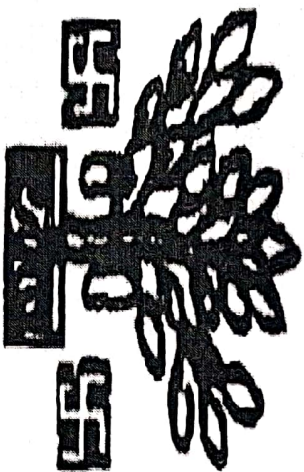


RURAL WORKS DEPARTMENT GOVT OF BIHAR



NAME OF WORKS :-

Matiyari Rakhipur PMGSY Bita To Boka Mohan
River Chaki West

BLOCK :-

Jokihat

FDR

Phase-I

11,71,468

YEAR(2024-25)

R.W.D., WORKS CIRCLE, KISHANGANJ

R.W.D., WORKS DIVISION, ARARIA

प्रतिवेदन

पथ का नाम :-

Matiyari Rakhipur PMGSY Bita To Boka Mohan River Chaki West

कार्य का नाम :-

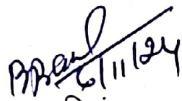
Matiyari Rakhipur PMGSY Bita To Boka Mohan River Chaki West

में बाढ़ से क्षतिग्रस्त भाग में यातायात चालू करने का कार्य।

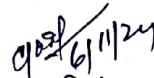
संलग्न प्राक्कलन 2024 को प्रखण्ड में आयी भीषण बाढ़ से क्षतिग्रस्त पथ
..... में बाढ़ क्षतिग्रस्त मरम्मति मद से यातायात चालू करने हेतु तैयार किया गया है जिसकी
प्राक्कलित लागत 1171468 (Eleven lakh Seventy-one thousand four hundred
का निर्माण MGSY योनान्तर्गत हुआ है एवं योजना अनुरक्षण अवधि में 68 (sixty eight)
पथ के कटे (क्षतिग्रस्त) भाग में आवश्यकता अनुसार Hume Pipe, Bamboo, लोकल बालू एवं
Brick Bats देने के बाद यातायात चालू कराया गया है। पथ के विभिन्न हिस्से में कराये गये कार्य
का विवरणी स्पष्ट रूप से प्राक्कलन में दर्शाया गया है।
प्राक्कलन मदों का दर वर्तमान अनुसूचित दर के अनुरूप है।


6/11/24

कनीय अभियंता,
ग्रामीण कार्य विभाग,
कार्य प्रशाखा, 116/21-0


6/11/24

सहायक अभियंता,
ग्रामीण कार्य विभाग,
कार्य अवर प्रमण्डल,


6/11/24

कार्यपालक अभियंता,
ग्रामीण कार्य विभाग,
कार्य प्रमण्डल,

SUMMARY OF COST ESTIMATE FOR THE PROJECT		
NAME OF ROAD :-	Matiyari Rakhipur PMGSY Bita To Boka Mohan River Chaki West	
DISTRICT :-	ARARIA	
BLOCK :-	Jokihat	
Length of Road:-	0.00KM	
Length of Cutting in mtr :-	63.000	
Sl. No.	DESCRIPTION	AMOUNT (LAKHS)
1	Filling of local sand	440330.97
2	Labour for cutting 62mm to 75mm dia bamboo	149441.76
3	Labour for fitting 62mm to 75mm dia bamboo	22648.50
4	Labour for filling empty cement bags with local sand Nylon crate	0.00
5	Supplying of EC bag, of local sand	285770.32
6	Supply and Carriage of brick bats	273276.55
7	Supply, laying and carriage of 1000 mm HPC	0.00
	SUB TOTAL COST =	1171468.09
	TOTAL (RS.) =	11,71,468

J.E

A.E

E.E

S.E

Approved
 Technically ~~Sanctioned~~ for ₹ 11,71,468 = 00
 (Eleven Lakhs Seventy-one thousand four
 hundred sixty-eight) only

Superintending Engineer
 RWD Work Circle
 Kishanganj

Bill of Quantity

NAME OF ROAD :-		Matiyarl Rakhipur PMGSY Blita To Boka Mohan River Chaki West			
DISTRICT :-		ARARIA			
BLOCK :-		Jokihat			
Sl. No.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	RATE (Rs.)	AMOUNT (Rs.)
1	Filling of local sand obtained from river bed, watering & ramming, all complete job as per specification & direction of Engineer-in-charge	345.96	CUM	1272.78	440330.97
2	Construction of embankment with approved materials obtained from excavation for road way in soil using manual means for carrying of cut earth to embankment site 1.5 mt and lead upto 50 m, graded and compacted to meet requirement of table 300.1, 300.2 with lift up to	0.00	CUM	549.74	0.00
3	Labour for cutting 62 mm to 75mm dia bamboo piles to size and making shoes & driving by jet machine etc. all complete job as per specification & direction of Engineer- in -charge.	2160.00	MTR	69.19	149441.76
4	Labour for fitting & fixing 62 mm to 75 mm dia bamboo runners in position at every vertical pile with 150 mm long nails or 38 swg G.I wire including cost of G.I wire or nails etc all complete job as per specification & direction of Engineer-in-charge.	630.00	MTR	35.95	22648.50
5	Labour for fitting empty cement bags with local sand, stitching the bags and placing in Nylon crate of size (1 m X 1 m X 1 m)with lead of 150 M including supply of sutli etc. at site in dry portion all complete as per approved design, specification and direction of E/I	0.00	Each	1151.80	0.00
6	Supplying of EC bag, filling of local sand stitching and placing in position as the direction of Engineer-in-charge.	5114.00	Each	55.88	285770.32
7	Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.	99.05	CUM	2759.12	273276.55
8	Supplying and carriage of hume pipe 1000 mm dia , all complete job.	0.00	RM	5172.30	0.00
A) SUB TOTAL =					1171468.09



TOTAL COST =

1171468

J.E

A.E

E.E



ESTIMATE FOR REPAIRING / RESTORATION/ MAKING MOTORABLE ROADS DAMAGED DURING FLOOD

NAME OF ROAD :-		Matyarl Rakhipur PMGSY Bita To Boka Mohan River Chaki West							
DISTRICT :-		ARARIA							
BLOCK :-		Jokihat							
Length of Cutting:-		63.00 mtr							
Sl. No.	DESCRIPTION OF ITEMS	Unit	Nos.	L(m)	B(m)	D(m)	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
1	Filling of local sand obtained from river bed, watering & ramming, all complete job as per specification & direction of Engineer-in-charge								
	At ch:-150 m	cum	2	45.00	(1.7+1.85+1.1)/3	(1.5+2.85+1.25)/3	260.40		
	At ch:-225m	cum	2	18.00	(1.7+1.85+1.1)/3	(1.05+2.6+1.05)/3	85.56		
	Deduction for H P 1000MM dia (1.23 x 1.23)=1.52	cum	0	0.79	1.52	7.50	0.00		
		cum	total qty :-				345.960	1,272.78	440330.97
2	Labour for cutting 62 mm to 75mm dia bamboo piles to size and making shoes & driving by jet machine etc. all complete job as per specification & direction of Engineer- in -charge.								
	At ch:-150 m		2	45/0.25	4.50		1620.00		
	At ch:-225m		2	18/0.3	4.50		540.00		
		Mtr.	total qty:-				2160.00	69.19	1,49,441.76
3	Labour for fitting & fixing 62 mm to 75 mm dia bamboo runners in position at every vertical pile with 150 mm long nails or 38 swg G.I wire including cost of G.I wire or nails etc all complete job as per specification & direction of Engineer-in-charge.								
	At ch:-150 m		2	45.00	2.5/0.5		450.00		
	At ch:-225m		2	18.00	2.5/0.5		180.00		
		Mtr.	total qty :-				630.00	35.95	22648.50
4	Supplying of EC bag, filling of local sand stitching and placing in position as the direction of Engineer-in-charge.								
	At ch:-1.50 km	cum	2	45.00	(0.9+0.9+0.9)/3	(1.5+1.85+1.25)/3	124.20		
	At ch:-1.50 km	cum	2	18.00	(0.9+0.9)/2	(2.05+1.5+1.05)/3	49.68		
	Total No of E C Bags(0.034cum=100Bags)		173.88		/	0.034	5114.00		
		Each	Say No of Bage :-				5114.00	55.88	285770.320
5	Providing laying & filling Geo bags of size 1m X 0.700m (Type A) 300 GSM nonwoven weight 420 gm volume of filled bag 0.070 cum Weight of filled Geo bag 126 kg with local sand including stitching in four lines by approved Nylon thread with Staching machine and generator, stacking and placing after loading. Unloading and carriage with the help of Trolley within 150 mtr. lead and all complete as per specification and direction of E/I.								
	At ch:-23500 m	cum	0	45.00	4.50	2.73	0.00		
	(0.07m3=1 no. of Geo Bags)		0.00		/	0.07	0.00		
		Each					0.00	332.74	0.000

6	Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.								
	At ch.-1.50 km	cum	2	45.00	$(1.7+1.85+1.1)/3$	$(0.45+0.65+0.45)/3$	72.08		
	At ch.-1.50 km	cum	2	18.00	$(1.7+1.85+1.1)/3$	$(0.5+0.45+0.5)/3$	26.97		
		cum	total qty :-				99.05	2,759.12	273276.55
7	Supplaying and carriage of hume pipe 1000 mm dia , all complete job.								
	At ch.-50 m	RM	0	3	2.5		0.00		
		RM	0	1	2.5		0.00		
		RM	total qty :-				0.00	7,385.85	0.00
							A) SUB TOTAL =		1171468.09
							TOTAL COST =		1171468.09

Junior Engineer

Asstt. Engineer

Executive Engineer

S.E
KISHANGANJ



FINAL RATE UNDER WORKS CIRCLE KISHANGANJ

S.No	Discription of Item	Unit	Final Rate (Excluding GST, Solgnlorage & L.Coss)	Final Rate (Including GST, Solgnlorage & L.Coss)	S.F. Per Cum / Per Bag BAG
1	EARTH WORK	CUM	459.003	549.740	3.530
2	BRICK BAT	CUM	2209.576	2759.115	129.720
3	G.S.B	CUM	4328.501	5172.300	21.380
4	SAND BAG (Cement Bag)	Each	46.550	55.880	0.490
5	BAMBOO PILE	Per Mtr.	58.140	69.186	
6	BAMBOO CHACHRI	Per Mtr.	302.258	359.690	
7	BAMBOO RUNNER	Per Mtr.	30.210	35.950	
8	HUME PIPE (1000 mm Div)	Per Mtr.	6206.598	7385.850	
9	HUME PIPE (600 mm Div)	Per Mtr.	2492.260	2965.790	
10	STEEL DRUM SHEET	Per Sqr.Mtr.	215.352	256.270	
11	GEO BAG WITH SAND	EACH	967.490	1152.320	1.010
12	EACH N.C. BAG WITH SAND (Cement Bag)	Each E.C	967.490	1151.800	0.490
13	LOCAL SAND	CUM	721.110	1272.780	0.490

Junior Engineer
6/11/24

Assistant Engineer

Executive Engineer

Superintending Engineer
Rural Works Department
Works Circle Kishanganj

**BASIC RATES
(A) Labour**

Sl. No.	Description of Labour	Unit	Rate (Rs.)
L-01	Bhisti	day	373
L-02	Bitumen Sprayer (semi skilled)	day	393
L-03	Blacksmith, special	day	503
L-04	Blaster, 2nd class	day	619
L-05	Carpenter 1st Class	day	503
L-06	Chips spreader, semi-skilled	day	449
L-07	Chiseller (Skilled)	day	577
L-08	Dresser (Skilled)	day	472
L-09	Driller, 2nd class	day	449
L-10	Electrician, skilled	day	476
L-11	Fitter, skilled	day	511
L-12	Mason (1st class)	day	503
L-13	Mason (2nd Class)	day	449
L-14	Mate, Semi skilled	day	397
L-15	Mazdoor (Unskilled)	day	373
L-16	Mazdoor (Semi skilled)	day	388
L-17	Mazdoor (Skilled)	day	472
L-18	Painter (1st class)	day	476
L-19	Plumber, Special	day	476
L-20	Surveyor	day	454
L-21	White Washer	day	476
L-22	Head blacksmith	day	531
L-23	Welder 1 St Class	day	584
	Carpenter Head	day	531
	Night Guard	day	415

*(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar
effective from 01/04/2023)*

BASIC RATES (B) Material						
Sl. No.	Description	Unit	Basic Rate as per SOR	Add Royalty	Final Rate With Royalty	
M-001	Bamboo (1st Class) 100 mm - 100 mm dia, 6.0 m -8.0 m long (per mtr.- 23.52 Rs.)	No.	188.00		188.00	
M-002	Bamboo (1st Class) 100 mm - 100 mm dia, 6.0 m -8.0 m long (per mtr.- 23.52 Rs.)	No.	188.00		188.00	
M-003	Bamboo (1st Class) 50 mm - 100 mm dia, 6.0 m -8.0 m long (per mtr.- 14.71 Rs.)	No.	118.00		118.00	
M-004	Bamboo (1st Class) 50 mm - 100 mm dia, 6.0 m -8.0 m long (per mtr.- 14.71 Rs.)	No.	118.00		118.00	
M-005	Bamboo (2nd Class) 75mm dia, 1.8 m - 6.0 m -8.0 m long (per mtr.- 22.03 Rs.)	No.	176.00		176.00	
M-006	Bamboo (2nd Class) 75mm dia, 6.0 m -8.0 m long (per mtr.- 22.03 Rs.)	No.	176.00		176.00	
M-007	Brick Bats	cum	1063.00	18.00	1081.00	
M-008	Selected earth (Including @ Rs. 33.00 per cum & compensation @ Rs. 2.25 Per Cum	cum	2.25	33.00	35.25	
M-009	Empty Cement Bag IS 11652:2000	Nos.	11.11		11.11	
M-010	Steel Drum 300 mm dia 1.2 m high / empty bitumen drum	Nos.	170.13		170.13	
M-011	Sand bags (Cost of sand and Empty cement bag)	Nos.	7.31	2.59	9.90	
M-012	Sutli (Brown)	kg	20.59		20.59	
M-013	Granular material (Natural occurring, soil gravel mixture / quarry waste, kankar, laterite, dhandla	cum	84.03	83.00	167.03	
M-014	Nails	kg	108.00		108.00	
M-014	RCC Pipe NP3 (1000 mm dia)	m	5787.23		5787.23	
M-015	RCC Pipe NP3 (600 mm dia)	m	2310.00		2310.00	
M-015	Sand (Fine) at source	cum	69.75	75.00	144.75	
M-016	Empty Steel Drum 300 mm dia 1.2 m height	Nos.	170.13		170.13	
M-016	Water	kl	60.30		60.30	
M-017	Geo Bags	Each	124.00		124.00	
M-018	G.S.B.	cum	69.75	75.00	144.75	

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar
effective from 01/04/2023.

**BASIC RATES
(C) USAGE RATES OF PLANT & MACHINERY**

Sr. No.	sor Code	Description of		Output of Machine		Usage Rates in Rs.	
		Machine	Activity	Unit	Output	Unit	Rate
PM-009	P&M-012	Crane upto 80 T	Lifting of materials			per hour	3,373.00
PM-010	P&M-015	Dozer D 80 - A12 Dozer D 50 - A15	Dozing cutting	cum h	260.00	per hour	2,997.00
PM-011				cum h	120.00		4,326.00
PM-014	P&M-017	Front end-loader 1 cum bucket capacity @ 45 cum hour	Loading Aggregates	cum h	45.00	per hour	1,119.00
PM-017	P&M-026	Hydraulic Excavator of 1cum bucket	Excavation	cum h	100.00	per hour	2,272.00
PM-031	P&M-044	Three wheel 80-100 kN Static Roller	Compaction Rolling			per hour	1,593.00
PM-032			Earth:- Embankment or sub- grade	cum h	80-70		1,593.00
PM-033			Sub-base G-I	cum h	10.00		1,593.00
PM-034			Sub-base G-II G-III	cum h	8.00		1,593.00
PM-035			WMM	cum h	16.00		1,593.00
PM-036			BUSG	cum h	10.00		1,593.00
PM-037			BM 50-75 mm	cum h	12.00		1,593.00
PM-038			Premix 20 mm	sqm h	250.00		1,593.00
PM-039			Seal Coat	sqm h	500.00		1,593.00
PM-040			Surface Dressing 1st Coat	sqm h	400.00		1,593.00
PM-041			Surface Dressing 2nd Coat	sqm h	500.00		1,593.00
PM-042	P&M-048	Tipper 5.5 cum/10 t	Carriage	cum/trip	5.50	per hour	1,426.00
PM-043	P&M-053	Tractor with Disc Harrows	Pulverisation of soil	cum h	80.00	per hour	693.00
PM-044	P&M-055	Tractor with ripper @ 60 cum per hour	Ripping Pavements, uprooting trees	cum h	60.00	per hour	697.00
PM-045	P&M-053	Tractor with trolley with Grading equipment	Transportation of materials	t trip	3 to 5	per hour	676.00
PM-046	P&M-054	Tractor with Rotavator	Scarifier	cum h	25.00	per hour	693.00
PM-047	P&M-057	Truck 10 t capacity	Carriage	cum/trip	3.50	per hour	1,054.00
PM-048	P&M-059	Vibratory roller 80-100 kN	Compaction of soil WMM	cum h	100.00	per hour	2,053.00
PM-049			Compaction of BM	cum h	60.00		2,053.00
PM-050	P&M-060	Water tanker 6 kl capacity (Truck Mounted)	Carriage of water	litre h	12000.00	per hour	752.00
PM-063	P&M-060	generator 3KVA	stiching	per hour		per hour	74.00
PM-064	P&M-060	stiching machine	stiching	day		day	50.00

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar effective from 01/04/2023.

SUMMARY OF CARRIGE COST

Sl. No.	Item	Unit	Amount (Rs.)
1	Earth Work	Cum	274.42
2	Brick Bats	Cum	521.97
3	Bamboo	Per Mtr.	3.00
4	G.S.B.	Cum	2960.13
5	Local Sand	Cum	345.14
6	HUME PIPE (1000 mm DIA)	Per Pipe	745.93
7	HUME PIPE PIR METER	Per Mtr.	298.37
8	HUME PIPE (600 mm DIA)	Per Pipe	310.88
9	HUME PIPE (600 mm DIA)	Per Mtr.	124.35
10	Local Sand	Cum	345.10

Sl	No	Item	Unit	Source	Pucka / Surface										Katcha										Loadi	ng & Road	Carriage by	Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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R.W.D. Works Section
Junior Engineer

Assit. Engineer
R.W.D. Works Sub - Division,

Executive Engineer
R.W.D. Works

SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	QTY	Rate	Amount In Rs
1						
4.4		Carriage Of Material (By Tractor)				
		Loading and unloading of Stone Boulder /Stone aggregates sand/ kankar/ mortar				
		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 = 2.25 cum				
		Time required for				
	i)	positioning of tractor at loading point	min	1 min		
	ii)	loading by front end loader 1 cum bucket capacity @ 25 cum	min	5 min		
		Total		6 min		
	a)	Labour				
		Mate	day	0.030	397.00	11.91
		Mazdoor (Unskilled)	day	0.720	373.00	268.56
	b)	Machinery				
		Tractor 3.60 Tonnes Capacity	hour	0.100	676.00	67.60
		Front end loader 1 cum bucket capacity @ 25 Cum/hour	hour	0.083	1,419.00	117.78
		Cost for 2.25 cum = a+b+c				465.05
		Rate per cum = (a+b+c)/2.25	cum			207.044
		Total per cum	cum			207.044
1.10		Haulage excluding Loading & Unloading				
		Haulage of materials by truck excluding cost of Loading, Unloading and stacking				
		Unit = 7km				
		Taking output 3.6t load and lead 10km = 36t/km				
		Case - I : Surfaced Road				
		Speed with load : 15km per hour				
		Speed while returning empty : 25km per hour				
	a)	Machinery				
		Tractor 3.6 tonnes Capacity	hour	0.667	676.00	450.89
		Haulage with load	hour	0.400	676.00	270.40
		Empty return trip				721.29
		Cost for 36t/km = a+b+c				20.040
		Cost for 1 t km = a+b/36				20.040
		Total per t per km				
		Case - II Kutcha Track and Track in River Bed / Nullah Bed and Choe Bed				
		Speed with load : 10km per hour				
		Speed while returning empty : 15km per hour				
	a)	Machinery				
		Tractor 3.6 tonnes Capacity	hour	1.00	676.00	676.00
		Haulage with load	hour	0.667	676.00	450.89
		Empty return trip				1126.89
		Cost for 36t/km = a+b+c				31.300
		Cost for 1 t km = a+b/36				31.300
		Total per t per km				
2		Carriage Of Material (By Tipper)				
		Loading and Unloading Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Manual Means				
1.1		Loading of lime, Aggregates, Stone boulder, Brick aggregate, Kankar, Building Rubbish, Crushed Slag Stone for masonry work by manual means including a lead upto 30m				
	(1)	Unit = cum				
		Taking output = 5.5 cum				
		Time required for				
	i)	Position of tipper at loading point	1Min			
	ii)	loading by front end loader 1 cum bucket capacity @25	13Min			
	iii)	maneuvering, reversing, dumping and turning for return	2Min			
	iv)	Waiting time unforeseen contingencies etc.	4Min			
		Total		20Min		
	b)	Machinery	hour	0.330	1,426.00	470.58
		Tipper 5.5 Tonnes Capacity	hour	0.330	1,419.00	468.27
		Front end loader 1 cum bucket capacity @ 25 Cum/hour				938.85
		Cost for 5.5 cum = a+b+c				

			Rate per cum = (a+b+c)/5.5			
			Total per cum			
1.10			cum			170.70
			cum			170.700
			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	1426.00	570.40
			hour	0.29	1426.00	413.54
			Cost for 100t km = a-b-c			
			Cost for 1 t km = a+b/100			
			Total per t per km			
			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			
			hour	1.00	1426.00	1426.00
			hour	0.67	1426.00	955.42
			Cost for 100t km = a-b			
			Cost for 1 t km = a+b+c/100			
			Total per t per km			
3			Carriage Of Material (By Truck)			
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			
			Truck			
			hour	0.40	1054.00	421.60
			hour	0.29	1054.00	305.66
			Haulage with load			
			hour	0.29	1054.00	727.26
			Empty return trip			
			Cost for 100t km = a-b-c			
			Cost for 1 t km = a+b/100			
			Total per t per km			
			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			
			hour	1.00	1054.00	1054.00
			hour	0.67	1054.00	706.18
			Haulage with load			
			hour	0.67	1054.00	1760.18
			Empty return trip			
			Cost for 100t km = a-b			
			Cost for 1 t km = a+b+c/100			
			Total per t per km			
1.9			Loading and Unloading of Hume Pipes			
	(f)		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			
			day	0.02	397.00	7.94
			day	0.50	373.00	186.50
			Mate			
			Mazdoor (Unskilled)			
	b)		Machinery			
			hour	0.33	1054.00	347.82
			hour	0.33	5573.00	1839.09
			Truck			
			Crane			
			Cost for 9 pipes = a+b+c+d			

		Rate per pipe = (a+b+c)/9	per p	264.594
		Total per pipe		264.594
C.		600/450 mm dia Hume pipe		
		Unit = per pipe		
		Taking output = 21 pipe		
a)		Labour		
		Mate	day	7.94
		Mazdoor (Unskilled)	day	186.50
b)		Machinery		
		Tractor 3.60 Tonnes Capacity	hour	347.82
		Crane	hour	1839.09
		Cost for 21 pipes = a+b+c+d		2301.35
		Rate per pipe = (a+b+c)/21	per p	113.398
		Total per pipe		113.398
(iii)		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	7.94
		Mazdoor (Unskilled)	day	186.50
b)		Machinery		
		Truck	hour	210.80
		Crane	hour	1114.60
		Cost for 9 pipes = a+b+c+d		1519.84
		Rate per pipe = (a+b+c)/9	per p	168.871
		Total per pipe		168.871
C.		600/450 mm dia Hume pipe		
		Unit = per pipe		
		Taking output = 21 pipes		
a)		Labour		
		Mate	day	7.94
		Mazdoor (Unskilled)	day	186.50
b)		Machinery		
		Truck	hour	210.80
		Crane	hour	1114.60
		Cost for 21 pipes = a+b+c+d		1519.84
		Rate per pipe = (a+b+c)/21	per p	72.373
		Total per pipe		72.373
1.9		Loading and Unloading of Bamboo		
(i)		Loading & unloading Bamboo		
		Unit = per metre		
		Taking output = per mtr.	per pipe	6.72
a)		Material	par mt	0.96
		Bamboo -2016/300		0.960
		Bamboo Per Mt.		
		Total per m		
3.3	301.5	Construction of Embankment with material obtained from roadway cutting		
		Construction of Embankment with approved material deposit at site from roadway cutting and excavation from drain and foundation of other structure graded and compacted to meet requirement of Table 300.1 and 300.2 as per Technical Specification Clause 301.5.		
		Unit = cum		
		Taking output = 100 cum		
a)		Labour	day	7.94
		Mate	day	186.50
		Mazdoor (Unskilled)	hour	0.00
b)		Machinery	hour	1.394.00
		Dozer D-50 for spreading @200 cum per hour	hour	1.504.00
		Motor Grader for grading @200 Cum per hour	hour	1.991.25
		Water tanker 6 kl capacity	hour	1593.00
		Three Wheel 80-100 kN Static Roller	kl	723.60
c)		Material		5807.29
		Water		
		Cost for 100 cum = a+b+c+d+e		

5	3.5	(ii)	301.5	Rate per cum = $(a+b+c+d)/100$ Total per cum					58.073
				Excavation in soil with Dozer with lead upto 100 m					58.073
				Excavation for roadway in soil by mechanical means including cutting and pushing the earth to site of embankment upto a distance of 100 m, including trimming bottom and side slopes in accordance with requirements of lines, grades and cross-sections.					
				Unit = cum					
				Taking output = 100 cum					
		a)		Labour					
				Mate					
				Mazdoor (Unskilled)					
		b)		Machinery	day	0.08	397.00	31.60	
				Dozer D-50 for spreading @200 cum per hour	day	2.00	373.00	822.00	
				Cost for 100 cum = $a+b+c+d+e$	hour	3.60	4326.00	15,573.60	
				Rate per cum = $(a+b+c+d)/180$				16427.20	
				Total per cum	cum			91.262	
				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 Table 300.1 and 300.2 with a lead of 1000 m as per Technical	cum			91.260	
6	3.3		301.5	Unit = cum					
				Rate item no. 3.3 Clause 301.5					58.073
				Rate item no. 3.5(ii) Clause 301.5					91.260
				Royalty Compensation for earth taken from private land					35.250
				Carriage of Earth by Tractor Lead 1 K.M.					274.420
				Total Cost of 1 cum =					459.003
				Labour Cess @ 1%					4.590
				G.S.T. @ 18%					82.621
				Add Seigniorage Fee @ 10 % of Materials					35.25
				Total Cost of 1 cum 1% Cess & 18 % GST =	cum	1.00			549.743
7	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 = 2.83 cum					
		a)		Labour	day	2.170	373.00	809.41	
				Mazdoor (Unskilled)					
		b)		Material	cum	3.396	1,081.00	3671.08	
				Brick Bats				4480.49	
				Total (a+b) =				4480.49	
				Total (a+b+c) =				4480.49	
				Carriage	cum	3.396	521.97	1772.61	
		d)		Brick Bats				6253.10	
				TOTAL	cum			2209.576	
				Rate per cum = $(a+b+c+d)/2.83$	cum			2209.576	
				Total per cum				22.096	
				Labour Cess @ 1%				397.724	
				G.S.T. @ 18%				129.72	
				Add Seigniorage Fee @ 10 % of Materials					
				Total Cost of 1 cum 1% Cess & 18 % GST =	cum	1.20	1,081.00	2,759.115	
8	4.1		401	PAVEMENT CRUST LAYERS					
				For Grading II Material					
				Unit = cum					
				Taking output = 300 cum					
		a)		Labour	day	0.48	397.00	190.56	
				Mate	day	2.00	472.00	944.00	
				Mazdoor (Skilled)	day	10.00	373.00	3730.00	
				Mazdoor (Unskilled)					

	b)	Machinery				4864.56
		Tractor mounted grader arrangement	hour	12.00	676.00	8112.00
		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	693.00	8316.00
		Water tanker 6 kl capacity	hour	5.00	752.00	3760.00
	c)	Material				67978.00
		Well graded granular sub-base material as per Table 400.1				
		G.S.B.	cum	1.28	167.03	213.80
		Cost of 300 cum without Carriage = (a+b+c+d+e)				73056.36
		A) Basic Cost per cum = (a+b+c+d+e)/300	cum			243.521
		CARRIAGE				
		G.S.B.	Cum	414.00	2960.13	1225493.82
		Carriage cost of 300 cum				1225493.82
		B) Carriage cost per cum				4084.98
		Rate per cum = (A+B)	CUM			4328.501
		Total per cum	CUM			4328.501
		Labour Cess @ 1%				43.285
		G.S.T. @ 18%				779.130
		Add Seigniorage Fee @ 10 % of Materials	cum	1.28	167.03	21.38
		Total Cost of 1 cum 1% Cess & 18 % GST =				5,172.296
9.3	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.				
	B.	1000 MM DIA (Single Row)				
	a)	Material	m	7.50	5787.23	43404.23
		RCC NP3 pipe including collar				
	b)	Labour	day	0.09	397.00	35.73
		Mate	day	0.25	503.00	125.75
		Mason (1st class)	day	2.00	373.00	746.00
		Mazdoor (Unskilled)				44311.71
		Cost for 7.5m = (a+b+c)	m			5908.23
		A) Basic Cost per m = (a+b)/7.5				5908.23
		Rate per m of Pipe				
	(d)	CARRIAGE COST	m	7.5	298.37	2237.78
		NP3 Pipe				2237.78
		Carriage cost of 7.5 m	m			298.37
		Carriage cost per m	m			6,206.598
		Rate per m with Carriage	m			6,206.598
		Total per m				62.066
		Labour Cess @ 1%				1,117.188
		G.S.T. @ 18%				7,385.852
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				
	C.	600 MM DIA (Single Row)				
	a)	Material	m	7.50	2310.00	17325.00
		RCC NP3 pipe including collar				
	b)	Labour	day	0.04	397.00	15.88
		Mate	day	0.12	503.00	60.36
		Mason (1st class)	day	0.96	373.00	358.08
		Mazdoor (Unskilled)				17759.32
		Cost of 7.5m = (a+b+c+d)	m			2367.91
		A) Basic Cost per m = (a+b)/7.5				2367.91
		Rate per m of Pipe				
		CARRIAGE COST	m	7.5	124.35	932.63
		NP3 Pipe				932.63
		Carriage cost of 7.5 m	m			124.35
		B) Carriage cost per m	m			2,492.260
		Rate per m with Carriage	m			2,492.260
		Total per m				24.923
		Labour Cess @ 1%				448.607
		G.S.T. @ 18%				2,965.789
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				
3	5.7.40.1	Labour for filling empty cement bags with local sand, stitching the bags and placing including supply of suttu etc. all complete as per approved design, specification and direction E/I.				

		Unit = Per % Nos.				
		(A) For Filling & Stitching & Stacking				
		Labour				
		Skilled Labour for filling sand into bags and sewing	No.	2.00	472.00	944.00
		sutali	kg	0.50	20.59	10.30
		(B) Labour Rate For Carrying & Placing filled E.C. Bags.				
		Labour				
		Skilled Labour for Carrying filed bags and placing to work site	No.	3.00	472.00	1416.00
		TOTAL =				2370.30
		Per % Nos. (B) =			Say.	2370.30
		Rate per bag (A+B) = /100				23.70
		(C) Cost of empty cement bag & cost of sand	each			11.11
		(D) Carriage cost				
		Tractor with trolly	cum	0.034	345.14	11.73
		(G) Total = (A+B+C+D) =				46.55
		Labour Cess @ 1%				0.465
		G.S.T. @ 18%				8.379
		Add Seigniorage Fee @ 10 % of Materials	cum	0.034	144.75	0.49
		Total Cost of 1 E.C.Bag 1% Cess & 18 % GST =				55.882
4	5.7.9	Supply Labour for fitting and fixing 62 mm to 75 mm dia bamboo runners in position at every verticle pile with 150 mm long nails or 38 swg G. I. wire including cost of G.I. or nails complete job as per specification and direction				
		Unit = Per mt.				
		Taking Out Put = 30.50 m				
	(i)	Materials	m	30.50	20.21	616.41
		Bamboo	kg	0.50	108.00	54.00
		Nails				
	(ii)	Labour	No.	0.125	531.00	66.38
		Carpenter Gr-II	No.	0.25	373.00	93.25
		Unskilled Labour				830.04
		Rate for 30.5 m				830.04
		TOTAL =				27.21
		Rate per mt				
	(iii)	Carriage cost	mt	1	3.00	3
		bamboo				30.21
		Total Cost with Carriage				0.302
		Labour Cess @ 1%				5.439
		G.S.T. @ 18%				35.955
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				
5	5.7.7	Labour for cutting 62 mm to 75 mm dia bamboo piles in size and making shoes and driving etc. complete bob as per specification and direction E/I.				
		Unit = Per mt.				
		Taking Out Put = 30.50 m				
		Assurning				
		20 no pile sunk 1.525 m deeps				
		Total depth sunk 30.50 m				
	(I)	Materials	m	30.50	20.21	616.41
		Bamboo	No.	0.25	531.00	132.75
	(i)	Labour	No.	2.50	373.00	932.5
		Carpenter Gr-II				1681.66
		Unskilled Labour for piling				1681.66
		Rate for 30.5 m				55.14
		Total	per mtr.			3.00
		Rate for 1 m				58.14
		Carriage Cost of Bamboo				0.581
		Total Cost with Carriage				10.465
		Labour Cess @ 1%				69.182
		G.S.T. @ 18%				
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				

6		Labour for fitting and and fixing Steel Drum 300 mm dia 1.2 m high as per specification and direction				
		(Assuming Per Mtr. = $3.14 \times 0.30 = 0.942$ mtr.)				
		Area of Assuming in one Drum = $0.942 \times 1.20 = 1.130$ Sqm				
		One Sqm sheet Cost = $127.80 / 1.130 = 113.12$ Cost				
		Unit = per sqm				
		Taking Out = 100 sqm				
	a	Labour				
		Hammer man				
		Mazdoor (Unskilled)				
		Carpenter 1st Class	No.	4.00	531.00	2124.00
	b	Materials	No.	4.00	373.00	1492.00
		Nails	No.	4.00	503.00	2012.00
		Steel Drum sheet	kg	5.00	170.13	850.65
			Nos.	88.5	170.13	15056.51
		Rate Per m = $(a+b+c)/100$				21535.160
		Labour Cess @ 1%				215.352
		G.S.T. @ 18%				2.154
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				38.763
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.				256.268
		(Assuming strip of $3.05 \times 3.05 = 9.30$ sqm				
		Unit = per sqm				
		Taking Out = 9.30 sqm				
	a	Labour				
		Carpenter Gr -II	No.	1.00	531.00	531.00
		Mazdoor (Unskilled) for pilling	No.	1.00	373.00	373.00
	b	Materials				
		Bamboo	Mtr.	10.00	188.00	1880.00
		Nails	kg	0.25	108.00	27.00
						2811.000
		Rate Per m = $(a+b+c)/9.30$				302.258
		Labour Cess @ 1%				3.023
		G.S.T. @ 18%				54.406
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				359.687
5.7.50		Providing laying & filling Geo bags of size 1m X 0.700m (Type A) 300 GSM nonwoven weight 420 gm volume of filled bag 0.070 cum Weight of filled Geo bag 126 kg with local sand including stitching in four lines by approved Ntton thread with Staching machine and generator, stacking and placing after loading, Unloading and carriage with the help of Trolly within 150 mtr. lead and all complete as per specification and direction of E/I.				
		Unit = Each Bag				
		Taking Out = 40 Nso.				
		Labour				
		Unskilled Loading For filling stacking	nos	2	373.00	746.00
		Skilled labour for stacking	nos	0.33	472.00	155.76
		Unskild labour for carring and placing	nos	4.00	373.00	1492.00
		Mate	nos	0.25	397.00	99.25
		Stiching Machine	day	0.33	50.00	16.50
		Tractor with trolley	day	1.00	676.00	676.00
		Generator 3KVA	hrs	20.67	74.00	1529.58
		Total				4715.09
		Rate per bag (total/40) (A)				117.88
	(ii)	charge for placing & dumping	nos	16	373.00	6320.00
		unskilled labour for loading unloading & dumping	nos	1	397.00	419.00
		Mate	each	4	676.00	2704.00
		Tractor with trolley				9,443.000
		Total				36.887
		Rate per bag (Total/256) (B)				
		Matroiols	each	1	124.00	124.00
		cost of Geo Bag				
		Total cost (a+b+c)				278.764

		Rate per bag				270.764
		Labour Cess @ 1%				2.788
		G.S.T. @ 18%				50.170
		Add Seigniorage Fee @ 10 % of Materials	cum	0.070	144.75	1.01
		Total Cost of 1 Geo Bag 1% Cess & 10 % GST =				332.739
5.7.40.3		Labour for filling empty cement bags with local sand, stitching the bags and pitching in Nylon crate of size (1m x 1m x 1m) with a lead of 150 m including supply of sutl etc. and placing the filed crates in water portion within a lead 30 m all complete as per approved design, specification and direction of E/I.				
		Unit = Each N.C.				
	(i)	(i) Labour Cost for filling bags in one Nylon crate in dry portion	No.	1	472.00	411.00
	(ii)	(i) Labour Cost for filling bags in one Nylon crate in dry portion	No.	1	472.00	611.00
		(ii) Placing of filed N/C with 30 m lead in water portion				
		Labour	No.	0.37	397.00	146.89
		Mate	No.	1.00	472.00	472.00
		Labour (Skilled)	No.	1.00	373.00	373.00
		Labour (Unskilled)				2013.89
						2013.89
		Hence, Total Labour for 100 Cft.				
		Taking one E.C. Bags to contain 1.20 Cft. Of sand		356.49		356.49
		Hence, labour rate for placing one filed N.C.			Say.	967.49
	(ii)	Hence rate for mupm crate on water portion (I+II)				9.675
		Labour Cess @ 1%				174.148
		G.S.T. @ 18%	cum	0.034	144.75	0.49
		Add Seigniorage Fee @ 10 % of Materials				1.151.803
		Total Cost of 1 E.C. 1% Cess & 18 % GST =				
		local sand Filling in foundation trenches as per drawing and technical specification Clause 305.3.9				
(1)	800	local sand Filling in foundation trenches as per drawing and technical specification Clause 305.3.9				
		I. Sand filling				
		Unit = cum				3.97
	a)	Labour	day	0.01	397.00	111.90
		Mate	day	0.30	373.00	
		Mazdoor (Unskilled)				173.70
	b)	Material	cum	1.20	144.75	17.37
		Sand (assuming 20 per cent voids)				306.94
		Overheads @ 6 % on (a)				
		CARRIAGE COST				
		sand	Cum	1.2	345.14	414.17
						721.11
		Rate per cum = a+b+c				129.80
		Total Cost including 1 % LABOUR CESS				0.49
		G.S.T. @ 18%				
		Add Seigniorage Fee @ 10 % of Materials				
		Total Cost of 1 E.C. 1% Cess & 18 % GST =				1272.78