ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar

DETAILED PROJECT REPORT FOR REPAIRING OF ROAD
F.D.R. PART - A (2020 - 21)

DETAILED ESTIMATE FOR F.D.R. RESTORATION WORK

DISTRICT :	BHAGALPUR	BLOCK :	RANGRA CHOWK

NAME OF ROAD :	PMGSY ROAD SADHUA TO NAVTOLIA

TOTAL LENGTH OF ROAD	:	0.594	KMS	
TOTAL COST OF FDR. PART - A	:	0.759	LACS	
ADD G.S.T. @ 12 %	:	0.094	LACS	
ADD LABOUR CESS @ 1%	:	0.079	LACS	
ADD SF @ 10%	:	0.012	LACS	
	:	0.9047	LACS	

SUBMITTED BY
The Executive Engineer
Works Division, Naugachhiya

GENERAL ABSTRACT OF COST

Name of Road : PMGSY ROAD SADHUA TO NAVTOLIA — District : BHAGALPUR

Length : 0.594 KM — Block : RANGRA CHOWK

Sl. No	Particulars		Details	Total Cost (in Rs.)
1	Cost of Road Restoration work	:	0.594 KM	78987=15
2	Add G.S.T @ 12 %	:		9478=00
3	Add L.C. @ 1 %	:		790=00
4	S. F. @ 10 %	:		1219=00
	Total Cost of Restoration work	:		90474=
			Say,	~~9044~~

Rs 90,500=00

21/10/2020
J. E.

22/10/2020
A. E.

16/12/20
Executive Engineer
E. E.
R. W. D., W. D. Naugachia

Technically approved for Rs 90,500=00 (Rupees ninety thousand five hundred) only.

12/01/2021
Superintending Engineer
Rural Works Department
Works Circle, Bhagalpur
12/01

ESTIMATE FOR ROAD RESTORATION WORK

Name of Road: PMGSY ROAD SADHUA TO NAVTOLIA Block: RANGRA CHOWI District: BHAGALPUR Length : 0.594 KM KM

Sl. No.	SSR Item No.	Description	No	Length (M)	Width (M)	H/D (M)	Qty.	Unit	Rates (in Rs.)	Amount (in Rs.)
1	5.7.53	Providing sand bag with sand and labour including carriage laying, filing etc all complete job as per specification and direction of E/I.								
		As per attached "Annexure - B"								78987=00
							2530 ~~[illegible]~~	/bags	31.22	~~[illegible].00~~
						Total Cost of Flood Protective work =				1[illegible]

Total Rs = 78987=00

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ANNEXURE - " B "

Measurement of E. C. Bags

Name of Road : PMGSY ROAD SADHUA TO NAVTOLIA

Length of Road : 0.594 KM

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)			Average Width (M)	Depth (m)			Average Depth (M)	Quantity (cum)	Quantity (No of bag)
1	CH.0 m - 15m RHS.	2	7.5	2.60	1.90		2.25	0.30			0.30	10.13	298
2	CH.20 m - 40 m RHS.	2	10.00	2.40	1.60		2.00	0.30			0.30	12.00	353
3	CH.40 m - 60 m RHS.	2	10.00	2.40	1.60		2.00	0.30			0.30	12.00	353
4	CH.70 m - 120 m RHS.	2	20.00	2.50	1.80		2.15	0.30			0.30	25.8	759
5	CH.130 m - 150m RHS.	2	10.00	2.50	1.80		2.15	0.30			0.30	12.90	379
6	CH.180 m - 200m RHS.	2	10.00	2.60	1.80		2.20	0.30			0.30	13.20	388
											Total =	86.03	2530

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Rate Analysis for Carriage of Materials

Name of Road : PMGSY ROAD SADHUA TO NAVTOLIA

Sl No	Item	Unit	Source	Carriage Cost & Lead in Km														Loading & Unloading Cost	Carriage Cost by Rail Head	Total (By Road)
				Pucka / Surface							Katcha									
1	Stone Metal Gr-III / GSB	Cum	Mirjachauki	8.00 / 4.99	x	16.32	x	80.00 Km	=	Rs 2093.21	8.00 / 4.99	x	25.47	x	0.00 Km	=	Rs 0.00	172.07	0	Rs. 2265.28
2	Brick/ Brick Bats	Cum	Local	3.60 / 1.91	x	16.32	x	7.00 Km	=	Rs 215.33	3.60 / 1.91	x	25.47	x	1.00 Km	=	Rs 48.01	172.07	0	Rs. 435.40
3	Local Sand	Cum	Local	3.60 / 2.04	x	16.32	x	2.00 Km	=	Rs 57.60	3.60 / 2.04	x	25.47	x	1.00 Km	=	Rs 44.95	172.07	0	Rs. 274.62
4	Earth	Cum	Local	8.00 / 6.00	x	16.32	x	0.00 Km	=	Rs 0.00	8.00* / 6.00	x	25.47	x	1.00 Km	=	Rs 33.96	172.07	0	Rs. 206.03
5	Hume Pipe (1000 mm)	M	~~Purnia~~ Godda	8.00 / 10.00	x	16.32	x	52.00 Km	=	Rs 678.93	8.00 / 10.00	x	25.47	x	0.00 Km	=	Rs 0.00	164.19	0	Rs. 843.12
6	Hume Pipe (600 mm)	M	~~Purnia~~ Godda	8.00 / 25.00	x	16.32	x	52.00 Km	=	Rs 271.57	8.00 / 25.00	x	25.47	x	0.00 Km	=	Rs 0.00	164.36	0	Rs. 435.93

Cost of Haulage Excluding Loading & Unloading as per SOR

*** Subjected to Verification of Lead**

Type of Road	Per Ton, Km by Tractor	Per Ton, Km by Tipper
For Surface Road	16.32	
Unsurface Gravel Road	0.00	
Kachha Road	25.47	

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SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	QTY	Rate	Amount in Rs
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	305.00	6.10
		Mazdoor (Unskilled)	day	0.50	287.00	143.50
	b)	**Machinery**				
		Truck	hour	0.33	934.30	308.32
		Crane	hour	0.33	1289.30	425.47
		Cost for 9 pipes = a+b+c+d				883.39
		Rate per pipe = (a+b+c+d)/9	per p			98.15
		Total per p				**98.15**
	C.	**600/450 mm dia Hume pipe**				
		Unit = per pipe				
		Taking output = 21 pipe				
	a)	**Labour**				
		Mate	day	0.02	305.00	6.10
		Mazdoor (Unskilled)	day	0.50	287.00	143.50
	b)	**Machinery**				
		Truck	hour	0.33	934.30	308.32
		Crane	hour	0.33	1289.30	425.47
		Cost for 21 pipes = a+b+c+d				883.39
		Rate per pipe = (a+b+c+d)/21	per p			98.15
		Total per p				**98.15**
	(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	305.00	6.10
		Mazdoor (Unskilled)	day	0.50	287.00	143.50
	b)	**Machinery**				
		Truck	hour	0.20	934.30	186.86
		Crane	hour	0.20	1289.30	257.86
		Cost for 9 pipes = a+b+c+d				594.32
		Rate per pipe = (a+b+c+d)/9	per p			66.04
		Total per p				**66.04**
	C.	**600/450 mm dia Hume pipe**				
		Unit = per pipe				
		Taking output = 21 pipes				
	a)	**Labour**				
		Mate	day	0.03	305.00	7.63
		Mazdoor (Unskilled)	day	0.50	287.00	143.50
	b)	**Machinery**				
		Truck	hour	0.20	934.30	186.86
		Crane	hour	0.20	1289.30	257.86
		Cost for 21 pipes = a+b+c+d				595.85
		Rate per pipe = (a+b)/21	per p			66.21
		Total per p				**66.21**
1.10		**Haulage excluding Loading & Unloading**				
		Haulage of materials by truck excluding cost of Loading, Unloading and stacking				
		Unit = 1km				
		Taking output 10t load and lead 10km = 100t km				
		Case- I : Surfaced Road				
		Speed with load : 25km per hour				
		Speed while returning empty : 35km per hour				
	a)	**Machinery**				
		Tipper				
		Haulage with load	hour	0.40	1043.00	417.20
		Empty return trip	hour	0.29	1043.00	302.47

SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	QTY	Rate	Amount in Rs
		Cost for 100t_km = a+b+c				719.67
		Cost for 1 t_km = a+b+c/100				7.20
		Total per t per km				7.20
		Case- II : Unsurfaced Road				
		Speed with load : 20km per hour				
		Speed while returning empty : 30km per hour				
	a)	Machinery				
		Tipper				
		Haulage with load	hour	0.50	1043.00	521.50
		Empty return trip	hour	0.33	1043.00	344.19
		Cost for 100t_km = a+b+c				865.69
		Cost for 1 t_km = a+b+c/100				8.66
		Total per t per km				8.66
		Case - III Kutcha Track and Track in River Bed / Nallah Bed and Choe Bed				
		Speed with load : 10km per hour				
		Speed while returning empty : 15km per hour				
	a)	Machinery				
		Tipper				
		Haulage with load	hour	1.00	1043.00	1043.00
		Empty return trip	hour	0.67	1043.00	698.81
		Cost for 100t_km = a+b+c				1741.81
		Cost for 1 t_km = a+b+c/100				17.42
		Total per t per km				17.42
1.19		Haulage excluding Loading & Unloading				
		Haulage of materials by truck excluding cost of Loading, Unloading and stacking				
		Unit = 1km				
		Taking output 10t load and lead 10km = 100t_km				
		Case- I : Surfaced Road				
		Speed with load : 25km per hour				
		Speed while returning empty : 35km per hour				
	a)	Machinery				
		truck				
		Haulage with load	hour	0.40	934.30	373.72
		Empty return trip	hour	0.29	934.30	270.95
		Cost for 100t_km = a+b+c				644.67
		Cost for 1 t_km = a+b+c/100				6.45
		Total per t per km				6.45
		Case-II : Unsurfaced Road				
		Speed with load : 20km per hour				
		Speed while returning empty : 30km per hour				
	a)	Machinery				
		truck				
		Haulage with load	hour	0.50	934.30	467.15
		Empty return trip	hour	0.33	934.30	308.32
		Cost for 100t_km = a+b+c				775.47
		Cost for 1 t_km = a+b+c/100				7.75
		Total per t per km				7.75
		Case - III Kutcha Track and Track in River Bed / Nallah Bed and Choe Bed				
		Speed with load : 10km per hour				
		Speed while returning empty : 15km per hour				
	a)	Machinery				
		truck				
		Haulage with load	hour	1.00	934.30	934.30
		Empty return trip	hour	0.67	934.30	625.98
		Cost for 100t_km = a+b+c				1560.28
		Cost for 1 t_km = a+b+c/100				15.60
		Total per t per km				15.60

SOR Sl. No.	DESCRIPTION	Unit	QTY	Rate	Amount in Rs
4.5	**Providing and Laying of Brick Bats**				
	Placing tractor at loading point loading with front end loader dumpong ,turning for return trip exluding time for haulage and return tirp				
	Unit = cum				
	Taking output = 2.832 cum				
a)	**Labour**				
	Mazdoor (Unskilled)	day	2.170	287.00	622.79
b)	**Materilas**				
	Brick Bats	cum	2.830	1,063.00	3008.29
c)	**Carriage**				
		cum	2.830	435.40	1232.19
	Cost for 5.5 cum = a+b+c				4863.27
	Rate per cum = (a+b+c+d)/2.83	cum			1718.47
	Total per cum	cum			**1,718.47**
10.7.40 WRD	**Labour for filling Cement Bag, swing and laying materilas** Unit = Per Bag				
A	**Supply Empty cement Bag with Sand**	kg	1	7.460	7.46
					7.46
B	Unskilled Mazdoor for filling sand into bag and swing	No	2	287.00	574.00
	Unskilled Mazdoor for filling sand Bad to work site	No	3	287.00	861.00
	Rate per 100 Nos.				1,442.46
	Total per bag				**14.42**
C	**Supply Local sand Cost of Fine Sand**				
	Supply Empty Cement Bag				
	Unit = No.				
	Taking output = 1 No.				
	Labour				14.42
	Cost of cemnt bag with Sand				7.46
	Cost of Local Sand				
	1.2 Cft = 0.034 m^3	cum	0.034	274.62	9.34
	Carriage				
	Total per bag	Bag			31.22
	Total cost of (A + B+C) =				**31.22**
5.7.51	Supply of New bag and N.C with labour for filling item E.C. bag with local sand.stiching on two lines by approval (1mx1mx1m)				
	Unit = Per N.C.				
	Taking output = 100 Nos filled new bags in 4 nos N.C..				
A	Supply Empty cement Bag with Sand	No	100	14.30	1430.00
	Nylan crate (N.C.)	No	4	39.85	159.40
	Total =				1589.40
	Rate of Material for each N. C. (Total x 25/100)				397.35
B	Labour for filling stiching and stacking in dry position	No	1.67	287	479.29
	Labour for carrying and placing at work site	No	3	287	861.00
	skilled Mazdoor for stiching	No	0.33	364	120.12
	Stiching roll (Nylone)	No	2	30	60.00
	Hire charge of stiching Machine	day	0.33	50	16.50
	Hire charge of Generator 3 KVA	hrs	2.67	74	197.58
	Total =				1734.49
	Rate of Material for each N. C. (Total x 25/100)				433.62
	Rate for each N. C. in dry portion (A + B) =				830.97
C	Carriage				
	Local sand				
	25 bags = 0.85 m^3	cum	0.85	274.62	233.43
	Carriage for each N. C.	No			233.43
	Total cost of (A + B+C) =	No			1064.40

SDB Sl. No.	DESCRIPTION	Unit	QTY	Rate	Amount in Rs	Total material Qty required	Total Material Amount	Seigniorage Fee
4.5	**Providing and Laying of Brick Bats**							
	Placing tractor at loading point loading with front end loader dumpong ,turning for return trip exluding time for haulage and return tirp							
	Unit = cum							
	Taking output = 2.832 cum							
b)	**Materilas**							
	Brick Bats	cum	2.830	1,063.00	3008.29			
	Total per cum	cum			3,008.29	0.00	0	0
10.7.40 WRD	**Labour for filling Cement Bag, swing and laying materilas**							
	Unit = Per Bag							
A	**Supply Empty cement Bag with Sand**							
	Cost of Local Sand							
	1.2 Cft = 0.034 m^3	cum	0.034	141.85	4.82	2530	12190	1219
	Total per bag	Bag			4.82	~~5599~~	~~27003.42~~	~~2700~~
	Total cost of (A + B+C) =	Bag			4.82			
5.7.52	Supply of New bag and N.C with labour for filling item E.C. bag with local sand,stiching on two lines by approval (1mx1mx1m)							
	Unit = Per N.C.							
C	Carriage :							
	Local sand							
	25 bags = 0.85 m^3	cum	0.85	141.85	120.57			
	Carriage for each N. C.	No			120.57			
	Total cost of (A + B+C) =	No			120.57	0.00	0	0

Total Amount = 1219 = ~~2,700~~

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