ANNEXURE- 28

SITE SPECIFIC SCHEME

FOR

COMPENSATORYAFFORESTATION OVER 17.836.00 HA NON- FOREST GOVT.LAND IDENTIFIED IN VILLAGE BENIDIHI IN BANSPALA TAHASIL UNDER BJP FOREST RANGE WITHIN KEONJHAR DIVISION OF UTILITY CORRIDOR FOR KHANDBANDH PROJECT

M/S TATA STEEL LTD

CHAPTER- I

BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL

M/s Tata Iron & Steel Company Ltd. is a Company originally incorporated on 26thAugust, 1907 under the Act, VI of 1882 of the Legislative Council of India and subsequently changed to Tata Steel Ltd. (Tata Steel) on 12thAugust 2005 under the Companies Act, 1956. Considering the growth in demand of steel and steel products within as well as outside the Country and in view of Government's steel policy, the Company has set a goal for increasing its steel production capacity by carrying out both Brownfield and green field expansion in the integrated steel plant at Jamshedpur, Kalinganagar, as well as in sister concerns as well as through acquisitions. The Company has also set up Ferro Alloys Plant at Joda and Jamshedpur. In order to cater to the increased requirement of Iron ore and Manganese ore of the Integrated Steel Plants, Ferro Alloys Plant and Sponge Iron Plants, the Company has undertaken expansion of Khondbond Iron and Manganese Mines.

Khondbond Iron & Manganese Lease was originally granted for a period of 30 years w.e.f 17.01.1933 to 16.01.1963 over an area of 12.17 Sq. miles by the then Ruling Chief of Keonjhar Estate. The lease deed was executed on 20.11.1933. The lease was consisting of three blocks i.e. Block-A(Katamati), Block-B (Joda West) & Block- D (Khondbond).

Khondbond Iron & Manganese lease over an area of 1293.433 ha was executed between Tata Steel Ltd. and State Govt. on 27.10.1984 and registered vide lease deed No. 69 dated 27.11.1984.

The mine is currently being expanded to process 8 MTPA of iron ore and 0.1MTPA of Manganese ore. A beneficiation plant is in the advance stage of construction. The expansion activities also include setting up an overland conveying system from Khondbond Mine to the railway siding at Joda East. In order to strengthen the power supply as well as to take care of the increased power requirement a 33 KV line is also planned to be erected from Joda to Khondbond. Both conveyor corridor and transmission line areessential and critical packages in the expansion scheme.

The present scheme aims at preparation of a site-specific Compensatory Afforestation scheme over 17.836 hectares of non-forest land identified in village Benidihi under BanspalTahasil in BJP Range with a maintenance period of ten years, in lieu of the proposed diversion proposal submitted over 17.836 ha.It is mentioned that the total area identified for compensatory afforestation over 17.836 hain BJP Range of Keonjhar Division.

Further, it is pertinent to mention that out of the identified Non-forest land of 17.836 ha, an area of 15.00 ha is coming under MDF as per DSS report. Hence only silvicultural operation without Gap plantation is proposed over 15.00 with maintenance for 10 years. The balance non-forest area over 2.836 ha is suitable for Compensatory Afforestation. Compensatory afforestation is proposed over 2.836 ha @400 seedlings/ha with maintenance for 10 years. The DSS report details of the above is furnished below.

Sl. No	Village Name	Forest Range	Total CA area in Ha	VDF	MDF	Area suitable for Plantation	No of Seedlings to be planted per ha	Total nos of Seedlings to be planted
1	Benidhi	BJP	17.836	0	15.00	2.836	400	1135

As per the requirement, 17836 seedlings need to be planted over the selected non-forest land over 17.836 Ha. However, as per DSS report only 1135nos of seedlings can be accommodated within the selected 17.836 Ha. Hence, the rest i.e. 17836 – 1135 = 16701 seedlings cannot be accommodated in the allotted non-forest Govt. land for Compensatory Afforestation which has been met from the degraded forest land over 21.00 Ha identified in Masinabila RF under Ghatgaon Forest Range of Keonjhar Division. Hence Compensatory Afforestation schemes over 21.00 ha of degraded forest land at the prevailing wage rate @Rs.298.00 per manday with a maintenance period of ten years has been prepared separately.

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 over 17.836 ha in villageBenidihiunder BanspalaTahasil in BJP Range of Keonjhar Forest Division,and has been jointly verified by the BanspalaTahasil, Revenue Inspector, Banspala, Range Officer, BJP Ran Forest Section Officer, Kanjipani. The above identified land has been allotted in favour of M/s Tata Steel Limited for their project "Utility Corridor"by the Collector, Keonjhar videletter No. 1668/Rev Dtd.02.12.2019.

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

TheTahasildar, BansapalTahasilhas given certificate regarding non-encroachment and non-encumbrance on the identified non-forest land for raising Compensatory Afforestation.

C. INFORMATION ON LAND STATUS.

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

LAND SCHEDULE

Village –Benidihi

Sl.No	Khata no	Plot no	Name of the Tenant	Kissam	Total area in Ha	Area to be acquired for CA in Ha	Remarks
1	2	3	4	5	6	7	8
1	79	214/620	AJA	Parbat - I	18.000	17.836	
				Total		**17.836**	

The authenticated allotted land schedule with above description is enclosed herewith.

D. SUITABILITY OF IDENTIFIED SITE FOR COMPENSATORY AFFORESTATION.

The topography of the identified area is undulating, small hilly terrain. The soil is mostly stony morrum at patches having fairly good depth of soil. Part of the top soil has been washed out due to natural erosion. This necessitates some soil conservation measures.

The area experiences tropical climate with monsoon rain fall. The average temperature varies from 13.5° C minimum in December to 45°C maximum in May. The annual rainfall varies from 1200 mm to 1500 mm. The maximum rainfall is received during the rainy season from July to September. Further, it is pertinent to mention that out of the identified Non-forest land of 17.836 ha, an area of

15.00 ha is coming under MDF as per DSS report. Hence only silvicultural operation without Gap plantation is proposed over 15.00 with maintenance for 10 years. The balance non-forest area over 2.836 ha is suitable for Compensatory Afforestation. Compensatory afforestation is proposed over 2.836 ha @400 seedlings/ha with maintenance for 10 years.

D.1. DECISION SUPPORT SYSTEM- ANALYSIS OF FOREST COVER MAP

The map of the proposed non-forest land for compensatory afforestation was processed using DSS for analysis of Forest cover over the area. The result obtained is enclosed in the scheme. The Analysis of DSS report is narrated below.

Decision Support System of non- forest land identified in village-Benidihi under BJP Range

Sl. No.	Name of the Village	Verified in Decision Support System (in ha)			
		Total Area	MDF	Non-forest	Open-forest
1	Benidihi	18	15	0	3

CHAPTER-III

DELINEATION OF PROPOSED AREA ON SUITABLE MAP

A. VILLAGE SHEET SHOWING COMPENSATORY AFFORESTATION SITE.

The identified non-forest land depicted in village sheet and submitted by the Tahasildar, Bansapal Tahasilis annexed herewith.

B. GPS COORDINATES AND GPS MAP OF THE COMPENSATORY AFFORESTATION SITE

The area has been demarcated throughGPSsurvey method and 05 nosof four feet height RCC pillars have been posted around the identified area and the same has been depicted in the village sheet map. The location map of the CA area in Toposheet No.F45N7 has been enclosed in scheme.

CHAPTER- IV

AGENCY RESPONSIBLE FOR COMPENSATORY AFFORESTATION

A. AGENCY RESPONSIBLE FOR PLACEMENT OF FUNDS

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

B. 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 SCHEDULED PROPOSED FOR COMPENSATORY AFFORESTATION

A. PLANTING PLAN

Planting Plan in this scheme 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 shall be included. The following species shall be raised during planting operation.

Species to be planted:-

1. *Dalbergiasissoo*(Sissoo)
2. *Azadirrachtaindica*(Neem)
3. *Pongamiapinnata* (Karanja)
4. *Emblica officinalis* (Anla), etc.
5. *Terminalia tomentosa* (Asan)
6. *Pterocarpusmarsupiun* (Bija)
7. *Terminalia arjuna* (Arjuna)
8. *Sizigiumcumuni* (Jamu)
9. *Madhucalatifolia* (Mahula)
10. *Simarubaglauca* (Simaruba)
11. *Tamarindusindica* (Tentuli)
12. *Schleicheraoleosa* (Kusum)
13. *Brideliaretusa* (Kasi)
14. *Adina cordifolia* (Kurum)

B.PRE-PLANTING OPERATION

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

Nursery will be raised @440nosseedlings per haover 2.836 ha including seedlings for 10% causality replacement.

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

The planting area has been surveyed and demarcated with four feet height RCC pillars at inter visible distance with GPS coordinates, forward and backward bearing, pillar No. and distance between pillars inscribed in it. A GPS map in the scale of 1:4000 has been prepared. A sign board has 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 30 x 30 x 30 cm. will be dug @400per haover 2.836 ha in the available gaps 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 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 grams 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 36 nos. over the entire plantation site and staggered trenches of dimension 2.5 x 0.5 x 0.5 mtr to the tune of 300 Nos. per ha over 17.836 ha.

D(5)-PROTECTION AGAINST FIRE AND BIOTIC INTERFERENCE

It is proposed to protect the CA plantation from grazing by domestic animals using Barbed wire fencing (7 Strands). The total length of such Barbed wire fencing for all the patches which comes to 1.721Km (1721 M). 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 Tungurubahal VSS.

CHAPTER- VI

A. COST NORM FOR AIDED NATURAL REGENERATION (ANR) @ 400 PLANTS PER HECTARE

ESTIMATE OF COST FOR 1.00 HA. UNDER ANR WITH GAP PLANTATION MODEL

0^{th} year (Advance work) Pre-planting operation.

Sl No	Item of work	Preferable period of execution	person days	Labour (Rs)	Material (Rs)	Total (Rs)
		0th year				
1	Survey demarcation and pillar posting, GPS reading with mapping	Nov/Dec	2	596	0	596
2	Site Preparation	Nov/Dec	2	596	0	596
3	Silviculture Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan/Feb	5	1490	0	1490
4	Nursery cost (6 months old seedling) part @ Rs. 9.45/- seedling (Rs. 6.67 in 0th) year + Rs. 2.78 in 1st year) for 440 seedlings (400+40)		11	3278	735	4013
5	Contingency and unforeseen expenditure		0		165	165
	Sub Total		**20**	**5960**	**900**	**6860**
6	Monitoring & Supervision charge 5% of the total cost					343
	Grand Total		**20**	**5960**	**900**	**7203**
		1st year				
1	Nursery cost (6 months old seedling) balance @Rs. 2.78 for 440 seedlings	Apr-Jul	5	1490	255	1745
2	Pitting 30 cm cube size	Feb/Mar	12	3576	0	3576
3	Carriage and planting including casualty replacement	Jul/Aug	10	2980	0	2980
4	Complete weeding, Soil working, manuring	Aug/Sep	12	3576	0	3576
5	Cost of vermin compost @200gms/plant @Rs. 20/-per kg=Rs. 1600.00 and Granular insecticide 5 gms/ plant @ Rs. 80 per kg=Rs.160.00	Aug/Sep	0	0	1760	1760
6	Cost of chemical fertilizer (a) Urea 70 gms/plant in two subsequent doses @ Rs.6 per kg =Rs 168.00 (b) NPK 50 gms/plant @ Rs. 24/- per kg= Rs. 480.00 as basal dose		0	0	648	648
7	Silvicultural operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/Oct	15	4470	0	4470
8	Soil Conservation Measures (Staggered trenches of dimension 2 m x o.5 mx 0.5 m@ 60 nos per ha) or its equivalent	Sep/Oct	20	5960	0	5960
9	Fireline Tracing and inspection path	Feb/Mar	3	894	0	894
10	Watch & ward	Aug-Mar	7	2086	0	2086
11	Contingency and unforeseen expenditure		0	0	319	319
	Sub Total		**84**	**25032**	**2982**	**28014**

12	Monitoring & Supervision charge 5% of the total cost					1400.7
	Grand Total		**84**	**25032**	**2982**	**29414.7**
		2nd year				
1	Casualty Replacement including cost of seedling, carriage and planting	Jul/Aug	2	596	497.2	1093.2
2	Complete weeding and cultural operations	Sep/Oct	4	1192	0	1192
3	Soil working and manuring	Sep/Oct	4	1192	0	1192
4	Cost of fertilizer and insecticide (a) Vermicompost 200 gms/plant @ Rs. 20/ per kg=Rs.1600 (b) Granular insecticide 5 gms/plant for 40 plants 200gms @ Rs. 80/- per kg=Rs.16.00	Sep/Oct	0	0	1616	1616
5	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
6	Soil conservation Measures (Renovation of staggered trenches etc.)	Sep/Oct	8	2384	0	2384
7	Watch & ward (whole year)	Apr-Mar	7	2086	0	2086
8	Contingency and unforeseen expenditure		0	0	362	362
	Sub Total		**26**	**7748**	**2475.2**	**10223.2**
9	Monitoring & Supervision charge 5% of the total cost					511.16
	Grand Total		**26**	**7748**	**2475.2**	**10734.36**
		3rd Year				
1	Complete weeding and cultural operations	Aug/Sep	2	596	0	596
2	Soil working	Aug/Sep	2	596	0	596
3	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
4	Watch & ward (whole year)	Apr-Mar	7	2086	0	2086
	Sub Total		**12**	**3576**	**0**	**3576**
5	Monitoring & Supervision charge 5% of the total cost					178.8
	Grand Total		**12**	**3576**	**0**	**3754.8**
		4th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298		298
2	Watch & ward and cultural operation	Apr-Mar	2	596		596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.70
	Grand Total		**3**	**894**	**0**	**938.70**
		5th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298		298
2	Watch & ward and cultural operation	Apr-Mar	2	596		596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.70
	Grand Total		**3**	**894**	**0**	**938.70**
		6th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298		298
2	Watch & ward and cultural operation	Apr-Mar	2	596		596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.70
	Grand Total		**3**	**894**	**0**	**938.70**
		7th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298		298
2	Watch & ward and cultural operation	Apr-Mar	2	596		596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5%					44.70

	of the total cost					
	Grand Total		**3**	**894**	**0**	**938.70**
		8th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298		298
2	Watch & ward and cultural operation	Apr-Mar	2	596		596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.70
	Grand Total		**3**	**894**	**0**	**938.70**
		9th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298		298
2	Watch & ward and cultural operation	Apr-Mar	2	596		596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.70
	Grand Total		**3**	**894**	**0**	**938.70**
		10th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298		298
2	Watch & ward and cultural operation	Apr-Mar	2	596		596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.70
	Grand Total		**3**	**894**	**0**	**938.70**

ABSTRACT

Year	Person days	Labour cost @298/- per Manday (Rs.)	Material cost (Rs.)	Monitoring & Supervision charge 5% of the total cost (Rs.)	Total cost (Rs.)
0th Year	20	5960	900	343	7203
1st Year	84	25032	2982	1400.7	29414.7
2nd Year	26	7748	2475.2	511.16	10734.36
3rd Year	12	3576	0	178.8	3754.8
4th Year	3	894	0	44.70	938.70
5th Year	3	894	0	44.70	938.70
6th Year	3	894	0	44.70	938.70
7th Year	3	894	0	44.70	938.70
8th Year	3	894	0	44.70	938.70
9th Year	3	894	0	44.70	938.70
10th Year	3	894	0	44.70	938.70
Total	**163**	**48574**	**6357.2**	**2746.56**	**57677.76 or 57678.00**
Total Cost of plantation (2.836 ha.)					**163575.00**

B. COST STRUCTURE OF PLANTATION, PROVISION OF FUNDS AND UTILIZATION

ESTIMATE OF COST FOR 1.00 HA. UNDER ANR WITHOUT GAP PLANTATION MODEL

Cost norm for Aided Natural Re-generation (ANR) without Gap planting

Wage rate Rs. 298.00/man-day

Sl No	Item of work	Preferable period of execution	Person days	Labour (Rs)	Material (Rs)	Total (Rs)
	0th year					
1	Survey demarcation and pillar posting, GPS reading with mapping	Nov/Dec	2	596	0	596
2	Site Preparation	Nov/Dec	2	596	0	596
3	Cutting of high stumps		5	1490	0	1490
	Sub Total		**9**	**2682**	**0**	**2682**
4	Monitoring & Supervision charge 5% of the total cost					134.1
	Grand Total		**9**	**2682**	**0**	**2816.1**
	1st year					
1	Silvicultural operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/Oct	15	4470	0	4470
2	Soil Conservation Measures (Staggered trenches of dimension 2 m x o.5 mx 0.5 m@ 60 nos per ha) or its equivalent	Sep/Oct	20	5960	0	5960
3	Fireline Tracing and inspection path	Feb/Mar	3	894	0	894
4	Watch & ward	Aug-Mar	5	1490	0	1490
5	Contingency and unforeseen expenditure		0	0	500	500
	Sub Total		**43**	**12814**	**500**	**13314**
6	Monitoring & Supervision charge 5% of the total cost					665.7
	Grand Total		**43**	**12814**	**500**	**13979.7**
	2nd year					
1	Soil conservation Measures (Renovation of staggered trenches etc.)	Sep/Oct	8	2384	0	2384
2	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
3	Watch & ward (whole year)	Apr-Mar	7	2086	0	2086
4	Contingency and unforeseen expenditure		0	0	300	300
	Sub Total		**16**	**4768**	**300**	**5068**
5	Monitoring & Supervision charge 5% of the total cost					253.4
	Grand Total		**16**	**4768**	**300**	**5321.4**
	3rd Year					
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward (whole year)	Apr-Mar	7	2086	0	2086
3	Contingency and unforeseen expenditure		0	0	300	300
	Sub Total		**8**	**2384**	**300**	**2684**
4	Monitoring & Supervision charge 5% of the total cost					134.2
	Grand Total		**8**	**2384**	**300**	**2818.2**
	4th year					
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
3	Contingency and unforeseen expenditure			0	100	100
	Sub-Total		**3**	**894**	**100**	**994**
4	Monitoring & Supervision charge 5% of the total cost					49.70
	Grand Total		**3**	**894**	**100**	**1043.70**
	5th year					
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596

3	Contingency and unforeseen expenditure			0	100	100
	Sub-Total		**3**	**894**	**100**	**994**
4	Monitoring & Supervision charge 5% of the total cost					49.70
	Grand Total		**3**	**894**	**100**	**1043.70**
		6th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
3	Contingency and unforeseen expenditure			**0**	100	100
	Sub-Total		**3**	**894**	**100**	**994**
4	Monitoring & Supervision charge 5% of the total cost					49.70
	Grand Total		**3**	**894**	**100**	**1043.70**
		7th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
3	Contingency and unforeseen expenditure			**0**	100	100
	Sub-Total		**3**	**894**	**100**	**994**
4	Monitoring & Supervision charge 5% of the total cost					49.70
	Grand Total		**3**	**894**	**100**	**1043.70**
		8th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
3	Contingency and unforeseen expenditure				100	100
	Sub-Total		**3**	**894**	**100**	**994**
4	Monitoring & Supervision charge 5% of the total cost					49.70
	Grand Total		**3**	**894**	**100**	**1043.70**
		9th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
3	Contingency and unforeseen expenditure			0	100	100
	Sub-Total		**3**	**894**	**100**	**994**
4	Monitoring & Supervision charge 5% of the total cost					49.70
	Grand Total		**3**	**894**	**100**	**1043.70**
		10th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
3	Contingency and unforeseen expenditure		0	0	100	100
	Sub-Total		**3**	**894**	**100**	**994**
4	Monitoring & Supervision charge 5% of the total cost					49.70
	Grand Total		**3**	**894**	**100**	**1043.70**

ABSTRACT

Year	Person days	Labour cost @298/- per manday (in Rs.)	Material cost (in Rs.)	Monitoring & Supervision charge 5% of the total cost in (Rs.)	Total cost (in Rs.)
0th Year	9	2682	0	134.10	2816.1
1st Year	43	12814	500	665.70	13979.7
2nd Year	16	4768	300	253.4	5321.4
3rd Year	8	2384	300	134.2	2818.2
4th Year	3	894	100	49.70	1043.7
5th Year	3	894	100	49.70	1043.7
6th Year	3	894	100	49.70	1043.7
7th Year	3	894	100	49.70	1043.7
8th Year	3	894	100	49.70	1043.7
9th Year	3	894	100	49.70	1043.7
10th Year	3	894	100	49.70	1043.7
Total	**97**	**28906**	**1800**	**1535.3**	**32241.30**
Total Cost over 15.00 ha					**483619.50**

ADDITIONAL COST PROPOSED

1	LBCD structure of dimension 10' x 10' x 5' @Rs. 8510.93/- per LBCD for 36 nos. LBCD structures.	8,510.93 x 36 nos.	306393.48
2	Staggered trenches of dimension 2.5 x 0.5 x 0.5 mtr to the tune of 300 Nos. per ha @60MD orRs. 17,880/- per ha over 17.836 ha	60 x 298.00 x 17.836 ha	318907.68
3	Cost of Barbed Wire Fencing over 1.721 KM @Rs. 6,80,583/- per RKM with maintenance up to 3 years	6,80,583 x 1.721 KM	1171283.34
	Sub-Total		**1796584.50**

TOTAL COST OF PROJECT

1.	ANR with Gap Plantation (400 saplings/ha) over 2.836ha @ Rs.57678/- per ha.	163575.00
2	ANR without Gap Plantation over 15.00 ha @32241.30 per ha	483619.50
3	Total additional cost	1796584.50
	Total	**2443779.00**
4	5% incentive to the Forester & Forest Guard for proper implementation to be decided by the RCC, Rourkela	122189.00
5	15% of the total plantation cost towards Entry Point Activity/ Incentive to VSS etc.	366566.85
	Total	**2932534.85**
6	Add Escalation Cost (20%)	586506.97
	Grand Total	**3519041.82 or Rs.35,19,100.00**

(Rupees thirty five lakh nineteen thousand one hundred only) only.

A. PROVISION OF FUNDS AND FUND UTILIZATION

Rs.35,19,100.00(Rupees thirty five lakh nineteen thousand one hundred only) only shall be deposited by the User Agency M/s Tata Steel Limited, on approval of the scheme,in the 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.

13/4/20

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, BJPForest Rangeof Keonjhar Division. The Forest Range 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. GPS co-ordinates along with other required information of Compensatory Afforestation will be uploaded in the e-Greenwatch 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 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.

13/4/20

Divisional Forest Officer,
Keonjhar Division

ANNEXURE-29

SITE SPECIFIC SCHEME

FOR

COMPENSATORYAFFORESTATION OVER 21.00 HA DEGRADED FOREST LAND IDENTIFIED IN MASINABILA RF UNDER GHATGAON FOREST RANGE WITHIN KEONJHAR DIVISION OF UTILITY CORRIDOR FOR KHANDBANDH PROJECT

M/S TATA STEEL LTD

CHAPTER- I

BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL

M/s Tata Iron & Steel Company Ltd. is a Company originally incorporated on 26thAugust, 1907 under the Act, VI of 1882 of the Legislative Council of India and subsequently changed to Tata Steel Ltd. (Tata Steel) on 12thAugust 2005 under the Companies Act, 1956. Considering the growth in demand of steel and steel products within as well as outside the Country and in view of Government's steel policy, the Company has set a goal for increasing its steel production capacity by carrying out both Brownfield and green field expansion in the integrated steel plant at Jamshedpur, Kalinganagar, as well as in sister concerns as well as through acquisitions. The Company has also set up Ferro Alloys Plant at Joda and Jamshedpur. In order to cater to the increased requirement of Iron ore and Manganese ore of the Integrated Steel Plants, Ferro Alloys Plant and Sponge Iron Plants, the Company has undertaken expansion of Khondbond Iron and Manganese Mines.

Khondbond Iron & Manganese Lease was originally granted for a period of 30 years w.e.f 17.01.1933 to 16.01.1963 over an area of 12.17 Sq. miles by the then Ruling Chief of Keonjhar Estate. The lease deed was executed on 20.11.1933. The lease was consisting of three blocks i.e. Block-A(Katamati), Block-B (Joda West) & Block- D (Khondbond).

Khondbond Iron & Manganese lease over an area of 1293.433 ha was executed between Tata Steel Ltd. and State Govt. on 27.10.1984 and registered vide lease deed No. 69 dated 27.11.1984.

The mine is currently being expanded to process 8 MTPA of iron ore and 0.1MTPA of Manganese ore. A beneficiation plant is in the advance stage of construction. The expansion activities also include setting up an overland conveying system from Khondbond Mine to the railway siding at Joda East. In order to strengthen the power supply as well as to take care of the increased power requirement a 33 KV line is also planned to be erected from Joda to Khondbond. Both conveyor corridor and transmission line areessential and critical packages in the expansion scheme.

As per the requirement for diversion of 17.836 ha of forest land wherein it is required to identify 17.836 ha of non-forest land for CA where 17836 nos of seedlings @1000 per ha need to be planted. Hence 17.836 ha of non-forest land identified in village Benidihi under Banspal Tahasil was found to have 2.836 ha suitable for plantation (as per the DSS report) @400 per ha i.e. a total number of (2.836 ha x 400)1135 nos can be accommodated in the said CA area. Therefore, remaining nos of seedlings i.e. 17836– 1135= 16701 no sseedlings need to be planted in other degraded forest land. Accordingly the degraded forest land was identified in Masinabila RF of Ghatgaon Range over an area of 21.00 ha and this 21.00 ha as per DSS report, suitable for plantation @800 nos seedlings per ha i.e. a total of 16800 nos.

Therefore, in view of the above mentioned facts grand total nos of seedlings come to 1135 + 16800=17935 nos as against 17836 nos.

This meets the requirement of nos of seedlings to be planted in respect of the CA land identified above.

Hence Compensatory Afforestation schemes over 21.000ha of degraded forest land at the prevailing wage rate @Rs.298.00 per manday with a maintenance period of ten years has been prepared.

CHAPTER- II

DETAILS OF LAND IDENTIFIED FOR COMPENSATORY AFFORESTATION

IDENTIFICATION OF DEGRADED FOREST LAND

II(1)- Details of identified Forest land-

The identified Degraded Forest land for Compensatory Afforestation is situated in Masinabila RF of Ghatagaon Range in Keonjhar Forest Division. This Forest Block is allotted to Improvement Series of the present Working Plan.

II(2)- Character of existing vegetation of the identified site for Compensatory Afforestation-

The prevailing forest growth has been categorized under forest type- open jungle mainly sal in SoI Topo Sheet No. F45N15. The vegetation consists of Sal and its scattered associates like Jamu, Piasal, Asana, Sisoo, Kuruma, Karada & Khair.

II(3)- Working Plan prescription for the identified site for Compensatory Afforestation-

The prescribed objectives of management for the identified forest block is depicted hereunder-

1. Regenerate of the degraded forest blocks including the areas once affected by shifting cultivation, by appropriate silvicultural inputs and protection measures with people's participation.
2. Improvement of the micro-climate and micro-edaphic conditions though soil and moisture conservation measures.
3. Encouragement of natural regeneration for increasing the biodiversity in forest crop.
4. Fulfillment of the bonafide needs of the local inhabitants for fuel wood, small timber, fodder and N.T.F.P. to the extent possible depending upon the productivity of the forests to ensure their participation.

II(4)- Suitability of the identified site for Compensatory Afforestation-

The identified site in Masinabila RF is a degraded patch with existing vegetation of Sal and Sal associates. Gaps are sporadically spread over the forest block. The topography of the area is mainly plain having good depth of sandy soil conducive for plantation under Block model @800seedling/ha over 21.00 ha. The average maximum temperature is 40^0 to 45^0C and minimum 5^0 to 10^0 C and annual rainfall varies from 1100 mm to 1800 mm. The maximum rainfall is received during the rainy season from July to September. The site has been demarcated with 4 feet RCC pillars with erection of durable signboard depicting Scheme, Year, User Agency, Area etc. on it.

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 GPS survey and GPS survey data showing latitude and longitude of each point and their distance is also enclosed in the map prepared thereon (Maps enclosed).

III(2)- DECISION SUPPORT SYSTEM- ANALYSIS OF FOREST COVER MAP

The map of the proposed degraded forest land for compensatory afforestation was processed using DSS for analysis of Forest cover over the area. The result obtained areenclosed in the scheme. The Analysis of DSS report is narrated below.

Decision Support System of degraded forest land identified in Masinabila RF under Ghatgaon Range

Sl. No.	Name of the Reserved Forest	Verified in Decision Support System (in ha)		
		Total Area	Non-forest	Open-forest
1	Masinabila RF	21.00	11.00	10.00

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 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 the 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. This plan will be followed when actual planting is carried out.

Species to be planted:-

1. *Sizyzium cumini*(Jamu)
2. *Adina cardifolia*(Kuruma)
3. *Anogeissus latifolia*(Dhaura)
4. *Accacia catechu* (Khair)
5. *Dalbergia sissoo*(Sissoo)
6. *Azadirrachta indica*(Neem)
7. *Gmelinaarborea* (Gambar)
8. *Terminalia belerica*(Bahada)
9. *Terminalia chebula*(Harida)
10. *Pongamia pinnata* (Karanja)
11. *Emblica officinalis* (Ainla)
12. *Shorea robusta*(Sal)

B.PRE-PLANTING OPERATION

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

Nursery will be raised @880 seedlings/haover 21.00 ha including seedlings for 10% causality replacement.

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

The planting area has been surveyed and demarcated with four feet height RCC pillars at inter visible distance (as per the direction of the Forest Range officer, GhatagaonRange) with GPS coordinates, forward and backward bearing, pillar No. and distance between pillars inscribed in it. A GPS map in the scale of 1:4000 has been prepared along with GPS co-ordinates, forward & backward bearing, pillar to pillar distance and pillar numbers reflected in the map. A sign board has 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 30 x 30 x 30 cm. will be dug @800 per ha in the available gaps in Masinabila RF over 21.00 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 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 grams 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 36 nos. over the entire plantation site and staggered trenches of dimension 2.5 x 0.5 x 0.5 mtr to the tune of 300 Nos. per ha @60 Man days over 21.00 ha.

D(5)-PROTECTION AGAINST FIRE AND BIOTIC INTERFERENCE

It is proposed to protect the CA plantation from grazing by domestic animals using Barbed wire fencing (7 Strands). The total length of such Barbed wire fencing for all the patches which comes to 1.445Km. 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 general VSS.

D(6) ADDITIONAL PROVISION

The proposed area is rocky and highly degraded area. Hence proper watering provision be made to ensure survival of the plantation. For this purpose a deep bore well with solar pump and adequate pipeline is required to be made to ensure watering. In addition to above, a watcher shed to be constructed at a cost of 2 lakh for proper supervision of the area.

Sl no	Items	Cost (in Rupees)
1	Digging deep Bore well (300mtr. Depth)	3,38,288.00
2	Solar pump with Panel System	6,00,000.00
3	Pipeline system to be laid in the plantation	2,00,000.00
4	Watcher Shed	2,00,000.00
5	Staff for watering purpose 2 person for 7 months December to June for 3years (2 X 298 X 30 X 7months X 3yrs)	3,75,480.00
	Total	**17,13,768.00**

The estimate for Digging of deep Bore well prepared by the Executive Engineer, RWS&S Division is enclosed vide **Annexure-**

CHAPTER- VI

COST NORM FOR AIDED NATURAL REGENERATION (ANR) @800 PLANTS PER HECTARE

WAGE RATE Rs. 298/- MAN DAY

Sl No	Item of work	Preferable period of execution	person days	Labour (Rs)	Material (Rs)	Total (Rs)
	0th year					
1	Survey demarcation and pillar posting, GPS reading with mapping	Nov/Dec	2	596	0	596
2	Site Preparation	Nov/Dec	2	596	0	596
3	Silvicultural operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan/Feb	5	1490	0	1490
4	nursery cost (6 months old seedling) part @Rs.12.43/- seedling (Rs.8.67/- in 0th year + Rs.3.76 in 1st year) for 880 seedlings (800+80)	Jan/Mar	22	6556	1470	8026
5	Contingency and unforeseen expenditure		0	0	230	230
	Sub Total		**31**	**9238**	**1700**	**10938**
6	Monitoring & Supervision charge 5% of the total cost					546.9
	Grand Total		**31**	**9238**	**1700**	**11484.9**
	1st year					
1	Nursery cost (6 months old seedling) balance @Rs.3.76 for 880 seedlings	Apr/June	11	3278	230	3508
2	Pitting 30 cm cube size	Feb/Mar	24	7152	0	7152
3	Carriage and planting including casualty replacement	Jul/Aug	20	5960	0	5960
4	Complete weeding, Soil working, Manuring	Aug/Sep	24	7152	0	32
5	Cost of Vermi compost 200 gms/plant @ Rs.20/- per kg=Rs.3200.00 and Granular insecticide 5 gms/plant @Rs.80/- per kg. =Rs.320.00	Aug/Sep	0	0	3520	3520
6	Cost of Chemical fertilizer (a) Urea 70 gms/plant in two subsequent doses @Rs.6/- per kg = Rs.336.00 (b) NPK 50 gms/plant @Rs.24/- per kg = Rs.960.00 as basal dose.	Jul/Aug	0	0	1296	1296
7	Fireline Tracing and inspection path	Feb/Mar	3	894	0	894
8	Silvicultural operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/Oct	15	4470	0	4470
9	Soil Conservation Measures (Staggered trenches of dimension 2 m x 0.5 mx 0.5 m@ 60 nos per ha) or its equivalent	Sep/Oct	20	5960	0	5960
10	Watch & ward	Aug/Mar	7	2086	0	2086
11	Contingency and unforeseen expenditure		0	0	338	338
	Sub Total		**124**	**36952**	**5384**	**42336**

12	Monitoring & Supervision charge 5% of the total cost		0	0	0	2116.8
	Grand Total		**124**	**36952**	**5384**	**44452.8**
		2nd year				
1	Casualty Replacement including cost of seedling, carriage and planting	Jul/Aug	4	1192	994	2186
2	Complete weeding, Soil working, Manuring	Sep/Oct	8	2384	0	2384
3	Soil working and manuring	Sep/Oct	8	2384	0	2384
4	Cost of fertilizer& insecticide (a) Vermicompost 200 gms/plant @20/- per kg = Rs.3200.00 (b) Granular insecticides 5 gms/ plant for 80 plants 400 gms @ Rs.80/- per kg = Rs.32.00	Sep/Oct	0	0	3232	3232
5	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
6	Soil conservation Measures (Renovation of staggered trenches etc.)	Sep/Oct	8	2384	0	2384
7	Watch & ward (whole year)	Apr-Mar	7	2086	**0**	2086
8	Contingency and unforeseen expenditure		**0**	0	224	224
	Sub Total		**36**	**10728**	**4450**	**15178**
9	Monitoring & Supervision charge 5% of the total cost					758.9
	Grand Total		**36**	**10728**	**4450**	**15936.9**
		3rd Year				
1	Complete weeding, Soil working, Manuring	Aug/Sep	4	1192	0	1192
2	Soil working	Aug/sep	4	1192	0	1192
3	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
4	Watch & ward (whole year)	Apr-Mar	7	2086	0	2086
	Sub Total		**16**	**4768**	**0**	**4768**
5	Monitoring & Supervision charge 5% of the total cost					238.4
	Grand Total		**16**	**4768**	**0**	**5006.4**
		4th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.7
	Grand Total		**3**	**894**	**0**	**938.7**
		5th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.7
	Grand Total		**3**	**894**	**0**	**938.7**
		6th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of					44.7

	the total cost					
	Grand Total		**3**	**894**	**0**	**938.7**
		7th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.7
	Grand Total		**3**	**894**	**0**	**938.7**
		8th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.7
	Grand Total		**3**	**894**	**0**	**938.7**
		9th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.7
	Grand Total		**3**	**894**	**0**	**938.7**
		10th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	298	0	298
2	Watch & ward and cultural operation	Apr-Mar	2	596	0	596
	Sub-Total		**3**	**894**	**0**	**894**
3	Monitoring & Supervision charge 5% of the total cost					44.7
	Grand Total		**3**	**894**	**0**	**938.7**

ABSTRACT						
SL. No.	Item of Work	No. Person Day	Labour cost @ Rs 298/- per day	Material cost (Rs)	Monitoring & Supervision charge 5% of the total cost	Total cost in (Rs)
1	0^{th}Year operation	31	9238	1700	546.90	**11484.90**
2	1^{st}Year operation	124	36952	5384	2116.80	**44452.8**
3	2^{nd} Year operation	36	10728	4450	758.90	**15936.9**
4	3^{rd}Year operation	16	4768	0	238.40	**5006.4**
5	4^{th}Year operation	3	894	0	44.70	**938.70**
6	5^{th}Year operation	3	894	0	44.70	**938.70**
7	6^{th}Year operation	3	894	0	44.70	**938.70**
8	7^{th}Year operation	3	894	0	44.70	**938.70**
9	8^{th}Year operation	3	894	0	44.70	**938.70**
10	9^{th}Year operation	3	894	0	44.70	**938.70**
11	10^{th}Year operation	3	894	0	44.70	**938.70**
TOTAL		**228**	**67944**	**11534**	**3973.9**	**83451.9**

ADDITIONAL COST PROPOSED

1	LBCD structure of dimension 10' x 10' x 5' @Rs. 8510.93/- per LBCD for 36 nos. LBCD structures.	8,510.93 x 36 nos.	306393.48
2	Staggered trenches of dimension 2.5 x 0.5 x 0.5 mtr to the tune of 300 Nos. per ha @60MD or Rs. 17,880/- per ha over 21.00 ha	60 x 298.00x 21.00 ha	375480.00
3	Cost of Barbed Wire Fencing over 1.445KM @Rs. 6,80,583/- per RKM with maintenance up to 3 years	6,80,583 x 1.445 KM	983442.44
4	Cost of one no deep bore well, solar pump, pipeline system to planting site, watcher shed & wages of watchers.	1713768.00	1713768.00
	Sub-Total		**3379083.92**

TOTAL COST OF PROJECT (in Rs.)

1.	ANR Plantation (800 saplings/ha) over 21.00ha @ Rs.83451.90/- per ha.	1752489.90
2	Total additional cost	3379083.92
	Total	5131573.82
3	15% of the total plantation cost towards Entry Point Activity/ Incentive to VSS etc.	769736.07
	Total	**5901309.89**
4	Add Escalation Cost (20%)	1180261.98
	Grand Total	Rs.7081571.87 or Rs.70,81,600.00

(Rupees seventy lakh eighty one thousand six hundred) only.

A. PROVISION OF FUNDS AND FUND UTILIZATION

Rs.70,81,600/-(Rupees seventy lakh eighty one thousand six hundred) only)only shall be deposited by the User Agency M/s Tata Steel Ltd. on approval of the scheme to the 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.

Santosh 13/4/20

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, Ghatgaon Range of Keonjhar Division. The Forest Range Officer, Ghatgaon 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. GPS co-ordinates along with other required information 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 Ghatgaon 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.

13/4/20

Divisional Forest Officer,
Keonjhar Division

Annexure –

Name of work :- "Sinking of 1 Nos 200x150 mm dia Production wells by Fast Drilling Sophisticated Rig (DTH) in hard rock areas with PVC casing pipe for water Supply to village Badamasinabilla Reserve Forest under Ghatgaon Block

Sl. No.	Description of items	Quantity		Unit	Rate & amount	
					Rate	Amount
1	2	3		4	5a	5b
1	Labour for drilling & perfectly vertical bore hole of specified dia for a specified depth below ground level through consolidated and unconsolidated Rock with down the hole Hammer drilling rigs or combination drilling rigs as required to suit the site conditions as per the direction of Engineer-in-charge including supply of Rigs with its accessories T&P and consumable etc. for lowering 125mm dia PVC pipes/ G.I. pipes for hoisting fitted with socket and with or without well screens as per the necessity for the soft, medium and hard formation PVC/GI pipes casing pipes if required to prevent collaps or the over burden is to be provided by the contractor including lowering and with drawing after completion of the tube well					
A	**200 mm dia**					
	a- 00 mtr. To 60 mtr and above	50	Mtr	Each Mtr	752.00	37600.0(
B	**150 mm dia**					
	a - 60 th mtr. To 90th mtr and above	250	Mtr	Each Mtr	746.00	186500.0(
2	Lowering the following size G.I/PVC pipes with or without slotted pipes as per the necessity from G.I. up to 30 mtr. Depth and fitted and fixed up imperfectly vertical position, including cutting and threading pipes and slotted pipe and supplying and fixing all ljoining materials, T&P etc. complete and keeping the top of the casing pipe threaded including plugging tube wells to prevent entry of foreign matters from above.					
	a) 200mm dia PVC pipe - 00 mtr. To 60 mtr & above	50	Mtr	Each Mtr	167.00	8350.0(

3	Cleaning and developing the tube well with their own compressor continuously worked till clear and adequate discharge is obtained from the tube well including supply and use of all necessary equipmennts and labours as per the direction of Engineer-in-charge.					
	(a) For one tube well	1	No	Each No	6124.00	6124.00
				Total		238574.00
	Cost of Materials					
4	200 mm dia PVC Casing pipe (Sch 80)	50.5	Mtrs	Each M	1,197.59	60478.09
				Grand Total(A+B)		299052.09
					Say	299,052.00

Rate of 200 mm dia PVC Casing Pipe = 530 MTRS PER TRIP- LEAD 230 km from Balasore to Keonjhar (Rate Contract Circular No.7516(200)EPM dt.21.11.2019 Valid upto 08.03.2020.)

Sl	Basic price per mtr.	Inspection charges @ 0.825%	Transpotion charges		G.Total	
1	1170.41	9.66	17.52		1,197.59	

ABSTRACT

1	COST OF PRODUCTION WELL	...	...		Rs	299,052.00
2	ADD 1% CONTINGENCY	...	...		Rs	2,990.52
3	SUB-TOTAL				Rs	302,042.52
4	ADD 12% GST	...	...		Rs	36245.10
	G.TOTAL	...	...		Rs	338,287.62
	SAY	...	...		Rs	338,288.00

(Rupees Three lakhs thirty eight thousand two hundred eighty eight)only

06/04/2020

Executive Engineer
R.W.S. & S Division, Kannihar