

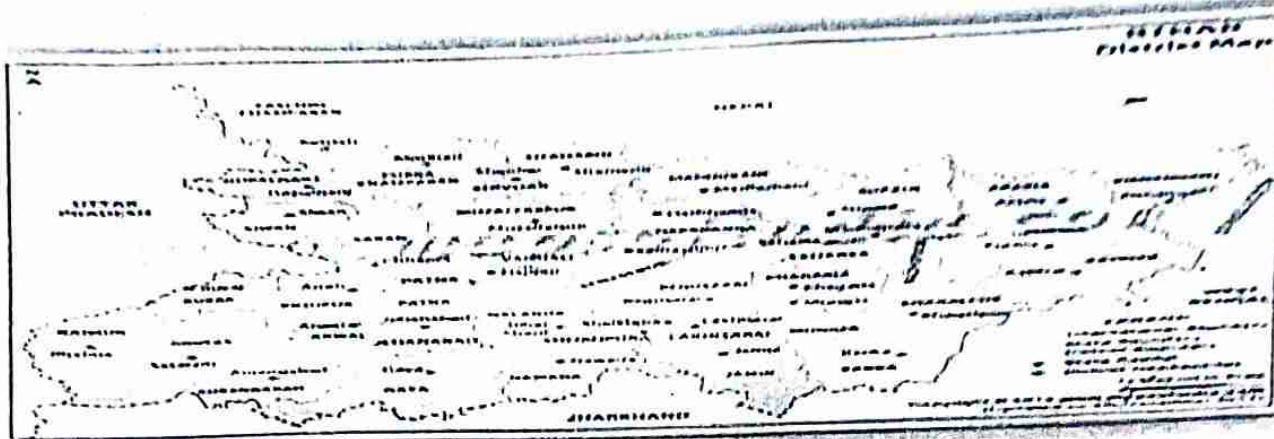


ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar

DETAILED PROJECT REPORT (DPR)

YEAR (2023 - 2024)



STATE :-	BIHAR
DISTRICT :-	Banka
BLOCK :-	Shambhuganj
Repair of Flood Damaged in Road Shambhuganj - Khesar to Tarapur (Jilani Path) 2nd KM (Near Bahurna Village)	
FLOOD DAMAGE LENGTH :-	77 M
TOTAL COST OF PROJECT :-	Rs. 38.906 Laes

SUBMITTED BY:

EXECUTIVE ENGINEER

RWD WORKS DIVISION, BANKA-1

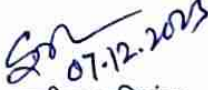
BANKA

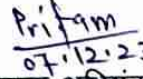
तकनीकी प्रतिवेदन

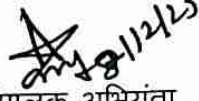
योजना शीर्ष - FDR
योजना का नाम - Shambhuganj - Khesar to Tarapur (Jilani Path)

प्रस्तुत प्राक्कलन में अत्याधिक वर्षा के कारण लोहागड नदी में अधिक बहाव से शंभुगंज प्रखंड के पथ खेसर तारापुर (जिलानी पथ) के 2nd कि०मी० निर्मित पुल संसद निधि मद से वर्ष 2005 से निर्मित पुल क्षतिग्रस्त हो गया। कार्यपालक अभियंता के आदेशानुसार Diversion का निर्माण किया गया, जिसमें 1000mm Hume Pope, Brick Work, GSB का कार्य कराया गया। वर्तमान अनुसूचि दर पर प्राक्कलन तैयार कर आवश्यक कार्रवाई हेतु समर्पित की जाती है।

सादर सूचनार्थ समर्पित


07.12.2023
कनीय अभियंता
ग्रामीण कार्य विभाग,
कार्य प्रशाखा, शंभुगंज


07.12.23
सहायक अभियंता
ग्रामीण कार्य विभाग,
कार्य अवर प्रमंडल, शंभुगंज


07.12.23
कार्यपालक अभियंता,
ग्रामीण कार्य विभाग,
कार्य प्रमंडल, बांका-1

SUMMARY OF COST ESTIMATE FOR THE PROJECT

NAME OF ROAD : Repair of flood damaged in road Shambhuganj Khesar to
Tarapur (Jilani Path) 2nd km (Near Bahurna village)
DISTRICT Banka
BLOCK Shambhuganj

Sl. No.	DESCRIPTION	AMOUNT (LAKHS)	Labour Cost %	GST 18 %	AMOUNT (LAKHS)
		25.492	0.255	4.529	30.336
1	Brick Bats				
		1.446	0.014	0.280	1.720
2	GSB				
		5.715	0.057	1.029	6.801
3	NP4 Pipe				0.049
4	SEIGNIORAGE FEE				
	SUB TOTAL OF PAVEMENT COST IN LAKHS =	32.653	0.327	5.878	38.906

[Signature]
07/12/23
Junior Engineer

[Signature]
07.12.23
Assistant Engineer

[Signature]
08/12/23
Executive Engineer

Post facto technically sanctioned for Rs. 38.906 lacs (Rupees thirty eight lakh ninety thousand six hundred) only.

[Signature]
10.1.24
Superintending Engineer
Rural Works Department
Works Circle, Bhagalpur

[Signature]
10/01/24

INSPECTION REPORT FOR MOTORABLE WORK

Name of PIUs:- EE Satyachandra Narayan Rai

Name of Block/Road:- Shambhuganj - Khesar to Tarapur (Jilani Path)

For Road

1. Damage Location/Chainage:-

2. Damage Length:-

3. Nature of Damage (Length Wise)

(i) Breach:-

(ii) Crust Damage:-

(iii) Only Flank Damage:-

Whether Traffic fully/Partially obstructed:-

4. Details of Restoration:-

(i) Material Being Used in Restoration:-

(ii) Equipment/ Tools Being Used in Restoration Works:-

(iii) Restored Length:-

In Open Area:-

In Habitation Area:-

(iv) If Restoration work done in Habitation Area give Reason:-

B. For Bridge (Size of Bridge/Culvert)

(1) Damage Location/chainage:- At ch 2.0 KM in Road Shambhuganj Khesar to Tarapur near Vill Bahurna at Lohagarkh river

(2) No. of Span Damage:- 4 span out of 12 span $\times 5M \times 3M$

(3) Length of Span:- 12 Nos $\times 5M$

(4) Nature of Damage (Pier/Abutment/ Wing wall/Approach Road Damage):- Piers and Bal damaged

(5) Details of Restoration:- Diversion has been constructed for communication

(i) Material Being Used in Restoration:- Brick Bat, HPC 100 mm d, GSBGR

(ii) Equipment/ Tools Being Used in Restoration Works:- Jy loader, Tracker, Roller

(iii) Restored Length:- Diversion Road Length - 78.0M

Over all Grade of Restoration Work (Satisfactory/Unsatisfactory):-

Satisfactory

Signature of Inspector
8/1/24
EXECUTIVE ENGINEER
(Official Seal)

R.W.D. (W) Division

Block-2

EE Satyachandra Narayan Rai

DETAILED ESTIMATE FOR PAVEMENT

Banka

Repair of flood damaged in road Shambhuganj Khesar to Tarapur (Jilani Path)

DISTRICT

NAME OF ROAD :

BLOCK :

Shambhuganj

2nd km (Near Baharna village)

Shambhuganj

Sl. No.	SDU SL. NO.	MORD Ref. No.	Description	Unit	NOS	LENGTH	WIDTH	HEIGHT	QUANTITY	RATE	AMOUNT (IN RS.)
1	0.1.3.2	401	Brick Bats								
			Providing brick bats including spreading laying 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 E/I including carriage cost of bricks.								
			Below HP								
			i Cum	1.00	10.90	8.300	1.300		117.61		
			ii Cum	1.00	9.80	8.200	1.000		80.36		
			iii Cum	1.00	11.70	8.100	0.750		71.08		
			Over Lying								
			i Cum	1.00	10.90	7.200	2.200		172.66		
			ii Cum	1.00	9.80	7.000	1.650		113.19		
			iii Cum	1.00	11.70	7.000	1.600		131.04		
			Curve								
			i Cum	1.00	20.00	7.500	1.800		270.00		
			ii Cum	1.00	10.00	7.500	1.900		142.50		
			iii Cum	1.00	15.60	9.000	2.200		308.88		
			In Shoulder								
			i Cum	1.00	15.00	1.000	0.200		3.00		
			ii Cum	2.00	10.00	1.000	0.200		4.00		
			iii Cum	2.00	30.00	0.750	0.200		9.00		
			iv Cum	2.00	24.60	1.000	0.200		9.84		
			Less NP-4 Hp Pipe	Cum					-101.73		
			Net GSB Qty. Required form Grading I Material						1,331.42	1,914.65	25,49,203.00

07.12.22

20/07/22

08/12/23

Calculation of Seigniorage Fee

Name of Road :-		DESCRIPTION		Unit	Quantity	Block:-	Shambhuganj		Length	1600 km
Sl. No.	MDR No.	MDR Ref No.	Repair of flood damaged in road Shambhuganj, Khisar (in Tarapur (Jilani Path) 2nd Lur (Near Baharna village))			Rate	Amount in Rs	material	Total Amount	Seigniorage
1	4.1	101	Granular Sub-base with Well Graded Material (Table 400.1)							
		(I)	For Grading I Material							
			Unit = cum							
			Taking output = 300 cum							
		a)	Material		Cum	931.75	1,67,715.00			
			53 mm to 9.5 mm @ 50 per cent		Cum	429.97	30,957.84			
			9.5 mm to 2.36 mm @ 20 per cent		Cum	502.80	54,302.40			
			2.36 mm below @ 30 per cent (Coarse Sand)		Cum		2,52,975.24			
			Cost for 300 cum = A		cum		843.25			
			Rate per cum = (A)/300			Total Cost	843.25	57.75	58,697.23	4,893.90
9.3	(II)	1100	Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row							
			Providing and laying reinforced tement 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		cum	502.80	20.11			
			i) Sand at site				20.11			
			Cost for 7.5m = (A)				2.68			
			Rate per m = (A)/7.5			Total Cost	2.68	90.00	241.34	1,893.90
								Total Seigniorage Fee		

Pilani
04/12/23

20/11/23
04/12/23

Length :-	1,600 km
	and 19 %

2413	4,893.90
------	----------

12/23

ET
Markito
for

30-110

o.d.s

Analysis for Carriage by Road & Rail

Name of Road:-- Repair of flood damaged in road Shambhuganj Khesar to Tarapur
(Jilani Path) 2nd km (Near Baharna village)

Block :- Shambhuganj

District:- Banka

Sl No	Item with Source	Unit	Source	Pukka / Surface		Katcha		Loading & Unloading Cost	Carriage Cost by Rail Head	Total	Misc Total
				8.00 4.59	6.41 x 97.00 Km = Rs 1083.69	8.00 4.59	15.57 x 0.00 Km = Rs 0.00				
1	Stone Metal Gr-I & Gr-II (By Road)	Cum	Mirzachowki	8.00 4.59	6.41 x 97.00 Km = Rs 996.83	8.00 4.59	15.57 x 0.00 Km = Rs 0.00	183.55		1267.24	Rs. 1267.24
2	Stone Metal Gr-III (By Road)	Cum	Mirzachowki	8.00 4.59	6.41 x 97.00 Km = Rs 996.83	8.00 4.59	15.57 x 0.00 Km = Rs 0.00	183.55		1180.38	Rs. 1180.38
3	Stone Aggregate / Chips (By Road)	Cum	Mirzachowki	8.00 4.59	6.41 x 97.00 Km = Rs 996.83	8.00 4.59	15.57 x 0.00 Km = Rs 0.00	183.55		1180.38	Rs. 1180.38
4	Stone Boulder (By Road)	Cum	Mirzachowki	8.00 4.59	6.41 x 97.00 Km = Rs 1036.28	8.00 4.59	15.57 x 0.00 Km = Rs 0.00	183.55		1219.83	Rs. 1219.83
5	Course Sand	Cum	Local (River)	8.00 4.59	6.41 x 32.00 Km = Rs 328.85	8.00 4.59	15.57 x 0.00 Km = Rs 0.00	98.74		927.77	Rs. 927.77
6	Binding Material/Moorum (By Road)	Cum	Mirzachowki	8.00 6.00	6.41 x 97.00 Km = Rs 829.03	8.00 6.00	15.57 x 0.00 Km = Rs 0.00	98.74		927.77	Rs. 927.77
7	Local Sand	Cum	Local	8.00 4.59	6.41 x 2.00 Km = Rs 20.55	8.00 4.59	15.57 x 1.00 Km = Rs 24.96	98.74		144.25	Rs. 144.25
8	Brick	1000 Nos	Local	8.00 2.00	6.41 x 7.00 Km = Rs 179.48	8.00 2.00	15.57 x 1.00 Km = Rs 62.28	411.26		583.82	Rs. 583.82
9	Cement	MT	Local	8.00	6.41 x 10.00 Km = Rs 64.10	8.00	15.57 x 0.00 Km = Rs 0.00	310.38		374.48	Rs. 374.48
10	Steel	MT	Local	8.00	6.41 x 10.00 Km = Rs 64.10	8.00	15.57 x 0.00 Km = Rs 0.00	334.92		399.02	Rs. 399.02
11	Bitumen Emulsion	MT	Patna	8.00	6.41 x 263.00 Km = Rs 1685.83	8.00	15.57 x 0.00 Km = Rs 0.00	348.78		2034.61	Rs. 2034.61
12	Bitumen	MT	Barauni	8.00	6.41 x 166.00 Km = Rs 1064.06	8.00	15.57 x 0.00 Km = Rs 0.00	348.78		1412.84	Rs. 1412.84
13	Hume Pipe (1000 mm)	m	Godda	8.00 10.00	6.41 x 67.00 Km = Rs 343.58	8.00 10.00	15.57 x 0.00 Km = Rs 0.00	59.88			Rs. 433.46
14	Hume Pipe (600 mm)	m	Godda	8.00 25.00	6.41 x 67.00 Km = Rs 137.43	8.00 25.00	15.57 x 0.00 Km = Rs 0.00	25.66			Rs. 163.09
15	Hume Pipe (300 mm)	m	Godda	8.00 60.00	6.41 x 67.00 Km = Rs 57.26	8.00 60.00	15.57 x 0.00 Km = Rs 0.00	25.66			Rs. 82.92

Cost of Haulage Excluding Loading & Unloading as per SQP
20/12/23
07/12/23

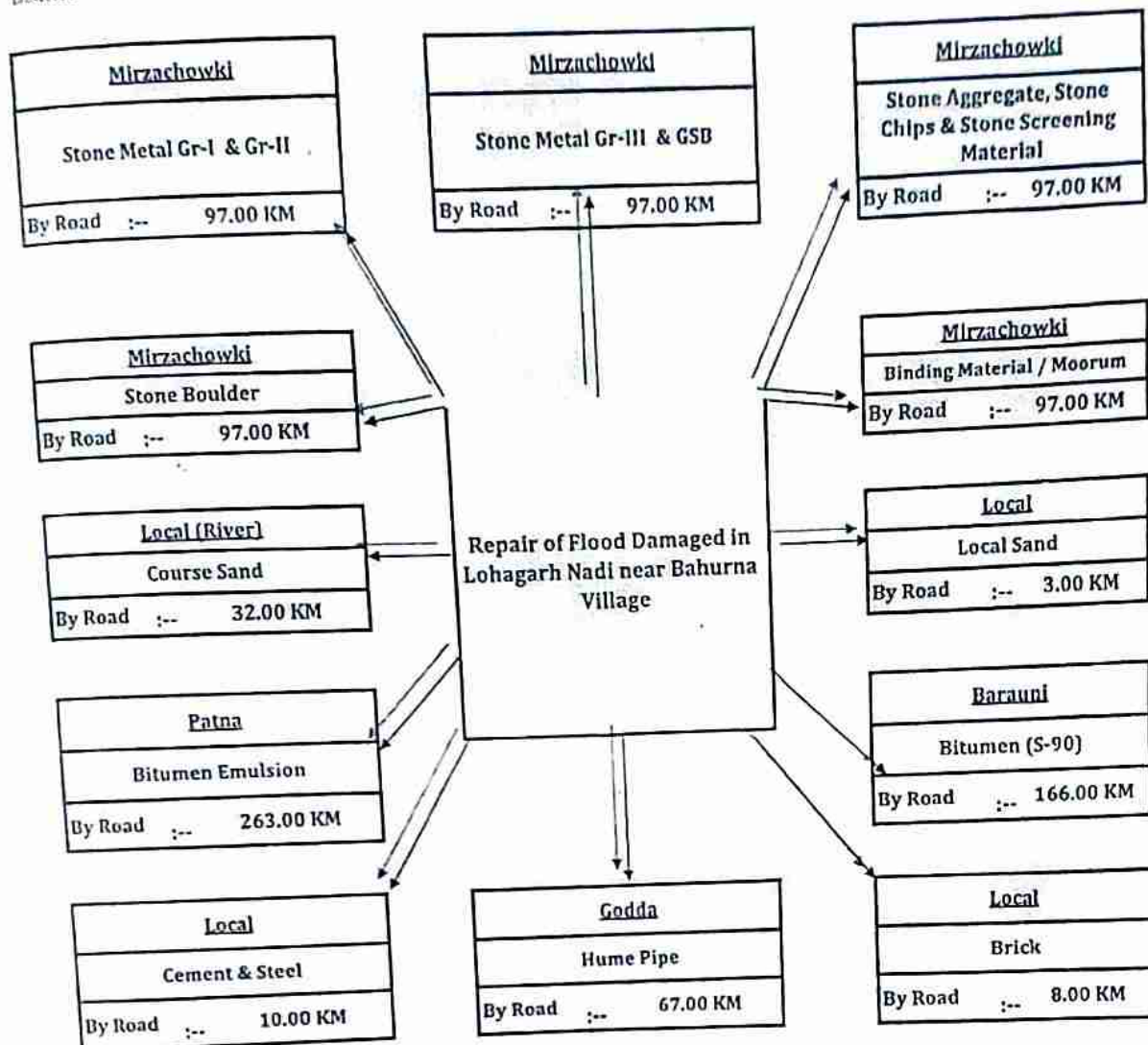
07/12/23
07/12/23

Figure-3

Quarry Map

Name of Road :- Repair of flood damaged in road Shambhuganj Khesar to Tarapur (Jilaul Path) 2nd km (Near Bahurna village)
 Block :- Shambhuganj
 District :- Banka

Length of the Road:- 1.600 KM



* Subjected to Verification of Lead

50/12/23

J.E

Pritam
9/12/2350/12/23
E.E

Superintending Engineer
 Rural Works Department
 Works Circle, Bhagalpur

10/01/24

BASIC RATES
(A) Labour

Sl. No.	Description of Labour	Unit	Rate (Rs.)
L-01	Bhisti	day	395.00
L-02	Bitumen Sprayer	day	415.00
L-03	Blacksmith	day	531.00
L-04	Blaster	day	653.00
L-05	Carpenter 1st Class	day	531.00
L-06	Chips spreader	day	474.00
L-07	Chiseller	day	608.00
L-08	Dresser (Skilled)	day	500.00
L-09	Driller	day	474.00
L-10	Electrician	day	502.00
L-11	Fitter	day	539.00
L-12	Mason (1st class)	day	531.00
L-13	Mason (2nd Class)	day	474.00
L-14	Mate	day	419.00
L-15	Mazdoor (Unskilled)	day	395.00
L-16	Mazdoor (Semi skilled)	day	411.00
L-17	Mazdoor (Skilled)	day	500.00
L-18	Painter (1st class)	day	502.00
L-19	Plumber	day	502.00
L-20	Surveyor	day	479.00
L-21	White Washer	day	502.00

(Basic Rates taken from SOR, 17th edition, Road Construction Department, Govt of Bihar effective from 01/04/2023) & Revised Again 27/09/23 ,Revised Labour Rate 18-10-2023

**BASIC RATES
(B) Material**

Sl No.	Description	Unit	Basic Rate	Add Royalty	Final Rate with Royalty
M-001	AC pipe 100 mm	m	45.34		45.34
M-002	Aggregate - For 37.5 mm Maximum size - 22.4 mm to 5.6 mm	cum	751.46	150.00	901.46
M-003	Aggregate - For 37.5 mm Maximum size - 45 mm to 22.5 mm	cum	950.04	150.00	1,100.04
M-004	Aggregate - For 37.5 mm Maximum size - Below 5.6 mm	cum	279.97	150.00	429.97
M-005	Aggregate - For 53 mm Maximum size - 22.5 mm to 5.6 mm	cum	751.46	150.00	901.46
M-006	Aggregate - For 53 mm Maximum size - 63 mm to 45 mm	cum	842.33	150.00	992.33
M-007	Aggregate - For 53 mm Maximum size - Below 5.6 mm	cum	279.97	150.00	429.97
M-008	Aggregate - Grading I (40 mm nominal Size) 10 mm - 5 mm	cum	445.16	150.00	595.16
M-009	Aggregate - Grading I (40 mm nominal Size) 25 mm - 10 mm	cum	751.46	150.00	901.46
M-010	Aggregate - Grading I (40 mm nominal Size) 37.25 mm - 25 mm	cum	950.04	150.00	1,100.04
M-011	Aggregate - Grading I (40 mm nominal Size) 5 mm and below	cum	279.97	150.00	429.97
M-012	Aggregate - Grading II (19 mm nominal Size) 10 mm - 5 mm	cum	445.16	150.00	595.16
M-013	Aggregate - Grading II (19 mm nominal Size) 25 mm - 10 mm	cum	751.46	150.00	901.46
M-014	Aggregate - Grading II (19 mm nominal Size) 5 mm and below	cum	279.97	150.00	429.97
M-015	Aggregate 10 mm	cum	445.16	150.00	595.16
M-016	Aggregate 20 mm	cum	1,057.76	150.00	1,207.76
M-017	Aggregate 40 mm	cum	842.33	150.00	992.33
M-018	Aggregate- Crushable type such as moorum or Gravel for Grading I	cum	78.62	83.00	161.62
M-019	Aggregate- Crushable type such as moorum or Gravel for Grading II	cum	78.62	83.00	161.62
M-020	Aggregate- Crushable type such as moorum or Gravel for Grading III	cum	78.62	83.00	161.62
M-021	Aggregate-Grading I 90 mm to 45 mm	cum	842.33	150.00	992.33
M-022	Aggregate-Grading II 63 mm to 45 mm	cum	842.33	150.00	992.33
M-023	Aggregate-Grading III 53 mm to 22.4 mm	cum	950.04	150.00	1,100.04
M-024	Aggregates 22.4 mm to 2.36 mm for wet mix macadam	cum	539.23	150.00	689.23
M-025	Aggregates 45 mm to 22.4 mm for wet mix macadam	cum	950.04	150.00	1,100.04
M-026	Aluminium sheeting (1.5 mm thick)	sqm	8,995.00		8,995.00
M-027	Aluminium Studs 100 mm x 100 mm fitted with lense reflectors	Nos.	209.95		209.95
M-028	Bamboo (1st Class) 85 mm - 100 mm dia, 2.0 m long	No.	15.00		15.00
M-029	Bamboo (1st Class) 85 mm - 100 mm dia, 2.5 m long	No.	20.00		20.00
M-029	Bamboo (1st Class) 85 mm - 100 mm dia, 3.0 m long	No.	20.00		20.00
M-030	Bamboo (1st Class) 85 mm - 100 mm dia, 4.5 m - 5.5 m long	No.	50.00		50.00
M-029	Bamboo (2nd Class) 75mm dia, 1.8 m - 2.5 m long	No.	15.00		15.00
M-030	Bamboo (2nd Class) 75mm dia, 2.1 m - 3.0 m long	No.	20.00		20.00
M-031	Barbed wire	kg	83.51		83.51
M-032	Binding Material	cum	78.62	83.00	161.62

Sl. No.	Description	Unit	Basic Rate	Add Royalty	Final Rate with Royalty
M-033	Binding wire	kg	46.00		46.00
M-034	Bitumen (Crumb Rubber Modified)	tonne	62,040.00		62,040.00
M-035	Bitumen (Natural Rubber Modified)	tonne	41,271.30		41,271.30
M-036	Bitumen (Polymer Modified)	tonne	-		-
M-037	Bitumen (S-65) (Barauni) Excluding the cost of empty drum @ 1051.48/per MT	t	54,936.52		54,936.52
M-038	Bitumen (S-90) (Barauni) Excluding the cost of empty drum @ 1051.48/per MT	t	53,036.52		53,036.52
M-039	Bitumen Emulsion (RS-1) (Patna) Excluding the cost of empty drum @ 1051.48/per MT	t	49,966.52		49,966.52
M-040	Bitumen Emulsion (SS-1) (Patna) Excluding the cost of empty drum @ 1051.48/per MT	t	51,355.52		51,355.52
	Waste Plastic	t	16,974.40		16,974.40
M-041	Bituminous sealant	litre	30.54		30.54
M-042	Random Rubble Stone	cum	536.03	150.00	686.03
M-043	Blasting material	kg	781.83		781.83
M-044	Bond stone (400 mm x 150 mm x 150 mm)	No.	10.48		10.48
M-045	Brick 1st Class	No.	5.327	0.045	5.372
M-046	Cement (OPC - 43 Grade) (Excluding the cost of Empty Bag @ Rs 5.05 Per Bag)	t	6,211.00		6,211.00
M-047	Cement Primer	litre	125.53		125.53
M-048	Chlorprene Elastomer or Closed Cell Foam Sealing Element	m	-		-
M-049	Compensation for earth taken from private land (compensation @ Rs. 2.01 per cum)	cum	2.25	33.00	35.25
M-050	Compressible Fibre Board	sqm	1,628.09		1,628.09
M-051	Copper plate	kg	527.00		527.00
M-052	Corbelling Stones (300 mm x 150 mm x 150 mm)	No.	-		-
M-053	Corrosion Resistant Structural Steel Grating	kg	75.30		75.30
M-054	Credit for excavated rock found suitable for use	cum	84.11	25.23	109.34
M-055	Crow bars 40 mm dia (hire charges)	hour	5.00		5.00
M-056	Crow bars 40 mm dia (hire charges)	cum	114.78	150.00	264.78
M-057	Crushed Sand or Grit Passing 2.36 mm and retained on 180 micron	cum	775.57		775.57
M-058	Crushed Slag	cum	751.46	150.00	901.46
M-059	Crushed Stone Aggregate 26.5 mm to 75 micron	cum	445.16	150.00	595.16
M-060	Crushed Stone chipping 13.2 mm nominal size	cum	445.16	150.00	595.16
M-061	Crushed Stone Chipping 6.7 mm size 100% passing 11.2 mm and retained on 2.36 mm	cum	279.97	150.00	429.97
M-062	Crushed Stone Chipping 6.7 mm size 100% passing 9.5 mm and retained on 2.36 mm	cum	279.97	150.00	429.97
M-063	Crushed Stone chipping 9.5 mm nominal size	cum	445.16	150.00	595.16
M-064	Crushed Stone Coarse Aggregate Passing 53 mm and retained on 2.8 mm	cum	615.01	150.00	765.01
M-065	Curing compound	litre	38.00		38.00
M-066	Debonding strips	m	45.00		45.00
M-067	Edge Stone (450 mm x 350 mm x 100 mm)	No.	-		-
	Edge Stone (450 mm x 350 mm x 200 mm)	No.	-		-

Sl. No.	Description	Unit	Basic Rate	Add Royalty	Final Rate with Royalty
M-068	Elastomeric bearing assembly	Nos.	24,050.00		24,050.00
M-069	Electric Detonator	each	5.75		5.75
M-070	Epoxy Paint	litre	690.00		690.00
M-071	Epoxy Primer	litre	120.00		120.00
M-072	Farmyard manure	cum	646.00		646.00
M-073	Fevicol adhesive	kg	125.00		125.00
M-074	Filter media	cum	539.23	150.00	689.23
M-075	Fine aggregate/Crushed sand 2.36 mm to 75 micron	cum	114.78	150.00	264.78
M-076	Galvanised angle	kg	59.83		59.83
M-077	Galvanised angle Section 100 mm x 100 mm of 12 mm thickness	kg	42.70		42.70
M-078	Gelatine 80 per cent	kg	806.85		806.85
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	279.97	150.00	429.97
M-083	Granular material (Natural occurring, soil gravel mixture / quarry waste, kankar, laterite, dhandla)	cum	17.03	150.00	167.03
M-084	Hand Broken Metal 40 mm size	cum	842.33	150.00	992.33
M-085	Indigo	kg	416.00		416.00
M-086	Interlocking Blocks with 60 mm thickness	sqm	-		-
M-087	Interlocking Blocks with 80 mm thickness	sqm	-		-
M-088	Joint filler board	sqm	400.00		400.00
M-089	Jute netting, open weave 25 mm square opening	sqm	39.61		39.61
M-090	Jute rope 12 mm dia	m	43.28		43.28
M-091	Key Aggregates passing 22.4 mm and retained on 2.8 mm	cum	539.23	150.00	689.23
M-092	Lime	t	3,000.00		3,000.00
M-093	Lime putty	t	3,000.00		3,000.00
M-094	Local Wood Piles (1st Class) 150-200 mm dia, 6m long	No.	525.75		525.75
M-095	Local Wood Piles (1st Class) 100 mm x 75 mm	cum	42,224.54		42,224.54
M-096	Loose stone	cum	536.03	150.00	686.03
M-097	MS clamps	Nos.	18.01		18.01
M-098	MS Flat / Structural Steel	t	60,255.00		60,255.00
M-099	MS Sheet Tube (47 mm x 47 mm x 12 SWG Sheet)	kg	43.62		43.62
M-100	MS Sheet 1.5 mm thick	sqm	416.00		416.00
M-101	MS Sheet 2 mm thick	sqm	832.00		832.00
M-102	Nuts, Bolts and Rivets	t	80.28		80.28
M-103	Paint (Synthetic Enamel)	litre	280.93		280.93

Sl. No.	Description	Unit	Basic Rate	Add Royalty	Final Rate with Royalty
M-104	Plasticizer	litre	29.00		29.00
M-105	Polythene sheet (125 micron)	sqm	18.25		18.25
M-106	Polythene Sheething	Nos.	18.25		18.25
M-107	Quarried Stone 150-200 mm size	cum	536.03	150.00	686.03
M-108	RCC Pipe NP3 (1200 mm dia)	m	6,763.89		6,763.89
M-109	RCC Pipe NP3 (1000 mm dia)	m	5,787.23		5,787.23
M-110	RCC Pipe NP3 (750 mm dia)	m	4,675.50		4,675.50
M-111	RCC Pipe NP3 (600 mm dia)	m	2,441.65		2,441.65
M-112	RCC Pipe NP3 (500 mm dia)	m	-		-
	RCC Pipe NP3 (300 mm dia)	m	553.00		553.00
M-113	RCC Pipe NP4 (1200 mm dia)	m	6,763.89		6,763.89
M-114	RCC Pipe NP4 (1000 mm dia)	m	5,787.23		5,787.23
M-115	RCC Pipe NP4 (750 mm dia)	m	-		-
M-116	RCC Pipe NP4 (600 mm dia)	m	2,441.65		2,441.65
M-117	RCC Pipe NP4 (500 mm dia)	m	553.00		553.00
M-118	Red-oxide Primer	litre	226.49		226.49
M-119	Road marking paint	litre	280.93		280.93
M-120	Sand (Coarse)	cum	427.80	75.00	502.80
M-121	Sand (Fine)	cum	69.75	75.00	144.75
M-122	Seeds	kg	42.95		42.95
M-123	Steel Pipe 50 mm dia	m	271.83		271.83
M-124	Steel Reinforcement (HYSD Bars) (AVERAG RATE)	t	52,775.75		52,775.75
M-125	Steel Reinforcement (MS Round Bars)	t	59,067.00		59,067.00
M-126	Steel Reinforcement (TMT Bars)	t	52,775.75		52,775.75
M-127	Stone Boulder of size 150 mm and below	cum	536.03	150.00	686.03
M-128	Stone Chips 12 mm size	cum	445.16	150.00	595.16
M-129	Stone Chips 13.2 mm to 5.6 mm	cum	445.16	150.00	595.16
M-130	Stone Crushed Aggregate 11.2 mm to 0.09 mm	cum	279.97	150.00	429.97
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	536.03	150.00	686.03
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	279.97	150.00	429.97
M-136	Stone Screening - Type A 13.2 mm for Grading-2	cum	279.97	150.00	429.97
M-137	Stone Screening - Type B 11.2 mm for Grading-2	cum	279.97	150.00	429.97
M-138	Stone Screening - Type B 11.2 mm for Grading-3	cum	279.97	150.00	429.97

Sl. No.	Description	Unit	Basic Rate	Add Royalty	Final Rate with Royalty
M-139	Stone spall	cum	536.03	150.00	686.03
M-140	Traffic cones	No.	-	-	-
M-141	Water	kl	60.30	-	60.30
M-142	Well graded Granular Base Material - Grading A 2.36 mm below	cum	114.78	150.00	264.78
M-143	Well graded Granular Base Material - Grading A 26.5 mm to 4.75 mm	cum	751.46	150.00	901.46
M-144	Well graded Granular Base Material - Grading A 53 mm to 26.5 mm	cum	950.04	150.00	1,100.04
M-145	Well graded Granular Base Material - Grading B 2.36 mm below	cum	114.78	150.00	264.78
M-146	Well graded Granular Base Material - Grading B 26.5 mm to 4.75 mm	cum	751.46	150.00	901.46
M-147	Well graded Granular Base Material - Grading C 2.36 mm below	cum	114.78	150.00	264.78
M-148	Well graded Granular Base Material - Grading C 9.5 mm to 4.75 mm	cum	445.16	150.00	595.16
M-149	Well Graded Material for Sub-Base - Grading I 2.36 mm below	cum	114.78	150.00	264.78
M-150	Well Graded Material for Sub-Base - Grading I 53 mm to 9.5 mm	cum	781.75	150.00	931.75
M-151	Well Graded Material for Sub-Base - Grading I 9.5 mm to 2.36 mm	cum	279.97	150.00	429.97
M-152	Well Graded Material for Sub-Base - Grading II 2.36 mm below	cum	114.78	150.00	264.78
M-153	Well Graded Material for Sub-Base - Grading II 26.5 mm to 9.5 mm	cum	751.46	150.00	901.46
M-154	Well Graded Material for Sub-Base - Grading II 9.5 mm to 2.36 mm	cum	279.97	150.00	429.97
M-155	Well Graded Material for Sub-Base - Grading III 2.36 mm below	cum	114.78	150.00	264.78
M-156	Well Graded Material for Sub-Base - Grading III 4.75 mm to 2.36 mm	cum	114.78	150.00	264.78
M-157	Well Graded Material for Sub-Base - Grading III 9.5 mm to 4.75 mm	cum	445.16	150.00	595.16
M-158	Wooden sleepers (250 mm x 250 mm x 125 mm) (hire charges)	No.	5.00	-	5.00
RCD					-
M-118	Hot applied thermoplastic compound (Sp. Gravity - 2.10)	litre	213.34		213.34
M-152	Reflectorising glass beads	Kg	80.71		80.71
M-153	Cold mix bituminous binder (market rate)	t			-
M-190	Water based cement paint	litre	142.98		142.98
M-160	Sapling 2 m high 25 mm dia	each	28.64		28.64
M-136	Pesticide	kg	89.55		89.55
M-137	Delineators from ISI certified firm as per the standard drawing given in IRC - 79	each	600.00		600.00

BASIC RATES
(C) USAGE RATES OF PLANT & MACHINERY

Sr. No.	Description of		Output of Machine		Usage Rates in Rs.	
	Machine	Activity	Unit	Output	Unit	Rate
PM-001	Air Compressor 210 cfm	Supplying compressed air	cfm	210.00	per hour	440.00
PM-002	Batch mix HMP 40-60 TPH	BM, DBM, SDBC, PM	t/h	50.00	per hour	31,459.00
PM-003	Batch type HMP 30/40 TPH	BM, DBM, SDBC, PM	t/h	35.00	per hour	3,672.00
PM-004	Bitumen boiler oil fired	Heating of bitumen				
	200 litre		litre / h	400.00	per hour	552.00
	1000 litre		litre / h	2000.00	per hour	552.00
PM-005	Bitumen emulsion pressure distributor	Applying bitumen tack coat	sqm/h	1750.00	per hour	1,350.00
PM-006	Concrete mixer 0.28/0.4 cum	Mixing of Ingradients	cum/h	2.50	per hour	334.00
PM-007	Crane upto 35T	Lifting of materials			per hour	831.00
PM-008	Dozer D 50	Dozing cutting	cum/h	200.00	per hour	2,997.00
			cum/h	100.00		2,997.00
PM-009	Electric generator set, 125 KVA	Electricity generation	KVA	100.00	per hour	1,642.00
PM-010	Emulsion Sprayer with Tractor	Spraying of Emulsion			per hour	1,350.00
PM-011	Front end-loader 1 cum bucket capacity @ 45 cum/hour	Loading Aggregates	cum/h	45.00	per hour	1,419.00
		Loading Soil	cum/h	100.00		1,419.00
PM-012	Hydraulic broom with tractor	Surface cleaning	sqm/h	1250.00	per hour	794.00
PM-013	Hydraulic Excavator 0.9 cum	Excavation	cum/h	100.00	per hour	2,272.00
PM-014	Hydraulic self propelled chip spreader	Surface Dressing	sqm/h	1500.00	per hour	1,674.00
PM-015	Jack Hammer with tractor	Pavement breaking & rock drilling	cum/h	05. to 1	per hour	939.30
PM-016	Joint Cutting Machine with 2-3 blades	Cutting of Joints	h		per hour	342.00
PM-017	Mixall 6-10 t capacity	Mixing of bituminous materials	t/h	8.00	per hour	2,218.00
PM-018	Motor Grader	Scarifier & levelling	cum/h	200.00	per hour	2,786.00
	Tractor Mounted Grader			50.00		573.20
PM-019	Needle vibrator	Vibrating cement concrete mix	cum/h	3.50	per hour	386.00
PM-020	Paver finisher	Laying/spreading	t/h	75.00	per hour	2,141.00
PM-021	Plate compactor	Compaction	cum/h		per hour	396.00
PM-022	Plate vibrator	Compaction	cum/h		per hour	469.70
PM-023	Screed vibrator	Compaction	cum/h		per hour	102.65

Sr. No.	Description of		Output of Machine		Usage Rates in Rs.	
	Machine	Activity	Unit	Output	Unit	Rate
PM-024	Smooth wheeled 80-100 kN tandem roller	Compaction of Sub-base/ Asphalt	cum/h	30.00	per hour	1,593.00
PM-025	Stone crusher (Integrated) of 250 TPH	Crushing of Spalls	t/h	250.00	per hour	13,721.00
PM-026	Three wheel 80-100 kN Static Roller	Compaction/ Rolling			per hour	1,593.00
		Earth:- Embankment or sub-grade	cum/h	80/70		1,593.00
		Sub-base G-I	cum/h	10.00		1,593.00
		Sub-base G-II/G-III	cum/h	8.00		1,593.00
		WMM	cum/h	16.00		1,593.00
		BUSG	cum/h	10.00		1,593.00
		BM 50/75 mm	cum/h	12.00		1,593.00
		Premix 20 mm	sqm/h	250.00		1,593.00
		Seal Coat	sqm/h	500.00		1,593.00
		Surface Dressing 1st Coat	sqm/h	400.00		1,593.00
		Surface Dressing 2nd Coat	sqm/h	500.00		1,593.00
PM-027	Tipper 5.5 cum/10 t	Carriage	cum/trip	5.50	per hour	1,426.00
PM-028	Tractor with Disc Harrows	Pulverisation of soil	cum/h	80.00	per hour	549.10
PM-029	Tractor with ripper @ 60 cum per hour	Ripping Pavements, uprooting trees	cum/h	60.00	per hour	650.00
PM-030	Tractor with trolley/with Grading equipment	Transportation of materials	t/trip	3 to 5	per hour	676.00
PM-031	Tractor with Rotavator	Scarifier	cum/h	25.00	per hour	646.00
PM-032	Truck 10 t capacity	Carriage	cum/trip	5.50	per hour	934.30
PM-033	Vibratory roller 80-100 kN	Compaction of soil WMM	cum/h	100.00	per hour	2,053.00
		Compaction of BM	cum/h	60.00		2,053.00
PM-034	Water tanker 6 kl capacity (Truck Mounted)	Carriage of water	litre / h	12000.00	per hour	752.00
PM-035	Wet mix plant (Pug Mill)	Wet Mix	cum/h	25.00	per hour	1,822.30
	Mini Hot mix plant (Pug Mill)				per hour	3,601.00
RCD						
P&M-043	Road marking machine	Road marking	Sqm/h	100.00	per hour	1,411.00
	Pneumatic Tyred roller 12-15 tonnes	Road marking	tonnes	42339.00	per hour	2,062.00

Analysis of Rates (FORMAT F8)

1	4.1	401	Granular Sub-Base with Well Graded Material (Table:- 400- 1)				
			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 at OMC, and compacting with vibratory roller achieve the desired density, complete as per Technical specification clause 401.				
			For Grading I Material				
			Unit = cum				
			Taking output = 300 cum				
		a)	Labour				
			Mate	day	0.48	419.00	201.12
			Mazdoor (Skilled)	day	2.00	500.00	1000.00
			Mazdoor (Unskilled)	day	10.00	395.00	3950.00
		b)	Machinery				
			Tractor Mounted Grader for Grading@ 25 cum per hour	hour	12.00	573.20	6878.40
			Three wheel 80-100 kN Static Roller @ 10 cum per hour	hour	30.00	1593.00	47790.00
			Tractor with Rotavator 25 cum per hour	hour	12.00	646.00	7752.00
			Water tanker 6 kl capacity	hour	5.00	752.00	3760.00
		c)	Material				
			For grading-I Material				
			Well graded granular sub-base material as per Table 400.1				
			53 mm to 9.5 mm @ 50 per cent	cum	180.00	931.75	167715.00
			9.5 mm to 2.36 mm @ 20 per cent	cum	72.00	429.97	30957.84
			2.36 mm below @ 30 per cent(Coarse Sand)	cum	108.00	502.80	54302.40
			Cost of water	kl	30.00	60.30	1809.00
4.2		(i)	Rate per cum for grading-I Material				
			Cost of GSB without carriage				
			Rate per cum = (a+b+c+d+e)/300				
			cum				1087.05
			Carriage Cost				
			Carriage for material		0.840	1180.38	991.52
			Carriage for material below 2.36 mm(Stone Screening)	cum	0.360	1180.38	424.94
			Rate per cum with carriage				
			cum				2503.51
			Total Cost				
			CUM				2,503.51
2	OLD SOR		Providing brick bats including spreading laying 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 E/I including carriage cost of bricks.				
	8.1.3.2 (iii)		Unit = cum				
			Assuming- 2.832 Cum				
		a)	Labour (Unskilled)				
			i) Carrying,spreading,laying & Packing	nos	1.50	395.00	592.50
			ii) Compaction brick bats with C.I. Hammer.	nos	0.67	395.00	264.65
			iii) Brick Bat	Cum	2.83	1383.68	3918.58
			iv) Local Sand	Cum	0.63	144.75	91.48
		d)	Cost for 2.832 cum = a+b+c+d				
		e)	Rate Per cum=(a+b+c+d)/2.832				
			cum				1718.65
			CARRIAGE				
			Carriage for Brick (1 cum Bats = 300 nos Bricks)	nos	0.300	653.02	196.00
			Rate per cum with carriage				
			cum				1914.65
			Total Cost				
			CUM				1,914.65

Analysis of Rates (FORMAT F8)

3	9.3	1100	Providing and Laying Reinforced Cement Concrete Pipe NP4 as per design in Single Row Providing and laying reinforced cement concrete pipe NP4 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	cum	0.04	502.80	20.11
			ii) Cement	ton	0.03	6211.00	186.33
			iii) RCC pipe NP 3 pipe including collar	m	7.50	5787.23	43404.23
			b) Labour				
			Mate	day	0.09	419.00	37.71
			Mason (1st class)	day	0.25	531.00	132.75
			Mazdoor (Unskilled)	day	2.00	395.00	790.00
			Cost for 7.5m = (a+b+c+d)				44571.13
			Rate per m =(a+b+c+d)/7.5				5942.82
			<u>Carriage Cost</u>				
			Cement	ton	0.0040	374.48	1.50
			Sand	cum	0.0053	427.59	2.28
			Hume Pipe culvert	m	1.00	403.46	403.46
			Total Cost	m			6,350.06