.17
			Carrige cost:-				
			Cement	t	0.33	388.72	128.28
			Coarse sand	cum	0.45	497.08	223.69
			Aggregate	cum	0.90	1,431.45	1,288.31
			Rate per cum including Carrige				5,190.44
			Rate per cum= a+b+c+d+e+f	cum			5190.44
61	12.5	800	Plain/reinforced ***cement concrete in substructure*** complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1201				
			For height upto 5 m				
			Unit = cum				
		II.	**P.C.C. grade M 20**				
		(i)	**Nominal mix (1:2:4)**				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.33	4,882.60	1,611.26
			Sand	cum	0.45	175.80	79.11
			40 mm aggregate	cum	0.36	486.92	175.29
			20 mm aggregate	cum	0.36	595.36	214.33
			10 mm aggregate	cum	0.18	657.91	118.42
		b)	**Labour**				
			Mate	day	0.08	325.00	26.00
			Mason (1st Class)	day	0.10	413.00	41.30
			Mazdoor (Unskilled)	day	1.63	306.00	498.78
			Bhisti	day	0.27	306.00	82.62
		c)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	86.30	34.52
		d)	Formwork @ 10% on (a+b+c)				288.16
		e)	Overheads @ 12 % on (a+b+c+d)				380.38
			Rate per cum =(a+b+c+d+e+f)				3550.17
			Carrige cost:-				
			Cement	t	0.330	388.72	128.28
			Coarse sand	cum	0.450	497.08	223.69
			Aggregate	cum	0.900	1,431.45	1,288.31
			Rate per cum including Carrige				5,190.44
			Rate per cum = a+b+c+d+e+f	cum			5190.44
		IV.	**R.C.C. grade M 25**				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.404	4,882.60	1,972.57
			Coarse sand	cum	0.45	175.80	79.11
			20 mm aggregate	cum	0.54	595.36	321.49
			10 mm aggregate	cum	0.36	657.91	236.85
		b)	**Labour**				
			Mate	day	0.08	325.00	26.00
			Mason (1st Class)	day	0.12	413.00	49.56
			Mazdoor (Unskilled)	day	1.73	306.00	529.38
			Bhisti	day	0.27	306.00	82.62
		c)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	86.30	34.52
		d)	Formwork @ 10% on (a+b+c)				333.21
		e)	Overheads @ 12 % on (a+b+c+d)				439.84
			Rate per cum =(a+b+c+d+e+f)				4105.15
			Carrige cost:-				
			Cement	t	0.40	388.72	157.04
			Coarse sand	cum	0.45	497.08	223.69
			Aggregate	cum	0.90	1,431.45	1,288.31
			Rate per cum including Carrige				5,774.18
			Rate per cum = a+b+c+d+e+f	cum			5774.18

o.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
2	13.1	800	Providing and laying *reinforced cement concrete in superstructure* as per drawing and technical specifications Clauses 800, 1205.4 and 1205.5				
		II.	R.C.C M 25				
			Unit =cum				
		a)	**Material**				
			Cement	t	0.40	4,882.60	1,953.04
			Coarse sand	cum	0.45	175.80	79.11
			20 mm aggregate	cum	0.54	595.36	321.49
			10 mm aggregate	cum	0.36	657.91	236.85
		b)	**Labour**				
			Mate	day	0.08	325.00	26.00
			Mason (1st Class)	day	0.12	413.00	49.56
			Mazdoor (Unskilled)	day	1.73	306.00	529.38
			Bhisti	day	0.27	306.00	82.62
		e)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	86.30	34.52
		d)	For formwork and staging 20%of a+b				662.51
		e)	Overheads @ 12 % on (a+b+c+d)				477.01
			Rate per cum =(a+b+c+d+e+f)				4452.10
			Carrige cost:-				
			Cement	t	0.40	388.72	155.49
			Coarse sand	cum	0.45	497.08	223.69
			Aggregate	cum	0.90	1,431.45	1,288.31
			Rate per cum including Carrige				6,119.58
			Rate per cum = a+b+c+d+e+f= (WITH)	cum			6119.58
9	11.7	1000 & 1200	Supplying, fitting and placing *HYSD bar reinforcement in foundation* complete as per drawings and technical specifications Clauses 1000 and 1202				
			Unit = t				
		a)	**Material**				
			HYSD bars including 5 per cent for overlaps and wastage	t	1.05	48,456.50	50,879.33
			Binding wire	kg	6.00	58.95	353.70
		b)	**Labour for cutting, bending, shifting to site, tying and placing in position**				
			Mate	day	0.40	325.00	130.00
			Blacksmith	day	2.00	413.00	826.00
			Mazdoor (Unskilled)	day	6.00	306.00	1,836.00
		c)	Overheads @ 12 % on (a+b)				6483.00
			Rate per t = a+b+c+d				**60,508.03**
			CARRIAGE				
			Reinforcement	t	1.05	410.00	430.50
			Rate per t including Carrige				60938.53
			Rate per t = a+b+c	t			60938.53
0	12.6	1000	Supplying, fitting and placing *HYSD bar reinforcement (Fe 415) in substructrue* complete as per drawings and technical specification Clauses 1002, 1005, 1010 & 1202				
			Unit = t				
		a)	**Material**				
			HYSD bars including 5 per cent overlaps and wastage	t	1.05	48,456.50	50,879.33
			Binding wire	kg	6.00	58.95	353.70
		b)	Labour for cutting, bending, shifting to site, tying, and placing in position				
			Mate	day	0.34	325.00	110.50
			Blacksmith	day	2.00	413.00	826.00
			Mazdoor (Unskilled)	day	6.50	306.00	1,989.00
		c)	Overheads @ 12 % on (a+b)				6499.02
			Rate per t = a+b+c+d				**60,657.55**
			CARRIAGE				
			Reinforcement	t	1.05	410.00	430.50
			Total Cost per t including Carrige				61088.05
			Rate per t = a+b+c	t			61088.05

Sl No.	SDB Sl No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount Rs
71	13.2	1000	Supplying, fitting, and placing *HYSD bar reinforcement in superstructure* complete as per drawing and technical specifications Clauses 1002, 1010 and 1202				
			Unit = t				
		a)	**Material**				
			HYSD bars including 5 per cent for laps and wastage	t	1.05	48,456.50	50,879.33
			Binding wire	kg	8.00	58.95	471.60
		b)	**Labour for cutting, bending, tying and placing in position**				
			Mate	day	0.44	325.00	143.00
			Blacksmith	day	3.00	413.00	1,239.00
			Mazdoor (Unskilled)	day	8.00	306.00	2,448.00
		c)	Overheads @ 12 % on (a+b)				6621.71
			Rate per t = a+b+c+d				61,802.64
			CARRIAGE				
			Reinforcement	t	1.05	410.00	430.50
			Total Cost per t including Carrige				62233.14
			Rate per t = a+b+c=	t			62233.14
72	13.5	800	Providing and laying *cement concrete wearing course M 30* grade including reinforcement complete as per drawing and technical specifications Clauses 800 and 1206.3				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.43	4,882.60	2,099.52
			Sand	cum	0.45	175.80	79.11
			20 mm aggregate	cum	0.54	595.36	321.49
			10 mm aggregate	cum	0.36	657.91	236.85
			HYSD bar reinforcement (Rate as per item 13.2)	t	0.075	62,233.14	4,667.49
			Binding Wire	kg	0.01	58.95	0.59
		b)	**Labour**				
			Mate	day	0.10	325.00	32.50
			Mason (1st Class)	day	0.12	413.00	49.56
			Mazdoor (Unskilled)	day	3.00	306.00	918.00
			Bhisti	day	0.27	306.00	82.62
			Blacksmith	day	0.30	413.00	123.90
		c)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	86.30	34.52
		d)	Formwork @ 3% of cost of concrete				222.15
		e)	Overheads @ 12 % on (a+b)				1064.20
			Rate per cum = a+b+c+d+e				9,932.49
			Carrige cost:-				
			Cement	t	0.43	388.72	167.15
			Coarse sand	cum	0.45	497.08	223.69
			Aggregate	cum	0.90	1,431.45	1,288.31
			Reinforcement	t	0.08	410.00	30.75
			Total Cost per cum including Carrige				11642.38
			Rate per cum = a+b+c+d+e=	cum			11642.38
73	13.6	800	Construction of *R.C.C. railing of M 25 grade* in cast-in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical railing post not to exceed 1 in 500, centre-to-centre spacing between vertical posts not to exceed 2000 mm as per drawing and technical specifications Clauses 800, 900 and 1208.3				
			Unit = Runing m				
			Taking output = 4x12 m				
			Span = 48 m				
		a)	**M 25 grade R.C.C.**				
			No. of vertical posts = (6+1) 4 = 28 nos				
			Cross-sectional area of vertical post = 0.25x0.275 = 0.069 sqm				
			Concrete in vertical posts = 0.069 x28x1.00 = 1.932 cum				
			Hand rail in 3 tiers = 3x48 = 144 m				
			Cross-sectional area = 0.17x0.175 = 0.03 sqm				
			Concrete in hand rails = 0.03 x 144 = 4.32 cum				
			Total concrete = 1.932+4.32 = 6.252 cum	cum	6.25	5,577.66	34,871.53
		b)	**HYSD bar reinforcement (Rate as per item 13.2)**	t	1.36	62,233.14	84,637.07
		c)	Overheads @ 12% on (a+b)				14341.03
			Cost for 48 m = (a+b+c+d)				1,33,849.63
			Rate per m = (a+b+c+d)/48				2,788.53
			Sub Analysis for Rate of Concrete				

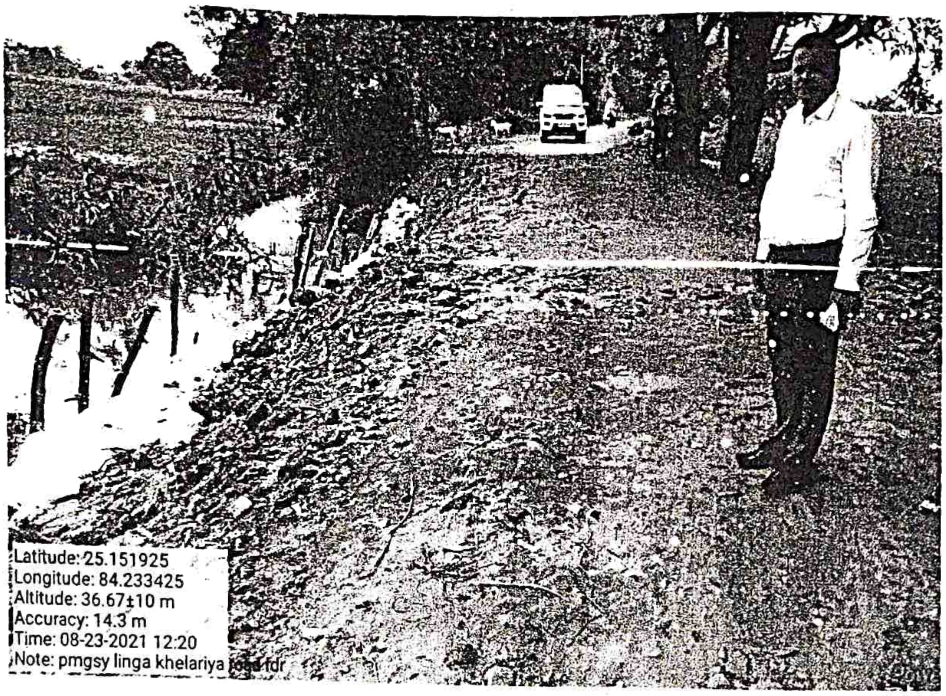
Sl No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		a)	**Material**				
			Cement	t	0.40	4,882.60	1,953.04
			Coarse sand	cum	0.45	175.80	79.11
			20 mm aggregate	cum	0.54	595.36	321.49
			10 mm aggregate	cum	0.36	657.91	236.85
		b)	**Labour**				
			Mate	day	0.08	325.00	26.00
			Mason (1st Class)	day	0.12	413.00	49.56
			Mazdoor (Unskilled)	day	1.73	306.00	529.38
			Bhisti	day	0.27	306.00	82.62
		c)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	86.30	34.52
		d)	**Formwork @ 12% (a+b+c)**				597.61
			Carrige cost:-				
			Cement	t	0.40	388.72	155.49
			Coarse sand	cum	0.45	497.08	223.69
			Aggregate	cum	0.90	1,431.45	1,288.31
			Total Cost				5,577.66
			Total (a+b+c+d) (WITH)	m			5577.66
75	13.10	1200	*Drainage spouts* complete as per drawing and technical specifications Clause 1209				
			Unit = 1 No				
		a)	**Material**				
		i)	Corrosion resistant structural steel grating including 5 per cent wastage	kg	4.00	43.85	175.40
		ii)	G I pipe 100 mm dia	m	1.00	211.02	211.02
		b)	**Labour**				
			For fabrication				
			Mate	day	0.02	325.00	6.50
			Blacksmith, Welder etc. (Skilled)	day	0.02	413.00	8.26
			Mazdoor (Unskilled)	day	0.20	306.00	61.20
			For fixing in position				
			Mate	day	0.01	325.00	3.25
			Mason (1st Class)	day	0.01	413.00	4.13
			Mazdoor (Unskilled)	day	0.20	306.00	61.20
			Add @ 5 per cent of cost of material and labour (a+b) for electrodes, gas cutting, sealant, anti-corrrosive bituminous paint, mild steel grating etc.				7.23
		c)	Overheads @ 12 % on (a+b)				64.58
			Total Cost				602.77
			Rate per m = a+b+c= (WITH)	no.			602.77
76	13.16 IV)	1200	**Filler Joint**				
			Providing and fillling joint sealing compound as per drawings and technical specifications with coarse sand and 6 per cent bitumen by weight.				
			Unit = Running m				
			Taking output = 7.5 m				
			7.5 m long x 100 mm wide x 10 mm deep recess				
		a)	**Material**				
			Sand	cum	0.008	175.80	1.41
			Volume = 7.5 x 0.1 x 0.01 = 0.008 cum				
			Weight = 0.008 x 1400 = 11.2 kg				
			Bitumen-11.2 x 0.06 = 0.672 kg	t	0.0007	44,379.82	31.07
		b)	**Labour**				
			Mate	day	0.02	325.00	6.50
			Mazdoor (Skilled)	day	0.50	388.00	194.00
			Mazdoor (Unskilled)	day	0.10	306.00	30.60
		c)	Overheads @ 12 % on (a+b)				31.63
			Cost for 7.5 m with 10 mm depth =a+b+c+d				295.20
			Rate per m 1 cm depth = (a+b+c+d)/7.5				39.36
			Total Cost including	m			39.36

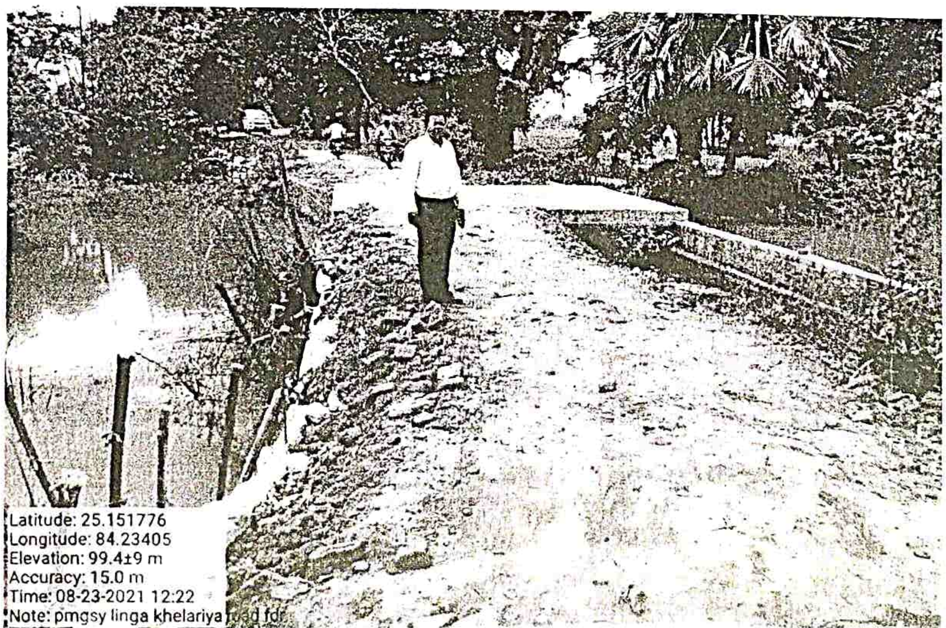
Sl No.	SDB Sl No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in
77	12.10	1200	**Backfilling behind abutment, wing wall and return wall** complete as per drawings & technical specification Clause 1204.3.8				
			Unit = cum				
			Taking output = 10 cum				
		I)	**Granular material**				
		a)	**Material**				
			Granular material	cum	12.00	351.36	4,216.32
		b)	**Labour**				
			Mate	day	0.28	325.00	91.00
			Mazdoor (Unskilled)	day	10.00	306.00	3,060.00
			Bhisti	day	0.40	306.00	122.40
		c)	Overheads @ 12 % on (a+b)				898.77
			Carrige cost:-				
			Granular Material	cum	12.00	1,524.05	18,288.60
			Cost for 10 cum of granular backfill = a+b+c+d				26,677.09
			Rate per cum = (a+b+c+d)/10				2,667.71
		ii)	**Sandy material**				
			Unit = cum				
			Taking output = 10 cum				
		a)	**Material**				
			Sand	cum	12.00	141.85	1,702.20
		b)	**Labour**				
			Mate	day	0.40	325.00	130.00
			Mazdoor (Unskilled)	day	10.00	306.00	3,060.00
			Bhisti	day	0.40	306.00	122.40
		c)	Overheads @ 12 % on (a+b)				601.75
			Cost for per cum of sand backfill = (a+b+c+d)/10				561.64
			Carrige cost:-				
			Sand	cum	1.20	162.10	194.52
			Cost for per cum of sand backfill including carriage				756.16
			Rate per cum = (a+b+c+d)/10 =	cum			756.16
78	12.11	1200	**Providing and laying filter media** with granular crushed aggregates as per specification to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and providing over the entire surface behind abutment, wing wall, return wall to the full height, compacted to firm condition complete as per drawing and technical specification Clause 1204.3.8				
			Unit = cum				
			Taking output = 10 cum				
		a)	**Material**				
			Filter media as per specification	cum	12.00	504.46	6,053.52
		b)	**Labour**				
			Mate	day	0.40	325.00	130.00
			Mazdoor (Unskilled)	day	9.00	306.00	2,754.00
			Mazdoor (Skilled)	day	1.00	388.00	388.00
			Bhisti	day	0.50	306.00	153.00
		c)	Overheads @ 12% on (a+b)				1137.42
			Cost for per cum = (a+b+c+d)/10				1061.59
			Carrige cost:-				
			Filter Material	cum	1.20	1,524.05	1,828.86
			Cost for per cum including carriage				2,890.45
			Rate per cum = (a+b+c+d)/10	cum			2890.45

Sl No.	SDP Sl. No.	MORD Ref No	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
84	12.9	600	Providing *weepholes* in brick masonry/stone masonry, plain/reinforced concrete abutment, wing wall, return wall with 100 mm dia AC pipe extending through the full width of the structures with slope of 1(V):20(H) towards drawing face complete as per drawing and technical specification Clauses 614, 709, 1204.3.7				
			Unit = Nos				
			Taking output = 30 Nos				
		a)	**Material**				
			AC pipe 100 mm dia including wastage @ 5 per cent. Average length of weep hole is taken as one metre for the purpose of estimating	m	31.50	42.54	1,340.01
			MS clamps	Nos.	30.00	34.06	1,021.80
			Cement mortar 1:3 (For rate refer to item 11.5 i)	cum	0.05	3,707.78	185.39
		b)	**Labour**				
			Mate	day	0.03	325.00	9.75
			Mason 1st Class	day	0.50	413.00	206.50
			Mazdoor (Unskilled)	day	0.25	306.00	76.50
		c)	Overheads @ 12 % on (a+b)				340.79
			Cost for 30 Nos = (a+b+c+d)				3,180.74
			Rate per No = (a+b+c+d)/30=	no.			106.02
85	11.2	300 & 1200	**Fillling in foundation trenches as per drawing and technical specification Clause 305.3.9**				
			Sand filling				
			Unit = cum				
		a)	**Labour**				
			Mate	day	0.01	325.00	3.25
			Mazdoor (Unskilled)	day	0.30	306.00	91.80
		b)	**Material**				
			Sand (assuming 20 per cent voids)	cum	1.20	141.85	170.22
		c)	Overheads @ 12 % on (a+b)				31.83
			Rate per cum = (a+b+c+d)				297.10
			Carriage Cost				
			Sand (assuming 20 per cent voids)	cum	1.20	162.10	194.52
			Rate per cum = a+b+c+d=	cum			491.62

24-11-2021
J-C

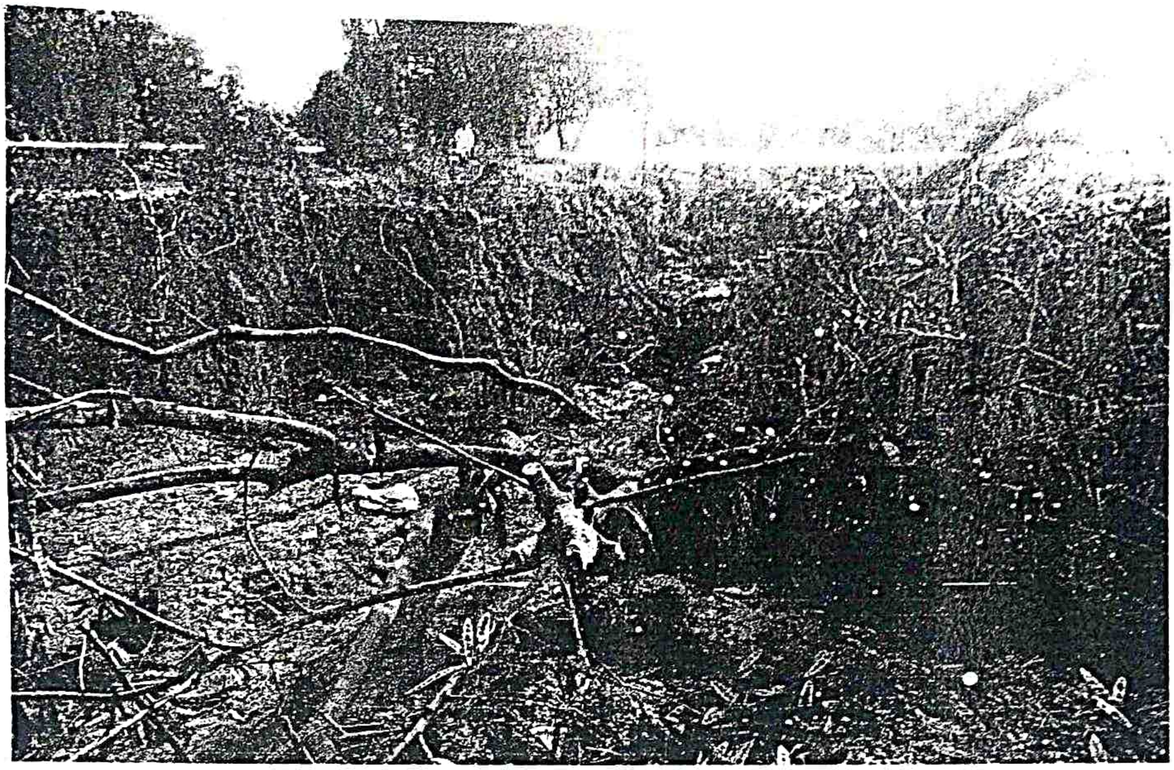
PWD Road – Nsuga Khelariya upto Korbaicaz PWD Road (AT 2.20KM)





24-11-2021 24/11/21 24/11/21 A.E.

Mou-Sasaram PWD Road - Njuga Khelaoiya upto Karakat PWD Road (At 2.20 Km)
Head - F.D.R



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