

RURAL WORKS DEPARTMENT



GOVERNMENT OF BIHAR

NAME OF ROAD:- **ASHURI GHAT TO BHALUA**

DIVISION:- **R.W.D, WORKS DIVISION, FORBESGANJ**

CIRCLE:- **R.W.D, WORK CIRCLE, KISHANGANJ**

BLOCK:- **FORBESGANJ**

ESTIMATED COST

3835500.00

प्रतिवेदन

पथ का नाम :- ~~Ashuri to ghat to Bhalua~~

कार्य का नाम :- F.D.R-2024-25

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

संलग्न प्राक्कलन 2024 को प्रखण्ड में आयी भीषण बाढ़ से क्षतिग्रस्त ~~Ashuri to ghat to Bhalua~~
..... में बाढ़ क्षतिग्रस्त मरम्मति मद से यातायात चालू करने हेतु तैयार किया गया है जिसकी
प्राक्कलित लागत 3835500 = 00 है। उक्त पथ
का निर्माण ~~mmbuy~~ योनान्तर्गत हुआ है एवं योजना अनुरक्षण अवधि में ~~8~~।
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।

कनीय अभियंता,
ग्रामीण कार्य विभाग,
कार्य प्रशाखा, Forbesganj

सहायक अभियंता,
ग्रामीण कार्य विभाग,
कार्य अवर प्रमण्डल, Forbesganj

कार्यपालक अभियंता,
ग्रामीण कार्य विभाग,
कार्य प्रमण्डल, Forbesganj

Inspection Report for Flood Damage Work

Date:-.....

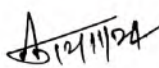
- 1.Name of PIUs:- E.E Forbesganj
2.Name of Block:- Forbesganj
3.Name of Road:- Ashuoi ghat to Bhalua

A. For Road

- 1.Damage Location/Chainage :- 350m, 500m, 100m
2.Damage Length :- 153.00 m
3.Nature of Damage :- wash out
4.Details of Restoration Works:-
(i.)Material being used in Restoration Works:-
(ii.)Equipments/Tools being used in Restoration works:-
(iii.)Procedure taken up in Restoration works:-
(iv.)Restored Length :- 153.00m

B. For Bridge

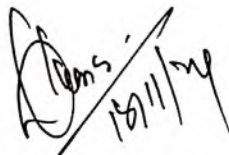
1. Damage Location/Chainage:-
2.Damage Length :-
3.Nature of Damage :-
4.Details of Restoration Works:-
(i.)Material being used in Restoration Works:-
(ii.)Equipments/Tools being used in Restoration works:-
(iii.)Procedure taken up in Restoration works:-
(iv.)Restored Length :


Signature of JE/AE/EE


Signature


Signature

(Name of Inspector)


Signature

Abstract of Cost

Name of Work : Estimate for Repairing/Restoration/Making Motorable Roads
Damaged during flood in 2024 in ARARIA District

Name of Road:

ASHURI GHAT TO BHALUA

Block: FORBESGANJ

District: ARARIA

Divison : RWD, Works Division, FORBESGANJ

Circle: RWD, Work Circle, KISHANGANJ

Sl No.	Description	Unit	Quantity (m3)	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.				
		Cum	2107.35	1287.25	2712682.00
2	Labour for cutting 62mm 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.				
		Mtr.	3000.00	72.518	217554.00
3	Labour for fitting & fixing 62mm to 75mm 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.				
		Mtr.	750.00	36.179	27134.25

Detailed Estimate

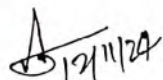
ame of Road:

ASHURI GHAT TO BHALUA

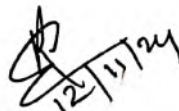
No.	Items of Works	Nos.	L (m)	B (m)	D (m) IN (Av.)	Quantity (m3)
1	Filling of local sand obtained from river bed, watering & ramming, all complete job as per specification & direction of Engineer-in-charge.					
	CH-350 M	1	10	5.10	(4.90+5.40+4.50) /3	251.60
		1	34	1.00	2.00	68.00
	CH-500 M	1	43	5.00	(3.90+4.40+3.50) /3	845.67
	CH-1000M	1	46	(4.50+4.80+5.10) /3	(3.90+4.40+4.50) /3	942.08
					TOTAL=	2107.35
					Total Qty =	2107.35
	Labour for cutting 62mm 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.					
		2	125.00	3.00	4.00	3000.00
					Total Qty =	3000.00
3	Labour for fitting & fixing 62mm to 75mm 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.					
		2	125.00	3.00		750.00
					Total Qty =	750.00
4	Supplying of EC bag, filling of local sand, stitching and placing in position as per the direction of Engineer-in-charge.					



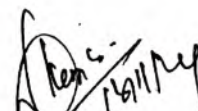
CH-500 M	1	11.00	0.45	$(0.150+0.40)/2$	1.36
	1	7.00	0.50	$(0.40+1.00)/2$	2.45
	1	9.60	0.50	$(1.00+0.50)/2$	3.60
	1	13.60	0.50	$(0.150+0.40)/2$	1.87
	1	13.00	0.50	$(0.40+1.00)/2$	4.55
	1	12.00	0.50	$(1.00+0.50)/2$	4.50
	1	8.00	0.50	$(0.150+0.40)/2$	1.10
	1	4.80	0.50	$(0.40+1.00)/2$	1.68
	1	15.50	0.50	$(1.00+0.50)/2$	5.81
	1	12.80	0.50	$(0.150+0.40)/2$	1.76
	1	43.00	0.50	$(0.40+1.00)/2$	15.05
	1	34.00	0.50	$(1.00+0.50)/2$	12.75
	1	30.00	0.50	$(0.150+0.40)/2$	4.13
				TOTAL=	60.61
Total No. of EC Bags $= (60.61 \times 35.315)$					2140.40
SAY NO OF BAGE=					2140
Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.					
	1	10	4.00	0.60	24.00
	1	34	1.00	0.30	10.20
	1	43	4.50	0.60	116.10
	1	46	4.20	0.60	115.92
Total Qty. =					266.22
Providing of drone service and drone surveying as per I/E					
	1	3.0			3.00
				TOTAL=	3.00


JE

RWD SUB DIV- FORBESGANJ

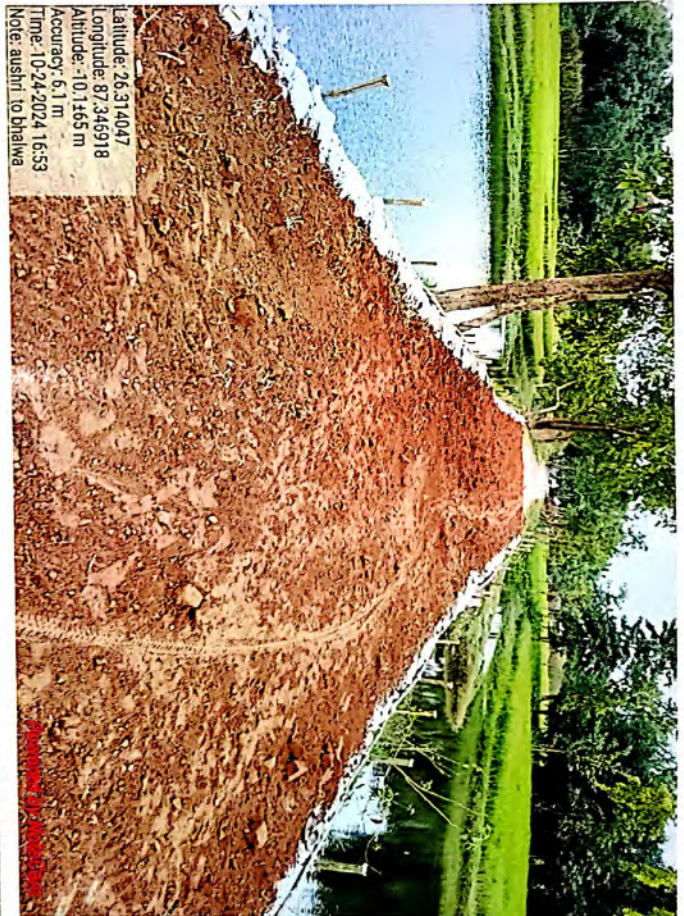

AE

RWD SUB DIV. FORBESGANJ


EE

RWD WORKS DIV. FORBESGANJ

ROAD NAME AUSHRI TO BHALWA



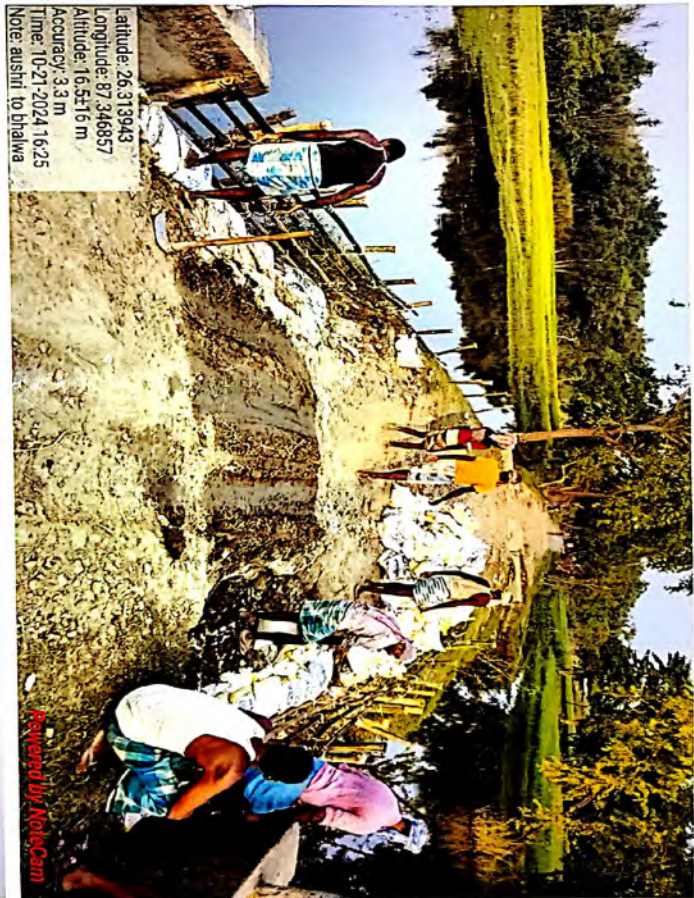
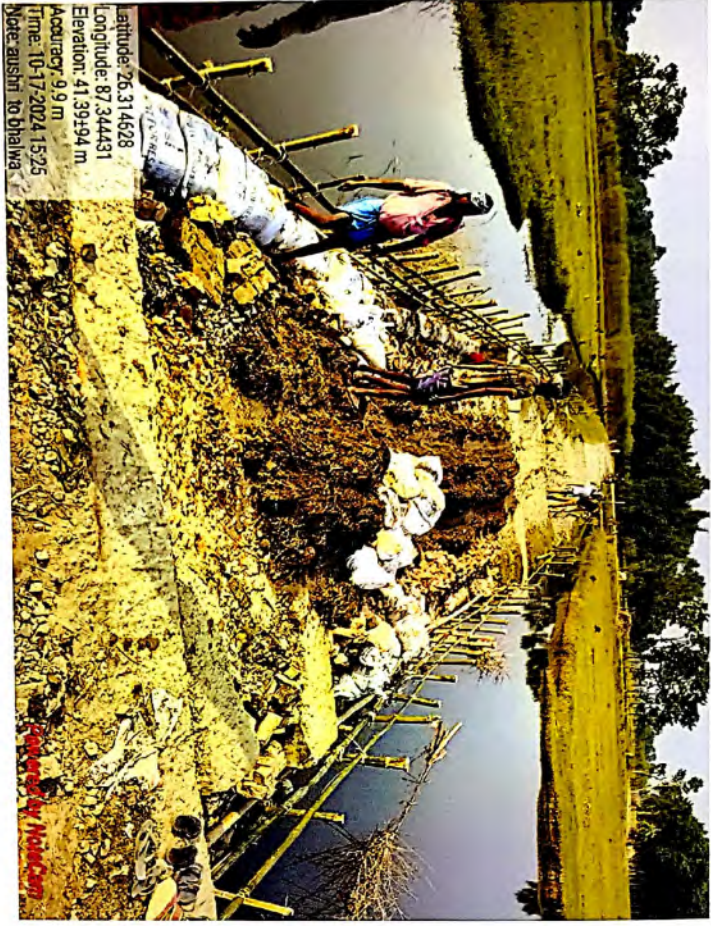
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ROAD NAME AUSHRI TO BHALWA



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ROAD NAME AUSHRI TO BHALWA

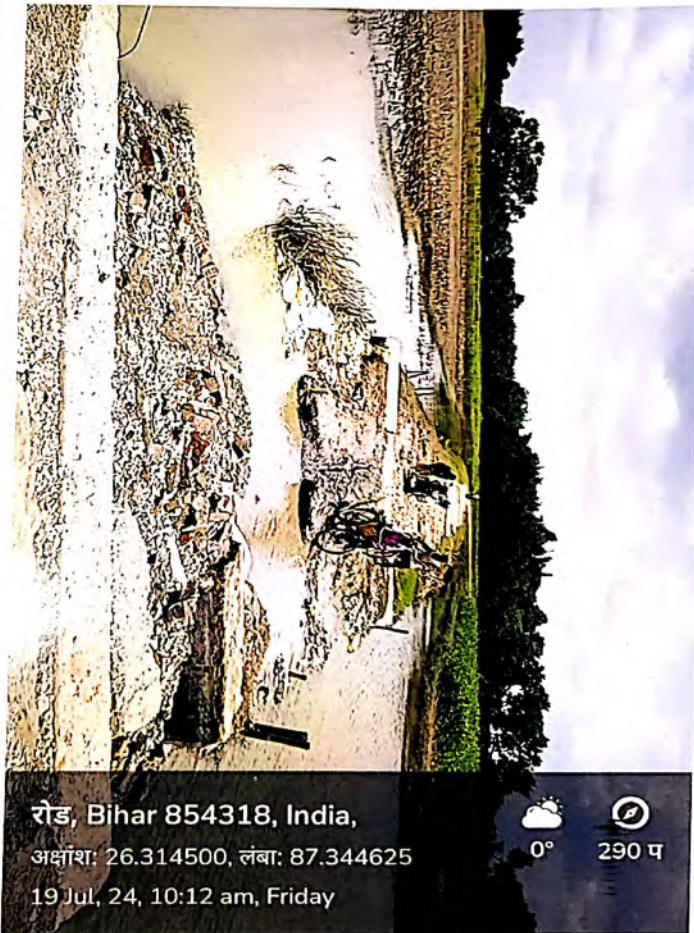


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ROAD NAME AUSHRI TO BHALWA



रोड, Bihar 854318, India,

अक्षांश: 26.314500, लंबा: 87.344625

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FINAL RATE UNDER WORKS CIRCLE KISHANGANJ

S.No	Description of Item	Unit	Final Rate (Excluding GST, Seigniorage & L.Cess)	Final Rate (Including GST, Seigniorage & L.Cess)
1	EARTH WORK	CUM	459.003	549.740
2	BRICK BAT	CUM	2209.576	2759.115
3	G.S.B	CUM	4328.501	5172.300
4	SAND BAG (Cement Bag)	Each	46.550	55.880
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
12	EACH N.C. BAG WITH SAND (Cement Bag)	Each E.C	967.490	1151.800
13	LOCAL SAND	CUM	721.110	1272.780

Executive Engineer
RWD, Works Division
Kishanganj-1

Executive Engineer
RWD, Works Division
Araria

Executive Engineer
RWD, Works Division
Kishanganj-2

Executive Engineer
RWD, Works Division
Forbesganj

Superintending Engineer
Rural Works Department
Works Circle Kishanganj

SUMMARY OF CARRIGE COST

	Item	Unit	Amount (Rs.)
10-	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

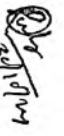
BASIC RATES
(A) Labour

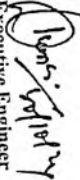
Sl. No.	Description of Labour	Unit	Rate (Rs.)
L-01	Bhisti	day	373
L-02	Bitumen Sprayer (semi skilled)	day	393
L-03	Blacksmith, special	day	503
L-04	Blaster, 2nd class	day	619
L-05	Carpenter 1st Class	day	503
L-06	Chips spreader, semi-skilled	day	449
L-07	Chiseller (Skilled)	day	577
L-08	Dresser (Skilled)	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	434
L-15	Mazdoor (Unskilled)	day	410
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	503
L-23	Welder 1st Class	day	577
	Carpenter Head	day	503
	Nigh Gurad	day	415

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar effective from 01/07/2024)


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Forbesganj

Superintending Engineer
Rural Works Department

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.- 23.52 Rs.)	No.	188.00		188.00
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.- 14.71 Rs.)	No.	118.00		118.00
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	No.	176.00		176.00
M-008	Selected earth (Including @ Rs. 33.00 per cum & compensation @ Rs. 2.25 Per Cum	cum	1063.00	18.00	1081.00
M-009	Empty Cement Bag IS 11652:2000	cum	2.25	33.00	35.25
M-010	Steel Drum 300 mm dia 1.2 m high / empty bitumen drum	Nos.	11.11		11.11
M-011	Sand bags (Cost of sand and Empty cement bag)	Nos.	170.13		170.13
M-012	Sutli (Brown)	kg	7.31	2.59	9.90
M-013	Granular material (Natural occurring, soil gravel mixture / quarry waste, kankar, laterite, dhanda)	cum	20.59		20.59
M-014	Nails	kg	84.03		167.03
M-014	RCC Pipe NP3 (1000 mm dia)	m	108.00		108.00
M-015	RCC Pipe NP3 (600 mm dia)	m	5787.23		5787.23
M-015	Sand (Fine) at source	cum	2310.00		2310.00
M-016	Empty Steel Drum 300 mm dia 1.2 m height	Nos.	69.75	75.00	144.75
M-016	Water	kl	170.13		170.13
M-017	Geo Bags	Each	60.30		60.30
M-017		cum	124.00		124.00
M-018	G.S.B.		69.75	75.00	144.75

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar)

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar)
effective from 01/07/2024.

Executive Engineer
RWD, Works Division
Kishanganj-1

Executive Engineer
RWD, Works Division
Aarica

Executive Engineer
RWD, Works Division
Kishanganj-2

Superintending Engineer
Rural Works Department
Works Circle Kishanganj

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

Sl. No.	P&M 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	1573.00
PM-010	P&M-013	Dozer D 80 - A12 Dozer D 50 - A15	Dozing cutting	cum/h	260.00	per hour	2997.00
PM-011	P&M-017	Front end-loader 1 cum bucket capacity (at 45 cum/hour)	Loading Aggregates	cum/h	45.00	per hour	2626.00
PM-014	P&M-026	Hydraulic Excavator of 1 cum bucket	Excavation	cum/h	100.00	per hour	2772.00
PM-017	P&M-044	Three wheel 80-100 kN Static Roller	Compaction/Rolling			per hour	1593.00
PM-031			Earth - Embankment or sub-grade	cum/h	80-70		1593.00
PM-032			Sub-base (I-I)	cum/h	10.00		1593.00
PM-033			Sub-base (I-I) (I-II)	cum/h	8.00		1593.00
PM-034			WBM	cum/h	16.00		1593.00
PM-035			BUSG	cum/h	10.00		1593.00
PM-036			BM 50-75 mm	cum/h	12.00		1593.00
PM-037			Pretix 20 mm	sqm/h	250.00		1593.00
PM-038			Seal Coat	sqm/h	500.00		1593.00
PM-039			Surface Dressing 1st Coat	sqm/h	400.00		1593.00
PM-040			Surface Dressing 2nd Coat	sqm/h	500.00		1593.00
PM-041			Carriage	cum/trip	5.50	per hour	1593.00
PM-042	P&M-048	Tipper 5.5 cum/10 t	Pulverisation of soil	cum/h	80.00	per hour	1593.00
PM-043	P&M-053	Tractor with Disc Harrows	Ripping Pavements, uprooting trees	cum/h	60.00	per hour	1593.00
PM-044	P&M-055	Tractor with ripper (a, 60 cum per hour)	Transportation of materials	trip	3 to 5	per hour	1593.00
PM-045	P&M-053	Tractor with trolley with Grading equipment	Scarifier	cum/h	25.00	per hour	1593.00
PM-046	P&M-054	Tractor with Rotavator	Carriage	cum/trip	5.50	per hour	1593.00
PM-047	P&M-057	Truck 10 t capacity	Compaction of soil WBM	cum/h	100.00	per hour	1593.00
PM-048	P&M-059	Vibratory roller 80-100 kN	Compaction of BM	cum/h	60.00	per hour	1593.00
PM-049			Carriage of water	litre/h	12000.00	per hour	1593.00
PM-050	P&M-060	Water tanker 6 kl capacity (Truck Mounted)	stitching	per hour		per hour	1593.00
PM-063	P&M-060	generator 3KVA	stitching machine	day		day	30.00
PM-064	P&M-060	stitching machine	stitching	day		day	30.00

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar effective from 01/07/2024.

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Comparison of carriage cost of Material via Road from different sources														
				Carriage Cost & Lead in Km										
Sl No	Item	Unit	Source	Pucka / Surface				Katcha				Loadi ng &	Carriage by Road	Total
1	By Tractor													
A	Earth Work Via Road	Cum	Local	3.60										
				2.04	× 20.04	× 0 Km	= Rs 0.00							
B	Brick Bat Via Road	Cum	Local	3.60										
				2.04	× 20.04	× 7 Km	= Rs 247.55							
B	Bamboo Via Road	pet mtr.	Local	3.60	× 20.04	× 2 Km	= Rs 1.15							
				126.00										
				3.60	× 20.04	× 2 Km	= Rs 70.73							
D	Local Sand Via Road	Cum	Local	2.04										
2	By Tipper													
A	GSB Via Road	Cum	Siliguri	8.00	× 9.83	× 177 Km	= Rs 2789.43							
				4.99										
3	By Truck													
A	Hume Pipe (1000 mm) Via Rod	Mtr.	purnea	8.00										
				10.00	× 7.27	× 53 Km	= Rs 308.25							
A1	Rate Per Mtr. Pipe	Mtr.	purnea											
B	Hume Pipe (600 mm) Via Road	Mtr.	purnea	8.00										
				25.00	× 7.27	× 53 Km	= Rs 123.30							
B1	Rate Per Mtr. Pipe	Mtr.	purnea											

loading & Unloading as per SO * Subjected to Verification of Lead

Cost of Haulage Excluding Loading & Unloading as per SO * Subjected to Verification of Lead

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RWD, Works Division
Kishanganj-1

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SDB SL No.	MORD Ref No.	DESCRIPTION	Unit	QTY	Rate	Amount in Rs
4.4		Carriage Of Material (By Tractor)				
		Loading and unloading of stone Boulder /stone aggregates sand/ kankar/ moorum				
		Placing tractor at loading point loading with front end loader dumpoing ,turning for return trip exluding 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	434.00	13.02
		Mazdoor (Unskilled)	day	0.720	410.00	295.20
		b) Machinery				
		Tractor 3.60 Tonnes Capcaity	hour	0.100	676.00	67.60
		Front end loader 1 cum buckert capacity @ 25 Cum/hour	hour	0.083	1,419.00	117.78
		Cost for 2.25 cum = a+b+c				493.60
		Rate per cum = (a+b+c)/2.25	cum			219.378
		Total per cum	cum			219.378
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				
		Haulage with load	hour	0.667	676.00	450.89
		Empty return trip	hour	0.400	676.00	270.40
		Cost for 36t/km = a+b+c				721.29
		Cost for 1 t km = a+b/36				20.040
		Total per 1 per km				20.040
		Case - II 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				
		Tractor 3.6 tonnes Capacity				
		Haulage with load	hour	1.00	676.00	676.00
		Empty return trip	hour	0.667	676.00	450.89
		Cost for 36t/km = a+b+c				1126.89
		Cost for 1 t km = a+b/36				31.300
		Total per 1 per km				31.300
2		Carriage Of Material (By Tipper)				
1.1		Loading and Unloading Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Manual Means				
		(i) 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				
		Unit = cum				
		Taking output = 5.5 cum				
		Time required for				
		(i) Position of tipper at laoding point				
		(ii) loading by front end loader 1 cum bucket capacity @25		1Min		
		(iii) maneuvering, reversing, dumping and turning for return		13Min		
		(iv) Waiting time unforeseen contingencies etc.		2Min		
		Total		4Min		
		b) Machinery		20Min		
		Tipper 5.5 Tonnes Capcaity	hour	0.330	1,426.00	470.58
		Front end loader 1 cum buckert capacity @ 25 Cum/hour	hour	0.330	1,419.00	468.27
		Cost for 5.5 cum = a+b+c				938.85

		Rate per cum = $(a+b+c)/5.5$	cum		170.70
		Total per cum			170.70
		Haulage excluding Loading & Unloading			
		Haulage of materials by truck excluding cost of Loading, Unloading and stacking			
		Unit = 1 km			
		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	hour	0.40	1426.00
		Haulage with load	hour	0.29	1426.00
		Empty return trip			983.94
		Cost for 100t km = $a+b+c$			9.830
		Cost for 1 t km = $a+b/100$			0.10
		Total per t per km			10.930
		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
		Haulage with load	hour	0.67	1426.00
		Empty return trip			2381.42
		Cost for 100t km = $a+b$			23.81
		Cost for 1 t km = $a+b+c/100$			0.24
		Total per t per km			24.05
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 = 1 km			
		Taking output 10t load and lead 10km = 100t / km			
		Case- I: Surfaced Road			
		Speed with load : 25km per hour			
		Speed while returning empty : 35km per hour			
	a)	Machinery			
		Truck			
		Haulage with load	hour	0.40	1054.00
		Empty return trip	hour	0.29	1054.00
		Cost for 100t km = $a+b+c$			727.26
		Cost for 1 t km = $a+b/100$			7.270
		Total per t per km			7.270
		Case - III Kutcha Track and Track in River Bed / Nallah Bed and Choe Bed			
		Speed with load : 10km per hour			
		Speed while returning empty : 15km per hour			
	a)	Machinery			
		Truck			
		Haulage with load	hour	1.00	1054.00
		Empty return trip	hour	0.67	1054.00
		Cost for 100t km = $a+b$			706.18
		Cost for 1 t km = $a+b+c/100$			1760.18
		Total per t per km			17.60
	1.9	Loading and Unloading of Hume Pipes			17.600
	(I)	Loading of RCC Hume pipes by mechanical means including a lead upto 30 m			
	A.	1000 / 1200 mm dia Hume pipe			
		Unit = per pipe			
		Taking output = 9 pipes			
	a)	Labour			
		Mate			
		Mazdoor (Unskilled)	day	0.02	434.00
	b)	Machinery	day	0.50	410.00
		Truck			205.00
		Crane	hour	0.33	1054.00
		Cost for 9 pipes = $a+b+c+d$	hour	0.33	5573.00
					1839.09
					2400.59

		Rate per pipe = (a+b+c)/9	per p		266.732
		Total per pipe			266.732
	C	600/450 mm dia Hume pipe			
		Unit = per pipe			
		Taking output = 21 pipe			
	a)	Labour			
		Mate	day	0.02	434.00
		Mazdoor (Unskilled)	day	0.50	410.00
	b)	Machinery			
		Tractor 3.60 Tonnes Capacity	hour	0.33	1054.00
		Crane	hour	0.33	5573.00
		Cost for 21 pipes = a+b+c+d			2400.59
		Rate per pipe = (a+b+c)/21	per p		114.314
		Total per pipe			114.314
	(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	0.02	434.00
		Mazdoor (Unskilled)	day	0.50	410.00
	b)	Machinery			
		Truck	hour	0.20	1054.00
		Crane	hour	0.20	5573.00
		Cost for 9 pipes = a+b+c+d			1539.08
		Rate per pipe = (a+b+c)/9	per p		171.009
		Total per pipe			171.009
	C	600/450 mm dia Hume pipe			
		Unit = per pipe			
		Taking output = 21 pipes			
	a)	Labour			
		Mate	day	0.020	434.00
		Mazdoor (Unskilled)	day	0.50	410.00
	b)	Machinery			
		Truck	hour	0.20	1054.00
		Crane	hour	0.20	5573.00
		Cost for 21 pipes = a+b+c+d			1539.08
		Rate per pipe = (a+b+c)/21	per p		73.290
		Total per pipe			73.290
1.9		Loading and Unloading of Bamboo			
	(i)	Loading & unloading Bamboo			
		Unit = per metre			
		Taking output = per mtr.			
	a)	Material			
		Bamboo = 2016/300	per pipe		6.72
		Bamboo Per Mt	per mt		0.96
		Total per m			0.960
4	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			
		Mate	day	0.02	434.00
		Mazdoor (Unskilled)	day	0.50	410.00
	b)	Machinery			
		Dozer D-50 for spreading @200 cum per hour	hour	0.50	0.00
		Motor Grader for grading @200 Cum per hour	hour	2.00	697.00
		Water tanker 6 kl capacity	hour	2.00	752.00
		Three Wheel 80-100 kN Static Roller	hour	1.25	1593.00
	c)	Material			
		Water	kl	12.00	60.30
		Cost for 100 cum = a+b+c+d+e			723.60
					5826.53

			Rate per cum = (a+b+c+d)/100			
			Total per cum	cum		58.265
3.5	301.5	Excavation in soil with Dozer with lead upto 100 m				
(i)	(ii)	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)	day	0.08	434.00	31.60
	b)	Machinery				
		Dozer D-50 for spreading @200 cum per hour	hour	3.60	4326.00	15,573.60
		Cost for 100 cum = a+b+c+d+e				16427.20
		Rate per cum = (a+b+c+d)/180	cum			91.262
		Total per cum	cum			91.262
6	3.3	301.5	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			
		Unit = cum				
		Rate Item no. 3.3 Clause 301.5				
		Rate Item no. 3.5(ii) Clause 301.5				
		Royalty Compensation for earth taken from private land				
		Carriage of Earth by Tractor Lead 1 K.M.				
		Total Cost of 1 cum =				
		Labour Cess @ 1%				
		G.S.T. @ 18%				
		Add Seigniorage Fee @ 10 % of Materials				
		Total Cost of 1 cum 1% Cess & 18% GST	cum	1.00	35.25	3.53
7	4.5		Providing and Laying of Brick Bats			
		Placing tractor at loading point loading with front end loader dump on, turning for return trip excluding time for haulage and return trip				
		Unit = cum				
		Taking output = 2.83 cum				
	a)	Labour				
		Mazdoor (Unskilled)				
	b)	Materials				
		Brick Bats	day	2.170	410.00	889.70
			cum	3.396	1,081.00	3671.08
		Total (a+b)=				4560.78
	d)	Carriage				
		Brick Bats				4560.78
		TOTAL	cum	3.396	521.97	1772.61
		Rate per cum = (a+b+c+d)/2.83				6333.39
		Total per cum	cum			2237.947
		Labour Cess @ 1%	cum			2237.947
		G.S.T. @ 18%				22.379
		Add Seigniorage Fee @ 10 % of Materials				402.830
		Total Cost of 1 cum 1% Cess & 18% GST	cum	1.20	1,081.00	129.72
8	4.1	401	PAVEMENT CRUST LAYERS			
		For Grading II Material				
		Construction of granular sub-base by providing well graded material, spreading in uniform layers with tractor mounted grader arrangement 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				
		Mazdoor (Skilled)	day	0.48	434.00	208.32
		Mazdoor (Unskilled)	day	2.00	472.00	944.00
			day	10.00	410.00	4100.00

		b)	Machinery				5252.32
			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				
			GSB	cum	1.28	167.03	213.80
			Cost of 300 cum without Carriage = (a+b+c+d+e)				73444.12
			A) Basic Cost per cum = (a+b+c+d+e)/300	cum			244.814
			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			4329.794
			Total per cum	CUM			4329.794
			Labour Cess @ 1%				43.298
			G.S.T. @ 18%				779.363
			Add Seigniorage Fee @ 10 % of Materials	cum	1.28	167.03	21.38
			Total Cost of 1 cum including 1% Cess & 18% GST				5173.835
9	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				
			RCC NP3 pipe including collar	m	7.50	5787.23	43404.23
		b)	Labour				
			Mate	day	0.09	434.00	39.06
			Mason (1st class)	day	0.25	503.00	125.75
			Mazdoor (Unskilled)	day	2.00	410.00	820.00
			Cost for 7.5m = (a+b+c)				44389.04
			A) Basic Cost per m = (a+b)/7.5	m			5918.54
			Rate per m of Pipe				5918.54
		(d)	CARRIAGE COST				
			NP3 Pipe	m	7.5	298.37	2237.78
			Carriage cost of 7.5 m				2237.78
			Carriage cost per m	m			298.37
			Rate per m with Carriage	m			6216.909
			Total per m	m			6216.909
			Labour Cess @ 1%				62.169
			G.S.T. @ 18%				1119.044
			Total Cost of 1 m including 1% Cess & 18% GST				17398.121
2		C.	600 MM DIA (Single Row)				
		a)	Material				
			RCC NP3 pipe including collar	m	7.50	2310.00	17325.00
		b)	Labour				
			Mate	day	0.04	434.00	17.36
			Mason (1st class)	day	0.12	503.00	60.36
			Mazdoor (Unskilled)	day	0.96	410.00	393.60
			Cost of 7.5m = (a+b+c+d)				17796.32
			A) Basic Cost per m = (a+b)/7.5	m			2372.84
			Rate per m of Pipe				2372.84
			CARRIAGE COST				
			NP3 Pipe	m	7.5	124.35	932.63
			Carriage cost of 7.5 m				932.63
			B) Carriage cost per m	m			124.35
			Rate per m with Carriage	m			2497.193
			Total per m	m			2497.193
			Labour Cess @ 1%				24.972
			G.S.T. @ 18%				449.495
			Total Cost of 1 m including 1% Cess & 18% GST				2727.660
3	5.7.40.1		Labour for filling empty cement bags with local sand, stitching the bags and placing including supply ofutti etc. all complete as per approved design, specification and direction E/I.				

		Unit = Per % Nos.			
		(A) For Filling & Stitching & Stacking			
		Labour	No.	2.00	472.00
		Skilled Labour for filling sand into bags and sewing	kg	0.50	20.59
		sutali			
		(B) Labour Rate For Carrying & Placing filed E.C. Bags.			
		Labour	No.	3.00	472.00
		Skilled Labour for Carrying filed bags and placing to work site			1416.00
		TOTAL =		Say.	2370.30
		Per % Nos. (B) =			23.70
		Rate per bag (A+B) = /100			11.11
		(C) Cost of empty cement bag & cost of sand	each		
		(D) Carriage cost	Tractor with trolly	cum	0.034
					345.14
			(C) Total = (A+B+C+D) =		11.73
					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 E.C. Bag 12% Cess & 18% GST =			55.892
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			
		Bamboo	m	30.50	20.21
		Nails	kg	0.50	108.00
		(ii) Labour			
		Carpenter Gr -II	No.	0.125	503.00
		Unskilled Labour	No.	0.25	410.00
		Rate for 30.5 m			835.79
		TOTAL =			835.79
		Rate per mt			27.40
		(iii) Carriage cost			
		bamboo	mt	1	3.00
		Total Cost with Carriage			3
		Labour Cess @ 1%			30.40
		G.S.T. @ 18%			0.304
		Total Cost of 1 mtr. 12% Cess & 18% GST =			5.473
					36.179
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/L.			
		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			
		Bamboo	m	30.50	20.21
		(i) Labour			
		Carpenter Gr -II	No.	0.25	503.00
		Unskilled Labour for piling	No.	2.50	410.00
		Rate for 30.5 m			125.75
		Total			1025.0
		Rate for 1 m			1767.16
		Carriage Cost of Bamboo	per mtr.		57.94
		Total Cost with Carriage			3.00
		Labour Cess @ 1%			60.94
		G.S.T. @ 18%			0.609
		Total Cost of 1 mtr. 12% Cess & 18% GST =			10.969
					72.316

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	No.	4.00	503.00	2012.00
	Mazdoor (Unskilled)	No.	4.00	410.00	1640.00
	Carpenter 1st Class	No.	4.00	503.00	2012.00
b	Materials				5664.00
	Nails	kg	5.00	170.13	850.65
	Steel Drum sheet	Nos.	88.5	170.13	15056.51
					21571.160
					215.712
	Rate Per m = $(a+b+c)/100$				2.157
	Labour Cess @ 1%				38.828
	G.S.T. @ 18%				
Total Cost of 1 mtr. @ 1% Cess & 18% GST = 25669.74					
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.				
	(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 piling	No.	1.00	410.00	410.00
b	Materials				
	Bamboo	Mtr.	10.00	188.00	1880.00
	Nails	kg	0.25	108.00	27.00
					2848.000
					306.237
	Rate Per m = $(a+b+c)/9.30$				3.062
	Labour Cess @ 1%				55.123
	G.S.T. @ 18%				
Total Cost of 1 mtr. @ 1% Cess & 18% GST = 3644.22					
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 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.				
	Unit = Each Bag				
	Taking Out = 40 Nos.				
	Labour				
	Unskilled Loading For filling stacking	nos	2	410.00	820.00
	Skilled labour for stacking	nos	0.33	472.00	155.76
	Unskild labour for carring and placing	nos	4.00	410.00	1640.00
	Mate	nos	0.25	434.00	108.50
	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				4946.34
	Rate per bag (total/40) (A)				123.66
(ii)	charge for placing & dumping				
	unskilled labour for loading unloading & dumping	nos	16	410.00	6320.00
	Mate	nos	1	434.00	419.00
	Tractor with trolley	each	4	676.00	2704.00
	Total				9,443.000
	Rate per bag (Total/256) (B)				36.887
	Matroials				
	cost of Geo Bag	each	1	124.00	124.00
	Total cost (a+b+c)				284.545

		Rate per bag			284.545
		Labour Cess @ 1%			2.845
		G.S.T. @ 18%			51.218
		Add Seigniorage Fee @ 10 % of Materials	cum	0.070	144.75
					1.01
		Total Cost of 100 Cft. Dry Bag 10% Cess & 18% GST			339.619
S.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 suti 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	434.00
					160.58
		Mate	No.	1.00	472.00
					472.00
		Labour (Skilled)	No.	1.00	410.00
					410.00
		Labour (Unskilled)			2064.58
					2064.58
		Hence, Total Labour for 100 Cft.			
		Taking one E.C. Bags to contain 1.20 Cft. Of sand		356.49	356.49
	(ii)	Hence, labour rate for placing one filed N.C.			967.49
		Hence rate for mu;pm crate on water portion (I+II)		Say.	9.675
		Labour Cess @ 1%			174.148
		G.S.T. @ 18%			0.49
		Add Seigniorage Fee @ 10 % of Materials	cum	0.034	144.75
					0.49
		Total Cost of 100 Cft. Dry Bag 10% Cess & 18% GST			1151.803
	(iv)	Local sand filling in the water portion as per drawing and technical specification Clause 305.3.9			
		Local sand filling in the water portion as per drawing and technical specification Clause 305.3.9			
	I.	Sand filling			
		Unit = cum			
	a)	Labour	day	0.01	434.00
					4.34
		Mate	day	0.30	410.00
					123.00
		Mazdoor (Unskilled)			
	b)	Material	cum	1.20	144.75
					173.70
		Sand (assuming 20 per cent voids)			18.06
		Overheads @ 6 % on (a)			319.10
		CARRIAGE COST			
		sand	Cum	1.2	345.14
					414.17
		Rate per cum = a+b+c			733.27
		Total Cost including 1 % LABOUR CESS			7.33
		G.S.T. @ 18%			131.99
		Add Seigniorage Fee @ 10 % of Materials			0.49
		Total Cost of 100 Cft. Dry Bag 10% Cess & 18% GST			1287.25

Executive Engineer
RWD, Works Division
Kishanganj-1

Executive Engineer
RWD, Works Division
Kishanganj-2

Executive Engineer
RWD, Works Division
Forbesganj

Superintending Engineer
Rural Works Department
Works Circle Kishanganj

Executive Engineer
RWD, Works Division
Forbesganj