

BIHAR RURAL ROAD DEVELOPMENT AGENCY (BRRDA)

F.D.R. PART - A (2021 - 22)

DETAILED ESTIMATE FOR F.D.R. RESTORATION WORK



DISTRICT :	Bhagalpur	BLOCK :	Naugachhia
NAME OF ROAD :	NH-31 to Laxmipur Road		

TOTAL LENGTH OF ROAD	:	1.150	KM
TOTAL COST OF FDR PART-A	:	5.398 5.174	LAKH
GST @ 12 %	:	0.621 0.648	LAKH
LABOUR CESS @ 1 %	:	0.054 0.052	LAKH
SEIGNIORAGE FEE @ 10 %	:	0.324	LAKH
TOTAL COST OF RESTORATION WORK	:	6.424 6.171	LAKH

Submitted By :

Executive Engineer

Rural Work Department
Works Division, Naugachhia

GENERAL ABSTRACT OF COST

Name of Road : NII-31 to Laxmipur Road

District : Bhagalpur

Length (Km) : 1.150

Block : Nangachhia

Sl. No	Particulars		Details (Km)	Total Cost (in Rs.)
1	Cost of Road Restoration work	:	1.15	539,817.00
2	Add G.S.T @ 12 %	:		62,095.00
3	Add L.C. @ 1 %	:		5,398.00
4	Add 10% S.F. on Basic rate of Mines material	:		32,419.00
	Total Cost of Restoration work	:		642,412.00
			Say,	642,412.00

617,100.00
6,17,100.00

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01-11-2021
A.E.

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01/11/21
E.E.

Technically sanctioned for Rs- 6,17,100.00 (Rs Six Lac Seventy thousand one hundred only).

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3/1/22
Superintending Engineer
Rural Works Department
Works Circle, Bhagalpur
03/01/22

ESTIMATE FOR ROAD RESTORATION WORK

Name of Road: NH-31 to Lakmipur Road

Block: Naugachhia

District: Bhagalpur

Length: 1.150 Km

Sl. No.	SSR Item No.	Description	No.	Length (M)	Width (M)	HD (M)	Qty.	Unit	Rate (in Rs.)	Amount (in Rs.)
1	4.5	Providing brick bats including spreading layer, hand packing and compacting with C.I. Hammer in layers not exceeding 75 mm thick including cost of light barriers, danger signals, chowkidar, taxes, royalty etc., all complete job as per specification and direction of S.I. excluding carriage cost of bricks								
		As per attached "Annexure - A"					308.46		1672.97	5134.59
							308.46	Cum	1750.04	538877.00
							Total Cost of Flood Protective work =			539,877.00

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ANNEXURE - "A"

Brick Bat Measurement

Name of Road : NH-31 to Laxmipur Road

Length (km) : 1.150

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)			Average Width (m)	Depth (m)			Average Depth (m)	Quantity (Cum)
1	26 - 40	1	14.00	3.40			3.40	0.45			0.45	21.42
2	71 - 85	1	15.00	2.50			2.50	0.60			0.60	22.50
3	145 - 150	1	5.00	2.10			2.10	0.30			0.30	3.15
4	238 - 243	1	7.00	2.30			2.30	0.50			0.50	9.58
5	351 - 353.3	1	12.30	4.00			4.00	0.30			0.30	14.75
6	405 - 412	1	7.00	4.00			4.00	0.45			0.45	12.60
7	422 - 425	1	3.00	3.50			3.50	0.50			0.50	8.12
8	428 - 431	1	3.00	3.50			3.50	0.50			0.50	5.40
9	446 - 453	1	7.00	4.00			4.00	0.60			0.60	16.80
10	470 - 475	1	5.00	4.00			4.00	0.40			0.40	6.00
11	525 - 550	1	25.00	3.75			3.75	0.60			0.60	60.25
12	566 - 571	1	5.00	2.00			2.00	0.50			0.50	5.00
13	640 - 649	1	9.00	4.00			4.00	0.60			0.60	21.60
14	771 - 775	1	4.00	2.00			2.00	0.40			0.40	3.20
15	830 - 859	1	29.00	4.00			4.00	0.60			0.60	65.60
16	961 - 979	1	18.00	2.50			2.50	0.60			0.60	27.00
17	1000 - 1006	1	6.00	3.00			3.00	0.30			0.30	8.40
Total =												308.46

S. F.	308.46	Cum	@	Rs.	1051.00	x	10%	=	Rs.	32,419.00
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Carriage Cost of Material via Road

Project: Kumbhariya Bypass Road, Bhilwara

Name of Road		NH-31 to Laxmipur Road		Carriage Cost @ Road in Km		Block	
Sl No	Item	Unit	Source	Price / unit/mtr	Quantity	Carriage Cost @ Road in Km	Block
1	Stone Metal Gr-I/Via Road	Cum	Meerut Choudh	8.00	10.00	80.00	Meerut
2	Stone Metal Gr-II / GSB Via Road	Cum	Meerut Choudh	8.00	10.00	80.00	Meerut
3	Stone Aggregate / Chips Via Road	Cum	Meerut Choudh	8.00	10.00	80.00	Meerut
4	Stone Boulder / Via Road	Cum	Meerut Choudh	8.00	10.00	80.00	Meerut
5	Coarse Sand / Via Road	Cum	Meerut Choudh	8.00	10.00	80.00	Meerut
6	Medium / Via Road	Cum	Meerut Choudh	8.00	10.00	80.00	Meerut
7	Bottom / Via Road	Cum	Meerut Choudh	8.00	10.00	80.00	Meerut
8	Bottom / Via Road	Cum	Meerut Choudh	8.00	10.00	80.00	Meerut
9	Local Sand	Cum	Local	8.00	10.00	80.00	Local
10	Brick	Cum	Local	8.00	10.00	80.00	Local
11	Concrete	Cum	Local	8.00	10.00	80.00	Local
12	Steel	Cum	Local	8.00	10.00	80.00	Local
13	Stone Pipe (1000 mm)	Cum	Local	8.00	10.00	80.00	Local
14	Stone Pipe (600 mm)	Cum	Local	8.00	10.00	80.00	Local
15	Stone Pipe (300 mm)	Cum	Local	8.00	10.00	80.00	Local
16	Brick	Cum	Local	8.00	10.00	80.00	Local
17	Brick bats	Cum	Local	8.00	10.00	80.00	Local
18	Stone Babbler	Cum	Local	8.00	10.00	80.00	Local

Signature
01-11-2019
Junior Engineer

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01-11-2019
Assistant Engineer

Signature
Executive Engineer

Rate Analysis

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 dumping, turning for return trip excluding time for backage and return trip				
	Unit = cum				
	Taking output = 2.832 cum				
(i)	Labour				
	Mazdoor (Unskilled)	day	2.17	292	633.64
(ii)	Material				2,374.43
	Brick Bats	cum	2.832	1,051.00	2,974.33
(iii)	Carriage				
		cum	2.832	492.80	1,400.23
	Cost for 5.5 cum = a+b+c			478.44	1,344.65
	Rate per cum = (a) + (b) + (c) / 2.832				4952.62
		cum			1750.04
	Total per cum	cum			1,750.04
5.7.6	Labour for fitting and fixing 62 mm to 75 mm dia bamboo runners in position at every vertical pile with 150 mm long nails or 18 swg G.I. wire including cost of G.I. or nails complete job as per specification and direction of E.I.				672.59
	Unit = Per mt.				
	Taking Out Put = 30.50 m				
(i)	Material				
	Cost of 150 mm long nails	Kg	0.50	61.74	30.87
(ii)	Labour				
	Carpenter Gr-II	No.	0.125	351	43.88
	Unskilled Labour	No.	0.25	292	73.00
	Rate for 30.5 m				147.75
					147.75
	Rate for 1 m				4.84
(iii)	Bamboo(2nd class) 75mm dia, 1.8 - 2.5m long	m	1.00	23.58	23.58
	Rate per m			Say.	28.43
5.7.7	Labour for cutting 62 mm to 75 mm dia bamboo piles in size and making shoes and driving etc. complete job as per specification and direction of E.I.				
	Unit = Per m				
	Taking Out Put = 30.50 m				
	Assuming				
	20 no pile sunk 1.525 m deep				
	Total depth sunk 30.50 m				
(i)	Labour				
	Carpenter Gr-II	No.	0.25	351	87.75
	Unskilled Labour for piling	No.	2.50	292	730.00
					817.75
	Rate for 30.5 m				817.75
	Rate for 1 m				26.81
(ii)	Bamboo(2nd class) 75mm dia, 1.8 - 2.5m long	m	1.00	23.58	23.58
	Rate per m			Say.	50.39
5.7.8 WRD	Labour for fitting and fixing split bamboo woven chachan in position with 20 swg G.I. wire of 75 mm to 100 mm long nails alternatively including cost of G.I. wire or nails complete job as per specification and direction of E.I.				
	(Assuming strip of 3.05x3.05 = 9.30 sqm				
	Unit = per sqm				
	Taking Out = 9.30 sqm				

a	Labour				
	Carpenter Gr-II	No.	1.00	351	351.00
	Mazdoor (Unskilled) for piling	No.	1.00	292	292.00
b	Materials				
	75 mm to 100 mm long rails	kg	9.25	61.74	15.44
c	Bamboo(2nd class) 75mm dia, 1.8 - 2.5m long	m	11	23.58	259.42
					917.85
	Rate Per Sqm = (a + b + c)/9.30				98.69
48.7.40 WWD	Labour for filling Cement Bag, swing and laying materials Unit - Per Bag				
A	Supply Empty cement Bag with Sand (2.92-4.82)	No	100	7.74	774.00
	Stitching Roll (Nylon)	No	2	30.00	60.00
				Total (A)	834.00
B	Unskilled Labour for filling stitching and staking	No	1.67	292	487.64
	Unskilled Labour for carrying and Placing at work site	No	3	292	876.00
	Skilled Labour for stitching	No	0.33	370	122.10
	Total per bag			Total (B)	1,485.74
C	Hire charge of Machine				
	Hire charge of Stitching Machine	No	0.33	50	16.50
	Hire charge of Generator 3 K.V.A	No	2.67	74	197.58
	Total per bag			Total (C)	214.08
D	Carriage Cost of Local Sand				
	1.2 Cft = 0.034 m ³	cum	1.40	157.83	536.62
				Total (D)	536.62
	Total cost of (A+B+C-D) =	Bag			3,070.44
	Rate per Bag				30.70
4.1	Granular Sub-base with Well Graded Material (Table 400.1)				
	By mix in place method) For Grading II Material				
	Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator or OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.				
(a)	For Grading II Material				
	Unit = cum				
	Taking output = 300 cum				
a)	Labour				
	Blade	day	0.40	304.00	121.60
	Machine (Skilled)	day	2.00	370.00	740.00
b)	Machine (Unskilled)	day	8.00	292.00	2336.00
	Machinery				
	Tractor mounted grader arrangement for grading @ 160 cum per hour	hour	12.00	573.20	6878.40
	Tractor wheel 80-100 kN static roller @ 10 cum per hour	hour	12.00	803.00	9636.00
	Tractor with Rotavator 25 cum per hour	hour	12.00	573.20	6878.40
	Water tanker 6 kl capacity	hour	5.00	184.00	920.00
a)	Material				
	Well graded granular sub-base material as per Table 400.1				
	75 mm to 9.5 mm @ 35 per cent	cum	134.40	604.91	81299.90
	9.5 mm to 2.36 mm @ 25 per cent	cum	96.00	582.80	55948.80
	2.36 mm below @ 40 per cent - Local Sand	cum	153.60	514.50	79039.49
	Water	kl	30.00	40.00	1200.00
	Cost of GSB for 300 cum				244998.59
	A) Cost of GSB without carriage per cum	cum			816.66
e)	CARRIAGE				
	Carriage for GSB material	Cum	0.768	1187.62	912.09
	Carriage for material below 2.36 mm (Local Sand)	Cum	0.512	1187.62	608.05

	Rate per cum with carriage				2336.82
9.3	Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row				
1.000	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				
A.	1000 MM DIA (Double Row)				
a)	Material				
	RCC NP3 pipe including collar	m	15.00	2755.50	41332.50
b)	Labour				
	Mate	day	0.22	304.00	66.88
	Mason (1st class)	day	0.60	351.00	210.60
	Mazdoor (Unskilled)	day	4.80	292.00	1401.60
	Cost for 7.5m = (a+b+c)				4301.58
	A) Basic Cost per m = (a+b+c)/7.5	m			5734.88
	CARRIAGE COST				
	NP3 Pipe	m	15.00	482.06	7230.90
	Carriage cost of 7.5 m				7230.90
	B) Carriage cost per m	m			964.12
	Rate per m = (A+B)	m			6699.00
B.	1000 MM DIA (Single Row)				
a)	Material				
	RCC NP3 pipe including collar	m	7.50	2755.50	20666.25
b)	Labour				
	Mate	day	0.09	304.00	27.36
	Mason (1st class)	day	0.25	351.00	87.75
	Mazdoor (Unskilled)	day	2.00	292.00	584.00
	Cost for 7.5m = (a+b+c)				21365.36
	A) Basic Cost per m = (a+b)/7.5	m			2848.71
	CARRIAGE COST				
	NP3 Pipe	m	7.50	482.06	3615.45
	Carriage cost of 7.5 m				3615.45
	B) Carriage cost per m	m			482.06
	Rate per m = (A+B)	m			3330.77
C.	600 MM DIA (Double Row)				
a)	Material				
	RCC NP3 pipe including collar	m	15	1582.72	23740.80
b)	Labour				
	Mate	day	0.04	304.00	12.16
	Mason (1st class)	day	0.12	351.00	42.12
	Mazdoor (Unskilled)	day	0.96	292.00	280.32
	Cost of 7.5m = (a+b+c+d)				2405.40
	A) Basic Cost per m = (a+b)/7.5	m			3210.05
	CARRIAGE COST				
	NP3 Pipe	m	15	194.99	2924.85
	Carriage cost of 7.5 m				2924.85
	B) Carriage cost per m	m			389.98
	Rate per m = (A+B)	m			3600.03
D.	600 MM DIA (Single Row)				
a)	Material				
	RCC NP3 pipe including collar	m	7.50	1582.72	11870.40
b)	Labour				
	Mate	day	0.04	304.00	12.16
	Mason (1st class)	day	0.12	351.00	42.12
	Mazdoor (Unskilled)	day	0.96	292.00	280.32
	Cost of 7.5m = (a+b+c+d)				12295.00
	A) Basic Cost per m = (a+b)/7.5	m			1627.33
	CARRIAGE COST				
	NP3 Pipe	m	7.5	194.99	1462.43

	A) Carriage cost of 7.5 m				1462.12
	B) Carriage cost per m	m			194.99
	Rate per m = (A+B)	m			1822.32
10.1	Local Sand filling in as per drawing and technical specification Clause 305.3.9				
	Sand filling				
	Unit = cum				
10.2	Labour				
	Mate	day	0.01	304.00	3.04
10.3	Mazdoor (Unskilled)	day	0.30	292.00	87.60
	Material				
	Sand (assuming 20 per cent voids)	cum	1.20	141.85	170.22
	Rate per cum = (a+b)				260.86
10.4	Carriage Cost				
	Sand (assuming 20 per cent voids)	cum	1.20	157.83	189.40
	Rate per cum = a+b+c	cum			450.26

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