

OFFICE OF THE DIVISIONAL FOREST OFFICER, NAYAGARH FOREST DIVISION

Mail id: dfo.nayagarh@odisha.gov.in phone no:06753-252226

Memo no 3915 dated 11.05.2023

To


Dy Chief Engineer (Con-II)
East Coast railway, West Annex Building RailVihar
Chandrasekharpur, Bhubaneswar-23

Sub: Avenue plantation along the Raillway track in connection with Diversion of 292.289 ha of forest land in Nayagarh District for Khurdha-Bolangir new B G rail link project from KM 112-143
Ref: your letter no DCE/C/II/BBS/FD/112-143.33 /Avenue plantation/01 dated 28.4.2023
This office Memo no 3899 dated 11.5.2023

Sir,


In partial modification to this office memo no dated 3899 dated 11.5. you are requested to deposit a sum of Rs 5,33,98,300 (Rupees five crore thirty three lakhs ninetyeight thousand three hundred) only towards the cost of approved Avenue plantation along the alignment of railway track of Khurdha-Bolangir new B G rail link project from KM 112-143 in the state CAMPA Odisha account in Parivesh portal and report compliance to this office for taking further action at this end.

Yours faithfully,


Divisional forest officer
Nayagarh forest division

Memo no 3916 dated 11.05.2023

Copy forwarded to RCCF, Bhubaneswar for information and necessary action.


Divisional forest officer
Nayagarh forest division

OFFICE OF THE DIVISIONAL FOREST OFFICER, NAYAGARH FOREST DIVISION

Mail id: dfo.nayagarh@odisha.gov.in phone no:06753-252226

Memo no 3899 dated 11-5-2023

To

Dy Chief Engineer (Con-II)
East Coast railway, West Annex Building RailVihar
Chandrasekharpur, Bhubaneswar-23

Sub: Avenue plantation along the Raillway track in connection with Diversion of 292.289 ha of forest land in Nayagarh District for Khurdha-Bolangir new B G rail link project from KM 112-143
Ref: your letter no DCE/C/II/BBS/FD/112-143.33 /Avenue plantation/01 dated 28.4.2023

Sir,


Referring to the above subject and memo under reference you are requested to deposit a sum of Rs 5,33,98,300 (Rupees five crore thirty three lakhs ninetyeight thousand three hundred) only towards the cost of approved Avenue plantation along the alignment of railway track of Khurdha-Bolangir new B G rail link project from KM 112-143 in the following account no. and report compliance to this office for taking further action at this end.

S/B Account no : 1515102000003353

Name of the account: M/S Diversion of forest land


IFSC : IBKL0001515

Yours faithfully,



Divisional forest officer
Nayagarh forest division

Memo no 3900 dated 11-5-2023

Copy forwarded to RCCF, Bhubaneswar for information and necessary action.


Divisional forest officer
Nayagarh forest division

**SCHEME
FOR
RAISING OF AVENUE PLANTATION OVER 62.658 RKM ON
EITHERSIDE OF ALIGNMENT OF THE RAILWAY TRACK
IN LIEU OF
DIVERSION OF 292.289 HA. OF FOREST LAND FOR
CONSTRUCTION OF KHURDA ROAD-BOLANGIR NEW BG RAIL
LINK PROJECT FROM KM. 112 TO 143.33**


**Divisional Forest Officer
Mayapuri Division**

**RAISING OF AVENUE PLANTATION OVER 62.658 RKM IN LIEU OF DIVERSION OF
292.289 HA. OF FOREST LAND FOR CONSTRUCTION OF KHURDA ROAD-BOLANGIR
NEW BG RAIL LINK PROJECT FROM KM. 112 TO 143.3**

❖ **INTRODUCTION:**

East Coast Railway, Bhubaneswar has submitted a proposal for diversion of 292.289 Ha. of forest land for construction of Khurda Road- Bolangir New BG Rail Link Project from Km.112-143.33 over 62.658 RKM. For compliance of the condition no. B(vii) as laid down in Stage-I/In-principle approval order Scheme for raising of Avenue Plantation @ 500 plants/RKM over 18.13 Rkm. on the non-forest land in two rows and @ 250 plants/RKM over 44.528 Rkm on the forest land in one row on either side of alignment of the track have been prepared as per the approved Plantation Cost Norm, 2021 communicated vide memo no. 18547 dt. 02.11.2021 of Principal Chief Conservator of Forests & HoFF, Odisha, Bhubaneswar.

❖ **OBJECTIVE OF THE SCHEME:**

- To arrest environment pollution, rise of atmospheric temperature.
- To add greenery and maintain aesthetic value along track side.
- To cater the need of Reptiles, Birds & small mammals.
- To break the monotony of the vehicle drivers.

❖ **PLANTING TECHNIQUE:**

• **SURVEY & DEMARCATION:**

The area should be surveyed in the field using G.P.S. system. The plantation area to be indicated by sign boards at corners or at point of intersection with tracks. The transparency boards should contain the name of the plantation site, area, year of planting, planting module, No. of seedlings planted & other details, if necessary.

• **ALIGNMENT AND STACKING:**

Alignment, stacking and pitting will be taken up in the month of January-February, Pits of size 45 cm X 45 cm X 45 cm will be dug with a space of 4 mtrs between plants & 2.5 mtrs between rows in staggered manner.

- **RAISING OF NURSERY:**

The User Agency will purchase the 18 month old seedling from Permanent Nursery of the Department, on payment of cost approved by the Pr. Chief Conservator of Forests & HoFF, Odisha.

- **PLANTING & POST-PLANTING OPERATION:**

The length of the alignment is 31.33 Km. out of which 22.264 Km. falls within the forest area and 9.066 Km. falls on the non-forest area. Avenue plantation can be taken on the forest land in one Row @ 250 plants/RKM and non-forest land @ 500 plants/RKM respectively. The chainage wise details of the forest and non-forest land are furnished below.

Non-Forest land details

Sl. No.	Starting Chainage	Ending Chainage	Length in Km.
1	112.194	112.331	0.137
2	112.365	112.397	0.032
3	112.482	112.496	0.014
4	112.551	112.747	0.196
5	112.759	112.954	0.195
6	113.000	113.012	0.012
7	113.069	113.284	0.215
8	113.303	113.612	0.309
9	114.117	114.396	0.279
10	115.580	116.122	0.542
11	118.282	118.468	0.186
12	118.541	118.572	0.031
13	119.265	119.309	0.044
14	121.139	121.736	0.597
15	122.547	122.590	0.043
16	122.920	123.020	0.100
17	123.090	123.190	0.100

Sl. No.	Starting Chainage	Ending Chainage	Length in Km.
18	123.806	123.877	0.071
19	123.970	124.240	0.270
20	127.630	127.740	0.110
21	127.768	127.808	0.040
22	127.930	127.953	0.023
23	129.244	129.388	0.144
24	129.420	129.607	0.187
25	129.635	129.715	0.080
26	129.860	129.920	0.060
27	130.016	130.068	0.052
28	130.262	130.630	0.368
29	131.563	131.577	0.014
30	132.196	132.769	0.573
31	132.807	132.829	0.022
32	132.855	133.188	0.333
33	133.238	133.322	0.084
34	133.355	133.417	0.062
35	133.421	133.515	0.094
36	133.525	133.660	0.135
37	133.666	133.714	0.048
38	133.820	133.980	0.160
39	134.044	134.613	0.569
40	134.660	135.284	0.624
41	135.608	136.493	0.885
42	136.513	136.763	0.250
43	136.872	136.903	0.031

Sl. No.	Starting Chainage	Ending Chainage	Length in Km.
44	138.342	138.791	0.449
45	142.328	142.424	0.096
46	142.990	143.040	0.050
47	143.128	143.176	0.048
48	143.339	143.441	0.102
		Total	9.066

Forest land details

Sl_No.	Starting Chainage	Ending Chainage	Length in mtr.
1	112.055	112.181	0.126
2	112.331	112.365	0.034
3	112.397	112.482	0.085
4	112.496	112.551	0.055
5	112.747	112.759	0.012
6	112.954	113.000	0.046
7	113.012	113.069	0.057
8	113.284	113.303	0.019
9	113.612	114.110	0.498
10	114.396	115.580	1.184
11	116.122	118.261	2.139
12	118.468	118.541	0.073
13	118.572	119.251	0.679
14	119.309	121.128	1.819
15	121.736	122.547	0.811
16	122.590	122.920	0.330
17	123.020	123.090	0.070
18	123.190	123.806	0.616
19	123.877	123.970	0.093
20	124.240	127.630	3.390
21	127.740	127.768	0.028
22	127.808	127.930	0.122
23	127.953	129.244	1.291
24	129.388	129.420	0.032
25	129.607	129.635	0.028
26	129.715	129.860	0.145
27	129.920	130.016	0.096
28	130.068	130.262	0.194

Sl_No.	Starting Chainage	Ending Chainage	Length in mtr.
29	130.630	131.554	0.924
30	131.577	132.193	0.616
31	132.769	132.807	0.038
32	132.829	132.855	0.026
33	133.188	133.238	0.050
34	133.322	133.355	0.033
35	133.417	133.421	0.004
36	133.515	133.525	0.010
37	133.660	133.666	0.006
38	133.714	133.820	0.106
39	133.980	134.044	0.064
40	134.613	134.660	0.047
41	135.284	135.608	0.324
42	136.493	136.513	0.020
43	136.763	136.872	0.109
44	136.903	138.342	1.439
45	138.791	142.328	3.537
46	142.424	142.990	0.566
47	143.040	143.128	0.088
48	143.157	143.342	0.185
Total Length in mtr.			22.264

The both side of the track will be re-stocked by way of raising 9065 nos. plants in Avenue plantation model @500 plants/RKM on the non-forest land and 11132 nos. plants. Avenue plantation model @250 plants/RKM on the forest land Taking into consideration of the soil condition and existing indigenous species growing there, the following species are proposed to be planted in dug out pits of 45 cm X 45 cm X 45 cm maintaining a spacing of 4 mt. between the pits with staggered manner in two rows. Plantation should be taken up after first regular shower of monsoon and should ideally be completed by end of July. Organic compounds @ 250 cft per pit, NPK/DAP fertilizer @ 50 gms per plant should be given as basal dose. Anti- termite and insecticide @ 5 gms per plant should be applied per pit while planting. Casualty replacement whenever required during the planting year and in the subsequent years up to third year should be undertaken for which the seedlings shall be raised and kept in stock at site as well as in the nursery.

Sl. No.	Common Name	Scientific Name
1	Sunari	<i>Cassia fistula</i>
2	Patuli	<i>Lagerstroemia speciosa</i>
3	Amla	<i>Phyllanthus emblica</i>
4	Baula	<i>Mimusops elengi</i>
5	Harida	<i>Terminalia chebula</i>
6	Krushnachuda	<i>Delonix regia</i>
7	Jackfruit	<i>Artocarpus heterophyllus</i>
8	Tamarind	<i>Tamarindus indica</i>
9	Mango	<i>Mangifera indica</i>
10	Jamun	<i>Syzygium cummuni</i>
11	Mysore queen	<i>Spathodiacampanulata</i>
12	Karanja	<i>Pongamia pinnata</i>
13	Pistabadam	<i>Pistacia vera</i>
14	Katha badam	<i>Terminalia catappa</i>
15	Putranjeeva	<i>Putranjeevaroxburghii</i>
16	Simuli	<i>Bombax ceiba</i>

- **CARRIAGE, PLANTING AND WATERING:**

As the seedling will be planted along the railway tracks and most of the areas are non-approachable through road, stacking of seedlings up to motorable point and their carriage to planting site will require more labour.

Watering through tanker will not be possible at all points. Hence, watopack is proposed to be given to each seedling @ 40 gm. which will reduce the number of watering in plants to thrice a month

- **WEEDING, SOIL WORKING AND MANURING:**

For establishment and boost up growth of the planted seedlings, weeding, soil working, manuring, soil & water conservation in the form of half-moon trenches are necessary. Application of vermicompost shall be given preference. First weeding shall be carried out after the first pair of leaf of the planted species have come up preferably in August. The detailed cost estimate of various operations to be taken up in Avenue plantation has been furnished below.

• **PROTECTION:**

The important element of successful plantation is Protection. To protect the plantation from grazing and other biotic interference, it will be provided with iron Gabion out of iron mesh and watchers are to be engaged on daily wage basis for ten years but they should be assigned with specific work and their involvement in protecting the plantation should be ensured. It is suggested not to engage a particular person for the entire ten years but considering the work efficiency of the person, if not found suitable should be replaced.

❖ **POINTS OF IMPORTANCE:**

While taking up plantation, the following aspects shall be taken up for consideration.

- All care should be taken to raise healthy seedlings of minimum 45cm height and 10% extra of the required stock has to be raised. Pitting shall be invariably done during January-February, when the soil is moist by fall of dew. Planting shall be done at the onset of monsoon.
- Basal dose of 50 grams of NPK and 5 grams of Bio-pesticide be applied at the time of planting. Casualty replacement, weeding and soil working, application of fertilizer and insecticides shall be taken up as per the provisions made in the cost norm at the proper time. Engaging requisite watchers as per norm is mandatory.
- All out efforts be taken to keep the plantation free from grazing, fire and other biotic interference.

❖ **FUNDING AGENCY:**

East Cost Railway, Bhubaneswar.


❖ **EXECUTING AGENCY:**

East Cost Railway, Bhubaneswar.


❖ **TOTAL FINANCIAL OUTLAY FOR THE SCHEME:**

The total financial outlay of the scheme is Rs. 5,33,98,300/-


Approved by


Regional Chief
Conservator of Forests,
Bhubaneswar
Regional Chief Conservator of Forests
Bhubaneswar Circle.

Checked by


Divisional Forest Officer,
Nayagarh Division

Prepared & submitted by


Dy. Chief Engineer (Con-
II) East Coast Railway,
Bhubaneswar
(User Agency)
उप मुख्य अभियंता (निर्माण-II)
पूर्व तट रेलवे, भुवनेश्वर
Dy. Chief Engineer (Con-II)
E.Co.Rly., Bhubaneswar

**COST NORM FOR RAISING OF AVENUE PLANTATION OVER 18.13 RKM
(18 Months Old Seedling)**

(500 plants per RKM, Spacing of 4 meters between plants & 2.5 mtr. Between Rows in Staggered Manner)

Wage Rate - 345/- Per Manday Vide Notification No. 2500/LC, Bhubaneswar dt. 05.04.2023 of Labour Commissioner, Odisha & as per Plantation Cost Norm approved by PCCF, Odisha Bhubaneswar vide his O.O No. 1087 dt. 02.11.2021.

Sl.No.	Item of work	Preferable Period of Execution	No. of M.Ds	Labour Cost (Rs.)	Material Cost (Rs.)	Total Cost (Rs.)
A. 0th Year (Advance work)						
1	Survey, demarcation, site preparation, alignment & stacking	Feb-Mar	6	2070	200	2270
2	Digging of pits (45 cm X 45 cm X 45 cm) / 50 cm diameter augur hole	Feb-Mar	20	6900	0	6900
	Total		26	8970	200	9170
3	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					458
	Grand Total		26	8970	200	9628
B. 1st Year / Planting Year						
1	Cost of transportation of seedlings in hired truck /tractor from the Permanent/Mega nursery to planting site including loading & unloading. (Average lead of 10 Rkm) to the site of planting @ Rs.6 per seedling (500+50=550 nos.)	July	0	0	3300	3300
2	A. Organic compounds/ CDM/ FYM/vermicompost (250cft. @ 0.5 cft.Per pit) @ Rs.25.00 per cft.=Rs. 6250/-	June-July	0	0	8975	8975
	B. Basal dose NPK/Bio-Fertilizer @ 50 gms.Per plant =25Kg @ Rs.30/- per kg=Rs.750/-					
	C. Insecticide/Bio Pesticide @5 gms per pit =2.5Kg@ Rs.150/- per kg =Rs 375/-					

	D. Urea /DAP/Bio-fertilizer in two subsequent doses= Rs. 1600/-					
3	Planting of Seedlings after careful removal from poly bags including mixing of FYM/CDM, Vermicompost, Insecticide/ NPK/Bio Fertilizer and Scooping the soil and pressing the soil around the plant	July-August	11	3795	0	3795
4	Casualty Replacement @ 10%	July-August	2	690	0	690
5	1 st Weeding within 0.5 mtr radius around the plant & manuring	Aug/Sept	16	5520	0	5520
6	Weeding, Soil working (15 cm deep & 0.5 mtr radius around the plant) and application of fertilizer (Urea/DAP/Bio Fertilizer etc.)	Oct/Nov	20	6900		6900
7	Provision of soil & water conservation measures by providing circular trench in flat land & half moon trench in slope area at a distance of 0.5 mt from the plant	Sept-Oct	6	2070	0	2070
9	Application of watopack @ 40 gm per Plant	Dec	0	0	20000	20000
10	Watering 1 st Dec to 31 st March (4 months) (03 days per month) including labour, transportation, hire charges of tractor/tanker @ Rs.25.00 per seedling.	Dec-March	0	0	12500	12500
11	Watch & Ward July to March 270 days per RKM	July-March	60	20700	0	20700
	Total		115	39675	44775	84450
12	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					4222
	Grand Total		115	39675	44775	88672
Additional Cost towards maintenance of Fencing						
1	Gabion made up of Bamboo twigs/Agro Net /HDPE Hexagon @Rs. 285/- per plant					
2	Gabion made up of Iron Wire mesh @Rs. 1680/- per plant					

C. 2 nd Year Maintenance						
1	Transportation of 50 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs.6/- per seedling	Jul	0	0	300	300
2	10% Casualty replacement	July-August	2	690	0	690
3	Weeding, Soil working and application of fertilizer (Insecticide/ NPK/DAP/Bio Fertilizer etc.)	Sept-Oct	30	10350	3200	13550
4	Application of watopack @ 30 gm per Plant	Dec	0	0	15000	15000
5	Watering 1 st April to 15 th June & 1 st Dec to 31 st March (195 days) including labour (5 days per month), transportation, hire charges of tractor/tanker @ Rs.25/- per seedling	April-15 th June December - March	0	0	12500	12500
6	Watch & Ward Apr-Mar (365 days) per RKM	April-March	80	27600	0	27600
	Total		112	38640	31000	69640
7	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					3482
	Grand Total		112	38640	31000	73122
Additional Cost towards maintenance of Fencing						
1	Maintenance for Gabion made up of Bamboo twigs/Agro Net /HDPE Hexagon @Rs. 42/- per plant					
2	Maintenance for Gabion made up of Iron Wire mesh @Rs. 52/- per plant					
D. 3 rd Year Maintenance						
1	Maintenance of plants including cultural operations, weeding & soil working	Sept-Oct	20	6900	0	6900
2	Watch & Ward Apr-Mar (365 days)per RKM	April-March	80	27600	0	27600
	Total		100	34500	0	34500
3	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1725
	Grand Total		100	34500	0	36225
Additional Cost towards maintenance of Fencing						

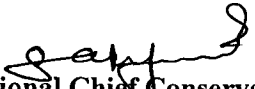
1	Maintenance for Gabion made up of Bamboo twigs/Agro Net /HDPE Hexagon @Rs. 42/- per plant					
2	Maintenance for Gabion made up of Iron Wire mesh @Rs.52/- per plant					
E. 4 th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days)per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
F. 5 th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days)per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
G. 6 th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days)per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
H. 7 th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days)per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
I. 8 th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days)per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600

2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
J. 9 th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days)per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
K. 10 th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days)per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980

ABSTRACT FOR 18.13Rkm. (9065 Nos. PLANTS)


Sl.No.	Item of work	No. of M.Ds	Labour Cost (Rs.)	Material Cost (Rs.)	MELD & Other Contingency	Seedling Cost (Rs.)	Total Cost (Rs.)
1	0 th year	26	8970	200	458	0	9628
2	1 st year	115	39675	44775	4222	29997	118669
3	2 nd year Maint.	112	38640	31000	3482	2727	75849
4	3 rd year Maint.	100	34500	0	1725	0	36225
5	4 th year Maint.	80	27600	0	1380	0	28980
6	5 th year Maint.	80	27600	0	1380	0	28980
7	6 th year Maint.	80	27600	0	1380	0	28980
8	7 th year Maint.	80	27600	0	1380	0	28980
9	8 th year Maint.	80	27600	0	1380	0	28980
10	9 th year Maint.	80	27600	0	1380	0	28980
11	10 th year Maint.	80	27600	0	1380	0	28980
	Grand Total	913	314985	75975	19547	32724	443231
A	Cost of plant including 10 years maintenance = Rs. 443231/- per Rkm.				Cost for 18.13Rkm.		8035778
B	Gabion made of Iron wire mesh including maintenance for 3 years = Rs.1784/- per plant extra				Cost For 9065 Gabions x Rs. 1784/-		16171960
	Cost for 18.13Rkm. (9065 Nos. plants) (Sub Total)						24207738

Approved by

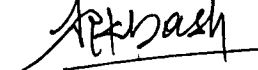

Regional Chief Conservator
of Forests, Bhubaneswar

**Regional Chief Conservator of Forests
Bhubaneswar Circle**

Checked by


Divisional Forest Officer,
Nayagarh Division

Prepared & submitted by


Dy. Chief Engineer (Con-II)
East Coast Railway,
Bhubaneswar
(User Agency)

उप मुख्य अभियन्ता (निर्माण-॥)
पूर्व तट रेलवे, भुवनेश्वर
Dy. Chief Engineer (Con-II.)
E.Co.Rly., Bhubaneswar

**COST NORM FOR RAISING OF AVENUE PLANTATION OVER 44.528 RKM
(18 Months Old Seedling)**

(250 plants per RKM, Spacing of 4 metres between plants & 2.5 mtr. one Row in Staggered Manner)

Wage Rate - 345/- Per Manday Vide Notification No. 2500/LC, Bhubaneswar dt. 05.04.2023 of Labour Commissioner, Odisha & as per Plantation Cost Norm approved by PCCF, Odisha Bhubaneswar vide his O.O No. 1087 dt. 02.11.2021

Sl. No.	Item of work	Preferable Period of Execution	No. of M.Ds	Labour Cost (Rs.)	Material Cost (Rs.)	Total Cost (Rs.)
A. 0th Year (Advance work)						
1	Survey, demarcation, site preparation, alignment & stacking	Feb-Mar	4	1380	100	1480
2	Digging of pits (45 cmX 45 cm X 45 cm) / 50 cm diameter augur hole	Feb-Mar	10	3450	0	3450
	Total		14	4830	100	4930
3	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					246
	Grand Total		14	4830	100	5176
B. 1st Year / Planting Year						
1	Cost of transportation of seedlings in hired truck /tractor from the Permanent/Mega nursery to planting site including loading & unloading. (Average lead of 10 Rkm) to the planting site@ Rs.6 per seedling (250+25=275 nos.)		0	0	1650	1650
2	A. Organic compounds/ CDM/ FYM/vermicompost (125 cft. @ 0.5 cft per pit) @ Rs.25.00 per cft.=Rs. 3125/- B. Basal dose NPK/Bio-Fertilizer @ 50 gms per plant =12.5Kg @ Rs.30/- kg=Rs.375/- C. Insecticide/Bio Pesticide @5 gms per pit =1.25Kg @ Rs.150/- per kg =Rs 188/- D. Urea /DAP/Bio-fertilizer in two subsequent doses= Rs.800/-	June-July	0	0	4488	4488
3	Planting of Seedlings after careful removal from polybags including mixing of FYM/CDM, Vermicompost, Insecticide/ NPK/Bio Fertilizer and Scooping the soil and pressing the soil around the plants	July-August	6	2070	0	2070

4	Casualty Replacement @ 10%	July-August	1	345	0	345
5	1st Weeding within 0.5 mtr radius around the plant & Manuring	Aug/Sept	8	2760	0	2760
6	Weeding, Soil working (15 cm deep & 0.5 mtr radius around the plant) and application of fertilizer (Urea/DAP/Bio Fertilizer etc.)	Oct/Nov	10	3450		3450
7	Provision of soil & water conservation measures by providing circular trench in flat land & half-moon trench in slope area at a distance of 0.5 mt from the plant	Sept-Oct	3	1035	0	1035
8	Application of watopack @ 40 gm per Plant	Dec	0	0	10000	10000
9	Watering 1 st Dec to 31 st March (4 months) (10 days per month) including labour, transportation, hire charges of tractor/tanker @ Rs.25.00 per seedling	Dec-March	0	0	6250	6250
10	Watch & Ward July to March 270 days per RKM	July-March	60	20700	0	20700
	Total:		88	30360	22388	52748
11	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					2637
	Grand Total:		88	30360	22388	55385
Additional Cost towards maintenance of Fencing						
1	Gabion made up of Bamboo twigs/Agro Net /HDPE Hexagon @Rs. 285/- per plant					
2	Gabion made up of Iron Wire mesh @Rs. 1680/- per plant					
C. 2nd Year Maintenance						
1	Transportation of 25 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs.6/-- per seedling	Jul	0	0	150	150
2	10% casualty replacement	July-August	1	345	0	345
3	Weeding, Soil working and application of chemical fertilizer (NPK/DAP/Bio Fertilizer etc.)	Sept-Oct	15	5175	1600	6775
4	Application of watopack @ 30 gm per Plant	Dec	0	0	7500	7500

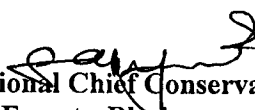
4	Watering 1 st April to 15 th June & 1 st Dec to 31 st March (195 days) including labour (5 days per month), transportation, hire charges of tractor/tanker @ Rs.25.00 per seedling	April-15th June December -March	0	0	6250	6250
5	Watch & Ward Apr-Mar (365 days) per RKM	April-March	80	27600	0	27600
	Total		96	33120	15500	48620
6	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					2431
	Grand Total		96	33120	15500	51051
Additional Cost towards maintenance of Fencing						
1	Maintenance for Gabion made up of Bamboo twigs/Agro Net /HDPE Hexagon @Rs. 42/- per plant					
2	Maintenance for Gabion made up of Iron Wire mesh @Rs. 52/- per plant					
D. 3rd Year Maintenance						
1	Maintenance of plants including cultural operations, weeding & soil working	Sept-Oct	10	3450	0	3450
2	Watch & Ward Apr-Mar (365 days) per RKM	April-March	80	27600	0	27600
	Total		90	31050	0	31050
3	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1552
	Grand Total		90	31050	0	32602
Additional Cost towards maintenance of Fencing						
1	Maintenance for Gabion made up of Bamboo twigs/Agro Net /HDPE Hexagon @Rs. 42/- per plant					
2	Maintenance for Gabion made up of Iron Wire mesh @Rs. 52/- per plant					
E. 4th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days) per RKM	April-March	80	27600	0	27600
	Total:		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total:		80	27600	0	28980
F. 5th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days) per RKM	April-March	80	27600	0	27600
	Total:		80	27600	0	27600

2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
G. 6th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days) per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
H. 7th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days) per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
I. 8th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days) per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
J. 9th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days) per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980
K. 10th Year Maintenance						
1	Watch & Ward Apr-Mar (365 days) per RKM	April-March	80	27600	0	27600
	Total		80	27600	0	27600
2	Monitoring, Evaluation, Learning, Documentation & any other Contingency upto 5% of the total cost.					1380
	Grand Total		80	27600	0	28980


ABSTRACT FOR 44.528 Rkm. (11132 Nos. PLANTS)

Sl. No.	Item of work	No. of M.Ds	Labour Cost (Rs.)	Material Cost (Rs.)	MELD & Other Contingency	Seedling Cost (Rs.)	Total Cost (Rs.)
1	0 th year	14	4830	100	246	0	5176
2	1 st year	88	30360	22388	2637	14998	70383
3	2 nd year Maint.	96	33120	15500	2431	1364	52415
4	3 rd year Maint.	90	31050	0	1552	0	32602
5	4 th year Maint.	80	27600	0	1380	0	28980
6	5 th year Maint.	80	27600	0	1380	0	28980
7	6 th year Maint.	80	27600	0	1380	0	28980
8	7 th year Maint.	80	27600	0	1380	0	28980
9	8 th year Maint.	80	27600	0	1380	0	28980
10	9 th year Maint.	80	27600	0	1380	0	28980
11	10 th year Maint.	80	27600	0	1380	0	28980
	Grand Total	848	292560	37988	16526	16362	363436
A	Cost of plant including 10 years maintenance = Rs. 363436/- per Rkm.				Cost for 44.528 Rkm.		16183078
B	Gabion made of Bamboo Twigs including maintenance for 3 years = Rs. 369/- per plant extra				Cost For 11132 Gabions x Rs. 369/-		4107708
	Cost for 44.528 Rkm. (11132 Nos. plants) (Sub Total)						20290786

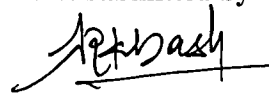
Approved by


Regional Chief Conservator
of Forests, Bhubaneswar
Regional Chief Conservator of Forests
Bhubaneswar Circle.

Checked by


Divisional Forest Officer,
Nayagarh Division

Prepared & submitted by



Dy. Chief Engineer (Con-II)
East Coast Railway,
Bhubaneswar
(User Agency)

उप मुख्य अभियंता (कॉन्-२)
पूर्व मेट रेलवे, भुवनेश्वर
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E.Co.Rly., Bhubaneswar

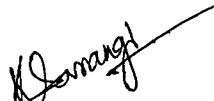
Financial Outlay for raising of **Avenue Plantation Scheme** over an area of **18.13 RKM** @ 500 plants/RKM over the non-forest land and 44.528 RKM @ 250 plants/RKM over the forest land. The said scheme has been prepared as per **Plantation Cost Norm** approved by PCCF, Odisha Bhubaneswar vide his O.O No. 1087 dt. 02.11.2021.

Sl. No.	Description	Amount (Rs.)
1.	Avenue Plantation @ 500 plants per RKM over 18.13 RKM @ Rs. 4,43,231/- per Rkm. with provision of 10 years maintenance	80,35,778.00
a.	Cost of Gabion made of Iron Wire Mesh @ Rs. 1784/- per plant for 9065 plants	1,61,71,960.00
2.	Avenue Plantation @ 250 plants per RKM over 44.528 RKM @ Rs. 3,63,436/- per Rkm with provision of 10 years maintenance	1,61,83,078.00
a.	Cost of Gabion made of Bamboo twigs @ Rs. 369/- per plant for 11132 plants	41,07,708.00
	Sub-Total	4,44,98,524.00
3.	Escalation Cost 20%	88,99,805.00
	Grand Total	5,33,98,228.00 Or round off to 5,33,98,300.00
Rupees five Crore thirtythree Lakh ninetyeight Thousand three Hundred only		


Approved by


Regional Chief
Conservator of Forests,
Bhubaneswar
Regional Chief Conservator of Forests
Bhubaneswar Circle

Checked by


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Prepared & submitted by


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