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SCHEME FOR COMPENSATORY AFFORESTATION

In lieu of Forest Land of Ac 7.000 or 2.832 Ha in favour of
MAYFAIR Hotels & Resorts Limited
in Mouza: Jaydev Vihar, Bhubaneswar

(State SL No. OR-063/2021 dtd. 03.08.2021)

(Non-Forest land selected for Compensatory Afforestation –2.832 ha)

Block Plantation: 2.832ha

Divisional Forest Officer
Nayagarh Forest Division

Divisional Forest Officer
Nayagarh Division

Land Suitability Certificate

This is to certify that 2.832 Ha of Revenue land in village Mahulapada under Khandapada Range in Nayagarh Forest Division is identified for Compensatory Afforestation and found suitable for plantation and from management point of view. No plantation has been carried out in the aforesaid areas in any scheme previously.

R Sarangi

Divisional Forest Officer
Nayagarh Forest Division

Divisional Forest Officer
Nayagarh Division

SCHEME FOR COMPENSATORY AFFORESTATION

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1. **Introduction:**

MAYFAIR Hotels & Resorts Limited, Bhubaneswar has applied for diversion of Forest Land of Ac 7.000 or 2.832 Ha in Mouza: Jayadev Vihar, Bhubaneswar for construction of Sports Complex of Hotel vide State SL No. OR-063/2021 dtd. 03.08.2021. In order to provide compensatory Afforestation land, the user agency has selected 2.832 Ha of Government Land against the Project.

2. **Details of Government land allotted for Compensatory afforestation:**

The land details of Government land selected and allotted for compensatory afforestation is as follows.

District: Nayagarh
Tahasil: Khandapada
Name of Forest Division: Nayagarh Forest Division.
Name of The Range: Khandapada Range

Land Schedule

SN.	Village	Khata No.	Plot No.	Kissam	Area taken in Ac.	Total Plot Area in Ac.	Remark
1	Mahulapada	401	1504 (Part)	Parbat 3	7.000	8.06	Allotted vide letter No.2380 dated 15.09.2022 of Collector, Nayagarh
		Total			**Ac 7.000 or 2.832 Ha**	**8.06**	

Area to be afforested: 2.832 Ha

3. Description of Area

The land selected and allotted by the Collector, Nayagarh comes within territorial jurisdiction of Khandapada Range under Divisional Forest Officer, Nayagarh Forest Division, Nayagarh.

- **Soil**: The Soil is hard Murrom Lateritic in nature with course texture. There is no remarkable erosion in the area selected.
- **Topography**: The land is mostly plain. The altitude is about 60m MSL
- **Climate**: The area experiences a tropical climate. The average rainfall is 1300mm. summer is from March to June. The South west monsoon brings usual rain and most of the rainfall receives within July to October. Depression in Bay of Bengal brings wide spread rainfall to this region. Cyclonic storm sometimes occurs and cause loss of life & property.
- **Vegetation**: The selected area now bears thorny bushes with average height below 1m. There are natural vegetation in the form of saplings of Sal (*Shorea robusta*), Mahula (*Madhuca indica*), Asan (*Terminalia tomentosa*), Chara (*Buchanania lanzan*), Kendu (*Diospyros embryopteris*), Rohini (*Mallotus phillipinensis*), Pia sal *(Pterocarpus marsupium*), Dhaura (*Anogeissus latifolia*) etc. in degraded condition. Climbers like Siali (*Bauhinia vahili*), Dantari (*Acacia sinuate*), Dhatki (*Woodfordia fruiticosa*), Satabari (*Asparagus racemosa*) and shrubs like Khajur (*Phoenix dactylifera*), Kurum (*Adina cordifolia*), Kaintha (*Limonia acisidissima*) etc occurring scattered here and there in the above locations. The entire land is filled with unwanted weeds, bushes, climber etc.
- **Biotic interference**. There is heavy pressure on land as it is close to human settlement. Moderate grazing pressure is noticed. It is very sensitive to fire.

4. Plantation Model: -

It is proposed to take up plantation in one model i.e.

- Block Plantation @1600 plants per hectare Over 2.832 Ha.
- Soil & Moisture Conservation: Staggered trenches @200nos per Ha (2mx0.5mx0.5m)
- Pit size - 45cmx45cmx45cm
- GI Chain Link Fencing 833 rmt around the CA land

5. Schedule of Plantation Program: -

As the area is in one patch and 2.832 ha it is proposed to take up the plantation work in one year and subsequent maintenance as per approved cost norm. The planting details summarized below.

Sl No	Parameters / description	Plantation model
1	Model	Block Plantation (Normal Mode)
2	No of Plants per Hectare	1600
3	Total area to be planted in Hectare	2.832 Ha
4	Total number of Plants to be planted.	1946
5	Spacing to be adopted	2.5mx2.5m
6	Pit size	45cm x 45cm x 45cm
7	Fencing required in total	833 rmt
8	Wage Rate	Rs 333.00

The Cost norm for Block plantation is at **Annexure-I**. Cost for GI chain link fencing is at **Annexure-II**. The year wise flow of funds is as furnished below.

Special Objectives of Compensatory Afforestation are as follows:

- To restrict the degradation by reducing the biotic interference to barest minimum and reverse the trend towards the process of restoration of vegetation.
- To develop the forest by providing site-specific silvicultural treatment.
- To facilitate the boosting of natural regeneration and ensure their establishment.
- To take up appropriate soil moisture conservation (SMC) measures to improve the soil and moisture regime.
- To take up SMC measures to capture maximum rain water in the forest area, reduce surface run off, increase percolation of rain water and recharge the ground water.
- To improve the bio-diversity of the forest block.
- To meet the need of the local villagers with regard to firewood and small timber depending upon the productivity (from silvicultural operations like thinning, subsidiary silvicultural operation, climber cutting, cutting of high stumps, double shoot cutting etc.).
- To provide a green clothing to the area by means of artificial regeneration and plantation in order to reduce soil erosion and to save the catchment area of river Mahanadi.
- To improve the wildlife habitat by enrichment plantation consisting of fruit bearing and fodder species.

Item of works to be taken up:

To achieve the above objectives, the following items of works are mainly prescribed to be taken up:

- Survey & Demarcation.
- Fencing.
- Site Clearance & Planting in gaps
- Site Specific Soil & Moisture Conservation Measures.
- Protection of Plantation
- EPA (Entry Point Activity)
- Monitoring & Evaluation Mechanism

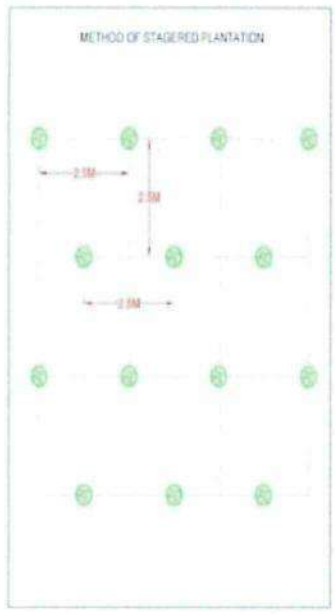
5. Technical details: -

a) **General:**

The plantation will be taken up in Block Plantation mode @1600 plants per hectare. There are useful plants like Bela (*Aegle marmelous*), Barkoli (*Ziziphus mauritiana)*, Kendu (*Buchanania lanzan*) at present in bushy stage. These plants will be allowed to grow naturally under protection. The year wise activities to be implemented has been enumerated in the approved Cost norm at Annexure- I.

b) Spacing:

The plant density proposed for planting is @1600 plants per ha in block planting area. The spacing is 2.5mX2.5m which is generally adopted in this tract. It is suggested to have the line of planting along the contour and plant to plant in adjacent row is staggered. This will reduce the runoff and encourage percolation of water and enrichment of vegetation.



c) Choice of Species: Considering the openness and degraded land condition of the site preference should be given on hardy indigenous, light demander, drought hardy and fodder species. Considering the topography, soil and moisture availability of the plantation area, the following species will be planted.

Sl.no	Scientific Name of species	Common name	Sl.no	Scientific Name of species	Common name
1	*Terminalia arjuna*	Arjun	10	*Dalbergia sissoo*	Sissoo
2	*Azadirachta indica*	Neem	11	*Gmelina arborea*	Gambhari
3	*Pongamia pinata*	Karanja	12	*Dendrocalamusstrictus*	Salia Bamboo
4	*Emblicaoficinalis*	Amla	13	*Terminalia tomentosa*	Asana
5	*Terminalia belerica*	Bahada	14	*Madhuca indica*	Mahul
6	*Albizia lebbeck*	Sirisa	15	*Acacia catechu*	Khaira
7	*Zizyphusmauritania*	Barakoli	16	*Mangifera indica*	Mango
8	*Syzygiumcumini*	Jamun	17	*Ficus benghalensis*	Bara
9	*Ficus religiosa*	Pipal	18	*Artocarpus heterophyllous*	Panasa

d) Plantation Method.

- **Survey & Demarcation** :

The identified area has been surveyed by DGPS and also map has been prepared. The area will be demarcated with RCC pillars of size 1.0 m x 10 cm x 10 cm for clear identification of the area.

- **Fencing.**

To protect the plantation from grazing, encroachment and other biotic interferences, it is proposed to provide GI Chain link mess fencing along about 833 mt around the periphery of the site. The approved cost estimate for Angle iron chain link wire mesh fencing with 10 years maintenance has been provided as **Annexure II .** Assistance of V.S.S is necessary for better social fencing for protection of plantation.

Description of GI Chain Link Fencing

It is suggested to put T shaped pillars at an interval of 2.5m. The length of such pillar is 1.95 m. (1.5m above the ground & 0.45m below the ground.) Size 15cmx10cm. The Lower bar of inverted "T" is of 45cm including the width of the pillar. There will be GI Chain Link mess wire of hot deep 70 gsm 3.15 mm G.I. wire mesh size 50mm x 50 mm.

- **Site Clearance & Planting** :

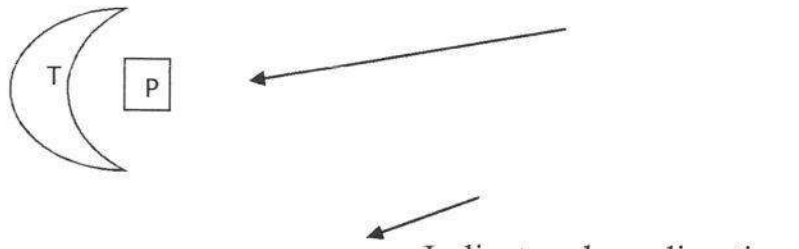
Plantation over 2.832 Ha shall be taken up with planting model of AR @ 1600 plants per hectares at a spacing of 2.5 m x 2.5 m. in permanent blacks and in staggered manner in gaps having natural vegetation Site clearance and cleaning to be done in the treatment area to create gap for plantation. Silvicultural cleaning by cutting of high stumps, removal of weeds, singling of multiple shoots, pruning of retained shoots, cutting of climbers and unwanted species in congested areas will be done, so that the plants get optimum condition for growth. All planting and post planting measures like casualty replacement, soil working, manuring, fire protection etc. will be undertaken as per the prescription and guideline issued by PCCF Odisha. Alignment will be made along the contour strictly. It is also suggested to have plants staggered within adjacent rows to reduce runoff. The materials so removed from the site clearance and SSO to be distributed among the villagers/VSS people. A register of distribution to be maintained at Range level.

Plantation will be done after first regular shower of monsoon and to be completed within a week. Basal dose of NPK/DAP fertilizer @30gm per plant to be given. Utmost care is to be taken to apply insecticides @5gm per pit. Casualty replacement is to be taken up during 1st year of plantation just after one month of planting. 10% causality replacement is also suggested during 2nd Year.

- **Weeding, Soil working and Application of Fertilizer.**

Post planting operation is most vital in success of any planting programme. It is proposed to carry out two weeding during first year. Preferable Strip Weeding along the contour will be taken up. One weeding and soil working has to be done in second year and third year of plantation. Application of 30gms of NPK/DAP to be added to the soil per plant at the time of soil working during rains during 1st & 2nd year of

plantation. During second weeding, provision of Half-Moon trench is suggested. This will also be repeated during 2nd year also. The design is furnished below.



T : Half-moon trench

Indicates slope direction.

P: Plant position.

- **Application of insecticide**:

To prevent infestation of planted seedlings with diseases due to influx of insects and pests into the area, it is required to apply insecticides like Phorate at the time of planting. Foliar spraying of insecticide may be done if badly necessary.

- **Fire line tracing and maintenance**:

Tender seedlings planted are subject to damage by ground fire. It is required to protect the plantation and forest growth from fire hazard by tracing of fire lines. Boundary of the plantation and several internal lines need to be scrapped to a width of 2mtr during February-March. The cut back materials and dry leaves along with fire lines should be separated and dumped in pits outside the plantation area.

- **Fencing.**

To protect the plantation from grazing, encroachment and other biotic interferences, it is proposed to provide GI Chain link mess fencing along about 350rmt periphery of the site. The approved cost estimate for Angle iron chain link wire mesh fencing with 10 years maintenance has been provided as **Annexure II.** Assistance of V.S.S is necessary for better social fencing for protection of plantation.

- **Watch and ward:**

Watch and ward is necessary to protect the area from grazing, fire accident and other biotic interference. Necessary provisions have been made in the approved cost norm.

e) **Soil and Moisture Conservation Works:**

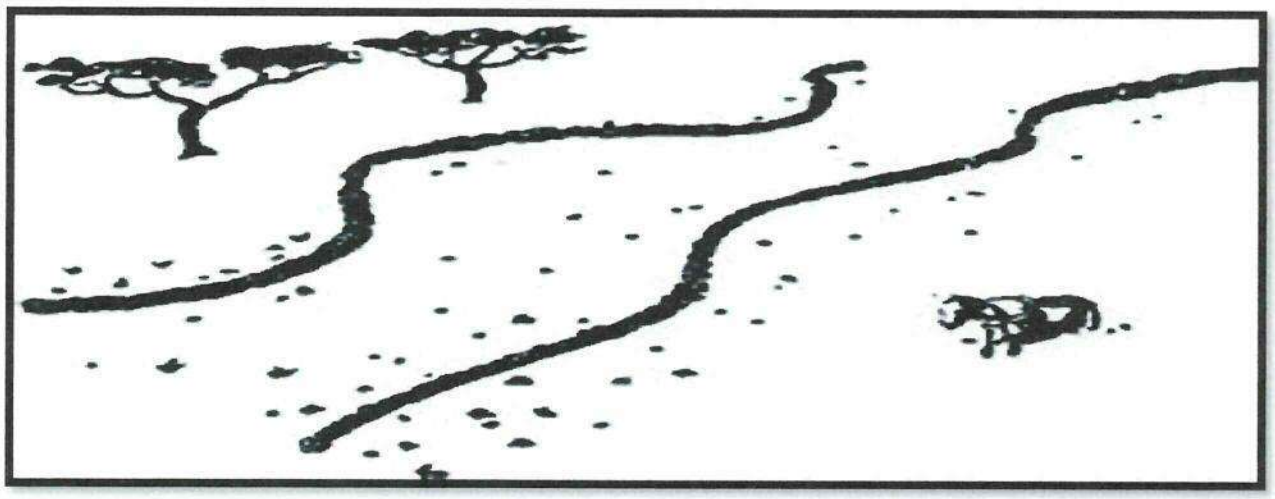
Rain water harvesting, run off management and enhancement of percolation are the cardinal activities to improve infiltration of water for re-charging of ground aquifer. It enhances the moisture availability to the vegetation in forest eco-system. Soil and moisture conservation activities have been taken up in forestry in various scales and levels as a subsidiary activity and dovetailed to plantation and other afforestation activities. In order to improve water availability in Forests, it is to be practiced as core forestry activity independent of other forestry interventions.

The strategy adopted for rain water harvesting in forest areas is enumerated below.

- **Forest Floor Treatment** :

The forest floor is the catchment where the precipitation touches the ground and subsequently is drained through the drainage line. It forms the focus area in the rain water harvesting. Permissible interventions will not only capture the rain water but also enhance the retention period ultimately leading to increased infiltration. The Staggered Trenches primarily aims to break the run off. In a Ha. of land up to 300 nos. of Staggered Trenches will be created. The dimension of the Staggered Trenches will be 2.5mt. X 0.5 mt X 0.5 mt. It will help in conserving rain waters of that region and facilitate its percolation. Adequate care should be taken during alignment of such trenches so that gullies are not formed by the water flowing downhill from the edges of the Trench. The identified nalas will be treated, from top to bottom (ridge to valley) approach as per the specific site condition, which will retard the velocity of run-off and be helpful in recharging as well as feeding ground water to the plants planted below it.

Staggered Trench



f) **Peoples Participation** :

In the recent times, no scheme shall be effective if the local villagers are not involved in the implementation of the scheme itself. The villagers who are having a right on the NTFP items in the adjoining forest area are to be associated with the implementation of the scheme at all different levels. For that, Van Samrakhyan Samiti (VSS) is proposed to be constituted in all the villages around the Compensatory Afforestation site. The villagers are to be motivated, inspired and above all, explained the benefits they will be getting, if plantation is protected by them.

g) **EPA (Entry Point Activity) :**

To build the confidence of the local public and smooth execution of the works, Entry-Point Activities in compliance to Govt Resolution of 1993 and 2011, are proposed to orient the community members towards thrift and credit activities. EPA will be taken up after discussion with the nearby villages surrounding the CA site at Nuagaon.

h) Monitoring & Evaluation Mechanism :

The scheme shall be effective for a period of 10 years. The cost will be deposited by the user agency and work will be executed by the Divisional Forest Officer, Nayagarh Division with his staff and all prescribed records are to be maintained. In addition to internal monitoring by Forest Officers of State Government, a Monitoring Committee under item no. 3.4 (iii) of consolidated guidelines under F.C Act 1980 issued by MoEF, shall be established with a nominee of the Central Government to oversee that the stipulations, including those pertaining to Compensatory Afforestation are carried out for Revenue Forest land.

Divisional Forest Officer
Nayagarh Forest Division
Divisional Forest Office
Nayagarh Division

COST NORM FOR PLANTATION **ANNEXURE- I**

One time Cost Norm for Compensatory Afforestation @ 1600 Seedlings /Ha. (18 months old seedling) 2.832 Ha. in Mahulapada village area of Khandapada Range Wage Rate Rs.333/-per Mandays

BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)						
WAGE RATE Rs- 333/- PER MANDAY						
Sl. No	**Items of work**	**Preferable Period of Execution**	**No of Mandays**	**Labour Cost (In Rs.)**	**Material Cost (In Rs.)**	**Total cost (In Rs.)**
1	**2**	3	4	5	6	7
0th Year (Advance work) Pre-Planting Operation						
1	Survey, Demarcation and Pillar posting	Nov/Dec	2	666	0	666
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	333	100	433
3	Site preparation (Cleaning & removal of debrises)	Nov/Dec	12	3996	0	3996
4	Creation of 4.00 mt wide Inspection Path	Feb/Mar	1	333	0	333

5	Alignment and stacking	Feb/Mar	2	666	0	666
6	Digging of pits (45 cm x 45 cm X 45 cm) in hard and gravelly soil	Feb/Mar	64	21312	0	21312
7	Construction of Temporary Labour Shed, Drinking water facility and First-Aid etc.	Jan/Mar	0	0	3500	3500
	Total		82	27306	3600	30906
	1st Year/Planting Year					
1	Refilling of pits by altering the dug-out soil of the pits, application of Organic compounds/ CDM/ FYM & mixing the same properly.	Jun/Jul	12	3996	8000	11996
2	Transportation of 18 months old polypot seedlings in hired truck /tractor from the permanent/Mega nursery to planting site including Loading & unloading. (Average lead of 10 Rkm) & stacking the seedling @ Rs.6/- per Seedling. (1760 nos.)	Jul/Aug	0	0	10560	10560
3	Watering the polypot seedlings at planting site	Jul/Aug	3	999	0	999

4	Conveyance of polypot seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizers & planting after scooping the soil with other applied materials & pressing the soil properly around the planted seedlings.	Jul/Aug	36	11988	0	11988
5	Cost of Fertilizer & Insecticide (a)NPK/Bio-fertilizer @ 50 gms/plant as basal dose = 80kg @ Rs.30/- per kg = Rs. 2400.00 (b) Urea/Vermicompost/Mo Khata/any other fertilizer in two subsequent doses @ Rs. 1,200.00 (c) Insecticide/ Bio-pescticide @ 5 gms/plant= 8 kg @ Rs.150/- per kg = Rs. 1200.00	Jul/Aug	0	0	4800	4800
6	Casualty Replacement @ 10% (160 nos.)	Jul/Aug	4	1332	0	1332
7	1st weeding & Manuing	Aug/Sept	15	4995		4995
8	2nd Weeding, Soil working (1mt. diametre around the plants) and Manuring	Oct/Nov	20	6660	0	6660

9	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	999	0	999
10	Watch & Ward including watering as per requirement	Aug-Mar	12	3996	0	3996
	Total		105	34965	23360	58325
	2nd Year Maintenance					
1	Transportation of 160 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs.6/- per seedlings	Jul	0	0	960	960
2	Causality replacement- 10%	Jul	4	1332	0	1332

3	Cost of Fertilizer & Insecticide- A) Cost of Insecticide/ Bio-pesticide @ 5 gms/plant = 0.8 Kg @ Rs.150/- per kg = Rs.120/- B)Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer @Rs. 4486/-	Aug/Sept	0	0	4606	4606
4	Weeding (Complete weeding), Manuring & Soil working (1mt. diametre around the plants)	Sep/Oct	20	6660	0	6660
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	999	0	999
6	Watch & Ward including watering as per requirement	Apr-Mar	18	5994	0	5994
7	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.				1000	1000
	Total		45	14985	6566	21551
3rd Year Maintenance						
3	Cost of FertilizerUrea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer	Sept/Oct	0	0	4486	4486

4	Weeding, Manuring & Soil working, (1mt. diametre around the plants)	Sep/Oct	20	6660	0	6660
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	999	0	999
6	Watch & Ward including watering as per requirement	Apr/Mar	18	5994	0	5994
7	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.	Apr/Mar			1000	1000
	Total		41	13653	5486	19139
4th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	999	0	999
2	Watch & Ward	Apr-Mar	18	5994	0	5994
	Total		21	6993	0	6993
5th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	999.00	0	999

2	Watch & Ward	Apr/Mar	18	5994.00	0	5994
	Total		21	6993	0	6993
6th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	999.00	0	999.0
2	Pruning of branches, Singling out of multiple shoots	Jan/Mar	5	1665.00	0	1665.0
3	Watch & Ward	Apr/Mar	18	5994.00	0	5994.0
	Total		26	8658	0	8658.0
7th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	999.00	0	999
2	Watch & Ward	Apr/Mar	18	5994.00	0	5994
	Total		21	6993	0	6993
8th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	999.00	0	999

2	Watch & Ward	Apr/Mar	18	5994.00	0	5994
	Total		21	6993	0	6993
9th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	999.00	0	999
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
	Total		21	6597	0	6597
10th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933	0	933
3	Watch & Ward	Apr/Mar	18	5994.00	0	5994
	Total		21	6927	0	6927

Year wise Abstract of Cost Norm (showing seedling cost separately)							
Sl. No	**Year**	**No. person days**	**Labour cost @ Rs. 333/- per day (Rs)**	**Material Cost**	**Monitoring, Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5)**	**Cost of Seedlings @Rs.53.048 per seedlings**	**TOTAL COST (in Rs)**
1	2	3	4	5	6	7	8
1	0th year	82	27306	3600	1545	0	32451
2	1st year	105	34965	23360	2916	93364	154605
3	2nd year	45	14985	6566	1078	8488	31117
4	3rd year	41	13653	5486	957	0	20096
5	4th year	21	6993	0	350	0	7343
6	5th year	21	6993	0	350	0	7343
7	6th year	26	8658	0	433	0	9091
8	7th year	21	6993	0	350	0	7343
9	8th year	21	6993	0	350	0	7343

10	9th year	21	6993	0	350	0	7343
11	10th year	21	6993	0	350	0	7343
Total:		425	141525	39012	9029	101852	291418
Total requirement (for 2.832 ha)							**825295.77 or 825296.00**

COST NORM FOR FENCING

ANNEXURE-II

One time Cost Norm for Fencing using Angle Iron & Chain Link Wire Mesh in 833rmt in Mahulapada village area of Khandapada Range (250 Rmt)
Wage Rate Rs.333/-per Mandays

Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link wire mesh (250 Rmt.)						
WAGE RATE Rs- 333/- PER DAY						
Sl. No	**Items of work**	**Preferable Period of Execution**	**Man days**	**Wages**	**Material cost (Rs)**	**Total Cost (Rs. per Ha.)**
0th Year (PPO)						
1	Earth work (Excavation of hole) in Hard soil at a distance 3 mt. 0.40m x 0.40m x 0.40m = 0.064 x 84 = 5.376 cum @ Rs. 140/ cum = Rs. 753.		2.42	805.86	0.0	805.9
2	Cement concrete (1: 4: 8) using 40 mm BHG metal 84 X 0.40m X 0.40m X 0.10m = 1.344 @ 3755.94/cum		0	0	5,047.4	5,047.4
3	Angle Iron pole of size 50 mm X 50 mm X 6 mm of height 2.40 mt. 84 x 2.40 = 201.60 Sqmt. @ 4.50/kg/ Sqmt. = 907.20 kg @ 69.50 per kg				63,050.0	63,050.0

4	Cement concrete (1: 2: 4) for fixing the iron angel pole using 12mm BHG Chips 84 X 0.40m X 0.40m X 0.30m = 4.032 cum @ 5486.77/cum				22,123.0	22,123.0
5	Cost of Chain link mess using 4 mm Dia GI wire having gap size 50 mm X 50 mm 250 Rmt X 2.10 mt. = 525 Sq.mt @ 331/Sqmt = Rs. 1,73,775				1,73,775.0	1,73,775.0
6	Double cost painting of iron angel pole over a coat of primer using good quality enamale paint 84 x 2.10 x 0.20 = 35.28 sqmt. @ Rs.108.80/Sqmt				3,838.0	3,838.0
7	Painting of GI chain link mess 250 x 2.10 x 2 = 1050/10 = 105 Sqmt. @ Rs. 108.80 Sqmt.				11,424.0	11,424.0
8	Transpotation of Chain link mess, Iron angle, Straighening & tieing of chain link mess etc. @ 2% of the total cost.				5,600.0	5,600.0
	TOTAL		**2.42**	**805.86**	**2,84,857.4**	**2,85,663.3**

Rate per running mt. 2,85,610/ 250= Rs. 1142/Rmt

1st Year Maintenance

1	No Maintenance is required.	Sept./Oct	0	0	0	**0**

2nd Year Maintenance

1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	**11000**

3rd Year Maintenance						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	**11000**
4th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	**11000**
5th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	**11000**
6th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	**11000**
7th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	**11000**
8th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	**11000**
9th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	**11000**

10th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	**11000**

Abstract					
Sl. No	**Year**	**No. person days**	**Labour cost @ Rs. 333/- per day**	**Material Cost**	**Total cost (Rs.)**
1	0th year	2.42	805.9	284857.4	285663.3
2	1st year	0.0	0.0	0.0	0.0
3	2nd year	0.0	0.0	11000.0	11000.0
4	3rd year	0.0	0.0	11000.0	11000.0
5	4th year	0.0	0.0	11000.0	11000.0
6	5th year	0.0	0.0	11000.0	11000.0
7	6th year	0.0	0.0	11000.0	11000.0
8	7th year	0.0	0.0	11000.0	11000.0
9	8th year	0.0	0.0	11000.0	11000.0
10	9th year	0.0	0.0	11000.0	11000.0
11	10th year	0.0	0.0	11000.0	11000.0
Total:		**2.42**	**805.86**	**383857.4**	**3,84,663.3 or 3,84,663.00**
Requirement for 833 rmt					**12,81,697.12 or 12,81,697.00**

COST NORM FOR SMC **ANNEXURE- III**

One time Cost Norm for SMC in 2.832 Ha in Mahulapada village area of Khandapada Range
Wage Rate Rs.333/-per Mandays

SMC Works Model-C			
Cost Norms for creation of Compensatory Afforestation with Stabilization of Soil & Conservation of Moisture			
WAGE RATE Rs- 333/- PER DAY			
Sl.No	**Item of Works**	**Preferable Period of Execution**	**Total Cost**
0th Year (Pre-Planting Operation)			
1	Nil		0
1st Year			
2	Soil Conservation measure structures like Staggered Trench, Percolation pit, Contour trench, Graded earthen bund, LBCD, Wire mesh LBCD, Sub surface Dyke & WHS as per the slope & site requirement on LS	Apr/Sept.	21,645
2nd Year			
3	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,246.75
3rd Year			
4	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,246.75
4th Year			
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,246.75
4th Year			
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,246.75
	Total		**34632.00**

Abstract					
Sl. No	**Year**	**No. person days**	**Labour cost @ Rs. 333/-per day**	**Material Cost**	**Total cost (Rs.)**
1	0th year	0.0	0.0	0.0	0.0
2	1st year	0.0	0.0	21,190	21,645.00
3	2nd year	0.0	0.0	3,178	3246.75
4	3rd year	0.0	0.0	3,178	3,246.75
5	4th year	0.0	0.0	3,178	3,246.75
6	5th year	0.0	0.0	3,178	3,246.75
Total		**0.00**	**0.00**	**33,902.0**	**34,632.00**
Total (for 2.832 Ha)					**98,077.82 or 98,078.00**

Different types of SMC structures will be taken up as per the scope & requirements of the plantation site out of the design & specification of different structures

Total cost of the Scheme of CA over 2.832 ha in in Mahulapada village area of Khandapada Range

Sl. No.	Components	Amount (in Rs)
1	Cost of Plantation	**8,25,296.00**
2	Cost of fencing	**12,81,697.00**
3	Cost of EPA	**1,23,795.00**
4	Cost of SMC	**98,078.00**
TOTAL		**23,28,866.00**

(Rupees Twenty-three Lakhs twenty-eight thousand eight hundred and sixty-six rupees only)

This amount will be paid by the user agency and the work will be executed by DFO, Nayagarh with his staffs for a period of 10 years.

Divisional Forest Officer
Nayagarh Division

Divisional Forest Officer
Nayagarh Division

ANNEXURE- IV

Matrix for Fencing Model F-II (Iron angle with PVC Chainlink mesh)

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total Cost in Rupee
Base Norm		**285610**	**0**	**11000**	**11000**	**11000**	**11000**	**11000**	**11000**	**11000**	**11000**	**11000**											
1	**2021-22**	285610	0	12126	12734	13370	14039	14740	15478	16252	17064	17918											**419331**
2	**2022-23**		299891	0	12732	13371	14039	14741	15477	16252	17065	17917	18814										**440299**
3	**2023-24**			314886	0	13369	14040	14741	15478	16251	17065	17918	18813	19755									**462316**
4	**2024-25**				330630	0	14037	14742	15478	16252	17064	17918	18814	19754	20743								**485433**
5	**2025-26**					347162	0	14739	15479	16252	17065	17917	18814	19755	20742	21780							**509709**
6	**2026-27**						364520	0	15476	16253	17065	17918	18813	19755	20743	21779	22869						**535195**
7	**2027-28**							382746	0	16250	17066	17918	18814	19754	20743	21780	22868	24012					**561957**
8	**2028-29**								401883	0	17063	17919	18814	19755	20742	21780	22869	24011	25213				**590049**
9	**2029-30**									421977	0	17916	18815	19755	20743	21779	22869	24012	25212	26474			**619551**
10	**2030-31**										443076	0	18812	19756	20743	21780	22868	24012	25213	26473	27798		**650531**

Matrix for Model-I B Conventional CA Plantation (AR) 1600 plants per Ha

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI
	Base Norm	30500	147361	29639	19148	6857	6857	8490	6857	6857	6857	6857					
1	2021-22	30500	154729	32674	22166	8335	8751	11377	9648	10131	10637	11169					
2	2022-23		32025	162465	34308	23274	8752	9189	11946	10130	10638	11169	11727				
3	2023-24			33626	170588	36023	24438	9190	9648	12543	10637	11170	11727	12313			
4	2024-25				35307	179117	37824	25660	9650	10130	13170	11169	11729	12313	12929		
5	2025-26					37072	188073	39715	26943	10133	10637	13829	11727	12315	12929	13575	
6	2026-27						38926	197477	41701	28290	10640	11169	14520	12313	12931	13575	14254
7	2027-28							40872	207351	43786	29705	11172	11727	15246	12929	13578	14254
8	2028-29								42916	217719	45975	31190	11731	12313	16008	13575	14257
9	2029-30									45062	228605	48274	32750	12318	12929	16808	14254
10	2030-31										47315	240035	50688	34388	12934	13575	17648

ANNEXURE- VI

Matrix for (SMC)																	
In Rupees																	
Sl. NO.	**Commencement Year**	**I**	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**	**IX**	**X**	**XI**	**XII**	**XIII**	**XIV**	**XV**	**XVI**	**Total Cost**
Base Norm		**0**	**20215**	**3032**	**3032**	**3032**	**3032**											
1	**2021-22**	0	21226	3342	3510	3685	3870											**35633**
2	**2022-23**		0	22287	3509	3686	3869	4064										**37415**
3	**2023-24**			0	23401	3684	3870	4062	4267									**39284**
4	**2024-25**				0	24571	3868	4064	4265	4480								**41248**
5	**2025-26**					0	25800	4061	4267	4478	4704							**43310**
6	**2026-27**						0	27090	4264	4480	4702	4939						**45475**
7	**2027-28**							0	28445	4477	4704	4937	5186					**47749**
8	**2028-29**								0	29867	4701	4939	5184	5445				**50136**
9	**2029-30**									0	31360	4936	5186	5443	5717			**52642**
10	**2030-31**										0	32928	5183	5445	5715	6003		**55274**

DGPS CO-ORDINATE OF C.A LAND BOUNDARY (AREA 7.0 Ac.)					
Sl.no	**Id**	**Easting**	**Northing**	**Longitude**	**Latitude**
1	PO.1	312824.173	2235246.815	E85°12'30.71301"	N20°12'20.24553"
2	PO.2	312844.344	2235275.359	E85°12'31.39713"	N20°12'21.18073"
3	PO.3	312868.892	2235313.045	E85°12'32.22862"	N20°12'22.41471"
4	PO.4	312893.569	2235347.072	E85°12'33.06594"	N20°12'23.52977"
5	PO.5	312902.451	2235376.455	E85°12'33.36092"	N20°12'24.48827"
6	PO.6	312911.410	2235405.647	E85°12'33.65866"	N20°12'25.44063"
7	PO.7	312911.823	2235414.345	E85°12'33.66965"	N20°12'25.72359"
8	PO.8	312919.173	2235427.245	E85°12'33.91799"	N20°12'26.14561"
9	PO.9	312943.547	2235435.502	E85°12'34.75444"	N20°12'26.42266"
10	PO.10	312961.628	2235436.987	E85°12'35.37668"	N20°12'26.47730"
11	PO.11	312970.953	2235439.255	E85°12'35.69703"	N20°12'26.55429"
12	PO.12	312993.146	2235438.512	E85°12'36.46168"	N20°12'26.53795"
13	PO.13	313005.397	2235443.831	E85°12'36.88169"	N20°12'26.71517"
14	PO.14	313032.531	2235456.535	E85°12'37.81156"	N20°12'27.13780"
15	PO.15	313039.825	2235459.260	E85°12'38.06178"	N20°12'27.22896"
16	PO.16	313051.023	2235470.632	E85°12'38.44326"	N20°12'27.60264"
17	PO.17	313067.352	2235483.860	E85°12'39.00076"	N20°12'28.03849"
18	PO.18	313051.190	2235440.677	E85°12'38.46013"	N20°12'26.62870"
19	PO.19	313029.813	2235400.483	E85°12'37.73879"	N20°12'25.31426"
20	PO.20	313021.700	2235385.032	E85°12'37.46507"	N20°12'24.80904"
21	PO.21	313014.640	2235363.468	E85°12'37.22992"	N20°12'24.10540"
22	PO.22	313006.257	2235326.731	E85°12'36.95486"	N20°12'22.90795"
23	PO.23	313004.022	2235317.917	E85°12'36.88112"	N20°12'22.62056"
24	PO.24	312997.365	2235305.174	E85°12'36.65657"	N20°12'22.20389"
25	PO.25	312990.574	2235294.493	E85°12'36.42666"	N20°12'21.85420"
26	PO.26	312978.307	2235276.227	E85°12'36.01093"	N20°12'21.25598"
27	PO.27	312956.964	2235239.404	E85°12'35.28950"	N20°12'20.05115"
28	PO.28	312951.680	2235232.678	E85°12'35.11001"	N20°12'19.83063"
29	PO.29	312911.360	2235228.292	E85°12'33.72288"	N20°12'19.67384"
30	PO.30	312817.703	2235202.095	E85°12'30.50681"	N20°12'18.78916"
31	PO.31	312819.180	2235217.102	E85°12'30.55209"	N20°12'19.27764"
32	PO.32	312822.144	2235228.932	E85°12'30.64976"	N20°12'19.66332"