

Lead distance for construction material permanent works

Case-I : Surfaced road					
a) Sand	100.00	Darzokai / R. Tuichawng	51 +	Road Length	49
b) Aggregates	97.00	Chawilunh(Khojoisuri) / Maudarh	48 +	Road Length	49
c) Cement	209.00	Aizawl	160	Road Length	49
d) Masonry stone	20.00	Quarry	20	Road Length	0
e) Hume pipe	169.00	Chawnte	120 +	Road Length	49
f) Steel	209.00	Aizawl	160	Road Length	49
Case-II : Unsurfaced Gravelled Road					
a) Sand	0.00	Site	0		
b) Aggregates	0.00	Site	0		
c) Cement	0.00	Site	0		
d) Masonry stone	0.00	Site	0		
e) Hume pipe	0.00	Site	0		
f) Steel	0.00	Site	0		

Lead distance for construction material pavement works

For BC & DBM					
Case-I : Surfaced road					
a) Sand	100.00	Darzokai / R. Tuichawng	51	Road Length	49
b) Aggregates	97.00	Chawilunh(Khojoisuri) / Maudarh	48	Road Length	49
c) Bitumen	209.00	Aizawl	160	Road Length	49
Case-II : Unsurfaced Gravelled Road					
a) Sand	2.00	Site	2		
b) Aggregates	2.00	Site	2		
c) Bitumen	0.00	Site	0		
For GSB & WMM					
Case-I : Surfaced road					
a) Sand	100.00	Darzokai / R. Tuichawng	51	Road Length	49
b) Aggregates	97.00	Chawilunh(Khojoisuri) / Maudarh	48	Road Length	49
c) Bitumen	209.00	Aizawl	160	Road Length	49
Case-II : Unsurfaced Gravelled Road					
a) Sand	2.00	Site	2		
b) Aggregates	2.00	Site	2		
c) Bitumen	0.00	Site	0		

**MINISTRY OF ROAD, TRANSPORT & HIGHWAYS
GOVERNMENT OF INDIA**

NHIDCL

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**Estimate for Annual maintenance of existing NH-302 and NH-54 'A' (Hrangchalkawn-Lunglei-
Lungsen-Tlabung) in the state of Mizoram**

Name of Road :NH-54 'A' (Hrangchalkawn-3Gate)

Length of road :5.660 Km (0+00 to 5+660)

Package-1

**(SG Dwivedy)
LT COL (Retd)
General Manager (P)
NHIDCL, PMU-Lunglei**

Estimate for Annual maintenance of existing NH-302 and NH-54 'A' (Hrangchalkawn-Lunglei-Lungsen-Tlabung) in the state of Mizoram

Name of Road :NH-54 'A' (Hrangchalkawn-3Gate)

Length of road :5.660 Km (0+00 to 5+660)

Package-1

ABSTRACT OF COST ESTIMATE

Sr.No.	Items of work	Total quantity	Unit	Amount (Rs)
1	Strengthening of Existing Pavement	5.66	Km	4,06,14,864.00
A	Civil Cost Total of (1 to 3)		Rs.	4,06,14,864.00
B	GST 12% of "A"		Rs.	48,73,783.68
C	Civil cost Including GST (A+B)		Rs.	4,54,88,647.68
D	Add Contingency 2.8% on "A"		Rs.	11,37,216.19
E	Sub Total (C+D)		Rs.	4,66,25,863.87
F	Maintenance for 5 Years (0.0%+0.5%+0.5%+0.5%+1%=2.5% of C)		Rs.	11,37,216.19
G	Agency NHIDCL) Charge (3 % of A)		Rs.	12,18,445.92
	TOTAL PROJECT COST (E+F+G)		Rs.	4,89,81,525.98
		Say	Rs.	4,90,00,000.00
		Civil cost per km	Rs.	80,36,863.55

Estimate for Annual maintenance of existing NH-302 and NH-54 'A' (Hrangchalkawn-Lunglei-Lungsen-Tlabung) in the state of Mizoram

DETAIL ESTIMATE FOR STRENGTHENING OF EXISTING PAVEMENT

Name of Road :NH-54 'A' (Hrangchalkawn-3Gate)

Length of road :5.660 Km (0+00 to 5+660)

Package-1

Sl/SOR	Description	Unit	L	B	H	No	Qty	Rate	Amount
1/10.17	Clearing road side vegetation, brush wood mooli bamboos, overgrown grass including removal etc. along existing road side, and disposal of the cut bushes down hill side of the road formation. This jungle clearance should includes minimum height of Clearance of 4.5m from top of pavement on uphill side of the road including road shoulder and all the bushes on the shoulder and down hill side of the road.	Km	5.66			1	5.66	9559.00	54,103.94
	c0 for NHs								
2/10.11	Hill Side Drain Clearance (Removal of earth from the choked hill side drain and disposing it on the valley side manually)	Rm	5660.0				5660.00	68.00	3,84,880.00
3/10.12	Land Slide Clearance in soil (Clearance of land slides in soil and ordinary rock by a bull-dozer D 80 A-12, 180 HP and disposal of the same on the valley side)	cum	5.0	3.00	2.00	100	3000.00	52.00	1,56,000.00
	This item is considered as need to need basis and shall be only executed on intimation from NHIDCL PMU-Lunglei with proper documentation, videography/photography								
4/P&M-014	Hiring of Dozer D-80-A 12	Hours					24.00	5700.00	1,36,800.00
	This item is considered as need to need basis and shall be only executed on intimation from NHIDCL PMU-Lunglei with proper documentation, videography/photography								
5/10.16	Providing and constructing temporary restoration work with form of a palasiding with empty bags filled with approved quality earth/sand/moorum/gravel etc. including stitching the bags with jute string and placing the filled up bags in popuslope to withstand the road structure temporarily from sliding down.	cum	10.0	2.00	2.00	30	1200.00	954.00	11,44,800.00
6/10.2	Maintenance of Earthen Shoulder (filling with fresh soil) (Making up loss of material/ irregularities on shoulder to the design level by adding fresh approved soil and compacting it with appropriate equipment.)								
	Shoulder Hill side	Sqm	5660.0	1.000		1	5660.00		
	Shoulder valley side	Sqm	5660.0	1.000		1	5660.00		
	Total	Sqm					11320.00	109.00	12,33,880.00

SI/SOR	Description	Unit	L	B	H	No	Qty	Rate	Amount
7/10.18	Filling Pot-holes with WBM Materials (Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including , hand packing, rolling, applying and brooming requisite type of screening/ binding Materials to fill up the interstices of coarse aggregate, watering and compacting to the required density.)	Cum	3.2	2.600	0.150	580	723.84	5629.00	40,74,495.36
8/5.2	Tack Coat Tack coat (Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at required rate on the prepared bituminous/granular surface cleaned with mechanical broom.) v)Granular surface treated with primer & Bituminous surface with tack coat Carriage way portion								
	From Km 0+00 to Km 5+660 Eextra widening of curve Prime coat (on top of WBM) Total	Sqm Sqm sqm sqm	5660.0 1.5	5.500 1.50		1 500.00	31130.00 3113.00 1125.00 35368.00	22.00 22.00 48.00	6,84,860.00 68,486.00 54,000.00 8,07,346.00
9/5.5	Bituminous Concrete (Providing and laying bituminous concrete with 100-120 TPH batch type /drum type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 % of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects) for Grading-I (13 mm nominal size)								
	Carriageway From Km 0+00 to Km 5+660 Extra widening of curve Total	Cum Cum Cum	5660.0	5.500	0.04	1.00	1245.20 124.52 1369.72	16613.00	2,27,55,158.36
							Construction cost =		3,15,54,809.66
10/1.1	Loading and unloading of Lime, Aggregates, Stone boulder,Brick Aggregates etc. by manual means i) Loading of aggregates ii) Loading of sand	Cum Cum				Qty taken from Pavment Qty Calculation	2061.27 1149.56	219.00 219.00	4,51,418.13 2,51,753.64

SI/SOR	Description	Unit	L	B	H	No	Qty	Rate	Amount
11/1.4	Loading and unloading of Bitumen drums by manual means including a lead upto 30m i) Bitumen drums by manual means including a lead upto 30m	ton	Qty taken from Pavment Qty Calculation				172.00	160.00	27,520.00
12/1.6	Haulage excluding Loading and Unloading								
	Haulage of materials by tipper excluding cost of loading, unloading and stacking			LEAD Km			Qty Tonne		
	For BC								
	Case-I : Surfaced road								
	a) Sand			100.00			1618.00	13.80	22,32,840.00
	b) Aggregates			97.00			2063.00	13.80	27,61,531.80
	c) Bitumen			209.00			172.00	11.90	4,27,781.20
	Case-II : Unsurfaced Gravelled Road								
	a) Sand			2.00			1618.00	15.90	51,452.40
	b) Aggregates			2.00			2063.00	15.90	65,603.40
	c) Bitumen			0.00			172.00	15.90	0.00
	For WBM								
	Case-I : Surfaced road								
	a) Sand			100.00			497.00	13.80	6,85,860.00
	b) Aggregates			97.00			1524.00	13.80	20,40,026.40
	c) Bitumen			209.00			0.00	11.90	0.00
	Case-II : Unsurfaced Gravelled Road								
	a) Sand			2.00			497.00	15.90	15,804.60
	b) Aggregates			2.00			1524.00	15.90	48,463.20
	d) Bitumen			0.00			0.00	15.90	0.00
							Carriage cost =		90,60,054.77
							Total cost pavement work		4,06,14,864.43
							Say		4,06,14,864.00

Estimate for Annual maintenance of existing NH-302 and NH-54 'A' (Hrangchalkawn-Lunglei-Lungsen-Tlabung) in the state of Mizoram

QUANTITY CALCULATION FOR PAVEMENT MATERIALS UNDER CARRIAGE ITEM

Name of Road :NH-54 'A' (Hrangchalkawn-3Gate)

Length of road :5.660 Km (0+00 to 5+660)

Package-1

Ref Item no	Description	Requirement for	Cement	Bitumen	Aggregate	Crushed Sand	Total requirement from estimate	Individual requirement for whole length of road				
			ton	ton	m ³	m ³		Cement	Bitumen	Aggregate	Sand	
			ton	ton	m ³	m ³		ton	ton	m ³	m ³	
1	2	3	4	5	6	7	8	9	10	11	12	
7/10.18	WBM	360 m ³			435.60	134.390	723.84 m ³			875.85	270.21	
			Total requirement for the whole length of the road =					0.00	0.00	875.85	270.21	
							Ton/Unit quantity	1	1	1.74	1.84	
							Total weight	0.00	0.00	1524.00	497.00	
								ton	ton	ton	ton	
	Primer coat	3500 m ²		2.100			1125.00 m ²		0.68			
9/5.2	Tack coat	3500 m ²		1.050			34243.00 m ²		10.27			
10/5.5	BC	191.00 m ³		22.50	165.300	122.620	1369.72 m ³		161.35	1185.42	879.35	
			Total requirement for the whole length of the road =						172.30	1185.42	879.35	
							Ton/Unit quantity		1	1.74	1.84	
							Total weight		172.00	2063.00	1618.00	
								ton	ton	ton	ton	