

Government of Manipur  
Office of the Addl. Principal Chief Conservator of Forests  
& Nodal Officer: FCA  
Imphal : Manipur

No. 7/292/2021/Forests: 156

Imphal, the 2<sup>nd</sup> March  
February, 2023

To

The General Manager (P) NHIDCL, PMU -Tamenglong.

Sub:- Proposal for diversion of 72.23 ha of forest land for construction of two-lane with paved shoulder of Mandeu-Jiri River Section from Km 80.630 to Km 96.870 of Tamenglong- Mahur Road in the State of Manipur on EPC Mode by NHIDCL.

Sir,

With reference to the subject cited above, I am to forward the detailed estimates for the cost of Felling, Logging and Transportation of project affected trees, Avenue Plantation and Boundary Pillars for diversion of 72.23 ha of forest land for construction of two-lane with paved shoulder of Mandeu-Jiri River Section from Km 80.630 to Km 96.870 of Tamenglong- Mahur Road as given below:-

Sl. No.	Particulars	Amount	Remark
1.	Avenue Plantation	Rs. 1,58,68,741	To be deposited to CAMPA account through e-portal ( <a href="http://parivesh.nic.in">http://parivesh.nic.in</a> ) as mentioned in Para A. 3 of IPA.
2.	Extraction of Trees	Rs. 5,67,000	To be deposited into account of DFO/Tamenglong A/c No. 40580370196 Account Name/Operator: DFO, Tamenglong Forest Division, Tamenglong IFSC Code: SBIN0000092
3.	Boundary Pillars	Rs. 41,95,800	
	<b>Total</b>	<b>Rs. 2,06,31,541</b>	

Enclosed: As stated above.

Yours faithfully,

  
( V.L. Roui Kullai )

Addl. Principal Chief Conservator of Forests  
& Nodal Officer/FCA  
Government of Manipur

Copy to:

1. The Conservator of Forests /Western Forest Circle, Government of Manipur.
2. The DFO/ Tamenglong Forest Division, Government of Manipur.

O/o CCF & Nodal Officer  
FCA & SFDA  
Receipt No. 43  
Date: 02/01/2023  
Government of Manipur  
Office of the Divisional Forest Officer: Tamenglong Forest Division  
Tamenglong

No.3/56/TFD/2019-20/247

Dated 30<sup>th</sup> January 2023

To,

✓ The Chief Conservator of Forest & Nodal Officer (FCA)  
Government of Manipur

**Subject: Proposal for diversion of (a) 112.162 Ha of forest land for Construction of Two lane with paved shoulder of Azuram-Mandeu Section from 54.180 Km to 80.630 Km of Tamenglong -Mahur Road (Package-5) & (b) 72.23 Ha of forest land for Construction of Two lane with paved shoulder of Mandeu- Jiri River Section from 80.630 Km to 96.870 Km of Tamenglong -Mahur Road (Package-6) under NHIDCL in the State of Manipur on EPC mode" Reg-Condition stipulated for compliance for Stage-II forest Clearance.**

Madam,

In inviting a reference to above cited subject, I have the honour to submit herewith detailed estimate for carrying out (i) Felling of affected trees, (ii) Demarcation and erection of boundary pillars for the diverted forest land and (iii) Raising of Avenue plantation along the newly Constructed Two lane with paved shoulder of Azuram-Mandeu Section from (a) 54.180 Km to 80.630 Km of Tamenglong -Mahur Road (Package-5) & (b) Constructed Two lane with paved shoulder of Mandeu- Jiri River Section from 80.630 Km to 96.870 Km of Tamenglong -Mahur Road (Package-6) under NHIDCL in the State of Manipur on EPC mode" (enclosed detailed estimates)

Sl. No.	Stage II	Project component	Area (ha)	Estimate Enclosed	Amount (Rs in lakh)
1.	Stage II Clearance	Package-5	112.162	Felling of trees	7.56000
				Avenue Plantation	258.65903
				Boundary pillars for demarcation of diverted land	67.58400
2.	Stage II Clearance	Package-6	<del>47.885</del> 72.23	Felling of trees	5.67000
				Avenue Plantation	158.68741
				Boundary pillars for demarcation of diverted land	41.95800
	Grand Total				540.11844

*(Rupees five crores forty lakhs eleven thousand eight hundred forty four) only*

2.2.2023  
R/o CFA  
Manakhi  
02/01/2023



Further the Bank Account details of the Divisional Forest Officer, Tamenglong Forest Division is enclosed herewith for transfer of the amount to enable this office to carry out the work of above mentioned items of work.

Name of the Account Payee	Divisional Forest Officer, Tamenglong Forest Division, Tamenglong
Account Number	40580370196
Name of the Bank	State Bank of India
Name of the Bank Branch	MG Avenue, Imphal, Manipur
IFSC Code	SBIN0000092

Submitted for favour of kind doing the needful.

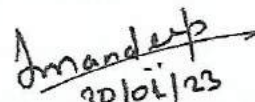
Yours faithfully,

(Amandeep, IFS)  
Divisional Forest Officer  
Tamenglong Forest Division  
Tamenglong, the 30<sup>th</sup> January 2023

Memo No.3/56/TFD/2019-20

Copy To;

1. The Conservator of Forests, Western Forest Circle, Govt. of Manipur
2. The General Manager (P) NHIDCL, PMU-Tamenglong
3. Guard File

  
30/01/23  
(Amandeep, IFS)  
Divisional Forest Officer  
Tamenglong Forest Division

**Detailed Estimate for Departmental extraction of 418.04 Cum of Firewood from the actually tree felled from forest land of 72.23 Ha of forest land for Construction of Two lane with paved shoulder of Mandeu- Jiri River Section from 80.630 Km to 96.870 Km of Tamenglong - Mahur Road (Package-6)**

Area of Forest Diverted: **72.23 Ha**  
 No. of trees to be cut/cleared: **1585**  
 Volume of the trees/firewood: **418.04**

**Approved wages: Rs 225.00**

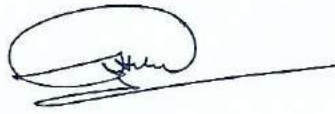
SN	Particulars	Unit	Qty	Rate	Amount (Rs)	Remarks
1	Felling of trees for firewood and conversion of the felled trees into billets of size 12 m dia (minimum) including splitting and staking to the size 3 m x 1.5m x 1m (4.5 cum) at stump site @ 26 mandays per stake for 418.04 cum of firewood.( 93 stakes)	mday	2418	225.00	544050.00	(Scheduled of items for Forestry works )
2	Transportation of billets from stump site and dumping at the temporary depot (motorable point) and staking including loading and unloading @ 1 manday per stake for 93 stakes	mday	93	225.00	20925.00	do
3	General Contingency				2025.00	
					567000.00	


**(Rupees five lakh sixty seven thousand) only**

Prepared by

Checked by

Approved by

  
 Range Forest Officer, HQ  
 Tamenglong Forest Division  
 Government of Manipur

  
 Range Forest Officer  
 Range Forest Office, Tamei  
 Government of Manipur

  
 Divisional Forest Officer  
 Tamenglong Forest Division  
 Government of Manipur



## Girth class enumeration of trees

Plot enumeration was carried out by the staffs of Tamenglong Forest Division. Different class of standing trees were calibrated which are likely to be affected by the diversion of 72.23 Ha of forest land for Construction of Two lane with paved shoulder of Mandeu- Jiri River Section from 80.630 Km to 96.870 Km of Tamenglong -Mahur Road (Package-6) in the State of Manipur on EPC Mode as shown in the girth wise tabulation below :

Sl.	Species		Girth class (in cm)						
No.	Local Name	Scientific name	0-30	31-60	61-90	91-120	121-150	151-210	>210
1	Heimang	<i>Rhus succedanea</i>	172	18	0	0	0	0	0
2	Uyung	<i>Quercus serratus</i>	29	27	23	0	0	0	0
3	Pareng	<i>Alnus nepalensis</i>	450	35	50	0	0	0	0
4	Heibong	<i>Ficus glomerata</i>	348	162	37	14	0	0	0
5	Tolhao	<i>Terminalia myricarpa</i>	310	34	31	18	0	0	0
6	Usoi	<i>Schima wallichii</i>	893	361	49	24	0	0	0
7	Tairen	<i>Cedrela toona</i>	421	23	36	18	0	0	0
8	Heijuga	<i>Juglans regia</i>	153	42	26	16	0	0	0
9	Jam	<i>Syzygium cumini</i>	194	64	26	9	0	0	0
10	Thangji	<i>Castanopsis hystrix</i>	874	283	128	31	0	0	0
<b>Total no. of trees</b>			<b>3844</b>	<b>1049</b>	<b>406</b>	<b>130</b>	<b>0</b>	<b>0</b>	<b>0</b>

### Estimated Standing Volume of the Trees excluding pole size Trees

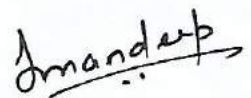
Girth class (in cm)	No. of Trees	Diameter (m)	Basal Area (m <sup>2</sup> )	Height (m)	Form Factor	Volume (Cum)	
31-60	1049	0.1448	0.0165	8.38	0.78	112.86	
61-90	406	0.2402	0.0453	11.74	0.78	168.39	
91-120	130	0.3357	0.0885	15.25	0.78	136.80	
	1585					<b>418.04</b>	



Range Forest Officer, HQ  
Tamenglong Forest Division  
Government of Manipur



Range Forest Officer  
Range Forest Office, Tamenglong  
Government of Manipur



Divisional Forest Officer  
Tamenglong Forest Division  
Government of Manipur

**Table 4.1: Summary of the Plantation Budget**  
**(Single Row Avenue Plantation at Down Hill side)**

Total cost for Single Row Avenue Plantation at Down Hill side for Package-6		
1	Creation of single Row Avenue Plantation at Down Hill side	14328323.00
2	2 <sup>nd</sup> year maintenance	732442.00
3	3 <sup>rd</sup> year maintenance	282422.00
4	4 <sup>th</sup> year maintenance	262777.00
5	5 <sup>th</sup> year maintenance	262777.00
<b>Total Cost</b>		<b>15868741.00</b>

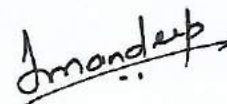
*(Rupees one crore fifty eight lakhs sixty eight thousand seven hundred forty one) only*



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 Government of Manipur



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 Government of Manipur



### Avenue Plantation for PKG-6

Name of work: Single Row Avenue Plantation at Down Hill Side

Design : Single row Plantation

Length of Plantation : 16.24 km

Spacing: 4 m from C/C

No. Plants : 4062 nos.

S no.	Item of work	Quantity	Rate	Unit	Amount	Remark
1	Site clearance, removal of the rank vegetation, brushwood, removal of stump wherever by retaining advance growth @ 12 Man-day/ ha (10 sqm area) (4062*10*12/10000)	49	225	Man-day	11025.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
2	Collecting of 4060 stakes for size 60-75 cm , long 2.5 cm dia with one end pointed @ 1 Man day for 320 stakes	14	225	Man-day	3150.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
3	Laying out of 4062 planting pits and staking of the pits at prescribed spacing for pits up to 1000 nos per ha @ 1 man day for 220 pits	20	225	Man-day	4500.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
4	Planting of trees by the road side (Avenue trees) in 0.60m dia holes, 1m deep dug in the ground, mixing the soil with decayed farm yard/sludge manure, planting, sapling, back filling the trench, watering fixing tree guard and maintaining the plants for one year	4062	1518.3	each	6167334.60	Item No. 13 page 40 of MSR 2018 (State PWD)
5	Procurement of indigenous tree saplings	4062	90	each	365580.00	Item No. 48 iii) page 6 of MSR 2018 (state PWD)
6	Procurement of Farm yard Manure for mixing with soil in the proportion of 1:1 (1 Farm Yard Manure : 1Soil) (1/2 of 0.216 cum of one pit x 4062 pits)	439	882.2	cum	387285.80	Item No. 48 iv) page 6 of MSR 2018 (state PWD)
7	P/F MS flat iron tree guard 60 cm dia and 2 m height above ground level formed with 4 nos. of 25x6 mm and 8 nos 25x6 mm flat iron rings in the halves bolted together with 8 mm diameter and 30 mm long bolts complete in all respects. Including fixing in the ground with cement concrete complete	4062	1750.00	Each	7208500.00	Local Market Rate.
Subtotal					14047375.40	
Add Contingency: 2% (approx.)					280947.60	
Grand Total					14328323.00	

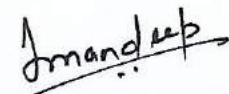
*(Rupees one crore forty three lakhs twenty eight thousand three hundred twenty three) only*



Range Forest Officer, HQ  
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Government of Manipur



2<sup>nd</sup> Year Maintenance

S no.	Item of work	Quantity	Rate	Unit	Amount	Remark
1	First weeding operation to a width of ½ m radius around each plant of 4062 nos. including hoeing @ 125 plants per man day	33	225	Man-day	7425	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
2	Procurement of tree saplings (20%) casualty replacement.	813	90	Man day	73170.00	Item No. 48 iii) page 6 of MSR 2018 (state PWD)
3	Procurement of Farm yard Manure for mixing with soil in the proportion of 1:1 (1 Farm Yard Manure : 1 Soil) (1/2 of 0.216 cum of one pit x 4062 pits)	439	882.2	cum	387285.80	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
4	Second weeding operation to a width of ½ m radius around each plant of 4062 nos. including hoeing @ 250 plants per man day	17	225	Man-day	3825.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
5	Deployment of 3 nos. of watch and ward for 365 mdys including protection from fire hazard, watering etc	1095	225	Man day	246375.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
Sub total					718080.80	
Add Contingency @2% (Aprox)					14361.20	
Grand Total					732442.00	

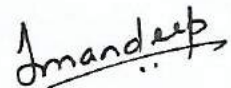
( Rupees seven lakhs thirty two thousand four hundred forty two) only



Range Forest Officer, HQ  
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 Government of Manipur



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 Range Forest Office, Tamei  
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Divisional Forest Officer  
 Tamenglong Forest Division  
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3<sup>rd</sup> Year Maintenance

S no.	Item of work	Quantity	Rate	Unit	Amount	Remark
1	First weeding operation to a width of ½ m radius around each plant of 4062 nos. including hoeing @ 125 plants per man day	33	225	Man-day	7425.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
2	Purchase of seedlings for beating up (5%)	204	90	each	1836.00	Item No. 48 iii) page 6 of MSR 2018 (state PWD)
3	Beating up of casualties upto 5% @ 65 saplings / man day	4	225	Man day	900.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
4	Second weeding operation to a width of ½ m radius around each plant including hoeing @ 250 plants per man day	17	225	Man day	3825.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
5	Deployment of 3 nos. of watch and ward for 365 mdys including protection from fire hazard, watering etc	1095	225	Man day	246375.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
Subtotal					276885.00	
Add Contingency @2%					5537.00	
Grand Total					282422.00	

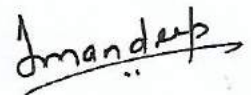
(Rupees two lakh eighty two thousand four hundred twenty two) only.



Range Forest Officer, HQ  
Tamenglong Forest Division  
Government of Manipur



Range Forest Officer  
Range Forest Office, Tamenglong  
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Divisional Forest Officer  
Tamenglong Forest Division  
Government of Manipur

4<sup>th</sup> Year Maintenance

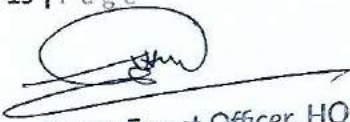
S no.	Item of work	Quantity	Rate	Unit	Amount	Remark
1	First weeding operation to a width of ½ m radius around each plant of 4062 nos. including hoeing @ 125 plants per man day	33	225	Man-day	7425.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
2	Second weeding operation to a width of ½ m radius around each plant of 4062 nos. including hoeing @ 250 plants per man day	17	225	Man-day	3825.00	Item No. 48 iii) page 6 of MSR 2018 (state PWD)
3	Deployment of 3 nos. of watch and ward for 365 mdys including protection from fire hazard, watering etc	1095	225	Man day	246375.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
Subtotal					257625.00	
Add Contingency @2%(Aprox)					5152.00	
Grand Total					262777.00	


(Rupees two lakh sixty two thousand seven hundred seventy seven) only

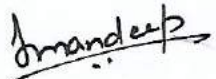
5<sup>th</sup> Year Maintenance

S no.	Item of work	Quantity	Rate	Unit	Amount	Remark
1	First weeding operation to a width of ½ m radius around each plant of 4062 nos. including hoeing @ 125 plants per man day	33	225	Man-day	7425.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
2	Second weeding operation to a width of ½ m radius around each plant of 4062 nos. including hoeing @ 250 plants per man day	17	225	Man-day	3825.00	Item No. 48 iii) page 6 of MSR 2018 (state PWD)
3	Deployment of 3 nos. of watch and ward for 365 mdys including protection from fire hazard, watering etc	1095	225	Man day	246375.00	Wage rate as per state Govt. of Manipur order no. 22/4/2009-FD(PIC) dated 03/01/2017
Subtotal					257625.00	
Add Contingency @2%(Aprox)					5152.00	
Grand Total					262777.00	

(Rupees two lakh sixty two thousand seven hundred seventy seven) only

  
Range Forest Officer, HQ  
Tamenglong Forest Division  
Government of Manipur

  
Range Forest Officer  
Range Forest Office, Tamei  
Government of Manipur

  
Divisional Forest Officer  
Tamenglong Forest Division  
Government of Manipur



**Erection of 324 nos RCC survey pillars for demarcation of diversion of 72.23 Ha of forest land for Construction of Two lane with paved shoulder of Mandeu- Jiri River Section from 80.630 Km to 96.870 Km of Tamenglong -Mahur Road (Package-6) under NHIDCL (Average distance from one pillar to the other =100 m in both side of the road)**

Sl. No.	Item of works	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Remarks
1	Earthwork in excavation in foundation trenches or drains including dressing of sides and ramming of bottom lift upto 1.5 m including getting out the excavated soil and disposal of surplus excavated soil as directed in Hard/Dense soil	0.576	Cum	137.3	79.08	MSR2017
2	Filling available excavated earth (excluding rock) in trenches, plinth sides of foundation etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering lead upto 50 metres lift upto 1.5 metre.	0.192	Cum	111.5	21.41	MSR2017
3	a. Steel Reinforcement for RCC work i/c binding & Placing in position complete 10 mm @ 0.62 Kg/Rm.(Medium Tensile Steel bars)					
	b. Steel Reinforcement for RCC work i/c binding & Placing in position complete 6 mm @ 0.22 Kg/Rm.(Mild steel)					
	Sub total	12.508	Kg	70.3	879.31	MSR2017
4	Providing form works i/c cantering & shuttering & propping etc. height of propping & cantering below supporting floor to ceiling not exceeding 4m and removal of the same for in-situ reinforced concrete and plain concrete work in column, pillars, post and struts etc.	4.32	Sqm	530.1	2290.03	MSR2017
5	Reinforced cement concrete work in column, pillars, piers, abutments, posts & struts up to floor two level excluding the cost of centering, shuttering, finishing and reinforcement in 1:1.5:3 ( 1 cement: 1.5 coarse sand: 3graded stone aggregate 20 mm nominal size)	0.324	Cum	8754.3	2836.39	MSR2017
6	Finishing with 12 mm cement plaster 1:3 ( 1 cement: 3 fine sand) on rough surface.	2.1	Sqm	221.2	464.52	MSR2017
7	Applying one coat cement primer of approved quality on wall / over rough surface.	2.1	Sqm	41.3	86.73	MSR2017
8	Finishing the sides with waterproof cement paint of approved quality on new work (three or more coat) to give an even shade.	2.1	Sqm	49.9	104.79	MSR2017
9	Lettering with black Japan paint (3 cm height letter for GPS Reading and Fore-bearing and Back-bearing about 30 letter)	90	cm ht	52.2	4698.00	MSR2017
10	Transportation of stone chip and sand to last motorable point for an average road distance of 88.70 km	0.405	Cum	1248.9	505.80	MSR2017
11	Transportation of cement to last motorable point for an average road distance of 88.70 Km.	0.131	MT	942.9	123.52	MSR2017

Less Contractor's Profit @ 7.5%

12089.59  
(-) 906.72

Add 12% GST.

11182.88  
(+) 1341.95

Add 1% Labour Cess

(+) 111.83

Add not exceeding 3% Contingency

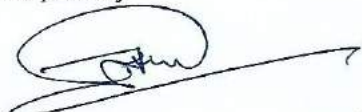
12636.65  
(+) 313.35

Estimated cost for 324 boundary demarcation pillars.

12950.00  
4195800

(Rupees forty one lakh ninety five thousand eight hundred) only.

Prepared by



Range Forest Officer, HQ  
Tamenglong Forest Division  
Government of Manipur

Checked by

  
Range Forest Officer  
Range Forest Office, Tamenglong  
Government of Manipur

Recommended by

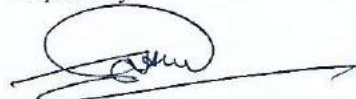
  
Divisional Forest Officer  
Tamenglong Forest Division  
Government of Manipur



**Erection of 324 nos RCC survey pillars for demarcation of diversion of 72.23 Ha of forest land for Construction of Two lane with paved shoulder of Mandeu- Jiri River Section from 80.630 Km to 96.870 Km of Tamenglong -Mahur Road (Package-6) under NHIDCL (Average distance from one pillar to the other =100 m in both side of the road)**

Sl. No.	Item of works	No	Unit	Length	Breadth	Depth	Qty	Remarks
1	Earthwork in excavation in foundation trenches or drains including dressing of sides and ramming of bottom lift upto 1.5 m including getting out the excavated soil and disposal of surplus excavated soil as directed in Hard/ Dense soil	1	Cum	0.8	0.6	1.2	0.576	
2	Filling available excavated earth (excluding rock) in trenches, plinth sides of foundation etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering lead upto 50 metres lift upto 1.5 metre.	1/3 of Item No 1.					0.192	
3	a. Reinforcement for RCC work i/c binding & Placing in position complete 10 mm @ 0.62 Kg/Rm.	6	Kg	2.7			10.044	
	b. Reinforcement for RCC work i/c binding & Placing in position complete 6 mm @ 0.22 Kg/Rm.	8	Kg	1.4			2.464	
	<b>Sub-Total</b>						<b>12.508</b>	
4	Providing form works i/c cantering & shuttering & propping etc. height of propping & cantering below supporting floor to ceiling not exceeding 4m and removal of the same for in-situ reinforced concrete and plain concrete work in column, pillars, post and struts etc.	2	Sqm	0.5	0.3	2.7	4.32	
5	Reinforced cement concrete work in column, pillars, piers, abutments, posts & struts up to floor two level excluding the cost of centering, shuttering, finishing and reinforcement in 1:1.5:3 ( 1 cement: 1.5 coarse sand: 3graded stone aggregate 20 mm nominal size)	1	Cum	0.4	0.3	2.7	0.324	
6	Finishing with 12 mm cement plaster 1:3 ( 1 cement : 3 fine sand) on rough surface.	2	Sqm	0.4	0.3	1.5	2.1	
7	Applying one coat cement primer of approved quality on wall / over rough surface on part of pillar above the ground.	2	Sqm	0.4	0.3	1.5	2.1	
8	Finishing the sides with waterproof cement paint of approved quality on new work (three or more coat) to give an even shade on part of pillar above the ground.	2	Sqm	0.4	0.3	1.5	2.1	
9	Lettering with black Japan paint (3 cm height letter for GPS Reading, Fore-bearing and Back-bearing 30 letters)	30	per letter/ cm ht.			3	90	
10	Transportation of stone agregate and sand to last motorable point for an average road distance of 88.70 Km. (0.2754 +0.1296) cum	0.405	Cum				0.405	
11	Transportation of cement to last motorable point for an average road distance of 88.70 Km.(0.131 MT)	0.131	MT				0.131	

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### Analysis for Quantity of materials for Cement Mortar works.

Sl. No	P/L cement concrete in columns piers...etc. excluding the cost of centering and shuttering.	Unit	Agregate cum	Sand cum	Cement MT
b.	1: 1.5:3 (1 c: 1.5 c/s:3 g/st/agg.20 mm)	3 cum	2.55	1.2	1.21
	For one boundary Pillar @1: 1.5:3 (1 c: 1.5 c/s:3 g/st/agg.20 mm)	0.324 cum	0.2754	0.1296	0.131

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### Analysis for Carriage Charge of materials by mechanical transport including loading , unloading and


Particular of Items of transportation.		For 5 km	For addl 1 km beyond 5 km upto 10 km	For addl 1 km beyond 10 km	Total		Remarks
	Qty	Rs	Rs	Rs	Rs		
1.11 b. i)							Taking the mean of 67 km distance from the nearest town of Tml
Sand, stone aggregate below 40 mm nominal size.	1 cum	242.71	18.19 x 5	14.08 x 88.70	1248.90		
1.12 b. ii)							
Cement mortar for the boundary pillar.	1 MT	183.16	13.72 x 5	10.63 x 88.70	942.90		do

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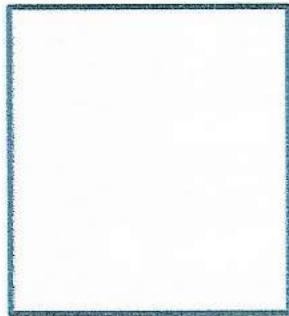
  
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# Erection of Permanent Survey Pillars

For Two lane Tamenglong-Mahur Road (Package-6)



Foundation Footing  
80 cm X 60 cm

Plan for Foundation footing



30 cm X 40 cm

1.5 Rm

G.L.

1.20 Rm

Cross-sectionional View.

  
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