



Bihar Rural Road
Development Agency



ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar



ग्रामीण कार्य विभाग, बिहार

BIHAR RURAL ROAD DEVELOPMENT AGENCY (BRRDA)

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

DETAILED ESTIMATE FOR F.D.R. RESTORATION WORK

बिहार



DISTRICT :

Bhagalpur

BLOCK :

Sabour

NAME OF ROAD :

Shivyadih Village to Rajpur Murhan Path (Package No. : BR-06R-015)

TOTAL LENGTH OF ROAD	:	6.687	KM
TOTAL COST OF FDR PART-A	:	39.868	LAKH
GST @ 12 %	:	4.784	LAKH
LABOUR CESS @ 1 %	:	0.399	LAKH
SEIGNIORAGE FEE @ 10 %	:	1.985	LAKH
TOTALCOST OF RESTORATION WORK	:	47.036	LAKH

Submitted By :-

EXECUTIVE ENGINEER

Rural Work Department
Works Division, Bhagalpur

Inspection Report For Flood Damage Work

Date:- 22.11.2024

1. Name of PIUs - B & RWD (W) Division,

2. Name of Block/ Road Sabour / Shiryaddh village to Rajpur mukhas Pat

A. For Road

1. Damage Location/Chainage 2500m to 2900m

2. Damage length 35m

3. Nature of Damage Cutting

4. Detail of Restoration Works

(i) Material being used in Restoration Works: Brick Bat, Bamboo, E.C. Bag

(ii) Equipment's/ Tools Being used in Restoration Works:

(iii) Procedure Taken up in Restoration Works:

(iv) Restored Length: 35m in cutting and pot holes

B. For Bridge

1. Damage Location/Chainage 2900m to 3200m (Approach A1 = 118m &

2. Damage length 240m

3. Nature of Damage Cutting

4. Detail of Restoration Works

(i) Material being used in Restoration Works: Brick Bat, Bamboo, E.C. Bag

(ii) Equipment's/ Tools Being used in Restoration Works:

(iii) Procedure Taken up in Restoration Works:

(iv) Restored Length: 240m in Cutting

C. Requirement Of New CD/Bridges

(i) Name of Road:

(ii) Location/ Chainage

(iii) Type of CD Work/Length required

- N.A. -

Notes:-

- Upload one Photograph of damaged portion if available
- Attach minimum Two Photograph (during restoration & after restoration) Photographs should be Geotags and at Least one Photo be captured in selfie mode.

Signature of JE/AE/EE

AR

BE

Signature
(Name of Inspector)

प्रतिवेदन

योजना का नाम : **Shivyadih Village to Rajpur Murhan Path**
(Package No. : BR-06R-015)

प्रमंडल : ग्रामीण कार्य विभाग, कार्य प्रमंडल, भागलपुर।

अंचल : ग्रामीण कार्य विभाग, कार्य अंचल, भागलपुर।

पथ की लम्बाई : 6.687 कि०मी०

प्राक्कलित राशि : ₹ 47.036 लाख

वर्ष 2021 में गंगा नदी में आयी भयंकर बाढ़/अतिवृष्टि से ग्रामीण कार्य विभाग, कार्य प्रमंडल, भागलपुर अन्तर्गत शाहकुण्ड/जगदीशपुर/गौरडीह/नाथनगर/सुलतानगंज प्रखंड के लगभग 58 पथ/पुल बाढ़ से प्रभावित हुये हैं। पथ के 2900 मी० पर प्रधानमंत्री ग्राम सड़क योजनान्तर्गत निर्माणाधीन पुल है। इस बाढ़ में पुल के दोनों तरफ पहुँच पथ क्षतिग्रस्त हो गया था। इस कारण इस होकर आवागमन बाधित हो गया था। विभाग द्वारा प्राप्त दिशा-निर्देशों/आदेशों के आलोक में इन पथ के साथ पुल के पहुँच पथ को तत्काल मरम्मत कर यातायात बहाल किया गया।

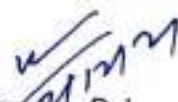
आपातकालीन प्रकृति के कार्य को देखते हुए पथ एवं पुल के दोनों तरफ पहुँच पथ का क्षतिग्रस्त पश्चांश में आवश्यकता एवं उपलब्धतानुसार ईट के टुकड़े (Brick Bats) / Sand Bag / Bamboo Piling एवं GSB इत्यादि के द्वारा मोटरेबुल कार्य कराया गया है। मोटरेबुल कार्य होने के बाद पथ में इस पुल होकर आवागमन चालू हो सका है।

कराये गये कार्य का प्राक्कलन ग्रामीण कार्य विभाग, कार्य अंचल, भागलपुर के पत्रांक-467 दिनांक- 21.06.2021 के द्वारा स्वीकृत दर पर तैयार किया गया है। PMGSY योजनान्तर्गत पथ का निर्माण कार्य प्रमंडल, कहलगाँव के अन्तर्गत निर्माणाधीन है, जबकि इसी पथ पर चैनेज 2900 मी० पर अवस्थित PMGSY योजनान्तर्गत उच्च स्तरीय पुल का निर्माण कार्य प्रमंडल, भागलपुर के अन्तर्गत निर्माणाधीन है। इस पथ एवं पुल के पहुँच पथ में मोटरेबुल का कार्य कार्य प्रमंडल, भागलपुर के द्वारा किया गया है। इस कार्य का विवरण कार्य प्रमंडल, कहलगाँव के विभागीय MIS पर FDR Module में प्रविष्टि कर दी गयी है।

अतः कार्य के उपरान्त इसकी तकनीकी अनुमोदन सह तकनीकी स्वीकृति अपेक्षित है।


कनीय अभियंता
ग्रामीण कार्य विभाग
कार्य प्रमंडल, जगदीशपुर


सहायक अभियंता
ग्रामीण कार्य विभाग
कार्य अंचल प्रमंडल, जगदीशपुर


कार्यपालक अभियंता
ग्रामीण कार्य विभाग
कार्य प्रमंडल, भागलपुर

GENERAL ABSTRACT OF COST

Name of Road : Shivyadih Village to Rajpur Murhan Path
(Package No. : BR-06R-015) District : Bhagalpur

Length (Km) : 6.687 Block : Sabour

Sl. No	Particulars		Details (Km)	Total Cost (in Rs.)
1	Cost of Road Restoration work	:	6.687	39,86,823.00
2	Add G.S.T @ 12 %	:		4,78,419.00
3	Add L.C. @ 1 %	:		39,868.00
4	S. F. @ 10 %	:		1,98,450.00
	Total Cost of Restoration work	:		47,03,560.00
			Say,	47,03,600.00


J. E.


A. E.


E. E.

Technically sanctioned for Rs 47,03,600.00 (Rupees
fourty seven lacs three thousand six hundred only.)

Certified Copy


Superintending Engineer
R.W.D. (Works) Circle
Bhagalpur

Sd —
Superintending Engineer
Rural Works Department
Works Circle, Bhagalpur

ESTIMATE FOR ROAD RESTORATION WORK

Name of Road: Shivyadi Village to Rajpur Murhan Path
(Package No. : BR-06R-015)

Block: Sabour

District: Bhagalpur

Length : 6.667 Km

Sl. No.	SSR Item No.	Description	No.	Length (M)	Width (M)	H/D (M)	Qty.	Unit	Rate (in Rs.)	Amount (in Rs.)
1	4.5	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 excluding carriage cost of bricks.								
		As per attached " Annexure - A "					1810.83			
							1810.83	Cum	1750.04	31,69,025.00
2	5.7.7	Rate for cutting 62 mm to 75 mm dia bamboo pile to size and making shoes and driving etc. all complete job as per specification and direction of E/I								
			758	2.50			1895.00			
			379	4.50			1705.50			
							3600.50	m	50.39	1,81,429.00
3	5.7.9	Rate for fitting & fixing 62mm to 75 mm dia bamboo runners in position at every vertical piles with 150 mm long nails or 38 swg G.I. wire including cost of G.I. or nails all complete job as per specification and direction of E/I								
			3	758			2274.00			
							2274.00	m	28.43	84,650.00
4	5.7.8 WRD	Labour for fitting and and fixing split bamboo woven chachari 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								
			1	455	1.20		546.00			
							546.00	Sqm	96.89	53887.00
5	5.7.53	Providing sand bag with sand and labour including carriage laying, filling etc all complete job as per specification and direction of E/I								
		As per attached " Annexure - B "					16862	/bags	30.71	5,17,832.00
							Total Cost of Flood Protective work =			39,86,823.00


J.E.


A.E.


E.E.

ANNEXURE - " A "

Brick Bat Measurement

Name of Road :

Shivyadih Village to Rajpur Murhan Path (Package No. : BR-06R-015)

Length (Km) :

6.687

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)			Average Width (m)	Depth (m)			Average Depth (m)	Quantity (Cum)
Approach A1 (D/S)												
1	3	1	3.00	2.50			2.50	3.30			3.30	24.75
2	13	1	10.00	1.80	4.80		3.30	2.80	1.50		2.15	70.95
3	20	1	15.00	1.20	4.00		2.60	1.30	1.00		1.15	44.85
4	43	1	15.00	1.20	3.80		2.50	1.30	1.00		1.15	43.13
5	58	1	15.00	1.20	3.50		2.35	1.30	1.00		1.15	40.54
7	73	1	15.00	1.20	3.50		2.35	1.00	1.20		1.10	38.78
8	88	1	15.00	1.20	3.00		2.10	1.20	0.90		1.05	33.08
9	103	1	15.00	1.20	1.80		1.50	1.10	0.80		0.95	21.38
10	118	1	15.00	0.90	1.20		1.05	0.75	0.90		0.83	13.07
Approach A1 (U/S)												
11	3	1	3.00	2.50			2.50	3.20			3.20	24.00
12	12	1	9.00	2.00	4.50		3.25	2.90	1.50		2.20	64.35
13	33	1	21.00	0.90			0.90	0.60			0.60	11.34
14	48	1	15.00	2.00	4.50		3.25	1.10	0.90		1.00	48.75
15	63	1	15.00	2.00	4.50		3.25	1.00	0.70		0.85	41.44
16	78	1	15.00	2.00	4.00		3.00	1.00	0.70		0.85	38.25
17	93	1	15.00	1.80	3.80		2.80	1.00	0.70		0.85	35.70
18	108	1	15.00	2.00	4.00		3.00	1.10	0.70		0.90	40.50
19	118	1	10.00	2.00	3.50		2.75	0.90	0.70		0.80	22.00
Approach A2 (D/S)												
20	3	1	3.00	2.40			2.40	3.70			3.70	26.64
21	13	1	10.00	2.50	6.50		4.50	3.20	1.50		2.35	105.75
22	28	1	15.00	2.00	4.50		3.25	2.90	1.50		2.20	107.25
23	43	1	15.00	1.50	3.50		2.50	2.80	1.50		2.15	80.63
24	58	1	15.00	1.50	3.50		2.50	1.50	1.10		1.30	48.75
25	73	1	15.00	1.50	3.50		2.50	1.50	1.00		1.25	46.88
26	88	1	15.00	1.50	3.50		2.50	1.30	0.90		1.10	41.25
27	103	1	15.00	1.20	3.00		2.10	1.20	0.90		1.05	33.08

28	118	1	15.00	1.50	3.50		2.50	0.75	1.20		0.98	36.75
Approach A2 (US)												
29	3	1	3.00	3.00			3.00	3.70			3.70	33.30
30	13	1	10.00	2.00	5.00		3.50	2.60	1.80		2.20	77.00
31	38	1	25.00	3.00	6.00		4.50	1.50	0.90		1.20	135.00
32	63	1	25.00	2.50	5.00		3.75	1.20			1.20	112.50
33	98	1	25.00	2.00	4.50		3.25	1.20			1.20	97.50
34	113	1	25.00	1.30	3.50		2.40	0.90			0.90	54.00
35	122	1	9.00	1.30	3.50		2.40	0.90			0.90	19.44
Road at CH: 2500 m -2900 m												
36	12	1	12.00	4.00	6.00		5.00	1.20			1.20	72.00
37	20	1	8.00	3.75			3.75	0.50			0.50	15.00
38	36	1	15.00	1.50			1.50	0.50			0.50	11.25
											Total =	1810.83

S. F.	-	1810.83	Cum	@	Rs.	1051.00	x	10%	=	Rs.	1,90,318.00
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J. E.


A. E.


E. E.

ANNEXURE - " B "

E. C. Bags Measurement

Name of Road : Shivyadih Village to Rajpur Murhan Path (Package No. : BR-06R-015)

Length (Km) : 5.687

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)			Average Width (m)	Depth (m)			Average Depth (m)	Quantity (Cum)	Quantity (No of bag)
1	Approach A1 (D/S)	1	118.00	0.90	1.20		1.05	1.20			1.20	148.68	4373
2	Approach A1 (U/S)	1	97.00	0.90	1.20		1.05	1.20			1.20	122.22	3595
3	Approach A2 (D/S)	1	118.00	0.90	1.20		1.05	1.20			1.20	148.68	4373
4	Approach A2 (U/S)	1	122.00	0.90	1.20		1.05	1.20			1.20	153.72	4521
												Total =	16,862

	S. F.	-	16862	Nos.	@	Rs.	4.82	x	10%	=	Rs.	8,132.00
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J. E.


A. E.


E. E.

Carriage Cost of Material via Road

RWD, works Division, Bhagalpur

Name of Road :				Shivayadh Village to Rajpur Murhan Path (Package No. : BR-06R-015)										Block :Sabour		
Sl No	Item	Unit	Source	Carriage Cost & Lead in Km										Loading & Unloading Cost	Carriage By Road	Total
				Pucka / Surface		Katcha										
				8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59			
1	Stone Metal Gr-II/Via Road	Cum	Mirza Cheuki	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 1003.43	Rs 0.00	1274.25
2	Stone Metal Gr-III / USB Via Road	Cum	Mirza Cheuki	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 994.00	Rs 0.00	1187.62
3	Stone Aggregate / Chips Via Road	Cum	Mirza Cheuki	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 994.00	Rs 0.00	1187.62
4	Stone Boulder /Via Road	Cum	Mirza Cheuki	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 1033.35	Rs 0.00	1236.97
5	Coarse Sand/Via Road	Cum	Hammara	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 431.13	Rs 0.00	536.01
6	Mooram/Via Road	Cum	Mirza Cheuki	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 816.68	Rs 0.00	931.56
7	Bitumen Barasani/ Via Road	MT	Barasani	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 933.35	Rs 0.50	1298.75
8	Bitumen Emulsion /Via Road	MT	Fatuka	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 1181.64	Rs 0.50	1948.64
9	Local Sand	Cum	Local	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 23.95	Rs 25.00	157.83
10	Brick	000 Nos/Local	Local	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 209.16	Rs 72.36	723.14
11	Cement	MT	Local	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 52.29	Rs 0.00	369.93
12	Steel	MT	Local	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 52.29	Rs 0.00	389.99
13	Home Pipe (1000 mm)	M	Godda	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 406.37	Rs 0.00	482.06
14	Home Pipe (600 mm)	M	Godda	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 162.55	Rs 0.00	194.99
15	Home Pipe (300 mm)	M	Godda	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 67.73	Rs 0.00	100.17
16	Bamboo	Nos	Mursela	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 313.34	Rs 0.00	631.38
17	Brick bats	Cum	Local	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 209.16	Rs 0.00	1274.25
18	Kiln Rubbish	Cum	Local	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	8.00	4.59	Rs 209.16	Rs 72.36	386.40

Junior Engineer

Assistant Engineer

Executive Engineer

Rate Analysis

SDB 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 haulage and return trip				
	Unit = cum				
	Taking output = 2.832 cum				
a)	Labour				
	Mazdoor (Unskilled)	day	2.17	292	633.64
b)	Materials				
	Brick Bats	cum	2.83	1,051.00	2974.33
c)	Carriage				
		cum	2.83	475.14	1344.63
	Cost for 5.5 cum = a+b+c				4952.62
	Rate per cum = (a+b+c+d)/2.83	cum			1750.04
	Total per cum	cum			1,750.04
5.7.9	Labour for fitting and fixing 62 mm to 75 mm dia bamboo runners in position at every verticle pile with 130 mm long nails or 38 swg G. I. wire including cost of G.I. or nails complete job as per specification and direction of E/I				
	Unit = Per mt.				
	Taking Out Put = 30.50 m				
(i)	Materials				
	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 E/I.				
	Unit = Per m				
	Taking Out Put = 30.50 m				
	Assurning				
	20 no pile sunk 1.525 m deeps				
	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	Labour for fitting and and fixing split bamboo woven chachari 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.				
WRD	(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 nails	kg	0.25	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
10.7.40 WRD	Labour for filling Cement Bag, swing and laying materials Unit = Per Bag				
A	Supply Empty cement Bag with Sand	No	100	2.92	292.00
	Stitching Roll (Nylon)	No	2	30.00	60.00
	Supply Local Sand	Cum	3.40	141.85	482.29
				Total (A)	834.29
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 Cu ft = 0.034 m ³	cum	3.40	157.83	536.62
				Total (D)	536.62
	Total cost of (A+B+C+D) =	Bag			3,070.73
	Rate per Bag				30.71
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 at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.				
(ii)	For Grading II Material				
	Unit = cum				
	Taking output = 300 cum				
a)	Labour				
	Mate	day	0.40	304.00	121.60
	Mazdoor (Skilled)	day	2.00	370.00	740.00
	Mazdoor (Unskilled)	day	8.00	292.00	2336.00
b)	Machinery				
	Tractor mounted grader arrangement for grading @ 100 cum per hour	hour	12.00	573.20	6878.40
	Three 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
c)	Material				
	Well graded granular sub-base material as per Table 400.1				
	26.5 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	514.58	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	608.06
	Rate per cum with carriage				2336.82

9.3	Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row				
1100	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
	Mandoor (Unskilled)	day	4.80	292.00	1401.60
	Cost for 7.5m = (a+b+c)				43011.58
	A) Basic Cost per m = (a+b+c+d)/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
	Mandoor (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
	Mandoor (Unskilled)	day	0.96	292.00	280.32
	Cost of 7.5m = (a+b+c+d)				24075.40
	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
	Mandoor (Unskilled)	day	0.96	292.00	280.32
	Cost of 7.5m = (a+b+c+d)				12205.00
	A) Basic Cost per m = (a+b)/7.5	m			1627.33
	CARRIAGE COST				
	NP3 Pipe	m	7.5	194.99	1462.43
	Carriage cost of 7.5 m				1462.43
	B) Carriage cost per m	m			194.99
	Rate per m = (A+B)	m			1822.32