



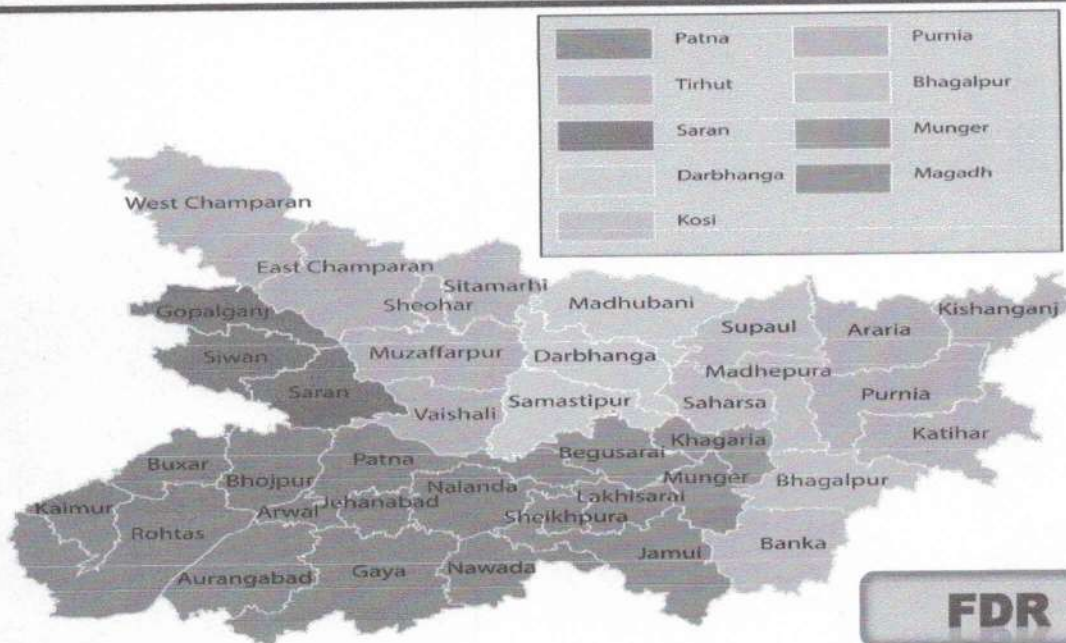
ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar

BIHAR RURAL ROADS PROJECT

Bihar Rural Road Development Agency (BRRDA)

DETAILED PROJECT REPORT FOR (FULLY RESTORATION OF DAMAGED ROAD)



DISTRICT :	West Champaran	BLOCK :	Narkatiyaganj
NAME OF ROAD :	Marhya Barhm Sthan To Chaturbhujwa Middle School Tak FDR		
PART-A TOTAL COST OF INTIAL RECTIFICATION IN SURFACE RENEUAL	:	13.048	Lakhs
TOTAL PROJECT COST	:	13.048	Lakhs

SUBMITTED BY:

EXECUTIVE ENGINEER

RWD (w) DIVISION, NARKATIYAGANJ

WEST CHAMPARAN

कार्यपालक अभियन्ता का कार्यालय

ग्रामीण कार्य विभाग, कार्य प्रमंडल, बगहा-02

Mobile No- 8986915944

Email ID- ee.rwd.bagaha2@gmail.com

पत्रांक- 242 377

/ बगहा-02, दिनांक 25-03-2024

प्रेषक,

ई0 विवेक सोनी,
कार्यपालक अभियन्ता,
ग्रामीण कार्य विभाग,
कार्य प्रमंडल, बगहा-02।

सेवा में,

अधीक्षण अभियन्ता,
ग्रामीण कार्य विभाग,
कार्य अंचल, बेतिया।

विषय :- कार्य प्रमंडल, नरकटियागंज में वर्ष 2023 के बाढ़ में क्षतिग्रस्त पथों को मोटरबुल कराने हेतु किये गये कार्यों की जांच के संबंध में।

प्रसंग :- भवदीय ज्ञापांक 352/बेतिया, दिनांक 21.03.2024

महाशय,

उपर्युक्त विषयक एवं प्रासंगिक पत्र के अनुपालन में कार्य प्रमंडल, नरकटियागंज द्वारा उपलब्ध कराये गये मोटरबुल पथों की सूची में अंकित पथ का अद्योहस्ताक्षरी द्वारा सहायक अभियन्ता के साथ निरीक्षण किया गया। निरीक्षण के दौरान कार्य प्रमंडल, नरकटियागंज द्वारा प्रतिवेदित पथों पर कार्य कराया गया है, एवं यातायात चालु है। कार्य संतोषप्रद है।

सादर सूचनार्थ एवं अग्रेत्तर कार्रवाई हेतु समर्पित।

विश्वासभाजन

 25-03-24

ई0 विवेक सोनी

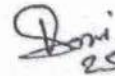
कार्यपालक अभियन्ता,

ग्रा0का0वि0, का0प्र0, बगहा-02

ज्ञापांक 242 377 /

बगहा-02, दिनांक 25-03-2024

प्रतिलिपि :- कार्यपालक अभियन्ता, ग्रामीण कार्य विभाग, कार्य प्रमंडल, नरकटियागंज को सूचनार्थ सम्प्रेषित।

 25-03-24

कार्यपालक अभियन्ता,

ग्रा0का0वि0, का0प्र0, बगहा-02

FDR ROAD LIST (Temporary Restoration)

Sl. No.	Block	Name of Road	Length (in Km)
1.	Gaunaha	Amolwa PMGSY Road to Bharhahwa Tak	1.850
2.	Mainatanr	L046-T02 to Pachrauta Jigna (VR46)	1.114
3.	Mainatanr	Jabadi to Shahpur Parsa	2.750
4.	Narkatiaganj	Marhya Barhm Sthan to Chaturbhujwa Middle School Tak	1.935
5.	Narkatiaganj	Satwariya - Majhariya	1.910
6.	Sikta	SIKTA - SURAJPUR	1.210

25-03-24

Executive Engineer
Rural Works Department
Works Division, Bagaha-02

TECHNICAL REPORT

Name of Road: Marhya Barhm Sthan to Chaturbhujwa Middle School Tak

Name of Block: Narkatiaganj

Name of Division: Narkatiaganj

Name of District: West Champaran

Estimated Cost:

This estimate is prepared for Restoration of Marhya Barhm Sthan to Chaturbhujwa Middle School Tak road under FDR as per instructions of Secretary, Rural Works Department, Bihar, Patna vide मु0अ0-4(मु0)FDR-09-01/2024 1191 /पटना, दिनांक-07/03/2024. Road remains effected from flood about 01 to 02 weeks and heavy amount of water passed through it.

Honorable Chief Minister/Secretary, Rural Works Department, Bihar, Patna/D.M., West Champaran, Bettiah/Concerned MP/MLA has instructed to maintain the traffic and movement of public etc. at the earliest so that public of this area may get connected and for the same Departmental instruction has also been issued to fill the gap made by flooded immediately.

The area surrounding is submerged in water and hence provision of Bricks bats, Sand Bags, Bamboo piles & 1000 mm Dia Hume Pipe has been made to maintain the road damaged due to flood/heavy rainfall as per availability of material from available place by tractor. Presently there is no contractor is employed for construction and maintenance of this road hence the work has been carried out Departmentally and due to this, provision of Contractor profit is not mentioned in the estimate.

In view of above, it is requested to approve the estimate amounting 13.048 Lacs please.

Submitted for Administrative Approval please.


26/03/24.

Junior Engineer
RWD, Works Division,
Narkatiaganj


26/03/24

Assistant Engineer
RWD, Works Division,
Narkatiaganj


26/03/24

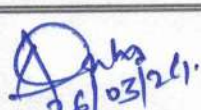
Executive Engineer
RWD, Works Division,
Narkatiaganj

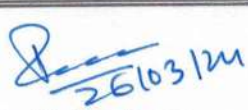
FULLY RESTORATION OF DAMAGED ROAD

GENERAL ABSTRACT OF COST

Block:--	Narkatiyaganj	District:-	West Champaran
Construction Length of Road:--	1.950 KM		
Name of Road:--	Marhya Barhm Sthan To Chaturbhujwa Middle School Tak FDR		

SL. No.	Item of Work	Amount	
A	TOTAL COST OF CONSTRUCTION	10.965	Lacs
	GST @18%	1.974	Lacs
	LABOUR CESS @1%	0.110	Lacs
	SUB TOTAL	13.048	Lacs
	TOTAL (A)	13.048	Lacs
	TOTAL PROJECT COST (A+B)	13.048	Lacs


26/03/24
Junior Engineer


26/03/24
Asstt. Engineer


26/03/24
Executive Engineer

SE
RWD

GENERAL ABSTRACT OF COST FOR MAINTENANCE OF ROAD

NAME OF ROAD	Marhya Barhm Sthan To Chaturbhujwa Middle School Tak FDR
DISTRICT	West Champaran
BLOCK	Narkatiyaganj
DIVISION	Narkatiyaganj

Sl. No.	DESCRIPTION	AMOUNT (LAKHS)
PART-A	INITIAL RECTIFICATION INCLUDING SURFACE RENEWAL	
1	Earthwork in Embankment	0.663
2	SAND BAG	1.912
3	Supply and Laying of NP 3 Hume Pipe 1000 mm Dia	0.452
4	Supplying , Filling , Spreading & Compacting of Brick Bats at work Site	7.246
5	Bamboo Piling	0.691
	Total	10.965
	SUB TOTAL =	10.965
	18 % GST (B)	1.974
	1% LABOUR CESS @	0.110
	TOTAL COST OF PROJECT (including GST & Labour Cess) IN LACS =	13.048

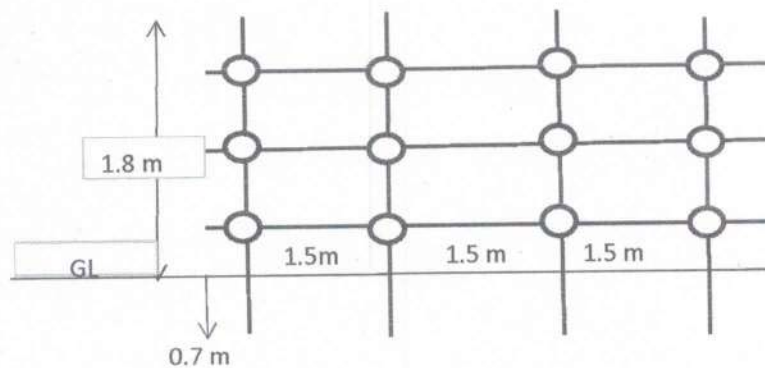

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 RWD


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 RWD

DETAILED ESTIMATE

Sl. No.	SDB SL No.	MORD Ref.No	Description	Unit	NOS	LENGTH	WIDTH	HEIGHT	QUANTITY	RATE	AMOUNT (in Rs.)
1	3.4/ 3.3 &	301.5	Construction of Embankment with material obtained from borrow pits with a lift upto 1.5 m , transporting to the site spreading , grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a lead upto 1000 m & 100 m as per Technical Specification Clause 301.5 . (Including Royalty & Labour Cess).	Cum	30%	20.00	8.250	2.167	= 357.50	185.59	66,349.00
			Total						= 357.50		
			A) SUB TOTAL OF CRUST =								66,349.00
			Sub Head : PAVEMENT LAYERS BRICK BATS								
1			Providing and Laying of Empty Cement Bag filling with Local Sand								
			Providing and Laying of Empty Cement Bag filling with Local Sand								
			Base	Cum	1.00	37.00	8.00	0.300	= 88.800		
			Face	Cum	2.00	37.00	1.50	2.500	= 277.500		
			Total =						= 366.300		
			Deduction of H.P.C 1000 mm Dia (3x2x1.50x22/7(1.23)2	Cum					= -10.690		
			OneNos. of Bag =						= 355.610		
			Total No of Bags =			355.61	x	28.00	= 9,957.000		
			Total =						= 9,957.000	19,202	1,91,189.00
4		9.3 (B)	Providing and laying RCC pipe NP-3 for culverts on first class bedding of PCC M10 material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works,backfilling concrete and masonry works in head walls and parapets as per clause 1106								
			Proposed HPC	RM	3.00		x	2.500	= 7.500		
			Net Qty						= 7.500	6,032.140	45,241.00
			B) SUB TOTAL OF CRUST =								2,36,430.00
2	5.1	502	Providing Brick Bats with Filling in Damage Portion								
			Supplying , Filling , Spreading & Compacting of Brick Bats at work Site								
			Cum	1.00	37.00	4.50		2.500	= 416.250		
			Total						= 416.25	1,740.808	7,24,611.00



BAMBOO PILING

1	Interval of Bamboo - 1 m each for 37 m			37+1		38	nos.
2	Height of Bamboo (m)			2.5			
3	Total Length of Bamboo (m)	2 x		38	x	3.3	250.8
	Three Layers Bamboo Vertical						
	Length of Total nos. of Bamboo (nos.)			40/2.5	x	3	48
	Nailing of Bamboo	38 x		3 x		4	456
	Size of Nail (nos.) (5 Inch)						456
	Area of Chachari (Sqm)	40 x		1.8			72


 Executive Engineer
 Rural Works Department
 Work Division Narkatiyaganj


 26/03/24
 J.E.


 26/03/24
 AE

Analysis for Carriage by Road&Rail																
Name of Road:-		Marhya Barhm Sthan To Chaturbhujwa Middle School Tak FDR														
District:-		West Champaran														
Sl No	Item with Source	Unit	Source Up to	Pucka / Surface By Tipper & Truck				Carriage Cost & Lead in Km				Kachha	Loading & Unloading Cost	Carriage Cost by Rail Head	Total	
5	Course Sand	Cum	Koilwar	8.00	x	6.45	x	180.00 Km	Rs 1861.32	8.00	x	15.60	=	Rs 0.00	108.90	Rs. 1970.22
				4.99						4.99						
13	Hume Pipe (1000 mm)	m	Bettiah	8.00	x	6.45	x	50.00 Km	Rs 258.00	8.00	x	15.60	=	Rs 0.00	69.82	Rs. 327.82
				10.00						10.00						

Cost of Haulage Excluding Loading & Unloading as per SOR			
Type of Road	Per Ton. Km by Tipper	Per Ton. Km by Truck	Subjected to Verification of Lead
For Surface Road	9.80	6.45	Asst. Engg RWD (w) Division, Narkatiyaganj
Unsurface Gravel Road	11.80	7.75	
Kachha Road	23.80	15.60	


Executive Engineer
 Rural Works Department
 Work Division Narkatiyaganj


 26/03/24
 JE Narkatiyaganj


 26/03/24
 AE Narkatiyaganj

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
Haulage BY TIPPER							
13		(iv)	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	419.00	2.10
			Mazdoor (Unskilled)	day	0.13	395.00	49.38
		b)	Machinery				
			Truck	hour	0.17	934.30	155.09
			Cost for 5.5 cum = a+b+c+d				206.56
			Rate per cum = (a+b+c+d) / 5.5				37.56
			Total Cost	Cum			37.56
			Total Loding & Unloading of Sand / Moorum	Cum	= 71.34 + 37.56 =		108.90
14	1.3		Loading, Unloading and Stacking of Bricks by Manual Means				
		(i)	Loading of Bricks by manual means including a lead upto 30 m Unit = 1000 Nos. Taking output = 2000 Nos.				
		a)	Labour				
			Mate	day	0.01	419.00	4.19
			Mazdoor (Unskilled)	day	0.25	395.00	98.75
		b)	Machinery				
			Truck	hour	0.33	934.30	308.32
			Cost for 2000 Nos. = a+b+c+d				411.26
			Rate for 1000 bricks = (a+b+c+d)/2				205.63
			Total Cost	no.			205.63
15		(ii)	Unloading and Stacking of Bricks by manual means including a lead upto 30 m Unit = 1000 Nos. Taking output = 2000 Nos.				
		a)	Labour				
			Mate	day	0.01	419.00	4.19
			Mazdoor (Unskilled)	day	0.25	395.00	98.75
		b)	Machinery				
			Truck	hour	0.33	934.30	308.32
			Cost for 2000 Nos. = a+b+c+d				411.26
			Rate for 1000 bricks = (a+b+c+d)/2				205.63
			Total Cost	no.			205.63
			Total Loding & Unloading of Brick Per 1000	= 205.63 + 205.63 =			411.26

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
21 (II)	9.30	1100	Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets Clause 1106.				
		B.	1000 MM DIA				
			Unit =m				
			Taking output =7.5 m (3 pipes of 2.5 m length each)				
			a) Material				
			i) Sand at site	cum	0.04	494.00	19.76
			ii) Cement at site	ton	0.03	5019.00	150.57
			iii) RCC pipe NP 43pipe including collar at site	m	7.50	5570.00	41775.00
			b) Labour				
			Mate	day	0.09	325.00	29.25
			Mason (1st class)	day	0.25	413.00	103.25
			Mazdoor (Unskilled)	day	2.00	306.00	612.00
			Cost for 7.5m = (a+b+c+d)				42689.83
			Rate per m =(a+b+c+d)/7.5				5691.98
			Carriage cost:-				
			Sand at site	cum	0.01	1970.22	10.51
			Cement at site	ton	0.00	458.67	1.83
			RCC pipe NP3 concrete pipe including collar at site	m	1.00	327.82	327.82
			Rate per cum including Carriage				6032.14
				m			6032.14
6		NEW	Brick Bat				
			Supplying , Filling , Spreading & Compacting of Brick Bats at work Site				
			Unit = CUM				
			Taking output = 360 cum for 300 cum				
			Machinery				
			Three wheel 8-10 t Smooth whelled roller	hr	3.75	1518.00	5692.50
		a) Labour					
			Mate	day	0.480	325.00	156.00
			Mazdoor Skilled	day	2.000	388.00	776.00
			Mazdoor Unskilled	day	10.000	306.00	3060.00
		b) Material					
			Brick Bats	Cum	360.00	986.00	354960.00
			Local Sand	Cum	80.28	143.32	11505.73
			Basic Rate per Cum				1253.83
			Carriage Cost				
			Local Sand		0.2676	165.00	44.15
			Brick Bats (735.18 x 850)/(1000 x 2.83)				442.82
			Rate per cum	cum			1740.81

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
7	3.4	301.5 (A)	Construction of Embankment with Material Obtained from Borrow Pits 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 <u>lead upto 1000 m</u> as per Technical Specification Clause 301.5 Unit = cum Taking output = 100 cum				
		a)	Labour				
			Mate	day	0.04	325.00	13.00
			Mazdoor (Unskilled)	day	1.00	306.00	306.00
		b)	Machinery				
			Hydraulic Excavator 0.9 cum bucket capacity @ 60 cum per hour	hour	1.67	2202.00	3,677.34
			Tipper 5.5 cum with 10 t capacity	hour	4.50	1,371.00	6,169.50
			Loading of earth as per item 1.1 (ii)	cum	100.00	0.00	0.00
			Unloading of earth as per item 1.1 (iv)	cum	100.00	52,751.00	0.00
			Add 10 % of the cost of carriage by tipper				616.95
			Dozer D-50 for spreading @ 100 cum per hour	hour	0.50	2,930.00	1,465.00
			Tractor mounted grader arrangement @ 200 cum per hour	hour	1.00	629.00	629.00
			Water tanker 6 kl capacity	hour	2.00	707.00	1,414.00
			Compensation for earth taken from private land (Including royalty @ Rs. 22.0 per cum & compensation @ Rs. 1.71 per cum)	hour	1.25	35.01	43.76
		c)	Material				
			Water	kl	12.00	60.30	723.60
			Compensation for earth taken from private land	cum	100.00	35.01	3,501.00
			Cost for 100 cum = a+b+c+d				18,559.15
			Rate per cum = (a+b+c+d+e)/100=				185.59
			Total Cost	CUM			185.59
1	14.12	1300	Single Bamboo spur and palasiding / walling of whole 2nd class bamboo(jati or Bethua) 65 mm to 75 mm dia and closely packed and driven fitting fixing with half bamboo kamis horizontally in three rows with cane or tying with wire complete and struts 1.5 m apart longitudinally and providing brush wood as per drawing and technical specification clause 1302.5 Driven at least 900 mm below ground and 1800 mm above ground on average Unit = RM Taking output = 3.00 m				
		a)	Material				
			2nd class bamboo (65 mm to 75 mm dia 3 m long	nos.	3.00	22.01	66.03
			Binding wire	Kg	0.15	75.00	11.25
			Brush Wood (LS RS. 10.00)	LS			10.00
		b)	Labour				
			Mate	day	0.04	325.00	13.00
			Mazdoor (Unskilled)	day	1.00	306.00	306.00
			Sundries	LS			5.00
		E)	Cost for 3 m = (a+b+c+d)				411.28
			Rate per meter = (a+b+c+d+e)/3				137.09
			Final Rate				137.09
1	14.12	1300	Labour for fitting and fixing split bamboo nwoven chachari in position with 20 swg. G.I wire or 75 mm to 100 mm long nails alternative including cost of G.I wire or nails complete job as per specification and direction of E/I. (Assuming strip of 3.05 x 3.05 = 9.30 sqm) Unit = per sqm Taking output = 9.30 sqm				
		a)	Material				
			75 mm to 100 mm long nails	Kg	0.25	60.00	15.00
			Supply Fitting and Fixing (Bamboo)		9.30	19.65	182.75
		b)	Labour				
			Carpenter GR-II	nos.	1.00	369.00	369.00
			Mazdoor (Unskilled)	nos.	1.00	306.00	306.00
		E)	Cost for 9.30 sqm = (a+b+c+d)				872.75
			Rate per sqm = (a+b+c+d+e)/9.30				187.69
			Final Rate				187.69

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		NEW	Sand Bags				
			Supplying, filling and laying sand bags at work site				
			Unit = Nos				
			Taking output = 100 Nos				
		a)	Labour				
			Mazdoor (Unskilled)	day	2.00	306.00	612.00
		b)	Material				
			Local Sand	Cum	3.50	143.32	501.62
			Empty Plastic Bags	No	100.00	3.53	353.00
			Basic Rate per bag (a+b+c+d)/100				14.67
			Carraige Of Local Sand		0.035	129.58	4.54
			Rate Per Bag	No			19.20

Chapter 1

LOADING, UNLOADING, CARRIAGE CRUSHING OF MATERIALS AND SETTING OUT

Notes:

- 1 Rates are for net quantities after deduction of voids.
- 2 Part of km beyond 1 km will be payable for the full km.

Sr. No.	Reference to MORD Specifications	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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 i) Positioning of tipper at loading point Min 1 ii) Loading by front end loader 1 cum bucket capacity @ 45 cum per hour Min 7.33 iii) Waiting time, unforeseen contingencies, etc. Min 2 Total Min 10.33 a) Machinery (i) Tipper 10 t capacity hour 0.172 1,426.00 245.27 (ii) Front end-loader 1 cum bucket capacity @ 45 cum per hour hour 0.122 1,419.00 173.12 Cost for 5.5 cum = a+b 418.39 Rate per cum = (a+b) / 5.5 76.07				
		(ii) Loading of Earth, Sand, Moorum, Manure, Flyash 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 i) Positioning of tipper at loading point Min 1.00 ii) Loading by front end loader 1 cum bucket capacity @ 100 cum per hour Min 3.30 iii) Waiting time, unforeseen contingencies, etc. Min 2.00 Total Min 6.30 a) Machinery (i) Tipper 10 t capacity hour 0.105 1,426.00 149.73 (ii) Front end-loader 1 cum bucket capacity @ 100 cum per hour hour 0.055 1,419.00 78.05 Cost for 5.5 cum = a+b+c 227.78 Rate per cum = (a+b+c)/5.5 41.41				

Sr. No.	Reference to MORD Specifications	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		(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 and return trip Time required for i) Positioning of tipper at unloading point ii) Manoeuvring, reversing, dumping and turning for return iii) Waiting time, unforeseen contingencies, etc. Total a) Machinery Tipper 10 t capacity Cost for 5.5 cum = a+b+c	Min Min Min Min hour	1.00 2.00 2.00 5.00 0.08	1,426.00	114.08 114.08
Rate per cum = (a+b+c)/5.5						20.74
CALCULATION BY TIPPER						
1.10		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 Empty return trip Cost for 100 t.km = a+b+c	hour hour	0.40 0.29	1,426.00 1,426.00	570.40 413.54 983.94
Rate per t.km = (a+b+c)/100						9.80
	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the rate for t is to be divided by number of pipes of different 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 Empty return trip Cost for 100 t.km = a+b+c	hour hour	0.50 0.33	1,426.00 1,426.00	713.00 470.58 1,183.58
Rate per t.km = (a+b+c)/100						11.80

Sr. No.	Reference to MORD Specifications	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the rate per t is to be divided by number of pipes of different 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					
	i) Tipper 10 t capacity					
		Haulage with load	hour	1.00	1,426.00	1,426.00
		Empty return trip	hour	0.67	1,426.00	955.42
		Cost for 100 t.km = a+b+c				2,381.42
		Rate per t.km = (a+b+c)/100				23.80
	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the cost for 8 t is to be divided by number of pipes of different				
CALCULATION BY TRUCK						
1.10		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	934.30	373.72
		Empty return trip	hour	0.29	934.30	270.95
		Cost for 100 t.km = a+b+c				644.67
		Rate per t.km = (a+b+c)/100				6.45
	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the rate for t is to be divided by number of pipes of different 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	934.30	467.15
		Empty return trip	hour	0.33	934.30	308.32
		Cost for 100 t.km = a+b+c				775.47
		Rate per t.km = (a+b+c)/100				7.75

Sr. No.	Reference to MORD Specifications	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the rate per t is to be divided by number of pipes of different 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					
	i) Truck 10 t capacity					
	Haulage with load	hour	1.00	934.30	934.30	
	Empty return trip	hour	0.67	934.30	625.98	
	Cost for 100 t.km = a+b+c					1,560.28
Rate per t.km = (a+b+c)/100						15.60
TEC	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the cost for 8 t is to be divided by number of pipes of different Brick Flat Soling Laying brick soling layer on prepared sub-grade with brick on lines, graded and cross-section shown on the drawing filling joints with sand and earth as per Technical Specification Clause 412 Unit = sqm Taking output = 9.30 sqm				
	a) Labour					
	Mazdoor (Unskilled)	day	1.00	395.00	395.00	
	Mason 2nd class	day	0.50	474.00	237.00	
	b) Sundries					1.60
	c) Material					
	Brick 1st Class New	No.	300.00	6,213.80	18,64,140.00	
	Fine Sand	cum	0.142	42.95	6.10	
	Cost for 9.30sqm = a+b+c+d+e					18,64,779.70
Rate per sqm = (a+b+c+d+e)/9.3						2,00,513.95
CALCULATION BY TRACTOR						
1.4	(I)	Cost of Haulage Excluding Loading And Unloading Haulage of materials by Tractor excluding cost of loading, unloading and stacking. Unit = tonne.km Taking output = ' 3.6 tonnes load and lead 10 km = 36.0 t.km Surfaced Road i) speed with load 15 km/hr ii) speed while returning empty = 25 km/hr				
	a) Machinery					
	Tractor 3.60 tonne capacity					
	time taken for onward haulage with load	hour	0.667	676.00	450.89	
	time taken for empty return trip	hour	0.400	676.00	270.40	
	Total cost for 36.00 tonne.km = (a+b+c)					721.29
Rate per sqm = (a+b+c)/36						20.04
	(II)	Unsurfaced Road i) speed with load 12 km/hr ii) speed while returning empty = 20 km/hr				
	a) Machinery					
	Tractor 3.60 tonne capacity					
	time taken for onward haulage with load	hour	0.833	676.00	563.11	
	time taken for empty return trip	hour	0.500	676.00	338.00	
	Total cost for 36.00 tonne.km = (a+b+c)					901.11
Rate per sqm = (a+b+c)/36						25.03
	(III)	Kaccha Track and Track in River Bed/Nala Bed & Choe Bed i) speed with load 10 km/hr ii) speed while returning empty = 15 km/hr				
	a) Machinery					

Sr. No.	Reference to MORD Specifications	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		Tractor 3.60 tonne capacity				
		time taken for onward haulage with load	hour	1.000	676.00	676.00
		time taken for empty return trip	hour	0.667	676.00	450.89
		Total cost for 36.00 tonne.km = (a+b+c)				1,126.89
Rate per sqm = (a+b+c)/36						31.30

