MINUTES OF THE 111TH MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), JHARKHAND HELD ON 26TH , 27TH, 28TH , 29TH and 30TH APRIL, 2024.

The 111th meeting of State Level Expert Appraisal Committee (SEAC), Jharkhand was held on 26th , 27th, 28th , 29th and 30th April, 2024 under the Chairmanship of Shri Ashok Kumar Singh, IFS (Retd.) in the Conference Room at SEAC, Ranchi.

The following members were present:

1. Shri Ashok Kumar Singh, IFS (Retd.) - Chairman
2. Shri Niranjan Lal Agarwalla - Member (Not present on 26.04.2024)
3. Dr. Raju Kumar - Member
4. Shri Ashok Kumar Dubey, IFS (Retd.) - Member
5. Dr. Ajay Govind Bhatt - Member
6. Shri Srikant Verma, IFS - Member Secretary

SEIAA forwarded various projects to the SEAC for the technical appraisal after the last SEAC meeting held on 17th, 18th, 19th, 20th & 21st October, 2023. These projects have been put up for discussions. Besides, these Projects, wherein PP's were asked to provide requisite information / clarifications in the earlier meeting of SEAC, were also considered for appraisal. The Project Proponents have been asked to make technical presentation for the appraisal of their projects before the committee.

The following observations /recommendations were made during the presentation (Project -wise), as under :-

Day 1 : April 26th, 2024 [Friday]

A. Deputy Commissioner cum District Magistrate, Deoghar or through authorized representative.

i. **Final District Survey Report (DSR) for Minor Minerals other than Sand Mining or River Bed Mining (Stone), Distt. Deoghar .**

The District Mining Officer (DMO), Deoghar Shri Subhash Ravidas vide e-mail dated 26.04.2024 sent letter no. 332/M, dated 26.04.2024 expressed his inability to attend the meeting on 26.04.2024.

He has also requested to defer the consideration of DSR till general election 2024 is completed. The said DSR will be taken up for consideration upon receiving request of DMO, Deoghar.

Day 2 : April 27th, 2024 [Saturday]

Consideration of proposals

1. **Rohini Expansion OCP (0.75 MTPA) of M/s Central Coalfields Limited (North Karanpura Area), Village : Tumang, Tehsil : Khalari, Distt.: Ranchi, Jharkhand (67.51 Ha).**

(Proposal no.: SIA/JH/CMIN/469533/2024)

Name of the consultant: CMPDI, Kanke Road, Ranchi

This is a existing project which has been taken for appraisal on 27.04.2024.

EC Application for: Opencast Coal Mining: 0.75 MTPA in an area of 67.51 Ha

Project Category : B 1 : 1 (a) (i) Mining of Minerals (Coal) as per EIA Notification, 2006.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 101st meeting held on 20-24.02.2023 and SEIAA, Jharkhand has approved the ToRs in 102nd meeting held on 17th & 18th March, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2742/2023/469, dated 24.03.2023. The final EIA / EMP submitted by PP to SEAC on 22.04.2024.

Rohini OCP is an existing coal mining project under North Karanpura Area located in the North Karanpura Coalfields, falling in Ranchi district of Jharkhand. This project had obtained environmental clearance for 3.30 MTPA within 255.68 Ha. from MoEF&CC vide letter no: J-11015/227/2007-IA-II (M) Dt. 21.02.2017.

As the mineable reserves within the EC boundary of Rohini OCP exhausted, it has been planned to exploit coal from 15.61 Ha. area within the Karkatta block and falling outside the EC Boundary of Rohini OCP. Subsequently, a mining plan has been prepared incorporating 51.90 Ha from the existing project and an additional 15.61 Ha from the Karkatta block.

Terms of Reference was issued by SEIAA, Jharkhand vide No: EC/SEIAA/2022-23/2742/2023/469 dated 24.03.2023. Public Hearing of the project was held on 23.09.2023 and Final EIA/EMP of Project has been prepared as per the ToR Prescribed by SEIAA, incorporating the minutes of public hearing.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Rohini Expansion OCP	
2	Project Proponent	:	Shri Jitendra Kumar Singh, Project Officer, Rohini OCP	
3	Address	:	Village: Tumang, Anchal: Khalari, Dist.: Ranchi, Jharkhand	
4	Area	:	Ha: 67.51 ha	Acres: 166.79 Acres
5	Type of Land	:	Forest Land: 47.68 Ha & Non-Forest Land: 19.83 Ha	
6	Project Cost	:	8326 Lakhs	
7	EMP Budget	:	Capital: 941 Lakhs	Recurring: 199 Lakh / year

8	PH Compliance Budget	:	Rs. 399.38 Lakhs (for compliance of action plan of Public Hearing)	
9	New or Expansion	:	Expansion	
10	Mineable Reserves	:	Coal: 1.90 Million Tonnes	OB: 5.25 Million Cu. M.
11	Mine Life	:	03 years	
12	Man power	:	457	
13	Water Requirement	:	680 KL/Day (Industrial Demand: 640 KLD & Domestic Demand: 40 KLD)	
14	Water Source	:	Mine seepage & rain water stored in mine sump	
15	DG Set / power	:	13.65 MW (one No independent single feeder with ACSR conductor from old KDH substation (1X10 MVA,33/11 kv))	
16	Crusher	:	No	
17	Nearest Water Body	:	Damodar River (0.5 KM)	
18	Nearest Habitation	:	Khalari (7 KM)	
19	Nearest Rail Station	:	Khalari (7 KM)	
20	Nearest Air Port	:	Ranchi (70 KM)	
21	Nearest Forest	:	Within Project boundary	
22	Road & Highways	:	State Highway No 7	

CO-ORDINATES:

1	Latitude		From 23°40'48.09" N	To 23°41'47.74" N
2	Longitude		From 84°58'46.71" E	To 84°59'17.74" E.

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The land has been acquired under the LA Act 1894 vide case no. LA 1/86- 87 and LA 4RV/87-88.
2	CO	:	The CO, Khalari vide letter no. 729(ii), dated 02.12.2022 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DFO Wild Life	:	DFO, Wildlife Division Ranchi vide letter no. 1148, dated 28.12.2022 and letter no 47 dated 11.01.2023 certified that the said project is out of Eco Sensitive Zone of Palkot Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Ranchi Division vide letter no. 134, dated 09.01.2023 certified that the distance of reserved / protected forest is less than 250 m from proposed project site.

5	Diversion of forest land	:	**Diversion of 74.81 ha** of forest land by MoEF&CC, Govt. fof India vide : i. F.no. 8-60/1994-FC dated 24.01.2013. ii. F.no. 8-60/1994-FC dated 30.07.2015.
6	Previous EC	:	Previous FC grated by MoEF&CC, Govt. of India vide letter no. J-11015/227/2007-IA.II(M)pt dated 21.02.2017
7	Existing CTE	:	CTE granted by JSPCPB vide Ref. no. JSPCB/HO/RNC/CTE-1309023/2018/284 dated 26.03.2018
8	Existing CTO	:	CTO granted by JSPCPB vide Ref. no. JSPCB/HO/RNC/CTO-14755723/2023/15 dated 03.01.2023
9	Baseline Data Generation Report	:	1st March, 2022 to 31st May, 2022 for 03 months.
10	Public Hearing	:	Public Hearing conducted by JSPCB on 23.09.2023.
11	CGWA	:	No Objection Certificate (NOC) for Ground Water Abstraction issued by CGWA vide NOC no. CGWA/NOC/ MIN/ORIG/2021/13980 dated 08.12.2021 valid up to 07.12.2023. Further, application for renewal of NOC was submitted on 06.12.23 vide application no. 21-4/359/JH/MIN/2019, which is in-principle approved in CGWA 166th EAC meeting dated: 19.04.2024.
12	Inspection / Monitoring Report	:	Inspection / Monitoring Report issued by Regional Office, MoEF&CC, Govt. of India vide letter no. 103-530/ROR-2017/86, dated 01.02.2024.
13	Approved Mine Plan	:	Mine Plan approved by Company Secretary of Central Coalfields Ltd., Darbhanga House, Ranchi vide Ref. no. C.S./B.M. / 527 / 2023 / 108, dated 18.05.2023.

Production Details: Since grant of previous EC

Year	Coal (in MT)	Year	Coal (in MT)
2017-18	3.29	2021-22	0.68
2018-19	3.29	2022-23	0.31
2019-20	2.94	2023-24	0.039
2020-21	1.48		

Working Details:

1	Mining Method	:	Shovel-Dumper Combination
2	Quarry Area	:	11.93 Ha
3	Waste Generation	:	5.25 Million Cu. M.
4	Stripping Ratio	:	2.76 Cu.M/Te
5	Working Days	:	365
6	Depth of quarry	:	85 m (maximum)
7	No of Seams considered	:	10 (Upper Bukbuka (Top), Upper Bukbuka (Middle), Upper Bukbuka (Bottom), Lower Bukbuka (Top), Lower Bukbuka (Middle), Lower Bukbuka (Bottom), Upper Dakra (Top), Upper Dakra (Bottom), Lower Dakra (Top), Lower Dakra (Middle)
8	Grade	:	G-11
9	Life	:	3 Years

Proposed Calendar Program:

Year	Coal Production (MT)	OB Removal (MCum)	Stripping Ratio (cum/Te)
1	0.40	1.10	2.75
2	0.75	2.07	2.76
3	0.75	2.08	2.77
Total	**1.90**	**5.25**	2.76

LAND DETAILS:

Forest Land:

SN	Village	Thana No.	Khata No.	Plots No.	Remarks
1	Tumang	5	44	261(P), 263(P),35(P),35/ 560(P),404(P), 421(P), 48(P), 48/561(P), 79(P)	Stage -II FC obtained of Forest land vide letter no. 8-60/1994-FC dated 30.07.2015

Non-Forest Land:

SN	Village	Thana No.	Khata No.	Plots No.

SN	Village	Thana No.	Khata No.	Plots No.
1	Tumang	5	10,11, 14,16, 17, 27, 28,29 38,42, 46,47,45	Tenancy: 80,175,176,180,183,211,213,218,222,224,234,242,256,257, 258, 259,260,418,419,420,422,424,425,180/549,224/550,411(P),413(P), 160,165,172,182,171, 173, 174,177,178, 179, 217, 219,220,221,231, 232,233,235,237, 239,240,241, 247,250, 251, 253,254,255,426, 427,430,431, 432,433,434, 435,436, 437,438, 236,441,161,162, 163,164, 166,170, 206, 207,208, 209,210,214, 215,216,223,229, 230,243,244, 245, 246,248,249, 252,428, 429,439,415,416,409(P), 262,410,181, 184,188,228,169,167,168 GMK: 81,238,417,423,440, 412(P), 421(P), 79(P), GMA: 212,225,226,227

LAND FALLING IN VILLAGE-TUMANG, THANA No.5, CIRCLE -KHALARI

KHATA NO.	PLOT NO.	TOTAL AREA AS PER KHATIAN (IN ACRES).	AREA REQUIRED FOR ROHINI EXPANSION OCP (IN ACRES)					
			TENANCY	GMK	GMA	FOREST	GMJJ	TOTAL
44	35(P)	79.40				13.84		13.84
44	48(P)	53.60				19.77		19.77
44	79(P)	44.50		3.03		17.79		20.82
10	80	0.14	0.14					0.14
44	81	0.60		0.60				0.60
44	261(P)	41.50				22.04		22.04
38	262	1.20	1.20					1.20
44	263(P)	52.00				38.35		38.35
44	404(P)	15.50				1.58		1.58
29	409(P)	2.25	1.16					1.16
38	410	0.83	0.83					0.83
11	411(P)	3.17	1.98					1.98
44	412(P)	0.98		0.67				0.67
11	413(P)	1.23	0.69					0.69
44	421(P)	7.20		0.10		1.28		1.38
44	35/560(P)	5.00				1.98		1.98
44	48/561(P)	7.85				1.18		1.18
14	160	0.13	0.13					0.13
28	161	0.33	0.33					0.33
28	162	0.34	0.34					0.34
28	163	1.40	1.40					1.40

28	164	0.03	0.03					0.03
14	165	0.05	0.05					0.05
28	166	0.07	0.07					0.07
47	167	0.06	0.06					0.06
47	168	0.09	0.09					0.09
46	169	0.79	0.79					0.79
28	170	0.39	0.39					0.39
16	171	0.16	0.16					0.16
14	172	0.84	0.84					0.84
16	173	0.06	0.06					0.06
16	174	0.17	0.17					0.17
11	175	0.21	0.21					0.21
11	176	0.34	0.34					0.34
16	177	0.38	0.38					0.38
16	178	0.09	0.09					0.09
16	179	0.20	0.20					0.20
11	180	0.23	0.23					0.23
42	181	0.35	0.35					0.35
14	182	0.58	0.58					0.58
11	183	0.26	0.26					0.26
42	184	0.02	0.02					0.02
42	188	0.54	0.54					0.54
28	206	0.17	0.17					0.17
28	207	0.02	0.02					0.02
28	208	0.15	0.15					0.15
28	209	0.30	0.30					0.30
28	210	0.79	0.79					0.79
11	211	1.20	1.20					1.20
45	212	0.11			0.11			0.11
11	213	0.52	0.52					0.52
28	214	0.14	0.14					0.14
28	215	0.73	0.73					0.73
28	216	0.55	0.55					0.55
16	217	0.60	0.60					0.60
11	218	0.15	0.15					0.15
16	219	0.57	0.57					0.57
16	220	0.02	0.02					0.02
16	221	0.02	0.02					0.02
11	222	0.75	0.75					0.75
28	223	0.39	0.39					0.39
11	224	0.07	0.07					0.07
45	225	0.57			0.57			0.57
45	226	0.01			0.01			0.01
45	227	0.02			0.02			0.02
42	228	0.01	0.01					0.01
28	229	0.06	0.06					0.06
28	230	0.38	0.38					0.38

16	231	0.30	0.30					0.30
16	232	0.31	0.31					0.31
16	233	0.36	0.36					0.36
11	234	0.44	0.44					0.44
16	235	0.42	0.42					0.42
17	236	0.07	0.07					0.07
16	237	0.71	0.71					0.71
44	238	0.49		0.49				0.49
16	239	0.44	0.44					0.44
16	240	0.14	0.14					0.14
16	241	0.09	0.09					0.09
11	242	0.55	0.55					0.55
28	243	0.06	0.06					0.06
28	244	0.26	0.26					0.26
28	245	0.16	0.16					0.16
28	246	0.24	0.24					0.24
16	247	0.05	0.05					0.05
28	248	0.27	0.27					0.27
28	249	0.15	0.15					0.15
16	250	0.06	0.06					0.06
16	251	0.10	0.10					0.10
28	252	0.06	0.06					0.06
16	253	0.32	0.32					0.32
16	254	0.38	0.38					0.38
16	255	0.62	0.62					0.62
11	256	0.05	0.05					0.05
11	257	0.29	0.29					0.29
11	258	0.12	0.12					0.12
11	259	0.03	0.03					0.03
11	260	1.06	1.06					1.06
29	415	0.87	0.87					0.87
29	416	0.65	0.65					0.65
44	417	0.08		0.08				0.08
11	418	0.23	0.23					0.23
11	419	0.26	0.26					0.26
11	420	0.15	0.15					0.15
11	422	0.76	0.76					0.76
44	423	0.08		0.08				0.08
11	424	1.56	1.56					1.56
11	425	1.13	1.13					1.13
16	426	0.40	0.40					0.40
16	427	0.08	0.08					0.08
28	428	0.06	0.06					0.06
28	429	0.10	0.10					0.10
16	430	0.03	0.03					0.03
16	431	0.21	0.21					0.21
16	432	0.12	0.12					0.12

16	433	0.08	0.08					0.08
16	434	0.08	0.08					0.08
16	435	0.25	0.25					0.25
16	436	0.10	0.10					0.10
16	437	0.12	0.12					0.12
16	438	0.10	0.10					0.10
28	439	3.12	3.12					3.12
44	440	1.54		1.54				1.54
27	441	1.00	1.00					1.00
11	180/549	0.33	0.33					0.33
11	224/550	0.08	0.08					0.08
TOTAL AREA IN ACRE			**41.68**	**6.59**	**0.71**	**117.81**	**0.00**	166.79
TOTAL AREA IN HECTARE			**16.87**	**2.67**	**0.29**	**47.68**	**0.00**	**67.51**

Land Type Breakup :

SL	Pattern	Area (in Ha)
1	Notified Forest Land	47.68
2	Tenancy Land	16.87
3	GMK & GMA Land	2.96
	TOTAL	**67.51**

Pre-Mining Land Use :

SL	Pattern	Area (Ha)
1	Non-Forest Land (land cover classification including infrastructure, waste land, vegetation etc.)	15.61
2	Old mine workings	51.90

Land Use During Mining :

SL	Pattern	Proposed Current Plan Period (Ha)
1	Quarry	11.93
2	Internal dump in old mine void	17.26
3	Greenbelt and Safety Zone	4.92
4	Top Soil Storage Area	1.93
5	Coal Stock Yard	1.04
6	Road	1.91

7	Vacant Land and Old Void	28.52
	TOTAL	**67.51**

Post-Mining Land Use Plan:

SL	During Mining		Post Mining	
	Particular	Total Area (in Ha.)	Particular	Total Area (in Ha.)
1	Quarry	11.93	Land to be further used for OB dumping of Proposed 10 MTY Rohini-Karkatta OCP	11.93
2	Internal dump in old mine void	17.26		17.26
3	Greenbelt and Safety Zone	4.92	Greenbelt and Safety zone	4.92
4	Top Soil Storage Area	1.93	Land to be further used for OB dumping of Proposed 10 MTY Rohini-Karkatta OCP	1.93
5	Coal Stock Yard	1.04		1.04
6	Road	1.91		1.91
7	Vacant Land	28.52		28.52
	Total Project Area	**67.51**	**Total Project Area**	**67.51**

ENVIRONMENT MANAGEMENT PLAN:

Green Belt Development Plan:

Year	Green Belt Development		Total		Total Plantation cost (in Rs. Lakhs)
	Area (Ha)	Trees (000)	Area (Ha)	Trees (000)	
Y1	4.92	12.3	4.92	12.30	147.60

Water Quality Management:

a) **Existing Measures:**

i) 1500 m length of garland drains have been provided all around OB dump to treat surface run-off and prevent soil erosion.

ii) Embankment along Damodar River to prevent surface run-off.

iii) 1200 m length of toe wall has been constructed along the OB dump.

iv) Catch/Storm drains have been provided in residential colonies/industrial installations.
v) Constructed two nos. of piezometer at PO Office and Workshop to monitor the ground water level.
vi) Water treatment plant with capacity of 1.30 MGD.
vii) Rainwater harvesting structure has been constructed at dispensary of Rohini Project with a dimension of 3mX2.4mX1.25m.
viii) The mine discharge water is being collected in two sumps on the dip side of the mine which are acting as settling ponds. The clean water is utilized for dust suppression of coal transport and haul roads.

b) Proposed Measures:

Proposed Control Measure			
Activity	**Details**	**Cost (in Rs. Lakh)**	**Timeline**
Effluent Treatment Plant (ETP)	Revamping of ETP in Workshop	10.00	ETP will be made operational prior to start of operation, it will be further revamped within 6 months
Water Treatment Plant (WTP)	Revamping of existing WTP	15.00	WTP is already operational, it will be further revamped within 6 months
Toe wall and garland drain/ catch drain	Toe wall, garland drain and catch drains around the OB Dumps	60.00	As per the mine development
Rainwater Harvesting Structure	Rain Water harvesting structures	07.00	Within 3 month of mine operation
Total Cost of proposed Water Pollution & Conservation Measures		**92.00**	

Coal Transportation Route:

Out of total coal production of 0.75 MTPA, following transport arrangement is proposed.

i) In pit: By Dumpers
ii) Surface to siding: Presently coal produced from the mine is dispatched (after crushing from -1200 mm size to -100 mm size in three Feeder Breakers) to nearby KDH railway siding for onwards dispatch to customers by Rail and Wagon loading at siding.

Air Quality Management:

a) Existing Measures:

i) 02 nos. of mobile water sprinklers of 28 KL capacity used for regular sprinkling of water on haul roads. 93 nos. of fixed water sprinklers have been installed in the coal transportation road.
ii) Control Blasting is being practised.
iii) 02 drills are equipped with wet drilling arrangement.
iv) WBM road of length 500 m & PCC road of around 3.2 km has been constructed and maintained for coal transport.
v) Coal Handling Plant at siding have been equipped with nozzle jet sprayers for dust suppression.
vi) Wind curtain/screen have been provided at railway siding for dust suppression.
vii) Regular plantation of trees is being done on the technically reclaimed area with the collaboration of State Forest Department. Plantation of about 2.53 Lakh plants over 103.00 Ha area within Rohini leasehold has been done till FY22-23.
viii) Personnel working in dusty areas have been provided with dust masks and provided adequate training and information on safety and health aspects.
ix) Adequate firefighting arrangements including storage of sufficient water at all critical points.
x) One CAAQMS has been installed at NK, GM Office
xi) One PM10 analyser has been installed for monitoring of PM10 at Railway Siding.

b) Proposed Measures:

Activity	Details	Cost (in Rs. Lakh)	Timeline
Wind Barriers (5 m Height) along west quarry boundary and coal stockyard to protect nearby human settlements.	400 m along mine boundary in west of quarry. 600 m along west of project boundary near coalstock yard protecting Tumang village.	100.00	Within 06 month of mine operation
Fixed Fog Canon	02 nos. of trolley mounted canon at stockyard for dust control	14.00	Within 01 year of mine operation
Truck Mounted Fog Canons	01 nos. of Fog cannon for dust control at coal transportation road.	45.00	
Continuous Ambient Air Quality Monitoring Station	Installation of 01 no. of CAAQMS at proposed PO Office of Rohini	60.00	
Total Cost of proposed Air Pollution prevention measures		**219.00**	

Socio-Economic Study:

i) Socio-economic study of core and buffer zone was carried out by M/S VRDS Consultants Pvt Ltd. Aurangabad, during March to May 2022.

ii) The study was carried out to assess the social profile, economic, infrastructure facilities, occurrence of historical / archaeological sites, occupational health survey and presence of important surface features etc. as per Census 2011. Also, to validate the census data, household survey of 250 households has to be collected.
iii) There is only one revenue village Tumang in core zone of the project. However, no settlement was observed within the project area, and hence this project doesn't involve any R&R.
iv) There are 4 CTs and 51 villages in the Buffer Zone with a total population of a total population of 110633 and 20948 households.
v) Occupational Health Survey with all aspects of health and safety in the workplace and nearby habitation was surveyed, and found that majority of health issues are related to generic lifestyle-based diseases viz. hypertension, heart attack, pneumonia etc.

Provision of Action Plan of Public Hearing:

i) Public consultation including public hearing was conducted on 23.09.2023 through JSPCB as per the as per the provisions/procedure contained in the EIA notification, 2006.
ii) A detailed compliance of issues raised in PH along with budgetary provision and timeline for Rs. 3.99 Crore has been prepared.

Solid Waste Management:

i) Overburden 5.25 Million Cu. M. will be generated which will be stored at the stipulated place and will be utilized as per approved mine closure plan.
ii) Municipal Solid Waste expected to be generated is 379.70 KG/Day. Segregation of waste will be done at the source itself. Recyclable waste will be handed over to the Govt. authorised recycling agency as per the MSW Rules, 2016. Bio-degradable waste will be dumped at composting site for decomposition and the output manure will be used by the project for the plantation and reclamation activities.

Wildlife Management Plan and Budgetary Provision:

i) There are no National parks, Sanctuaries, Biosphere Reserves, Wildlife corridors, Tiger/Elephant reserves (existing as well as proposed), within 10 km of the mine lease area.
ii) 06 Schedule I species viz. Elephant, Peafowl, Jackel, Jungle Cat, Wild Dog, Indian Porcupine etc have been observed in the study area.
iii) The Project authorities have submitted a Wildlife Conservation Plan to the Divisional Forest Officer Ranchi vide letter no. PO(RH)/forest/2024-25/110 dated 27.04.2024 for the Rohini Expansion OCP for approval.

Component	Provision in Lakhs
Conservation Measures for Schedule-I species	60 Lakhs (Capital) & 20 Lakhs (Revenue)

iv) Any suggestions with regard to Wildlife Management Plan will be accommodated prior to approval of competent Authority.

Total EIA/EMP Expenditure:

i) Total Capital Environmental Management Cost has been estimated as Rs. 941.23 Lakhs whereas the annual recurring management cost is assessed to be around 199.37 Lakhs. The detailed head-wise break-up is given below:

SN	Particulars	Capital Cost (in Lakh)	Revenue Cost (in Lakh)
1	Air Pollution Prevention measures	219.00	10.00
2	Water Pollution Prevention measures	92.00	25.00
3	Conservation measures for schedule-I species	60.00	20.00
4	Energy Conservation	23.25	0.00
5	Afforestation and Plantation	147.60	5.00
6	Environmental Monitoring Cost	0	139.37
7	Public Hearing COst	399.38	0.00
Total		**941.23**	**199.37**

Provision of Final Mine Closure:

i) Land reclamation and enrichment through plantation will be done to bring back the land-use as similar as possible to the pre-mining land as per the mine closure plan.

ii) Around 183.717 Crs has been provisioned for carrying out progressive and final mine closure activities

Status of Demand Raised under Common Cause Judgement in respect of Rohini OCP:

i) Demand Notice was issued for Rohini OCP on 23.11.2017.

ii) Revision application (RA Application No.02 of 2018-PCA) in respect of Rohini Opencast Project was filed before Revisional Authority of Ministry of Coal. Hearing for Revision Application No.27 was held on 16.01.2018 before the Revisional Authority, Coal Tribunal, Ministry of Coal, Government of India and Stay Order for the demand notices was issued on 16.01.2018.

Energy Conservation:

i) Roof top Solar Plant (35 kW) shall be installed at PO office resulting in approximately 10% of the total energy requirement.

ii) 06 numbers of Electrical Vehicle has been hired for 03 years.

iii) Periodical maintenance of equipment's, energy audits, optimization of distribution networks Promoting use of renewables and energy efficient appliances in Project and nearby villages.

Based on the presentation made and information provided, the Committee decided that the proposal for Rohini Expansion OCP (0.75 MTPA) of M/s Central Coalfields Limited (North Karanpura Area), Village : Tumang, Tehsil : Khalari, Distt.: Ranchi, Jharkhand (67.51 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with the following specific conditions :

I. **The Project Authorities will ensure that the Wildlife Management Plan is to be approved by the competent Authority within a period of 03 months from the date of issue of Environmental Clearance.**
II. **Water cannon, fixed type sprinklers, portable sprinklers and truck mounted water sprinklers to be provided for dust suppression in all dust prone areas.**
III. **All loading and unloading points of coal to be fitted with ADS system of dust suppression**
IV. **All haul kuccha roads to be kept moistened using chemical dosed water only such that no fugitive emission from the road becomes air borne.**
V. **Dust suppression actions to be commensurate with NCAP 2019 and ensure that Ambient Particulate matter levels is reduced by 40% by 2026.**
VI. **Sutaible Plants of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone. Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.**

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2. **Brick Soil Mining for M/s Lion Bricks, Village : Henjla, Thana : Kuru, Thana no. : 64, Distt. : Lohardaga, Jharkhand (0.38 Ha).**

(Proposal No : SIA/JH/MIN/ 470110/2024)

Project Category: **B2 – Application for Environment Clearance.**
EC Application for: **Earthwork / Soil Mining (1200 Cum Per Annum for using of making of 6,00,000 Bricks Per Annum)**

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 27.04.2024.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Brick Soil Mining for M/s Lion Bricks	
2	Lessee:	:	M/s Lion Bricks Proprietor-Deepak Kumar	
3	Lessee Address	:	At-Kuru, District-Lohardaga, Jharkhand-835213	
4	Lease Area	:	0.38 Ha.	Acres:
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	6.00 Lakhs	
7	EMP Budget	:	Capital: 3.14 Lakhs	Recurring: 2.14 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 6000 cum	Tonnes:
11	Mine Life	:	5 years	
12	Man power	:	10	
13	Water Requirement	:	Total 7.4 KLD Including Domestic (0.4 KLD), Dust Suppression (6.0 KLD) & Horticulture (1 KLD)	
14	Water Source	:	From nearby villages/Nearest Canal by tankers	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	Dhangarha River (8.20 km in North direction)	
18	Nearest Habitation	:	Kuru village (6.30m in West direction)	
19	Nearest Rail Station	:	Lohardaga Railway Station, 17.50 Km in West direction	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi, 55 km in South-East direction	
21	Nearest Forest	:	Nil	
22	Road & Highways	:	National Highway – 75 is about 0.50 km in South direction	

CO-ORDINATES

1	Latitude		N23°32'32.62"	TO N23°32'33.90"
2	Longitude		E84°52'23.47"	TO E84°52'28.31"

LAND DETAILS

Khata no.	Plot no.
135	635

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Kuru vide letter no. 1067, dated 29.05.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Lohardaga vide memo no. 1189/M, dated 06.10.2023 certified that 01 other mining lease area (2.44 Acre) exists within 500 m radius from proposed project site and total area is 3.38 Acre (less than 5 Ha).
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1026, dated 09.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Lohardaga Forest Division vide letter no. 1779, dated 07.10.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Lohardaga District (Serial no. 39, Page no. 29).
7	Gram Sabha	:	BDO, Kuru, Lohardaga vide letter no. 1214/Sa. Dated 06.10.2023 informed that Gram Sabha conducted on 23.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide Memo No. 1402/M, dated 02.12.2023.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been made by him.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.350 ha.	Life of Mine – 5Year
3	Waste Generation	:	NA	Life of Mine – 5Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	Highest elevation: 702m AMSL Lowest elevation: 701m AMSL	
8	Ground Level Elevation		701 m AMSL to 702 m AMSL	
9	Ultimate Working	:	2m	

	Depth		
10	Water Table	:	686m AMSL in Pre Monsoon to 692m AMSL in Post Monsoon
11	Topography of Mine	:	Almost flat
12	Explosive Requirement	:	Nil
13	Diesel/Fuel requirement	:	Nil

Production Details

Year	Production of Recoverable Soil Volume (in Cum)	Production of Brick Blocks (in nos.)
1st	1200	6,00,000
2nd	1200	6,00,000
3rd	1200	6,00,000
4th	1200	6,00,000
5th	1200	6,00,000
Total	**6000**	**30,00,000**

Land Use:

Type of land use	Present Land Use (In Ha)	At the end of Plan Period (In Ha)	At the end of life of mines (In Ha)
Road	0	0	0
Quarry	0	0.350	0.350
Safety Zone	0	0.030	0.030
Total Area in used	**0**	**0.380**	**0.380**
Balance unused Area	0.38	0	0
Total Applied Area	**0.38**	**0.380**	**0.380**

Protection Measures for Post Mine Closure Action Plan

The mine site will be properly fenced properly. A board of Do Not Enter, Only Authorized Access will be fixed near the water reservoir area and at the gate of the mine site.

1. A warning sign board will be erected at the site giving general information about the hazards at the site.
2. The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
3. Plantation is also proposed at the backfilled area along with around the benches.

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION	Area (Ha.)	No. of Trees
1	Safety Zone	0.048	120
2	Approach road	0.018	60
	Total	**0.058**	**180**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
m. No mining operation has been carried out on the proposed site till date.

Risk & Hazards Management

Risk Assessment

It is a small manual mining by tractor & haulage. No major risk is anticipated.
Some anticipated ricks are briefed below;

Minor Injuries

In Course of project activities during excavation of soil and its loading into tractor. There might be some minor personal Injury.

Road Accident

In course of haulage of soil to Brick kiln by tractor, road accident may happen.

Disaster Management Plan

i) Road Safety

Tractor driven will be instructed to ensure that speed of tractor on public road should be restricted to 15 KMPH.
Haulage road would be repaired & maintained regularly.
ii) An information centre would be maintained at office with telephone contact no. of local police station and hospital. In case of a road accident, police will be informed and arrangements would be made for medical aid to injured person.

iii) Arrangement for first aid to minor injuries to personnel working in the mine would be made in Temporary office.

Top Soil Management

During quarry development an amount of 700 cum of fertile top-soil will be generated and this produced top-soil will be preserved temporarily by dumping. This preserved top-soil will be spread concurrently over the excavated part of the land after the end of each year production of brick soil and grass cultivation will be done on it.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining for M/s Lion Bricks, Village : Henjla, Thana : Kuru, Thana no. : 64, Distt. : Lohardaga, Jharkhand (0.38 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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3. **Brick Soil Mining for M/s Gulab Bricks, Village : Chandkopa, Thana : Senha, Thana no. : 145, Distt. : Lohardaga, Jharkhand (1.15 Ha).**

   (Proposal No : SIA/JH/MIN/ 470153/2024)

   The Consultant vide letter dated 27.04.2024 requested for deferment of proposal. The Committee accepted the request for deferment.

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4. **Brick Soil Mining for M/s Royal Bricks, Village : Rahe, Thana : Kuru, Thana no. : 52, Distt. : Lohardaga, Jharkhand (0.43 Ha).**

   (Proposal No : SIA/JH/MIN/ 470066/2024)

   Project Category: **B2 – Application for Environment Clearance**

   EC Application for: **Earthwork / Soil Mining (1200 Cum Per Annum for using of making of 6,00,000 Bricks Per Annum)**

   Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

   This is a new project which has been taken for appraisal on 27.04.2024.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Brick Soil Mining for M/s Royal Bricks	
2	Lessee:	:	M/s Royal Bricks Proprietor-Tabrez Gouhar	
3	Lessee Address	:	At-Pandra P.O.-Pandra, District-Lohardaga, Jharkhand-835302	
4	Lease Area	:	0.430 Ha.	Acres:
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	8.00 Lakhs	
7	EMP Budget	:	Capital: 2.64 Lakhs	Recurring: 1.84 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 6611 cum	Tonnes:
11	Mine Life	:	6 years	
12	Man power	:	10	
13	Water Requirement	:	Total 7.4 KLD Including Domestic (0.4 KLD), Dust Suppression (6.0 KLD) & Horticulture (1 KLD)	
14	Water Source	:	From nearby villages/Nearest Canal by tankers	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	South Koel River (1.94 km in South-West direction)	
18	Nearest Habitation	:	Jingi village (1.31 m in South-West direction)	
19	Nearest Rail Station	:	Barkichanpi Railway Station, 14.47 Km in North-West direction	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi, 53.01 km in South-East direction	
21	Nearest Forest	:	Nil	
22	Road & Highways	:	National Highway – 39 is about 4.90 km in North direction	

CO-ORDINATES

1	Latitude		N23°29'30.54"	TO N23°29'32.85"
2	Longitude		E84°51'48.65"	TO E84°51'52.21"

LAND DETAILS

Khata no.	Plot no.
22	301 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Kuru vide letter no. 1034, dated 15.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Lohardaga vide memo no. 1154/M, dated 03.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 990, dated 03.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Lohardaga Forest Division vide letter no. 1748, dated 03.10.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Lohardaga District (Serial no. 32, Page no. 28).
7	Gram Sabha	:	BDO, Kuru, Lohardaga vide letter no. 1150/Sa., Dated 22.09.2023 informed that Gram Sabha conducted on 19.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide Memo No. 1182/M, dated 05.10.2023.
9	Qualified Person	:	Mr. P.K. Sen was present in the meeting and affirmed that the mine plan has been made by him.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.353 ha.	Life of Mine – 6Year
3	Waste Generation	:	NA	Life of Mine – 6Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	Highest elevation: 703m AMSL Lowest elevation: 702m AMSL	
8	Ground Level Elevation		702 m AMSL to 703 m AMSL	
9	Ultimate Working Depth	:	2m	

10	Water Table	:	683m AMSL in Pre Monsoon to 691m AMSL in Post Monsoon
11	Topography of Mine	:	Almost flat
12	Explosive Requirement	:	Nil
13	Diesel/Fuel requirement	:	Nil

Production Details

Year	Production of Recoverable Soil Volume (in Cum)	Production of Brick Blocks (in nos.)
1st	1200	6,00,000
2nd	1200	6,00,000
3rd	1200	6,00,000
4th	1200	6,00,000
5th	1200	6,00,000
Total	**6000**	**30,00,000**

Land Use:

Type of land use	Present Land Use (In Ha)	At the end of Plan Period (In Ha)	At the end of life of mines (In Ha)
Road	0.010	0	0
Blocked area due to Road Safety	0.017	0.017	0.017
Quarry	0	0.353	0.386
Safety Zone	0	0.027	0.027
Total Area in used	***0.027***	***0.397***	***0.430***
Balance unused Area	0.403	0.033	0
Total Applied Area	**0.430**	**0.430**	**0.430**

Protection Measures for Post Mine Closure Action Plan

The mine site will be properly fenced properly. A board of Do Not Enter, Only Authorized Access will be fixed near the water reservoir area and at the gate of the mine site.

1. A warning sign board will be erected at the site giving general information about the hazards at the site.
2. The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
3. Plantation is also proposed at the backfilled area along with around the benches.

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION	Area (Ha.)	No. of Trees
1	Safety Zone	0.027	70
2	Approach road	0	0
	Total	**0.027**	**70**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
m. No mining operation has been carried out on the proposed site till date.

Risk & Hazards Management

Risk Assessment

It is a small manual mining by tractor & haulage. No major risk is anticipated.
Some anticipated ricks are briefed below;

Minor Injuries

In Course of project activities during excavation of soil and its loading into tractor. There might be some minor personal Injury.

Road Accident

In course of haulage of soil to Brick kiln by tractor, road accident may happen.

Disaster Management Plan

i) Road Safety

Tractor driven will be instructed to ensure that speed of tractor on public road should be restricted to 15 KMPH.
Haulage road would be repaired & maintained regularly.
ii) An information centre would be maintained at office with telephone contact no. of local police station and hospital. In case of a road accident, police will be informed and arrangements would be made for medical aid to injured person.

iii) Arrangement for first aid to minor injuries to personnel working in the mine would be made in Temporary office.

Top Soil Management

During quarry development an amount of 772 cum of fertile top-soil will be generated and this produced top-soil will be preserved temporarily by dumping. This preserved top-soil will be spread concurrently over the excavated part of the land after the end of each year production of brick soil and grass cultivation will be done on it.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining for M/s Royal Bricks, Village : Rahe, Thana : Kuru, Thana no. : 52, Distt. : Lohardaga, Jharkhand (0.43 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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5. **Brick Soil Mining for M/s Sagar Bricks, Village : Nigni, Thana : Lohardaga, Thana no. : 144, Distt. : Lohardaga, Jharkhand (0.955 Ha).**

(Proposal No : SIA/JH/MIN/ 470058/2024)

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Earthwork / Soil Mining (1600 Cum Per Annum for using of making of 8,00,000 Bricks Per Annum)**

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 27.04.2024.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Brick Soil Mining for M/s Sagar Bricks	
2	Lessee:	:	M/s Sagar Bricks Proprietor-Sri Ramsagar Sahu	
3	Lessee Address	:	At-Nigni Kumba Toli, P.O.-Nigni, District-Lohardaga, Jharkhand-835302	
4	Lease Area	:	0.955 Ha.	Acres:
5	Type of Land	:	Non Forest – Rayati Land	

6	Project Cost	:	8.00 Lakhs	
7	EMP Budget	:	Capital: 5.14 Lakhs	Recurring: 2.04 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 15670 cum	Tonnes:
11	Mine Life	:	10 years	
12	Man power	:	12	
13	Water Requirement	:	Total 7.4 KLD Including Domestic (0.4 KLD), Dust Suppression (6.0 KLD) & Horticulture (1 KLD)	
14	Water Source	:	From nearby villages/Nearest Canal by tankers	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	South Koel River (5.10 km in East direction)	
18	Nearest Habitation	:	Nigni village (1.08 m in East direction)	
19	Nearest Rail Station	:	Lohardaga Railway Station, 4.00 Km in West direction	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi, 70 km in South-East direction	
21	Nearest Forest	:	Nil	
22	Road & Highways	:	National Highway – 143A is about 2.40 km in East direction	

CO-ORDINATES

1	Latitude		N 23°26'59.51"	N 23°27'3.76"
2	Longitude		E 84°40'7.85"	E 84°40'12.90"

LAND DETAILS

Khata no.	New Plot no.
524	2382, 2383, 2384, 2385 & 2386

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Lohardaga (Sadar) vide letter no. 1254 (I), dated 19.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Lohardaga vide memo no. 1162/M, dated 03.10.2023 certified that 01 other mining lease area (2.18 Acre) exists within 500 m radius

			from proposed project site and total area is 4.54 Acre (less than 5 Ha).
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1415, dated 05.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Lohardaga Forest Division vide letter no. 1681, dated 20.09.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Lohardaga District (Serial no. 22, Page no. 27).
7	Gram Sabha	:	BDO, Lohardaga Sadar vide letter no. 888, Dated 03.10.2023 informed that Gram Sabha conducted on 18.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide Memo No. 1228/M, dated 13.10.2023.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.474 ha.	Life of Mine – 10Year
3	Waste Generation	:	NA	Life of Mine – 10Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	Highest elevation: 702m AMSL Lowest elevation: 701m AMSL	
8	Ground Level Elevation		701 m AMSL to 702 m AMSL	
9	Ultimate Working Depth	:	2m	
10	Water Table	:	686m AMSL in Pre Monsoon to 692m AMSL in Post Monsoon	
11	Topography of Mine	:	Almost flat	
12	Explosive Requirement	:	Nil	
13	Diesel/Fuel requirement	:	Nil	

Production Details

Year	Production of Recoverable Soil Volume (in Cum)	Production of Brick Blocks (in nos.)
1st	1600	8,00,000
2nd	1600	8,00,000

3rd	1600	8,00,000
4th	1600	8,00,000
5th	1600	8,00,000
Total	**8000**	**40,00,000**

Land Use:

Type of land use	Present Land Use (In Ha)	At the end of Plan Period (In Ha)	At the end of life of mines (In Ha)
Blocked Area due to well safety	0.044	0	0
Quarry	0	0.474	0.915
Safety Zone	0	0.040	0.040
Total Area in used	0.044	0.534	0.955
Balance unused Area	0.911	0.421	0
Total Applied Area	0.955	0.955	0.955

Protection Measures for Post Mine Closure Action Plan

The mine site will be properly fenced properly. A board of Do Not Enter, Only Authorized Access will be fixed near the water reservoir area and at the gate of the mine site.

1. A warning sign board will be erected at the site giving general information about the hazards at the site.
2. The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
3. Plantation is also proposed at the backfilled area along with around the benches.

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION	Area (Ha.)	No. of Trees
1	Safety Zone	0.040	100
2	Approach road	0	0
	Total	**0.040**	**100**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as

per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.

e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
m. No mining operation has been carried out on the proposed site till date.

Risk & Hazards Management

Risk Assessment

It is a small manual mining by tractor & haulage. No major risk is anticipated.

Some anticipated ricks are briefed below;

Minor Injuries

In Course of project activities during excavation of soil and its loading into tractor. There might be some minor personal Injury.

Road Accident

In course of haulage of soil to Brick kiln by tractor, road accident may happen.

Disaster Management Plan

i) Road Safety

Tractor driven will be instructed to ensure that speed of tractor on public road should be restricted to 15 KMPH.

Haulage road would be repaired & maintained regularly.

ii) An information centre would be maintained at office with telephone contact no. of local police station and hospital. In case of a road accident, police will be informed and arrangements would be made for medical aid to injured person.

iii) Arrangement for first aid to minor injuries to personnel working in the mine would be made in Temporary office.

Top Soil Management

During quarry development an amount of 1830 cum of fertile top-soil will be generated and this produced top-soil will be preserved temporarily by dumping. This preserved top-soil will be spread concurrently over the excavated part of the land after the end of each year production of brick soil and grass cultivation will be done on it.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining for M/s Sagar Bricks, Village : Nigni, Thana : Lohardaga, Thana no. : 144, Distt. : Lohardaga, Jharkhand (0.955 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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6. **Brick Soil Mining for M/s Akriti Bricks, Village : Ekaguri, Thana : Senha, Thana no. : 190, Distt. : Lohardaga, Jharkhand (0.987 Ha).**

   (Proposal No : SIA/JH/MIN/ 469953/2024)

   The Consultant vide letter dated 27.04.2024 requested for deferment of proposal. The Committee accepted the request for deferment.

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7. **Brick Soil Mining for M/s Kamal Bricks, Village : Badla, Thana : Senha, Thana no. : 148, Distt. : Lohardaga, Jharkhand (1.11 Ha).**

   (Proposal No : SIA/JH/MIN/ 470157/2024)

   The Consultant vide letter dated 27.04.2024 requested for deferment of proposal. The Committee accepted the request for deferment.

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8. **Brick Soil Mining for M/s Pahi Bricks, Village : Serenghatu, Thana : Senha, Thana no. : 192, Distt. : Lohardaga, Jharkhand (1.12 Ha).**

(Proposal No : SIA/JH/MIN/ 470255/2024)

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Earthwork / Soil Mining (1600 Cum Per Annum for using of making of 8,00,000 Bricks Per Annum)**

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 27.04.2024.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Brick Soil Mining for M/s Pahi Bricks	
2	Lessee:	:	M/s Pahi Bricks Proprietor-George Kujur	
3	Lessee Address	:	At-Serenghatu, P.O.-Senha, District-Lohardaga, Jharkhand-835302	
4	Lease Area	:	1.12 Ha.	Acres:
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	8.00 Lakhs	
7	EMP Budget	:	Capital: 3.04 Lakhs	Recurring: 2.04 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 18689 cum	Tonnes:
11	Mine Life	:	12 years	
12	Man power	:	12	
13	Water Requirement	:	Total 7.4 KLD Including Domestic (0.4 KLD), Dust Suppression (6.0 KLD) & Horticulture (1 KLD)	
14	Water Source	:	From nearby villages/Nearest Canal by tankers	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	South Koel River (2.26 km in East direction)	
18	Nearest Habitation	:	Chitri village (1.18 m in North-East direction)	
19	Nearest Rail Station	:	Lohardaga Railway Station, 5.25 Km in North direction	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi, 65.88 km in South-East direction	
21	Nearest Forest	:	Nil	
22	Road & Highways	:	National Highway – 143A is about 2.0 km in West direction	

CO-ORDINATES

1	Latitude		N 23°24'10.13"	TO N 23°24'13.05"
2	Longitude		E 84°41'19.67"	TO E 84°41'25.31"

LAND DETAILS

Khata no.	Plot no.
35	79

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Senha (Lohardaga) vide letter no. 904, dated 18.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Lohardaga vide memo no. 1199/M, dated 07.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 650, dated 13.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Lohardaga Forest Division vide letter no. 2742, dated 20.10.2022 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Lohardaga District (Serial no. 06, Page no. 25).
7	Gram Sabha	:	BDO, Senha vide letter no. 1351, Dated 05.10.2023 informed that Gram Sabha conducted on 04.10.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide Memo No. 1374/M, dated 28.11.2023.
9	Qualified Person	:	Mr. P.K. Sen was present in the meeting and affirmed that the mine plan has been made by him.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.475 ha.	Life of Mine – 12Year
3	Waste Generation	:	NA	Life of Mine – 12Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	Highest elevation: 688m AMSL	
8	Ground Level Elevation		688m AMSL	
9	Ultimate Working Depth	:	2m	
10	Water Table	:	671m AMSL in Pre Monsoon to 679m AMSL in Post Monsoon	
11	Topography of Mine	:	Almost flat	
12	Explosive Requirement	:	Nil	
13	Diesel/Fuel requirement	:	Nil	

Production Details

Year	Production of Recoverable Soil Volume (in Cum)	Production of Brick Blocks (in nos.)
1st	1600	8,00,000
2nd	1600	8,00,000
3rd	1600	8,00,000
4th	1600	8,00,000
5th	1600	8,00,000
Total	**8000**	**40,00,000**

Land Use:

Type of land use	Present Land Use (In Ha)	At the end of Plan Period (In Ha)	At the end of life of mines (In Ha)
Road	0.02	0	0
Quarry	0	0.475	1.075
Safety Zone	0	0.045	0.045
Total Area in used	***0.02***	***0.520***	***1.120***
Balance unused Area	1.10	0.600	0
Total Applied Area	**1.12**	**1.12**	**1.12**

Protection Measures for Post Mine Closure Action Plan

The mine site will be properly fenced properly. A board of Do Not Enter, Only Authorized Access will be fixed near the water reservoir area and at the gate of the mine site.

1. A warning sign board will be erected at the site giving general information about the hazards at the site.
2. The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
3. Plantation is also proposed at the backfilled area along with around the benches.

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location	Area (Ha.)	No. of Trees
1	Safety Zone	0.045	115
2	Approach road	0.005	160
	Total	**0.050**	**275**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
m. No mining operation has been carried out on the proposed site till date.

Risk & Hazards Management

Risk Assessment

It is a small manual mining by tractor & haulage. No major risk is anticipated.
Some anticipated ricks are briefed below;

Minor Injuries

In Course of project activities during excavation of soil and its loading into tractor. There might be some minor personal Injury.

Road Accident

In course of haulage of soil to Brick kiln by tractor, road accident may happen.

Disaster Management Plan

i) Road Safety

Tractor driven will be instructed to ensure that speed of tractor on public road should be restricted to 15 KMPH.

Haulage road would be repaired & maintained regularly.

ii) An information centre would be maintained at office with telephone contact no. of local police station and hospital. In case of a road accident, police will be informed and arrangements would be made for medical aid to injured person.

iii) Arrangement for first aid to minor injuries to personnel working in the mine would be made in Temporary office.

Top Soil Management

During quarry development an amount of 2150 cum of fertile top-soil will be generated and this produced top-soil will be preserved temporarily by dumping. This preserved top-soil will be spread concurrently over the excavated part of the land after the end of each year production of brick soil and grass cultivation will be done on it.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining for M/s Pahi Bricks, Village : Serenghatu, Thana : Senha, Thana no. : 192, Distt. : Lohardaga, Jharkhand (1.12 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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9. **Brick Soil Mining for M/s Raja Bricks, Village : Barchorgain, Thana : Kisko, Thana no. : 88, Distt. : Lohardaga, Jharkhand (0.89 Ha).**

(Proposal No : SIA/JH/MIN/ 470154/2024)

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Earthwork / Soil Mining (1200 Cum Per Annum for using of making of 6,00,000 Bricks Per Annum)**

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 27.04.2024.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Brick Soil Mining for M/s Raja Bricks	
2	Lessee:	:	M/s Raja Bricks Proprietor-Tarkeshwar Sahu	
3	Lessee Address	:	At-Barchorgain, P.O.-Hisri, District-Lohardaga, Jharkhand-835302	
4	Lease Area	:	0.89 Ha.	Acres:
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	8.00 Lakhs	
7	EMP Budget	:	Capital: 5.14 Lakhs	Recurring: 2.04 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 12454 cum	Tonnes:
11	Mine Life	:	10 years	
12	Man power	:	10	
13	Water Requirement	:	Total 7.4 KLD Including Domestic (0.4 KLD), Dust Suppression (6.0 KLD) & Horticulture (1 KLD)	
14	Water Source	:	From nearby villages/Nearest Canal by tankers	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	Sukri Nadi (7.40 km in North-East direction)	
18	Nearest Habitation	:	Hisri village (1.65 m in North-East direction)	
19	Nearest Rail Station	:	Lohardaga Railway Station, 11.60 Km in East direction	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi, 76.15 km in South-East direction	
21	Nearest Forest	:	Nil	
22	Road & Highways	:	National Highway – 143A is about 8.66 km in East direction	

CO-ORDINATES

1	Latitude		N 23°26'36.34"	TO N 23°26'43.15"
2	Longitude		E 84°35'36.13"	TO E 84°35'39.28"

LAND DETAILS

Khata no.	Plot no.
63	939 & 940

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Kisko (Lohardaga) vide letter no. 701, dated 05.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Lohardaga vide memo no. 1197/M, dated 07.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1060, dated 11.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Lohardaga Forest Division vide letter no. 1750, dated 03.10.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Lohardaga District (Serial no. 53, Page no. 32).
7	Gram Sabha	:	BDO, Kisko (Lohardaga) vide letter no. 1017, Dated 17.10.2023 informed that Gram Sabha conducted on 10.10.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide Memo No. 1371/M, dated 28.11.2023.
9	Qualified Person	:	Mr. P.K. Sen was present in the meeting and affirmed that the mine plan has been made by him.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.354 ha.	Life of Mine – 10Year
3	Waste Generation	:	NA	Life of Mine – 10Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	Highest elevation: 683m AMSL Lowest elevation: 681m AMSL	
8	Ground Level Elevation		681 m AMSL to 683m AMSL	
9	Ultimate Working Depth	:	2m	

10	Water Table	:	664m AMSL in Pre Monsoon to 672m AMSL in Post Monsoon
11	Topography of Mine	:	Almost flat
12	Explosive Requirement	:	Nil
13	Diesel/Fuel requirement	:	Nil

Production Details

Year	Production of Recoverable Soil Volume (in Cum)	Production of Brick Blocks (in nos.)
1st	1200	6,00,000
2nd	1200	6,00,000
3rd	1200	6,00,000
4th	1200	6,00,000
5th	1200	6,00,000
Total	**6000**	**30,00,000**

Land Use:

Type of land use	Present Land Use (In Ha)	At the end of Plan Period (In Ha)	At the end of life of mines (In Ha)
Blocked Area due to road safety	0.073	0.073	0.073
Blocked Area due to infrastructure Safety	0.034	0.034	0.034
Road	0.015	0	0
Quarry	0	0.354	0.734
Safety Zone	0	0.049	0.049
Total Area in used	**0.122**	**0.510**	**0.890**
Balance unused Area	0.768	0.380	0
Total Applied Area	**0.890**	**0.890**	**0.890**

Protection Measures for Post Mine Closure Action Plan

The mine site will be properly fenced properly. A board of Do Not Enter, Only Authorized Access will be fixed near the water reservoir area and at the gate of the mine site.

1. A warning sign board will be erected at the site giving general information about the hazards at the site.
2. The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
3. Plantation is also proposed at the backfilled area along with around the benches.

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location	Area (Ha.)	No. of Trees
1	Safety Zone	0.049	125
2	Approach road	0	0
	Total	**0.049**	**125**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice

- Ambient air pollution monitoring shall be carried out every six months.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
m. No mining operation has been carried out on the proposed site till date.

Risk & Hazards Management

Risk Assessment

It is a small manual mining by tractor & haulage. No major risk is anticipated.
Some anticipated ricks are briefed below;

Minor Injuries

In Course of project activities during excavation of soil and its loading into tractor. There might be some minor personal Injury.

Road Accident

In course of haulage of soil to Brick kiln by tractor, road accident may happen.

Disaster Management Plan

i) Road Safety

Tractor driven will be instructed to ensure that speed of tractor on public road should be restricted to 15 KMPH.
Haulage road would be repaired & maintained regularly.

ii) An information centre would be maintained at office with telephone contact no. of local police station and hospital. In case of a road accident, police will be informed and arrangements would be made for medical aid to injured person.
iii) Arrangement for first aid to minor injuries to personnel working in the mine would be made in Temporary office.

Top Soil Management

During quarry development an amount of 1468 cum of fertile top-soil will be generated and this produced top-soil will be preserved temporarily by dumping. This preserved top-soil will be spread concurrently over the excavated part of the land after the end of each year production of brick soil and grass cultivation will be done on it.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining for M/s Raja Bricks, Village : Barchorgain, Thana : Kisko, Thana no. : 88, Distt. : Lohardaga, Jharkhand (0.89 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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10. **Brick Soil Mining for M/s Hero Bricks, Village : Barchorgain, Thana : Kisko, Thana no. : 88, Distt. : Lohardaga, Jharkhand (0.52 Ha).**

    (Proposal No : SIA/JH/MIN/ 470139/2024)

    The Consultant vide letter dated 27.04.2024 requested for deferment of proposal. The Committee accepted the request for deferment.

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11. **Puregara Stone Deposit of M/s Maa Bhagwati Traders (Partners : Shri Nikhil Kumar Singh & Shri Anil Kumar), Village : Puregara, Tehsil : Ranka, Distt. : Garhwa, Jharkhand (2.02 Ha).**

    (Proposal No : SIA/JH/MIN/ 469945/2024)

    Project Category: **B2 – Application for Environment Clearance**

    EC Application for: **Boulder Stone: 72210 Cu.M per year i.e. 202187 Tonnes per Year**
    Waste: 19001 Cu.m
    DG Set : NA

Mobile Crusher- NA

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 27.04.2024.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	PuregaraStone Deposit	
2	Lessee:	:	M/s MaaBhagwati Traders	
3	Lease Address	:	Mouza- Puregara, Thana- Ranka, Thana No. 101, Dist- Garhwa, Jharkhand	
4	Lease Area	:	Ha: 2.02 ha	Acres: 5.0 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	32.82 Lakhs	
7	EMP Budget	:	Capital: 7.82 Lakhs	Recurring: 1 Lakhs
8	CSR / CER Budget	:	Rs. 0.50 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M: 3,61,058 Cu. M.	Tonnes: 10,10,962 Tonnes
11	Mine Life	:	4 Years 11 Months	
12	Man power	:	40	
13	Water Requirement	:	36.7 KLD (Drinking: 0.4 KLD, Dust Suppression: 30 KLD, Plantation: 5.1 KLD	
14	Water Source	:	Water for drinking purpose will be sourced from hired tankers. For sprinkling & plantation water will be taken from hired tankers.	
15	DG Set / power	:	NA	
16	Crusher	:	No	
17	Nearest Water Body	:	Libatwa river 800m	
18	Nearest Habitation	:	Daltonganj, 27 KM	
19	Nearest Rail Station	:	Daltonganj Railway Station 27.21KM	
20	Nearest Air Port	:	Gaya International Airport 144.28 KM	
21	Nearest Forest	:	Siswa protected forest at 1.8 km towards East direction.	
22	Road & Highways	:	NH- 343, at a distance of 6.75 KM	

CO-ORDINATES

1	Latitude		N 23°56'35.33953"	N 23°56'41.96497"
2	Longitude		E 83°49'31.99969"	E 83°49'11176"

LAND DETAILS

Khata no.	Plot no.
125	874 (P) & 907 (P)

STATUTORY CLEARANCES

1	LOI/Lease docs	The Letter of Intent (LOI) has been issued by Assistant Mining Officer, Garhwa vide letter no. 1346/M, dated 18.10.2023.
2	CO	The CO, Ranka vide letter no.: 496, dated 16.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster Certificate	District Mining Officer, Garhwa vide memo no. 1456/M., dated 28.11.2023 certified that there is no other mining lease area exists within 500 m periphery from proposed project site.
4	DFO Wild Life	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no.: 780, dated 22.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Betla National Park, Mahuadanr Wolf Sanctuary & Palamau Tiger Reserve.
5	DFO Forest Distance	DFO, Garhwa South Forest Division vide letter no.: 2209, dated 16.09.2023 certified that the distance of reserved / protected Forest is more than 250 meter from proposed project site.
6	DSR	This project is mentioned in District Survey Report (DSR) of Garhwa District (Sl. No. 4, Page no. 80).
7	Gram Sabha	BDO, Ranka vide letter no. 749, dated 04.09.2023 informed that Gram Sabha conducted on 29.08.2023.
8	Mine Plan Approval	Approved by Assistant Mining Officer, Garhwa vide letter no. 1509, dated 15.12.2023.
	Qualified Person	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been made by him.

Working Details

1	Mining Method	:	Semi Mechanized. Jack Hammer, Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 1.57 Ha	Life of Mine – 1.57 Ha
3	Waste Generation	:	5 years– 19001 Cu.M	Life of Mine – 19001 Cu.M

4	Stripping Ratio	:	0.05:1
5	Working Days	:	300
6	Benches: size & No	:	6m x 6m, 8 nos.
7	Elevation of Mine	:	326 m AMSL
8	Ground Level Elevation		329 m AMSL
9	Ultimate Working Depth	:	281 m AMSL
10	Water Table	:	272 AMSL to 263 AMSL
11	Topography of Mine	:	Gentle slope
12	Explosive Requirement	:	31.5 Kg/day
13	Diesel/Fuel requirement	:	(300 Litres/day)

Production Details

Year	Production of stone in Tonnes	Production of stone in Cu.m	Production of soil in Cu.m	Intercalated waste in Cu.m
1st Year	182274	65098	3420	3426
2nd Year	193531	69118	3500	3638
3rd Year	211710	75611	630	3979
4th Year	211710	75611	0	3979
5th Year	211710	75611	0.	3979
Total	**1010935**	**361049**	**7550**	**19001**

Land Use

Particulars	Existing	Plan Period	Conceptual Period		
	Area in Hectare	Area in Hectare	Water body (In Ha)	Greenbelt (In Ha)	Public Use (In Ha)
Quarry	0	1.57	1.57	0	0
Plantation in Safety Zone	0	0.45	0	0.45	0
Road	0.01	0	0	0	0
Dumping	0	0.136	0	0	0

Parapet Wall and Garland Drain	0	0.01	0	0	0
Balance area unused	2.01	00	0	0	0
Total	**2.02**	**2.02**	**2.02**		

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.45 Ha	1125 trees
2	Other Reclaimed Area	:	NIL	NIL
3	Haul /Approach Road	:	166 m	166 trees (both side in single row)

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

- During first year gritty soil & intercalated waste will be dumped (6846 m^3) on North-East side over an area of 0.138 Ha. During 2^{nd} ,3^{rd}& 4^{th} year (15726 m^3) waste will be backfilled in mine void on upper benches on side. During fifth year wastes will be dumped on quarry floor.

- **Water Quality Management**

  - Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
  - Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
  - Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
  - Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
  - Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
  - Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

I. **Use of Sharp Drill Bits**
II. **Wet Drilling –** Water will be sprinkled on the site where drilling has to be done.
III. **Blasting –** Blasting generate gases & dust. This effect would be mitigated by following measures.
    a. Controlled blasting would be practiced
    b. Optimum quantity of explosives would be used.
    c. Blasting to be done during favorable weather conditions.
IV. **Operation of Diesel Equipment's –** They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.
V. **Loading of Product on Truck –** Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.
VI. **Movement of Trucks on Road –** Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken
    - ✓ Regular water sprinkling on Gaul road by using water Tankers.
    - ✓ Regular repair of Haul road
    - ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4

2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench

- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.

- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.

i. If any tree felling than necessary permission shall be taken from the competent authority.

j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Puregara Stone Deposit of M/s Maa Bhagwati Traders (Partners : Shri Nikhil Kumar Singh & Shri Anil Kumar), Village : Puregara, Tehsil : Ranka, Distt. : Garhwa, Jharkhand (2.02 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. **Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.**

II. **Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.**

III. **Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.**

IV. **Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.**

V. **Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.**

VI. **Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.**

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Day 3 : April 28th, 2024 [Sunday]

Consideration of proposals

1. **Proposed expansion of 650 bedded Hospital with Oxygen Plant for M/s Netaji Subhas Medical College and Hospital a unit of Sitwanto Devi Mahila Kalyan Sansthan at Village: Bhatia & Hathiadih, Thana no. : 60, Tehsil : Adityapur, Distt.: Saraikela Kharsawan, Jharkhand.**

   (Proposal No : SIA/JH/INFRA2 /470415/2024)

   Project Category: 8 (a) Category – Application for Environmental Clearance.

   EC Application for Hospital building: Total built-up area of 52184.06 Sqm. (Expansion 350 bedded Hospital to 650 bedded Hospital with Oxygen Plant)

   Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

   This is an expansion project which has been taken for appraisal on 28.04.2024

   The total Plot area 19243.20 sqm. and Built-up Area is 52184.06 sqm. will remain same as per previous Environment Clearance (EC) vide Letter No. EC/SEIAA/2022-23/2763/2023/42 dated 28/04/2023 under violation category.

   Project is classified as Category 8 (a) as per EIA Notification as the built-up area is less than 1,50,000 sqm. and development area is less than 50 ha.

Project and Location Details

Sr. No.	Particulars	
1.	Plot Area	19243.20 Sqm.
2.	Permissible FAR	2.25
3.	FAR Proposed @2.24	43106.04 Sqm.
4.	Total Built-up area	52184.06 Sqm.
5.	Green Cover area @28.99 Greenbelt area @15% Other Green area @13.99%	5578.91 Sqm. 2886.48 Sqm. 2692.43 Sqm.
6.	Ground Coverage @41.87%	8056.49 Sqm.
7.	**Total Parking area provided**	**10,000 Sqm.**
8.	Parking provided in Basement	7455 Sqm.
9.	Parking provided in open space	2445 Sqm.
10.	Open Area and Paved area	3162.8 Sqm.
11.	No. of Hospital Bed	650
12.	Rain Water Harvesting Pits (with size)	6 No (11117.89 Cumec / year)
13.	STP Capacity ETP Capacity	456 KLD 46 KLD

Sr. No.	Particulars		
14.	Maximum Height of the Building (m)		18 m
15.	Power Requirement Source		3 MVA JBVNL Supply
16.	Power Backup		750 KVA (2 x 125 KVA+ 2 x 250 KVA)
17.	Total Water Requirement		~465 KLD
18.	Fresh/Domestic Water Requirement		~282 KLD
19.	Reuse of Recycled Water		~183 KLD
20.	Waste water Generated		~388 KLD
21.	Solid Waste Generated (Operational)		~779 Kg/day
22.	Biodegradable waste (Operational)		~312 Kg/day
23.	Non-Biodegradable waste (Operational)		~467 Kg/day
25.	Number of Building		03 (Hospital Building)
26.	Bio Medical waste		715 Kg/day
27.	Basement		01
28.	Stories		B+G+5 (Maximum)
29.	R+U Value of Material used (Glass)		U-value-5.6 w/m^2 R-value- 0.17 w/m^2
30.	Total Cost of the project:		135 Cr.
31.	EMP Budget		During Construction: Capital: 32 Lakhs Recurring: 20.5 Lakhs
			Operational Cost: Capital: 280 Lakhs Recurring: 45.5 Lakhs
32.	Construction Phase:	i) Power Back-up	50 KVA each
		ii) Water Requirement & Source	Fresh water – 9 KLD Treated wastewater-12 KLD Source: Tanker Water
		iii) STP (Modular)	20 KLD
33.	Connectivity	Adityapur Railway Station Birsa Munda Airport	Approx. 2.86 Km towards SE Approx. 100 km towards North West

Existing and Proposed details

Sl. No.	Particulars	As per Existing EC Letter no. EC/ SEIAA /2022-23/2763/2023/42 dated 28/04/2023	Proposed	Total (After Expansion)
1.	Plot area	19243.20 Sqm	No Change	19243.20 Sqm

Sl. No.	Particulars	As per Existing EC Letter no. EC/ SEIAA /2022-23/2763/2023/42 dated 28/04/2023	Proposed	Total (After Expansion)
2.	Built-up area	52184.91 sqm.	No Change	52184.91 sqm.
3.	Green Cover area @28.9% Greenbelt area @15% Other Green area @13.9%	5578.91 Sqm. 2886.48 Sqm. 2692.43 Sqm.	No Change	5578.91 Sqm. 2886.48 Sqm. 2692.43 Sqm.
4.	Open and Paved area	3162.8 Sqm.	No Change	3162.8 Sqm.
5.	Proposed Ground Coverage @ 41.87%	8056.49 Sqm.	No Change	8056.49 Sqm.
6.	No. of RWH of Pits Proposed	6	No Change	6
7.	Total no. of Beds	350	300	650
8.	Total water requirement	255 KLD	210 KLD	465 KLD
9.	Fresh water requirement	155 KLD	127 KLD	282 KLD
10.	Treated water requirement	100 KLD	83 KLD	183 KLD
11.	Wastewater Generation	203 KLD	185 KLD	388 KLD
12.	STP Capacity	245 KLD	211 KLD	456 KLD
13.	ETP Capacity	25 KLD	21 KLD	46 KLD
14.	Source of water	Ground water	No change	Ground water
15.	Municipal Waste Generation Bio-degradable Non-biodegradable	418 Kg/day 167 Kg/day 251 Kg/day	361 Kg/day 145 Kg/day 217 Kg/day	779 Kg/day 312 Kg/day 467 Kg/day
16.	Bio-Medical waste generation	385 Kg/day	330 Kg/day	715 Kg/day
17.	Power requirement	3 MVA (JBVNL)	No Change	3 MVA (JBVNL)
18.	Power back up	750 KVA 2 x125 KVA +2 x 250 KVA	No Change	750 KVA 2 x125 KVA +2 x 250 KVA
19.	Total cost of the project	130 Crores	+ 5 Crores	135 Crores
20.	Oxygen Plant Capacity	650 LPM	No Change	650 LPM

Area Summary

S. No.	Details	Area (Sqm.)
1	**Total Plot area**	**19243.20**
2	Total Ground Coverage @ 41.87%	8056.49
3	**Permissible FAR@2.25**	**43297.20**

4	**Proposed FAR @2.24**	**43106.04**
5	Proposed Built-up Area Block A	17394.69
6	Proposed Built-up Area Block B	17394.69
7	Proposed Built-up Area Block C	17394.69
9	**Total Built-up Area**	**52184.06**
10	Green Cover area @28.99 Greenbelt area @15% Other Green area @13.99%	5578.91 Sqm. 2886.48 Sqm. 2692.43 Sqm.

Co-Ordinates:

1	Latitude		**22°48'6.97"N**
2	Longitude		**86° 8'17.18"E**

Land Details:

1	Village- Bhatia & Hathiadih Tehsil-Adityapur Thana No. 60 Dist.- Saraikela-Kharsawan State- Jharkhand		**Khata no.** 81	**Plot No.** 301 (P)

Site Surroundings and Connectivity Details

S. No.	Description		Distance and Direction
1.	Nearest Junction Nearest RailwayStation	Gamharia Junction Adityapur Railway Station	Approx. 3.71 Km, towards west Approx. 2.86 Km towards SE.
2.	Nearest Airport	Birsa Munda Airport	Approx. 100 km, North West
3.	Nearest Village	Adityapur Shridungri Kadma	Approx. 3.27 km, towards ESE Approx. 0.66 km, towards WNW Approx. 1.06 km, towards East
4.	Nearest Highway/Roads	NH-118 SH-5	Approx. 0.27 km, towards SSE Approx. 0.60 km, towards SW
5.	Nearest School & College	Kerala Public School Adarsh Vikash Vidyalaya Adityapur Govt. Polytechnic College Shree Ran Public School Adityapur	Approx. 4.85 km, towardsWNW. Approx. 3.60 km, towards West Approx. 1.70 km, towards SE Approx. 0.40 km, towards SE

6.	Nearest Hospital	ESI Hospital TMH Hospital Govt, Hospital Gamharia	Approx. 1.70 km, towards ESE. Approx. 4.36 km, towards East. Approx. 2.89 km, towards WNW
7.	Places of worship	Shri Shri saraswati Mandir Shiv Mandir Hatyadih Maa Mansa Mandir	Approx. 0.99 km, towards WNW Approx. 1.15 km, towards North. Approx. 1.55 km, towards South
8.	Water Bodies	Sitarampur Reservoir Kharkai River Subarnarekha River	Approx. 3.73 km, towards WSW. Approx. 0.92 km, towards East. Approx. 3.57 km, towards North
9.	Nearest Town	Adityapur	Approx. 2.86 km, towards SE.
10.	Sanctuary	Dalma Wild life Sanctuary	Approx. 12.53 km, towards NNE
11.	Reserve Forest/Zoo	Ukam Hill Forest	Approx. 11.54km, towards SSE

Details of Building Blocks

Building Block	No. Stories	No. of Floors	Height of the Building
Block A	B+G+5	6	Approx. 18 m.
Block B	B+G+5	6	Approx. 18 m.
Block C	B+G+5	6	Approx. 18 m.

Calculation of Population

Sl. No.	Hospital Block	Total Population
1	Hospital Bed	650
2	Attendant with patient (24 hours)	650
3	OPD Visitors	2000
4	All Staffs (Doctors, Nurses, Paramedical & non Paramedical staff, Security guard & other staffs)	1095
5	Kitchen & Pantry	50
	Total	**4445**

Parking Details

Block A Basement	2485 Sqm
Block B Basement	2485 Sqm
Block C Basement	2485 Sqm
Open Space Basement	2545 Sqm
Total Parking Area	**10,000 Sqm.**

Calculation of Green Area

Total Plot Area	19243.0 Sqm.
Landscape area provided	5578.91 Sqm.
Total No. of Trees required to be Planted @ 1 tree per 80Sq.m. of Plot Area	241 Nos.
Total No. of Trees to be planted @ 1600 trees per Ha.	893 Nos.

Water and waste water Details

Sl. No.	Hospital Block	Total Population	LPCD	Domestic	Flushing	Total Domestic water	Total Flushing water	Total Water requirement	Total waste water
1	Hospital Bed	650	450	300	150	195000	97500	292500	253500
2	Attendant with patient (24 hours)	650	100	60	40	39000	26000	65000	57200
3	OPD Visitors	2000	15	10	5	20000	10000	30000	26000
4	All Staffs (Doctors, Nurses, Paramedical & non Paramedical staff, Security guard & other staffs)	1095	45	20	25	21900	27375	49275	44895
5	Kitchen & Pantry	50	45	25	20	1250	1000	2250	2000
6	Laundry	-	-	-	-	5000	-	5000	4000
						282150	**161875**	**444025**	**387595**
	ETP & STP Requirement								
	Effluent generation @10% of total wastewater	39 KLD	Capacity of ETP (20% higher than total Effluent generation)				-	-	46 KLD
	Sewage generation @90% of total wastewater + Treated water from ETP	380 KLD	Capacity of STP (20% higher than total Sewage generation)				-	-	456 KLD
	Total treated water gen.	-	-	304 KLD (@ 80% of total waste water)					-
	DG Cooling	750 KVA	-	4500	-	-	-	4500	-
	Irrigation water 5578.91 Sqm @ 3 l/sqm.	-	-	16737	-	-	-	16737	-
	Total water requirement (One Time)	-	-	-	-	-	-	**465262**	-

Solid Waste and Bio Medical waste

Sl. No.	Hospital Block	Total Population	Kg per capita waste generation	Total waste generation (kg/day)	Bio-degradable waste	Non-bio degradable waste
1	Hospital Bed	650	-	-	-	-
2	Attendant with patient (24 hours)	650	0.45	292.5	117	175.5
	Staff day and night	-	-	-	-	-
4	All Staffs (Doctors, Nurses, Paramedical & non Paramedcal staff)	1095	0.15	164.25	65.7	98.55
5	Kitchen & Pantry	50	0.45	22.5	9	13.5
6	OPD Patient @ 3 of total no. of Beds	2000	0.15	300	120	180
	Total	-	-	**779**	**312**	**468**
	Bio medical waste generation		@1 Kg/day	650	-	-
	OPD BMW	-	-	65	-	-
	Total	-	-	**715**	-	-

Energy Conservation Measures

S. No.	Net Energy saved	
1.	Solar Based lighting will be done in the common areas, Signages, entry gates and boundary walls etc. @ 5%	150 KVA
2.	LED Based lighting will be done in the dwelling units	25.86 KVA
3.	Usage of energy efficient Lift (VVVF non gear lifts)	36 KVA
4.	**Total Energy saved**	**211.86 KVA**
5.	**Total Energy consumption**	**3000 KVA**
6.	**Total Energy saving**	**7.06 %**

Statutory Clearances:

1	Land Allotment Letter	The land has been allotted by JIADA vide Allotment order no. **LA/AD/SW/00860/200** dated 10.03.2022.
2	DFO Certificate	Divisional Forest Officer (DFO), Seraikela Forest Division vide letter no. 32, dated 07.01.2023 certified that the distance of forest boundary from proposed project is less than 250 m as the applied area is notified forest land, which has been transferred to AIADA, Adityapur for non – forestry work vide notification no. वनभूमि-47/2006-1910 व०प०, dated 01.07.2009 of Department of Forest & Environment, Govt. of Jharkhand.
3	DFO wildlife	DFO, Dalma Elephat Project vide letter no. 83, dated 07.01.2023 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
4	CO certificate	The CO, Gamharia Seraikela vide letter no. 1153 dated 30.12.2022 has certified that proposed project site belongs to forest land, for which Department of Forest & Environment, Govt. of Jharkhand has been transferred the said land to AIADA, Adityapur for non – forestry work vide notification no. वनभूमि-47/2006-1910 व०प०, dated 01.07.2009. CO has also informed that proposed project site has been transferred to M/s Nataji Subhas Hospital vide allotment order no. LA/AD/SW/00860/2022, dated 10.03.2022 for the period of 30 years.
5	Previous Environmental Clearance (EC)	Previous EC granted by SEIAA under violation category vide letter no. EC/SEIAA/2022-23/2763/2023/42, dated 28.04.2023.
6	Consent to Establish (CTE)	CTE granted by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-15158701/2023/320, dated 24.05.2023.
7	Certified EC Compliance Report	EC compliance report certified by JSPCB, Regional Office –cum-Laboratory, Adityapur, Jamshedpur vide Ref. no. 73, dated 27.01.2024.
5	Building Plan	Building plan approved by JIADA vide memo no. JIADA/BP/0043/2022, dated 02.06.2023.
6	CGWA	NOC No.- CGWA/NOC/INF/ORIG/2023/19491, Dated-28.10.2023 valid up to 27.10.2028.

7	Fire Department	A fire advisory has been issued by Fire Department, Jharkhad, Ranchi vide memo no. 4890/Tech./2023 dated 25.08.2023.

ENVIRONMENT MANAGEMENTF

Green Belt Development

- Combination of local trees and shrubs are planned within the project site, total 893 nos. of trees to be planted.
- Green cover will be provided in **5578.91** sqm. (@28.99% of plot area) which will enhance the beauty of the site and help combat air and noise pollution.
- The plant species will be selected on the basis of Guidelines for Developing Green Belts, CPCB March 2000.

Solid Waste Management

During Construction Phase

- Construction yards are proposed for storage of construction material.
- Excavated top soil will be stored in temporary constructed soil bank and will be reused for landscaping of the project.
- Remaining soil will be utilized for refilling/road work/raising of site level at locations.
- There will be "Refuse Containers" at site for the management of domestic waste generated by the construction labourers and these containers will be emptied at least once daily.
- Cement bags, waste paper and packing material (cardboard) will be sold off to recyclers.

During Operation Phase

- The solid waste will be segregated at source & collected.
- Adequate number of colored bins (green, white & Black) separate for bio-degradable, non-biodegradable and Hazardous waste are proposed to be provided at the strategic location within site.
- Bio-degradable (will be composted through organic waste converter).
- Recyclable wastes will be disposed to govt. or SPCB approved third party vendors.
- Dewatered sludge can be buried underground in a sanitary landfill. It also may be spread on agricultural land in order to make use of its value as a soil conditioner and fertilizer.
- The Hazardous waste generated will be managed as per the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016.
- Horticultural Waste is composted and used for gardening purposes.

Water Quality Management

During Construction Phase

- The site drainage will be planned in such a way that there is no accumulation of water/wastewater within the project premises or in the vicinity of the site.
- Mobile toilets to be provided for construction Labourers.
- Generated waste water will be collected through tankers and dispose to septic tank for treatment.

During Operation Phase

- STP of capacity i.e. 456 KLD & ETP of capacity 46 KLD is proposed for treatment of wastewater.
- Treated waste water would be reused for Horticulture, DG cooling, flushing and in nearby construction site/sewer.
- Use of water efficient plumbing fixtures to conserve water.
- Approx. 282 KLD of fresh water is required during operational phase of the project.

Air Quality Management

- Warehouse/stock yard will be provided for storage of construction material
- Covering of stored construction materials with tarpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions.
- Periodical Ambient Air Quality Monitoring.
- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

Solar Panels will be used in Street Lights, Common area, Pumping area.

The earlier EC being no. EC/SEIAA/2022-23/2763/2023/42, dated 28.04.2023 was granted under the violation category. The remediation plan and community resource augmentation plan being part of the said EC is to be implemented within the period 03 years from the date of earlier EC dated 28.04.2023. The present status of the execution of the remediation plan has been submitted.

Based on the presentation made and information provided, the Committee decided that the proposal for Proposed expansion of 650 bedded Hospital with Oxygen Plant for M/s Netaji Subhas Medical College and Hospital a unit of Sitwanto Devi Mahila Kalyan Sansthan at Village: Bhatia & Hathiadih, Thana no. : 60, Tehsil : Adityapur, Distt.: Saraikela Kharsawan, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –III alongwith the following specific conditions :

I. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

II. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

III. All raw material to be stored only under covered shed.

IV. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

V. Developers to promote energy conservation measures such that it offsets not less than 02 % of connected load. It is to be achieved by solar panels etc meeting ECBC norms.

VI. Trees should be developed & maintained not less than 15% of project area.

VII. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.

VIII. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

IX. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is collected and harvested including reuse on 100% basis.

X. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XI. Water runoff originating from open non constructed areas of project premises to be harvested /guided in such a way that it does not create water logging condition outside.

XII. Sufficient number of EV fast charging points to be installed.

XIII. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XIV. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

XV. A clearance of minimum 4.5 meter width drive way all around the constructed area must be provided for movement of fire tendors.

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2. **Proposed Common Bio-Medical Waste Treatment Facility (CBWTF) by M/s Royal Waste Management (OPC) Pvt. Ltd., Mouza : Pargodih, Tehsil : Jamua, Distt. : Giridih, Jharkhand.**

(Proposal No : SIA/JH/INFRA2/470321/2024).

Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

This is a new project which has been taken for appraisal on 27.04.2024.

Project Category : 7 (da) Common Bio-Medical Waste Treatment Facility as per EIA Notification, 2006 and subsequent amendments dated 1st December, 2009 & 17th April, 2015.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 108th meeting held on 19-25.09.2023 and SEIAA, Jharkhand has approved the ToRs in 109th meeting held on 27th & 28th September, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2776/2023/305, date 06.10.2023. The final EIA / EMP submitted by PP to SFAC on 24.04.2024.

S.No.	Parameters	Description
1.	Identification of Project	The Proposed project of CBWTF falls under Category B, schedule 7 (d)(a) as per the EIA Notification 14th Sep, 2006 and subsequent amendments dated 1st December, 2009 & 17th April, 2015.
2.	Project Proponent	**M/s Royal Waste Management (OPC) Private Limited.**
3.	Brief description of nature of the project	Biomedical waste is generated from all health care centres/institutions; nursing homes, clinics, dispensaries, veterinary institutions, animal houses, pathological laboratories, blood banks etc. The responsibility of collection, treatment and safe disposal of all types of biomedical wastes rests with the generator. A Common Bio-medical Waste Treatment Facility (CBWTF) is proposed to be set up where bio-medical waste, generated from a number of healthcare units, will be suitably treated as per the prescribed procedure & norms laid down in the regulation.

<table>
<tr><td></td><td></td><td>Proposed project of setting up of the Common Bio- medical Waste Treatment Facility includes Incinerator, Autoclave, Shredder and Effluent Treatment Plant. The present proposal is to utilize 0.63 ha land for setting up of Biomedical Waste Treatment Facility.</td></tr>
<tr><td>4.</td><td colspan="2">Salient Features of the Project</td></tr>
<tr><td>5.</td><td>Proposed plant capacity</td><td>Proposed Capacity of CBWTF:
<table>
<tr><th>Equipment</th><th>Capacity</th><th>Number</th></tr>
<tr><td>Incinerator (02 No.) standby</td><td>250 kg/hr</td><td>2</td></tr>
<tr><td>Autoclave</td><td>1000 liters/Batch</td><td>1</td></tr>
<tr><td>Shredder</td><td>150 kg/hr</td><td>1</td></tr>
<tr><td>Chemical Disinfection Tank</td><td>1500 Ltr</td><td>1</td></tr>
<tr><td>Effluent Treatment Plant</td><td>10 KLD</td><td>1</td></tr>
</table></td></tr>
<tr><td>6.</td><td>Category of Projects</td><td>Category “B” and Schedule- 7(d)(a)</td></tr>
<tr><td>7.</td><td>Number of working days</td><td>365</td></tr>
<tr><td>8.</td><td>Total Plot Area</td><td>0.63 ha</td></tr>
<tr><td>9.</td><td>Plot Number</td><td>84</td></tr>
<tr><td>10.</td><td>Location</td><td>Thana No.- 328, Khata No. - 97, Plot No. - 84, Mouza - Pargodih, Tehsil - Jamua, Dist. - Giridih, Jharkhand.</td></tr>
<tr><td>11.</td><td>Latitude & Longitude</td><td>
<table>
<tr><th>S.No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1.</td><td>24.409173°</td><td>86.176453°</td></tr>
</table></td></tr>
</table>

		2.	24.409601°	86.176810°
		3.	24.409481°	86.177052°
		4.	24.409939°	86.177302°
		5.	24.409832°	86.177519°
		6.	24.409216°	86.177331°
		7.	24.409180°	86.177162°
		8.	24.408651°	86.176881°
12.	Nearest habituated area	Jagarnathdih is located at 1.5 Km in SW direction.		
13.	Nearest Main Public Road	SH 13 approx 5.3 Km SSW Jamua Deoghar Road approx. 0.5 Km NW		
14.	Nearest Railway station/Airport	Duriatanr halt, approx. 8 Km West. Jamua Railway Station approx. 6.0 KM SSW. Deoghar Airport, approx. 55 km in East		
15.	Nearest water body	Barakar River, approx. 31 Km SW. Usri River 2.7 Km East.		
16.	Water requirement	Water requirement for the proposed CBWTF project is 11 KLD.		
17.	Source of water	Water requirement will be met through ground water supply. CGWA NOC is exempted as this is a MSME company.		
18.	Wastewater Generation	Waste water generated from the treatment of Biomedical waste during autoclaving, washing of floors, etc. is 5.25 KLD and it shall be treated in effluent treatment plant and reuse in process		
19.	Man Power	During Construction phase, the labors and workers will be hired from nearby villages. Total 25 persons are proposed to be hired for plant operation including officers, skilled and		

		unskilled workers.
20.	Air Pollution Control Device	Venturl Scrubber & Stack
21.	Nos. of Stack	1
22.	Power requirement	Total power requirement of will be around 62.5 KVA which will be taken from the Jharkhand Bijli Vitran Nigam Limited. DG Set of 82.5 KVA is proposed for the alternate Power Source.
23.	Alternative site	No Alternative site is examined
24.	Land form, Land use and land ownership	The land for project is located at Thana No.- 328, Khata No. - 97, Plot No. - 84, Mouza - Pargodih, Tehsil - Jamua, Dist.- Giridih, Jharkhand.
25	Total project cost	Rs. 3.10 Crore.

Land details :

Khata no.	Plot no.
97	84 (P)

Configuration and Production Capacities of the existing & Proposed Units

Equipment	Capacity	Number
Incinerator (02 No.) standby	250 kg/hr	2
Autoclave	1000 liters/Batch	1
Shredder	150 kg/hr	1
Chemical Disinfection Tank	1500 Ltr	1
Effluent Treatment Plant	10 KLD	1

Details of Storage Facilities:

S.No.	Storage Facility For	Facility
1.	Raw Materials	An isolated waste storage room shall be provided for

		Bio Medical Waste Storage.
2.	Industrial Effluent	Waste water (5.25 KLD) is being generated from the Industrial Process will be subjected to Proposed ETP (Capacity- 10.0 KLD). Treated water from (4.30 KLD) will be reused in scrubber for cooling purpose and green belt purpose.
3.	Hazardous Waste	TSDF/Authorized recyclers.

Water Requirement, Waste Water Generation & Mode of Disposal (KLD)

S.No.	Particulars	Total water requirement
1.	Incineration Process (Scrubbing)	2.40
2.	Steam Generation (Autoclaving)	0.20
3.	Miscellaneous i.e., Floor washing, Vehicle washing etc.	3.80
4.	Domestic Purpose	0.60
5.	Green Belt	4.0
Total		**11.00**

ZLD Scheme

- Waste water (5.25 KLD) is being generated from the Industrial Process will be subjected to Proposed ETP (Capacity- 10.0 KLD). Treated water from (4.30 KLD) will be reused in scrubber for cooling purpose and green belt purpose.
- The entire system shall be a zero-discharge system in terms of wastewater discharge from the process as recirculated through ETP.
- Domestic Wastewater shall be treated in a soak pit/septic tank.

S. No.	Requirement for	Water Consumption	Process Losses	Losses	Waste water generation	Recycled/ Reuse
A.	**Process (Scrubbing)**	2.40	1.40	0.20	1.00	0.0
B.	**Steam Generation (Autoclaving)**	0.20	0.05	0.5	0.15	0.00
C.	**Miscellaneous i.e., Floor washing, Vehicle washing etc.**	3.80	0.20	0.25	3.60	2.20
D.	**Domestic Purpose**	0.60	0.10	0.00	0.50	0.00
E.	**Green Belt**	4.0	4.0	0.00	0.00	2.10

Total (KL/Day)	**11.0 6.70 (Fresh) + 4.30 (Recycled)**	**5.75**	**0.50**	**5.25**	**4.30**

Power: Total power demand of the proposed unit would be 62.5 KVA which is being sourced from Jharkhand Bijli Vitran Nigam Limited. Green insulated DG Set of capacity 82.5 KVA (01No.) is proposed. (Proposed DG Set to be operated during emergency in case of power failure only).

Air pollution sources, fuel consumption and chimney height details:

Sl. No.	Stack attached to	Fuel used	Fuel consumption	No. of stacks	Stack height	Air pollution control Unit	Predicted emissions
1.	Proposed Green insulated DG set of capacity 35.0 KVA (01 Nos.)	HSD	15.0 Lit/hr approx.	01	1.5 m aboved from nearest Building HT	Stack	SO2, NOx, SPM
2.	Incineration Unit	HSD	65.0 Lit/Month Approx.	01	30 m AGL	Venturi Scrubber & Stack	SO2, NOx, SPM, Flue Gas

Industrial Solid waste and Hazardous waste

Total No. of Employees	25
Assuming per capita solid waste generation rate as 0.2 kg/capita/day	
Quantity of solid waste generated	5.0 kg/day
Organic solid waste: 60 % of the total waste	3.0 kg/day
Inorganic solid waste: 40 % of the total waste	2.0 kg/day
Disposal of domestic solid waste	Domestic wastes are segregated at source, collected in bins and composted.

Hazardous Waste:

Sl. No.	Source	Quantity of hazardous waste Generated (Approx.)	Category according to Schedule I of hazardous waste	Treatment/ Disposal
1.	Spent Oil from DG set	5.0 MTPA	5.1	Handed over to authorized recyclers/re-processors
2.	Discarded Containers /Barrels	100 Nos./Annum	33.1	Handed over to authorized recyclers/re-processors
3.	Sludge from Wet Scrubbers	1.0 MTPA	37.1	Send to TSDF / Co processing industries.
4.	Ash from incinerator and flue gas cleaning residue	5.0 MTPA	37.2	Send to TSDF / Co processing industries.

EMP budget

Cost for EMP during construction phase :

Sr. No.	Particulars	Approx. Capital Cost (Lac)	Approx. Recurring Cost (Lac)	Items Covered
1.	Toilets for workers	1	0.1	Toilets with septic tank
2.	Wind breaking curtains	0.5	0.1	Wind breaking walls at vulnerable areas
3.	Sprinklers for suppression of dust	0.5	0.2	Sprinklers, Pipeline
	Total	**2**	**0.4**	

Cost for EMP during Operational Phase

S.No.	Particulars	Approx. Capital Cost (Lac)	Approx. Recurring Cost (Lac)
1.	APCD (Ventury Scrubber)/quenching	25.00	1.5
2.	Effluent Treatment Plant	10.00	1.0
3.	Green Belt	2.00	0.50
4.	Public hearing commitment budgetary allocation	0	10
	Total	**37**	**13**

Time bound Action Plan: Based on public hearing and consultations
(Total budget 10 lakhs)

S.NO.	Details of Activities	1st Year (amount in lakhs INR)	2nd Year (amount in lakhs INR)	3rd Year (amount in lakhs INR)
1.	Plantation of (1100 saplings including timber& horticulture) in the vicinity of the project location including schools, roads as avenue plantation and prominent round abouts.	3.25	0.75	0.75
2.	Distribution of 25 water purifiers to nearby schools and aganwadi centers (AWCs) for Provisions of safe drinking water.	2	0.50	0.50
4.	Health Camp for local community for screening of general diseases	0.75	0.75	0.75

Statutory Clearances :

1	CO	:	The CO, Jamua vide letter no. 963, dated 11.10.2021 has mentioned the plot no. of the project is not recorded as "Jangal Jhari" in R.S. Khatiyan & Register II.
2	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 2063, dated 28.11.2021 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
3	DFO Forest Distance	:	DFO, Giridih West Forest Division vide letter no. 1322, dated 22.11.2021 certified that the distance of reserved / protected forest is more than 250 m from the proposed project site.
4	Civil Surgeon –cum- Chief Medical Officer	:	Civil Surgeon –cum- Chief Medical Officer, Giridih vide ref. no. 796, dated 17.03.2023 certified that there is no Common Bio-Medical Waste Treatment Facility available within 75 kms from the applied area.
5	Baseline Monitoring Report	:	1st March, 2023 to 31st May, 2023.
6	Public Hearing	:	JSPCB, Regional Office –cum- Laboratory, Hazaribagh vide letter no. 289, dated 22.02.2024 informed that Public Hearing conducted on 13.02.2024.

During the presentation the following documents were sought :

i. ToR point no. 13 have been required environment cost and benefit assessment. This has not been suitably addressed in Chapter 9 of EIA report. Accordingly, the PAs and the Consultant were asked to prepare environment cost and benefit assessment and include the same to the EIA report.

The same has been included in Chapter 9 of EIA report and sent to the SEAC vide e-mail dated 30.04.2024.

Based on the presentation made and information provided, the Committee decided that the proposal for Proposed Common Bio-Medical Waste Treatment Facility (CBWTF) by M/s Royal Waste Management (OPC) Pvt. Ltd., Mouza : Pargodih, Tehsil : Jamua, Distt. : Giridih, Jharkhand is recommended for grant of EC subject to uploading the revised EIA report in response to the ADS raised as per provisions of PARIVESH Portal 2.0 of MoEF&CC, Govt. of India. The various conditions for grant of EC is enclosed as Annexure –IV along with the following specific conditions :

I. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

II. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

III. All raw material to be stored only under covered shed.

IV. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

V. Developers to promote energy conservation measures such that it offsets not less than 02 % of connected load. It is to be achieved by solar panels etc meeting ECBC norms.

VI. Trees should be developed & maintained not less than 15% of project area.

VII. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

VIII. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

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3. **Enhancement of MS Billet Production from 15,000 TPA to 1,48,500 TPA through 3x15 T Induction Furnaces (by Replacing existing 1x6 T furnace with 1x15 T & Installing additional 2x15 T Furnaces along with CCM – 2x2 Strand), Slag Crusher from 2400 TPA to 30,000 TPA capacity and TMT Bars & Rolled Products from 13,500 TPA to 1,44,210 TPA by Modernization of Existing Rolling Mill from 1x5 TPH to 1x25 TPH capacity along with Electroplating unit of 20 TPD by M/s Tulshyan Metals Private Limited, Village : Gajhandi Road, Gumo Jhumri Telaiya, P.S. : Koderma, Dist. : Koderma, Jharkhand.**

(Proposal No. : SIA/JH/IND1/469495 /2024).

Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

This is an expansion project which has been taken for appraisal on 27.04.2024.

Project Category : 3 (a) Metallurgical Industries (Ferrous & Non-Ferrous) as per EIA Notification, 2006.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 107th meeting held on 16-20.08.2023 and SEIAA, Jharkhand has approved the ToRs in 108th meeting held on 27th & 28th August, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2023-24/2895/2023/252, date 01.09.2023. The final EIA / EMP submitted by PP to SEAC

on 24.04.2024.

Cost of the existing facilities is Rs. 10.0 crore, the total estimated cost of the project after the proposed expansion will be Rs 43. Crore.

Project Details :

S. No	Parameters	Description
1	Identification of project	Project falls under Metallurgical Industries (secondary metallurgical processing) Item 3(a) of the schedule of EIA notification of Sept 14, 2006 issued by MOEF & CC.
2	Project Proponent	**M/S Tulshyan Metals Pvt. Ltd.**
3	Brief description of nature of the project	The Proposed production capacity of MS Billet From 15,000 TPA to 148,500 TPA through 3x15T Induction Furnaces (by Replacing existing 1x6T furnace with 1x15T & installing additional 2x15T Furnaces along with CCM-2X2 Strand, Slag Crusher from 2400 TPA to 30,000 TPA capacity and TMT Bars & Rolled Products from 13,500 TPA To 144,210 TPA By Modernization of Existing Rolling Mill from 1x5TPH to 1x25 TPH Capacity along with Electroplating Unit of 20 TPD.
4	**Salient Features of the Project**	
4.1	Proposed production capacity	The production capacity of final/end product will be ~148500 TPA of MS Ingot/ billets and 144210 TPA of TMT Bars & Rolled products/Rods etc., Slag crusher 30,000 TPA.
4.2	Total Plot Area	Total Plot Area –2.70 Acre
4.3	Location	Gajhandi Road, Gumo, Jhumri Telaiya, District- Koderma, Jharkhand.
4.4	Water requirement	Water will be drawn from Bore well (after getting proper permission from CGWA) total process water requirement will be 233 KLD while 171 KLD will be recirculated and only 69 KLD water will be used as make up water. The plant has already taken ground water NOC vide application no. CGWA NOC no-CGWA/NOC/IND/ORIG/2023/18475 dated 12/05/2023. Permission is valid upto 10/05/2026.
4.5	Source of water	Borewell
4.6	Wastewater	The domestic water consumption will result in generation of ~2.5 m3/day of domestic wastewater. The wastewater will be

S. No	Parameters	Description
		treated and entirely reused.
4.7	Man Power	100 people
4.8	Electricity/Power requirement	The electrical power requirement will increase to ~22000 KVA. The power requirement will be met through DVC. One DG set of 250 KVA already installed (as power back-up).
4.9	Alternative site	The proposed addition will be established in the existing plant premises only.
4.10	Land form, Land use and land ownership	Private land, owned by M/S Tulshyan Metals Pvt. Ltd

Land Details :

Khata No.	Plot No.
97	104
34	105
100	103

Latitude & Longitude of the project :

Sl No.	Latitude	Longitude
1	24°25'57.894"N	85°29'23.137"E
2	24°25'57.668"N	85°29'24.942"E
3	24°25'58.683"N	85°29'25.122"E
4	24°25'58.300"N	85°29'27.378"E
5	24°25'57.510"N	85°29'27.333"E
6	24°25'56.653"N	85°29'30.515"E
7	24°25'55.953"N	85°29'33.109"E
8	24°25'54.284"N	85°29'32.207"E
9	24°25'55.592"N	85°29'27.897"E
10	24°25'56.472"N	85°29'23.295"E

Plant obtained CTE from Jharkhand State Pollution Control Board (JSPCB) vide letter no JSPCB/HO/RNC/CTE- 10604394/2021/240 dated 27.09.2021.

Consent to operate (CTO) vide Ref No. JSPCB/HO/RNC/CTO-14799109/2023/1732, dated 16.10.2023 with validity upto 30.09.2024 for the establishment of production of MS Billets with CCM-15000 TPA, Slag crusher-2400 TPA and rolled products (TMT Bars, angles, squares, structural products)-13500 TPA.

Configuration and Production Capacities of the existing & Proposed Units

Sl. No	Plant Facilities	Existing Installed Units and Capacity		Proposed Units and Capacity		Total after Expansion	
		Unit	Capacity	Unit	Capacity	Unit	Capacity
1.	Induction Furnace	1x6T	15,000 TPA MS Billets	Replacement of existing 1x6T by 1X15T and additional 2X15T	148500 TPA MS Billets	3X15T	**Hot MS Billets 148,500 TPA**
2.	Continuous Casting Machine	1x2 strand, Rad.- 4/7		1x2 strand Rad.- 4/7		2X2 strand Rad.- 4/7	
3.	Rolling Mill	1x5 TPH	13500 TPA	Modernizing the existing Rolling Mill from 1x5 TPH to 1x25 TPH	144210 TPA TMT Bars & Rolled Products/Rods etc.	1x25 TPH	**144,210 TPA TMT Bars & Rolled Products/rods etc.**
4.	Slag Crusher	--	2400 TPH	Replacement of existing facility by 1x10 TPH	30,000 TPA	--	**30,000 TPA**
5.	Electroplating unit	--	--	1*20 TPD	20 TPD	1X20 TPD	**20 TPD**

Salient Features of the Project existing & proposed

Sl no	Particulars	Existing	Proposed	After expansion final
1.	**Unit processes/ machinery**			

a	**Induction Furnace/ Continuous Casting Machine**	1x6T CCM 1x2 strand, Rad. - 4/7 15000 TPA M.S Billet	Replacement of existing 1x6T by 1x15T and additional 2x15T1x2 strand, Rad. - 4/7	1,48,500 TPA MS Billets
b	**Rolling Mill**	13500 TPA 1x5TPH	Modernizing the existing Rolling mill from 1X5 TPH to 1x25TPH	144,210TPA TMT Bars& Rolled Products/ Rods etc.
d	**Slag Crusher**	2400 TPA	Replacement of existing facility	30,000 TPA
			By 1x10 TPH	
e	**Electroplating Unit**	--	1*20 TPD	1*20 TPD
2	**Fixed capital investment (Rs)**	~10Cr	~33Cr	~43Cr
3	**Electrical power requirement**	~4500 KVA	~17500 KVA	~22000 KVA
4	**Sponge iron**	44 TPD	452 TPD	452 TPD
5	**Ferro-alloys**	1.0 TPD	11 TPD	11 TPD
6	**MS Scrap/Pig iron**	10 TPD	95TPD	95TPD
7	**Ingots/billets (Only for rolling)**	41 TPD	450 TPD	450 TPD
8	**Manpower requirement**	~40	~60	~100
9	**Makeup Water requirement**	10 m3 /day	~ 20 m3 /day	~ 30 m3 /day
10	**Domestic water requirement**	~2.0 m3/day	~ 3.0 m3/day	~5.0 m3/day
11	**Domestic wastewater generation**	~1.6 m3/day	~2.4 m3/day	~4.0 m3/day

12	**Solid Waste Slag Mill Scale**	Slag: 8.0 TPD Mill Scale: 0.4 TPD	Slag: 90 TPD Mill Scale: 4.0 TPD	Slag: 90 TPD Mill Scale: 4.0TPD
13	**Bag Filter Dust from the process**	30 TPA	~297TPA	~297 TPA
14	**APCD- Bag-House Filter**	01	01	01
15	**Fuel**	HSD- DG sets		
16	**ETP**	10 KLD		

Proposed Raw Materials Details

Sl no.	Raw Materials	Existing Requirement	Total Requirement after Expansion
1	Sponge iron	44 TPD	452 TPD
2	Ferro-alloys	1 TPD	11 TPD
3	MS Scrap +Pig iron	10 TPD	95TPD

Existing & Proposed Configuration and Production - Rolling Mill

Sl. No	Plant Facilities	Existing Installed Units and Capacity		Proposed Units and Capacity		Total after Expansion	
		Unit	Capacity	Unit	Capacity	Unit	Capacity
1.	Rolling Mill	1X5 TPH	13500 TPA	Modernizing the existing Rolling mill from 1X5 TPH to 1x25TPH	144,210 TPA TMT Bars & Rolled Products/Rods etc.	1x25TPH	**144,210 TPA TMT Bars & Rolled Products/ Rods etc.**

Raw Materials Details- Rolling Mill

Raw Materials	Existing	Total After Expansion
M.S Billet	41TPD	450 TPD

Raw Materials Requirement After Expansion

Raw Materials	Total Requirement After Expansion (TPD)	Source
MS Billets Production		
Sponge Iron	~452 TPD	Local Plants in Koderma. Through Road
Ferro-alloys	~11 TPD	Plants in Asansol. Through Road
MS Scrap/Pig Iron	~95TPD	Scrap- In-house & nearby Plants. Through Road Pig iron- Local Plants in Koderma Through Road
Rolling Mill – Angle, Flat Etc.		
Hot Billets/M.S. Billets	**450 TPD**	**Billets will be used for in-house rolling mill**
Electroplating Machine		
Zinc	20kg/day	Open Market
HCL	20lpd	Open Market
Salt	1 liter per tone	Open Market

Water Balance:

Particulars	Existing (KL)	Proposed (KLD)	Total after expansion (KLD)
Total water	31	202	233
Recirculated	17	154	171
Makeup	15	54	69

Sl. No	Units	Existing (KLD)			Total (KLD) after expansion		
		Total (KL)	Recirculated (KLD)	Makeup (KLD)	Total (KL)	Recirculated (KLD)	Makeup (KLD)
1	Induction Furnace	18	14	4	135	115	27
2.	CCM	5	0	5	5	0	5
2	Rolling Mill	5	2	3	40	20	20
3	Slag Caster	1	0	1	10	0	10
4	Domestic	2	0	2	3	0	3
5	Electroplating unit	0	0	0	40	36	4
	Total	**31**	**17**	**15**	**233**	**171**	**69**

Industrial Solid waste and Hazardous waste

Units	Solid Wastes	Qty	Disposal practice
Induction Furnace	Slag	~90 TPD	In-house metal recovery in slag crusher and supplied outside for further reuse in construction work.
	Broken Refractory	900kg/day	Bricks manufacturer and Paver blocks manufacturers Sabka Malik Ek Enterprise P.O.-Chirkunda, Dist- Dhanbad
Rolling Mill	Mill Scale	4 TPD	Will be charged back as scrap in the induction furnace for In-House Reuse.

Softening plant	Sludge	4kg/month	Reuse within the plant for earthing.
Industrial Manpower	MSW	45 kg/day	Local municipal suppliers

There is no hazardous waste from the plant except for used oil (approx. 0.2 KL/year) from equipment, which will be stored properly as per norms and is saleable to the registered recyclers in the market.

Green Belt :

The total greenbelt area is 40%. A greenbelt development plan will be prepared and implemented for the expansion project. Due to non availability of sufficient land within the industial premises, the PAs have proposed to developed green belt in the land adjacent the project premises own by him.

Water Management (Source and Supply of Water) :

The water will be stored in respective recirculation tanks for continuous recycle. The waterlosses, due to spillages and evaporation, will be constantly made-up by adding fresh water. Total cooling water make-up requirement will be about 60 m3/day. Out of this, the RO treated water requirement will be about of 36 m3/day (resulting in reject generation @ 5 m3/day). Industry will need a maximum of 5.0 m3/day of fresh water for domestic use. A part of the sanitation water requirement will be met from reuse of RO plant reject water.

Sewerage System :

The domestic water consumption will result in generation of ~4.0 m3/day of domestic wastewater. The wastewaters will be treated and entirely reused. The effluent generated will be treated in the ETP of capacity 10 KLD.

Public Hearing Budgeting Plan

S. No	Area of Concern	Activities	Year of Implementation (Budget in INR)					Total Expenditure (Rs.)
			1st Year	2nd Year	3rd Year	4th Year	5th Year	
01.	Vocational Training for Skill	The project proponent will provide financial support to the 50 students /year. (Rs. 20000X50 person X5	10.0 Lakhs	10.0 Lakhs	10.0 Lakhs	10.0 Lakhs	10.0 Lakhs	50.0 Lakhs

	Development	years)?? We should also mention the type of students						
02.	Medical Facility	Generic health checkup camp will be organized for villagers within 2 km of the project site till the upcoming 5 years from the execution date of the project	2.0 Lakhs	2.0 Lakhs	2.0 Lakhs	2.0 Lakhs	2.0 Lakhs	10.0 Lakhs
	Green Belt Development	Tree plantation with Gabion along road side in nearby village.	10.0 Lakhs					10.0 Lakhs
0.3	Community Development	Installation of solar lighting in village Gumo (Rs. 25,000 x 40) Nos.) &	--	5.0 Lakhs	5.0 Lakhs	--	--	10.0Lakhs
		Renovation of School building and Smart Class room with Wi-Fi connectivity in nearby Government Schools in Village Gumo	--	17.5 Lakhs	--	--	--	17.5 Lakhs
		Construction of 4+4 nos. of Borewell along with overhead water tanks in village Gumo & Diodih			10.0 Lakhs			10.0 Lakhs
	Total		**22.0 Lakhs**	**34.5 Lakhs**	**27.0 Lakhs**	**12.0 Lakhs**	**12.0 Lakhs**	**107.5**

EMP budget plan

Sl. No.	Title	Capital Cost Rs. Lacs	Recurring Cost Rs. Lacs (Annum)
1	Air Pollution Control	60.00	15.00
2.	Effluent Treatment Plant	15.00	6.00
3.	Noise Pollution Control (Including cost of Landscaping, Green Belt)	10.00	2.00
4.	Solid Waste Management	5.00	2.00

5.	Environment Monitoring and Management (Including Establishment of Laboratory)	15.00	0.5
6.	RWH Pond	15.00	2.00
7.	Miscellaneous (Appointment of Consultants, occupational health & safety measure)	5.00	1.0
8.	Public Hearing Budget Plan	0	107.5
	Total	**125**	**136**

STATUTORY CLEARANCES :

1	Lease docs	:	Private land, owned by M/s Tulshyan Metals Private Limited.
2	DFO Forest Distance	:	DFO, Koderma Division vide letter no. 2498, dated 10.06.2023 certified that the distance of reserved/protected forest is 270 m from project site.
3	DFO Wildlife	:	DFO, Wildlife Hazaribagh vide letter no. 1670, dated 03.08.2023 certified that proposed project site is outside Eco Sensitive Zone of Koderma Wildlife Sanctuary.
4	CO certificate	:	The CO, Koderma vide letter no. 851, dated 13.05.2023 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan.
5	Consent to Establish (CTE)	:	**CTE** issued by JSPCB vide Ref. no. : JSPCB/HO/RNC/CTE-10604394/2021/240, dated 27.09.2021.
6	Consent to Operate (CTO)	:	**CTO** issued by JSPCB vide i. Ref. no. : JSPCB/HO/RNC/CTO-11520314/2022/137, dated 04.02.2022. ii. Ref. no. : JSPCB/HO/RNC/CTO-14799109/2023/1732, dated 16.10.2023.
7	CGWA	:	No Objection Certificate (NOC) for Ground Water Abstraction issued by CGWA vide NOC no. CGWA/NOC/IND/ORIG/2023/18475, dated 12.05.2023 valid up to 10.05.2026.
8	Baseline monitoring report	:	1st March, 2023 to 31st May, 2023.

9	Public Hearing	:	Public Hearing conducted on 12.01.2024

Based on the presentation made and information provided, the Committee decided that the proposal for Enhancement of MS Billet Production from 15,000 TPA to 1,48,500 TPA through 3x15 T Induction Furnaces (by Replacing existing 1x6 T furnace with 1x15 T & Installing additional 2x15 T Furnaces along with CCM – 2x2 Strand), Slag Crusher from 2400 TPA to 30,000 TPA capacity and TMT Bars & Rolled Products from 13,500 TPA to 1,44,210 TPA by Modernization of Existing Rolling Mill from 1x5 TPH to 1x25 TPH capacity along with Electroplating unit of 20 TPD by M/s Tulshyan Metals Private Limited, Village : Gajhandi Road, Gumo Jhumri Telaiya, P.S. : Koderma, Dist. : Koderma, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V alongwith following specific conditions :

I. MoU is to be executed with the buyers of the use refractory material before this expansion project comes into operation. Copy of MoU to be submitted SEIAA / SEAC, Jharkhand before expansion project comes into operation.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto 20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

VI. Developers to promote energy conservation measures such that it offsets not less than 02 % of connected load. It is to be achieved by solar panels etc meeting ECBC norms.

VII. Trees should be developed & maintained not less than 33% of project area.

VIII. Developers/Company to install ETP and / or STP of sufficient capacity such that all the waste water produced is treated and reused.

IX. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is collected and harvested including reuse on 100% basis.

X. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XI. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XII. Suitable plants of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

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4. **Enhancing the production of TMT bars from 27,000 TPA to 1,44,210 TPA by modernization the existing re-rolling mill and proposed production of 1,48,500 TPA of M.S. Billet by addition of 3 nos. of induction furnace of capacity 15 ton each with CCM – 2x2 strand & slag crusher 29,700 TPA by M/s Shailputri Iron and Steels Pvt. Ltd., Mauza : Ajidih, Distt. : Giridih, Jharkhand.**

(Proposal No : SIA/JH/IND1 /469369/2024)

Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

This is an expansion project which has been taken for appraisal on 27.04.2024.

Project Category : 3 (a) Metallurgical Industries (Ferrous & Non-Ferrous) as per EIA Notification, 2006.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 103rd meeting held on 14-18.04.2023 and SEIAA, Jharkhand has approved the ToRs in 104th meeting held on 27th & 28th April, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2796/2023/66, date 02.05.2023. The final EIA / EMP submitted by PP to SEAC on 24.04.2024.

S. No	Parameters	Description
1	Identification of project	Project falls under Metallurgical Industries (secondary metallurgical processing) Item 3(a) of the schedule of EIA notification of Sept 14, 2006 issued by MOEF & CC.
2	Project Proponent	**M/S Shailputri Iron & Steels Pvt. Ltd.**
3	Brief description of nature of the project	Enhancing the production of TMT bars from 27000 TPA to 144,210 TPA by modernizing the existing re-rolling mill and proposed production of ~148500 TPA of M.S billet by addition of 3 nos. of induction furnace of capacity 15 ton each with CCM-2x2strand & slag crusher 29700 TPA.

S. No	Parameters	Description
4	**Salient Features of the Project**	
4.1	Proposed production capacity	The production capacity of final/end product will be ~148500 TPA of MS Ingot/ billets and 144210 TPA of TMT Bars & Rolled products/Rods etc. Slag Crusher 29700 TPA
4.2	Total Plot Area	Total Plot Area –2.76 Acre
4.3	Location	Mauza -Ajidih, P.S -Ajidih, District -Giridih, State- Jharkhand
4.4	Water requirement	Water requirement is fulfilled through bore well made at plant at the plant area and from the rain water harvesting pond. Over all water requirement for the proposed expansion project will be approx. 188 KLD out of which 135 KLD will be re-circulated in the process and 60 KLD will be makeup water. The plant has already taken ground water NOC vide application no. CGWA NOC no- CGWA/NOC/IND/ORIG/2023/18967 dated 03/08/2023. Permission is valid upto 27/07/2026.
4.5	Source of water	Borewell
4.6	Wastewater	The domestic water consumption will result in generation of ~2.5 m3/day of domestic wastewater. The wastewater will be treated and entirely reused.
4.7	Man Power	Around 76 persons
4.8	Electricity/Power requirement	The electrical power requirement will increase to ~12000 KVA. The power requirement will be met through DVC. One DG set of 500 KVA already installed (as power back-up).
4.9	Alternative site	The proposed addition will be established in the existing plant premises only.
4.10	Land form, Land use and land ownership	Private land, owned by M/S Shailputri Iron & Steels Pvt. Ltd

Latitude & Longitude of the project :

Latiude	Longitude
24° 09'09.387"N and 24°09'14.525"N	86°20'25.759"E and 86°20'30.540"E

Land Details :

Khata No.	Khesra No.
28	474, 475, 476, 477, 469, 470, 471, 472 & 473
21	421
51	480
25	478
70	457
71	419, 409, 410, 411, 412, 417 & 418

Note – Additional Land Khata no. 76 , Plot no 535 for the purpose of complying with requirement of green belt development over an area of 33% of the total project area (Project area is the total of the actual project permises and the additional area proposed for green belt development).

Green belt on additional land :

SL. NO.	TYPE OF USE	%	AREA (Acre)	AREA (Ha)
1.	Plant production & Processing area	63	1.75	0.7
2.	Green area/Landscape	14	0.38	0.1538
3.	Road & Other Services	15	0.41	0.16
4.	Open Area	8	0.22	0.089
	Total		**2.76**	**1.11**
	Additional Green area	21	0.91	0.37
	Grand Total		**3.67**	**1.48**

Cost of the existing facilities is Rs. 20 Crore, the total estimated cost of the project after the proposed expansion will be Rs. 80 Crore.

Plant obtained CTE from Jharkhand State Pollution Control Board (JSPCB) vide letter no JSPCB/HO/RNC/CTE- 9729779/2021/115 dated 31.03.2021.

Consent to operate (CTO) vide Ref No. JSPCB/HO/RNC/CTO-12796754/2022/579, dated 12.05.2022. with validity upto 31-03-2025 for the establishment of production of 27,000 TPA of TMT Bar.

Configuration and Production Capacities of the existing & Proposed Units

Sl. No	Plant Facilities	Existing Installed Units and Capacity		Proposed Units and Capacity		Total after Expansion	
		Unit	Capacity	Unit	Capacity	Unit	Capacity
1.	Induction Furnace	--	NIL	Installation of 3x15 T	148500 TPA MS Billets	3x15T	**148500 TPA MS Billets**
2.	Continuous Casting Machine	--		2x2 strand, Rad. - 4/7		2x2 strand, Rad. - 4/7	
3.	Rolling Mill	1x5 TPH	27000 TPA	Modernization of existing 1x5 TPH capacity Rolling Mill To 1x25 TPH capacity)	144,210 TPA TMT Bars & Rolled Products/Rods etc.	1x25TPH	**144,210 TPA TMT Bars & Rolled Products/Rods etc.**
4.	Reheating Furnace (Coal Fired)	--	50 TPH	--	--	50TPH (Will be operated only in the case of need)	**50TPH (Will be operated only in the case of need)**
5.	Slag Crusher	--	-	By 1x10 TPH	29700 TPA	--	**29700 TPA**

Water Requirement

Particulars	Existing (KL)	Proposed (KLD)	Total after expansion (KLD)
Total water	42	146	188
Recirculated	20	115	135
Makeup	22	38	60

Sl. No	Units	Existing (KL)			Proposed (KLD)		
		Total	Recirculated	Makeup	Total	Recirculated	Makeup
1	Induction Furnace	0	0	0	135	115	27
4	Rolling Mill	40	20	20	40	20	20
5	Slag Caster	0	0	0	10	0	10
6	Domestic	2.0	0	2.0	3	0	3
	Total	**42.0**	**20**	**22.0**	**188**	**135**	**60**

Industrial Solid waste and Hazardous waste

Units	Solid Wastes	Qty	Disposal practice
Induction Furnace	Slag	~90 TPD	In-house metal recovery in slag crusher and supplied outside for further reuse in construction work.
	Broken Refractory	900kg/day	Brick manufacturer and Ceramic manufacturer Suvam Ceramics 170, Hill Colony, College More,(North) P.O. Kulti, Dist.- Paschim Bardhman, Pin- 713343 (W.B.)
Rolling Mill	Mill Scale	4 TPD	Will be charged back as scrap in the induction furnace for In-House Reuse.
Softening plant	Sludge	4kg/month	Reuse within the plant for earthing.
Industrial Manpower	MSW	34 kg/day	Local municipal suppliers

There is no hazardous waste from the plant except for used oil (approx. 250kg/year) from equipment, which will be stored properly as per norms and is saleable to the registered recyclers in the market.

Solid waste management

Units	Solid Wastes	Qty In TPA	Disposal Practice
Induction Furnace	Slag	29,700 TPA	It will be supplied to Metal recovery plants and then will be used for construction filling.
Rolling Mill	Mill Scale & cuttings	1320 TPA	Will be charged back as scrap in the induction furnace for In-House Reuse
Bag Filter Dust from process	Dust from process	1200 kg/day	Low Landfilling or supplied to construction contractors for use in construction fillings.

EMP budget

S.No	Title	Capital Cost Rs. Lacs	Recurring Cost Rs. Lacs (Annum)
1	Air Pollution Control	55.00	15.00
2.	Water Pollution Control/Sewage Treatment Plant	10.00	1.0
3.	Noise Pollution Control (Including cost of Landscaping, Green Belt)	10.00	2.00
4.	Solid Waste Management	5.00	2.00
5.	Environment Monitoring and Management (Including Establishment of Laboratory)	10.00	0.5
6.	RWH Pond	15.00	2.00
7.	Miscellaneous (Appointment of Consultants, occupational health & safety measure)	5.00	1.0

8.	Public hearing budgetary plan	0	200
	Total	**110**	**223.5**

PUBLIC HEARING COMMITMENTS

S. No	Area of Concern	Activities	Year of Implementation (Budget in INR)					Total Expenditure (Rs.)
			1st Year	2nd Year	3rd Year	4th Year	5th Year	
01.	Vocational Training for Skill Development this activity is not covered in the public hearing activity	The project proponent will provide financial support to the 50 students/year. (Rs. 20000*50 person *5 years)	10.0	10.0	10.0	10.0	10.0	50.0
02.	Medical Facility	Generic health checkup camp will be organized for villagers within 2 km of the project site for the coming 5 years from the execution date of the project	3.0	3.0	3.0	3.0	3.0	15.0
03	Avenue Plantation	Tree plantation with Gabion in vacant space and along road side in nearby village Ajidih. Total 1000 Trees to be planted. (Rs.1500*1000 tree)	15.0	1.0	1.0	1.0	1.0	19.0
04	Provisions	Installation of 40	10.0	5.0	5.0	--	--	20.0

	for solar street lights and RWH system	nos. solar based street lights in village Ajidih and Ranidih each (Rs. 25,000 x 80) Nos.)						
		Construction of RWH system at 20 locations within 2.0 km radius of the project site (Const Cost of each RWH system Rs. 2.0 lakhs + Rs. 25000 maintenance each year	40.0	5.0	5.0	5.0	5.0	60.0
		Construction of 8 nos. of Borewell along with overhead water tanks in village Ajidih & Ranidih each	-	-	10.0	-	-	10.0
		Maintenance and Repair of Village road Ajidih	10.0	-	-	-	10.0	20.0
		Provision of 20. Nos. Community dustbins of 1100 Ltr. Capacity. Rs. 30000*20	-	6.0	-	-	-	6.0
	Total		**88.0**	**30.0**	**34.0**	**19.0**	**29.0**	**200.0**

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Private land, owned by M/s Shailputri Iron and Steels Private Limited.
2	CO	:	The CO, Giridih Sadar vide letter no. 293, dated 06.03.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DFO Wild Life	:	DFO Wildlife, Hazaribagh vide letter no. 2338 , dated 21.11.2022

			certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Giridih East Forest Division vide letter no. 3627, dated 17.10.2022 certified that the distance of reserved / protected forest is more than 250 m from project site.
5	Consnet ot Operate (CTO)	:	**CTO** issued by JSPCB vide Ref. no. JSPCB /HO/RNC/CTO-12796754/2022/579, dated 12.05.2022.
6	Consent to Establish (CTE)		**CTE** issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-9729779/ 2021/115, Dated: 31.03.2021
7	Public Hearing	:	Public Hearing conducted on 27.10.2023.
8	Baseline monitoring report	:	1st December, 2022 to 28th February, 2023.
9	CTO Compliance Report	:	CTO compliance report certified by Regional Officer, JSPCB, Hazaribagh vide memo no. 1419, dated 30.10.2023.
10	CGWA	:	No Objection Certificate (NOC) for Ground Water Abstraction issued by CGWA vide NOC no. CGWA/NOC/IND/ORIG/2023/18967, dated 03.08.2023 valid up to 27.07.2026.

Based on the presentation made and information provided, the Committee decided that the proposal for Enhancing the production of TMT bars from 27,000 TPA to 1,44,210 TPA by modernization the existing re-rolling mill and proposed production of 1,48,500 TPA of M.S. Billet by addition of 3 nos. of induction furnace of capacity 15 ton each with CCM – 2x2 strand & slag crusher 29,700 TPA by M/s Shailputri Iron and Steels Pvt. Ltd., Mauza : Ajidih, Distt. : Giridih, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V alongwith following specific conditions :

I. MoU is to be executed with the buyers of the use refractory material before this expansion project comes into operation. Copy of MoU to be submitted SEIAA / SEAC, Jharkhand before expansion project comes into operation.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto 20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

VI. Developers to promote energy conservation measures such that it offsets not less than 02 % of connected load. It is to be achieved by solar panels etc meeting ECBC norms.

VII. Trees should be developed & maintained not less than 33% of project area.

VIII. Developers/Company to install ETP and / or STP of sufficient capacity such that all the waste water produced is treated and reused.

IX. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is collected and harvested including reuse on 100% basis.

X. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XI. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XII. Suitable plants of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

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5. **Gaurgada Stone Mine of M/s Mahadev Stone Mines (Partner : Shri Nishant Kumar Agarwal), Mouza : Gaurgada, Thana : Ranka, Thana no. : 103, Distt. : Garhwa, Jharkhand (1.70 Ha).**

(Proposal No : SIA/JH/MIN/ 447156/2024)

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Stone Mining (42990 Cum Per Annum/ 120372 Ton Per Annum)**

Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

This is a new project which has been taken for appraisal on 27.04.2024.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	"Gaurgada Stone Mine" by M/S Mahadev Stone Mines Mauza- Gaurgada, Thana No.- 103, Thana- Ranka, District-

			Garhwa, State- Jharkhand.	
2	Lessee:	:	M/s Mahadev Stone Mines Partner-Sri Nishant Kumar Agarwal	
3	Lease Address	:	R/O- Devi Mandap Road, Ranchi road, Redma, Ward no-17, Daltonganj, Post & Thana- Daltonganj, District- Palamu, Jharkhand-822101.	
4	Lease Area	:	1.70 HA.	Acres: 4.21 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	41 Lakhs	
7	EMP Budget	:	Capital: 5.35 Lakhs	Recurring: 3.0 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 429697.143 Cum	Tonnes: 1203152
11	Mine Life	:	9 Years 11 Months	
12	Man power	:	20	
13	Water Requirement	:	6.9 KLD=0.9 KLD (Drinking & Domestic Uses) + 3.0 (Plantation) KLD + 3.0 KLD (Dust Suppression).	
14	Water Source	:	Water will be sourced from local vendor and abandoned Mine through Water Tanker for Dust Suppression and Plantation and permission from gram panchyat will be taken to fulfill water requirement for mining operation after the grant of Environment clearance.	
15	DG Set / power	:	--	
16	Crusher	:	--	
17	Nearest Water Body	:	Tahle River, approx. 1.5 Km towards North direction	
18	Nearest Habitation	:	Gaurgada, Approx. 0.5 km towards ESE.	
19	Nearest Railway Station	:	Daltonganj Railway Station, approx. 27.0 km towards ENE.	
20	Nearest Air Port	:	Gaya International Airport, approx. 144.0 km towards NE. Birsa Munda Airport, Ranchi, approx. 167.2 km towards ESE.	
21	Nearest Forest	:	Protected/Reserved Forest , Approx. 2.50 Km towards NE. Protected/Reserved Forest, Approx. 5 km East. Protected/Reserved Forest, Approx. 6 km West.	
22	Road & Highways	:	National Highway 343, Approx 7.2 km towards West. Ranka- Ramkanda Road, Approx. 0.5 km. towards West.	

CO-ORDINATES

1	Latitude		From 23°56' 01.642"N	To 23°56'12.954"N
2	Longitude		From 83°49'46.924"E	To 83°49'52.266"E

LAND DETAILS:

Khata No.	Plot No.
(New) 56	419, 420, 421, 422, 423 & 424
(Old) 02	147

STATUTORY CLEARANCES:

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by AMO, Garhwa vide letter no. 1234/M, dated 15.09.2023.
2	CO	:	The CO, Ranka vide letter no. : 324, dated 25.07.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Garhwa vide memo no. 1294/M, dated 04.10.2023 certified that one another mining lease area (6.00 Acre) exists within 500 m radius from proposed project site and total area is 10.21 Acre (less than 5 Ha).
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no.: 375, dated 08.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Betla National Park, Mahuadanr Wolf Sanctuary & Palamau Tiger Reserve.
5	DFO Forest Distance	:	DFO, Garhwa South Forest Division vide letter no. : 1667, dated 17.07.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Garhwa District (Sl. No. 18, Page no. 95).
7	Gram Sabha	:	BDO, Ranka vide letter no. 641, dated 22.07.2023 informed that Gram Sabha conducted on 20.07.2023.
8	Mine Plan Approval	:	Approved by Assistant Mining Officer, Garhwa vide memo no. 1368/M, dated 28.10.2023.

9	Qualified Person	:	Md. Tauseef Warsi was present In the meeting and affirmed that the mine plan has been made by him.

Working Details

1	Mining Method	:	Opencast Method, Mechanized Mine, Wagon Drilling & Control Blasting will be deployed.	
2	Quarry Area	:	5 Years – 1.70 ha.	Life of Mine – 9 Years 11 months
3	Waste Generation	:	5 Years –9292 cum	Life of Mine – 9 Years 11 months
4	Stripping Ratio	:	1:0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	Highest elevation: 345 AMSL Lowest elevation: 344 AMSL	
8	Ground Level Elevation		344 mRL	
9	Ultimate Working Depth	:	24 mbgl (344 m AMSL to 320 m AMSL)	
10	Water Table	:	309 m in AMSL	
11	Topography of Mine	:	Undulatory	
12	Explosive Requirement	:	-	
13	Diesel/Fuel requirement	:	396 Litres/day	

Production Details

Year	Production of stone (Cum)	Production of stone (Tonne)	Removal of gritty soil & Weathered rock in cum
1st	42913	120156	6441
2nd	42963	120296	2851
3rd	42954	120271	Nil
4th	42976	120333	Nil
5th	42990	120372	Nil
Total	**214796**	**601429**	**9292**

Land Use

LAND USE PATTERN			
	Existing	First to Fifth Years	After Life of Mine
Category	**Area in Hectares**	**Area in Hectares**	**Area in Hectares**
Quarry	0.00	0.77	1.29 (rain water accumulate in open pit **429697 cum)**
Haul Road	0.00	0.02	0.02
Proposed Crusher	0.00	0.00	Not Proposed
Green belt in Safety Barrier	0.00	0.39	0.39
Dump with Parapet wall & Garland drain	0.00	0.04	Rest O.B. will be backfilled
Total area in use	**0.00**	**1.22**	**1.70**
Balance unused area	0.00	0.48	0.00
Balance used area	0.00	0.00	0.00
Total Applied Lease Area	**1.70**	**1.70**	**1.70**

Protection Measures for Post Mine Closure Action Plan

The mine site will be properly fenced properly. A board of Do Not Enter, Only Authorized Access will be fixed near the water reservoir area and at the gate of the mine site.

1. A warning sign board will be erected at the site giving general information about the hazards at the site.
2. The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
3. Plantation is also proposed at the backfilled area along with around the benches.

Total Ware Reservoir Potential in Post Mine Closure =Area x Ultimate Depth
= 1.29x100x100 sqm x 33.31 m
=429699 cum

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.39 ha.	784 trees @ 1600 trees per ha
2	Other Reclaimed Area	:	NIL	NIL
3	Safety Zone	:	0.39 ha.	784 tree

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3 x 3 m with suitable species such

as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

The entire produce of boulder stone will be used as building material.

During plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible. During rainy season to prevent dump failure/soil erosion, toe-wall with weep-holes and garland drains will be constructed.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside.
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done

- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Quantity of HSD/ Fuel consumption per day of Gaurgada Stone mine

S. No	Machine	Details of fuel (Diesel) requirements	Consumption of Diesel (in liters/day.)
1	Jack Hammer Drill	Number of Machine=1 Diesel consumption in one shift working. (i.e-10 liters) =1*8*10=80 liters	80 liters

2	Excavator	Number of Machine=1 Diesel consumption in one shift working. (i.e- 07litre/hr) =1*8*7=56 liters	56 liters
3	Tippers	Number of Tippers= 03 Diesel consumption in one shift working. (i.e-4ltr/hr.) =3*10*4=120 Ltr.	120 liters
4	Water Sprinkler	Number of Sprinkler=02 Diesel consumption by Sprinkler in one shift working (i.e-2ltr/hr). =2*10*2=40 liters.	40 ltr.
5	Extra	Transport vehicle, super vision vehicle, maintenance vehicle	100 liters
Total			**396**

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.

C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injury or system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	*8*	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

I. Falls from the edge of a bench
II. Dust generation during drilling
III. Noise Generation due to drilling
IV. Entrapment in by moving part of the drilling equipment

I. Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

II. Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

III. Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.

- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Gaurgada Stone Mine of M/s Mahadev Stone Mines (Partner : Shri Nishant Kumar Agarwal), Mouza : Gaurgada, Thana : Ranka, Thana no. : 103, Distt. : Garhwa, Jharkhand (1.70 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II alongwith following specific conditions for improving the environmental performance :

I. **Suitable plants of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.**

II. **Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.**

III. **Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.**

IV. **Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.**

V. **Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.**

VI. **Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.**

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6. **Enhance the production of M.S Ingot / Billet from 24000 TPA to 105600 TPA by addition of 3x8 MT induction furnace with existing 1x8 MT induction furnace alongwith CCM 4/6 and proposed Rolling mill with capacity 102630 TPA and slag crusher of capacity 10 TPH by M/s Indrani Steel Private Limited, Village : Balidih, Bokaro Steel City, P.S. : Balidih, Distt. : Bokaro, Jharkhand.**

(Proposal No : SIA/JH/IND1/469959/2024).

The Project Authorities were not able to provide green belt development over an area of 33% of the project area. The external land required for development of green belt to meet the requirement of green belt development over an area of 33% was also not available with the Project Authorities.

Hence, the proposal was not taken up for consideration. It will be listed in the agenda upon specific request of Project Authorities along with the details of land acquired for green belt development.

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7. **Production of MS Billets 3,00,000 TPA through installing 4x20 T Induction Furnaces, CCM of 2x2 Strand, Radius – 6/11 along with rolling mill to produce 2,90,500 TPA rolled product and Slag Crusher of 10 TPH by M/s Sarvashiva Iron and Steel Private Limited, Village : Lalmandigtha, Gumo, Jhumri Telaiya, P.S. : Koderma, Distt. : Koderma, Jharkhand.**

(Proposal No : SIA/JH/IND1/469494/2024).

Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

This is a new project which has been taken for appraisal on 27.04.2024.

Project Category : 3 (a) Metallurgical Industries (Ferrous & Non-Ferrous) as per EIA Notification, 2006.

S. No	Parameters	Description
1	Identification of project	Project falls under Metallurgical Industries (secondary metallurgical processing) Item 3(a) of the schedule of EIA notification of Sept 14, 2006 issued by MOEF & CC.
2	Project Proponent	M/s Sarvashiva Iron and Steel Private Limited

S. No	Parameters	Description
3	Brief description of nature of the project	Environmental Clearance for Production of MS Billets 3,00,000 TPA through installing 4x20T Induction Furnaces, CCM of 2X2 Strand, Radius-6/11 along with rolling mill to produce 2,90,500 TPA rolled product and Slag Crusher of 10 TPH.
4	**Salient Features of the Project**	
4.1	Proposed production capacity	Production of MS Billets 3,00,000 TPA through installing 4x20T Induction Furnaces, CCM of 2X2 Strand, Radius-6/11 along with rolling mill to produce 2,90,500 TPA rolled product and Slag Crusher of 10 TPH.
4.2	Total Plot Area	5.09 Acres. (Plant Area- 3.35 Acre+ Green Belt 1.74 Acre)
4.3	Location	Lalmandigtha, Jhumri Telaiya, District Koderma, and State Jharkhand
4.4	Water requirement	The total water requirement for the proposed project is estimated to be 240 KL where ~180KLD will be recirculated and daily fresh water requirement will be ~60 KLD. To support cooking/drinking water and sanitary requirements of the staff and workers, industry will need a maximum of 4.5 KLD of fresh water, which will contribute to about 3.6 KLD of domestic sewage
4.5	Source of water	Borewell
4.6	Wastewater	The domestic water consumption will result in generation of ~03 m3/day of domestic wastewater. The wastewaters will be treated and entirely reused.
4.7	Man Power	Around 100person
4.8	Electricity/Power requirement	The electrical power requirement will be ~22000 kVA. One DG set of 500 kVA already installed (as power back-up).
4.9	Alternative site	No alternative site.
4.10	Land form, Land use and land ownership	Private land, owned by M/s Sarvashiva Iron and Steel Private Limited
4.11	Total project cost	95 Crore.

Coordinates of the project :

Latitude	Longitude
24°25' 10.094"N	85°29' 12.474" E
24°25' 11.873"N	85°29' 13.913" E
24°25' 10.235"N	85°29' 17.752" E
24°25' 9.360"N	85°29' 17.554" E
24°25' 7.977"N	85°29' 21.224" E
24°25' 8.620"N	85°29' 21.563" E
24°25' 5.776"N	85°29' 23.708" E
24°25' 3.320"N	85°29' 26.418" E
24°25' 2.614"N	85°29' 26.051" E
24°25' 3.376"N	85°29' 24.865" E
24°25' 6.453"N	85°29' 20.829" E
24°25' 7.413"N	85°29' 19.502" E
24°25' 9.135"N	85°29' 14.816" E
24°25' 9.869"N	85°29' 13.405" E

LAND DETAILS:

Khata No.	Plot No.
02	17

Plant obtained CTE from Jharkhand State Pollution Control Board (JSPCB) vide letter no JSPCB/HO/RNC/CTE-16672396/2023/502dated 31.08.2023for production of MS Billet 26400 TPA & Slag Crushing 4800 TPA. However the plant establishment has not been carried out.

S.No.	Particulars	Proposed	Total Production
1.	Unit processes/ machinery	Induction Furnace	3,00,000 TPA MS

<table>
<tr><td></td><td></td><td>4x20T
CCM 2X2 Strand, Radius 6/11
Rolling Mill 1x25 TPH
Slag Crusher 10 TPH</td><td>Billets

2,90,500 TPA Rolled Product</td></tr>
<tr><td>2.</td><td>Capacity of the Plant</td><td>MS Billet – 3,00,000 TPA,
Rolled product - 2,90,500 TPA
Slag Crusher – 10 TPH,</td><td>MS Billet – 3,00,000 TPA,
Rolled product - 2,90,500 TPA
Slag Crusher – 10 TPH,</td></tr>
<tr><td>3.</td><td>Fixed capital investment (Rs)</td><td>95 Cr.</td><td>95 Cr.</td></tr>
<tr><td>4.</td><td>Electrical power requirement</td><td>22000 KVA</td><td>22000 KVA</td></tr>
<tr><td>5.</td><td colspan="3">Raw Material Requirement
<table>
<tr><th>Sl no.</th><th>Raw Materials</th><th>Total Proposed Requirement</th><th>Mode of Transportation</th><th>Source of Raw Material</th><th>Distance (km)</th></tr>
<tr><td>1</td><td>Sponge Iron</td><td>806</td><td>Road</td><td>Local Plants in Koderma, Giridih Hazaribagh.</td><td>10 to 90 Kms</td></tr>
<tr><td>2</td><td>Ferro alloy</td><td>150</td><td>Road</td><td></td><td></td></tr>
<tr><td>3</td><td>MS Scrap</td><td>52</td><td>Road</td><td>In house or local plant in Koderma</td><td>10 Kms</td></tr>
<tr><td colspan="6">For Rolled Product</td></tr>
<tr><td></td><td>M.S Billet</td><td>857 TPD</td><td colspan="3">Billets will be used for in- house rolling mill</td></tr>
</table></td></tr>
<tr><td>6.</td><td>Manpower requirement</td><td>100</td><td>100</td></tr>
<tr><td>7</td><td>Process water requirement</td><td>55.0</td><td>55.0</td></tr>
</table>

8.	Domestic water requirement	5.0	5.0
9.	Domestic wastewater generation	4.5	4.5
10.	Solid waste generation Slag Mill scale Industrial Manpower (100 person)	 ~141 MT/day 9 MT/Day 45 kg/Day	 ~141 MT/day 9 MT/Day 45 kg/Day
11.	Waste oil/lubricant (5.1)	0.2 Kl/year	0.2 Kl/year
12.	APCD- Bag-House Filter	01	01
13.	Fuel	HSD- DG sets Electricity- Induction furnace	

Specific consumption of the plant

Raw Materials	**Total Raw materials required After Expansion**
Specific consumption of Plant for billet production i.e 1 ton	
Sponge Iron	1298 Kg
Ferro Alloys (SiMn/FeSi)	52 Kg
Metal scrap from in house metal extraction /Pig iron	154 Kg
Total Raw Materials for Billets	**1504 Kg**
Billets/M.S. Billets	1000.16 kg

Industrial Solid waste and Hazardous waste

Units	Solid Wastes	Qty In TPA	Disposal practice
Induction Furnace	Slag	49,350	In-house metal recovery in slag crusher and supplied outside for further reuse in construction work.

Bag Filter Dust from process	Dust from process	600	Partly recycled (metal content). Rest supplied outside for further reuse in construction work and Low land filling
Rolling Mill	End cuttings & Mill Scale	3150	Recycled in-house along with scrap in the induction furnace.

The hazardous waste will be stored properly as per norms and is saleable to the registered recyclers in the market.

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Private Land : Owned by Sarvashiva Iron and Steel Private Limited.
2	CO	:	The CO, Koderma vide letter no. 828, dated 11.05.2023 has mentioned the plot no. of the project is not recorded as "Jungle - Jhari" in R.S. Khatiyan.
3	DFO Wild Life	:	DFO Wildlife, Hazaribagh vide letter no. 1163, dated 14.06.2023 certified that the proposed project site is outside Eco Sensitive Zone of Koderma Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Koderma Forest Division vide letter no. 2674, dated 21.06.2023 certified that the distance of reserved / protected forest is 380 meter from project site.
5	Consent to Establish (CTE)		**CTE** issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-16672396/ 2023/502, Dated: 31.08.2023.

Baseline study has been conducted between 1st October, 2023 and 31st December, 2023.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 26, 27, 28, 29 & 30.04.2024, the Committee recommends for issuing of TOR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure VI.

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A. Consideration of proposals

1. **Expansion of existing Rolling Mill from Production Capacity of TMT Bars – 28,800 TPA to TMT Bars & Rolled Products – 2,50,000 TPA with Coal / Oil Fired Re-heating furnace & Coal Pulverizer by M/s Rebanta Steels Pvt. Ltd., Mauza : Bhorandiha & Bishwasdih, Thana no. : 275 & 278, Thana : Giridih, P.O. : Gadi Srirampur, Distt. : Giridih, Jharkhand.**

   (Proposal No : SIA/JH/IND1/469422/2024)

   Name of the consultant : Grass Roots Research & Creation India (P) Ltd., Noida

   This is an expansion project which has been taken for appraisal on 29.04.2024.

   Project Category : 3 (a) Metallurgical Industries (Secondary Metallurgical Industries) as per EIA Notification, 2006.

   The State Expert Appraisal Committee, Jharkhand deliberated the project during its 103rd meeting held on 14-18.04.2023 and SEIAA, Jharkhand has approved the ToRs in 104th meeting held on 27th & 28th April, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2023-24/2798/2023/80, date 03.05.2023. The final EIA / EMP submitted by PP to SEAC on 22.04.2024.

   M/s Rebanta Steels Pvt. Ltd. is an existing steel plant at Mauza – Bhorandiha&Bishwasdih, Thana No. 275 & 278, P.O.-Gadi Srirampur, District- Giridih, Jharkhand. Total area of 17.10 acres (6.92 ha.).No additional land is required for the proposed expansion.

   Company proposes to modify the existing mill to a High-Speed Rolling Mill with changing the required motors, gears and number of rolls, strands – as per requirement.

   The project will procure the raw materials fromGirdih, Durgapur, Ramgarh area with 120 KM from project site through covered trucks .i.e M/s Shivam Iron & Steel Co Ltd (Girdih) &M/s Saluja Steel & Power Pvt Ltd (Girdih) and 2 x 4TPH coal pulverizer (one 4 TPH is installed for existing plant& 4 TPH is proposed for expansion) for uniform feed to reheating furnace with increased number of burners and rate of fuel charging.

   The company installed the unit and came into production of 28800 TPA Rolling Mill (TMT Bars) vide CTE ref. no JSPCB/HO/RNC/CTE-10398945/2021/244, dated 28.09.2021 and CTO vide ref. no JSPCB/HO/RNC/CTO-13684762/2023/82, dated 11.01.2023 valid upto 30.06.2023 and latest CTO was obtained vide ref. noSPCB/HO/RNC/CTO-16785268/2023/1725 dated 15.10.2023 valid till 30.06.2025.

The application for EC is also in compliance to the requirements of EIA Notification (Amendment) number S.O 3250 (E), dated 20.07.2022, regarding obtaining environmental clearance by all the existing rolling mills with capacity greater than 5,000 TPA.

Land Details:

Khata no.	Plot no.		Khata no.	Plot no.
14	696		15	698,692,695
72	700		128	707,722
51	712,718		103	703,714
122	707		16	901
2	902		103	701,898
77	710,921, 715		11	697,690, 693
17	699,691, 694		57	716
83	714		34	221,220,222
29	218,219		37	211,212
167	688		94	689
190	903		177	719

Latitude & Longitude of the project :

Latiude	Longitude
24° 08' 46.63"N to 24° 08' 32.75"N	86°19'42.10"Eto86°20'7.77"E

The existing project cost is Rs. 30.20 Crores. The estimated project cost for the proposed expansion is Rs. 10.40 Crores. The total project cost after the expansion will be Rs. 40.60 Crores.

Employment Generation after the proposed project will be 209 direct employment and approximately 150 - 170 people will be employed during the construction phase and will be recruited from the local villages surrounding the project site.

2.42 ha area is earmarked for green belt and green cover i.e., 35% of total plot area.A thick greenbelt will be provided around the periphery of the plant area.Total 540 trees are present at the site and additionally we have proposed to plant 5,360 no's of trees within project site as per the norms. All native tree species will be planted after consultation with competent authority. Tree planation work will be completed within six months from date of grant of CTE and will be maintained throughout project life.

The capacity of different existing and proposed units is as follows:

Sl. No	Plant Facilities	Existing Installed Units and Capacity		Proposed Units and Capacity	Total after Expansion	
		Unit	Capacity		Unit	Capacity
1	Rolling Mill	1x5TPH	28,800 TPA	Modernization &	1x42TPH	250000 TPA TMT

			TMT Bars	expansion for 250000 TPA TMT Bars & Rolled Products		Bars & Rolled Products
2.	Reheating Furnace (Coal/Oil Fired)	1x5TPH	30,000 TPA Heated Billets	Modernization & enhancement for capacity of 258000 TPA	1x43TPH	258000 TPA Heated MS Billets
3.	Coal Pulverizer	1x4TPH	2400 TPA Pulverized Coal	Addition of 1x4TPH Pulverizer	2x4TPH	20640 TPA Pulverized Coal

Presently the unit is having a connected load of 3.0 MW from DVC. Total power requirement for the project after expansion is envisaged as 7.0 MW, which will be met from DVC.

The total requirement of makeup water for industrial and domestic purposes after the proposed expansion will be 267.5 KLD. The water requirement will be met from ground water through bore wells. NOC for existing requirement has been obtained from CGWA vide NOC-CGWA/NOC/IND/ORIG/2023/18936, dated 20.07.2023 and valid till 19.07.2026 and Ground water NOC has been applied for expansion project vide application No- 21-4/1337/JH/IND/2023, dated 27.04.2024.

Raw material for the plant would be procured from Girdih, Durgapur, Ramgarh area with 120 KM from project site through covered trucks .i.e M/s Shivam Iron & Steel Co Ltd (Girdih) &M/s Saluja Steel & Power Pvt Ltd (Girdih) and other state markets depending upon the quality. The transportation of raw material and the final products will be done through SH-13 that is nearby the project site. Total Raw material requirement after the proposed expansion of plant is given below:

Proposed Rolling Mill: TMT Bars – 834 TPD = Final 2,50,000 TPA			
Raw Material	**Existing requirement**	**Final Capacity**	**Source**
MS Billets	30,000 TPA	2,58,000 TPA	Girdih, Durgapur, Ramgarh area with 120 KM from project site through covered trucks .i.e M/s Shivam Iron & Steel Co Ltd (Girdih) & M/s Saluja Steel & Power Pvt Ltd (Girdih).
Fuel for Reheating Furnace: Coal or Oil			
Coal Or F. Oil	Coal – 2,400 TPA -	Coal – 20,640 TPA Or Oil– 8,300 KL/Year	Imported coal through Haldia port F. Oil local IOCL/HPCL

Raw Materials	Required materials for Per Ton of product	Total Raw materials required After Expansion	Source location & distance	Mode of transportation
M.S. Billets	1.032	258000 TPA	Girdih, Durgapur, Ramgarh area with 120 KM from project site through covered trucks .i.e M/s Shivam Iron & Steel Co Ltd (Girdih) & M/s Saluja Steel & Power Pvt Ltd (Girdih)	Trucks/Trailers
Coal / or Furnace Oil	0.08/0.032 KL	20640 TPA Or 8300 KL	Imported coal via Haldia port – approx. 400 Km and Furnace Oil local market IOCL/HPCL	Covered Trucks &Tankers

The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Lease Deed.
2	CO	:	The CO, Giridih Sadar vide letter no. 395, dated 23.03.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 620 & 621, dated 25.03.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Giridih East Forest Division vide letter no. 1356 & 1357, dated 10.04.2023 certified that the distance of notified forest is more than 500 meters from project site.
5	Consent to Establish (CTE)	:	**CTE** issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-10398945 /2021/244, dated 28.09.2021.

6	Consent to Operate (CTO)	:	**CTO** granted by JSPCB vide : i. Ref. no. JSPCB/HO/RNC/CTO-13684762/2023/82, dated 11.01.2023. ii. Ref. no. JSPCB/HO/RNC/CTO-16785268/2023/1725, dated 15.10.2023.
7	Public Hearing	:	JSPCB, Ranchi vide Ref. No. PH/12/2023/B-52, dated 09.01.2024 informed that Public Hearing conducted on 31.10.2023.
8	Ground Water NOC	:	The total requirement of makeup water for industrial and domestic purposes after the proposed expansion will be 267.5 KLD. The water requirement will be met from ground water through bore wells. NOC for existing requirement has been obtained from CGWA vide NOC-CGWA/NOC/IND/ORIG/2023/18936, dated 20.07.2023 and valid till 19.07.2026 and Ground water NOC has been applied for expansion project vide application No- 21-4/1337/JH/IND/2023, dated 27.04.2024.

Public Hearing Action Plan

As per MoEF&CC Office Memorandum vide F.No.22-65/2017-IA.III dated. 30th September 2020, following is budgetary allocation (Rs.50 Lakhs) for commitments made by Project Proponent to address the concerns raised during public hearing

S. No.	Issue Raised during PH	Physical activity and action plan	Budget	1st Year (2024-2025)	2nd Year (2025-2026)
1.	Road maintenance, Lighting & water Sprinkling to control pollution		**24 Lakhs**	**12 Lakhs**	**12 Lakhs**
		Village Road will be constructed & maintained of 200 mtr from project site towards SH#13	18 Lakhs	9 Lakhs (0 to 100 mtr in first phase)	9 Lakhs (100 to 200 mtr in 2nd phase)
		Streetlights will be installed on the village road (40 no) .i.eBishwasdih&Bhorandiha.	4 Lakhs	2 Lakhs (20 Lights in Biswasdih)	2 Lakhs (20 lights in Bhorandih)
		Mobile Water sprinkling will be done on village road to control pollution .i.eBhorandih&Bishwasdih.		1 Lakhs (In village Biswasdih)	1 Lakhs (In village Bhorandih)

S. No.	Issue Raised during PH	Physical activity and action plan	Budget	1st Year (2024-2025)	2nd Year (2025-2026)
			2 Lakhs		
2.	Employment for the locals	Willing and employable youths will be identified in consultation with Gram Panchayat of **HarsinghRaidih.** They will be provided training for trades namely electrician, fitters, welders, painters, and civil construction work, etc. After successful completion of training, the youths will be offered employment in the company in suitable grade.	**10 Lakhs** Stipend – 4.5 Lakh (Rs. 15000/- stipend per year to 30 persons for 1 year) ITI Fee – 5.5 Lakhs (Rs. 25000/- yearly fee for 22 persons for 1 year)	**5 Lakhs** Stipend – 2.25 Lakh (Rs. 15000/- stipend per year to 15 persons for 1 year) ITI Fee – 2.5 Lakhs (Rs. 25000/- yearly fee for 11 persons for 1 year)	**5 Lakhs** Stipend – 2.25 Lakh (Rs. 15000/- stipend per year to 15 persons for 1 year) ITI Fee – 2.5 Lakhs (Rs. 25000/- yearly fee for 11 persons for 1 year)
3.	Safety cover to nearby villagers	Helmets, Construction of speed breaker, Traffic signal facility, training awareness program for safety awareness and first aid kits will be distributed in villages Tikodih, Burhiadih, Rautgadi&Mahtodih.	**4 Lakhs** (Distribution of helmets, 6 Traffic signal construction, 20 speed breaker and First aid kits to 400 people)	**2 Lakhs** (Distribution of helmets, 3 traffic signal, 10 speed breaker, safety awareness programme and First aid kits to 200 people) in village Tikodih&Burhiadih	**2 Lakhs** (Distribution of helmets, 3 traffic signal, 10 speed breaker, safety awareness programme and First aid kits to 200 people) in village Rautgadi&Mahtodih.
4.	Concern about health of local people	Health checkup and distribution of medicines in Tikodih, Burhiadih, Rautgadi&Mahtodih. & Donate medical equipment like Beds, Stretcher, Portable Oxygen Cylinder	**12 Lakhs** Conducting Health checkup in	**6 Lakhs** Health checkup and distribution of medicines medical in Tikodih,	**6 Lakhs** Health checkup and distribution of medicines in

S. No.	Issue Raised during PH	Physical activity and action plan	Budget	1st Year (2024-2025)	2nd Year (2025-2026)
		(330 Litre), Oxygen Concentrator (0.5 to 5 Ltr), AC (Window AC of 1.5 Ton), in Sadar Hospital, Girdih.	villages **10 Lakhs** Bed for patient = 24 No's (INR 15000*24) Oxygen Cylinder = 24 (INR 10000*24) Oxygen Concentrator = 24 No's (INR 10000*24) AC of 1.5 ton = 08 No's (INR 20000*8)	&Burhiadih **5 Lakhs** Bed for patient = 12 No's (INR 15000*12) Oxygen Cylinder = 12 (INR 10000*12) Oxygen Concentrator = 12 No's (INR 10000*12) AC of 1.5 ton = 04 No's (INR 20000*4)	Rautgadi&Mahtodih **5 Lakhs** Bed for patient = 12 No's (INR 15000*6) Oxygen Cylinder = 12 (INR 10000*12) Oxygen Concentrator = 12 No's (INR 10000*12) AC of 1.5 ton = 04 No's (INR 20000*4)
Total			**50 Lakhs**	**25 Lakhs**	**25 Lakhs**

Budget for socio economy development in nearby area w.r.t need base assessment survey

S. No.	Requirement	Physical activity and action plan (2024-2025)	Budget
1	Infrastructure development of local School, upgradation in drainage facility, road	PP will construct the separated toilets in government schools in villages and repair of village roads in all villages in consultation with local	**8 Lakhs (2024-2025)**

	development work and development of green belt in villages.	authority. Drainage facility will be improved with construction of drains in villagesMahtodih, Tikodih, Jogibad, Rautgadi&Bishwasdih. Total 4000 no's of trees will be plant in all four villages. i.e 1000 nos each. i.eMahtodih, Tikodih, Jogibad, Rautgadi&Bishwasdih.	
2	Drinking Water Supply in nearby areas	Company will make arrangement for drinking water facility with pump, piping and RO system in 2 surrounding villages. (Village-Bhorandih&Biswasdih)	**2 Lakhs**
Total			**10 Lakhs**

BUDGET FOR EMP

The capital cost for environmental management of the existing units is estimated to be INR 3.92 Cr and INR 0.43 Cr per year will be required as recurring expenses to meet the for implementing the measures. The break-up of the investment is shown in **Table below**

Investment on Environmental Protection Measures (Rs. in Crores)

S. No	Activity	Capital Cost (In Cr)	Recurring expenses proposed/annum (In Cr)
1	**Air Emission Management**		
	➢ Two Baghouse of 4000m^3/hr capacity with 48 bag filter with recuperator.	1.0	0.10
	➢ Stacks (30 m)	0.30	
	➢ Water Sprinklers (41 no's)	0.15	
2	**Wastewater Management**		
	➢ for STP & ETP	0.25	0.05

	➢ for Garland drains along the boundary	0.15	
3	**Solid waste Management**		
	➢ Hazardous waste storage & disposal	0.05	0.01
	➢ Municipal solid waste storage & disposal as per norms	0.05	
4	**Noise Level Management**	**0.02**	**0.05**
5	**Greenbelt development**	**0.23**	**0.02**
6	**Rainwater Harvesting Tank (03 No's)**	**0.25**	**0.02**
7	**Solar Power Plant (20 KW)**	**0.15**	**0.01**
8	**Environmental Monitoring**		
	➢ CAAQMS	0.20	0.05
	➢ CEMS	0.15	0.02
	➢ Third party Monitoring	--	0.05
9	**Occupational Health & Safety**		
	➢ OHC	0.05	0.05
	➢ PPEs	0.02	
	➢ Ambulance (additional)	0.20	
	➢ Fire Safety Systems	0.20	
Corporate Environment Responsibility		0.50	--
Total		**3.92**	**0.43**

During the presentation the following documents were sought :

i. PP should submit the revised topography map showing the receptors details.

ii. PP Should submit revised layout plan showing 33% of greenbelt details with green cover area.

iii. PP should submit an affidavit w.r.t existing no's of trees at project site along with proposed tree plantation with timeline and existing greenbelt details.

iv. PP should submit the traffic calculation details.

v. PP should submit the source of raw material details.

vi. PP should submit ground water NOC along with ground water application for expansion project.

vii. PP should submit revised EMP details.

viii. PP should submit revised public hearing Action plan.

ix. Budget for socio economy w.r.t need base assessment survey.

x. PP should submit ground water summary details in tabular form.

The Project Authorities have submitted the above mentioned documents.

Based on the presentation made and information provided, the Committee decided that the proposal for Expansion of existing Rolling Mill from Production Capacity of TMT Bars – 28,800 TPA to TMT Bars & Rolled Products – 2,50,000 TPA with Coal / Oil Fired Re-heating furnace & Coal Pulverizer by M/s Rebanta Steels Pvt. Ltd., Mauza : Bhorandiha & Bishwasdih, Thana no. : 275 & 278, Thana : Giridih, P.O. : Gadi Srirampur, Distt. : Giridih, Jharkhand is recommended for grant of EC subject to uploading the revised EIA report in response to the ADS raised as per provisions of PARIVESH Portal 2.0 of MoEF&CC, Govt. of India. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

I. MoU is to be executed with the buyers of the use refractory material before this expansion project comes into operation. Copy of MoU to be submitted SEIAA / SEAC, Jharkhand before expansion project comes into operation.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto 20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

VI. Developers to promote energy conservation measures such that it offsets not less than 02 % of connected load. It is to be achieved by solar panels etc meeting ECBC norms.

VII. Trees should be developed & maintained not less than 33% of project area.

VIII. Developers/Company to install ETP and / or STP of sufficient capacity such that all the waste water produced is treated and reused.

IX. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is collected and harvested including reuse on 100% basis.

X. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XI. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XII. Suitable plants of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

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2. **Residential Building Project of M/s Devika Construction and Developers Pvt. Ltd., Village : Gari, Tehsil : Bargain, Distt. : Ranchi, Jharkhand.**

(Proposal No. SIA/JH/INFRA2/ 469517/2024).

Project Category: 8(a) Category B2 – Application for Environment Clearance

EC Application for: Residential Project located in Ranchi Smart City of Plot No 601 and 602 of M/s Devika Construction and Developers PVT. LTD: Total built-up area 46525.47 sq m.

Name of the consultant : P & M SOLUTION, Noida

This is a new project which has been taken for appraisal on 29.04.2024.

Project and Location Details:

Parameters	Description
Total Plot Area	11294.83
Road Widening Area	350.77
Net Plot Area	10944.06 sq.m (1.09 ha/2.70 acres)
Project Cost	INR 90 Crores
Built-up Area (@3.0 F.A.R)	46525.47 sq. m.
Green Belt (@ 15% of plot area)	1654 sq m

Population	823
Water Requirement	93 KLD
Fresh Water Requirement	56 KLD
Wastewater Generation	69 KLD
Treatment facility if waste water	STP of 100 KLD or STP (sewage treatment plant facility of Ranchi Smart City)
Total Municipal Waste	416 kg/day
Power Requirement	Maximum power demand for the project during operation phase is estimated to be 700 kVA respectively. Source of power will be Jharkhand State Electricity Board.
DG Sets	DG set of 182 kVA
RWH Pits	4 nos.
Parking Number	632 Nos.
Nearest Road	Joda Talab Road (approx 0.15 km, NNW) NH 20 (approx 0.38 km, SE)
Nearest Railway Station	Ranchi Junction Railway station (approx 5.12 km, SW)
Nearest Airport	Birsa Munda Airport (Ranchi), (approx 8.64 km, SSW)
Nearest Hospitals	Hill View Hospital & Research Center (approx1.93 km , NW) Health Point Hospital (approx 2.03 km, WNW)
Nearest Water Bodies	Subarnarekha river (approx, 0.70 km, SE)

CO-ORDINATES

Point in Image	Latitude	Longitude
A	23°23'10.10"N	85°21'54.98"E
B	23°23'13.08"N	85°21'56.08"E
C	23°23'13.67"N	85°21'55.91"E
D	23°23'13.89"N	85°21'55.91"E
E	23°23'17.14"N	85°21'56.75"E
F	23°23'16.84"N	85°21'57.58"E
G	23°23'17.52"N	85°21'58.05"E

H	23°23'16.41"N	85°21'58.94"E
I	23°23'14.74"N	85°21'58.05"E
J	23°23'14.45"N	85°21'57.77"E
K	23°23'10.75"N	85°21'56.78"E
L	23°23'10.44"N	85°21'56.52"E
M	23°23'9.87"N	85°21'56.40"E
N	23°23'9.91"N	85°21'55.24"E
O	23°23'9.95"N	85°21'55.49"E
Centre	23°23'14.02"N	85°21'56.76"E

Khata no. & Plot no. of the project :

Mouza	Khata no.	Plot no.
Tiril	117	601 & 602
Gari	98	709, 710 & 712
	99	711
	134	708

AREA STATEMENT

S. No.	Description	Area (sq m)
1.	**Total Plot area**	**11294.83**
2.	Road wide area	350.77
3.	**Net Plot Area**	**10944.06**
4.	Proposed Ground Coverage (@34.54% of plot area)	3812.99
5.	**Proposed FAR (@ 3.0 of plot area)**	33827.14
6.	Proposed Non-FAR area	12698.33
7.	**Built-up Area**	**46525.47**
8.	Green Belt (@ 15% of net plot area)	1654
9.	Parking Details	632 nos.
10.	Nos. of Dwelling units	117
11.	Height (m)	56.54 m

STATUTORY CLEARANCES

1	DFO Wildlife	:	DFO, Wildlife Ranchi vide letter no. 899, dated 08.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
2	DFO Forest	:	DFO, Ranchi Forest Division vide letter no. 3137, dated 12.08.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
3	CO certificate	:	The CO, Baragai, Ranchi vide memo no. 411 (ii), dated 17.06.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan.
4	AAI NOC	:	Airport Authority of India NOC for height clearance vide NOC Id-RANC/EAST/B/011824/888509, dated 29.01.2024.
5	Fire Department	:	A fire advisory has been issued by Fire Department, Jharkhad, Ranchi vide memo no. 538/Tech./2024, dated 23.01.2024.
6	Building Plan	:	Conceptual plan submitted.

Water Requirement Details

Category	Population/Area (sq m)/Capacity	Standard (LPCD)	Water Requirement (KLD)	Fresh Water Requirement (KLD)	Recycled Water requiremen t(KLD)
Domestic					
Residents	791	100	79.1	55.37	23.73
Staff	16	45	0.72	0.504	0.216
Visitors	16	15	0.24	0.08	0.16
Total Domestic Water Demand			**80**	**56**	**24**
Landscape	1654 sq m	6 l/sq m	10	-	10
Fire Fighting	--	--	1	-	1
DG cooling	182 KVA (1*117+1*50+1* 15 KVA)	0.9l/KVA/ hr	2	-	2
Total	--	-	**93**	**56**	**37**

(D.G. sets operation period is 8 hrs.)

Wastewater Calculations

Category	Total Quantity (KLD)
Domestic(fresh) water Req.	56
Flushing water Req.	24
Sewage generation (@80% of the Domestic + 100% flushing water requirement)	69
Capacity of STP	**100**
Recovered water from STP (90% of Waste water) • Flushing • Landscaping • Fire Fighting • DG cooling • Sewer	62 24 10 2 1 25

Solid Waste Requirement

S. No	Description	Occupancy/Area	kg/capita/day	Total Solid Waste Generation (kg/day)	Recyclable (kg/day)	Non-Recyclable (kg/day)
1.	Residents	791	0.5	396	278	118
2.	Staff	16	0.25	4	3	1
3.	Visitors	16	0.15	4	3	1
4.	Landscape waste	0.40 acres	1 kg/acres	0.4	0.4	-
5.	STP sludge	100 KLD Sewage	--	12	12	-
Total Waste Generated				**416**	**296**	**120**

ENVIRONMENT MANAGEMENT

Green Belt Development

- Combination of local trees and shrubs are planned within the project site.
  - Total green belt provided at the site is 1654 sq m (15% of the plot area) which will enhance the beauty of the site and help combat air and noise pollution.
- The plant species will be selected on the basis of Guidelines for Developing Green Belts, CPCB March 2000.

Solid Waste Management

During Construction Phase

- Construction yards are proposed for storage of construction material.
- Excavated top soil will be stored in temporary constructed soil bank and will be reused for landscaping of the project.
- Remaining soil will be utilized for refilling/road work/raising of site level at locations.
- There will be "Refuse Containers" at site for the management of domestic waste generated by the construction labourers and these containers will be emptied at least once daily.
- Cement bags, waste paper and packing material (cardboard) will be sold off to recyclers.

During Operation Phase

- The solid waste will be segregated at source & collected.
- Adequate number of colored bins (green, white & Black) separate for bio-degradable, non-biodegradable and Hazardous waste are proposed to be provided at the strategic location within site.
- Bio-degradable (will be composted through organic waste converter).
- Recyclable wastes will be disposed to govt. or SPCB approved third party vendors.
- Dewatered sludge can be buried underground in a sanitary landfill. It also may be spread on agricultural land in order to make use of its value as a soil conditioner and fertilizer.
- The Hazardous waste generated will be managed as per the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016.
- Horticultural Waste is composted and used for gardening purposes.

Water Quality Management

During Construction Phase

- The site drainage will be planned in such a way that there is no accumulation of water/wastewater within the project premises or in the vicinity of the site.
- Mobile toilets to be provided for construction Laborers.
- Generated waste water will be collected through tankers and dispose to septic tank for treatment.

During Operation Phase

- STP of capacity i.e. 100 KLD or STP is proposed for treatment of wastewater.
- Treated waste water would be reused for Flushing, Landscaping, Road Washing &Misc
- Use of water efficient plumbing fixtures to conserve water.
- Approx. 56 KLD of fresh water is required during operational phase of the project.

Air Quality Management

- Warehouse/stock yard will be provided for storage of construction material
- Covering of stored construction materials with tarpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions.
- Periodical Ambient Air Quality Monitoring.
- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

- Energy will be conserved via solar power & LED of at least 10% of the total power requirement.

Undertaking

- An affidavit stating that no construction work.
- An undertaking that 62 KLD recycles waste water generated at Residential Project located in Ranchi Smart City of M/s Devika Construction and Developers PVT. LTD. at Ranchi Smart City at Plot No 601 and 602, Khata No 117, Thana No 195, Mauza Tiril, Circle Bargain, and Plot no 708, 709, 710, 711 and 712, Khata no 98, 99 and 134, Thana no 194, Mauza Gari, Circle Bargain, District Ranchi, Jharkhand 834009.
- An undertaking that 700 kVA Power requirement in Residential Project located in Ranchi Smart City of M/s Devika Construction and Developers PVT. LTD. at Ranchi Smart City at Plot No 601 and 602, Khata No 117, Thana No 195, Mauza Tiril, Circle Bargain, and Plot no 708, 709, 710, 711 and 712, Khata no 98, 99 and 134, Thana no 194, Mauza Gari, Circle Bargain, District Ranchi, Jharkhand 834009.

Based on the presentation made and information provided, the Committee decided that the proposal for Residential Building Project of M/s Devika Construction and Developers Pvt. Ltd., Village : Gari, Tehsil : Bargain, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –III along with the following specific conditions :

I. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

II. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

III. All raw material to be stored only under covered shed.

IV. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

V. Developers to promote energy conservation measures such that it offsets not less than 02 % of connected load. It is to be achieved by solar panels etc meeting ECBC norms.

VI. Trees should be developed & maintained not less than 15% of project area.

VII. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.

VIII. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

IX. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is collected and harvested including reuse on 100% basis.

X. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XI. Water runoff originating from open non constructed areas of project premises to be harvested /guided in such a way that it does not create water logging condition outside.

XII. Sufficient number of EV fast charging points to be installed.

XIII. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XIV. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

XV. A cycling tract to be provided in residential complex so as to save on fuel and make in campus movement environment friendly.

XVI. A clearance of minimum 4.5 meter width drive way all around the constructed area must be provided for movement of fire tendors.

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3. **Proposed Residential & Commercial Building of M/s Apna Sai Awas LLP, Village : Samlong, Tehsil : Namkum, Distt. : Ranchi, Jharkhand.**

(Proposal No. SIA/JH/INFRA2/ 469468/2024).

Project Category: 8(a) Category B2 – Application for Environment Clearance.

EC Application for: Residential and Commercial Project located in Ranchi Smart City of Plot no 118, 119 and 344 of M/s APNA SAI AWAS LLP: Total built-up area 25901.32sq m.

Name of the consultant: P & M SOLUTION, Noida

This is a new project which has been taken for appraisal on 29.04.2024.

M/s Apna Sai Awas LLP has developed a proposed Residential and Commercial Building at Khata no. 27 & 116, RS Plot no. 118, 119 & 344, Mouza : Samlong, Thana no. : 212, Circle : Argoda, Distt. : Ranchi, Jharkhand. Project involves development of 2 nos. of Residential buildings, 1 commercial building, 1 EWS Unit / LIG Unit, and club house along with green area and other ancillary facilities. Project site is spread over area of 5821.02 Sq m and has built-up area of 25901.32 Sq m.

Project and Location Details:

Parameters	Description
Plot Area	5821.02 sq.m (0.58 ha/1.43acres)
Project Cost	INR 40.50 Crores
Built-up Area (@2.99 F.A.R)	25901.32 sq. m.
Green Belt (@ 15% of plot area)	874 sq m
Population	895
Water Requirement	111 KLD
Fresh Water Requirement	59 KLD
Wastewater Generation	74 KLD
Treatment facility if waste water	STP of 100 KLD or STP (sewage treatment plant facility of Ranchi Smart City)
Total Municipal Waste	438 kg/day
Power Requirement	Maximum power demand for the project during operation phase is estimated to be 1920 kVA respectively. Source of power will be Jharkhand State Electricity Board.
DG Sets	DG set of 1000 kVA
RWH Pits	2 nos.
Parking Number	226 Nos.

Nearest Road	Naya Toli Road (approx 0.10 km, WNW) NH 20 (approx 0.23 km, SSE)
Nearest Railway Station	Ranchi Junction Railway station (approx 1.98 km, WNW)
Nearest Airport	Birsa Munda Airport (Ranchi), (approx4.92 km, SW)
Nearest Hospitals	Jharkhand National Hospital (approx1.72km , NW) ST. Barnabas Hospital (approx2.37 km, NW)
Nearest Water Bodies	Subarnarekha river (approx, 0.94 km, SE)

Khata no. & Plot no. of the project :

Khata no.	R.S. Plot no.
27	118 & 344
116	119

CO-ORDINATES

Point in Image	Latitude	Longitude
1.	23°21'9.77"N	85°21'16.15"E
2.	23°21'11.57"N	85°21'16.44"E
3.	23°21'11.44"N	85°21'17.44"E
4.	23°21'9.65"N	85°21'17.74"E
5.	23°21'13.54"N	85°21'17.99"E
6.	23°21'9.76"N	85°21'18.06"E
7.	23°21'13.07"N	85°21'19.00"E

AREA STATEMENT

S. NO.	DESCRIPTION	AREA (SQ M)
A.	**Total plot area**	**5821.02**
B.	Proposed Ground Coverage (@ 33.50 % of plot area)	1949.93
C.	**Proposed FAR (@ 2.99)**	17386.44
D.	Non FAR Area (Strain case, Lift, Balcony, Ramp, Accessory Use, 2Basement Parking)	8514.88
E.	**Built-up Area (D+E)**	**25901.32**
F.	Green Belt (@15% of plot area)	874
G.	Paved area	130
H.	Open Area	1885.00
I.	Road Area	982.09

J.	No. of Parking	226 nos.
K.	Maximum Height of Building(m)	39 m
L.	No. of Lifts	06
M.	No of Dwelling Units	142

STATUTORY CLEARANCES

1	DFO Wildlife	:	DFO, Wildlife Ranchi vide letter no. 268, dated 22.03.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
2	DFO Forest	:	DFO, Ranchi Forest Division vide letter no. 1303, dated 05.04.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
3	CO certificate	:	The CO, Argora, Ranchi vide letter no. 265 (ii), dated 25.04.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
4	AAI NOC	:	Airport Authority of India NOC for height clearance vide NOC Id-RANC/EAST/B/010323/735086, dated 06.01.2023.
5	Fire Department	:	Project Authority undertake that after getting permission from Fire Department same should be submitted to SEIAA/SEAC.
6	Building Plan	:	Conceptual Plan submitted.

Water Requirement Details

Category	Population/ Area (sq m)/Capacity	Standard (LPCD)	Water Requirement (KLD)	Fresh Water Requirement (KLD)	Recycled Water requirement (KLD)
Domestic					
Residents	816	100	81.6	57.12	24.48
Staff	43	45	1.935	1.3545	0.5805
Visitors	36	15	0.54	0.162	0.378
Total Domestic Water Demand			**85**	**59**	**26**
Swimming pool	139.23 m^3		14	14	-

Landscape	874 sqm	6ltr/sqm	6	-	6
Fire Fighting			1	-	1
DG cooling	1000KVA	0.9l/kVA/ hr	5		5
Total		-	**111**	**73**	**38**

(D.G. sets operation period is 8 hrs.)

Wastewater Calculations

Category	Total Quantity (KLD)
Domestic(fresh) water Req.	59
Fresh water (swimming pool)	14
Flushing water Req.	26
Sewage generation (@80% of the Domestic + 100% flushing water requirement)	74
Capacity of STP	**100**
Recovered water from STP (90% of Waste water) • Flushing • Landscaping • Fire Fighting • DG cooling • Sewer	67 26 6 1 5 29

Solid Waste Requirement

S. No	Description	Occupancy/Area	kg/capita/day	Total Solid Waste Generation (kg/day)	Recyclable (kg/day)	Non-Recyclable (kg/day)
1.	Residents	816	0.5	408	285	123
2.	Staff	43	0.25	11	8	3
3.	Visitors	36	0.15	6	2	4
4.	Landscape waste	0.21 acres	2.74 kg/acres	0.57	0.57	-
5.	STP sludge	100 KLD	--	12	12	-
				438	**308**	**130**

Total Waste Generated			

ENVIRONMENT MANAGEMENT

Green Belt Development

- Combination of local trees and shrubs are planned within the project site.
  - Total green belt provided at the site is 874 sq m (15% of the plot area) which will enhance the beauty of the site and help combat air and noise pollution.
- The plant species will be selected on the basis of Guidelines for Developing Green Belts, CPCB March 2000.

Solid Waste Management

During Construction Phase

- Construction yards are proposed for storage of construction material.
- Excavated top soil will be stored in temporary constructed soil bank and will be reused for landscaping of the project.
- Remaining soil will be utilized for refilling/road work/raising of site level at locations.
- There will be "Refuse Containers" at site for the management of domestic waste generated by the construction labourers and these containers will be emptied at least once daily.
- Cement bags, waste paper and packing material (cardboard) will be sold off to recyclers.

During Operation Phase

- The solid waste will be segregated at source & collected.
- Adequate number of colored bins (green, white & Black) separate for bio-degradable, non-biodegradable and Hazardous waste are proposed to be provided at the strategic location within site.
- Bio-degradable (will be composted through organic waste converter).
- Recyclable wastes will be disposed to govt. or SPCB approved third party vendors.
- Dewatered sludge can be buried underground in a sanitary landfill. It also may be spread on agricultural land in order to make use of its value as a soil conditioner and fertilizer.
- The Hazardous waste generated will be managed as per the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016.
- Horticultural Waste is composted and used for gardening purposes.

Water Quality Management

During Construction Phase

- The site drainage will be planned in such a way that there is no accumulation of water/wastewater within the project premises or in the vicinity of the site.
- Mobile toilets to be provided for construction Laborers.
- Generated waste water will be collected through tankers and dispose to septic tank for treatment.

During Operation Phase

- STP of capacity i.e. 100 KLD or STP (sewage treatment plant facility of Ranchi Smart City)is proposed for treatment of wastewater.
- Treated waste water would be reused for Flushing, Landscaping, Road Washing &Misc
- Use of water efficient plumbing fixtures to conserve water.
- Approx. 59 KLD of fresh water is required during operational phase of the project.

Air Quality Management

- Warehouse/stock yard will be provided for storage of construction material
- Covering of stored construction materials with tarpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions.
- Periodical Ambient Air Quality Monitoring.
- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

- Energy will be conserved via solar power & LED of at least 12% of the total power requirement.

Undertaking

- An affidavit stating that no construction work.
- An undertaking that 74 KLD recycles waste water generated at Residential and Commercial Project located in Ranchi Smart City of M/s APNA SAI AWAS LLP at Ranchi Smart City R/s Plot no 118, 119 and 344, Khata no 27 & 116, Thana no 212, Mauza Samlong, Circle Argoda, Dist-Ranchi, Jharkhand.
- An undertaking that 1920 kVA Power requirement in Residential and Commercial Project located in Ranchi Smart City of M/s APNA SAI AWAS LLP at Ranchi Smart City R/s Plot no 118, 119 and 344, Khata no 27 & 116, Thana no 212, Mauza Samlong, Circle Argoda, Dist-Ranchi, Jharkhand.

Based on the presentation made and information provided, the Committee decided that the proposal for Proposed Residential & Commercial Building of M/s Apna Sai Awas LLP, Village : Samlong, Tehsil : Namkum, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –III along with the following specific conditions :

I. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

II. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

III. All raw material to be stored only under covered shed.

IV. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

V. Developers to promote energy conservation measures such that it offsets not less than 02 % of connected load. It is to be achieved by solar panels etc meeting ECBC norms.

VI. Trees should be developed & maintained not less than 15% of project area.

VII. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.

VIII. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

IX. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is collected and harvested including reuse on 100% basis.

X. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XI. Water runoff originating from open non constructed areas of project premises to be harvested /guided in such a way that it does not create water logging condition outside.

XII. Sufficient number of EV fast charging points to be installed.

XIII. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XIV. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

XV. A cycling tract to be provided in residential complex so as to save on fuel and make in campus movement environment friendly.

XVI. A clearance of minimum 4.5 meter width drive way all around the constructed area must be provided for movement of fire tendors.

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4. **Talpahari Stone Deposit of M/s Noorujjaman Shekh (Prop. : Md. Noorujjaman Shekh), Village : Talpahari, P.S. : Hiranpur, Distt. : Pakur, Jharkhand (2.744 Ha).**

(Proposal No : SIA/JH/MIN/ 469892/2024)

Project Category : B1 – Application for Terms of reference (ToR).

TOR Application for : Proposed Capacity- 68120.7 cum/annum or 183925.89 TPA

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 29.04.2024

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Talpahari Stone Deposit	
2	Lessee:	:	M/s Noorujjaman Shekh Prop. - Mo. Noorujjaman Shekh Address- Rahaspur, PO+PS-Rahaspur, District-Pakur, Jharkhand	
3	Lease Address	:	Village – Talpahari, PS – Hiranpur, District- Pakur, Jharkhand	
4	Lease Area	:	2.744 ha	Acres- 6.78 Acres
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 60 Lakhs	
7	EMP Budget	:	Capital: 3.58 Lakhs	Recurring: 5.10 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 667964 cum	Tonnes: 1803502.80 tones
10	Mine Life	:	10 years	
11	Man power	:	17	
12	Water Requirement	:	5.73 ~ 5.80 KLD (Drinking:0.17KLD,Dust Suppression:2.98KLD, Plantation:2.58KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Torai Nadi, 3.20 km towards SSE direction.	
17	Nearest Habitation	:	Partappur- Approx 0.53 km towards NNW direction.	
18	Nearest Rail Station	:	Kotalpukur Railway station, approx. 6.85 km towards NE direction.	
19	Nearest Air Port	:	Deoghar Airport approx. 112.06 km towards WSW direction.	
20	Nearest Forest	:	Bhandaro Protected Forest, approx 4.55 Km in NW direction Protected Forest, approx 2.39 Km in NNW direction.	

			Protected Forest approx 4.35 Km in West direction Protected Forest approx 3.85 Km in SW direction
21	Road & Highways	:	NH-133A, Approx. 3.65 km in WSW direction.

CO-ORDINATES

1	Latitude		From 24°41'50.16" N	To 24°41'55.64" N
2	Longitude		From 87°46'21.04" E	To 87°47'29.91" E

LAND DETAILS:

Khata No.	Plot No.
17	1125 (P), 1126 (P), 1127, 1128, 1129, 1130, 1131, & 1132 (P)
21	1110 (P), 1111, 1134 (P), 1136 (P), 1137 (P), 1138, 1140, 1142, 1143, 1145, 1146, 1147, 1148, 1149, 1151, 1152, 1153, 1154 (P), 1155 (P), 1156 (P), 1157, 1161, 1162, 1163, 1164, 1165, 1167, 1168, 1169, 1172 & 1173
40	1133, 1139 (P), 1141, 1144, 1150, 1158, 1159, 1160, 1166 & 1170

STATUTORY CLEARANCES:

1	LOI	:	The Letter of Intent (LoI) has been issued by DMO, Pakur vide memo no. 2329/M, dated 17.10.2023.
2	CO	:	The CO, Hiranpur vide letter no. : 432/Ra., dated 18.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 2342/M, dated 19.10.2023 certified that 04 another mining lease area (2.60 Acre, 3.04 Acre, 5.81 Acre & 6.55 Acre) exists within 500 m radius from proposed project site and total area is 24.78 Acre / 10.03 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sabhibganj) vide letter no. : 1418, dated 28.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.

5	DFO Forest Distance	:	DFO, Pakur Forest Division vide letter no. : 936, dated 03.07.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in DSR of Pakur District as a potential area and same has been also certified by DMO, Pakur vide memo no. 155/M, dated 30.01.2024.
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 705/Vi. Dated 11.07.2023 informed that Gram Sabha conducted on 10.07.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide letter no. 481/DDM dated 17.11.2023.
9	Qualified Person	:	Qualified Person Shri Tapan Kumar Chakravarty was confirm through email 30.04.2024 That the mine plan has been prepared by him.
10	**Baseline monitoring period 1st March, 2024 to 31st May, 2024.**		

Working Details

1	Mining Method	:	Opencast Semi-mechanised method	
2	Quarry Area	:	2.744 Ha	Life of Mine – 10 Years
3	Waste Generation	:	47982.30 cum 129552.21 tons	
4	Stripping Ratio	:	1: 0.14	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	40 mRL to 46 mRL	
8	Ground Level Elevation	:	25 mRL	
9	Ultimate Working Depth	:	16 mRL	
10	Water Table	:	16 mRL	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of Stone in tonnes	Overburden in cum	Intercalated Waste in (cum)	Total Waste in (cum)
1st	175661.46	11520.00	3424.20	14944.20
2nd	183202.56	0.00	3571.20	3571.20
3rd	183925.89	1584.00	3585.30	5169.30
4th	181755.90	5100.00	3543.00	8643.00
5th	181940.58	12108.00	3546.60	15654.60
Total	**906486.39**	**30312.00**	**17670.30**	**47982.30**

Land Use

Pattern of Utilization	Existing (Ha)	Plan period (Ha)	Conceptual stage (Ha)
Excavation	0.0	2.042	2.328 (0.176 ha area shall be backfilled & 2.152 ha area shall be left as water reservoir)
Waste Dump	0.0	Nil (waste dump to be removed and backfilled)	Nil (waste dump to be removed and backfilled)
Road	0.0	0.002	0.0
Infrastructure (Crusher)	0.0	0.284	0.00
Safety Zone	0.0	0.416 (Plantation)	0.416 (Plantation)
Total	**0.00**	**2.744**	**2.744**
Unused Area	2.744	0.00	0.00
Lease hold area	**2.744**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Area for Greenbelt in Hectare/No. of Plants	Plantation along both sides of Approach road	Anganwadi, School, Panchayat office etc	Name of the Species to be planted
1st Year	Excavation for Plantation			
2nd year	0.416 ha/1040	150	100	
3rd year				Jackfruits,

4th year	Plants care & maintenance			Babul, Arjuna, Gulmohar, Neem, Pipal, Mango, etc.
5th Year				
Total	**1040**	**150**	**100**	
Total	**1290**			

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

It has been calculated that total 47982.30 cum in-situ, 59977.88 cum loose and 50981.19 cum compact waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 25490.60 cum (compact) waste shall be utilized for approach & haul road maintenance. The rest waste material (50%) 25490.60 cum waste shall be temporarily dumped in eastern part of the lease area during the 1st year to 3rd year and fourth year onwards the generated waste (50%) and waste materials of previous year dumping shall be removed and used for backfilling of exhausted portion of quarry in south eastern part of the area and it will covers 0.145 ha. area.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.

- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment

C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	4
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6

6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.

- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.

- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 26, 27, 28, 29 & 30.04.2024, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of TOR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure VII along with following specific condition :

i. The detailed EMP is to be prepared for the Habitation & Education Institute existing within an area of 500 meter radius of proposed project boundary. This EMP is to be included in EIA report.

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B. The old proposal being processed in PARIVESH 1.0

1. Digarmara Stone Deposit of M/s Kiran Construction and Infrastructure Pvt. Ltd., Village : Digarmara, Thana : Ghatshila, Distt. : East Singhbhum, Jharkhand (2.99 Ha).

(Proposal No. SIA/JH/MIN/ 446540/2023).

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Proposed Capacity- 77720 cum/annum or 194300 TPA**

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 29.04.2024

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Digarmara Stone Deposit	
2	Lessee:	:	M/s Kiran Construction and Infrastructure Pvt. Ltd. (Director - Sri Sukhvinder Singh)	
3	Lease Address	:	M/s Kiran Construction and Infrastructure Pvt. Ltd. (Director - Sri Sukhvinder Singh) At – Near Bhagat Singh Statue, Jemco Bus Stand, Telco Jamshedpur, District – East Singhbhum, Jharkhand, 831004	
4	Lease Area	:	2.99 ha	Acres- 7.40 Acre
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost	:	Rs. 50 Lakhs	
7	EMP Budget	:	Capital: 2.68 Lakhs	Recurring: 3.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 777048 cum	Tonnes: 1942619 tons
10	Mine Life	:	10 years	
11	Man power	:	28	
12	Water Requirement	:	5.60 KLD(Drinking: 0.28 KLD, Dust Suppression: 2.67 KLD, Plantation: 2.63 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Naga River, Approx 0.66 km towards WSW direction.	
17	Nearest Habitation	:	Digarmara, at 410 meters	

18	Nearest Rail Station	:	Haldipokhar Railway station, approx 2.97 km towards N direction.
19	Nearest Air Port	:	Birsa Munda Airport, approx. 117.60 km towards ESE direction.
20	Nearest Forest	:	Banka Forest - Approx 9.92 km towards NNE direction
21	Road & Highways	:	NH-220, Approx. 2.13 km. in WNW direction.

CO-ORDINATES

1	Latitude		From 22°34'20.53" N	To 22°34'27.69" N
2	Longitude		From 86°08'34.92" E	To 86°08'44.60" E

LAND DETAILS:

Khata No.	Plot No.
50	194, 195 & 196 (P)

STATUTORY CLEARANCES:

1	LOI	:	The Letter of Intent (LoI) has been issued by DMO, East Singhbhum, Jamshedpur vide letter no. 748/Khanan, dated 19.07.2023.
2	CO	:	The CO, Potka, East Singhbhum vide letter no. : 809, dated 17.12.2022 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, East Singhbhum, Jamshedpur vide letter no. 1034/Khanan, dated 15.12.2022 certified that no another mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. : 1513, dated 28.09.2021 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Jamshedpur Forest Division vide letter no. : 1196, dated 07.06.2021 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.

6	DSR	:	The District Magistrate – cum – DC, East Singhbhum, Jamshedpur vide letter no. 1253/Khanan, dated 25.11.2023 has informed that this project is part of District Survey Report (DSR) of East Singhbhum, Jamshedpur district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Gram Sabha conducted on 01.05.2023.
8	Mine Plan Approval	:	Approved by Assistant Director, Geology, East Singhbhum, Jamshedpur vide letter no. 107, dated 07.10.2023.
9	Qualified Person	:	Qualified Pereson Shri Surendra Sai has personally confirmed that the mine plan was prepared by him.

Working Details

1	Mining Method	:	Opencast other than fully mechanized (OTFM) Method	
2	Quarry Area	:	2.99 Ha / 7.40 Acre	Life of Mine – 10 years
3	Waste Generation	:	22594 cum or 56485 tons	
4	Stripping Ratio	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	212m AMSL to 208m AMSL	
8	Ground Level Elevation	:	208m AMSL	
9	Ultimate Working Depth	:	176m AMSL	
10	Water Table	:	111m AMSL to 105m AMSL	
11	Topography of Mine	:	Area represents a gently sloping land with rock mass of Dolerite	
12	Explosive Requirement	:	110kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Bench RL in Meters
1st	77720	194300	186mRL - 174mRL
2nd	77714	194285	180mRL - 174mRL
3rd	77704	194260	174mRL - 168mRL
4th	77695	194238	168mRL - 156mRL

5th	77704	194260	156mRL - 138mRL
Total	**388537**	**971343**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Excavation	Nil	1.56	2.47
Greenbelt within Safety Barrier	Nil	0.51	0.51
Temporary dumping	Nil	0.54	Nil
Blocked Area Due to Road Safety	Nil	0.01	0.01
Total Area in use	Nil	2.62	2.99
Balanced Area	2.99	0.37	Nil
Total Applied Area	**2.99**	**2.99**	**2.99**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.51 ha	1315
2	Along Approach Road		0.02 km	20

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

Total removal of Gritty soil 2145 cum or intercalated waste 20449 cum during quarry advancement gritty soil & intercalated waste will be removed and this will be temporarily dumped within the applied area and in conceptual period backfilled within the exhausted quarry

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.

- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall becollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, dischargefrom Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction In NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.

- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Digarmara Stone Deposit of M/s Kiran Construction and Infrastructure Pvt. Ltd., Village : Digarmara, Thana : Ghatshila, Distt. : East Singhbhum, Jharkhand (2.99 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II alongwith following specific conditions for improving the environmental performance :

I. **Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines**

and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

II. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

III. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

IV. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

V. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VI. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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2. **Tirildih Stone Deposit of M/s Kiran Construction & Infrastructure Pvt. Ltd., Village : Tirildih, Thana : Ghatshila, Distt. : East Singhbhum, Jharkhand (0.97 Ha).**

(Proposal No. SIA/JH/MIN/ 448935/2023).

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Proposed Capacity- 31444 cum/annum or 78610 TPA**

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 29.04.2024

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Tirildih Stone Deposit
2	Lessee:	:	M/S. Kiran Construction & Infrastructure Pvt. Ltd (Director - Sri Sukhvinder Singh) Near Bhagat Singh Statue, Jamco Bus Stand, P.O + P.S - Telco,

			Jamshedpur, District - East Singhbhum, Jharkhand	
3	Lease Address	:	Village – Tirildih, Thana - Ghatshila, District – East Singhbhum, State- Jharkhand	
4	Lease Area	:	0.97 ha.	Acres- 2.40 Acre
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 50 Lakhs	
7	EMP Budget	:	Capital: 3.175 Lakhs	Recurring: 4.27 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	392237 tons or 156894.80 cum	
10	Mine Life	:	5 years	
11	Man power	:	25	
12	Water Requirement	:	6.05 ~ 6.10 KLD (Drinking: 0.25 KLD, Dust Suppression: 3.50 KLD, Plantation: 2.30 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 kVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Garra River- Approx. 5.30 km towards SE direction of mine site. Chandi River- Approx. 5.50 km towards SE direction of mine site.	
17	Nearest Habitation	:	Tirildih vilage, Approx. 680 meters towards ENE direction.	
18	Nearest Railway Station	:	Haldipokhar Railway station, approx. 8.10 km towards SSW direction.	
19	Nearest Air Port	:	Birsa Munda Airport, approx. 110.80 km towards NW direction.	
20	Nearest Forest	:	Dholadih Protected Forest- Approx. 3.60 km towards ENE direction of mine site. Morcha Protected Forest- Approx. 4.80 km towards ENE direction of mine site. Kudada Reserve Forest- Approx. 3.10 km towards N direction of	

			mine site. Protected Forest near village Bhunridih- Approx. 3.80 km towards NE direction of mine site.
21	Road & Highways	:	SH- 6, Approx. 1.10 km. in SE direction.

CO-ORDINATES

1	Latitude		From 22°39'55.503" N	To 22°39'58.658" N
2	Longitude		From 86°09'55.348" E	To 86°10'1.791" E

LAND DETAILS:

Khata No.	Plot No.
96	104

STATUTORY CLEARANCES:

1	LOI	:	The Letter of Intent (LoI) has been issued by DMO, East Singhbhum, Jamshedpur vide letter no. 783/Khanan, dated 28.07.2023.
2	CO	:	The CO, Potka, East Singhbhum vide letter no. : 576, dated 08.06.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, East Singhbhum, Jamshedpur vide letter no. 678/Khanan, dated 22.06.2023 certified that no another mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. : 1240, dated 08.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Jamshedpur Forest Division vide letter no. : 1272, dated 16.06.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	The District Magistrate – cum – DC, East Singhbhum, Jamshedpur vide letter no. 1253/Khanan, dated 25.11.2023 has informed that this project is part of District Survey Report (DSR) of East

			Singhbhum, Jamshedpur district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	BDO, Potka vide letter no. 1099, dated 22.07.2023 informed that Gram Sabha conducted on 02.07.2023.
8	Mine Plan Approval	:	Approved by Assistant Director, Geology, East Singhbhum, Jamshedpur vide letter no. 108, dated 07.10.2023.
9	Qualified Person	:	Qualified Pereson Shri Surendra Sai has personally confirmed that the mine plan was prepared by him.

Working Details

1	Mining Method	:	Opencast mechanized method	
2	Quarry Area	:	0.97 ha. or 2.40 Acre	Life of Mine – 5 Years
3	Waste Generation	:	2060 cum of Gritty Soil and 8261 cum of Intercalated Waste	
4	Stripping Ratio	:	1:0.06	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	188 AMSL to 186 AMSL	
8	Ground Level Elevation	:	186 AMSL	
9	Ultimate Working Depth	:	158 AMSL	
10	Water Table	:	145 AMSL (13 mbgl)	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	70 kg/day	
13	Diesel/Fuel requirement	:	70 litre/day	

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Removal of Gritty Soil in cum	Intercalated Waste in cum	Bench RL in Meters
1st	31410	78525	1145	1653	188mRL - 176mRL
2nd	31391	78477	--	1652	182mRL - 170mRL

3rd	31320	78300	--	1649	170mRL - 158mRL
4th	31330	78325	915	1652	170mRL - 158mRL
5th	31444	78610	--	1655	170mRL - 158mRL
Total	**156895**	**392237**	**2060**	**8261**	

Land Use

Type of Land	Present Land Use (Ha)	At the end of Plan period (Ha)	At the End of Conceptual Period (Ha)	At the End of Mine (In ha.)	
Excavation	--	0.69	0.69	0.69	Water Reservoir
Greenbelt within Safety Barrier	--	0.28	0.28	0.28	Tree Plantation
Road	0.06	--	--	--	--
Crusher	--	Yes	--	--	--
Total area in use	**0.06**	**0.97**	**0.97**	**0.97**	--
Balanced Unused Area	0.91	--	--	--	--
Total Applied Area	**0.97**	**0.97**	**0.97**	**0.97**	--

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone		0.280 ha	700
2	Along Approach Road		0.350 m	350
3	Plants distributed in Anganwadi, Panchayat Bhawan or in schools		--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development,

Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

Total 2060 cum of Gritty Soil and 8261 cum of Intercalated Waste will be generated during the Plan Period. During quarry advancement gritty soil & intercalated waste will be removed and this will be temporarily dumped within the applied area and then backfilled within the exhausted quarry.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.

- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1

C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

<u>Preventive Measures:</u>

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.

h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Tirildih Stone Deposit of M/s Kiran Construction & Infrastructure Pvt. Ltd., Village : Tirildih, Thana : Ghatshila, Distt. : East Singhbhum, Jharkhand (0.97 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
II. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
III. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.
IV. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.
V. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.
VI. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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Day 5 : April 30th, 2024 [Tuesday]

A. <u>Any other matter, if any, with the permission of Chair.</u>

1. The ECs granted to the Sand Mining projects during the period September, 2023 to October, 2023 were taken up for application of additional conditions in consonance of Enforcement & Monitoring Guidelines for Sand Mining, 2020 . The projects considered were :

Sl. No.	Project Name	Applied for EC	Proposed production Report (per annum)	Date of SEAC meeting in which the proposal was recommended for EC.	Date of SEIAA meeting in which decision was taken for EC.	Letter No. & Date
1.	Marmar Sand Ghat in the River Bed of Damodar of M/s Jharkhand State Mineral Development Corporation Ltd. (JSMDC), Village : Marmar, Tehsil : Latehar, Distt. : Latehar, Jharkhand (2.10 Ha). (Proposal No. SIA/JH/MIN/ 448809 /2023)	EC	40926.29 Tonnes for 5 years	110th Meeting of SEAC, dated - 17th – 21st October, 2023	110th Meeting of SEIAA dated – 27th, 28th & 29th October, 2023	Letter No. – 452 Date – 02.11.2023
2.	Tubed Sand Deposit of M/s Jharkhand State Mineral Development Corporation Ltd., Village : Tubed, River Sukri, Distt. : Latehar, Jharkhand (0.80 Ha). (Proposal No. SIA/JH/MIN/ 448950/2023)	EC	**1st Year –** 12977 MT **2nd Year –** 7786 MT **3rd Year –** 4672 MT **4th Year –** 2803 MT **5th Year -** 1682 MT	110th Meeting of SEAC, dated - 17th – 21st October, 2023	110th Meeting of SEIAA dated – 27th, 28th & 29th October, 2023	Letter No. – 448 Date – 02.11.2023

Additional conditions :

i. **Replenishment study is to be conducted every year pre-monsoon and post monsoon and study report to be submitted to SEIAA / SEAC, Jharkhand.**

ii. **The production shall be restricted to 60% of the replenished quantity or the proposed quantity in the mine plan, which ever is less.**

The SEAC recommends the applicability of the above conditions in addition to the conditions already mentioned in earlier EC.

2. **The ECs granted to the Sand Mining projects during the period prior to issue of Enforcement & Monitoring Guidelines for Sand Mining, 2020 . The projects considered were :**

Sl. no.	Online Proposal no.	Project Name	Applied for EC	Date of SEAC meeting in which the proposal was recommended for EC	Date of SEIAA meeting in which decision was taken for EC	Letter No./ Date
1.	SIA/JH/MIN/73764/2018	Kharsota Sand Mining Project of M/s JSMDC Ltd. at Village : Kharsota, Anchal : Manjhiawn, P.S. : Majhiawan, Distt. : Garhwa, Jharkhand (8.10 Ha).	EC	58th meeting of SEAC, date- 25th June, 2018 & 26th June, 2018	59th Meeting of SEIAA, dated – 09.08.2018	Letter No. – 203 Date – 31.08.2018
2.	SIA/JH/MIN/73715/2018	Pachadumar Sand Mining Project of M/s JSMDC Ltd. at Village : Pachadumar, Anchal : Ketar, Distt. : Garhwa, Jharkhand (20.24 Ha).	EC	58th meeting of SEAC, date- 25th June, 2018 & 26th June, 2018	59th Meeting of SEIAA, dated – 09.08.2018	Letter No. – 205 Date – 31.08.2018
3.	SIA/JH/MIN/74906/2018	Kudri, Okra Simla & Dorma Sand Deposit of M/s JSMDC Ltd. at Village : Kudri, Orka Simla & Dorma, Tehsil : Torpa, Distt.: Khunti, Jharkhand (5.04 Ha).	EC	58th meeting of SEAC, date- 25th June, 2018 & 26th June, 2018	59th Meeting of SEIAA, dated – 09.08.2018	Letter No. – 206 Date - 31.08.2018
4.	SIA/JH/MIN/35951/2019	Phulsahaeri Sand Mine of M/s JSMDC Ltd. at Village : Phulsahari, P.O. : Kendghata, Distt. : Dumka, Jharkhand (4.00 Ha).	EC	72nd meeting of SEAC, date- 27th – 30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 251 Date - 05.06.2019
5.	SIA/JH/MIN/35964/2019	Kusumghata Sand Mine of M/s JSMDC Ltd. at Village : Kusumghata, P.O. : Kusumghata, P.S. : Tongra, Distt. : Dumka, Jharkhand (4.25 Ha).	EC	72nd meeting of SEAC, date- 27th – 30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 264 Date - 05.06.2019
6.	SIA/JH/MIN/34802/2019	Jugtopa Sand Mining of M/s JSMDC Ltd. at Village : Jugtopa, P.S. : Karaon, Distt. : Deoghar, Jharkhand (3.64 Ha).	EC	72nd meeting of SEAC, date- 27th – 30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 249 Date - 05.06.2019

7.	SIA/JH/MIN/34873/2019	Tetariyatanr Sand Mining Project of M/s JSMDC Ltd. at Village : Teraiyatanr,P.S. : Karaon, Distt. : Deoghar, Jharkhand (4.82 Ha).	EC	72nd meeting of SEAC, date-27th –30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 250 Date - 05.06.2019
8.	SIA/JH/MIN/34695/2019	Biree Sand Mining Project of M/s JSMDC Ltd. at Village : Biree, P.S. : Chainpur, Distt. : Gumla, Jharkhand (4.00 Ha).	EC	72nd meeting of SEAC, date-27th –30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 254 Date - 05.06.2019
9.	SIA/JH/MIN/34693/2019	Keradih Sand Mining Project of M/s JSMDC Ltd. at Village : Keradih, P.S. : Raidih, Distt. : Gumla, Jharkhand (4.00 Ha).	EC	72nd meeting of SEAC, date-27th –30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 260 Date - 05.06.2019
10.	SIA/JH/MIN/34798/2019	Raniganj Sand Mining of M/s JSMDC Ltd. at Village : Raniganj, P.S. : Sarath, Distt. : Deoghar, Jharkhand (2.4 Ha).	EC	72nd meeting of SEAC, date-27th –30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 259 Date - 05.06.2019
11.	SIA/JH/MIN/35414/2019	Lathbedhwa Sand Ghar of M/s JSMDC Ltd. at Village : Lathbedhwa, P.O. : Sharmatand, Anchal & P.S. : Jainagar, Distt. : Koderma, Jharkhand (4.00 Ha).	EC	72nd meeting of SEAC, date-27th –30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 262 Date - 05.06.2019
12.	SIA/JH/MIN/34685/2019	Larango Sand Mining Project of M/s JSMDC Ltd. at Village : Larango, P.S. : Sisai, Distt. : Gumla, Jharkhand (4.80 Ha).	EC	72nd meeting of SEAC, date-27th –30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 252 Date - 05.06.2019
13.	SIA/JH/MIN/34774/2019	Pandaniya Sand Ghat of M/s JSMDC Ltd. at Village : Pandaniya, P.S. : Margomunda, Distt. : Deoghar, Jharkhand (3.89 Ha).	EC	72nd meeting of SEAC, date-27th –30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 256 Date - 05.06.2019

14.	SIA/JH/MIN/36779/2019	Soro (Jorongdih) Sand Mine Project of M/s JSMDC Ltd. at Village : Soro (Jorgodih), Panchayat : Soro, Tehsil : Ichagarh, Distt. : Saraikela-Kharsawan, Jharkhand (4.90 Ha).	EC	72nd meeting of SEAC, date- 27th – 30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 257 Date - 05.06.2019
15.	SIA/JH/MIN/34822/2019	Basatpur & Maljhar Sand Mining of M/s JSMDC Ltd. at Village : Basatpur & Maljhar, P.S. : Deoghar, Distt. : Deoghar, Jharkhand (4.57 Ha).	EC	72nd meeting of SEAC, date- 27th – 30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 255 Date - 05.06.2019
16.	SIA/JH/MIN/35240/2019	Ghorighat Sand Ghat of M/s JSMDC Ltd. at Village : Ghorighat, P.S. : Pratappur, Distt. : Chatra, Jharkhand (3.24 Ha).	EC	72nd meeting of SEAC, date- 27th – 30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 258 Date - 05.06.2019
17.	SIA/JH/MIN/36158/2019	Navatand Sand Deposit of M/s JSMDC Ltd. at Village : Navatand, P.S. : Barkagaon, Distt. : Hazaribagh, Jharkhand (4.14 Ha).	EC	72nd meeting of SEAC, date- 27th – 30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 263 Date - 05.06.2019
18.	SIA/JH/MIN/35231/2019	Garhkedali (Nawadih) Sand Ghat of M/s JSMDC Ltd. at Village : Garhkedali & Nawadih, P.S. : Hunterganj, Distt. : Chatra, Jharkhand (4.24 Ha).	EC	72nd meeting of SEAC, date- 27th – 30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 253 Date - 05.06.2019
19.	SIA/JH/MIN/35135/2019	Banki Sand Ghat of M/s JSMDC Ltd. at Village : Banki, P.S. : Hunterganj, Distt. : Chatra, Jharkhand (3.74 Ha).	EC	72nd meeting of SEAC, date- 27th – 30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 261 Date - 05.06.2019
20.	SIA/JH/MIN/35241/2019	Lohsighna Khurd Sand Ghat of M/s JSMDC Ltd. at Village : Lohsighna, P.S. : Hunterganj, P.S. : Hunterganj, Distt. : Chatra, Jharkhand (4.14 Ha).	EC	72nd meeting of SEAC, date- 27th – 30th May,, 2019	73rd Meeting of SEIAA, dated – 03rd June, 2019	Letter No. – 265 Date - 05.06.2019

21.	SIA/JH/MIN/36024/2019	Murtiya Sand Ghat in the river bed of Gauri River of M/s JSMDC Ltd. at Village : Murtiya, Tehsil :Chandwara, Distt. : Koderma, Jharkhand (4.31 ha).	EC	77th Meeting of SEAC, dated – 29th – 30th August, 2019	79th Meeting of SEIAA dated – 19th September, 2019	Letter No. – 473 Date - 23.09.2019
22.	SIA/JH/MIN/44138/2019	Olmunda Sand Ghat of Md. Shamim Khan at Vill :Olmunda, P.O. : Olmuda, P.S. : Sisai, Dist : Gumla (5.873 Ha	EC	82nd Meeting of SEAC, dated – 04th – 07th November, 2019.	84th Meeting of SEIAA dated – 08th November, 2019	Letter No. – 672 Date - 08.11.2019
23.	SIA/JH/MIN/44229/2019	Olmunda Sand Ghat of Md. Shamim Khan at Vill :Olmunda, P.O. : Olmuda, P.S. : Sisai, Dist : Gumla (6.075 Ha	EC	82nd Meeting of SEAC, dated – 04th – 07th November, 2019.	84th Meeting of SEIAA dated – 08th November, 2019	Letter No. – 706 Date - 08.11.2019
24.	SIA/JH/MIN/43682/2019	Khokha Sand Mining Project of M/s Ganga Kaveri Construction Pvt. Ltd. (Director : Shri Praveen Kumar) at Village – Khokha, Panchayat – Sundi, P.S. – Bhawnathpur, Dist – Garhwa, Jharkhand. (23.00 Ha)	EC	93rd Meeting of SEAC, dated - 18th – 27th February, 2022	94th Meeting of SEIAA dated – 13th, 14th & 15th April, 2022.	Letter No. – 26 Date - 16.04.2022

Additional conditions :

i. **Replenishment study is to be conducted every year pre-monsoon and post monsoon and study report to be submitted to SEIAA / SEAC, Jharkhand.**

The SEAC recommends the applicability of the above conditions in addition to the conditions already mentioned in earlier EC.

The meeting concluded with thanks to all present.

Ashok Kumar Dubey, IFS (Retd.)
Member

Dr. Ajay Govind Bhatt
Member

Niranjan Lal Agarwalla
Member

Dr. Raju Kumar
Member

30/04/24

Srikant Verma, IFS
Member Secretary

30/04/2024

Ashok Kumar Singh, IFS (Retd.)
Chairman

Annexure - I

I. Statutory compliance

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

iii. The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)

iv. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

v. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.

vi. The project proponent shall obtain the necessary permission from the Central Ground Water Authority.

vii. Solid waste/hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016 as amended from time to time.

II. Air quality monitoring and preservation

i. Continuous ambient air quality monitoring stations as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM1O, PM2.5, S02 and NOx. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water / mist sprinkling / rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM10/PM2.5) such as haul road, loading/ unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.

iv. The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.

v. Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.

vi. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.

vii. Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

III. Water quality monitoring and preservation

i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.

ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.

iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change / Regional Office.

v. Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.

vi. Catch and or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.

vii. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).

viii. Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP / STP needs to be provided.

ix. The water pumped out from the mine, after siltation, shall be utilized for industrial purpose *viz.* watering the mine area, roads, green belt development *etc.* The drains shall be regularly desilted particularly after monsoon and maintained properly.

x. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining PlaniEIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.

xi. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

i. Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs / muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

ii. Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.

iii. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

V. Mining Plan

i. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.

ii. Mining shall be carried out as per the approved mining plan(including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).

iii. No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980

iv. Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEF&CC) from time to time shall be submitted to MOEFCC/Regional Office (RO).

ii. The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural /forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines

for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.

iii. The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining" / "post mining" land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.

iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

v. Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.

vi. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Green Belt

i. The project proponent shall take all precautionary measures during rmnmg operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.

ii. Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach! coal transportation roads.

VIII. Public hearing and Human health issues

i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six- monthly basis.

ii. The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any. as amended time to time.

iii. Personnel (including outsoured employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

iv. Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.

v. The project proponent shall follow the mitigation measures provided in this Ministry'S OM No.Z-11013/5712014-IA.I1 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

IX. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation / violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and/or shareholders/stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM_{10}, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form- V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIAIEMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi. Concealing factual data or submission of false / fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.

xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

xvii. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

Annexure – II

I. Statutory compliance

i. This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

ii. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

iii. The Project proponent complies with all the statutory requirements and judgement of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.

iv. The Hon'ble Supreme Court vide order dated 08.01.2020 in W.P. (Civil) No.114/2014 in the matter of Common Cause vs. Union of India has directed that the area which has been mined should be restored so that grass and other vegetation including trees can grow in the mining area for the benefit of animals.

> *"The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.*

v. The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgement of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.

vi. This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.

vii. This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.

viii. Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.

ix. The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP

shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.

x. The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.

xi. The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-IAJI (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

xii. The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

xiii. A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.

xiv. State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.

xv. The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www. Environment clearance.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF & CC Regional Office for compliance and record.

xvi. The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

II. Air quality monitoring and preservation

i. The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2; CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCUI, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

ii. Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from ail sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance: Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/ Central Pollution Control Board.

III. Water quality monitoring and preservation

i. In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

ii. Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

iii. Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

iv. The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in

monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

v. Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J- 20012/1/2006-IAJI (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

vi. Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEF&CC annually.

vii. Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

viii. The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

IV. Noise and vibration monitoring and prevention

i. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

ii. The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.

iii. The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

V. Mining Plan

i. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.

ii. The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

iii. The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office.

VI. Land reclamation

i. The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

ii. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

iii. The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

iv. The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

v. The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.

vi. Catch drains, settling tanks and ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.

vii. Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

viii. The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.

VII. Transportation

i. No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be

mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

ii. The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

VIII. Green Belt

i. The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

ii. The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.

iii. The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide

mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

iv. The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.

v. And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

IX. Public hearing and human health issues

i. The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.

ii. The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

iii. The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like

Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

iv. The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.

v. The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

vi. Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.

vii. The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

X. Corporate Environment Responsibility (CER)

i. The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's 0.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude &

longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.

ii. Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.

XI. Miscellaneous

i. The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.

ii. The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

iii. It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEF & CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.), Ranchi / CPCB / SEIAA.

iv. A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.

v. The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.

vi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

vii. The Ministry / SEIAA / SEAC may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

viii. The Ministry / SEIAA / SEAC reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

ix. The Environmental Clearance accorded shall be valid for the period of lease of the mine. The PP shall not increase production rate and alter lease area during the validity of Environmental Clearance.

x. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

Annexure – III

I. Statutory Compliance

i. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.

ii. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of fire fighting equipment etc as per National Building Code including protection measures from lightening etc.

iii. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

iv. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

v. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

vi. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

vii. The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.

viii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.

ix. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.

x. The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.

xi. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.

xii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel (kerosene/gas) for cooking, safe drinking water, medical health care, etc. The housing may be in the form of temporary structures to be removed after completion of the project.

xiii. Provision of drinking water, waste water disposal, solid wastes management and primary health facilities shall be ensured for labour force. Proper sanitation facilities shall be provided at the construction site to prevent health related problems. Domestic as well as sanitary wastes from construction camps shall be cleared regularly.

xiv. All the labourers to be engaged for construction works shall be screened for health and adequately treated before issue of work permits. The contractor shall ensure periodic health check-up of construction workers.

xv. All vehicles/equipment deployed during construction phase shall be ensured in good working condition and shall conform to applicable air and noise emission standards. These shall be operated only during non-peaking hours.

xvi. Accumulation/stagnation of water shall be avoided ensuring vector control.

xvii. Water during construction phase should be preferred from Municipal supply.

xviii. Unskilled construction labourers shall be recruited from the local areas.

xix. Monitoring of ground water table and quality once in three months shall be carried out. Construction of tube wells, bore wells shall be strictly regulated.

xx. Adequate provision shall be made to cater the parking needs. Parking spaces standards as given in "Manual on Norms and Standards for Environmental Clearance of Large Construction Projects" issued by Ministry of Environment and Forests, Government of India shall be adopted.

xxi. Rest room facilities shall be provided for service population.

xxii. Water body falling within premises (if any) shall not be lined or no embankment shall be cemented. The water bodies, if any, shall be kept in natural conditions without disturbing the ecological habitat.

xxiii. Construction shall conform to the requirements of local seismic regulations. The project proponent shall obtain permission for the plans and designs including structural design, standards and specifications of all construction work from concerned authority.

II. Air quality monitoring and preservation

i. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.

ii. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.

iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM25) covering upwind and downwind directions during the construction period.

iv. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.

v. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.

vi. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.

vii. Wet jet shall be provided for grinding and stone cutting.

viii. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

ix. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules 2016.

x. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.

xi. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

xii. For indoor air quality the ventilation provisions as per National Building Code of India.

III. Water quality monitoring and preservation

i. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.

ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.

iii. Total fresh water use shall not exceed the proposed requirement as provided in the project details.

iv. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

v. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

vi. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.

vii. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.

viii. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.

ix. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.

x. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

xi. The local bye-law provisions on rain water harvesting should be followed. If local byelaw provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.

xii. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.

xiii. All recharge should be limited to shallow aquifer.

xiv. No ground water shall be used during construction phase of the project.

xv. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.

xvi. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

xvii. Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.

xviii. No sewage or untreated effluent water would be discharged through storm water drains.

xix. Onsite sewage treatment of capacity of treating 100% waste water to be installed based on the MBBR/MBR/SBR technology. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.

xx. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.

xxi. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

IV. Noise monitoring and prevention

i. Ambient noise levels shall conform to residential area/commercial area/industrial area/silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

ii. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Energy Conservation measures

i. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.

ii. Outdoor and common area lighting shall be LED.

iii. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

iv. Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.

v. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.

vi. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

VI. Waste Management

i. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.

ii. Disposal of muck during construction phase shall not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.

iii. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.

iv. Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.

v. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.

vi. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

vii. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.

viii. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 20L.6.,Ready mixed concrete must be used in building construction.

ix. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.

x. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Cover

i. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured species (cut) to species (planted).

ii. A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.

iii. Where the trees need to be cut with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). Area for green belt development shall be provided as per the details provided in the project document.

iv. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

VIII. Transport

i. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.

   a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
   b. Traffic calming measures.
   c. Proper design of entry and exit points.
   d. Parking norms as per local regulation

ii. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

iii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

IX. Human Health Issues

i. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

ii. For indoor air quality the ventilation provisions as per National Building Code of India.

iii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

iv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

v. Occupational health surveillance of the workers shall be done on a regular basis.

vi. A First Aid Room shall be provided in the project both during construction and operations of the project.

X. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

XI. Miscellaneous

i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the

Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry / SEIAA / SEAC may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry / SEIAA / SEAC reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEF & CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.), Ranchi / CPCB / SEIAA.

xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

xvi. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

Annexure IV

A. SPECIFIC CONDITION:

i. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project and commitments made during presentation before SEAC and proposed in the EIA report shall be strictly adhered to in letter and spirit.
ii. The unit shall strictly comply with the CPCB guidelines for setting up the Common Bio-Medical Waste Treatment Facility. [CBWTF]
iii. Proponent shall strictly comply the design criteria for incinerator, autoclave and shredder as per the CPCB guidelines.
iv. The unit shall strictly setup the dry technology system.
v. The unit shall strictly ensure mercury waste management at health care facility as per the CPCB guidelines.
vi. The unit shall establish Standard Operating Procedure for waste collection, handling, transportation, treatment and disposal as per Biomedical Waste Management Rules, 2016.
vii. Zero Liquid Discharge (ZLD) status shall be maintained all the time.
viii. There shall be no drainage connections from the premises.

B. CONSTRUCTION PHASE:

i. Water demand during construction shall be reduced by use of curing agents. super plasticizers and other best construction practices.
ii. Project-proponent shall ensure that surrounding environment shall not be affected due to construction activity.
iii. Construction materials shall be covered during transportation and regular water sprinkling shall be done in vulnerable areas for controlling fugitive emission.
iv. All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.
v. First Aid Box shall be made readily available in adequate quantity at all the times.
vi. The project proponent shall strictly comply with the Building and other Construction Workers (Regulation of Employment & Conditions of Service) Act 1996 and Jharkhand rules made there under and their subsequent amendments. Local byelaws of concern authority shall be complied in letter and spirit.
vii. Ambient noise levels shall conform to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality shall be closely monitored during construction phase.
viii. Use of Diesel Generator (DG) sets during construction phase shall be strictly equipped with acoustic enclosure and shall conform to the EPA Rules for air and noise emission standards.
ix. Safe disposal of sewage and municipal solid wastes generated during the construction phase shall be ensured.
x. All topsoil excavated during construction activity shall be used in horticultural/landscape development within the project site.

xi. Excavated earth to be generated during the construction phase shall be utilized within the premises to the maximum extent possible and balance quantity of excavated earth shall be disposed of with the approval of the competent authority after taking the necessary precautions for general safety and health aspects. Disposal of the excavated earth during construction phase shall not create adverse effect on neighboring communities.

xii. Project proponent shall prefer use of eco-friendly building materials including fly ash bricks, fly ash paver blocks, Ready Mix Concrete (RMC) and lead free paints in the project.

xiii. Fly ash shall be used in construction wherever applicable as per provisions of Fly Ash Notification under the E.P. Act, 1986 and its subsequent amendments from time to time. Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to all surroundings.

C. OPERATION PHASE:

i. Consent to Operate shall be obtained from JSPCB under Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution) Act, 1974 before operation, failing which the Environmental Clearance herein shall be deemed to be withdrawn.

ii. Authorization from Jharkhand State Pollution Control Board shall be obtained as applicable under Bio-Medical Waste Management Rules, 2016.

iii. The Bio-Medical wastes shall be managed in accordance with the Bio-Medical Waste Management Rules 2016.

iv. Incinerated ash, used oil, sludge salt, treated biomedical waste and ETP Sludge should be disposed in accordance with BMW Rules, 2016.

v. The proponent shall comply with the Environmental standards notified by Ministry of Environment, Forest & Climate Change for incinerators along with the technology/guidelines.

vi. Guidelines published the Central Pollution Control Board from time to time for Common Bio Medical Waste Treatment published shall be referred for implementation.

vii. There should not be any spillage from the transportation Vehicles.

viii. The project proponent will set up separate Environmental Management Cell for effective implementation of stipulated environmental safeguards under the supervision of Senior Executive.

ix. All the recommendations of EMP shall be strictly complied.

x. The environmental safeguards containing the EIA report shall be implemented in letter & spirit.

xi. Necessary provision shall be made for firefighting facilities within the complex.

xii. Treated flue gas emissions discharged through stack to atmosphere shall always be less than specific emission' standards.

xiii. Project Proponent shall ensure regular operation and maintenance of the ETP and printed logbook shall be maintained

xiv. All the pipelines carrying water/ waste water should be distinguished using colour coding on raw water pipes and reuse lines of treated water.

xv. Utilization of Diesel power generating sets is subject to power failure condition only. The DG sets proposed as a source of power back up during operation phase should be of enclosed type, low sulphur diesel run and conform to rules made under the Environment (Protection) Act, 1986. The DG sets should be subjected to periodic noise and stack monitoring.

xvi. Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.

xvii. Energy Conservation measures such as LEDs light for common lighting of areas, signage etc should be adopted.

xviii. The unit shall develop 33% plot area as a green belt within premises as per the CPCB guidelines.

D. WATER:

i. Total water requirement for the project shall not exceed 20 KL/day and wastewater generation would be around 15 KLD, the wastewater generated will be treated in ETP.

ii. State Ground Water Board / Central Ground Water Board permission should be taken before water uses as per project requirement.

iii. Waste water generation from floor washing, vehicle washing and Autoclaving (4 L/day) shall be treated in proposed ETP. (Cap. 15 KL/Day).

iv. Entire quantity of treated waste water shall be reused for industrial purpose within the premises after conforming the JSPCB norms.

v. The unit shall provide adequate effluent treatment plant (ETP) comprises of Primary, tertiary treatment plants and it shall be operated regularly and efficiently so as to ensure reuse for quenching process.

vi. Separate energy meter shall be provided at ETP. A proper operation logbook of the ETP containing records of quantities and qualities of treated effluent.

vii. The domestic wastewater generation shall not exceed 2.4 KL/day for proposed project and it shall be disposed of into soak pit system.

viii. The Zero wastewater discharge condition to be achieved with utilizing treated effluent for lime slurry preparation for spraying in reactor for quenching process as well as floor and vehicle washing.

ix. The project proponent shall provide electromagnetic flow meter at the inlet & outlet of the water supply, Inlet & outlet of the ETP and shall maintain a record of readings of each such meter on daily basis.

x. The quantity of fresh water usage and water recycling shall be monitored & maintained so that water balance as projected by the project proponent. The record shall be submitted to the JSPCB, SEIAA & Regional Office, MoEF & CC along with six monthly monitoring reports.

E. AIR:

i. Regular monitoring of ground level concentration of PM10, PM2.5, NOx and VOC shall be carried out at the site and downwind direction and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the CPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately.

ii. Proponent shall strictly follow the odour control measures as suggested in environmental management plan.

iii. Proponent shall strictly follow the Environmental Monitoring Program [EMP] for Ambient Air Quality Monitoring (AAQM).

iv. Treated flue gas emissions discharged through stack to atmosphere shall always be less than CPCB stipulated emission standards.

v. DG sets should be maintained as per the norms prescribed by Govt. of Jharkhand.

vi. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution and shall conform to the EPA Rules for air and noise emission standards.

vii. A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.

F. SOLID/HAZARDOUS WASTE:

i. The Company shall strictly comply with the rules and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, as may be amended from time to time. Authorization of the JSPCB shall be obtained for collection / treatment / storage / disposal of hazardous wastes.

ii. Hazardous wastes shall be dried, packed and stored in separate designated hazardous waste storage facility with pucca bottom and leachate collection facility, before its disposal.

iii. Incinerator Ash, ETP sludge & salt sludge (From reactor) shall be disposed off at the nearby common TSDF.

iv. Treated Biomedical plastic waste shall be sold out to JSPCB authorized recycler only.

v. Used Oil shall be either reused for lubrication in plant machineries or sold out to registered recyclers,

vi. Discarded container / bags shall be either reused or sold only to the authorized recyclers.

vii. Treated glass waste shall be sold out to JSPCB authorized recycler only.

viii. Sharp waste shall be disposed through in-house designated concrete sharp pit and disposal to sanitary landfill.

ix. The unit shall obtain necessary permission from the nearby TSDF site.

x. Trucks / Tankers used for transportation of hazardous waste shall be in accordance with the provisions under the Motor Vehicle Act, 1988, and rules made there under.

xi. The design of the Trucks/tankers shall be such that there is no spillage during transportation.

xii. All possible efforts shall be made for Co-Processing of the Hazardous waste prior to disposal into TSDF/CHWIF.

xiii. Management of fly ash (If any) shall be as per the Fly ash Notification, 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.

G. SAFETY:

i. The occupier/manager shall strictly comply the provisions under the Factories Act 1948 and the Factories Rules of the State of Jharkhand.

ii. The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules (MSIHC) 1989, as amended time to time and the Public Liability Insurance Act for handling of hazardous chemicals etc. Necessary approvals from the Chief Controller of Explosives and concerned Govt. Authorities shall be obtained before commissioning of the project. Requisite On-site and Off-site Disaster Management Plans have to be prepared and implemented.

iii. Main entry and exit shall be separate and clearly marked in the facility.

iv. Sufficient peripheral open passage shall be kept in the margin area for free movement of fire tender/ emergency vehicle around the premises.

v. Sufficient number of fire extinguishers shall be provided near the plant and storage area.

vi. All necessary precautionary measures shall be taken to avoid any kind of accident during loading, unloading and transportation of biomedical waste.

vii. The project management shall ensure to comply with all the environment protection measures, risk mitigation measures and safeguards mentioned in the Risk Assessment report.

viii. Only flame proof electrical fittings shall be provided in the plant premises.

ix. All the waste storage room shall be marked with colour coding as per the CPCB .guidelines time to time.

x. Proponent shall tie up with nearby health care facility for any emergency cases.

xi. Personal Protective Equipments (PPEs) shall be provided to workers and its usage shall be ensured and supervised.

xii. First Aid Box in the unit shall be made readily available in adequate quantity.

xiii. Training shall be imparted to all the workers on safety and health aspects of biomedical waste handling.

xiv. Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre-employment and periodical medical examination for all the workers shall be undertaken as per the Factories Act & Rules.

xv. Transportation of biomedical waste shall be done as per the provisions of the Motor Vehicle Act & Rules.

xvi. The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.

H. NOISE:

i. The overall noise level in and around 'the plant area shall be kept well within the standards by providing noise control measures including engineering controls like acoustic insulation hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall confirm to the standards prescribed under The Environment (Protection) Act, 1986 & Rules.

I. GREEN BELT AND OTHER PLANTATIN:

i. The unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within the premises, the unit shall take up adequate plantation on road sides and suitable open areas in JIDC estate or any other open areas in consultation with the JIDC / JSPCB and submit an action plan of plantation for next three years to the JSPCB.

ii. Drip irrigation / low-volume, low-angle sprinkler system shall be used for the green belt development within the premises.

J. OTHER CONDITIONS:

i. Rain water recharging of surface as well as rooftop runoff shall be undertaken as per the guidelines / parameter of the State Ground Water Board / Central Ground Water Board and the same water shall be used for the various activities of the project to conserve fresh water as well as to recharge ground water. Before recharging the surface run off, pre-treatment must be done to remove suspended matter.

ii. The unit shall join and participate financially and technically for any common environmental facility / infrastructure as and when the same is taken up either by the Industrial Association or JIDC or JSPCB or any such authority created for this purpose by the Govt. I JIDC.

iii. The area earmarked as green area shall be used only for plantation and shall not be altered for any other purpose.

iv. All the commitments / undertakings given to the SEAC during the appraisal process for the purpose of environmental protection and management shall be strictly adhered to .

v. The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIM or any other competent authority for the purpose for the environmental protection and management.

vi. In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down and shall not be restarted until the desired efficiency of the control equipment has been achieved.

vii. The project authorities must strictly adhere to the stipulations made by the Jharkhand Pollution Control Board (JSPCB), State Government and any statutory authority.

viii. During biomedical waste unloading there shall be no spillages and garland drain shall be constructed to avoid mixing of accidental spillages with domestic waste water or storm water.

ix. Pucca flooring impervious layer shall be provided in the work areas, biomedical waste storage areas and chemical handling areas to minimize soil contamination.

x. No further expansion or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior Environment Clearance from the concerned authority.

xi. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous & other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

xii. The project proponent shall comply all the conditions mentioned in " The Companies (Corporate Social Responsibility Policy) Rules, 2014" and its amendments from time to time in a letter and spirit.

xiii. The project management shall ensure that unit complies with all the environment protection measures, risk mitigation measures and safeguards recommended in the EMP report and Risk Assessment study report as well as proposed by project proponent.

xiv. The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as JSPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.

xv. The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the JSPCB and may also be seen at the Website of SEIAA/SEAC/JSPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspapers that are widely circulated in the region, one of which shall be in the local / hindi language and the other in English. A copy each of the same shall be forwarded to the concerned Regional Office of the Ministry.

xvi. It shall be mandatory for the project management to submit half-yearly compliance report in respect of the stipulated .environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year. The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as JSPCB.

xvii. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xviii. The project authorities shall also adhere to the stipulations made by the Jharkhand State Pollution Control Board.

xix. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.

xx. The company in a time bound manner shall implement these conditions. The SEIAA reserves the right to stipulate additional conditions, if the same is found necessary.

xxi. The project authorities shall inform the JSPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.

xxii. It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEF & CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.), Ranchi/SEIAA/CPCB.

xxiii. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xxiv. The SEIAA, Jharkhand or any other competent Authority may alter modify the above conditions or stipulate any further condition in the interest of Environment Protection.

xxv. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

xxvi. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

Annexure – V

I. Statutory compliance:

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)

iv. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

v. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.

vi. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.

vii. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF/EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015(Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.

iii. The project proponent shall install system carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PMIO and PM25 in reference to PM emission, and S02 and NOx in reference to S02 and NOx emissions) within and outside the plant area (at least at four locations one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions. (case to case basis small plants: Manual; Large plants: Continuous)

iv. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality / fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six- monthly monitoring report.

v. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources.

vi. The project proponent shall provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags.

vii. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.

viii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after *briquettingl* agglomeration.

ix. The project proponent shall use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.

x. The project proponent shall provide covered sheds for raw materials like scrap and sponge iron, lump ore, coke, coal, etc.

xi. The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.

xii. Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.

III. Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF / EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. (case to case basis small plants: Manual; Large plants: Continuous)

ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.

iii. The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.

iv. Adhere to 'Zero Liquid Discharge'.

v. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.

vi. The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31st March 2012 (applicable to IF/EAF) as amended from time to time.

vii. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off

viii. The project proponent shall practice rainwater harvesting to maximum possible extent.

ix. The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.

IV. Noise monitoring and prevention

i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

ii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB (A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures

i. The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces.

ii. Practice hot charging of slabs and billets/blooms as far as possible.

iii. Ensure installation of regenerative type burners on all reheating furnaces.

iv. Provide solar power generation on rooftops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.

v. Provide the project proponent for LED lights in their offices and residential areas.

VI. Waste management

i. Used refractories shall be recycled as far as possible.

ii. Oily scum and metallic sludge recovered from rolling mills ETP shall be mixed, dried, and briquetted and reused melting Furnaces

iii. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.

iv. The waste oil, grease and other hazardous waste shall be disposed of as per the

v. Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.

vi. Kitchen waste shall be composted or converted to biogas for further use.(to be decided on case to case basis depending on type and size of plant)

VII. Green Belt

i. Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant

ii. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.

VIII. Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.

iii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

IX. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry / Regional Office along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

vi. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the plants shall be implemented.

vii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PMIO, S02, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi. Concealing factual data or submission of false / fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

C. **Other Conditions:**

i. The Authority reserves the right to add any new condition or modify the above conditions or to revoke the clearance if conditions stipulated above are not implemented to the satisfaction of Authority or for that matter for any other Administrative reason.

ii. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

iii. In case of any deviation or alteration in the project proposed from those submitted to SEIAA, Jharkhand for clearance, a fresh reference should be made to SEIAA to assess the adequacy of the conditions imposed and to incorporate any new conditions if required.

The TORs prescribed for undertaking detailed EIA study are as follows:

A. Standard Terms of Reference

1. Executive Summary

2. Introduction

i. Details of the EIA Consultant including NABET accreditation.
ii. Information about the project proponent
iii. Importance and benefits of the project

3. Project Description

i. Cost of project and time of completion.
ii. Products with capacities for the proposed project.
iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
iv. List of raw materials required and their source along with mode of transportation.
v. Other chemicals and materials required with quantities and storage capacities
vi. Details of Emission, effluents, hazardous waste generation and their management.
vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
viii. Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided
ix. Hazard identification and details of proposed safety systems.
x. Expansion/modernization proposals:

a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment, Forest and Climate Change as per OM no. F.no. IA3-22/10/2022-IA.III [E 177258], dated 08th June, 2022 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing / existing operation of the project from SPCB shall be attached with the EIA-EMP report.
b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification, 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

4. Site Details

i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.

ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
iii. Details w.r.t. option analysis for selection of site
iv. Co-ordinates (lat-long) of all four corners of the site. .
v. Google map-Earth downloaded of the project site.
vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
viii. Landuse break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
x. Geological features and Geo-hydrological status of the study area shall be included.
xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
xiii. R&R details in respect of land in line with state Government policy

5. Forest and wildlife related issues (if applicable):

i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable)
ii. Landuse map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (in case of projects involving forest land more than 40 ha)
iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon
v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area

vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.

6. Environmental Status

i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.

ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.

iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.

iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.

v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.

vi. Ground water monitoring at minimum at 8 locations shall be included.

vii. Noise levels monitoring at 8 locations within the study area.

viii. Soil Characteristic as per CPCB guidelines.

ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.

x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule- I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.

xi. Socio-economic status of the study area.

7. Impact and Environment Management Plan

i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.

ii. Water Quality modelling - in case of discharge in water body

iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw

materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor- cum-rail transport shall be examined.

iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.

v. Details of stack emission and action plan for control of emissions to meet standards.

vi. Measures for fugitive emission control.

vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.

viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.

ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 2500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.

x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.

xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.

xii. Action plan for post-project environmental monitoring shall be submitted.

xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8. Occupational health

i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers

ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.

iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,

iv. Annual report of heath status of workers with special reference to Occupational Health and Safety.

9. Corporate Environment Policy

i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.

ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.

iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.

iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report

10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

11. Enterprise Social Commitment (ESC)

i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

12. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

13. A tabular chart with index for point wise compliance of above TOR.

B. SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR METALLURGICAL INDUSTRIES (FERROUS & NON FERROUS)

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Details on blast furnace/ open hearth furnace/ basic oxygen furnace/ladle refining, casting and rolling plants etc.
3. Details on installation/activation of opacity meters with recording with proper calibration system
4. Details on toxic metals including mercury, arsenic and fluoride emissions
5. Details on stack height requirement for integrated steel
6. Details on ash disposal and management -Non-ferrous metal

7. Complete process flow diagram describing production of lead/zinc/copper/ aluminium, etc.
8. Raw materials substitution or elimination
9. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
10. Details on Holding and de-gassing of molten metal from primary and secondary aluminum, materials pre-treatment, and from melting and smelting of secondary aluminium
11. Details on solvent recycling
12. Details on precious metals recovery
13. Details on composition, generation and utilization of waste/fuel gases from coke oven plant and their utilization.
14. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
15. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
16. Trace metals in waste material especially slag.
17. Plan for trace metal recovery
18. Trace metals in water

C. Other

1. Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the F.R for securing the TOR) should be brought to the attention of SEIAA, Jharkhand with reasons for such changes and permission should be sought, as the TOR may also have to be altered.
2. The Prescribed ToRs is valid as per O.M. F. No. IA3-22/10/2022-IA.III[E177258], dated 08.06.2022. of MoEF&CC, Govt. of India.

Annexure - VII

The TORs prescribed for undertaking detailed EIA study are as follows:

i. Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.

ii. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.

iii. All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.

iv. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

v. Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.

vi. Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.

vii. It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.

viii. Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

ix. The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

x. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

xi. Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.

xii. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

xiii. Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

xiv. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

xv. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

xvi. A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

xvii. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

xviii. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

xix. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.

xx. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

xxi. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

xxii. One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

xxiii. Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

xxiv. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

xxv. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

xxvi. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

xxvii. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

xxviii. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

xxix. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

xxx. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.

xxxi. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

xxxii. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

xxxiii. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

xxxiv. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

xxxv. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

xxxvi. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

xxxvii. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

xxxviii. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

xxxix. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

xl. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

xli. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

xlii. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

xliii. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

xliv. Besides the above, the below mentioned general points are also to be followed :-

a) Executive Summary of the EIA/EMP Report

b) All documents to be properly referenced with index and continuous page numbering.

c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF & CC / NABL accredited laboratories. All the original analysis / testing reports should be available during appraisal of the Project.

e) Where the documents provided are in a language other than English, an English translation should be provided.

f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF& CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

h) Changes, If any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF & CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

i) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

xlv. After preparing the draft EIA (as per the generic structure prescribed in Appendix- III of the EIA Notification, 2006) covering the above mentioned issues, the proponent will get the public hearing conducted and take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.

xlvi. The Prescribed ToRs is valid as per O.M. F. No. IA3-22/10/2022-IA.III[E177258], dated 08.06.2022 of MoEF&CC, Govt. of India.