SCHEME FOR COMPENSATORY AFFORESTATION OVER 13.319 HA OF NON-FOREST GOVT. LAND IDENTIFIED IN VILLAGE TALABARADA UNDER BANSAPAL TAHASIL OF B.J.P. RANGE OF KEONJHAR FOREST DIVISION AGAINST PROPOSED APPROACH ROAD FROM JUMKA PATHIRIPOSHI PAHAR IRON ORE BLOCK

OF

M/S RUNGTA MINES LIMITED

{Onetime cost norm provided by the PCCF, Odisha, Bhubaneswar vide their O.O. No. 1109 dated 08.11.2021 on Base Norm for the year 2023-24) with maintenance period of 20 (twenty) years}

ELEMENTS OF THE SCHEME FOR COMPENSATORY AFFORESTATION

CHAPTER- I

BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL

M/s Rungta Mines Ltd has been declared as preferred bidder for grant of Mining Lease of Jumka Pathiriposhi Pahad Iron ore block. The Letter of Intent has also been issued by Government of Odisha, Steel & Mines Department vide No. 8716/SM, Bhubaneswar, dated 28.10.2021. The Validity of LOI is for a period of 3 (three) years from the date of its issuance. According to this process calendar for grant of mining lease the last date of execution of mining lease deed will be 27.10.2024 i.e.3 years from date of issuance of letter of intent (LOI).

As per the data provided by Directorate of Mines, Steel & Mines Department, Government of Odisha, the total mining lease DGPS surveyed area is 158.509 Ha (156.978 Ha forest + 1.531 Ha Non-forest). Total Iron Ore Resources of All grades are 140.28 MT. Mining plan has been approved by Indian Bureau of Mines, Bhubaneswar vide letter No. MP/A/18-ORI/BHU/2021-22 dated 24.11.2021. Terms of Reference (ToR) has been issued by Ministry of Environment, Forest and Climate Change, Impact Assessment Division vide No: IA-J-11015/2/2022-IA-II (NCM) dated 18.02.2022 with production capacity of 3.35 Million TPA iron ore with a total excavation of 3.98 MTPA.

Further, the user agency has applied through online for diversion of the forest land under section-2(ii) of the Forest Conservation Act, 1980, for approval of the Central Government. The proposal number is (FP/OR/ MIN / 150048 /2021, State serial No-OR-098/2021 dated 22.12.2021).

The iron ore will be supplied to different steel plant, sponge iron plant, pellet plants etc. for ultimate production of Steel and also for export to earn foreign exchange for development of our country. Transportation shall be made through public railway siding, as well as through trucks directly to destination.

There is no transportation road through which iron ore will be supplied to the different destinations including Kamanda Steel plant of M/s Rungta Mines Limited. The nearby available existing roads are passing through village habitations and through the existing leases of Jaldihi Mine and Kanther Koira Mine. The existing road is also not suitable for heavy Traffic density.

Now, the User Agency has proposed to construct a dedicated separate road from Jumka Pathiriposhi Pahar Iron block of M/s Rungta Mines Limited to the existing Koira-Belakudar- Patamunda road, at village Belakudar over a distance of 12.291 Km (12.135 Km in Forest area + 0.156 Km in Non-forest area) for transportation of Iron ore to the desired destination. The average width of the road will be 10.776 mt. 13.077 Ha Forest land and 0.168 Ha Non-Forest land land will be involved in the instant proposal. Without the proposed transportation route, the mining activities cannot be carried out in the above said block.

The present Compensatory Afforestation scheme is so prepared to compensate the non-forest land for non-forestry use at the Non-forest Govt. land identified in village Talabarada under BJP Range of Banspal Tahasil allotted for the said purpose vide letter No. 505/Rev dt. 27.02.2023 of Collector, Keonjhar. The CA scheme is prepared at present prevailing wages rate i.e. @Rs. 345.00 per man days (As per onetime cost norm provided by the PCCF, Odisha, Bhubaneswar vide their O.O. No. 1109 dated 08.11.2021 on Base Norm for the year 2023-24) over 13.319 ha with maintenance period of 20 (twenty) years.

CHAPTER- II

DETAILS OF LAND IDENTIFIED FOR COMPENSATORY AFFORESTATION

A. LAND IDENTIFICATION AND JOINT VERIFICATION OF THE IDENTIFIED SITE.

The site for Compensatory Afforestation has been identified in village Talabarada under Bansapal Tahasil in B.J.P. Range of Keonjhar Forest Division over 13.319 ha in two patches and has been jointly verified by the Tahasildar, Bansapal, Revenue Inspector, Taramakanta, Range Officer, B.J.P. Range and Forest Section Officer, Suakati and found suitable for compensatory afforestation.

B. INFORMATION ON NON-ENCROACHMENT AND NON-ENCUMBRANCE.

The Tahasildar, Bansapal has given certificate of non-encroachment and non-encumbrance in respect of the non-forest Govt. land identified and allotted for Compensatory Afforestation over 13.319 ha in respect of proposed approach road from Jumka Pathiriposhi Pahar iron ore block of M/s Rungta Mines Limited.

C. INFORMATION ON LAND STATUS.

The land scheduled and land status identified and allotted for Compensatory Afforestation is furnished hereunder:-

Tahasil	Village	Khata No.	Plot No.	Area(in Ha)	Kissam.
Bansapal	Talabarada	26(AAA)	02(P)	0.028	Parbat- I
			07(P)	5.453	Parbat- I
			08(P)	0.554	Parbat- I
			09(P)	5.592	Parbat- I
			14(P)	1.692	Parbat- I
			Total	**13.319**	

D. SUITABILITY OF IDENTIFIED SITE FOR COMPENSATORY AFFORESTATION.

The identified land is free from encroachment and encumbrance. This land is neither covered under Section-4 of Orissa Forest Act. 1972 nor included in DLC report.

The non-forest Govt. land identified in village Talabarada is in one patch situated on upland with gentle slope is suitable for Compensatory Afforestation. As per the report of the Range Officer, BJP Range vide his memo No 208 dt. 17.02.2023 (Copy enclosed).

CHAPTER-III

DELINEATION OF PROPOSED AREA ON SUITABLE MAP

III(1) GPS COORDINATES AND GPS MAP OF THE COMPENSATORY AFFORESTATION SITE

The area has been demarcated through DGPS survey and 26 nos of 4' height RCC pillars have been posted around the identified area. The DGPS survey data showing latitude & Longitude of each point and their chainage with bearing has been depicted in the village sheet map (Map Enclosed). One durable sign boards has been erected at the identified site at a conspicuous location with name of the project, year of allotment, name of the scheme. details of plots etc. depicted there on.

Decision Support System of Non-Forest Govt. land identified in village Talabarada under Banspal Tahasil

Name of the site	Area identified for plantation (in ha)	MDF (in Sq. Km)	Non-forest (in Sq. Km)	Open Forest (in Sq. Km)
Village-Talabarada	13.319	0.02	0.02	0.09

CHAPTER- IV

AGENCY RESPONSIBLE FOR COMPENSATORY AFFORESTATION

IV(1) AGENCY RESPONSIBLE FOR PLACEMENT OF FUNDS

The user agency shall provide funds for raising Compensatory Afforestation as per the approved scheme.

IV(2) AGENCY RESPONSIBLE FOR EXECUTION OF COMPENSATORY AFFORESTATION

The Territorial Wing of the Forest Department i.e. Divisional Forest Officer, Keonjhar Division will be assigned with the task for execution of Compensatory Afforestation.

CHAPTER- V

DETAILS OF WORK SCHEDULE PROPOSED FOR COMPENSATORY AFFORESTATION

A. PLANTING PLAN

Planting Plan reflects the species specific treatment of the identified site. Choice of species is based on the geo-morphology of the site, soil-texture, structure, fertility and depth, proneness of the site to water logging etc. Specific treatment of the site in terms of soil and moisture conservation intervention will be depicted in the treatment map. A treatment map will invariably be prepared for Species to be planted and treatments to be applied to the different patches shown in the treatment map and planting plan. This plan will be followed when actual planting is carried out. The Range Officer, BJP Range has submitted verification report vide his memo No. 208 dt. 17.02.2023. The report of GIS based DSS is enclosed herewith.

Species to be planted:-

1. *Sizyzium cumini* (Jamu)
2. *Adina cardifolia* (Kuruma)
3. *Anogeissus latifolia* (Dhaura)
4. *Dalbergia sissoo* (Sissoo)
5. *Azadirrachta indica* (Neem)
6. *Gmelina arborea* (Gambar)
7. *Pongamia pinnata* (Karanja)
8. *Emblica officinalis* (Amla)
9. *Artocarpus integrifolia (Panasa)*

B.PRE-PLANTING OPERATION

B(I)-RAISING OF PLANTATION STOCK- NURSERY-

Nursery will be raised @1100 seedlings per ha over 11.319 including seedlings for 10% casualty replacement.

B(II)-SURVEY, DEMARCATION & PILLAR POSTING, GPS READING WITH MAPPING-

The planting area has been surveyed and demarcated through DGPS survey and 26 nos of 4' height RCC pillars have been posted (as per the direction of forest Range Officer, BJP Range) with GPS co-ordinates, forward and backward bearing, pillar No. and distance between pillars inscribed in it. A DGPS map in the scale of 1:4000 has been prepared along with DGPS co-ordinates forward and backward bearing, pillar No. and distance between pillars reflected in the map. One durable sign boards have been erected at a conspicuous location with name of the site, scheme, area etc. depicted on it.

B(III)-SITE PREPARATION AND SILVICULTURAL OPERATION INCLUDING CLEARANCE OF WEED, CLIMBER CUTTING, HIGH STUMP CUTTING, SINGLING OF SHOOTS-

The clearing of the site involving removal of invasive weeds, bushes, climbers, high stumps and singling of shoots will be taken up preferably by the end of February and latest by the end of March. Pits of the dimension $45cm^3$ will be dug AR model @1000 seedlings/ ha over 11.319 ha preferably 2 months before or at least a month before planting of seedlings.

C. PLANTING OPERATION

Planting of seedlings will be taken up in the month of July. The polythene {(size 12 x 10) (300 gauge)} covering of the balls of earth will be carefully removed before planting. Care will be taken to see that the ball of earth is not broken while doing so. The seedling with the ball of earth will then be placed firmly in the pit and buried at such a depth that the root collar is well below the surface of the soil. The soil around the plant will be well compacted with the heal as a final step so that there is a proper bond between the ball and the surrounding soil. The earth close to the collar will be slightly elevated so that rain water does not accumulate very close to the plant.

D. POST PLANTING OPERATION

D(1)-CASUALTY REPLACEMENT

The entire area will be gone over in the same order as plantation was carried out and casualties, if any, will be replaced as soon as the main plantation operation is over.

D(2)-WEEDING AND SOIL WORKING

Regular and efficient weeding will start immediately after sprouting of the stumps is complete or after the seedlings have started throwing up new buds.

D(3)-MANURING AND INSECTICIDE APPLICATION

On degraded sites urban compost or farmyard manure, wherever available, will be added to the soil while refilling the pits. As regards artificial fertilizers, the minerals required and dosage @ 50 gms of patent mixtures like 'Gromor' or N.P.K. (2:2:1) will be applied in two split doses one in August and the other in September.

D(4)-SOIL MOISTURE CONSERVATION MEASURES

Special Soil Moisture Conservation Measures will be taken up through construction of LBCD structures of dimension 10' x 10' x 5' to the tune of 13 nos. over the entire plantation site.

D(5)-WATERING PROVISION

2 Nos. Diesel pump set with borewell (1 Pump set + Borewell for 5 ha plantation) for 11.319 ha plantation.

D(6)-PROTECTION AGAINST FIRE AND BIOTIC INTERFERENCE

It is proposed to protect the CA plantation from grazing by domestic animals using GI Chain Link Mesh Fencing. The total length of such GI Chain Link Mesh Fencing for the patch which comes to 2.48 KM or 2480 meter. Fire line tracing will be ensured to protect the plantation from fire and watch & ward will be provided as per the approved norm for protecting the plantation from grazing with involvement of Kadakala VSS.

CHAPTER- VI

COST STRUCTURE OF PLANTATION, PROVISION OF FUNDS AND UTILIZATION

Base Cost Norm for AR Plantation @1000 seedlings per ha (18 months old seedlings) @Rs.345.00/- Mandays as per revised wage rate by Labour Commissioner, Odisha, Bhubaneswar vide Notification No. 2500/LC dated 05.04.2023. Onetime cost norm provided by the PCCF, Odisha, Bhubaneswar vide their O.O. No. 1109 dated 08.11.2021.

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) Per- Plantation Operation					
1	Survey, Demarcation and Pillar posting	Nov/Dec	2	690	0	690
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	345	100	445
3	Site preparation (Cleaning & removal of dehisces)	Nov/Dec	12	4140	0	4140
4	Creation of 4.00 mt wide Inspection Path	Feb/Mar	1	345	0	345
5	Alignment and stacking of pits	Feb/Mar	1	345	0	345
6	Digging of pits (45 cm x 45 cm x 45 cm) in hard and gravelly sail	Feb/Mar	40	13800	0	13800
7	Construction of Temporary labour Shed, Drinking water facility and First-Aid etc.	Jan/Mar	0	0	3500	3500
	Total		**57**	**19665**	**3600**	**23265**
	1st Year /Plantation Year					
1	Refilling of pits by altering the dugout soil of the pits, application of organic compounds/ CDM/FYM & mixing the same properly.	Jun/Jul	7.5	2587.5	5000	7587.5
2	Transportation of 18 months old polythin bag seedlings in hired truck /tractor from the Permanent /Mega nursery to planting site including loading &unloading. (Average load of 10 Rkm) & stacking the seedling @ Rs. 6/- per Seedling.(1100 nos.)	Jul/Aug	0	0	6600	6600
3	Watering poly pot seedlings at planting site.	Jul/Aug	2	690	0	690
4	Conveyance of poly pot seedling on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizers 7 planting after scoping the soil with other applied materials & pressing the soil perfectly around the planted seedlings.	Jul/Aug	22.5	7762.5	0	7762.5
5	Cost of Fertilizer & Insecticide (a) NPK/Bin-fertilizer @ 50 gms/plant as hasal dose=50kg@ Rs.30/-per kg= Rs. 1500.00 (b) Urea/Vermicumpost/Mo Khata/any other fertilizer in two subsequent dose @ Rs. 750.00 ©Insecricide/ Bio-pesticide @ 5	Jul/Aug	0	0	3000	3000

	gms/plant=5 kg @ Rs.15/- per kg=Rs. 750.00					
6	Casually Replacement @ 10th (100 nos)	Jul/Aug	2.5	862.5	0	862.5
7	1st weeding & Manuring	Aug/Sep	12	4140	0	4140
8	2nd Weeding . Soil working (1 mt. diameter around the plants) & Manuring	Oct/Nov	15	5175	0	5175
9	Fire line tracing (2 m. wide fire line over 400m long) including maintenance of inspection path.	Feb/Mar	3	1035	0	1035
10	Watch & Ward including watering as per requirement	Aug/Mar	12	4140	0	4140
	Total		**76.5**	**26392.5**	**14600**	**40992.5**
	2nd Year Maintenance					
1	Transportation of 100 seedlings from Nursery to plantation site Including loading, unloading & conveyance by Tractor @ Rs. 6/- per seedling	Jul	0	0	600	600
2	Casualty replacement-10%	Jul	2.5	862.5	0	862.5
3	Cost of Fertilizer & Insecticide (a) Cost of Insecticide/ Bio-pesticide @ gms/ plant=0.5 kg @ Rs.150/- per kg=Rs.75/- (b) Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer@ Rs. 2800/-	Jul/Aug	0	0	2875	2875
4	Weeding (Complete weeding), manuring & Soil working, (1 m. diameter around the plants)	Sep/Oct	15	5175	0	5175
5	Fire line tracing (2 m. wide fire line over 400m long) including maintenance of inspection path.	Feb/Mar	3	1035	0	1035
6	Watch & Ward including watering as per requirement	April/Mar	18	6210	0	6210
7	Maintenance of Temporary Labour Shed, Drinking water facility and Fist Aid etc.	April/Mar		0	1000	1000
	Total		**38.5**	**13282.5**	**4475**	**17757.5**
	3rd Year Maintenance					
1	Cost of fertilizer(Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer	Jul/Aug	0	0	2800	2800
2	Weeding (Complete weeding), Manuring & Soil working, (1 m. diameter around the plants)	Sep/Oct	15	5175	0	5175
3	Fire line tracing (2 m. wide fire line over 400m long) including maintenance of inspection path.	Feb/Mar	3	1035	0	1035
4	Watch & Ward including watering as per requirement	April/Mar	18	6210	0	6210
5	Maintenance of Temporary Labour Shed, Drinking water facility and Fist Aid etc.	April/Mar	0	0	1000	1000
	Total		**36**	**12420**	**3800**	**16220**
	4th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m long) including maintenance	Feb/Mar	3	1035	0	1035

	of inspection path.					
2	Watch & Ward including maintenance of vegetative fencing	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	5th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	6th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Pruning of branches, Singling out of multiple shots	Jan/Mar	3	1035	0	1035
3	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**24**	**8280**	**0**	**8280**
	7th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	8th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	9th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	10th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	11th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	12th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	13th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035

2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	14th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	15th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	16th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	17th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	18th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	19th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**
	20th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400m length)	Feb/Mar	3	1035	0	1035
2	Watch &Ward	April/Mar	18	6210	0	6210
	Total		**21**	**7245**	**0**	**7245**

Year wise Abstract of Cost Norm (showing seedling cost separately)

Sl. No	Year	No. of Mandays	Labour cost (In Rs)	Material Cost(In Rs.)	Monitoring, Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5)	Cost of Seedlings @ Rs. 54.54 per seedlings	Total Cost (In Rs.)
1	2	3	4	5	6	7	8
1	0th year	57	19665	3600	1163.25	0	24428.25
2	1st year	76.5	26392.5	14600	2049.625	54542.6	97584.725
3	2nd year	38.5	13282.5	4475	887.875	5454.2	24099.575
4	3rd year	36	12420	3800	811.00	0	17031.00
5	4th year	21	7245	0	362.25	0	7607.25
6	5th year	21	7245	0	362.25	0	7607.25
7	6th year	24	8280	0	414.00	0	8694.00
8	7th year	21	7245	0	362.25	0	7607.25
9	8th year	21	7245	0	362.25	0	7607.25
10	9th year	21	7245	0	362.25	0	7607.25
11	10th year	21	7245	0	362.25	0	7607.25
12	11th year	21	7245	0	362.25	0	7607.25
13	12th year	21	7245	0	362.25	0	7607.25
14	13th year	21	7245	0	362.25	0	7607.25
15	14th year	21	7245	0	362.25	0	7607.25
16	15th year	21	7245	0	362.25	0	7607.25
17	16th year	21	7245	0	362.25	0	7607.25
18	17th year	21	7245	0	362.25	0	7607.25
19	18th year	21	7245	0	362.25	0	7607.25
20	19th year	21	7245	0	362.25	0	7607.25
21	20th year	21	7245	0	362.25	0	7607.25
	Total	**568**	**195960**	**26475**	**11121.75**	**59996.8**	**293553.55**

Cost Norms for Creation of Compensatory Afforestation with Stabilization of Soil Moisture Conservation (SMC)

Annexure-11

Cost Norms for creation of Compensatory Afforestation with Stabilization of Soil & Conservation of Moisture (1000

WAGE RATE Rs- 311/- 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 requirment on LS	Apr/Sept.	20,215
	2nd Year		
3	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	3rd Year		
4	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	4th Year		
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	4th Year		
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	Total		32,343.0

Abstract

Sl. No	Year	No. person days	Labour cost @ Rs. 311/-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	20,215.0	20,215.00
3	2nd year	0.0	0.0	3,032.00	3,032.00
4	3rd year	0.0	0.0	3,032.00	3,032.00
5	4th year	0.0	0.0	3,032.00	3,032.00
6	5th year	0.0	0.0	3,032.00	3,032.00
	Total	0.00	0.00	32,343.0	32,343.0

Different types of SMC structures may be taken up as per the scope & requirements of the plantation site out of the design & specification of different structures annexed along this document.

APCCF (Forest Diversion & NO, FC Act)

Matrix for (SMC)

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	3842	3510	3685	3870											35633
2	2022-23		0	22287	3509	3686	3869	4064										37415
3	2023-24			0	23401	3684	3870	4067	4267									39284
4	2024-25				0	24571	3868	4064	4265	4480								41248
5	2025-26					0	25800	4051	4267	4478	4704							43310
6	2026-27						0	27090	4264	4480	4702	4939						45475
7	2027-28							0	28443	4477	4704	4937	5186					47749
8	2028-29								0	29867	4701	4939	5184	5445				50136
9	2029-30									0	31360	4936	5186	5443	5717			53642
10	2030-31										0	30918	5183	5445	5715	6003		55274

APCCF (Forest Diversion & NO, FC Act)

Fencing Model F-II

Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link Fencing

Fencing Model-F-II

Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link wire mesh (250 Rmt/ Ha.)						
WAGE RATE Rs. 311/- 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 pits) in Hard soil at a distance 3 mt. 0.40m x 0.40m x 0.10m = 0.064 x 84 = 5.376 cum (@ Rs. 140/ cum = Rs. 753		2.42	752.62	0.0	752.6
2	Cement concrete (1: 4: 8) using 40 mm HHG 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	Fixing of angle iron (1.5" x 1.5") for fixing the iron angle pole using 12mm HHG 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 mesh 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 coat 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 mesh 250 x 2.10 x 2 = 1050/10 = 105 Sqmt @ Rs. 108.80 Sqmt.				11,424.0	11,424.0
8	Transportation of Chain link mesh, Iron angle, Strengthening & fixing of chain link mesh etc @ 20% of the total cost				5,600.0	5,600.0
	TOTAL		2.42	752.62	2,84,857.4	2,85,610.0
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 at 1st yr 1142 x 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 at 1st yr 1142 x 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 at 1st yr 1142 x 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 at 1st yr 1142 x 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 at 1st yr 1142 x 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 at 1st yr 1142 x 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 at 1st yr 1142 x 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 at 1st yr 1142 x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
10th Year Maintenance						

Sl. No	Items of work	Preferable Period of Execution	Man days	Wages	Material cost (Rs)	Total Cost (Rs. per Ha.)
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1141x1%= 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000

Abstract

Sl. No	Year	No. person days	Labour cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)
1	0th year	2.42	752.6	284857.4	285610.0
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	752.62	383857.4	3,84,610.0

APCCF (Forest Diversion & NO, FC Act)

Matrix for Model-F-II Fencing (Angle Iron & Chain Link Fencing)

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

In Rupees

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
Base Norm		285610	0	11000	11000	11000	11000	11000	11000	11000	11000	11000											
1	2021-22	285610	0	13126	[illegible]	13370	14039	14740	15478	16231	17054	17912											418331
2	2022-23		299831	0	13740	13371	14039	14741	15477	16252	17063	17517	18914										440289
3	2023-24			314036	0	13769	14040	14741	15478	16231	17065	17915	18813	19751									462316
4	2024-25				330630	0	14037	14742	15478	16232	17264	17418	18814	19794	20743								485432
5	2025-26					347157	0	14759	15479	16252	17065	[illegible]	18814	19755	20742	21780							509705
6	2026-27						364920	0	15476	16233	17066	17916	18813	[illegible]	[illegible]	21719	22869						535191
7	2027-28							382746	0	16252	17066	[illegible]	18814	19754	[illegible]	[illegible]	22868	24017					561951
8	2028-29								401883	0	[illegible]	[illegible]	18814	[illegible]	[illegible]	[illegible]	22869	[illegible]	[illegible]				590045
9	2029-30									421977	0	17916	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			619557
10	2030-31										443076	0	18812	19755	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		650531

APCCF (Forest Diversion & NO, FC Act)

Watering Model – W-II

Watering Provision to CA Plantation

Watering Model-W-II			
Watering provision to CA Plantation			
Diesel pump set with Bore well (1 pump set + Bore well for 5 Ha Plantation), Wage rate @ Rs.311/-			
Year of Installation (0th Year)			
1	Cost of Borewell	1,50,000	
2	Cost of Diesel pump set 5HP	60,000	
3	Diesel pump set & assessories like commander, Pipes, etc.	30,000	
4	Water Storage Tanks/ Flexible pipes	15,000	
		2,55,000	
Cost of Water per Plant (2,55,000/ 5000)= Rs. 51/- Cost of Water per Ha. = Rs. 51,000/-			51,000
1st Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000=		21,000
2	Watering 1000 Plants (Nov-Mar.) @ 200 plants/MD with 7 days rotation 20 MD x 5 months = 100 MD x 311 =		31,100
		Total	52,100
2nd Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000=		21,000
	Maintenance Diesel pump set etc. @ 15 % of the installation cost.		7,650
2	Watering 1000 Plants (April- June & Nov-Mar. - 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
		Total	78,410
3rd Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000=		21,000
	Maintenance Diesel pump set etc. @ 15 % of the installation cost.		7,650
2	Watering 1000 Plants (April- June & Nov-Mar. - 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
		Total	78,410
4th Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000=		21,000
	Maintenance Diesel pump set etc. @ 15 % of the installation cost.		7,650
2	Watering 1000 Plants (April- June & Nov-Mar.- 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
		Total	78,410
5th Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000=		21,000
	Maintenance Diesel pump set etc. @ 15 % of the installation cost.		7,650
2	Watering 1000 Plants (April- June & Nov-Mar.- 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
		Total	78,410

Abstract					
Sl. No	Year	No. person days	Labour cost @ Rs. 311/-per day	Material Cost	Total cost (Rs.)
1	0th year	0	0.0	51000.0	51000.0
2	1st year	100.0	31100.0	21000.0	52100.0
3	2nd year	160	49760.0	28650.0	78410.0
4	3rd year	160	49760.0	28650.0	78410.0
5	4th year	160	49760.0	28650.0	78410.0
6	5th year	160	49760.0	28650.0	78410.0
	Total:	740	230140	186600	4,16,740

APCCF(Forest Diversion & NO, FC Act)

Matrix for Watering Model –W-II (Diesel Pumpset Fitted with Borewell) per Ha

Matrix for Watering Model-W-II (Diesel Pumpset Fitted with Borewell) per Ha

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		5100	52100	78410	78410	78410	78410											
1	2021-22	51000	54705	86439	90771	95307	100077											478294
2	2022-23		53550	57440	90761	95310	100072	105076										502209
3	2023-24			56228	60312	95799	100076	105076	110330									527321
4	2024-25				59039	63328	100064	105080	110330	115847								553688
5	2025-26					61991	66494	105067	110334	115847	121639							581372
6	2026-27						65091	69819	110370	115851	121639	127721						610441
7	2027-28							68340	73310	115836	121644	127721	134107					640954
8	2028-29								71763	75976	121628	127726	134107	140912				673012
9	2029-30									75351	80325	127709	134112	140912	147853			706662
10	2030-31										79119	84666	134094	140818	147853	155245		741996

ARCCF (Forest Diversion & NO. FC Act)

TOTAL COST OF PROJECT

S. No	Item of Work	Unit price	In Rupees
1	Cost of AR plantation @1000 plants/ ha over 11.319 ha @Rs. 2,93,553.55 per ha with 20 years maintenance.	2,93,553.55 x 11.319 ha	3322732.63
2	Cost of watch & ward and fire line creation for 2 ha CA land which is having canopy density more than 0.4 but susceptible to biotic pressure & fire. Wage rate @Rs. 630/- per mandays. (1 ha x 21 mandays x @Rs. 630/- x 20 years)	2,64,600/- x 2 Nos.	529200.00
3	Cost of Soil Moisture Conservation (SMC) (As per base norm of Matrix for the year 2023-24)	39,284/- x 13.319 ha	523223.59
4	Cost of Angle Iron & Chain Link wire mesh Fencing with 10 years maintenance @4,62,316/- per 250 rmt/ha over 2480 Km. (As per base norm of Matrix for the year 2023-24)	4,62,316/ 250 RMT x 2480 RMT	4586174.72
5	Cost of 2 nos. borewell for watering (one diesel pump set fitted with borewell for 5 ha plantation) (As per base norm of Matrix for the year 2023-24)	5,27,321/- x 2 Nos.	1054642.00
	Grand Total		**10015972.94 Or say 1,00,16,000.00**

(Rupees one crore sixteen thousand) only

PROVISION OF FUNDS AND FUND UTILIZATION

Rs. 1,00,16,000/- (Rupees one crore sixteen thousand) only shall be deposited by the User Agency i.e. M/s Rungta Mines Limited on approval of the scheme in Ad-hoc CAMPA Account and the funds will be utilized for raising of Compensatory Afforestation by the Divisional Forest Officer, Keonjhar Division on allotment by the Principal Chief Conservator of Forests, Odisha, Bhubaneswar.

15/04/23

Divisional Forest Officer,
Keonjhar Division

CHAPTER- VII

DETAILS OF PROPOSED MONITORING MECHANISM

Compensatory Afforestation will be taken up in the identified site by the Range Officer, BJP Forest Range of Keonjhar Division. The Range Forest Officer, BJP Forest Range will undertake field checks of the works undertaken at the identified site and will be cross checked by the Asst. Conservator of Forests, (Affn.) and Divisional Forest Officer, Keonjhar Division. DGPS/GPS co-ordinates along with other required informations of Compensatory Afforestation will be uploaded in the e-Green watch Portal of NIC, MoEF, Govt. of India for the purpose of online monitoring. Annual progress of plantation involving growth of planted seedlings, survival percentage etc. will be monitored and recorded in the plantation journal by the field staffs of BJP Forest Range and reported to the Divisional Forest Officer for necessary action. The same thing will be reported to the Regional Chief Conservator of Forests, Rourkela Circle and Chief Conservator of Forests (PP&A), O/o the Pr. Chief Conservator of Forests, Odisha, Bhubaneswar and necessary corrective measures will be followed if required so.

Divisional Forest Officer,
Keonjhar Division

CERTIFICATE ON DSS ANALYSIS FOR CA/ACA/PCA

This is to certify that DSS Analysis of land identified for CA/ ACA/ PCA and subsequent ground truthing have been done. The outcome is as mentioned below-

Sl. No.	Name of Range	Name of the Forest Block (RF/PRF/PF/DPF/ Revenue Forest)	Area identified for CA/ ACA/ PCA (in ha)	Classification of identified land (in ha)							Area suitable for plantation (in ha)				Plantation model (AR/ANR)	Remarks
				Very Dense Forest	Moderately Dense Forest	Open Forest	Non-forest	Scrub	Water	Total	Open Forest	Non-forest	Scrub	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	BJP	Village-Talabarada under Banspal Tahasil	CA	0.00	2.00	9.319	2.00	0.00	0.00	13.319	9.319	2.00	0.00	11.319	AR	11.319 ha AR@1000 seedlings

Divisional Forest Officer,
Keonjhar Division.

Countersigned

Regional Chief Conservator of Forests,
Rourkela Circle

JOINT VERIFICATION OF NON-FOREST GOVT. LAND FOR COMPENSATORY AFFORESTATION
IN FAVOUR OF M/s RUNGTA MINES LIMITED.

Range:- BJP Range

Date-

Tahasil:-Banspal

Sl No.	Name of Village	Khata No	Plot No	Kissam	Area (in Ha.)	Plantation(in Ha.)			Area (in Ha.)Found for Unsuitable with Reasion	Remarks
						Block	RDF	Total		
1	2	3	4	5	6	7	8	9	10	11
2	Talabarada	24 (AAA)	2(P)	PARBATA-1	9.2800			0.028		
3			7(P)	PARBATA-1	15.0000			5.453		
4			8(P)	PARBATA-1	9.6000			0.554		
5			9(P)	PARBATA-1	16.0000			5.592		
6			14(P)	PARBATA-1	16.0000			1.692		
							TOTAL	13.319		

1- Certified that the above non-forest Government land as mentioned in column 7, 8 & 9 is a compact patches of 4.00 Ha. Or more having adequate soil depth suitable for plantation from management point of view.

2- Certified that the above Government land found suitable for plantation is free from encroachment and encumbrances.

3- Certified that the above Government land is not covered under 4(1) notification.

4- Certified that the above Government land is not covered under DLC.

5- Certified that the above Government land is not alloted previously.

6- Certified that the above Government land is not covered under any M.L/P.L area.

7- Certified that the above Government land is not settled in favour of individual/community under F.R Act,2006.

8- Certified that the status of the above plots was non forest as on 25.10.1980.

9- Certified that the above plots are not covered under any proposed reserve forest.

10- Certified that the above plots are unfit not only for agriculture,but also for other developmental requrements.

11- Certified that the above plots have no future potential for agrarian or industrial use.

12- Certified that the above identified area contains sparse vegetation with density of 0.02 and scrubby forest growth fit for copensatory afforestation.

Signature & Seal of Revenue Inspector.

Signature & Seal of Tahasildar.

Tahasildar Banspal

Signature & Seal of Forester

Signature & Seal of Forest Ranger.

COUNTERSIGNED

Divisional Forest Officer
Keonjhar Division

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