

RURAL WORKS DEPARTMENT



GOVERNMENT OF BIHAR

NAME OF ROAD:- KUSHMAHA TO HATEWA

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

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

BLOCK:- FORBESGANJ

ESTIMATED COST

3847166.00

प्रतिवेदन

पथ का नाम - Kushmachi to Hulewa

कार्य का नाम - FDR/2024-25

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

संलग्न प्राक्कलन 2024 को प्रखण्ड में जारी ग्रीष्म वाढ़ से क्षतिग्रस्त Kushmachi to Hulewa में बाढ़ क्षतिग्रस्त मरम्मत मद से यातायात चालू करने हेतु तैयार किया गया है जिसकी प्राक्कलित लागत 3847166 = ₹ है। उक्त पथ का निर्माण ~~commissary~~ यानान्तर्गत हुआ है एवं योजना अनुसंधान अन्तर्गत ~~commissary~~ पथ के कटे (क्षतिग्रस्त) भाग में आवश्यकता अनुसार ~~Home 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।

12/11/24

कनीय अभियंता,

ग्रामीण कार्य विभाग,

कार्य प्रशाखा, Farbesganj

12/11/24

सहायक अभियंता,

ग्रामीण कार्य विभाग,

कार्य अवर प्रमण्डल, Farbesganj

12/11/24

कार्यपालक अभियंता,

ग्रामीण कार्य विभाग,

कार्य प्रमण्डल, Farbesganj

Inspection Report for Flood Damage Work

Date: 12/11/24

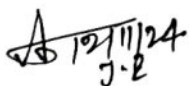
1. Name of PHTs:- EE Forbesganj
2. Name of Block:- Forbesganj
3. Name of Road:- Kushmuhel to Hatwara

A. For Road

1. Damage Location/Chainage:- CH- 50m, 600m, 800m, 900-1000
2. Damage Length:- 156.5m
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:- 156.50m

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:-


12/11/24
J.E.

Signature of JE/AE/EE


12/11/24


15/11/24


15/11/24

Signature

(Name of Inspector)

Abstract of Cost

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

Name of Road:

KUSHMAHA TO HATEWA

Block: FORBESGANJ

District: ARARIA

Division : RWD, Works Division, FORBESGANJ

Circle: RWD, Work Circle, KISHANGANJ

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	2057.51	1287.25	2648524.92
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.	1752.00	72.518	127051.54
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.	438.00	36.179	15846.40

4	Supplying of EC bag, filling of local sand, stitching and placing in position as per the direction of Engineer-in-charge.				
		Per Bags	14763.88	55.882	825034.98
5	Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.				
		Cum	77.24	2792.877	215707.86
6	Providing of drone service and drone surveying as per I/E				
		PER TRIP	3.00	5000.000	15000.00
	TOTAL AMOUNT =				3847165.70
	SAY TOTAL AMOUNT =				3847165.70
					3847166.00

[Signature]
12/11/24
JE

RWD SUB DIVISION-FORBESGANJ

[Signature]
12/11/24
AE

RWD SUB DIV.
FORBESGANJ

[Signature]
12/11/24
EE

RWD WORKS DIV. FORBESGANJ

Technically Approved for Rs 38,47,166/- (Rupees thirty eight lakh fourty seven thousand one hundred and sixty six)

[Signature]
16/11/24
Superintending Engineer
Rural Works Department
Works Circle, Kishanganj
16/11/24
SE
E.O. SHANGANJ

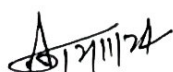
Detailed Estimate

Name of Road:

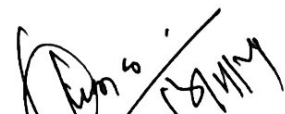
KUSHMAHA TO HATEWA

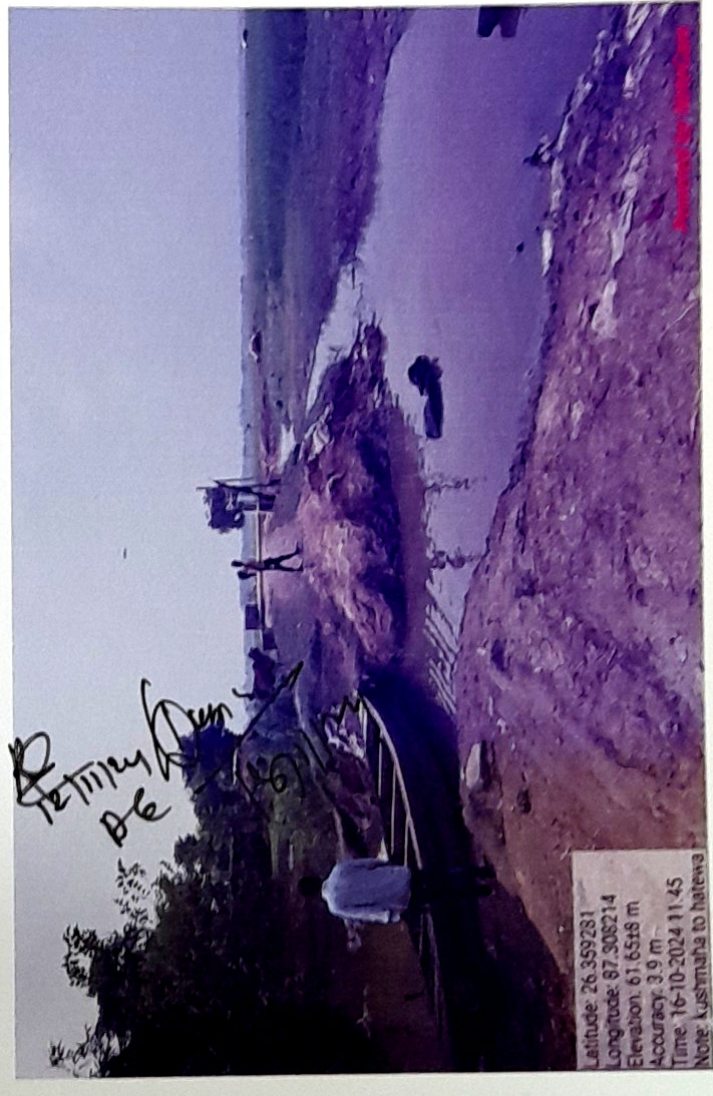
Sl No.	Items of Work	Nos.	L (m)	B (m)	D (m) IN (Av.)	Quantity (m3)
1	Filling of local sand obtained from river bed, watering & ramming, all complete job as per specification & direction of Engineer-In-charge.					
	1ST CUTTING	1	22.00	$(4.60+5.00)/2$	$(2.00+3.50+2.50)/3$	281.60
	2ND CUTTING	1	15.00	$(8.00+5.50)/2$	$(2.90+3.20+3.60+2.80)/4$	316.41
		1	30.00	$(5.50+6.00)/2$	$(2.80+3.50+1.50)/3$	448.50
		1	7.00	6.00	$(1.50+0.80)/2$	48.30
		1	5.00	5.30	0.50	13.25
		1	12.00	5.50	$(3.30+2.50)/2$	191.40
		1	12.50	5.50	$(3.50+4.50+4.0)/3$	275.00
		1	10.00	5.00	$(4.00+2.30)/2$	157.50
		1	19.00	2.50	4.10	194.75
	3RD CUTTING	1	24.00	1.5	$(3.60+3.80+3.50)/3$	130.80
					TOTAL=	2057.51
					Total Qty =	2057.51
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.					
		2	22	3.00	4.00	528.00
		1	25	3.00	4.00	300.00
		2	12	3.00	4.00	288.00
		1	29	3.00	4.00	348.00
		1	24	3.00	4.00	288.00
						1752.00
					Total Qty =	1752.00
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	22	3.00		132.00

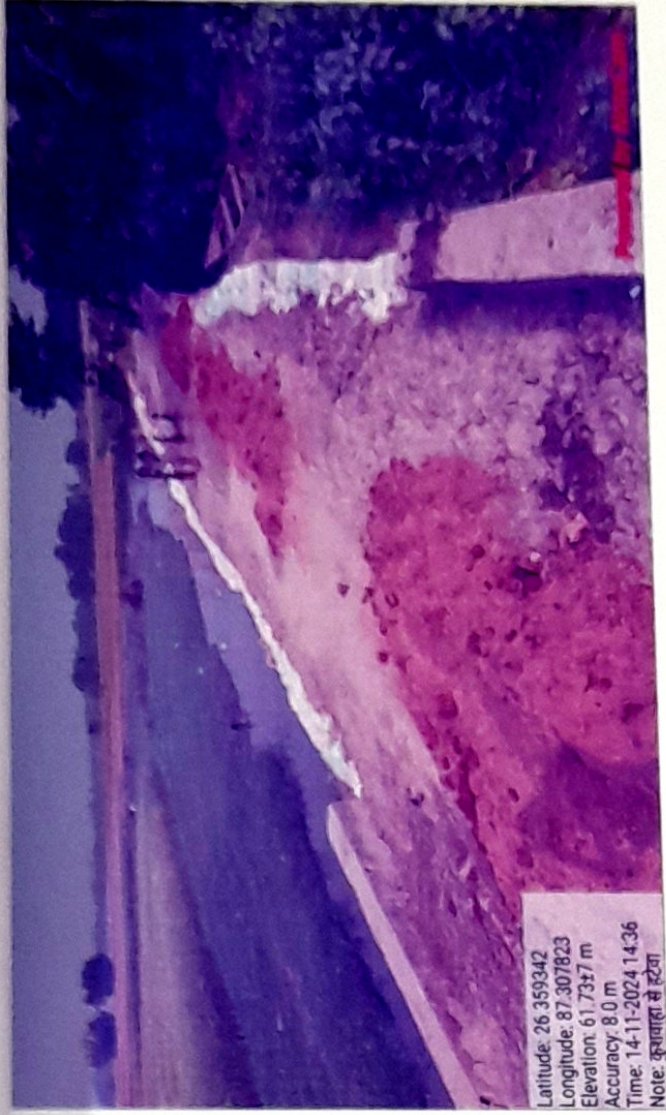
		1	25	3.00		75.00
		2	12	3.00		72.00
		1	29	3.00		87.00
		1	24	3.00		72.00
					Total Qty =	438.00
	Supplying of EC bag, filling of local sand, stitching and placing in position as per the direction of Engineer-in-charge.					
		2	22.00	$(2.60+0.70)/2$	$(3.00+3.50+3.00)/3$	229.90
		2	15.00	$(1.50+0.80)/2$	$(1.00+1.20)/2$	37.95
		2	30.00	$(1.50+0.80)/2$	$(1.20+1.00)/2$	75.90
		2	12.00	0.70	$(0.50+0.30)/2$	6.72
		2	12.50	$(0.70+1.20)/2$	$(1.20+0.70)/2$	22.56
		1	29.00	$(1.20+0.70)/2$	$(0.70+0.50)/2$	16.53
		1	24.00	$(1.20+0.70)/2$	$(1.00+1.50)/2$	28.50
					TOTAL=	418.06
					Total No. of EC Bags =(418.06X35.315)	14763.88
					SAY NO OF BAGE=	14764
6	Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.					
		1	22.00	5.30	0.10	11.66
		1	15.00	5.50	0.10	8.25
		1	30.00	5.50	0.10	16.50
		1	12.00	5.00	0.10	6.00
		1	12.50	5.50	0.10	6.88
		1	29.00	5.50	0.10	15.95
		1	24.00	5.00	0.10	12.00
					Total Qty. =	77.24
5	Providing of drone service and drone surveying as per I/E					
		1.00	3.00			3.00
					TOTAL=	3.00

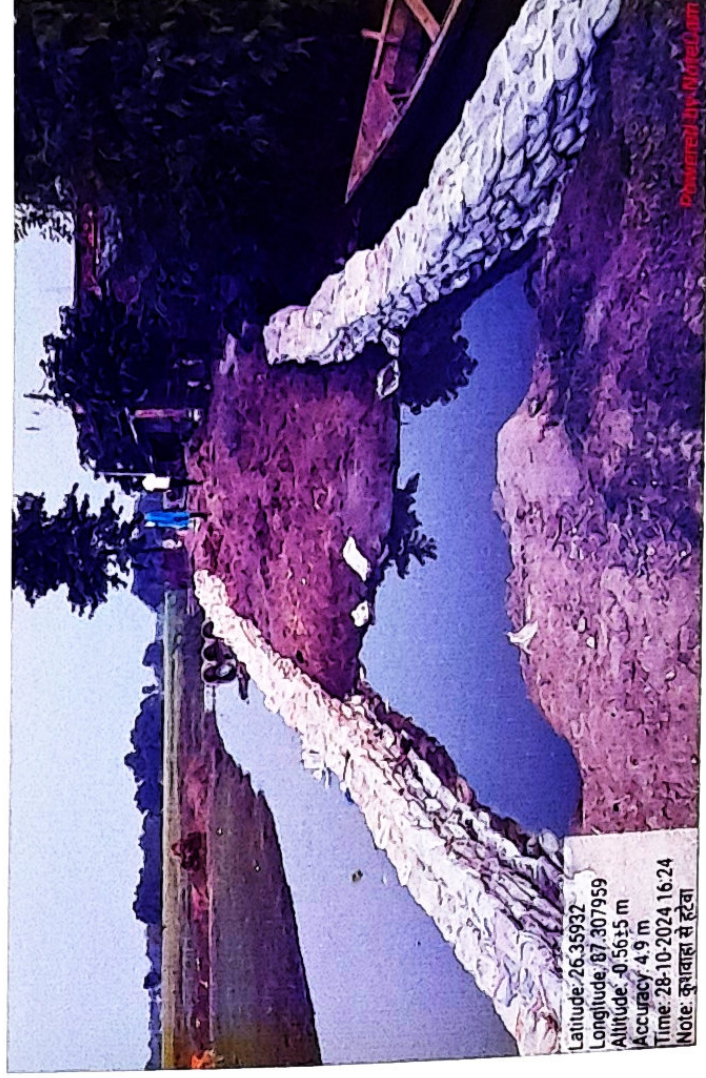
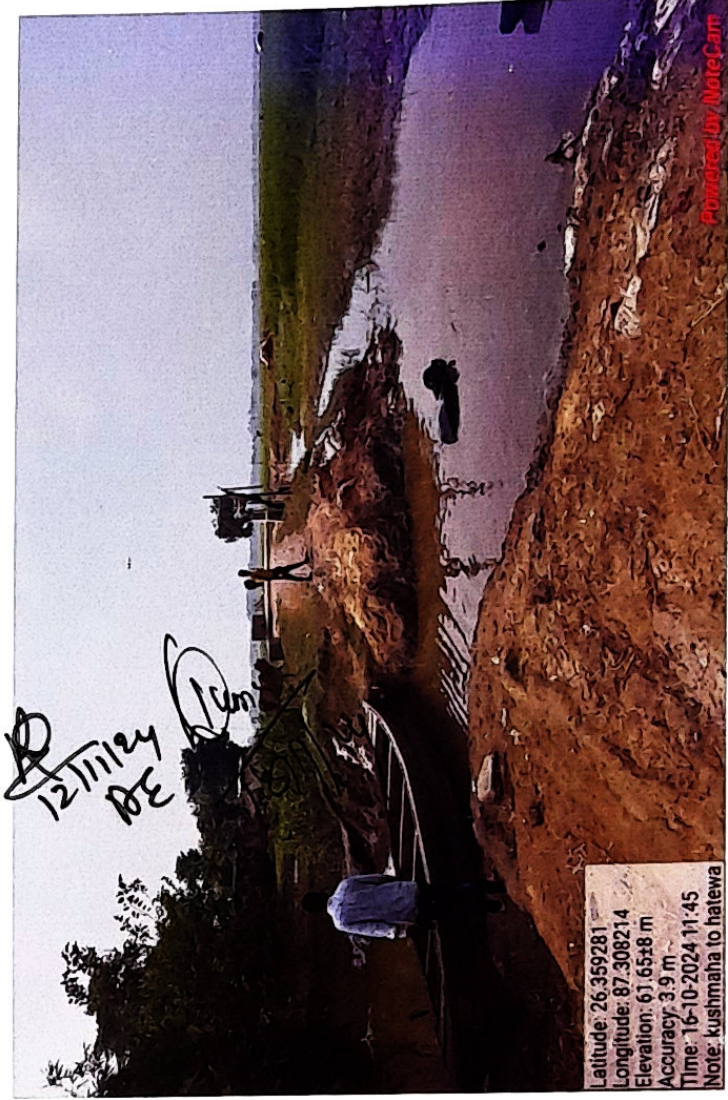
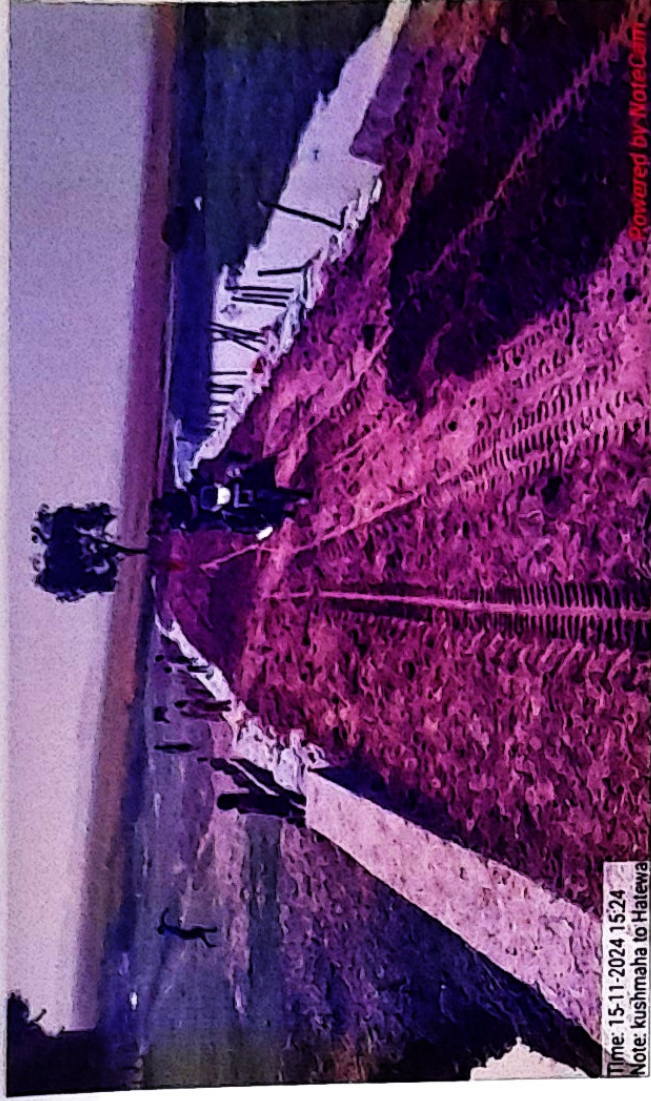

JE


AE


EE



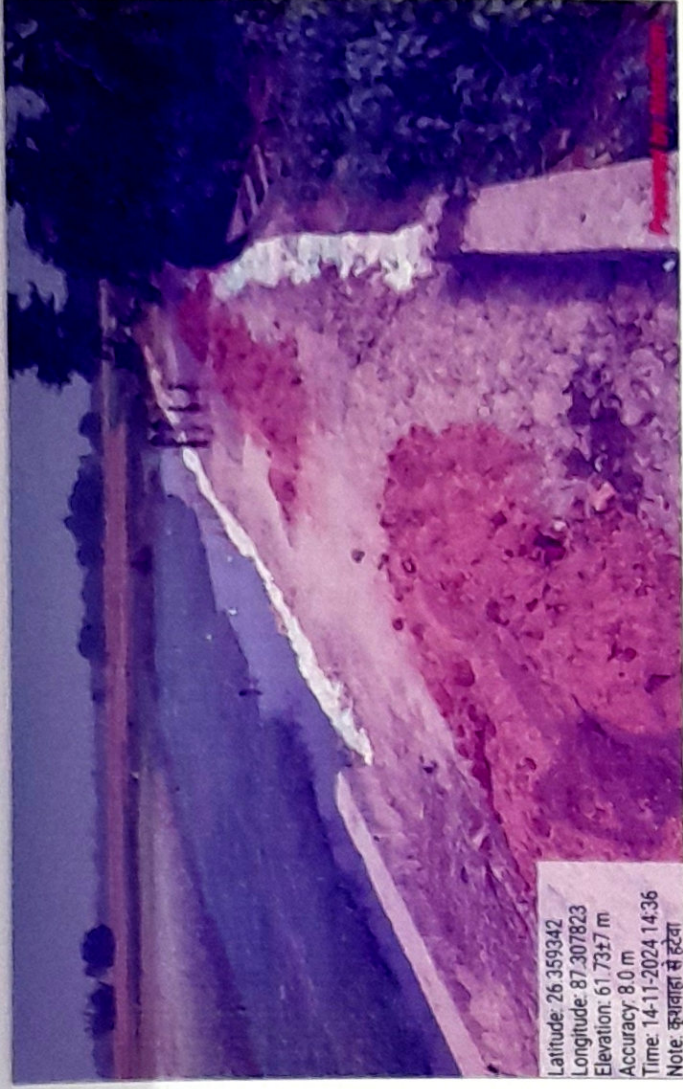




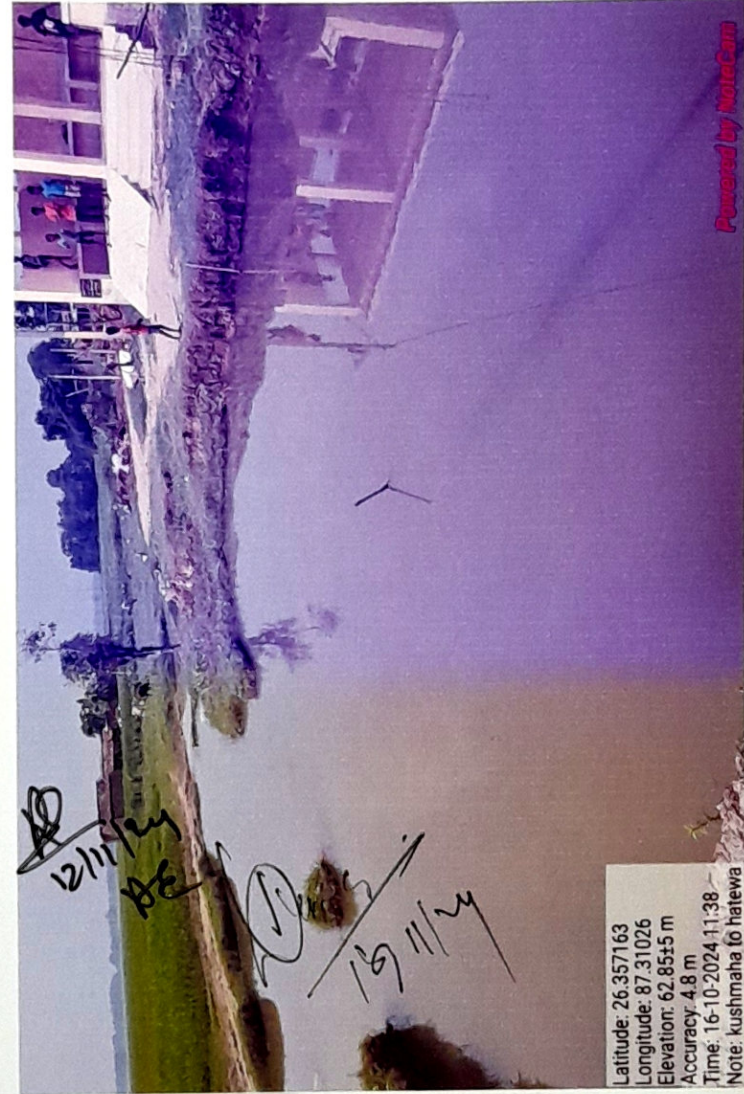


Latitude: 26.357163
Longitude: 87.310261
Elevation: 62.56±7 m
Accuracy: 5.1 m
Time: 16-10-2024 11:38
Note: kushmaha to hatewa

Powered by NoteCam



Latitude: 26.359342
Longitude: 87.307823
Elevation: 61.73±7 m
Accuracy: 8.0 m
Time: 14-11-2024 14:36
Note: कुशमहा से हटेवा



Latitude: 26.357163
Longitude: 87.31026
Elevation: 62.85±5 m
Accuracy: 4.8 m
Time: 16-10-2024 11:38
Note: kushmaha to hatewa

Powered by NoteCam



Latitude: 26.357286
Longitude: 87.310115
Altitude: 33.0±9 m
Accuracy: 7.5 m
Time: 19-10-2024 16:52
Note: Kushmaha to Hatewa

FINAL RATE UNDER WORKS CIRCLE KISHANGANJ

S.No	Discription of Item	Unit	Final Rate (Excluding GST, Solgnlorago & L.Cosa)	Final Rate (Including GST, Solgnlorago & L.Cosa)
1	EARTH WORK	CUM	459.003	549.740
2	BRICK BAT	CUM	2209.676	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

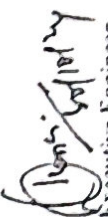
Superintending Engineer
Rural Works Department
Works Circle Kishanganj

SUMMARY OF CARRIGE COST

Sr. 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
-	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

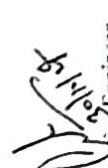
Sl. No.	Description of Labour	Unit	Rate (Rs.)
L-01	Shutt	day	373
L-02	Stnumen Sprayer(semi skilled)	day	393
L-03	Blacksmith special	day	503
L-04	Blastier, 2nd class	day	619
L-05	Carpenter 1st Class	day	503
L-06	Chips spreader, semi-skilled	day	449
L-07	Chiseller (Skilled)	day	577
L-08	Dresser (Skilled)	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	Maz-door (Unskilled)	day	410
L-16	Maz-door (Semi skilled)	day	388
L-17	Maz-door (Skilled)	day	472
L-18	Painter (1st class)	day	476
L-19	Plumber, Special	day	454
L-20	Surveyor	day	476
L-21	White Washer	day	503
L-22	Head blacksmith	day	577
L-23	Welder 1st Class	day	503
	Carpenter Head	day	415
	Night Guard	day	

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


Executive Engineer
RWD, Works Division
Forbanganj


Executive Engineer
RWD, Works Division
Kishanganj-2


Executive Engineer
RWD, Works Division
Araria


Executive Engineer
RWD, Works Division
Kishanganj-1


Superintending Engineer
Rural Works Department
Works Circle Kishanganj

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	RCC Pipe NP3 (600 mm dia)	cum	69.75	75.00	144.75
M-015	Sand (Fine) at source	Nos.	170.13		170.13
M-016	Empty Steel Drum 300 mm dia 1.2 m height	kl	60.30		60.30
M-016	Water	Each	124.00		124.00
M-017	Geo Bags	cum	69.75	75.00	144.75
M-018	G.S.B.				

(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
Arrah


Executive Engineer
RWD, Works Division
Kishanganj-2


Executive Engineer
RWD, Works Division
Forbaganj


Superintending Engineer
Rural Works Department
Works Circle Kishanganj

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

Sr. No.	Spc Code	Description of		Output of Machine		Usage Rates in Rs.	
		Machine	Activity	Unit	Output	Unit	Rate
PM-009	P&M-012	Crate up to 80 T	Lifting of materials			per hour	1,571.00
PM-010	P&M-015	Dumper D-50 - A12/Dumper D-50 - A15	hauling, carrying	cum h	260.00	per hour	2,997.00
PM-011				cum h	120.00		4,216.00
PM-014	P&M-017	Front end-loader 1 cum bucket capacity in 45 cum hour	Loading Aggregates	cum h	45.00	per hour	1,419.00
PM-017	P&M-020	Hydraulic Excavator of 1 cum bucket	Excavation	cum h	100.00	per hour	2,272.00
PM-031	P&M-022	Three wheel 80-100 LN Static Roller	Compaction Rolling				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			W&M	cum h	16.00	per hour	1,593.00
PM-036			M&N	cum h	10.00		1,593.00
PM-037			BM 50-75 mm	cum h	12.00		1,593.00
PM-038			Precast 20 mm	sqm h	250.00		1,593.00
PM-039			Soil Cost	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	20.00	per hour	793.00
PM-044	P&M-055	Tractor with ripper in 60 cum per hour	Ripping Pavements, uprooting trees	cum h	60.00	per hour	1,177.00
PM-045	P&M-053	Tractor with trailer with Grading equipment	Transportation of materials	1 trip	3 to 5	per hour	676.00
PM-046	P&M-054	Tractor with Rotavator	Scarifier	cum h	25.00	per hour	1,193.00
PM-047	P&M-057	Truck 10 t capacity	Carriage	cum trip	5.50	per hour	1,634.00
PM-048	P&M-059	Vibratory roller 80-100 LN	Compaction of soil W&M	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 M capacity (Truck Mounted)	Carriage of water	litre - h	12000.00	per hour	752.00
PM-063	P&M-060	generator 3KVA	itching	per hour		per hour	74.60
PM-064	P&M-060	stitching machine	stitching	day		day	30.60

(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
Kishanganj-2

Executive Engineer
RWD, Works Division
Araria

Executive Engineer
RWD, Works Division
Forbesganj

Superintending Engineer
Rural Works Department
Works Circle Kishanganj

Comparison of carriage cost of Material via Road from different sources

Sl No	Item	Unit	Source	Pukka / Surface				Katcha				Loadi ng & Unload	Carriage by Road	Total
1	By Tractor													
A	Earth Work Via Road	Cum	Local	3.60	x 20.04	x 0 Km	= Rs 0.00	3.60	x 31.30	x 1 Km	= Rs 55.24	219.18	274.42	274.420
				2.04				2.04						
B	Brick Bat Via Road	Cum	Local	3.60	x 20.04	x 7 Km	= Rs 247.55	3.60	x 31.30	x 1 Km	= Rs 55.24	219.18	521.97	521.970
				2.04				2.04						
B	Bamboo Via Road	pet mtr.	Local	3.60	x 20.04	x 2 Km	= Rs 1.15	3.60	x 31.30	x 1 Km	= Rs 0.09	0.96	3.00	3.000
				126.00				126.00						
D	Local Sand Via Road	Cum	Local	3.60	x 20.04	x 2 Km	= Rs 70.73	3.60	x 31.30	x 1 Km	= Rs 55.24	219.18	345.14	345.140
				2.04				2.04						
2	By Tipper													
A	GSD Via Road	Cum	Siliguri	8.00	x 9.03	x 177 Km	= Rs 2789.43	8.00	x 23.81	x 0 Km	= Rs 0.00	170.70	2960.13	2960.130
				4.99				4.99						
3	By Truck													
A	Hume Pipe (1000 mm) Via Road	Mtr.	purnea	8.00	x 7.27	x 53 Km	= Rs 308.25	8.00	x 17.60	x 0 Km	= Rs 0.00	437.68	745.93	745.930
				10.00				10.00						
A1	Rate Per Mtr. Pipe	Mtr.	purnea						Rate per mtr				298.37	298.370
B	Hume Pipe (600 mm) Via Road	Mtr.	purnea	8.00	x 7.27	x 53 Km	= Rs 123.30	8.00	x 17.60	x 0 Km	= Rs 0.00	107.50	310.08	310.080
				25.00				25.00						
B1	Rate Per Mtr. Pipe	Mtr.	purnea						Rate per mtr				124.35	124.350

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

12/10/24
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Superintending Engineer
Rural Works Department
Works Circle Kishanganj

SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	QTY	Rate	Amount In Rs
1		Carriage Of Material (By Tractor)				
4.4		Loading and unloading of stone Boulder /stone aggregates sand/ kankar/ moorum				
		Placing tractor at loading point loading with front end loader dumping ,turning for return trip excludng 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 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				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 t 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 t 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				
	(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				
		Unit = cum				
		Taking output = 5.5 cum				
		Time required for				
	(i)	Position of tipper at loading 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 Capacity				
		Front end loader 1 cum bucket capacity @ 25 Cum/hour	hour	0.330	1,426.00	470.58
		Cost for 5.5 cum = a+b+c	hour	0.330	1,419.00	468.27
						938.85

		Rate per cum = (a+b+c)/5.5	cum		170.70
		Total per cum	cum		170.70
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 : 7.5km per hour			
		Speed while returning empty : 35km per hour			
	a)	Machinery			
		Tipper			
		Haulage with load	hour	0.40	1426.00
		Empty return trip	hour	0.29	1426.00
		Cost for 100t km = a+b+c			983.94
		Cost for 1 t km = a+b/100			9.830
		Total per t per km			9.830
		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			
		Haulage with load	hour	1.00	1426.00
		Empty return trip	hour	0.67	1426.00
		Cost for 100t km = a+b			2381.42
		Cost for 1 t km = a+b+c/100			23.81
		Total per t per km			23.810
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			
		Haulage with load	hour	0.40	1054.00
		Empty return trip	hour	0.29	1054.00
		Cost for 100t km = a+b+c			305.66
		Cost for 1 t km = a+b/100			727.26
		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		266.782
		Total per pipe			266.782
	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 = $a+b+c+d$			1114.60
		Rate per pipe = $(a+b+c)/21$	per p		1539.08
		Total per pipe			73.290
1.9		Loading and Unloading of Bamboo			73.290
	(I)	Loading & unloading Bamboo			
		Unit = per metre			
		Taking output = per mtr.			
	a)	Material			
		Bamboo = 2016/300			
		Bamboo Per Mt	per pipe		6.72
		Total per m	per mt		0.96
4	3.3	301.5			
		Construction of Embankment with material obtained from roadway cutting			0.960
		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 = $a+b+c+d+g$			723.60
					5826.53

			Rate per cum = (a+b+c+d)/100				
			Total per cum	cum			58.265
5	3.5	301.5	Excavation in soil with Dozer with lead upto 100 m	cum			58.265
	(ii)	(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	0.00	434.00	31.60
		b)	Machinery	day	2.00	410.00	822.00
			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)/100	cum			91.262
			Total per cum	cum			91.260
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				58.265
			Royalty Compensation for earth taken from private land				91.260
			Carriage of Earth by Tractor Lead 1 K.M.				35.250
			Total Cost of 1 cum =				274.420
			Labour Cess @ 1%				459.195
			G.S.T. @ 18%				4.590
			Add Seigniorage Fee @ 10 % of Materials				82.655
			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				649.970
			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 = 2.83 cum				
		a)	Labour				
			Mazdoor (Unskilled)				
		b)	Materials	day	2.170	410.00	889.70
			Brick Bats				
			Total (a+b) =	cum	3.396	1,081.00	3671.08
			Total (a+b+c) =				4560.78
		d)	Carriage				1560.78
			Brick Bats				
			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				2,792.877
			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

[illegible]

		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 filed 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	S.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	616.41
		Nails	kg	0.50	108.00	54.00
	(ii)	Labour				
		Carpenter Gr -II	No.	0.125	503.00	62.88
		Unskilled Labour	No.	0.25	410.00	102.50
		Rate for 30.5 m				835.79
		TOTAL =				835.79
		Rate per mt				27.40
	(iii)	Carriage cost				
		bamboo	mt	1	3.00	3
		Total Cost with Carriage				30.40
		Labour Cess @ 1%				0.304
		G.S.T. @ 18%				5.473
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				36.179
5	S.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				
		Assuming				
		20 no pile sunk 1.525 m deeps				
		Total depth sunk 30.50 m				
	(i)	Materials				
		Bamboo	m	30.50	20.21	616.41
	(i)	Labour				
		Carpenter Gr -II	No.	0.25	503.00	125.75
		Unskilled Labour for piling	No.	2.50	410.00	1025.0
		Rate for 30.5 m				1767.16
		Total				1767.16
		Rate for 1 m				57.94
		Carriage Cost of Bamboo	per mtr.			3.00
		Total Cost with Carriage				60.94
		Labour Cess @ 1%				0.609
		G.S.T. @ 18%				10.969
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				72.510

		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			
		Nails			
		kg	5.00	170.13	850.65
		Steel Drum sheet			
		Nos.	88.5	170.13	15056.51
		Rate Per m = $(a+b+c)/100$			
		Labour Cess @ 1%			
		G.S.T. @ 18%			
		Total Cost of 1 mtr. 1% Cess & 18% GST =			
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 pilling			
		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
		Rate Per m = $(a+b+c)/9.30$			
		Labour Cess @ 1%			
		G.S.T. @ 18%			
		Total Cost of 1 mtr. 1% Cess & 18% GST =			
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 Nso.			
		Labour			
		Unskilled Loading For filling stacking			
		nos	2	410.00	820.00
		Skilled labour for stacking			
		nos	0.33	472.00	155.76
		Unskilled 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			
		Rate per bag (total/40) (A)			
	(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			
		Rate per bag (Total/256) (B)			
		Matrolals			
		cost of Geo Bag			
		each	1	124.00	124.00
		Total cost (a+b+c)			

		Rate per bag					
		Labour Cess @ 1%					284.545
		G.S.T. @ 18%					2.845
		Add Seigniorage Fee @ 10 % of Materials	cum	0.070	144.75		51.218
		Total Cost of 1 Cr. Bag 1% Cess & 18 % GST =					339.619
57.403		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					
		Mate	No.	0.37	434.00		160.58
		Labour (Skilled)	No.	1.00	472.00		472.00
		Labour (Unskilled)	No.	1.00	410.00		410.00
							2064.58
		Hence, Total Labour for 100 Cft.					2064.58
		Taking one E.C. Bags to contain 1.20 Cft. Of sand					
	(ii)	Hence, labour rate for placing one filed N.C.			356.49		356.49
		Hence rate (er mu;pm crate om water portion (I+II))				Say.	967.49
		Labour Cess @ 1%					9.675
		G.S.T. @ 18%					174.148
		Add Seigniorage Fee @ 10 % of Materials	cum	0.034	144.75		0.49
		Total Cost of 1 E.C. 1% Cess & 18 % GST =					1,151.803
(1)	800	local sand Filling in foundation trenches as per drawing and technical specification local sand Filling in foundation trenches as per drawing and technical specification Clause 305.3.9					
	I.	Sand filling					
		Unit = cum					
	a)	Labour					
		Mate	day	0.01	434.00		4.34
		Mazdoor (Unskilled)	day	0.30	410.00		123.00
	b)	Material					
		Sand (assuming 20 per cent voids)	cum	1.20	144.75		173.70
		Overheads @ 6 % on (a)					18.06
		CARRIAGE COST					319.10
		sand					
		Rate per cum = a+b+c	Cum	1.2	345.14		414.17
		Total Cost including 1 % LABOUR CESS					733.27
		G.S.T. @ 18%					7.33
		Add Seigniorage Fee @ 10 % of Materials					131.99
		Total Cost of 1 E.C. 1% Cess & 18 % GST =					0.49
							1287.25

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