

 एक महारत्न कंपनी A Maharatna Company	CENTRAL COALFIELDS LIMITED (Govt. of India Undertaking) A miniratna Cat-I Company Darbhanga House, Ranchi-834001	 
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पत्रांक: GM/E&F/2022/316

दिनांक: 07.05.2022

To,

Member Secretary (Coal Mining)
Ministry of Environment Forest and Climate Change,
Govt. of India
Indira Paryavaran Bhawan
3rd Floor, Vayu Wing, Jor Bagh Road
New Delhi-03

Subject: Submission of Additional Details Sought (ADS) for considering the proposal for Environment Clearance for Giddi A OCP (1 MTPA) in an area of 187.98 Ha of M/s Central Coalfields Limited; located in village: Giddi & Kurkutta, Block-Dadi, Dist. Hazaribag, Jharkhand- Reg.

Ref No: 1) Proposal No: IA/JH/CMIN/74323/2018
2) MoM of 26th EAC (Coal Mining Projects) held on 18.02.2022

Respected Sir,

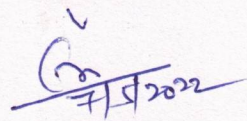
This has reference to the above subject. The proposal of Environment Clearance of Giddi A OCP was submitted vide proposal no: IA/JH/CMIN/74323/2018 and it was considered in the 26th EAC (Coal Mining Projects) held on 18.02.2022. The Expert Appraisal Committee (EAC) has sought additional details in respect of the proposal as per the minutes issued on 09.03.2022

The reply of additional details of Giddi A OCP is being submitted along with all relevant annexure & photographs for further consideration and perusal.

As such, it is requested to accept the reply to the additional details sought and consider the proposal in the ensuing EAC meeting for further appraisal and issuance of Environment Clearance.

Enclosed: Detailed reply of additional details along with relevant annexure & photographs

Yours faithfully,



GM(E&F)
Central Coalfields Limited
Ranchi

**Reply to the observation of EAC in respect of Giddi 'A' OCP as sought during
EAC meeting held on 18.02.2022**

SN	OBSERVATION	COMPLIANCE
	PP shall revise damage assessment and its remedial action plan for violation of over production as suggested by EAC based on following points:	The damage assessment and its remedial action plan has been revised and the point-wise compliance is submitted below:
(i)	a. The total damage cost mentioned in the EIA report is 17.55 crores; whereas in the presentation (ppt) the total is Rs. 3.49 Crores. The air damage cost in EIA report is Rs. 15.28 crores, for a total emission quantity of PM ₁₀ is 61,710 KG. Whereas the PPT shows a total emission quantity of (PM ₁₀ + PM _{2.5}) is 11,988 KG (Approx) for 3 years only. PP to explain the difference and shall submit the revised quantity with cost.	<ol style="list-style-type: none"> 1. Total Damage Cost due to violation in respect of Air, water, land and other environmental parameters have been re-assessed as per the guidelines of EAC, and Remediation plan and Natural & Community Resource Augmentation Plan (NCRAP) have been updated. 2. As per the revised assessment, total emission quantity for PM₁₀+ PM_{2.5} is 92,246.04 Kg for 16 years of violation. 3. The revised damage remediation plan & natural & community resource augmentation plan is enclosed as Annexure-I.
	b. Total water balance incorporating the monsoon period water shall be submitted	<ol style="list-style-type: none"> 1. Total water balance for Monsoon and non-Monsoon season has been assessed and is enclosed at Annexure-II. 2. Accordingly, the environmental compensation of ground water extracted during violation has been calculated as Rs. 2.75 Crore.
	c. Cost saved in EMP for 16 years and 3% of it shall be considered in CRAP.	Cost saved in EMP for 16 years has been worked out and 3% of this cost has been considered in CRAP fund under damage remediation plan & natural & community resource augmentation plan.
	d. Net profit accrual shall be revised with certification from finance department and 3% of same shall be added to CRAP	The certified report of Area Finance Manager is enclosed with Annexure-I for net profit accrual & CRAP has been revised by incorporating 3% of net profit accrued due to violation.
	e. Net profit accrual shall be revised besides revising the amount to be allocated to CRAP.	The certified report of Area Finance Manager is enclosed with Annexure-I for net profit accrual & CRAP has been revised by incorporating 3% of net profit accrued due to violation.
	f. The damage assessment cost of surface water must also be included as the impact on river as streams cannot be neglected.	The damage assessment cost of surface water is calculated and included in damage remediation plan & natural & community resource augmentation plan at Section 1.3.3. Water Environment.
	g. Damage cost for GW abstraction considering the above factor shall be revised.	The damage cost for Ground water abstraction has been revised and included in damage remediation plan & natural & community resource augmentation plan at Section 1.3.3. Water Environment.
	h. The activities enumerated under Remediation, NRAP and CRAP shall be revised based on the need based survey and further shall be specific,	1. As per the above directions, activities enumerated under Remediation, NRAP and CRAP has been revised. The revised damage remediation plan & natural & community resource augmentation plan

	monitor able besides revising the target period to two years.	is enclosed as Annexure-I . 2. However, the action plan is prepared for three years for implementation for the activities proposed under the Remediation, NRAP and CRAP.
(ii)	PP shall clarify the area of forest clearance for land involved in the project with certified map of project area from Forest Department.	1. Total forest land involved in the proposed project Boundary of Giddi-A OCP (1.00 MTPA) is 73.94 Ha. 2. 73.94 Ha. forest land is a part of 232.42 Ha. forest land, for which the stage-I has been obtained vide F.No 8-73/2003-FC Dt. 08.06.2004. 3. The revenue map showing the total forest land (232.42 Ha.) for which stage-I FC obtained, and forest land falling within the project area (73.94 Ha.) certified by the project authority is enclosed as Annexure-III . 4. A letter of request along with the plan has been submitted to DFO, Ramgarh for certification.
(iii)	PP shall submit Status of Credible action taken by Project Proponent by State Government	1. Jharkhand State Pollution Control Board (JSPCB) has been requested vide letter no: HOD/(Env.)/2021/1152 Dated: 29.11.2021 for taking necessary action in this regard. The Letter is attached at Annexure-IV .
(iv)	300 KLD of domestic water usage shows the consumption by colony, provide the details pertaining to sewage treatment, rain water harvesting and solid waste management as per SWM 2016 rules.	1. The proposal for construction of Sewage Treatment Plan (STP) for colony has been included in the EMP with tentative timeline of completion March-2023. The proposal for carrying out the work has been initiated by the project vide letter no: SO(C)(A)/STP/2021-22/572 Dt. 28.02.2022. The copy of letter is enclosed at Annexure-V . 2. Details of Existing and proposed Rain water conservation measures is enclosed as Annexure-VI . 3. The solid waste generated in the colony of Giddi A OCP is being collected by third party & disposed as per the MSW Rules, 2016. The copy of workorder is enclosed at Annexure-VII .
(v)	PP shall revise Mine plan including Mine Closure Plan by considering OB dumping in adjacent mine void (currently filled with water) and further no increase in OB dump towards Damodar River shall be included in it. Current distance from HFL of river to OB dump should be submitted.	1. As per the direction, mine plan & mine closure plan has been revised and accordingly, it is submitted that area of external OB dump will not be increased any further towards Damodar River. 2. The adjacent xexisting abandoned quarries, filled with water, will be utilized for OB dumping from the project. 3. The distance of HFL of Damodar River to existing OB dump is approximately 200 meter.
(vi)	PP shall submit action plan for plantation along peripheral boundary with allocated budget and timeline.	1. Till date around 10.40 Ha. of plantation has been carried out under greenbelt/safety zone along the peripheral boundary of Giddi A OCP. 2. Further, it has been proposed to carry out peripheral plantation over an area of 6.20 Ha. in Monsoon 2022. 3. The plan showing existing and proposed plantation is enclosed as Annexure-VIII .
(vii)	PP shall provide proof of installation of CAAQMS with picture and online	1. Continuous Ambient Air Quality Monitoring Station has been installed in the buffer zone of Giddi A

data linked with CPCB and SPCB and further data of piezometer should be shown.

- OCP. The photographs & online data linked with Jharkhand SPCB is shown below:
2. A comprehensive hydrogeological study for Giddi A OCP has been carried out by CMPDI and the report was submitted on 29.03.2022. As per the report, two numbers of piezometer has been proposed in the core zone of Giddi A OCP.
 3. In addition, monitoring of ground water through monitoring wells is being undertaken both in pre-monsoon & post-monsoon period. The location of monitoring well is shown at **Annexure-IX**.



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26 Record Found

Sl. No	Industry Name	stationId	analyserId	Parameter	Process Value	Unit	Submitted Date	Timestamp of Analyser
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5	Argada Area, CCL	AQ	1000125	NOX	21.03	ug/m3	04-05-2022 17:29:19	2022-05-04:17:30
6	Argada Area, CCL	AQ	1000125	NO2	22.64	ug/m3	04-05-2022 17:29:17	2022-05-04:17:30
7	Argada Area, CCL	AQ	1000125	NO	1.61	ug/m3	04-05-2022 17:29:14	2022-05-04:17:30
8	Argada Area, CCL	AQ	1000129	PM2.5	68.10	ug/m3	04-05-2022 16:59:24	2022-05-04:17:00
9	Argada Area, CCL	AQ	1000128	PM10	125.82	ug/m3	04-05-2022 16:59:22	2022-05-04:17:00
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12	Argada Area, CCL	AQ	1000125	NOX	16.43	ug/m3	04-05-2022 16:59:17	2022-05-04:17:00
13	Argada Area, CCL	AQ	1000125	NO2	17.91	ug/m3	04-05-2022 16:59:15	2022-05-04:17:00

Photograph Showing CAAQMS Linked to JSPCB Website


(viii)	PP shall provide the receiving of Wildlife Conservation Plan for Schedule-I species and breakup of the proposed activities with budgetary provision submitted to the DFO.	<ol style="list-style-type: none"> 1. Wildlife conservation Plan has been prepared for schedule-I species with a capital cost of Rs. 80 Lakhs and revenue cost of Rs. 30 Lakhs. The conservation plan has been submitted vide letter no: PO GDA/Survey/2022/44 Dated: 13.04.22 2. The budgetary provisions of WLCP and forwarding letter to DFO has been enclosed as Annexure-X.
(ix)	PP shall update mine closure activity already conducted and to be pursued for final mine closure as life of mine is 5 years. Also, Mine closure status of underground mining activity of	<ol style="list-style-type: none"> 1. The mine closure plan of Giddi A has been prepared for a total mine closure cost of 1907.16 lakhs and approved by CCL Board in its 507th meeting item no 504.4(14) dt. 23.09.2021. 2. Underground operations within Giddi A lease area

	this mine.	<p>were carried out till 1985-86 and operations were suspended since then.</p> <p>3. The mine closure activities of UGP like sealing and fencing of incline mouth, subsidence management etc. have been carried out.</p> 
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Photograph Showing Sealed Incline of UG Workings

(x)	Plan of action and allocated fund for maintenance and services to provide drinking water pipeline with fittings to the nearby villages with installed RO for 10 years.	RO systems at 12 locations in adjacent villages viz. Giddi ka, Giddi Kha, Giddi Ga and Kanki Panchayats has been proposed at a cost of Rs 3 Crores under NCRAP. The plan of action and allocated fund is given below:
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SN	Work	Location	Total Number	Tentative Cost (in Rs Lakhs)	Expected Date of start of Work	Expected Date of completion of Work
1	Construction & installation of RO Plants for supply of treated drinking water at with annual maintenance contract.	Giddi 'Ka', Giddi 'Kha', Giddi 'Ga' and Kanki Panchayat	12	300	Oct-2022	March-2024

(xi)	PP shall recheck and re-monitor the water quality of surface water i.e nallahs/streams and Damodar River in vicinity of the project area	<p>Surface water quality data has been re- monitored at two locations i.e., U/S and D/S of River Damodar in March 2022 and found that all values are well within the range. Refer Annexure-XI for surface water quality data.</p> 
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Photograph Showing Surface Water Sampling in Damodar River U/S

(xii)	Protection measures for the streams/nallahs from the lease area to Damodar River. The PP must take inputs by other consultant (third party) regarding the river conservation plan of Damodar River.	<ol style="list-style-type: none"> 1. The details of conservation measures taken up for the protection of streams/nala is enclosed as <u>Annexure-XII.</u> 2. For carrying out a detailed river conservation plan of Damodar River, third party consultants are being identified. 3. As the detailed study will take at least six months and the mine is also not producing coal since 01.04.2022, it is requested to consider the submission and additional time may be provided for the study. 														
(xiii)	Time bound action plan with budgetary provision for commitment made on the issues raised during public hearing in both the districts.	<ol style="list-style-type: none"> 1. Total Capital Expenditure of Giddi A OCP is 102.98 Crore. (As per the approved mine plan). As per the directions of EAC, MOEFCC 2% of which is to be catered to compliance of Issues raised in the PH. 2. Subsequently, action plan for compliance of PH issues has been prepared for an estimated value of Rs. 2.07 Crore, enclosed as <u>Annexure-XIII.</u> 														
(xiv)	PP shall submit the consent letter from the panchayat for the stretch required by the villagers on actual need base survey and to provide pucca road to them with proper budgetary implementation and time bound action of 2 years was to be followed.	<ol style="list-style-type: none"> 1. The consent letter from the panchayat for the stretch required by the villagers is enclosed as <u>Annexure-XIV.</u> 2. The budgetary implementation and time-bound action is given below: 														
<table border="1"> <thead> <tr> <th>SN</th> <th>Work</th> <th>Location</th> <th>Length (in meter)</th> <th>Tentative Cost (in Rs Lakhs)</th> <th>Expected Date of start of Work</th> <th>Expected Date of completion of Work</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Providing Pucca approach road</td> <td>Kendiya Tola</td> <td>300</td> <td>27</td> <td>Oct-2022</td> <td>Dec-2022</td> </tr> </tbody> </table>			SN	Work	Location	Length (in meter)	Tentative Cost (in Rs Lakhs)	Expected Date of start of Work	Expected Date of completion of Work	1	Providing Pucca approach road	Kendiya Tola	300	27	Oct-2022	Dec-2022
SN	Work	Location	Length (in meter)	Tentative Cost (in Rs Lakhs)	Expected Date of start of Work	Expected Date of completion of Work										
1	Providing Pucca approach road	Kendiya Tola	300	27	Oct-2022	Dec-2022										
(xv)	PP to submit the revised EMP cost and the breakup of activity proposed in CER.	<ol style="list-style-type: none"> 1. EMP Cost, cost for compliance of issues raised in PH, Damage Remediation Cost and Natural and Community Resource Augmentation Plan have been revised as per the EAC Guidelines and enclosed as <u>Annexure XV.</u> 														

Annexure-I



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A Mini Ratna Company

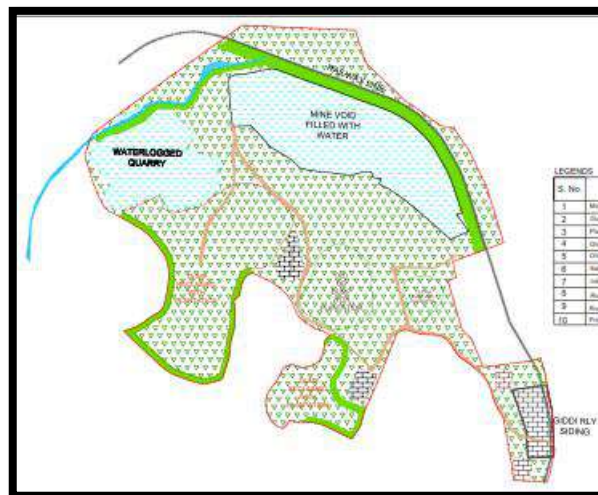
**DAMAGE ASSESSMENT REPORT
&
DAMAGE REMEDIATION PLAN & NATURAL AND
COMMUNITY RESOURCE AUGMENTATION PLAN
(As per EIA Notification, 2006)**

(Based on ToR issued by MOEFCC letter F.N-23-266/2018-IA.III Dt.27.04.2021)

FOR

**Giddi A OCP
(187.98 Ha/ 1.00 MTPA)
(Argada Area, C.D. Block: Dadi, Dist. Hazaribagh,
State: Jharkhand)**

**CENTRAL COALFIELDS LIMITED
(A Subsidiary of Coal India Limited)**



May 2022

**Central Mine Planning and Design Institute Limited
Gondwana Place, Kanke Road, Ranchi
CMPDI/EIA/CCL/2021-22/December/312156/02**

Prepared by CMPDI, RI-III, Ranchi

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Chapter 1

Remediation Plan and Natural & Community Resource Augmentation Plan

1.1 Brief Description

Giddi-A OCP is a brownfield project located in the South Karanpura Coalfields, Dadi CD block, Hazaribagh Dist. of Jharkhand. Giddi-A colliery is a very old and taken over mine. Mining activities in this colliery was started in the year 1958 by both opencast and underground means. The land is acquired under National and CB act vide SO notification 252 dated 15th January, 1958.

The details of coal production from Giddi-A OCP since 1993-94 is given in the table below.

Table 1.1 Year wise production details

Financial Year	Coal Production (MTPA)	OB in Mm3	EC Capacity in MTPA
1993-94	0.234	1.4	-
1994-95	0.174	1.2	-
1995-96	0.2	0.85	-
1996-97	0.177	0.752	-
1997-98	0.2	0.522	-
1998-99	0.38	0.599	-
1999-00	0.264	0.384	-
2000-01	0.126	0.51	-
2001-02	0.154	0.578	-
2002-03	0.188	0.416	-
2003-04	0.32	0.53	-
2004-05	0.325	0.587	-
2005-06	0.367	0.724	-
2006-07	0.346	0.807	-
2007-08	0.35	0.796	-
2008-09	0.413	0.795	-
2009-10	0.4	0.802	-
2010-11	0.481	0.701	-
2011-12	0.485	0.792	-
2012-13	0.532	0.743	-
2013-14	0.504	0.816	-
2014-15	0.415	1.22	-
2015-16	0.454	1.2	-
2016-17	0.301	1.22	-
2017-18	0.199	1.06	-
2018-19	0.208	0.995	-
2019-20	0.113	0.508	-
2020-21	0.227	0.851	-
2021-22	0.232	0.810	-

**Final EIA & EMP of Giddi-A OCP
(187.98 Ha./ 1 MTPA)
Argada Area, Central Coalfields Limited**

As detailed in the above table, the project has produced 0.234 MTPA in 1993-94 and operated without obtaining EC since then. The project has gone into violation for 16 financial years during the periods FY 1998-99 to 1999-2000 and FY 2003-04 to 2016-17 due to production of coal at a greater capacity from 1993-94 production level, without a valid EC. The signed copy of production details is enclosed as Annexure-IA.

As per the condition no (iii) of ToR issued by the MoEFCC, the assessment of damage caused due to the mining activity involving violation of regulatory frameworks has been carried out.

This Damage Assessment report and Natural & Community Resource Augmentation Plan (NCRAP) of Giddi A OCP has been updated by incorporating the comments/suggestions of EAC (coal), MoEFCC in the Minutes of Meeting (MoM) of 25th meeting held on 18.01.2022.

1.2 Economic Benefit Due to Violation

Economic benefit calculations due to violation in the years of violations are as given below.

Table 1.2 Economic benefits Accrued Due to Violation

S.No	F.Y	Actual Coal Prod. (Te)	1993-94 Capacity	Excess Production in TPA	Total Profit (Rs.)	Total Loss in Rs.	Incremental Profit due to Violation (Rs.)	Incremental Loss due to Violation (Rs.)
1	1998-99	380016	233640	146376	77738000		48703037	
2	1999-00	264036	233640	30396	5461000		628674	0
3	2003-04	320000	233640	86360	7800000		2105025	0
4	2004-05	325404	233640	91764	47400000		13366810	0
5	2005-06	366864	233640	133224	0	-2500000	0	-907857
6	2006-07	346116	233640	112476	29081000		9450342	0
7	2007-08	350388	233640	116748	0	-3300000	0	-1099548
8	2008-09	412680	233640	179040	0	-26288000	0	-11404971
9	2009-10	400056	233640	166416	66522000		27671939	0
10	2010-11	481368	233640	247728	113898000		58615703	0
11	2011-12	485388	233640	251748	7786000		4038233	0
12	2012-13	532428	233640	298788	23915000		13420622	0
13	2013-14	503660	233640	270020	16694000		8949914	0
14	2014-15	415346	233640	181706	5171124		2262269	0
15	2015-16	453580	233640	219940	5732000		2779435	0
16	2016-17	301074	233640	67434	0	-1450000	0	-324768
Total		63,38,404	-	26,00,164	407198124	-33538000	191992003	-13737144

As summarised in the above table, as per the data provided by the project, the project has earned cumulative profits of Rs. 19.199 Cr. For the incremental production in the financial years 1998-99, 1999-00, 03-04, 04-05, 06-07, 09-10, 10-11, 11-12, 12-13, 13-14, 14-15 and 2015-16. Whereas, the project has run into losses in the FY: 2005-06, 07-08, 08-09 and 2016-17.

The signed copy of economic benefits accrued due to violation is enclosed as Annexure-IB.

1.3 Assessment of Ecological Damage Due to Violation

As per the condition no (iii) of ToR issued by the MoEFCC, the assessment of damage caused due to the mining activity involving violation of regulatory frameworks is to be carried out.

The details of violation involved in Giddi-A OCP have already been discussed in the above section 13.1 and the economic benefit accrued due to violation has been detailed in the section 13.2.

The damage caused to different environmental attributes like air, water, land, flora and Fauna, socio economic and occupational health etc are quantified as given below.

1.3.1 Land Degradation

Giddi-A OCP is a very old and taken over mine. Mining activities in this colliery was started in the year 1958 by both opencast and underground means. The project has produced coal beyond 1993-94 production level in several years (16 FY).

To assess any degradation on land due to mining operation and associated activity during the violation period, a series of satellite based datasets have been analysed. The details are as follows.

Table 1.3 Landuse Type Comparison as per the Remote Sensing Study

Land use Type	1999	2016	change in Landuse
	Area in Ha.		
Forest Land	0	0	0
Scrubs	28.09	9.37	-18.72
Plantation Area	2.06	19.43	17.37
Agricultural Area	2.29	4.05	1.76
Waste Land	33.52	24.39	-9.13
Mining Area	112.34	122.04	9.7
Settlements	8.46	8.04	-0.42
water Body	1.22	0.66	-0.56
Total Area in Ha.	187.98	187.98	

**Final EIA & EMP of Giddi-A OCP
(187.98 Ha./ 1 MTPA)
Argada Area, Central Coalfields Limited**

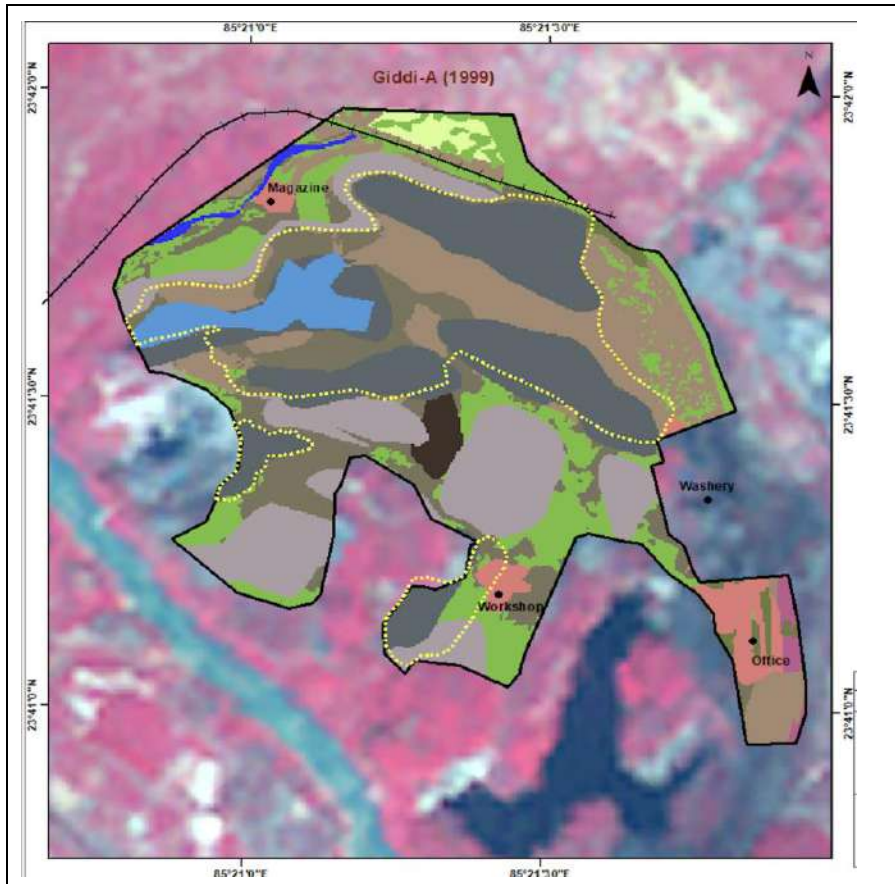
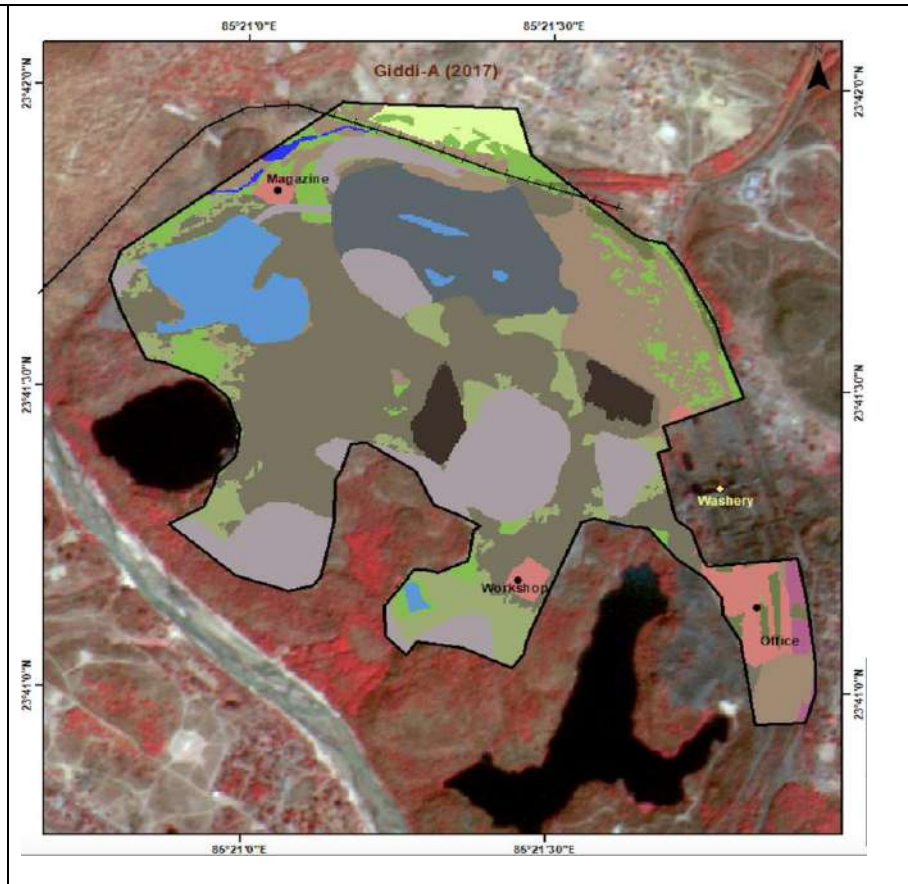


Fig: LULC Mapping of Core Zone of Giddi A OCP based on Satellite Data (Period: 1999)



LULC Mapping of Core Zone of Giddi A OCP based on Satellite Data (Period: 2016)

**Final EIA & EMP of Giddi-A OCP
(187.98 Ha./ 1 MTPA)
Argada Area, Central Coalfields Limited**

Thus it can be concluded that, around 9.70 Ha of additional land was utilized for mining and allied operations during the period of violation.

The damage costs on land environment has been calculated as given below:

Land Degradation Due to Mining	Quantity of Land Affected (Ha)	Type of Land	NPV Rate#(Rs.)	Environmental Price of land degradation(Rs.)
	9.70	Scrub*	64,595/Ha	626571.50

*Refer Plate- Landuse as per Remote Sensing

#NPV rate for has been considered for OF as per "Revision of Rates of NPV Applicable For Different Class/Category of Forests-2014", CESM & IIFM Bhopal, in collaboration of FSI, Dehradun.

Therefore, the total estimated damages on the land due to mining in the violation period is around **Rs. 6,26,571.50/-**.

Remediation Measures

As discussed in the previous section, minor impact of violation on the land environment has been identified. Additional plantation in the nearby villages has been proposed as a part of Remediation Plan and Natural Resource Augmentation Plan (NCRAP).

1.3.2 Air Environment

Damages caused due to the mining and allied operations on air environment due to violation have been quantified as per the following methodology.

Damage to Air Quality in Monetary Terms /Environmental Price Rs. /day:

$$Damage_{AQ} (Rs/day) = (Load_{PM10} \times EP_{PM10}) + (Load_{PM2.5} \times EP_{PM2.5}) \quad Eq (1)$$

In the above formula, Load_{PM10} represents the PM10 load in kg/day and EP_{PM10} represents the environmental price for the particulate emissions PM₁₀.

The environmental prices considered have been obtained from EAC Violation committee guidelines. The environmental prices for different pollutants are as given below.

Table 1.4 Environmental Prices of Air Pollutants

Pollutant	Environmental Price of avg. atmospheric emission in Rs./kg
PM ₁₀	340
PM _{2.5}	524
SO _x	165
NO _x	96

The air emissions (PM₁₀) due to the mining and allied activities during the violation period have been quantified using the Air quality emission factors detailed in the section 4.2.2.

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FY	1993-94	1998-99	1999-00	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Coal in Mte	0.234	0.39	0.264	0.32	0.325	0.367	0.346	0.35	0.413	0.4	0.481	0.485	0.532	0.504	0.415	0.454	0.301
OB in Mm ³	1.4	0.599	0.384	0.53	0.587	0.724	0.807	0.796	0.795	0.802	0.701	0.792	0.743	0.816	1.22	1.2	1.22
Estimated PM10 Emissions in kg/day																	
Cumulative Emissions Due to Coal	13.40	22.18	15.21	18.22	18.49	20.75	19.62	19.83	30.38	29.46	36.34	36.63	40.26	38.21	31.52	34.37	23.00
Cumulative Emissions Due to OB	104.83	47.70	31.33	42.67	46.91	56.02	47.94	47.41	47.37	47.70	40.92	47.22	44.37	48.37	70.14	69.19	70.14
Total Emissions in Kg/Day	118.22	69.88	46.53	60.89	65.40	76.76	67.56	67.25	77.75	77.16	77.25	83.85	84.63	86.59	101.66	103.56	93.14
Estimated PM2.5 Emissions in kg/day																	
Cumulative Emissions Due to Coal	5.04	8.40	5.72	6.89	6.99	7.87	7.43	9.21	10.88	8.61	10.30	10.39	11.42	10.83	8.92	9.74	6.49
Cumulative Emissions Due to OB	37.30	16.36	10.58	9.61	10.62	12.84	16.11	15.92	19.59	21.61	19.00	21.36	20.03	21.95	32.50	32.02	32.50
Total Emissions in Kg/Day	42.35	24.77	16.30	16.50	17.61	20.71	23.54	25.13	30.47	30.22	29.30	31.75	31.44	32.78	41.43	41.75	39.00
Estimated Sox Emissions																	
Cumulative Emissions Due to Coal	7.4	9.6	9.0	8.8	8.9	8.8	8.5	8.5	9.6	9.6	10.2	10.1	10.2	10.1	9.5	9.7	8.6
Cumulative Emissions Due to OB	10.3	6.9	6.3	6.6	6.9	7.1	7.5	7.4	7.7	7.9	7.1	7.4	7.0	7.4	9.6	9.3	10.2

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Total Emissions in Kg/Day	17.7	16.5	15.3	15.3	15.9	15.9	16.0	15.9	17.3	17.5	17.3	17.5	17.2	17.5	19.1	19.0	18.8
Estimated NOx Emissions																	
Cumulative Emissions Due to Coal	37.45	48.72	45.28	44.39	45.19	44.67	43.25	43.22	48.80	48.73	51.62	51.08	51.96	51.25	48.14	49.40	43.41
Cumulative Emissions Due to OB	52.70	35.00	31.97	33.15	35.08	36.14	37.87	37.36	39.19	39.97	36.01	37.70	35.50	37.66	49.11	47.50	52.26
Total Emissions in Kg/Day	90.15	83.72	77.25	77.54	80.27	80.81	81.12	80.58	87.99	88.70	87.63	88.78	87.46	88.91	97.25	96.90	95.67

The cumulative emissions due to Coal and OB include all operations like drilling and blasting, loading and unloading, transportation of coal on hual road, handling and crushing of coal and despatch at siding.

Financial evaluation of Damages

In the previously submitted EMP of Giddi A OCP, the cumulative incremental emissions (Both Coal and OB) beyond 1993-94 capacity have been considered for financial evaluation. Whereas, due to the fact that the OB extraction rate is higher in FY 1993-94 (Stripping ratio 5.98) , the damage cost on air environment was obtained for only 3 financial years as shown in the table below.

FY	Incremental Emissions in kg/day				Environmental Cost in Rs./day				Total in Rs./year
	PM10	PM2.5	SOX	NOx	PM10 @ 340/kg	PM2.5 @ 524/kg	SOx@ 165/kg	NOx@ 96/kg	
2014-15	10.26	4.80	1.42	7.10	1151172	830016	77401.44	224928	2283517
2015-16	11.49	5.25	1.35	6.75	1289178	907830	73507.5	213840	2484356
2016-17	3.39	2.01	1.13	5.52	380358	347569.2	61431.88	174873.6	964232.7
Total Cost of damage for Air Environment (Rs.)									5732106

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However, the EAC committee has deliberated that the damage cost on air environment cannot not be zero during the violation period i.e., when there is an excess coal production beyond 1993-94 capacity.

Hence, the damage cost has been re-worked by considering incremental pollution load due to excess coal extraction, handling and despatch. The details are as given below.

Parameter	Incremental Emissions due to coal in kg/day																Total Emissions in kg/day	Total Emissions in kg	Final Cost of Emissions in Rs.	
	1998-99	1999-00	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17				
Incremental Coal Production in Mte	0.156	0.03	0.086	0.091	0.133	0.112	0.116	0.179	0.166	0.247	0.251	0.298	0.27	0.181	0.22	0.067	2.60			
PM10	8.78	1.81	4.82	5.09	7.35	6.22	6.44	16.98	16.07	22.94	23.23	26.86	24.82	18.12	20.97	9.60	220.12	72639.32	24697368.99	
PM2.5	3.36	0.68	1.85	1.95	2.83	2.39	4.17	5.84	3.57	5.26	5.34	6.37	5.79	3.88	4.70	1.45	59.41	19606.72	10273919.9	
Sox	2.2	1.6	1.4	1.5	1.4	1.1	1.1	2.2	2.2	2.8	2.7	2.8	2.7	2.1	2.3	1.2	31.43	10370.60	1711149.425	
Nox	11.27	7.84	6.94	7.74	7.22	5.80	5.77	11.36	11.28	14.17	13.63	14.51	13.80	10.69	11.96	5.96	159.94	52780.16	5066895.133	
Total Cost of Damages due to excess production on Air Environment in Rs.																			41749333.44	

Mitigation Measures

As a part of Damage remediation plan and Natural and Community Resource Augmentation Plan in respect of Air environment, following measures are proposed.

1. Additional health camps proposed for the near by villagers to monitor the health status.
2. Avenue and block plantation in nearby villages.

1.3.3 Water Environment

Ground Water

In order to understand the impact on ground water level due to the mining activity, long term ground water levels from nearby observation wells of CGWB has been referred.

Ground water level by Permanent Observation Well (PoW) of the area is continuously monitored by CMPDI. There is one Permanent Observation Well (PoW) of CGWB exist near Patratu in the buffer zone of Giddi A OCP but after 2014 no data available of that particular well because Well no BHB -11 (Patratu) become abandoned. The pre-monsoon and post monsoon historical groundwater levels, for the last few years (2002 to 2020) recorded by CMPDI at the nearest permanent hydrograph stations like at Giddi Colony (Well No.: SK-28) and Dari Basti (Well No.: SK-29) located near core zone and within the buffer zone, respectively, were collected and are presented below:

Fig 1: Hydrograph of Giddi Colony (Well No: SK-28)

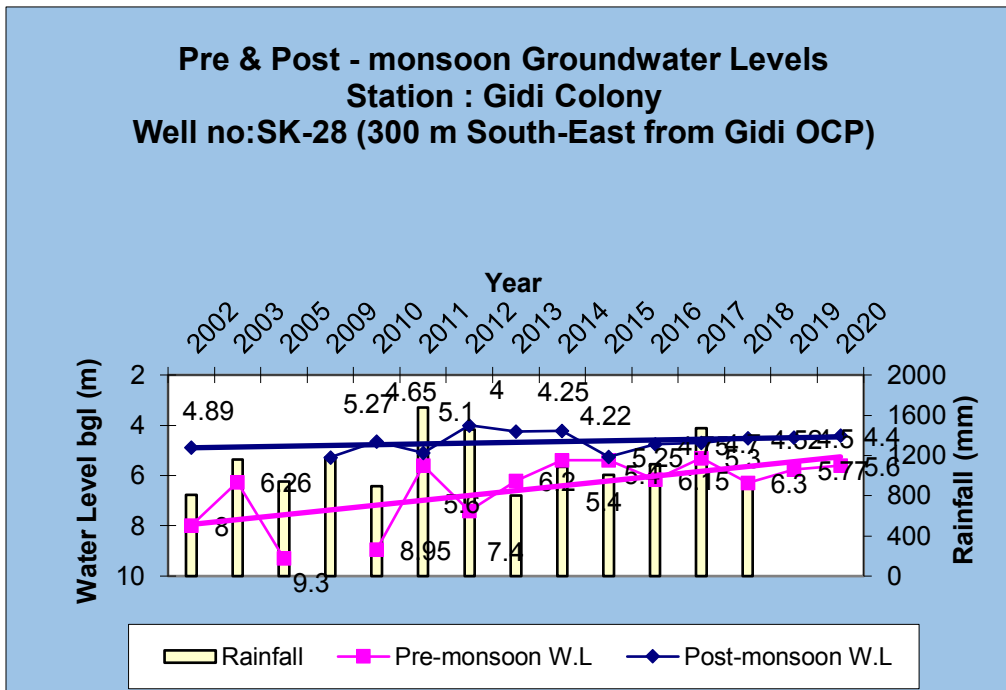
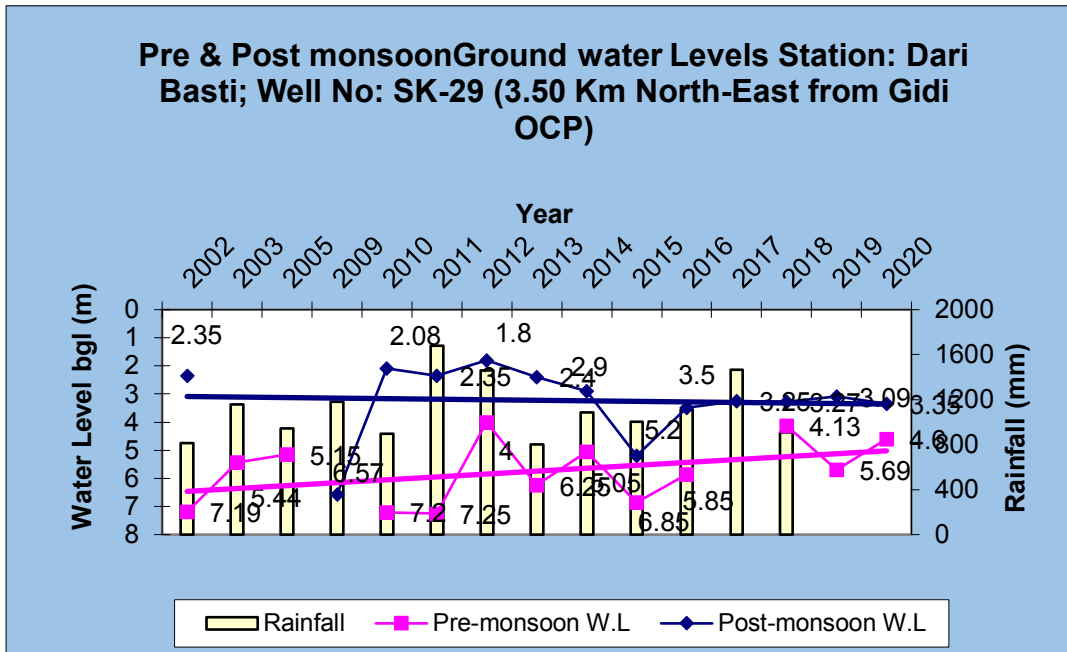


Fig: Hydrograph of Dari Basti (Well No: SK-29)

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Damage Assessment

During the period of violation, the project was in operation without obtaining NoC from CGWB. Hence, the cost of ground water extraction during the period of violation can be treated as the damage cost on ground water regime.

The assessment has been made for abstraction as well as compensation. For abstraction, rates have been obtained from CGWA notification of Sept. 2020, and for quantification of compensation due to violation, the methodology developed by CPCB for "Environmental Compensation in Case of Illegal Extraction of Ground Water" has been adopted.

Environmental Compensation

To quantify these damages, the methodology developed by CPCB for "Environmental Compensation in Case of Illegal Extraction of Ground Water" has been adopted.

As per this methodology, the formula proposed by CPCB for calculation of Environmental Compensation (EC_{GW}) is as given below.

$$EC_{GW} = \frac{\text{Water Consumption per Day} \times \text{No. of Days} \times \text{Environmental Compensation Rate for illegal extraction of ground water (ECR}_{GW})}{}$$

The Environmental Compensation Rate for Illegal extraction of Grounf Water (ECR_{GW}) given by CPCB for mining, infrastructure and dewatering projects is as given below.

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Sl. No.	Area Category	Water Consumption (m ³ /day)			
		<200	200 to <1000	1000 to <5000	5000 & above
Environmental Compensation Rate (ECR_{GW}) in Rs./m³					
1	Safe	15	21	30	40
2	Semi critical	30	45	60	75
3	Critical	45	60	85	115
4	Over-exploited	60	90	120	150
Minimum ECR_{GW}=Rs 1,00,000/-					

The coal production of 1993-94 has been considered as standard and production excess to 1993-94 has been accounted as incremental production. The project has come into violation as it exceeded its 1993-94 capacity of 0.234 MTPA (230000 Te) coal production in the years 1998-99 onwards.

As per the Coal Production calendar given by the project authority, total sixteen years of violation has been done by the Gidi A OCP. The existing opencast working is 187.98 Ha, Groundwater seepage of 465 KLD has been calculated from Gidi Opencast Project (Area of present and abandoned opencast Working patch= 29.97 + 15.11 Ha= 45.08 Ha) (as per the land details given in mining plan).

The cost of damage has been calculated in incremental coal production during violation period as per CPCB norms i.e., Rs.15/- per KL per day for <200 cum/day and Rs.21/- per KL per day for <1000 cum/day, for Environmental Compensation due to groundwater seepage (ECGW) into coal mines as per CPCB guidelines.

The environmental cost of ground water extracted during the period of violation is calculated as given below.

Table 1.5 Environmental Cost of Ground water Extraction

Year	Total coal production (Te)	Incremental coal production (Te)	Total Colliery void area (Ha)	Incremental aquifer exposed (Ha)	Incremental mine seepage (m ³ /day)	Incremental mine seepage (m ³ /annum)	EC _{GW} rate (Rs/-)	Economic Loss (Rs/- Lakh)
1998-99	380000	150000	45.08	17.79	183.46	66964.264	21.0/-	1406249.543
1999-00	264000	34000	45.08	5.81	59.86	21847.937		458806.669
2003-04	320000	90000	45.08	12.68	130.72	47712.038		1001952.799
2004-05	325000	95000	45.08	13.18	135.86	49587.896		1041345.815
2005-06	367000	137000	45.08	16.83	173.50	63327.15		1329870.14
2006-07	346000	116000	45.08	15.11	155.82	56874.465		1194363.774
2007-08	350000	120000	45.08	15.46	159.35	58163.246		1221428.174
2008-09	413000	183000	45.08	19.97	205.94	75168.602		1578540.649
2009-10	400000	170000	45.08	19.16	197.53	72098.191		1514062.008
2010-11	481000	251000	45.08	23.52	242.53	88524.622		1859017.067
2011-12	485000	255000	45.08	23.70	244.37	89193.638		1873066.401
2012-13	532000	302000	45.08	25.59	263.84	96300.989		2022320.771
2013-14	504000	274000	45.08	24.51	252.68	92226.444		1936755.323
2014-15	415000	185000	45.08	20.10	207.19	75623.9		1588101.893
2015-16	454000	224000	45.08	22.24	229.32	83700.413		1757708.68
2016-17	301000	71000	45.08	10.63	109.63	40015.412		840323.6471
Sub-total in rupees. (Two Crore twenty six lakh twenty three thousand nine hundred and thirteen only)								2,26,23,913.35/-

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Thus, the environmental compensation of ground water extracted during violation has been calculated as **Rs. 2.26 Crore.**

Cost of Abstraction

Rates of ground water abstraction charges for mining, which are drawing ground water in safe, semi-critical, critical assessment and over exploited units as mentioned in the "Guidelines to regulate and control ground water extraction in India, published vide S.O. no. 3289 (E) Dt. 24.09.2020" are as given below.

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Safe	1.00	2.00	2.50	3.00
2.	Semi-critical	2.00	2.50	3.00	4.00
3.	Critical	3.00	4.00	5.00	6.00

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Over-exploited	4.00	5.00	6.00	7.00

The cost of ground water extraction by project during the period of violation is calculated as given below.

Table 1.6 Cost of Ground water Extraction as per CGWA

Year	Mine Seepage in m ³ /day	Extraction Rate in Rs.	Total Cost in Rs.
16 Years (1998-2000, 2003 to 2017)	465	2	4910400
Total Cost in Rs.			49,10,400

Surface Water

As discussed in Chapter 4.3 of EIA EMP, all the domestic and industrial water requirements were fulfilled by the water accumulated in the mine lagoons.

Also, the water quality of existing surface water bodies near the project have been studied in detail and the water monitoring data has been presented in the section 3.5 of EIA EMP report.

For economical evaluation of impact due to violation on surface water bodies, cost saved due to deficiency in provision of SW structures has been considered. The details are as given below.

Table 1.7 Economical evaluation of Vioation on Surface Water regime

S.No	Measures for protection and conservation of Surface water bodies	Estimated Cost in Rs.
1	Construction of Toe wall & Garland Drain against the External OB Dump	4000000
2	Renovation of Effluent Treatment Plant	2000000
	Total Amount in Rs.	60,00,000

1.3.4 Flora and Fauna

From the basleline Flora Fauna Study, it is observed that there are endangered and endemic species found in the core zone as well as in the buffer zone area as per Red Book of Botanical Survey and Zoological survey of India as per Wild Life (Protection) Act 1972 and its subsequent amendments.

As per the interaction with local stakeholders, visual sighting and reference of forest working plan, **Schedule-I** species viz. **Python, Monitor Lizard** and **Peafowl** have been observed in the core zone and buffer zone.

Presence of Schedule-I faunal and avifaunal species in the core zone indicates a healthy ongoing eco-restoration.

Therefore, it can be observed that there is no significant impact on flora & fauna due to violation.

Mitigation Measures

Following measures are proposed as a part of Natural and Community resource augmentation plan.

- Awareness programs to farmers and nearby villagers for conservation of flora and Fauna.

1.3.5 Socio-Economic Impact

Giddi-A OCP is a very old mine operating since pre nationalization era. Therefore, no R&R is involved in the project. Further, this project has been a source of direct employment to around 449 persons and indirect employment to the near by villagers.

CSR activities are carried out continuously under Giddi-A OCP. More emphasis of CSR is in drinking water, infrastructure, sanitation, education, skill development, social empowerment, water management, environment, sports and health.

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Year	CSR Expenditure (in Rs. Lakh)	Details
2016-17	24.08	Infrastructure, Education, Health, Drinking Water, Sanitation, Skill Development
2017-18	23.61	
2018-19	8.81	
2019-20	33.2	

Mitigation Measures

Mitigation measures are proposed as a part of Damage Assessment Plan & Natural and Community resource augmentation plan.

1.3.6 Occupational Health and Safety

To examine the health status of workmen who are exposed to extreme working conditions, periodic Medical Examination (PME) have been taken up. The details are as given below.

Table 1.8 IME and PME Details

Year	PME	IME
2016	110	11
2017	105	00
2018	176	00
2019	136	00
2020	130	04

PME report suggests that no adverse health impact on workmen due to dust. The health status of villagers studied as a part of socio economic study in which, major diseases reported were body aches, Anaemia, Dermatitis, chest infection etc. and there was no instance of occupational diseases such as pneumoconiosis.

FY	No. of Health Camps organised	Beneficiary Villages
2019-20	14	Bundu, B.Chumba, Tongi, C.Chumba, Kanjagi, Telian Tand, Chapri, Suyadih
2020-21	10	Telia Tanr, Tongi, Chapri, Mishrain Modha, Bundu, Kanjagi
2021-22 (Till Date)	2	Kanjagi, Tongi, Chapri

1.3.7 Summary

The estimated environmental damage costs due to violation on land, air, water, flora fauna and socio economics are as given below.

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SN	Particulars	Estimated Damage Cost in Rs. Lakhs
1	Land and Ecosystem Services	6.26
2	Air Environment	417.49
3	Water Environment	
a.	Ground Water	275.34
b.	Surface Water	60
Grand Total in Rs. Lakhs		759.09

1.4 Proposed Remediation Plan and Natural & Community Resource Augmentation Plan (NCRAP)

The proposed fund allocation for remediation plan and Natural Resource Augmentation Plan are as given below.

Table 1.9 Proposed budgetary provisions for Damage Remediation Plan

Remediation plan & budgetary provisions				Action Plan		
SI NO	Activity Proposed	Total (₹)	Year 01	Year 02	Year 03	
1	Water Environment	Construction & installation of RO Plants (12 nos.) for supply of treated drinking water at 4 Revenue villages namely: Giddi 'Ka', Giddi 'Kha', Giddi 'Ga' and Kanki Panchayat with annual maintenance contract.	30,000,000	0	15,000,000	15,000,000
2		Deepening and pitch bouldering of existing pond in Tehratand village	4,000,000	0	2,000,000	2,000,000
3		Additional Water Sampling for analysis of Ground water at 3 locations namely Tehratand village, Kurkutta village and Kendiya village @ once in a quarter	350,000	116,667	116,667	116,667
4		Renovation of access steps to River Damodar at Shiv Mandir and beautification by Avenue plantation	3,600,000	0	1,800,000	1,800,000
Total Water Environment		₹ 3,63,50,000	₹ 1,16,667	₹ 1,89,16,667	₹ 1,89,16,667	
1	Ecology	Distribution of 10,000 Fruit bearing plants in nearby villages viz. Jamuna Tola, Kurkutta, Tehratand, Kalai Tola, Giddi Basti etc.,	1,500,000	7,50,000	7,50,000	0
Total Ecological Environment		₹ 1,500,000	₹ 7,50,000	₹ 7,50,000	0	
1	Air & Noise Environment	Additional Health Camps to monitor the respiratory and E&T health status of nearby villages. 1. Diabetic Camp (Quarterly) 2. Hypertension Camp (Quarterly) 3. Cancer Detection Camp (Quarterly) 4. Anaemia Detection Camp (Quarterly) 5. Cataract Detection and Treatment (Quarterly)	4,680,000	1,560,000	1,560,000	1,560,000
2		Additional avenue Plantation (2.1 Km) along with gabions and maintenance in subsequent years on village road connecting Giddi Basti and Project	4,000,000	1,500,000	1,500,000	1,000,000
Total Air Environment		₹ 86,80,000	₹ 30,60,000	₹ 30,60,000	₹ 25,60,000	
1	Land Environment	Providing colour coded bins in schools & hospitals in nearby villages	500,000	500,000	0	0
Total Land Environment		₹ 500,000	₹ 500,000	0	0	

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1	Socio-Economic	Skill development training programme for Motor Driving and Sewing to approx. 100 persons/year	2,000,000	666,667	666,667	666,667
2		Construction of 04 no.of toilet at Tehratand Community Hall	2,000,000	1,000,000	1,000,000	-
3		Organizing Football & Volleyball events	1,800,000	600,000	600,000	600,000
4		Construction of 2 nos. Community halls (20 m X 50 m) at Giddi Ka Panchayat (kali Mandir Ground) & Giddi Kha Panchayat (Near hanuman Chowk).	15,000,000	-	7,500,000	7,500,000
5		Providing Computers at Madya Vidyalay & Shramik Uchh VIdyalay Giddi 'Ka', Balika Vidyalay Giddi 'Kha', Saraswati Sishu Vidya Mandir Giddi 'Ga', Saraswati Vidya Mandir Officers Colony. Total 35 nos.	1,050,000	525,000	525,000	-
6		Construction of Boundary wall at Sishu vidya mandir (900 ft Length and 6 ft Height	5,000,000	-	2,500,000	2,500,000
7		Additional awareness programs on Environmental protection	500,000	166,667	166,667	166,667
Total Socio-Economic Environment			₹ 27,350,000	₹ 29,58,333	₹ 1,29,58,333	₹ 1,14,33,333
Total Fund for remediation measures			₹ 7,59,80,000	₹ 73,85,001	₹ 3,56,85,001	₹ 3,29,09,998

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As per the comments/suggestions of EAC (coal), MoEFCC in the Minutes of Meeting (MoM) of 25th meeting held on 18.01.2022 has given the following directions regarding formulation of cost for CRAP:

- Cost saved in EMP expenditure for all the violation years shall be assessed and 3% of the total cost saved shall be considered/added in CRAP.
- Net profit accrual shall be revised with certification from finance department and 3% of ^{EMP} same shall be added to CRAP.

Cost Saved in EMP Expenditure

The EMP expenditure saved during the period of violation has been assessed based on the actual environmental mitigation measures implemented during the period of violation and Measures that were supposed to be implemented for prevention and control of pollution. The details are as given below.

Table 1.10 EMP Cost Saved during the period of Violation

S. No	EMP Measures Supposed to be Implemented	Actual EMP Implemented	Capital Cost Saved in Rs. Lakhs	Revenue Cost Saved in Rs. Lakhs	Remarks
1	2 no. of 28 kL sprinklers for dust suppression at coal face, Dump and transfer points	01 nos. of mobile water sprinklers of 28 kL capacity used for regular sprinkling of water on haul roads	60	160	Capital and revenue cost for 1 no. of 28 kL mobile sprinkler included in the EMP Cost saved
2	PCC Topping of Permanent Hual road	Haul road is of of WBM	150	-	Capital cost for black topping of 1500m haul road included in the EMP Cost saved
3	Fixed Sprinkling system of Haul road and siding	Mobile Sprinkling was deployed	95	16	Capital and revenue cost for fixed sprinkler included in the EMP Cost saved
4	ETP consisting of Oil and grease trap and Sequential Settling ponds.	ETP was constructed with oil and grease tank and sequential settling ponds in 2016-17	50	32	Capital and revenue cost for ETP included in the EMP Cost saved
5	Catch drain/ garland drain all along the quarry, dumps and industrial areas	Catch drain/ garland drains were provided.	-	-	
6	Biological reclamation of degraded land,	3,51,500 saplings are planted in an area of 140.60 Ha	-	-	

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	green belt and safety zone	within Giddi-A total leasehold			
7	Mine Sumps for collection and treatment of Mine Seepage water.	Mine Sumps have been provided for collection and treatment of Mine Seepage water.	-	-	
Total Cost Saved in Rs. Lakhs			355	208	
Provision for CRAP= 3% of total EMP Cost saved during violation period in Rs. Lakhs			16.89		

Therefore, the total EMP cost saved (Capital and Revenue) during the period of violation has been estimated as 563 Lakhs.

Net profit accrued due to violation

Net profit accrued due to violation has been estimated as Rs. 17,82,54,859/-, 3% of which comes to around Rs. 53,47,645/-

The proposed budgetary provision along with timeline under NRAP and CRAP are as given below.

S.No	Particulars	Total Cost in Rs. Lakhs (1)	Cost to be Considered in CRAP in Rs. Lakhs 3% of (1)
1	Cost Saved in EMP Expenditure	563	16.89
2	Net profit accrued due to violation	1782.54	53.47
Total Cost to be Considered in CRAP in Rs. Lakhs			70.36

Final EIA & EMP of Giddi-A OCP
(187.98 Ha./ 1 MTPA)
Argada Area, Central Coalfields Limited

Table 1.11 Proposed budgetary provisions for Natural and Community Resource Augmentation Plan

SN	Head	Activity Proposed	Total	Action Plan		
				Year 01	Year 02	Year 03
1	Natural Resource Augmentation Plan	Renovation of 4 no. of wells at Giddi 'Kha' Panchayat	200000	200,000	-	-
2	Community Resource Augmentation Plan	Providing solar lamps (50 Watt) for street lighting at 5 Revenue Villages (100 Nos Approx.)	1500000	500,000	500,000	500,000
3		Arrangement of smart classes at nearby schools of Giddi A OCP	1500000	500,000	500,000	500,000
4		Construction of RWH at 4 no. of schools in adjacent villages	4000000	2,000,000	2,000,000	-
5		Construction of Shelter at Samshan Ghat	2000000	-	2,000,000	-
Total Fund for Natural & Community Resource Augmentation Plan (NCRAP)			92,00,000	32,00,000	50,00,000	10,00,000

===== X =====

Prepared by CMPDI, RI-III, Ranchi

Year wise Production at Gidi-A Colliery from inception

Sl. No.	From (Year)	To (Year)	Coal (Te)	O.B. (M ³)
1	1958	1959	20740	84970
2	1959	1960	85812	354899
3	1960	1961	692708	1236980
4	1961	1962	405675	1625005
5	1962	1963	870139	1536202
6	1963	1964	1025936	1015494
7	1964	1965	912413	900032
8	1965	1966	991163	1002337
9	1966	1967	789888	758944
10	1967	1968	670000	494600
11	1968	1969	747000	542100
12	1969	1970	816400	681400
13	1970	1971	796400	676400
14	1971	1972	859027	684748
15	1972	1973	976600	749000
16	1973	1974	949431	779244
17	1974	1975	1047101	941476
18	1975	1976	1174976	1052432
19	1976	1977	1085582	1308290
20	1977	1978	1088800	1340200
21	1978	1979	1108100	1300000
22	1979	1980	1076000	1301000
23	1980	1981	1132077	1414000
24	1981	1982	1125000	1412000
25	1982	1983	1025425	1587000
26	1983	1984	609714	1317490
27	1984	1985	436006	1018052
28	1985	1986	398035	875420
29	1986	1987	365300	981814
30	1987	1988	544850	1718378
31	1988	1989	449590	1712635
32	1989	1990	394570	1509157
33	1990	1991	415426	1520010
34	1991	1992	426348	1473648
35	1992	1993	383520	1466665
36	1993	1994	233640	1400575
37	1994	1995	174072	1200013
38	1995	1996	200019	850707
39	1996	1997	177312	752787
40	1997	1998	200496	522093
41	1998	1999	380016	599533
42	1999	2000	264036	384263
43	2000	2001	126336	510774
44	2001	2002	153552	578457
45	2002	2003	187500	416856
46	2003	2004	320000	530002
47	2004	2005	325404	587367

48	2005	2006	366864	724141
49	2006	2007	346116	807169
50	2007	2008	350388	796345
51	2008	2009	412680	795038
52	2009	2010	400056	802483
53	2010	2011	481368	701492
54	2011	2012	485388	792957
55	2012	2013	532428	743050
56	2013	2014	503660	816010
57	2014	2015	415346	1221813
58	2015	2016	453580	1209520
59	2016	2017	301074	1222974
60	2017	2018	198682	1061083
61	2018	2019	208252	995016
62	2019	2020	113344	508736
63	2020	2021	227018	851120
64	2021	2022	232650	810800
Total:			34667029	61565196

Indu
02.04.2022
Project Officer
Gidi A Colliery

Ashu
02.04.2022
Colliery Manager
Gidi A Colliery

Sunday
02.4.22
Colliery Surveyor
Gidi A Colliery

Annexure IA

Details of Profit / Loss occurred during the period of Violation in respect of Gidi-A OCP

1993-94 production of Gidi-A OCP-2,33,640 Tonnes

S.No ₂	Year of Violation	Coal Production figure (Tonnes)	Profit / Loss
1	1998-99	380016	Rs. 7,77,38,000/-
2	1999-2000	264036	Rs. 54,61,000/-
3	2003-04	320000	Rs.78,00,000/-
4	2004-05	325404	Rs.4,74,00,000/-
5	2005-06	366864	(-) Rs.25,00,000/-
6	2006-07	346116	Rs.2,90,81,000/-
7	2007-08	350388	(-) Rs.33,00,000/-
8	2008-09	412680	(-) Rs. 2,62,88,000/-
9	2009-10	400056	Rs. 6,65,22,000/-
10	2010-11	481368	Rs. 11,38,98,000/-
11	2011-12	485388	Rs. 77,86,000/-
12	2012-13	532428	Rs. 2,39,15,000/-
13	2013-14	503660	Rs. 1,66,94,000/-
14	2014-15	415346	Rs. 51,71,124/-
15	2015-16	453580	Rs. 57,32,000/-
16	2016-17	301704	(-) Rs. 14,50,000/-

Handwritten signature
5.5.22
Area Finance Manager(A)
Argada Area

Handwritten signature
05.05.2022
Project Officer
Gidi-A OCP

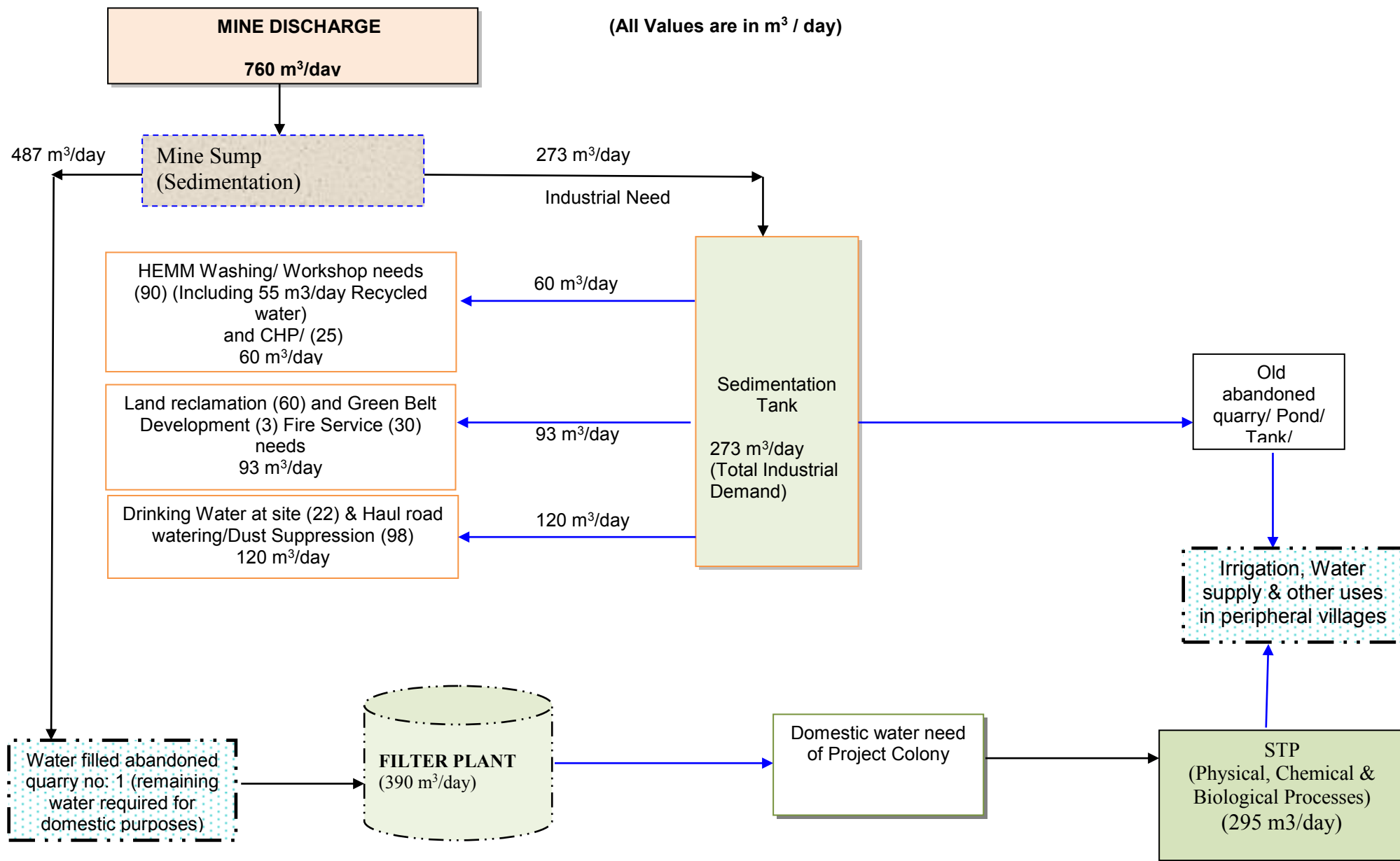
Annexure-II

Water Utilization Details for Monsoon & Non- Monsoon in respect of Giddi A OCP

Purpose	Peak Demand (m ³ /day) (Non- Monsoon)	Peak Demand (m ³ /day) (Monsoon)
<u>A.Mine site</u>	Giddi A OCP	Giddi A OCP
Land reclamation	120	60
Dust suppression	195	98
Drinking	22	22
Green belt	5	3
CHP	25	25
Washeries	-	-
Workshop (Excluding 55m ³ /day recycle)	35	35
Fire service	45	30
10.Others		
<u>Total (A)</u>	447	273
<u>B.Township</u>		
Green belt	30	30
Domestic	330	330
Other (Service Building like GM office, Guest house, Hospital, Club, School etc)	30	30
<u>Total (B)</u>	390	390
Grand Total (A+B)	837	663

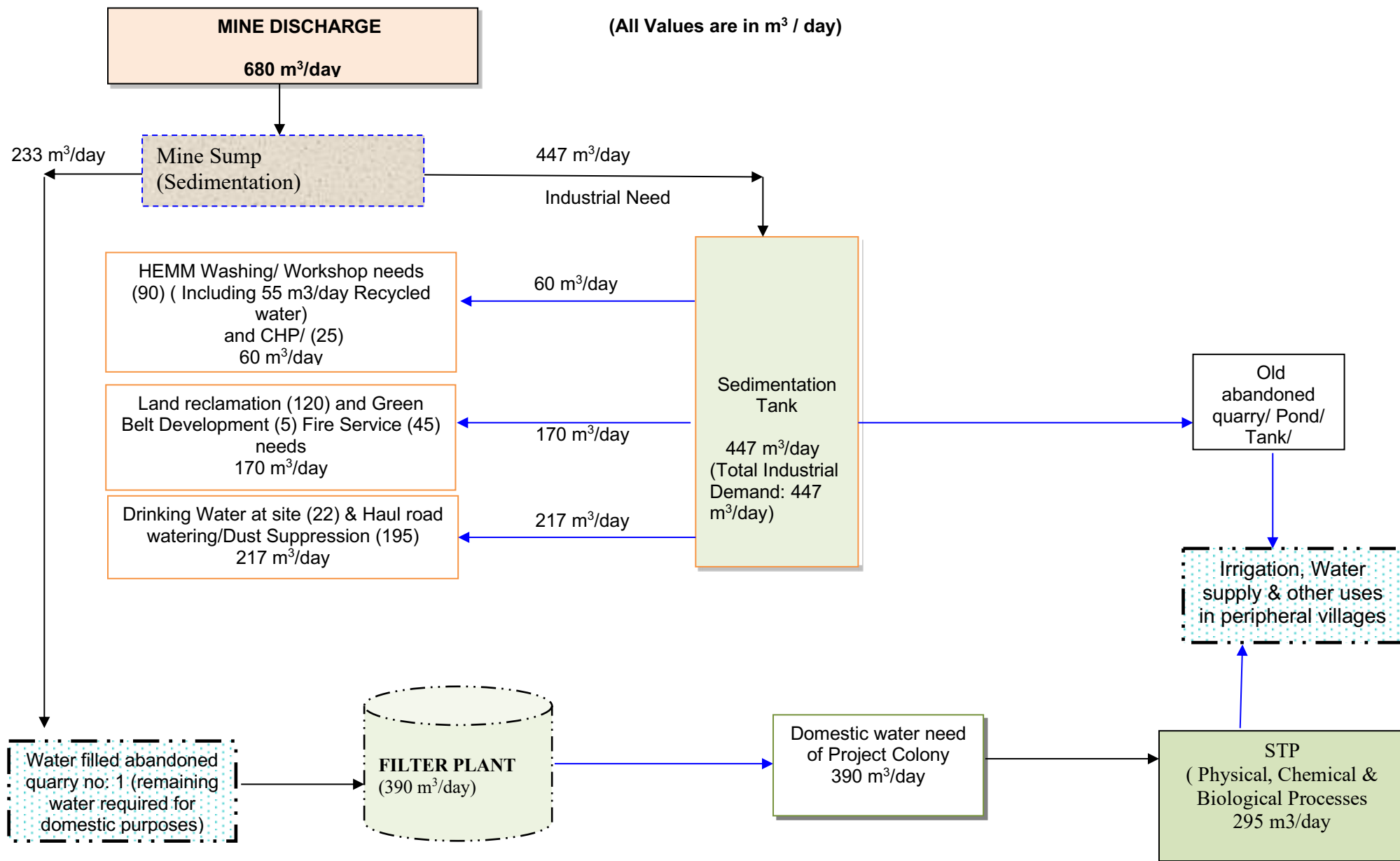
WATER USAGE DIAGRAM OF GIDDI A OCP (Monsoon), ARGADA AREA, SKCF, CCL

(All Values are in m³ / day)



WATER USAGE DIAGRAM OF GIDDI A OCP Non-Monsoon, ARGADA AREA, SKCF, CCL

(All Values are in m³ / day)



Annexure-III



A miniratna company

CCL

CENTRAL COALFIELDS LIMITED

(A subsidiary of Coal India Limited)

Office of the Project Officer

P.O.: Gidi 'A' Dist. Hazaribagh

Jharkhand, PIN - 829108

Ref. No. PO/GDA/ Survey/2022/ 22

Dated: 7 /04/22

To
The Divisional forest Officer, Ramgarh

Sub:-Certification of 73.94 Hectare forest land involved in the Project boundary of 187.98 Hectare of Gidi-A OCP.

Dear sir,

This is to bring to your kind information to the fact that we are in the process of obtaining EC for one of the Project Gidi-A OCP(1MTY) within the project boundary of 187.98 Hectare .

The forest land involved within the project is 73.94 Hectare ,which is a part of 232.42 Hectare forest land for which stage 1 forestry clearance has been obtained vide letter F.No.8-73/2003-FC dated.08.06.2004 (copy attached as annexure-1.)

As per the minutes of the meeting of EAC held on 18.02.2022,it has been asked to get it certified from forest department for the area of forest land involved within the project.

Hence you are kindly requested to do the needful regarding the same.

Yours Faithfully


Project Officer
Gidi-A Colliery

Enclose.

- 1.Copy of stage -I forest clearance.(Annexure-1)
2. Copy of Revenue plan.

CENTRAL COALFIELDS LIMITED
GIDI-A COLLIERY
REVENUE PLAN

R.F 1:12000

Plan No. GDA/SURVEY/2022/22

Dated:- 7/11/22

S. K. Singh
Surveyor

A. M. Singh
Manager

H. M. Singh
Agent /P.O



**REVENUE PLAN SHOWING 73.94 HAC. FOREST LAND INVOLVE IN
232.42 HAC. FOREST LAND IN RESPECT OF GIDI'A O.C.P.**

LEGEND

AREA OF 73.94 HAC. FOREST LAND SHOWN THUS



AREA OF 232.42 HAC. FOREST LAND SHOWN THUS



Annexure-IV



एक महारत्न कंपनी
A Maharatna Company

CENTRAL COALFIELDS LIMITED
(Govt of India Undertaking)
A Maharatna Cat-I Company
Darbhanga House, Ranchi-834001
Environment Department



पत्रांक : एच.ओ.डी./एच.ओ.डी./2021/1152

दिनांक: 29/11/2021

To,
Member Secretary
Jharkhand State pollution Control Board
H.E.C, Dhurwa, Ranchi-834004
Jharkhand

Sub: Compliance of conditions of Terms of Reference (ToR) of Giddi Opencast Project of M/s CCL - Reg.

Ref No: 1) Terms of Reference issued vide F. 23-245/2018-IA (III)(V) Dated: 25.09.2019
2) F. No: 23-244/2018-IA.III(V) Dated: 04.03.2020 from Under Secretary, MoEF&CC, GoI to Member Secretary, JSPCB

Respected Sir,

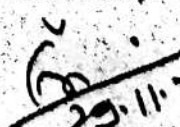
The Terms of Reference of Giddi Opencast Project was issued on 25.09.2019 vide letter no: 23-245/2018-IA (III)(V). The public hearing for the project was also held on 26.10.2021.

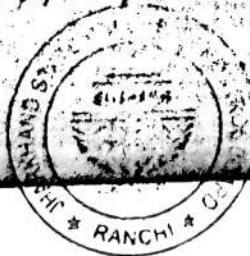
Your kind attention is drawn towards Point no: 8(i) of the ToR letter issued for Giddi Opencast Project.

Thanking You

Enclosed: 1) ToR letter of Giddi Opencast Project issued vide F. 23-245/2018-IA (III)(V) Dated: 25.09.2019

Yours faithfully


29.11.2021
GM (Env & Forest),
Central Coalfields Limited



Annexure-V



Central Coalfields Limited
Civil Engineering Department
Office of the General Manager-Argada Area
Po-Argada, Dist-Hazaribagh-829101
email: -civilarg.ccl@gmail.com



Ref. No: - SO(Civil)/STP/Gidi-A/2022-23/ 50

Date:- 04/03/22

To
The General Manager (Civil),
HQ, CCL,
Ranchi.

Sub: -Construction of STP at Gidi-A Colony under Gidi-A, Argada area.

Dear Sir

After discussions with the higher management at Argada Area, it has been proposed for construction of STP at Gidi-A colony for removal of contaminants from sewage to produce an effluent that is suitable for discharge to the surrounding environment or an intended reuse application, thereby preventing water pollution as per EC and CTO conditions. As per the requirement received in the civil department, there is a requirement of approx. 300 KLD capacity of domestic STP at Gidi-A colony.

Hence your kind intervention is required for consideration of work under Capital activity and consultancy from CMPDI.

Yours Faithfully

SO(Civil)
Argada area

Copy to: -

1. The General Manager-Argada area: - For kind information
2. SO(P&P)-Argada area: - For needful
3. Office Copy.

Annexure-VI

Details of Rain Water Harvesting at Giddi A OCP

A. Existing Measures

- **Mine Voids converted into Natural Ground water Recharge Structures**

By nature, mine is a big rainwater harvesting and artificial recharge structure. Rain is a seasonal occurrence, whereas, mine water discharge is a continuous process. Presently, there are numbers of old abandoned quarries around the leasehold of Gidi A OCP but the prominent abandoned quarries are Quarry no-1, 4 and 5, which are used for storage for mostly rainwater and surplus mine water.

Quarry no-1, 4 and 5 have been exhausted completely and therefore will remain as abandoned void and serve as natural Groundwater Recharge structure. Total depth of Quarry no-1, 4 and 5 void are approximately 40-50 m and approximate thickness of water column for all the three abandoned quarries. Around 93,700 cum/annum will be recharging into the GW regime through existing recharge structure from natural surface reservoirs/ abandoned mine voids

Sl. no	Location	Location		Area (sqm)	Estimated recharge (in m ³ / annum)
		Latitude	Longitude		
01	Abandoned quarry-1 or Recharge Pond-1	23°40'50.20"N	85°21'23.26"E	190000	45,600
02	Abandoned quarry-4 or Recharge Pond-4	23°40'41.77"N	85°21'30.19"E	108000	25,920
03	Abandoned quarry-5 or Recharge Pond-5	23°40'52.77"N	85°21'42.38"E	88000	21,120



Fig: Existing Recharge Structures – Abandoned Quarry-1



Fig: Existing Recharge Structures – Abandoned Quarry-4



Fig: Existing Recharge Structures – Abandoned Quarry-5

- **Rooftop Rainwater Harvesting Structures**

The artificial Groundwater recharge structures present within the leasehold of Gidi A OCP are existing 2 Rooftop Rainwater harvesting structures has already been constructed in the premise of Manager's office and Project Office Giddi A Office.

Sl. No.	Place	Building Type& Nos.	Roof Toparea (sq.m.)	Recharge (cum/year)
1	PO Office, Gidi A OCP	RCC & 1	370	324

2	Manager's Office, Gidi A OCP	RCC & 1	840	736
		Total	1210	1060 (Total)



Fig: Rain Water Harvesting Structure at PO Office

B. Proposed Rain-water Harvesting Structures

The details of proposed rain water harvesting structures in the EIA/ EMP & NCRAP along with the budgetary provisions are as given below.

S. No	Activity	Cost in Rs. Lakhs	Timeline
1	Construction of Rooftop Rainwater Harvesting at E&M office & Workshop	15	Sep-22
2	Construction of Rooftop Rainwater Harvesting at 4 no. of schools in nearby villages	40	May-23

Annexure-VII



Government of Jharkhand

Receipt of Online Payment of Stamp Duty

NON JUDICIAL

Receipt Number : d29429a25ebab1c2f571

Receipt Date : 11-May-2021 10:19:05 am

Receipt Amount : 100/-

Amount In Words : One Hundred Rupees Only

Document Type : Agreement or Memorandum of an Agreement

District Name : Ramgarh

Stamp Duty Paid By : BINAY KUMAR SINGH

Purpose of stamp duty paid : AGREEMENT

First Party Name : BINAY KUMAR SINGH

Second Party Name : C C L ARGADA AREA

GRN Number : 2105694687

-: This stamp paper can be verified in the jharnibandhan site through receipt number :-



This Receipt is to be used as proof of payment of stamp duty only for one document. The use of the same receipt as proof of payment of stamp duty in another document through reprint, photo copy or other means is penal offence under section-62 of Indian Stamp Act, 1899

इस रसीद का उपयोग केवल एक ही दस्तावेज पर मुद्रांक शुल्क का भुगतान के प्रमाण हेतु ही किया जा सकता है। पुनः प्रिन्ट कर अथवा फोटो कॉपी आदि द्वारा इसी रसीद का दुसरे दस्तावेज पर मुद्रांक शुल्क का भुगतान के प्रमाण हेतु उपयोग भारतीय मुद्रांक अधिनियम, 1899 की धारा 62 अन्तर्गत दण्डनीय अपराध है।

Binay Singh
Binay Kumar Singh
Behind Raj Hotel
Chanakyapuri, Ramgarh
Mob.-9708575455

01/06/2021
Staff Officer (Civil)
Argada Area

This agreement is made on 15th day of 2021 between Central Coalfields Limited, a subsidiary of Coal India Limited, having its registered office at Ranchi (herein after called the COMPANY which expression shall, unless, repugnant to the subject, context, include its successors & assignees) of the one part & **Binay Kumar Singh**, carrying on business as a proprietor ship firm under the name & style **Binay Kumar Singh, At: Chankyapuri, Behind Raj Hotel, Gaushala Road, Ramgarh Cantt. Dist: Ramgarh.**(herein after called the said contractor which expression shall, unless the context requires otherwise include them & their respective heirs executors administrators & legal representatives) of the other part.

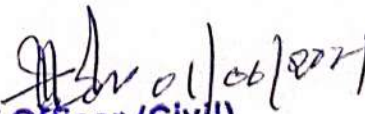
Whereas the company invited tenders for the work “**Removal of Garbage, Cleaning of grass & drain cleaning including sanitation work for workers colony, Staff colony and Officers colony along with community places of Gidi A (For Two Years).**” vide tender notice No. GM (A) SO(C)(A)/e-Tender23/2020-21/7970 Date:28.12.2020 (23 of 2020-21).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS

1. In this agreement word & expressions shall have the same meaning as are Respectively assigned to them in the tender papers herein after referred to.
2. The following document which are annexed to this agreement should be deemed to form & be read & construed as part of this agreement viz.
 - i. Annexure-A tender notice (page to)
 - ii. Annexure-B The probable quantities & amount (page to)
 - iii. Annexure-C letter of acceptance/ work order (page to)
 - iv. All terms & conditions of e-tendering of Civil Engineering manual/Tender document at the time of Tendering hold good to this contract also.

Contd..P/2


Binay Kumar Singh
Behind Raj Hotel
Chanakyapuri, Ramgarh
Mob.-9708575455


Staff Officer (Civil)
Argada Area

3. In consideration for the payment of the sum of Rs 19,18,327.69 (Rupees Nineteen lakhs eighteen thousand three hundred twenty seven & Paise sixty nine) only with amount of GST Rs.3,45,298.99 only, So total sum of Rs. 22,63,626.68 (Rupees Twenty two lakhs sixty three thousand six hundred twenty six & paise sixty eight) only (Including GST) or such other sum as may be arrived at under the clause of the specification relating to payment by item measurement at unit prices by the company, the said contractor shall, subject to the term & condition contain herein execute and complete the work as described and to the extent of probable quantities as indicated in Annexure B with such variation by way of alteration, addition to or reduction from the said work.
4. The company has received a FDR of amount Rs. 57,550/- (Rupees Fifty seven thousand five hundred fifty) Only against Performance Security deposit of Rs. 57,550/- (Rupees Fifty seven thousand five hundred fifty). FDR A/c no. 00160300031019 dated: 11.05.2021 of Bank of Broda, Ramgarh.

5. Award ref. No. & Date: CCL/Argada Area/GM Unit/Civil/AOW/2021-22/19
Dt.22/04/2021

Date of commencement : 03.05.2021

Date of completion : 02.05.2023

PAN NO. : AUYP57568M

GST NO. : 20AUYP57568M1ZI

IN WITNESS WHEREOF the parties herein have set their hands & seals the date & year above written:

Signed by the Contractor

Address

In the presence of witness

Address

Signed by on behalf of the Company

Designation

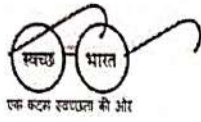
In the presence of witness

Designation

Jugal Kishore
vi Mamua Hesta
Ramgarh

01/06/2021
Staff Officer (Civil)
Argada Area

BK Singh
Binay Kumar Singh
Behind Raj Hotel
Chanakyapuri, Ramgarh
Mob.-9708575455



CCL

A miniratna cat-I company

सेंट्रलकोलफील्ड्सलिमिटेड

(कोलइंडियाकीअनुषंगीइकाई)

अरगडाएरिया, हज़ारीबाग-829101

CENTRAL COALFIELDS LIMITED

(A Subsidiary of Coal India Limited)

Office of the General Manager (A)

Argada Area, Hazaribagh- 829101

दूरभाष/Phone: 8987785137, Fax: 2360129

वेबसाइट/Website : www.centralcoalfields.in

Email Id- civilarg.ccl@gmail.com

Ref. No. CCL/Argada Area/GM Unit/Civil/AOW/2021-22/19

Date:- 22-04-2021.

Registered post

To

Binay Kumar Singh,

At: Chankyapuri Behind Raj Hotel,

Gaushala Road, Ramgarh Cantt.

Dist: Ramgarh

e-mail [Id-binaykumarsingh63@gmail.com](mailto:binaykumarsingh63@gmail.com)

Mob. No. 9431534866.

Sub:	Award of work for: - "Removal of Garbage, Cleaning of grass & drain cleaning including sanitation work for workers colony, Staff colony and Officers colony along with community places of Gidi A (For Two Years)."
Ref.:	e-Tender Notice No. 23 of 2020-21 vide e-tender notice no GM(A)/SO(C)(A)/e-Tender23/2020-21/7970date: 28.12.2020, Bid submission end date on 11.01.2021and Date of opening of tender [Cover I (Technical bid) on 12.01.2021& Cover II (Price bid)] on 12.01.2021, Tender Id -2020_CCL_191665_1

Dear Sir

In response to your tender for the subject work mentioned above, this is to inform you that your offer for a contract amount of **Rs. 22,63,626.68 (Rupees Twenty two lakhs sixty three thousand six hundred twenty six & paise sixty eight)** only inclusive of GST amount and **Rs. 19,18,327.69 (Rupees Nineteen lakhs eight thousand three hundred twenty seven & Paise sixty nine)** only exclusive of GST amount [Cost to company amount of Rs. 22,63,626.68 as Input Tax Credit is not available] to undertake the work has been accepted by CCL, subject to the following stipulations / conditions which are supplementaries / complementaries to the conditions of the tender documents: -

1. The payment of GST and GST Compensation Cess by the service availer (i.e. CCL) to bidder/ contractor (If GST payable by bidder/ contractor) would be made only on the latter submitting a Bill/Invoice in accordance with the provision of relevant GST Act and the rules made thereunder and after online filing of valid return on GST portal. The payment of GST and GST Compensation Cess is responsibility of the Contractor.
2. The period of completion of work shall be **730 (Seven hundred thirty) days** from expiry of 10 (Ten) days from the issue of this award of work or within 07 (Seven) days of handing over of the site, whichever is later.
3. You are required to deposit **Rs.57,550/- (Rupees Fifty seven thousand five hundred fifty)** only with the company in the form of a Bank Guarantee (if applicable) or Govt. Securities or FDR duly pledged in favour of CCL Argada Area or demand draft in favour of CCL Argada Area from any Scheduled Bank payable at Ramgarh cantt. within **21 (Twentyone) days** of issuance of this letter thus making the performance security money amount to Rs. 57,550/- (Rupees Fifty seven thousand five hundred fifty) only i.e.3% of the contract amount. If you fail to deposit the above amount within the prescribed time, the Award of Work may be cancelled. In addition to the above penal measures, you will not be allowed to participate in the re-tendering process. You may also be banned from participating in future tenders in the subsidiary for a minimum period of Two years.
4. A copy of Bill of Quantity (BOQ) is enclosed for ready reference.
5. All running on A/c bills shall be paid at 95% of the work value. The 5% deduction towards retention money will form Second Part of Security deposit and shall be refunded after issue of no defect certificate.
6. You shall comply with Contract Labour (Regulation and Abolition) Act and make payments to your workmen accordingly. In case you engage 10 & above labourers in the work on any working day you shall be required to submit registration certificate under the B.O.C.W. (RE&CS) Act 1996 and in case you engage 20 (Twenty) or more labourers in the work on any working day you shall be required to submit Labour license under Contract Labour (Regulation & Abolition) Act 1970 for the same.

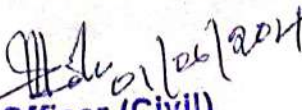
Binay Singh
Binay Kumar Singh
Behind Raj Hotel
Chanakyapuri, Ramgarh
Mob.-9708575455

[Signature]
Staff Officer (Civil)
Argada Area

You shall comply with CMPF/any other appropriate PF authority's clause of tender document and you will have to submit "No dues certificate" from Provident Fund Authority, Ministry of Labour, Govt. of India at Jharkhand before finalization of final bill.

8. Work shall be executed strictly as per specification in accordance with laid down norms of company.
9. You shall be responsible for arranging all necessary tests of materials as per instruction of Engineer-in-Charge at your own cost as per terms & conditions of Tender Document.
10. You shall make your own arrangement for all materials, tools, staff and labour required for the above work. The rates for the work include all taxes (excluding GST), octroi, carriage, tools etc. for execution and completion of work.
11. You shall arrange necessary water for the work & for your own establishment. However, if available and feasible the company may arrange water at one point near the work site for which recovery @ 1% (One percent) of the contract value of work done shall be made from your bills.
12. The technical personnel shall be engaged by you on work site as per terms and conditions of tender document.
13. You shall not employ on this contract any close relatives of CCL's employee.
14. Before clearance of final bill, you will submit royalty clearance from concerned Mining Officer.
15. Input Tax Credit (ITC) not available for this work.
16. Your tax invoice raised must be in compliance of relevant GST Acts, Rules and notifications made thereunder and should bear the GSTIN of CCL. The rate and amount of IGST/CGST/SGST, GST (Compensation to State) cess (if any), related to execution of work shall be shown separately in Tax invoice.
17. The IGST/CGST/SGST and GST (Compensation to State) cess (if any), as applicable at the time of execution of the work, shall be paid extra against submission of proper tax invoice, as referred above by you so that CCL is able to avail Input tax Credit (If available) of such IGST/CGST/SGST, GST (Compensation to State) cess (if any) reflected in the invoice.
18. If the ITC claimed is disallowed due to failure on your part in incorporating the tax invoice issued to CCL in its relevant returns under GST, payment of IGST/CGST/SGST, GST (Compensation to State) cess (if any) shown in tax invoice to the tax authorities, issue of improper tax invoice or any other reason whatsoever, the applicable taxes and cess paid based on such tax invoice along with interest, penalties if any levied on CCL, shall be recovered from your current Bills and any other dues.
19. The amount of IGST/CGST/SGST and GST cess if any as indicated in Tax invoice shall be paid only when they appear in GSTR 2A of CCL and you have filed the valid return in accordance with provisions of the GST acts and Rules made thereunder
20. In the event of any additional tax liabilities accruing on you due to classification issue or for any other reason the liability of CCL shall be restricted to the amount of GST charged on original tax invoice issued by you
21. You shall pass on the benefit on account of reduction in rate of tax on any supply of goods and / or services or any benefit of the input tax credit to CCL by way of commensurate reduction in prices in terms of Anti profiteering clause of GST Act 2017.
22. You are requested to submit the following for execution of agreement / Detail Work Order within **21(twenty one)** days from the issue of this Award of Work: -
 - a. An amount of **Rs. 57,550/- (Rupees Fifty seventhousand five hundred fifty)** only towards Performance Security in the form given below: -
 - i. Bank Guarantee in the form given in the bid document from any Scheduled Bank. The BG issued by outstation Bank shall be operative at its local Branch at Ramgarh Cantt. (If applicable)
 - ii. Govt. Securities or FDR duly pledged in favour of CCL Argada Area.
 - iii. Demand Draft drawn in favour of CCL Argada Area on any Scheduled Bank payable at its Branch at Ramgarh Cantt.
 - b. Site handover and takeover certificate, jointly signed by Engineer-in-Charge and the Contractor/ authorized representative.
 - c. Time Bound Programme for completion of the work within stipulated time as per NIT showing physical progress of work duly signed by Engineer-in-Charge and the Contractor/authorized representative.
 - d. Registration under B.O.C.W. (RE&CS) Act and / or Labour License as per Contract Labour (Regulation & Abolition) Act.
 - e. Insurance Certificates as per Clause No.13 (xviii) of General Terms & Conditions of NIT.


Binay Kumar Singh
Behind Raj Hotel
Chanakyapuri, Ramgarh
Mob.-9708575455


Staff Officer (Civil)
Argada Area

- f. Non-judicial stamp paper worth ` 100/= only for execution of agreement alongwith partnership deed / Memorandum & Articles of Association, power of attorney if any, GST identification Number etc. (applicable where agreement is to be executed).
- g. You will have to indemnify the company against any liability arising out of non-observance of the statutory provisions like royalty payments, all taxes, workmen compensation act, minimum wages act, income tax act, Contract Labour (Regulation & Abolition) Act etc., on non-judicial stamp paper worth 20/- only.
23. Sri Abhirup Adrianshall be Engineer-in-Charge for this work.
24. The date of uploading of this LOA/Work Order on e-Procurement Portal (<https://coalindiatenders.nic.in>) shall be treated as the date of receipt of this LOA / Work Order by you.
25. You are requested to contact the Sri Abhirup Adrian, Project Engineer (Civil)-Gidi-A for further needful action regarding execution of work.

Yours faithfully

Sd/-22.04.2021
Staff Officer (Civil)
Argada Area

Copy to: -

1. The G.M- Argada Area-For Kind Information
2. The Project officer-Gidi A
3. The AFM (A), Argada-Vide Budget Sl. No. 03/06/09 Dt.15.04.2021.Fund restricted to Rs. 10,00,000/-only. for F.Y 2021-22 .
4. The Staff Officer (P&A)-Argada Area
5. The Manager (F), Gidi A
6. The P.E. (Civil)-Gidi A
7. Office Copy

B. Singh
Binay Kumar Singh
Behind Raj Hotel
Chanakyapuri, Ramgarh
Mob.-9708575455

[Signature]
22/04/2021
Staff Officer (Civil)
Argada Area
[Signature]

Annexure-VIII



CENTRAL COALFIELDS LIMITED
GIDI-A COLLIERY

Name of The Client

SURFACE PLAN
SHOWING EXISTING AND PROPOSED PLANTATION ALONG
PERIPHERAL BOUNDARY OF GIDI-A OCP (197-98 Ha)
R.F. 1:12000

Surveyor

Manager

Agent / P.O.

LEGEND:-

- 1. EXISTING PLANTATION AREA SHOWN THUS
- 2. PROPOSED PLANTATION AREA SHOWN THUS
- 3. ENVIRONMENTAL CLEARANCE BOUNDARY SHOWN THUS

NO.	SYMBOL	DESCRIPTION
1	(Symbol)	BOUNDARY OF AREA PLANNED
2	(Symbol)	BOUNDARY OF AREA PLANNED
3	(Symbol)	BOUNDARY OF AREA PLANNED
4	(Symbol)	BOUNDARY OF AREA PLANNED
5	(Symbol)	BOUNDARY OF AREA PLANNED
6	(Symbol)	BOUNDARY OF AREA PLANNED
7	(Symbol)	BOUNDARY OF AREA PLANNED
8	(Symbol)	BOUNDARY OF AREA PLANNED
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10	(Symbol)	BOUNDARY OF AREA PLANNED
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13	(Symbol)	BOUNDARY OF AREA PLANNED
14	(Symbol)	BOUNDARY OF AREA PLANNED
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48	(Symbol)	BOUNDARY OF AREA PLANNED
49	(Symbol)	BOUNDARY OF AREA PLANNED
50	(Symbol)	BOUNDARY OF AREA PLANNED

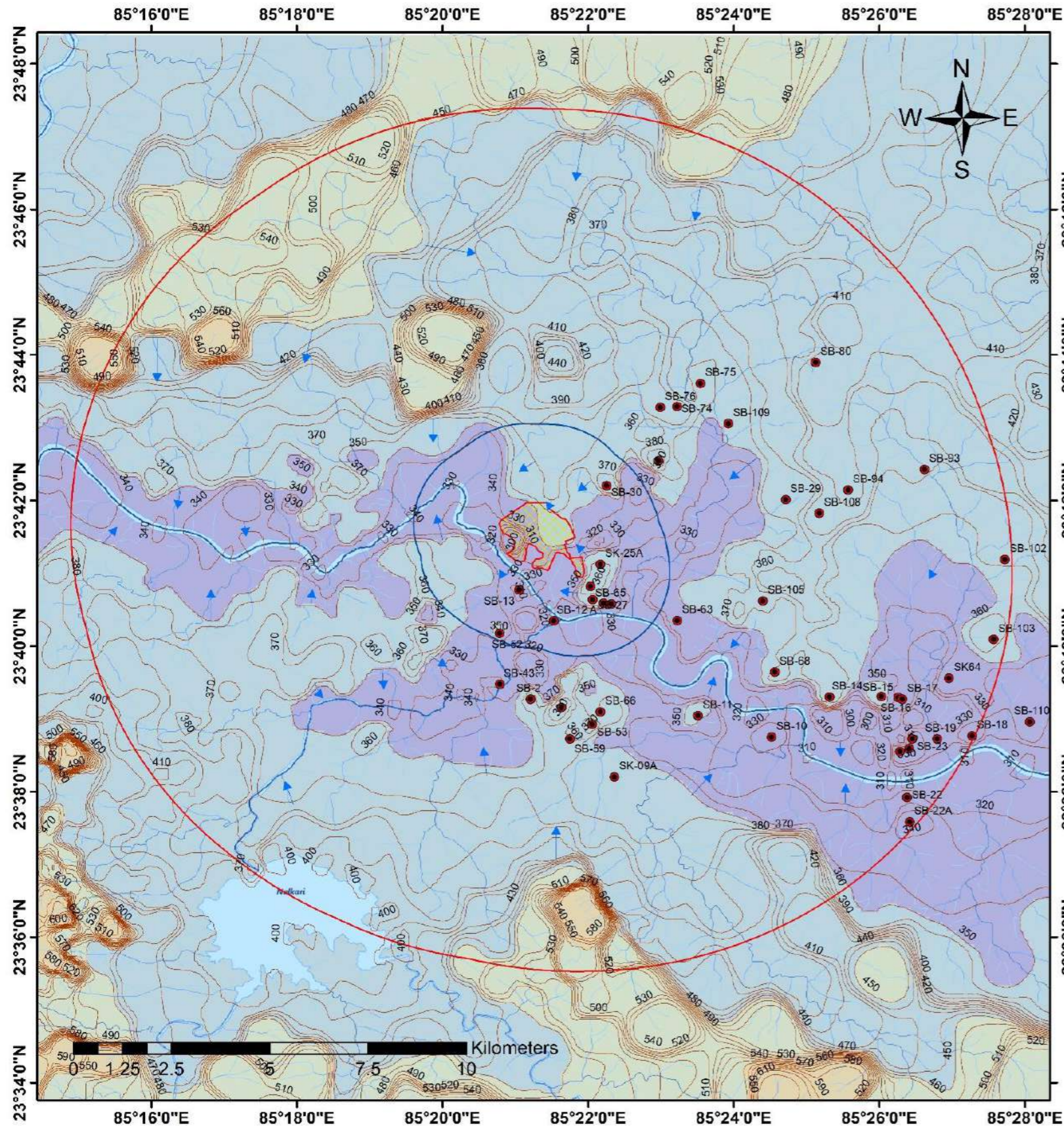
PROPOSED PLANTATION AREA

PATCH	DIMENSION	AREA (M ²)
1.	700M x 300M	210000
2.	400M x 40M	16000
3.	300M x 20M	6000
4.	200M x 50M	10000
5.	500M x 50M	25000
6.	150M x 50M	7500
7.	100M x 20M	2000
8.	300M x 20M	6000
Total		= 93500 M²
		OR 9.35 Ha

EXISTING PLANTATION AREA

PATCH	DIMENSION	AREA (M ²)
A	400M x 40M	16000
B	470M x 25M	11750
C	2650M x 25M	66250
D	300M x 25M	7500
E	300 x 30	9000
Total		= 110500 M²
		OR 11.05 Ha

Annexure-IX



Index

- Monitoring Well
- ▶ GW Flow
- WT Contour
- ▨ Lease Hold Boundary of Giddi A OCP
- Core Zone (2Km Buffer)
- Buffer Zone (10Km)

Range of GW Table (pre-monsoon,21)

- 250 - 350
- 350 - 450
- 450 - 550
- 550 - 650
- Waterbody
- Streams
- River

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Customer:- Central Coalfield Limited, Ranchi, Jharkhand			
Job Title:- Comprehensive Hydrogeological Report of Giddi A OCP			Job No.:- 332226
Subject:- GW Table Contour Map (Pre-monsoon,21) AMSL(m)	Activity	Name	Designation
	Prepared by	Sajal Kumar	Dy. Manager (Geo)
	Processed by	Sajal Kumar	Dy. Manager (Geo)
	Checked by	Sk Sabur Ali	Manager (Geo)
CMPDI ISO 9001 Company	Checked by	Prosun Benerjee	Manager (Geo)
	Approved by	S. K. Gupta	HoD (Exploration)

Plate-3.3.2.1 - Pre-monsoon GW Table Contour Map of the year 2021 in the study area showing GW Flow direction.

Annexure-X



A mineral company

CCL

CENTRAL COALFIELDS LIMITED

(A subsidiary of Coal India Limited)

Office of the Project Officer

P.O.: Gidi 'A' Dist. Hazaribagh

Jharkhand, PIN - 829108

Ref. No. PO/GDA/Survey/2022/1/11

Dated: 13/04/22

To

The Divisional forest Officer
Ramgarh Division
Ramgarh.

Sub: - Wildlife Conservation Plan for plants and animals for Giddi 'A' OCP.

Dear Sir

Giddi 'A' OCP is one of the projects of Argada Area, CCL and a very old mine which is operational since 1958. We are in the process of obtaining Environmental Clearance for Giddi 'A' OCP within the proposed boundary of 187.98 Hectare. The proposal for Gidi-A OCP is for a Production Capacity of 1MTY.

In order to obtain Environmental Clearance, the proposal was placed before EAC (Expert Appraisal Committee) held on 18.02.2022 for violation on account of production in excess of 1993-94 capacity (0.254MTY). The minutes of EAC meeting dated 18-20.02.2022 states that

PP shall provide the receiving of Wild Life Conservation Plan Schedule-1 Species and breakup of proposed activities with budgetary provision submitted to the Divisional Forest Officer"

It pertinent to note here that environment baseline data generation report in respect of Flora & Fauna has been prepared by WOLKEN India Limited, Udaipur to assess the current ecology and biodiversity scenario of the Area. A study was made for fauna depending upon available documentation and observation gathered through direct and indirect evidences.

In view of the above, a Wildlife Conservation Plan for Schedule-1 species found within the buffer zone of the project has been prepared along with the Action Plan containing budgetary provisions for the management of the same.

It is, therefore, requested to kindly go through the aforementioned Wild Life conservation plan and suggest any alteration/change, if required, for the betterment of forest and wild life impact area.

Enclosure: - Wildlife Conservation Plan.

Yours sincerely

[Signature]
13.04.2022
Project Officer
Giddi 'A' OCP

CHAPTER 10

CONSERVATION PLAN FOR PLANTS & ANIMAL OF THE STUDY AREA

10.1 INTRODUCTION

Conservation of Wildlife is necessary to recognize the importance of nature and other wildlife species. It is important to protect the endangered plants and animal species along with their natural habitat. The main concern is to preserve the habitats so that the future generations of wildlife and even humans can enjoy it. Therefore, we can say that the **Conservation of Wildlife** is necessary to recognize the importance of nature and other wildlife species.

Govt. role of conservation of wildlife:-

- ♣ Wildlife protection Act 1972.
- ♣ Project Tiger 1972-73.
- ♣ Forest Protection Act 1980-88.
- ♣ Anti-poaching agencies.
- ♣ State wildlife & Forest department.
- ♣ Ministry of Environment & Forests
- ♣ Wildlife conservation society

Conservation of Biodiversity has become the most important requirement of the present day world. This is because survival of the man depends upon the biodiversity. Biodiversity consists of two components: richness, or taxonomic diversity, and evenness, or the distribution of individuals among taxa. Anthropogenic factors are eroding both the richness as well as evenness components of the biodiversity, jeopardizing the survival of human race itself.

This realization has initiated serious efforts towards conservation of both the components of biodiversity. One of the causes for the erosion of biodiversity has been recognized to be the mining activity. Some of the important minerals of our country are lying below the forests. Opencast mining of such areas are bound to result in the destruction or fragmentation of the habitat. If the area under mining is not having any endemic species then the mining will result only in the reduction in the gene pool, i.e. the evenness component of the biodiversity. However, mining an area with endemic species will have more drastic effect on biodiversity. Similarly, if the area falls under crucial migratory route of a species then also the mining may have some impact on such migratory species. Thus, it is required to evaluate the area, going to be mined, for any endemic and endangered species and any direct or indirect impact on biodiversity. Jharkhand is rich in biodiversity of medicinal plants.

Schedule I species recorded from the buffer zone-

All vegetation data of this study were collected during post-monsoon 2020 around 10 km radius from the project site. During the present investigation of buffer zone, plant species which comes under the RET category has not been observed. During the site visit there is no endangered fauna was observed in core zone & buffer zone but consultation with local villagers & as per secondary sources there is scheduled species Peafowl, Python and Indian Monitor Lizard exist in study area as well as project area & needs to prepare conservation plan.

10.2 CONSERVATION PLAN FOR PEACOCK

As per the primary and secondary source (focus group discussions with local people) it was noted that peafowl is present in both, Core and buffer zone. Day time they temporarily move towards the surrounding agriculture land for feeding and while during night time roosts on the trees present in the village.

Peacock or Indian peafowl (*Pavo cristatus*) is a familiar and universally known large pheasant. It is a National Bird of India, belongs to Schedule I (part III) of the Wildlife (Protection) Act 1972 was present in the core and buffer zone.

The male has a spectacular glossy green long tail feathers that may be more than 60 percent of the bird’s total body length. These feathers have blue, golden green- and copper-colored ocelli (eyes). The long tail feathers are used for mating rituals like courtship displays. The feathers are arched into a magnificent fan shaped form across the back of the bird and almost touching the ground on both sides. Females do not have these graceful tail feathers. They have the fan like crest with whitish face and throat, chestnut brown crown and hind neck, metallic green upper breast and mantle, white belly and brown back rump and tail. Their primaries are dark brown.

Table 10.1 Scientific Classification Of Peacock

Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Galliformes
Family	Phasianidae
Genus	Pavo
Species	<i>Pavo cristatus</i>
Vernacular name	Indian Peafowl
Conservation status	
IUCN	Least concern (IUCN- 3.1)
IWPA	Schedule I

Figure: 9.1 Photograph Showing Indian Peafowl (Peacock)



Source- picture is taken from internet

Study Approach

At first, a detailed biological survey of the core zone and buffer zone was carried out to understand the status distribution of the species in the study area. Also, questionnaire survey was carried out to understand the recent status of peacock sightings and their movements.

Habitat Use

No peacock was sighted in the core zone. All the direct sightings (as per Interview from the local people) of the peacock were located near the human dominated and forest areas. This species is well adapted to natural village environment setting. According to the villagers, peacock is present in both, village and forest areas. Day time they temporarily move towards the surrounding agriculture areas for feeding while during night time roosts on the trees present in the village.

Life Cycle

Call	Kee-ow, Kee-ow, Kee-ow, Ka-an, Ka-an, Ka-an, Kok-kok, Kok-kok, cain- kok
Breeding	April-September
(Project area) Nest site	On ground in undergrowth(wild) On buildings by semi-feral birds in villages
Bodylength	180-230 cm
Weight	2750-6000gm
Habitat	In the undergrowth in deciduous forests near streams Tall trees for roosting

Food Habits

Peafowls are omnivores, eating plant parts, flower petals, seed heads, insects and other arthropods, reptiles and amphibians. In the study area, dense tree canopy cover supports good insect diversity which is very common food for peafowl.

Conservation and Relationship with man

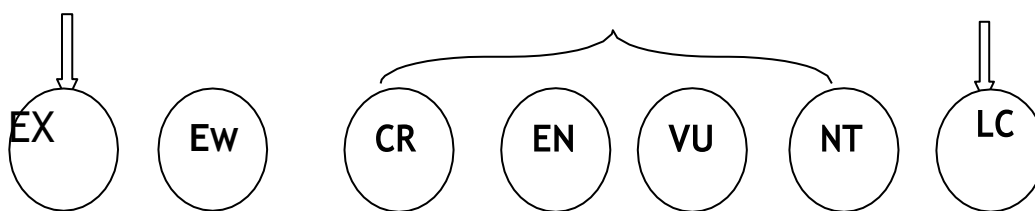
The great beauty and popularity of the Indian Peafowl has ensured its protection throughout most of its native ranges. It is a National bird of India. The peafowl is prominent in the mythology and folklore of the Indian people. The Hindus consider the bird to be sacred because of its association with Lord Krishna who used to wear its feather as crown (Mor Mokut). It is also associated with the God Kartikeya, son of the Lord Shiva and Parvati and brother of Lord Ganesh. It is “Vaahan” (transport) of Lord Kartikeya.

CONSERVATION STATUS

Extinct

Threatened

least concern



IUCN : Least Concern
 IWPA : Schedule I
 CITES : Not listed

Buffer Zone as a Peacock Habitat

Present survey of the peafowl in the buffer zone of the project site cleared that; peafowl is using both, village adjacent habitats and forest habitats of the buffer zone. However, the following points can give an insight on the overall status of peafowl in the study area and thereby plan for better management strategies related to proposed project activities.

People of the surveyed villages were well aware of the habits and habitats of peafowl in the study area. Moreover, local people are against hunting and poaching of the Peacocks. In the buffer zone, peafowl uses agriculture (adjacent to village) and forest habitats as a feeding and breeding ground. Some of the peacocks are taking shelter in the village adjacent habitats while some prefer to rocky forest hills. It clearly indicates that, peafowl normally uses human associated and forest habitats.

However, it is necessity to take some management options like habitat improvement in the villages in the buffer zone. So, habitat improvement programme will be undertaken indifferent villages located in the close vicinity of the project area.

Threats

Threats to the peacocks in the area are:

- 1) Habitat loss, specially the shortage of tall trees in and around the villages for roosting and for providing shade during hot summer months.
- 2) Shortage of drinking water for the birds during the hot summer days.
- 3) Casualties caused by eating chemically treated agricultural crop seeds.
- 4) Illegal hunting by some poachers.

In the study area, all the villages surveyed are against hunting or poaching of the people. Peacock conservation plan has to address these threats.

Conservation Measures

Direct and indirect approach is required to provide effective conservation, which is recommended as under:

1. Increasing the tree cover in the buffer area for shelter and roosting of peacocks. This will be achieved by planting of tree groves (a group of trees that grow close together, generally without many bushes or other plants) in buffer area. Some local species such as Neem, Siris, Ashok, Amaltash, Ardu, Shesham, Peepal tree etc. will be planted. Planting of tree groves in school compounds in the villages of buffers area will be planted as per the plantation programme.
2. By conducting awareness programmes (community and school level) for conservation of peacocks in the area and also through organizing competitions during “Wildlife Week” and “Van Mahotsave” celebrations.
3. Some provision of rewards to informers for the control of poaching and illegal trade in wildlife.
4. Carrying out census and research projects to know the potential threats and population status of the species.
5. Provision of veterinary care and cages for injured or sick deformed birds.
6. Suggest strategies to minimize negative impacts of changing environment in nearby area of peacock populations and to promote conservation of peacock habitats.

10.3 CONSERVATION PLAN FOR PYTHON

General description

The Indian Rock Python is thick-bodied and smooth scaled, head broader than neck, eye has vertical pupil and upper surface of head has large scales of different shapes and average length of 18ft. The overall colour of the rock Python varies from body full of irregular shaped patches with main dorsal colour white mixed with yellow, grey or brown; colour of patch mostly dark brown or blackish, between these patches yellowish-brown colour exists.

Python is large snake generally reaching up to 6 meters and in extreme cases up to 9 metres, the Indian Python inhabits lowland forests. It is adept at both swimming and climbing trees. As

with other pythons, it kills its prey which are mainly small mammals by the process of constriction and suffocation.

Taxonomy

Kingdom	Animalia
Phylum	Chordata
Class	Reptilia
order	Squamata
Family	Serpentes
Sub-family	Pythonidae
Genus	Python
Species	molurus

Figure 9.2 Photograph showing Python



Source- picture is taken from internet

Behaviour and Food Habit

Python molurus is a solitary species. Mating is the only time that these snakes are commonly found in pairs. Indian pythons will generally move only when food is scarce or when threatened. Indian pythons are often found in or near water. They are expert swimmers, and can stay submerged without breathing for up to thirty minutes at a time. During colder months, Indian pythons usually remain in brief period of hibernation until the temperature rises again.

They are carnivorous. Its diet consists mostly of rodents and other mammals. These snakes have very poor eyesight. To compensate for this, the species has a highly developed sense of smell, and heat pits within each scale along the upper lip, which sense the warmth of nearby prey. Indian pythons kill prey by biting and constricting until the prey suffocates.

Reproduction

Python molurus reaches sexual maturity between 2-3 years of age provided the proper body weight is met. Gestation period lasts between 2-3 months and the female lay up to 100 eggs approximately.

Distribution and Habitat

The nominate subspecies is found in India, southern Nepal, Pakistan, Sri Lanka, Bhutan, Bangladesh, and probably in the north of Myanmar. They occur in a wide range of habitats, including grasslands, swamps, marshes, rocky foothills, woodlands, "open" jungle, and river valleys. They depend on a permanent source of water. Sometimes, they can be found in abandoned mammal burrows, hollow trees, dense water reeds, and mangrove thickets.

Conservation Measures

Plantation details and programs: (In consultation with forest department) Preferred roosting trees for the herbivorous species and Native or fruit bearing species plantation would be specially taken up in the green belt area of the project and nearby area.

Captive Breeding for species Indian Python are popular as it can be easily maintained in captivity.

Small earthen material lined water tanks will be created in the Buffer Zone to make sure availability of clean drinking water to the species. The availability of clean water will ensure a permanent stay of species in these areas.

Awareness Program for locals to reduce minimise their dependence on forest. Like fodder, wood for fuel etc, aware youth and students for eliminating poaching which consequently improve the status of wildlife also Campaign against buying live animals or materials made of animal horns, teeth, carapace and corals as gifts.

10.4 CONSERVATION PLAN FOR Indian Monitor lizards (*Varanus bengalensis*):-

A. General description

The Bengal monitor or common Indian monitor is a monitor lizard found widely distributed over the Indian Subcontinent, as well as parts of Southeast Asia and West Asia. This large lizard is mainly terrestrial, and grows to about 175 cm from the tip of the snout to the end of the tail. Young monitors may be more arboreal, but adults mainly hunt on the ground, preying mainly on arthropods, but also taking small terrestrial vertebrates, ground birds, eggs and fish. Although large monitors have few predators apart from humans who hunt them for meat, younger individuals are hunted by many predators. They do not possess any venom glands or delivery mechanisms but folk myths around India hold these lizards as venomous.

The species is distributed mainly in the lower elevations, and is found both in dry semiarid desert habitats to moist forest. They are often found in agricultural areas, and are mainly found below 1500m altitude.

Classification

Kingdom	Animalia
Phylum	Chordata
Class	Reptilia
order	Squamata
Family	Varanidae
Genus	Varanus
Species	bengalensis

Figure 9.2 Photograph showing Varanus



Source- picture is taken from internet

B. Behaviour

In the wild, Common Indian Monitor is almost completely solitary. Much of the day time is spent in constant movement, searching for food. Common Indian Monitor is more likely to interact with one another during the peak breeding season, when males compete for mates.

C. Reproduction and Social Organization

Individuals mate in June, July, and early August and the shelled eggs are laid any time from July through early September. The incubation period is from 4 to 8 months. Young Bengal monitors are very secretive.

D. Breeding

There are three major phases in the reproductive cycle of female *V. bengalensis*. Usually, mature females of *V. bengalensis* will produce only one clutch annually. The average number of eggs laid per year is 20, of which about 80% typically hatch. This results in about 16 young per female per year. Additionally, because *V. bengalensis* has a large clutch size relative to most tropical lizards, neonates are subject to relatively high predation rates. Because of predation, roughly half of the offspring do not live past the age of two.

E. Reproductive Behaviours

Both males and females become sexually mature at approximately 2.5 to 3 years of age, both in the wild and in captivity. In female Bengal monitors, reproductive efforts occur throughout most of their life span. After reaching sexual maturity, females remain reproductively active for the remainder of their lives, which may extend to 27 years. Chemical cues play an important role in the ability of males to recognize receptive females. In females, the reproductive cycle is annual.

F. Status

According to the IUCN Red List of Threatened Species, *V. bengalensis* is a species of Least Concern. This is based on its wide geographic range. However, there are increasing pressures on the species. They are hunted for their meat, skins, and for use in medicine. Due to expanding

human habitation and urbanization, the range threats to their population are likely to increase in the future.

G. Threats

Their large size, use of open habitat and shallow conspicuous burrows, has together served to render them particularly vulnerable to persecution. It is also threatened due to large scale exploitation for skin trade leather of considerable utility and value. This species is possibly threatened by habitat destruction (due to urbanization, mining etc.). However; as it can utilize a wide range of habitat types this is not considered a major concern. Reducing of pests (food of the *V. bengalensis*) due to use of pesticide in agriculture is an indirect cause which affects the species survival. There is a common myth popular among the community that the species is poisonous. Due to this myth sometimes people tend to kill the species.

H. Observations/Sightings

During the study period, *V. bengalensis* was not observed in buffer area and core area. Although, it is sometimes seen by the local people/villagers & in the buffer zone.

I. Food and Feeding Habit

The diet of the Monitor is almost strictly carnivorous. They consume almost anything that is smaller than themselves and that they can easily overpower. Their normal prey consists of beetles, grubs, orthopterans, scorpions, ants and other invertebrates. Vertebrate prey is comparatively rare, and includes frogs, lizards, snakes and rodents.

J. Action Plan for the Conservation of Common Indian Monitor

- It is critical that efforts are made to keep the habitat and population status growing steadily.
- Creation of awareness to protect the species through seminars/workshop/ gathering among local villagers.
- The company will carry on an afforestation programme within the study area to enhance quality of habitat and availability of food indirectly.
- Effective communication network will be developed among mine management and local people to reduce the risk of the human wildlife conflict.
- Farmers will be educated to optimal use of pesticide in agriculture fields.

- Special vocational training programs shall be arranged for drivers to take care of wildlife while driving.
- Awareness among local people against myths for the animal of being poisonous.

Financial Forecast

Funds for flora and fauna management plan

S. No	Description	Amount in Lakhs (Rs)
A	Capital cost	
1	Afforestation program	50.00
2	Artificial nests, feeding and watering arrangement for birds	15.00
3	Construction of water holes & check dams etc.	15.00
	Sub Total amount	80.00
B	Revenue expenditure / Year	
1	Afforestation program	6.00
2	Food facility for animals (Grass land development)	2.00
3	Drinking water arrangement by tanker	2.00
4	Protection arrangements for animals (Fencing, along with operation and maintenances)	3.00
5	Training program for villagers	2.00
6	Awareness program, Sign boards, cultural program to create awareness for flora & fauna	2.00
7	Rescue center for animals	3.00
8	Man Power for protection (4 persons)	4.00
9	Financial assistance for wild animals health care	2.00
10	Artificial nests, feeding & watering arrangement(Pots) for birds	2.00
11	Habitat for grazing animals will be developed at suitable location in consultant with Panchayat	2.00
	Sub Total amount	30.00
	Grand total	110.00

- Capital Cost for Flora & Fauna management: - **Rs 80.00 Lakhs**
- Yearly Cost: - **Rs 30 Lakhs /Year**
- Total cost of Afforestation program (7 Years): - **Rs 92 Lakhs**
- **Total accumulative cost is Rs 290 Lakhs during life of the mine.**

10.5 PUBLIC AWARENESS PROGRAMME FOR WILDLIFE PROTECTION AND CONSERVATION

Among all the threats of biodiversity, lack of awareness is the major cause for their loss. Hence, public awareness programmes will be conducted regarding the issues, conflicts and facts of wildlife, especially for the entire schedule-I and schedule-II species present in the core and buffer zone. Any kind of illegal collection or poaching noted in the study area will be immediately informed to the concerned authority. Conservation education and public awareness are useful tools in changing the behaviour of people. Awareness programmes about various wildlife species, their ecology, habitat, food & feeding and behaviour will be conducted in the Buffer Zone. Programmes will target to make aware of all groups (Community Forest User Group, Women's groups, Villagers of the Buffer Zone, School Teachers and Students).

Moreover, workers will be trained and educated about the importance of the entire wild animal for ecology and ultimately to humans; an internal attraction towards the species will be trying to develop. More importantly, worker will make aware of wildlife crime and also subsequent penalties and punishment. For the more, aware of people for protection their selves and all the wild animals, signboards will also be placed in the buffer zone with slogans.

Functions like Van Mahotsav, Wildlife Week, World Forestry Day, and World Environment Day will be organized in a befitting manner to which village heads and other members of gram Panchayat, local leaders and members of regional NGO may also be invited.

The discussion may evolve around habitat loss, human-wildlife conflicts and how best the vegetation can be revamped etc. Moreover, a training workshop for all mine workers will be conducted in starting of any project. It will include the formal training on the importance of biodiversity and also to make available the information of the flora and fauna of high conservation value present in the surrounding areas. Information on Wildlife policies and Government regulation and penalties will be provided to workers.

Annexure-XI

TEST REPORT

12/21 Test Report No. 2	Job No. 094321044	Year	FY2021-22
Type of Sample:	Surface Water	Quarter Ending	March '22
Customer	CCL	Date of Receipt:	01/03/2022
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	01/03/22-23/03/22
Testing/ Sampling Protocol	LQR 33		
Remarks & Observation:	Samples received in 5 ltr plastic Jerri cane, Colour as observed is transparent		

TEST RESULT

The sample has been tested with the following results: -

Area : Argada **Project:** Gidi 'A'

Stations:
 1. Damodar River U/S
 2. Damodar River D/S

Date of Sampling:
 25/02/2022
 25/02/2022

Sl. No	Parameter	Sampling Stations				Detecti on Limit	BIS Standard & Method
		1	2	3	4		
1	Arsenic (as As), mg/l, Max	<0.002	<0.002			0.002	IS 3025/37:1988 R : 2003, AAS-VGA, Method
2	BOD (3 days 27°C), mg/l, Max	<2.00	<2.00			2.00	IS 3025 /44: 1993, R: 2003 3 day incubation at 27°C
3	Cadmium(as Cd), mg/l, Max	<0.0004	<0.0004			0.0004	APHA, 23rd Edition AAS-GTA Method, 2017
4	Chlorides (as Cl), mg/l, Max	10	10			2.00	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02	<0.02			0.02	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Dissolved Oxygen, min.	7.2	7.0			0.10	IS 3025/38: 1989, R:2003, Winkler Azide Method
7	Fluoride (as F) mg/l, Max	0.55	0.51			0.02	APHA, 23rd Edition, SPADNS Method, 2017
8	Hexavalent Chromium, mg/l, Max	<0.01	<0.01			0.01	APHA, 23rd Edition, Diphenylcarbohydrazide, 2017
9	Iron (as Fe), mg/l, Max	<0.04	<0.04			0.04	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)
10	Lead (as Pb), mg/l, Max	0.009	0.008			0.001	APHA, 23rd Edition AAS-GTA Method, 2017
11	Nitrate (as NO ₃), mg/l, Max	2.40	2.40			0.50	APHA, 23rd Edition, UV - Spectrophotometric, 2017
12	pH value	7.23	7.32			1.0	IS-3025/11:1983, R-1996, Electrometric Method
13	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.001	<0.001			0.001	APHA, 23rd Edition, 4-Amino Antipyrine Method, 2017

Analysed By

Authorized Signatory

Note: 1) This Report refers to the values obtained at the time of testing and results related to the items tested
 2) This Report cannot be reproduced in part or full without written permission of the management.
 3) This is computer generated report and requires no signature.

ENVIRONMENT LABORATORY , CMPDI (HQ) , RANCHI

14	Selenium (as Se), mg/l, Max	0.002	0.006			0.0005	IS 3025/56:2003 AAS-VGA Method
15	Sulphate (as SO ₄) mg/l, Max	92.3	91.4			2.00	APHA, 23rd Edition Turbidity Method, 2017
16	Total Dissolved Solids, mg/l, Max	284	232			25.00	IS 3025 /16:1984 R : 2006, Gravimetric Method
17	Total Suspended Solids, mg/l, Max	20.3	25.5			10.00	IS 3025 /17:1984, R :1996, Gravimetric Method
18	Zinc (as Zn), mg/l, Max	<0.005	0.027			0.005	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac- Flame)

Analysed By

Authorized Signatory

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Annexure-XII

Protection & Conservation of Surface water Bodies

Drainage Pattern of the Area

The easterly flowing Damodar River is the major drainage and perennial source of water for the area. The HFL of the Damodar River as recorded in the vicinity of the project is 347.56 m above MSL (As on 17.09.1976). One local seasonal stream is flowing from the leasehold at a distance of around 60 to 70 m from the present working quarry. A few 1st order streams of the Damodar River originate within the mine area.

Measures for Conservation of River Damodar and Nala

- At present, the excavation (Quarry) has been proposed at a distance of around 1100 m from the banks of river Damodar.
- The EC Boundary is around 110 m away from the H.F.L of River Damodar and existing dumping is around 200 m away from the H.F.L of River Damodar. Refer to Fig:1 given below for Google Earth Image Showing Embankments along water bodies and distance of working from River.
- As per the proposed final stage dump Plan, the toe of final dump will be around 130 m away from the H.F.L of River Damodar. Refer to Fig 2 & 3 for Final Stage Dump Plan and C/S Details.
- Also, embankments along with dense plantation have been developed along the banks of River Damodar (Embankment: 2500m L X 20 m W) and Stream flowing along the western boundary (Embankment: 350m L X 20 m W) of the project.
- The top R.L. of embankment is 355 m against the HFL (Damodar River) of 347.56 m i.e. more than 7 m above the HFL.
- Dense Plantation was developed all along the embankments.
- 3 no. of mine voids (Quarry 1,4 & 5) have been converted into water bodies for storage and recharge of ground water resource.
- Surface water quality of surface water bodies have been monitored and found to be well within the limits. Refer to Annexure X.
- No additional land is proposed to be broken in the present proposal. Therefore, no further loss of catchment area of River and stream can be identified

Therefore, suitable conservation measures have been adopted to minimize the damage of mining activity on surface water regime.

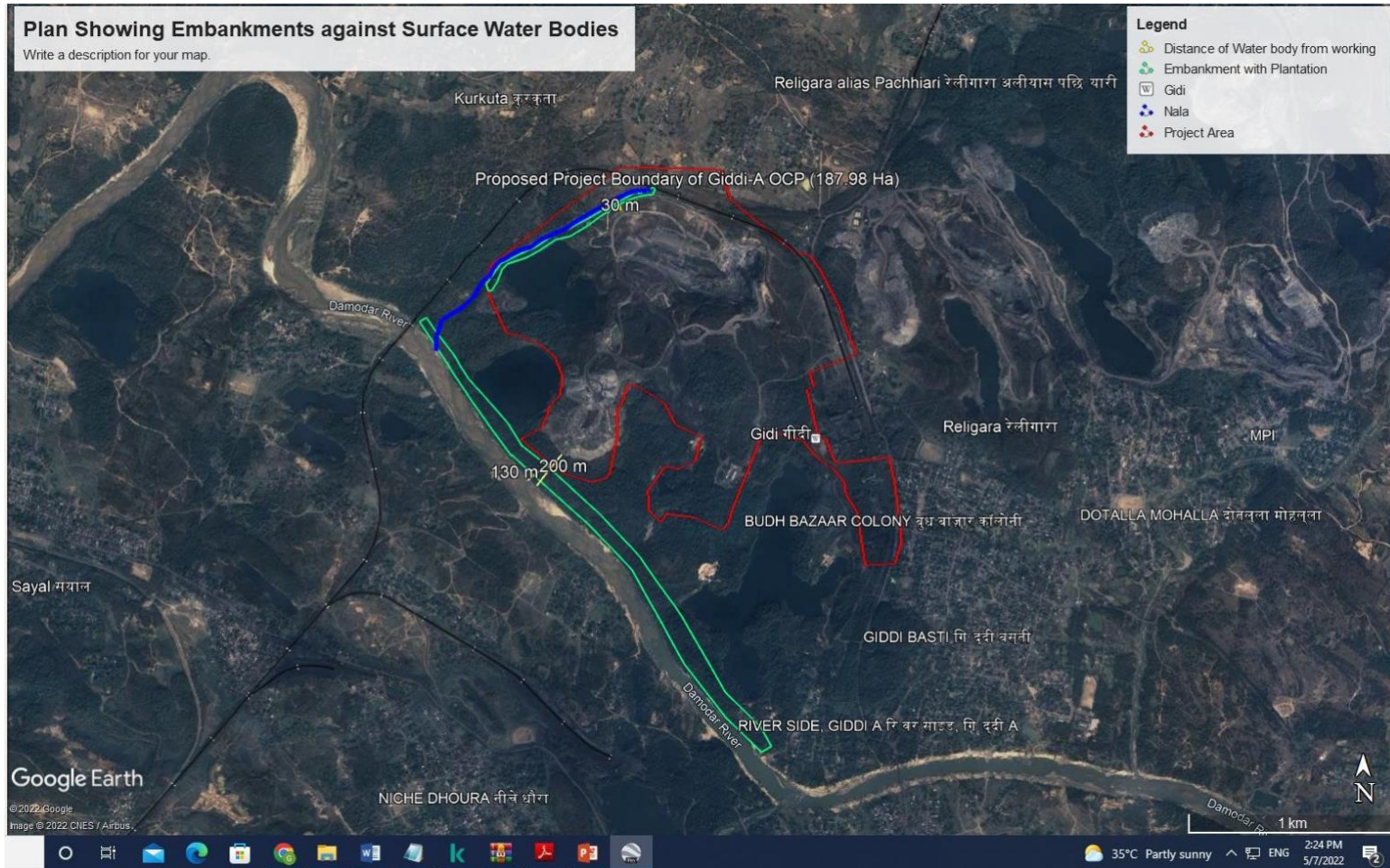


Fig 1: Google Earth Image Showing Embankments along water bodies and distance of working from River

Annexure-XIII

Major issues raised during PH along with budget provision


SN	Issues raised	Status & Commitment by PP	Time line	Monetary provision in Rs. Lakh						
1	Requirement of PCC Road	a) Construction of PCC Road from Kendiya Tola to Urimari Road for a length of approximately 300 meter	Dec-2022	27.07						
3	Provision of Playground	a) Development of Playground near Shishu Vidya Mandir, Tehratand	March-2023	80						
4	Providing Drinking water to nearby villagers	a) Water supply to nearby villagers through construction of solar borewell at six locations in the adjacent panchayat b) Construction, deepening & beautification of 2 numbers of ponds in the buffer zone of Giddi A OCP	Dec-2022 July-2022	90 10						
5	Prevention of Pollution	a) For prevention of pollution, a tentative cost of Rs 1537.31 Lakhs has been proposed under EIA/EMP cost.	--	---						
6	Medical and Health Facilities	a) A dedicated hospital of CCL namely "Adarsh Khestriya Chikitsalaya" has been established at Giddi Chowk which caters to the need of local people and employees of CCL b) In addition, health checkup camps are also being undertaken in the nearby villages as per the details given below:	--	---						
<table border="1"> <thead> <tr> <th>FY</th> <th>No. of Health Camps</th> <th>Beneficiary Villages</th> </tr> </thead> <tbody> <tr> <td>2019-20 to 2021-22</td> <td>26</td> <td>Bundu, B.Chumba, Tongi, C.Chumba, Kanjagi, Telian Tanr, Chapri, Suyiadih</td> </tr> </tbody> </table>					FY	No. of Health Camps	Beneficiary Villages	2019-20 to 2021-22	26	Bundu, B.Chumba, Tongi, C.Chumba, Kanjagi, Telian Tanr, Chapri, Suyiadih
FY	No. of Health Camps	Beneficiary Villages								
2019-20 to 2021-22	26	Bundu, B.Chumba, Tongi, C.Chumba, Kanjagi, Telian Tanr, Chapri, Suyiadih								
<u>Total (Rs in Lakhs)</u>				207.07						

Annexure-XIV

Annexure XIII consent letter from the panchayat for the PCC Road stretch required by the villagers

PROJECT OFFICER
GIDDI 'A'
RECEIPT NO. 53
DATE 13.04.2022

सीतामुनी देवी
प्रधान
कार्यकारी समिति
ग्राम पंचायत- मिश्राईन मोढ़ा
प्रखण्ड- डाड़ी
जिला- हजारीबाग (झारखण्ड)



आवास :-
ग्राम :- रिकवा
पो० :- डाड़ी
जिला :- हजारीबाग
राज्य :- झारखण्ड
पिन :- 829109
मो० :- 6200312231

पत्रांक 145
दिनांक 11/4/2022

सेवा में
श्रीमान शाखा प्रबंधक गिद्धी विघ्नी महोदय,
विषय :- CSR के द्वारा रोड बनाने के संबंध में,
महाशय,
सविनय निवेदन यह है कि ग्राम कुरकूटा
कैन्दिया होला पंचायत में कुरकूटा के मुख्य
पथ से कैन्दिया होला तक आने जाने के लिए रोड की
कमतर सहायता होती है। इसलिए CSR के प्रौद्योगिकी
द्वारा ग्राम कुरकूटा के कैन्दिया होला में रोड सेट
देने की हप्पा प्रदान करें। तथा इस रोड की
लम्बाई 300मी० है।
इस आप से नम्र निवेदन है कि
ग्राम कुरकूटा होला कैन्दिया होला में 300मी०
रोड देने की हप्पा प्रदान करें।

शापला विठ्ठली
सीतामुनी देवी
प्रधान 11/4/2022
कार्यकारी समिति
ग्राम पंचायत- मिश्राईन मोढ़ा
पो- डाड़ी (हजारीबाग)

P.E (Civil) GDA
For needful action
on urgent basis.
Urgent
13.04.2022

Annexure-XV

Annexure XIV Budgetary Provisions

(A) Capital Cost of Environmental Control Measures (EMP)

Category	Proposed Control Measures			Tentative Timeline & Status
	Activity	Details	Cost (inRs. Lakhs)	
Air Pollution prevention measures	Wind Barriers along north and south-eastern quarry boundary to protect nearby human settlements.	1100m along mine boundary in North and North-East. 700 m along south eastern project boundary surrounding the crushing unit and railway siding.	210	tender has been floated for wind barrier along crushing unit
		300 m along coal stockyard.		To be Completed by March 2023
	Plantation on dumps, safety belt & green belt, embankment along Damodar river.	Total additional area proposed to be brought under plantation is 90.3 Ha. The reclamation of dumps to be done using geo-texturing technique.	412.51	As per the Year-wise reclamation Plan
	Fixed sprinkling system of on Haul Road	Along Haul Road side (800m) and around Coal Stockyard (200m).	15	tender has been floated. To be Completed by Sept 2022
	Black Topping of Permanent Haul Road	1500 m length of permanent Haul road to be black topped (Coal stockyard to Crushing Unit)	150	To be Completed by March 2023
	Mobile Water Sprinklers with Fog Canons	Additional 02 nos. of 28 KL mobile water sprinklers for dust control.	200	Dec-22
Total Cost of proposed Air Pollution prevention measures			987.51	
Water Pollution & Conservation Measures	Sewage Treatment Plant at the existing colony	Existing colony at Giddi-A with 1772 quarters will be provided with an integrated sewage treatment plant.	200	Note has been put-up for competent approval. STP to be Set-up by Sept-2023

	Toe wall and garland drain/ catch drain	Toe wall, garland drain and catch drains around the active and stabilized OB Dumps, quarry and other industrial settlements	200	Garland drain is being taken up Departmentally. Toe wall will be completed by March 2023
	Sedimentation Tank	02 Nos. of Sedimentation tank to arrest run-off before discharge of water into Damodar	30	Proposal under process. To be completed by March 2023
	Rain Water Harvesting Structures	AT E&M Office and Workshop	20	To be Completed by Dec2022
	Renovation of ETP (Oil & Grease Trap)	Automatic skimming system for collection of oil & grease proposed.	20	Proposal under process. To be completed by March 2023
Total Cost of proposed Water Pollution & Conservation Measures			470	
Flora-Fauna Conservation	Conservation of Flora and Fauna	Conservation Measures for schedule-I species	80	AS per the Schedule of Conservation Plan
Total Cost of Flora-Fauna Management			80	
Total cost of Proposed Control Measures as per EIA/EMP			1537.51	

(B) Revenue Cost of EMP

S No.	Particulars	Annual Revenue Cost (Rs Lakh)
1	Environmental Monitoring Cost	52.79
2	Plantation Maintenance Cost	15
3	Operation and Maintenance of Air Pollution control Measures	50
4	Revenue cost on Flora-Fauna Conservation	30

5	Maintenance cost for ETP and STP	15
6	Maintenance of RWH, Catch drains, Storm water drains and other developmement measures in Township	15
Total Revenue Cost		177.79

1.4 Proposed Remediation Plan and Natural & Community Resource Augmentation Plan (NCRAP)

The proposed fund allocation for remediation plan and Natural Resource Augmentation Plan are as given below.

Table 1.9 Proposed budgetary provisions for Damage Remediation Plan

Remediation plan & budgetary provisions				Action Plan		
SI NO	Activity Proposed	Total (₹)	Year 01	Year 02	Year 03	
1	Water Environment	Construction & installation of RO Plants (12 nos.) for supply of treated drinking water at 4 Revenue villages namely: Giddi 'Ka', Giddi 'Kha', Giddi 'Ga' and Kanki Panchayat with annual maintenance contract.	30,000,000	0	15,000,000	15,000,000
2		Deepening and pitch bouldering of existing pond in Tehratand village	4,000,000	0	2,000,000	2,000,000
3		Additional Water Sampling for analysis of Ground water at 3 locations namely Tehratand village, Kurkutta village and Kendiya village @ once in a quarter	350,000	116,667	116,667	116,667
4		Renovation of access steps to River Damodar at Shiv Mandir and beautification by Avenue plantation	3,600,000	0	1,800,000	1,800,000
Total Water Environment		₹ 3,63,50,000	₹ 1,16,667	₹ 1,89,16,667	₹ 1,89,16,667	
1	Ecology	Distribution of 10,000 Fruit bearing plants in nearby villages viz. Jamuna Tola, Kurkutta, Tehratand, Kalai Tola, Giddi Basti etc.,	1,500,000	7,50,000	7,50,000	0
Total Ecological Environment		₹ 1,500,000	₹ 7,50,000	₹ 7,50,000	0	
1	Air & Noise Environment	Additional Health Camps to monitor the respiratory and E&T health status of nearby villages. 1. Diabetic Camp (Quarterly) 2. Hypertension Camp (Quarterly) 3. Cancer Detection Camp (Quarterly) 4. Anaemia Detection Camp (Quarterly) 5. Cataract Detection and Treatment (Quarterly)	4,680,000	1,560,000	1,560,000	1,560,000
2		Additional avenue Plantation (2.1 Km) along with gabions and maintenance in subsequent years on village road connecting Giddi Basti and Project	4,000,000	1,500,000	1,500,000	1,000,000
Total Air Environment		₹ 86,80,000	₹ 30,60,000	₹ 30,60,000	₹ 25,60,000	
1	Land Environment	Providing colour coded bins in schools & hospitals in nearby villages	500,000	500,000	0	0
Total Land Environment		₹ 500,000	₹ 500,000	0	0	

Prepared by CMPDI, RI-III, Ranchi

**Final EIA & EMP of Giddi-A OCP
(187.98 Ha./ 1 MTPA)
Argada Area, Central Coalfields Limited**

1	Socio-Economic	Skill development training programme for Motor Driving and Sewing to approx. 100 persons/year	2,000,000	666,667	666,667	666,667
2		Construction of 04 no.of toilet at Tehratand Community Hall	2,000,000	1,000,000	1,000,000	-
3		Organizing Football & Volleyball events	1,800,000	600,000	600,000	600,000
4		Construction of 2 nos. Community halls (20 m X 50 m) at Giddi Ka Panchayat (kali Mandir Ground) & Giddi Kha Panchayat (Near hanuman Chowk).	15,000,000	-	7,500,000	7,500,000
5		Providing Computers at Madya Vidyalay & Shramik Uchh VIdyalay Giddi 'Ka', Balika Vidyalay Giddi 'Kha', Saraswati Sishu Vidya Mandir Giddi 'Ga', Saraswati Vidya Mandir Officers Colony. Total 35 nos.	1,050,000	525,000	525,000	-
6		Construction of Boundary wall at Sishu vidya mandir (900 ft Length and 6 ft Height	5,000,000	-	2,500,000	2,500,000
7		Additional awareness programs on Environmental protection	500,000	166,667	166,667	166,667
Total Socio-Economic Environment			₹ 27,350,000	₹ 29,58,333	₹ 1,29,58,333	₹ 1,14,33,333
Total Fund for remediation measures			₹ 7,59,80,000	₹ 73,85,001	₹ 3,56,85,001	₹ 3,29,09,998

=====

Prepared by CMPDI, RI-III, Ranchi

Final EIA & EMP of Giddi-A OCP
(187.98 Ha./ 1 MTPA)
Argada Area, Central Coalfields Limited

Table 1.11 Proposed budgetary provisions for Natural and Community Resource Augmentation Plan

SN	Head	Activity Proposed	Total	Action Plan		
				Year 01	Year 02	Year 03
1	Natural Resource Augmentation Plan	Renovation of 4 no. of wells at Giddi 'Kha' Panchayat	200000	200,000	-	-
2	Community Resource Augmentation Plan	Providing solar lamps (50 Watt) for street lighting at 5 Revenue Villages (100 Nos Approx.)	1500000	500,000	500,000	500,000
3		Arrangement of smart classes at nearby schools of Giddi A OCP	1500000	500,000	500,000	500,000
4		Construction of RWH at 4 no. of schools in adjacent villages	4000000	2,000,000	2,000,000	-
5		Construction of Shelter at Samshan Ghat	2000000	-	2,000,000	-
Total Fund for Natural & Community Resource Augmentation Plan (NCRAP)			92,00,000	32,00,000	50,00,000	10,00,000

===== X =====

Prepared by CMPDI, RI-III, Ranchi

(E) Budgetary Provisions For Compliance of Issues Raised in PH

Annexure XII Action Plan for Compliance of Issues Raised in PH			
S.No	Specific issues Raised	Proposed Action Taken	Budgetary Provision with timeline
1		PCC Road construction will be taken up from Urimari road to Kendiya Tola of Length 350 m	Tentative Budget: 27,07,000/-
			Status: proposal has been initiated after detailed field survey and obtaining permission from concerned panchayat.
			To be completed by Oct 2022.
2	Requirement of PCC Road, Drinking water, Electricity and playground for Youth at Kendiya Tola	It has been proposed to develop a Play-ground near Shishu vidya Mandir, Tehratand	Tentative Budget: 90,00,000/-
		Levelling of ground, Stage, Boundary wall.	Timeline of Completion: March 2023
3		02 nos. R.O. Plant at Giddi Ka	Tentative Budget: 90,00,000/- Status: Boring has been done. Construction of room and procurement of RO under process. Timeline of Completion: September 2022.
		02 nos. R.O. Plant at Giddi Ga Panchayat	Status: Proposal to be initiated. Tentative timeline: Dec 2022.
Additional Provision made for Compliance of Issues raised during PH in Rs. Lakhs			207.07