



File No: EC/SEIAA/2024-25/3239/2024

Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment
Authority(SEIAA), JHARKHAND)



Dated 13/12/2024



To,

Vijay Kumar
JHARKHAND STATE BUILDING CONSTRUCTION CORPORATION LIMITED
Building Construction Department, Govt. of Jharkhand, Project Building, P.O- Dhurwa, Ranchi-
834004, Jharkhand, Dhurwa, RANCHI, JHARKHAND, , 834004
jsbccljharkhand@gmail.com

Subject: Grant of EC under the provision of the EIA Notification 2006-regarding.

Sir/Madam,

This is in reference to your application for Grant of EC under the provision of the EIA Notification 2006-regarding in respect of project Proposed Project for Medical College, Hospital, Hostel, Residences-(Director type 2, 3 & 4 BHK), Community Centre, Student Recreation by State Government Jharkhand at Bokaro, Jharkhand submitted to Ministry vide proposal number SIA/JH/INFRA2/478495/2024 dated 25/09/2024.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC24C3804JH5516957N
(ii) File No.	EC/SEIAA/2024-25/3239/2024
(iii) Clearance Type	EC
(iv) Category	B2
(v) Project/Activity Included Schedule No.	8(a) Building / Construction ,8(a) Building / Construction
(vii) Name of Project	Proposed Project for Medical College, Hospital, Hostel, Residences-(Director type 2, 3 & 4 BHK), Community Centre, Student Recreation by State Government Jharkhand at Bokaro, Jharkhand
(viii) Name of Company/Organization	JHARKHAND STATE BUILDING CONSTRUCTION CORPORATION LIMITED
(ix) Location of Project (District, State)	BOKARO, JHARKHAND
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	no
(xiii) Applicability of Specific Conditions	no

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the Ministry for an appraisal by the State Environment Impact Assessment Authority(SEIAA) Appraisal Committee (SEIAA) in the Ministry under the provision of EIA notification 2006 and its subsequent amendments.
4. The above-mentioned proposal has been considered by State Environment Impact Assessment Authority(SEIAA) Appraisal Committee of SEIAA in the meeting held on 28/11/2024. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B, Part C EIA, EMP)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
5. The brief about configuration of plant/equipment, products and byproducts and salient features of the project along with environment settings, as submitted by the Project proponent in Form-1 (Part A, B and C)/EIA & EMP Reports/presented during SEIAA are annexed to this EC as Annexure (1).
6. The SEIAA, in its meeting held on 28/11/2024, based on information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of EC under the provision of EIA Notification, 2006 and as amended thereof subject to stipulation of specific and general conditions as detailed in Annexure (2).
7. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the State Environment Impact Assessment Authority(SEIAA) Appraisal Committee hereby decided to grant EC for instant proposal of M/s. Vijay Kumar under the provisions of EIA Notification, 2006 and as amended thereof.
8. The Ministry reserves the right to stipulate additional conditions, if found necessary.
9. The EC to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
10. This issues with the approval of the Competent Authority.

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N/A

Annexure 1

Standard EC Conditions for (Building / Construction)

1. Statutory Compliance

S. No	EC Conditions
1.1	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.
1.2	The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening etc.
1.3	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.
1.4	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

S. No	EC Conditions
1.5	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.
1.6	The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.
1.7	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.
1.8	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.
1.9	The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste Management Rules, 2016, shall be followed.
1.10	The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.

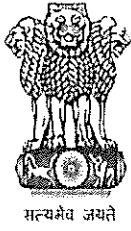
Additional EC Conditions

N/A

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Quantity	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
Medical College & Hospital along with Hostel, Residences-(Director type 2, 3 & 4 BHK), Community Centre and Student Recreation	Medical College & Hospital along with Hostel, Residences-(Director type 2, 3 & 4 BHK), Community Centre and Student Recreation	500	No of IPD beds in the hospital	Road	



State Level Environment Impact Assessment Authority, Jharkhand

Nursery Complex, Near Dhurwa Bus Stand, Dhurwa, Ranchi. Jharkhand-834 004

E-mail: mssciaa.jhk@gmail.com / website: www.jseiaa.in

Letter No. : EC/SEIAA/2024-25/3267/2024/

Ranchi, Date :

To: Shri Vijay Kumar.
DGM (Project),
Jharkhand State Building Construction Corporation Limited.
(Govt. of Jharkhand Undertaking),
Building Construction Department, Govt. of Jharkhand,
Project Building, P.O. : Dhurwa,
District - Ranchi, Pin Code : 834004 (Jharkhand).

Sub. : Environmental Clearance for the project "Proposed Medical College, Hospital, Hostel, Residences – (Director type 2, 3 & 4 BHK), Community Centre, Student Recreation by Jharkhand State Building Construction Corporation Limited (Govt. of Jharkhand Undertaking) at Sector 12 Pipratand, Thana no. : 36, Thana : Chas, District : Bokaro, Jharkhand" (Proposal No. : SIA/JH/INFRA2/478495/2024) – regarding.

Ref. : Your application no. म०नि०नि०यो०स्वा० 93 / 16-2427(नि०), Dated - 17.10.2024.

It is in reference to the project "Proposed Medical College, Hospital, Hostel, Residences – (Director type 2, 3 & 4 BHK), Community Centre, Student Recreation by Jharkhand State Building Construction Corporation Limited (Govt. of Jharkhand Undertaking) at Sector 12 Pipratand, Thana no. : 36, Thana : Chas, District : Bokaro, Jharkhand" submitted by you for seeking prior Environmental Clearances (EC).

This is a new project which has been taken for appraisal on 23.10.2024.

Project Sector: 8(a) Building & Construction Project, Category: B2.
Application for Environmental Clearance as per EIA notification, 2006.

State Government Jharkhand has proposed to develop Medical College, Hospital, Hostel, Residences-(Director type 2, 3 & 4 BHK), Community Centre, Student Recreation on the total land area measuring 1,00,362 Sq. m located at Sector 12 Pipratand, Thana No. 36, Thana- Chas, Dist.- Bokaro, State- Jharkhand. The total build-up area is 1,34,413.7 sqm.

(Signature)

(Signature)

(Signature)

Salient Features of the Project

Sr. No.	Particulars	
1.	Latitude	23°38'1.79"N- 23°37'46.54"N
2.	Longitude	86°8'21.93"E-86°8'30.65"E
3.	Plot area	1,00,362 Sq. m
4.	Proposed FAR	1.28
5.	Proposed Built-up Area	134413.7
6.	Total Parking area Proposed	7,111 Sqm.
7.	Ground Coverage @26.85%	26,953.18 Sqm.
8.	Ground Coverage @26.85%	50,372.04 Sqm.
9.	Green Belt Area (Hard Green) @ 21 % of plot area	21076.02 sqm
10.	Soft Green area	29296.02 sqm
11.	Medical Liquid Oxygen Plant (LMO)	30 KL
12.	Rain Water Harvesting Pits (with size)	20 Nos.
13.	STP Capacity	520 KLD
14.	ETP Capacity	12 KLD
15.	Maximum Height of the Building (m)	Approx. 30 m
16.	Power Requirement	5508 KVA
17.	Power Backup	DG set with total power generation capacity of 3020 KVA (2*1010 KVA and 2*500 KVA). All DG Sets shall be outdoor type with hospital type silencer, acoustic enclosure as per CPCB, and other relevant norms & with provision of DG sets proper shading
18.	Total Water Requirement	~699 KLD
19.	Fresh/Domestic Water Requirement	~309 KLD
20.	Reuse of Recycled Water	~390 KLD
21.	Waste Water Generated	~433 KLD
22.	Solid Waste Generated (Operational)	~2486 Kg/day
23.	Biodegradable Waste (Operational)	~ 994 Kg/day
24.	Non-Biodegradable Waste (Operational)	~ 1492 Kg/day
25.	Bio-medical waste generated	~550 Kg/day
24.	Types of Buildings	Hospital, Medical college, ESS, Hostel, Director Residence
25.	Basement	I
26.	Maximum Height	~30 M

27.	Total Cost of the project		688.49 Corers
28.	Construction Phase:	i) Water Requirement & Source	Fresh water – 9 KLD Treated wastewater-12 KLD Source: Tanker water supply
		ii) STP (Modular)	7 KLD

Detailed Area Statement

S. No.	Details	Area	
1	Total Plot area	100362	sqm.
2	Permissible FAR	2.5	
3	Total FAR Achieved	1.28	
4	Hospital Building Built-up area	53186.08	sqm.
5	Medical College Built-up area	23047.55	
6	Residence Quarter Built-up area	21213.5	
7	Hostels Built-up area	22551.01	
8	Miscellaneous	7304.56	
9	Residential Building Non-FAR area	0	sqm.
10	Parking Area Provided (Stilt)	1479	
11	Parking Area Provided (Basement)	5632	
12	Total Built-up Area	134413.7	Sqm
13	Proposed Ground Coverage @26.85%	26953.18	Sqm
14	Total Proposed Ground Coverage	26953.18	Sqm
15	Total no. of bed 500 (9 No. of Blocks, G+8, 16 unit per Blocks), 9x9x16		No.
16	Green Cover area Provided @50.1% Hard Green @ 21%= 21076.02 m ² , Soft Green =29296.02 m ²	50372.04	sqm
17	Road Area	17106.78	sqm
18	Open Area	74217.82	sqm
19	STP & ETP	466.47	sqm

LAND DETAILS

S. No.	Khata No.	Plot No.	Total Area allotted (acre)
1.	I	307	0.03
2.	I	314	0.04
3.	I	315	0.05
4.	I	322	0.02
5.	I	326	0.22

6.	1	98	1.70
7.	1	105	0.15
8.	1	106	0.98
9.	1	107	0.26
10.	1	108	0.30
11.	1	109	0.09
12.	1	110	0.15
13.	3	44	0.12
14.	3	88	0.18
15.	3	89	0.13
16.	3	89/761	0.29
17.	7	324	0.12
18.	7	344	0.22
19.	7	252	0.01
20.	7	253	0.15
21.	8	95	0.52
22.	10	342	0.44
23.	12	36	0.36
24.	12	46	1.20
25.	12	47	0.54
26.	12	48	1.04
27.	12	49	0.24
28.	12	50	0.08
29.	12	51	0.35
30.	12	52	0.56
31.	12	53	0.01
32.	12	55	0.17
33.	12	90	0.57
34.	12	91	0.24
35.	12	92	0.73
36.	12	94	0.62
37.	13	320	0.45
38.	13	346	0.35
39.	13	347	0.01
40.	13	104	0.02
41.	14	328	0.18
42.	14	341	2.00
43.	14	343	0.20
44.	14	99	0.20
45.	15	97	2.89
46.	18	325	0.16
47.	18	327	0.71
48.	18	330	0.16

49.	18	332	0.52
50.	18	96	0.43
51.	20	329	0.15
52.	20	333	0.11
53.	20	334	0.04
54.	20	335	0.85
55.	21	331	0.85
56.	21	100	0.52
57.	23	323	0.07
58.	24	260	0.00
59.	24	87	0.40
60.	24	93	0.39
61.	14	112	0.03
62.	16	341/751	0.02
63.	16	342/752	0.21
After Deduction of Plot number 345			24.80 Acre (100362 sqm)

Details of Site Surroundings and Connectivity

Connectivity & Site Surroundings			
S. No.	Description		Distance and Direction
1.	Nearest Railway Station	Bokaro Railway Station	Approx. 6.0 Km towards NW.
2.	Nearest Airport	Bokaro Airport Birsa Munda International Airport	Approx. 1.5 km towards NE Approx. 90 km towards SW.
3.	Nearest Village	Kasna Surajpur Site V Khanpur	Approx. 1.14 km towards NNE Approx 0.91 Km towards ESE. Approx 3.65 Km towards East.
4.	Nearest Highway/Roads	NH 320	Adjacent to project site
5.	Nearest School & College	School: Bokaro Ispat Vidyalaya Govt. School, Siwandih R.V.S College	Approx. 1.07 km towards NNE Approx. 2.20 km towards WNW Approx. 0.6 km towards East
6.	Nearest Hospital	Govt. Hospital & Medicine Medicant Hospital & Research Centre Sadar Hospital, Bokaro	Approx. 1.50 km towards ESE Approx. 0.20 km towards WSW Approx. 2.08 km towards NE

7.	Places of worship	Durga Temple, Chas Ukrid Makka Masjid The Pentecostal Assembly Church	Approx. 2.50 km towards ENE Approx. 1.25 km towards WNW Approx. 0.75 km towards NNW
8.	Water Bodies	Garga River Garga Dam Damodar River	Approx. 0.5 km towards ESE Approx. 5.75 km towards West Approx. 10.5 km towards NNE
9.	Nearest Town	Bokaro	The project is in Bokaro City.
10.	Wetland	Not available in 15 km radius of the project site	

Details of Building Blocks

Block No.	Building Name	No. Of Floors	Proposed Facility
1	HOSPITAL	B+G+5	500 beds
2	MEDICAL COLLEGE	G+5	500 students
3	AUDITORIUM	G+1	
4	GUEST HOUSE	G+3	1 Person/Unit (Total Unit-28)
5	GIRLS HOSTEL	G+7	250
6	BOYS HOSTEL	G+7	250
7	INTERN'S HOSTEL (M/F)	G+5	--
8	NURSES HOSTEL	G+6	270
9	RESIDENT DOCTOR HOSTEL	S+5	120
10	TYPE-III	S+8	5 Person/Unit (Total Unit-32)
11	TYPE-IV	S+8	6 Person/Unit (Total Unit-64)
12	TYPE-V	S+8	7 Person/Unit (Total Unit-16)
13	TYPE-VI	G+1	7 Person/Unit (Total Unit-2)
14	COMMUNITY CENTRE	G	
15	STUDENT RECREATION CENTRE	G+1	
16	MORTUARY	B	
17	BMW	G	
18	ESS	G+1	
19	PATIENT RELATIVE ACCOMODATION	G+3	130
20	STP. & ETP.	B	
21	GUARD ROOM	G	
22	U.G.T.	B	

Calculation of Population

Type of building	Unit	Population
Hospital	500 Bed	500
Hospital Staff	3000	3000

Medical College	500 Students	500
Auditorium	500	500
Guest House	1 Person/Unit (Total Unit-28)	28
Girls Hostel	270	270
Boys Hostel	270	270
Intern's Hostel Female	60	60
Intern's Hostel Male	60	60
Nurses Hostel	207	207
Resident Doctor Hostel	120	120
Type-III	5 Person/Unit (Total Unit-32)	160
Type-IV	6 Person/Unit (Total Unit-64)	384
Type-V	7 Person/Unit (Total Unit-16)	112
Type-VI	7 Person/Unit (Total Unit-2)	14
Community Centre		175
Student Recreation Centre	500 Students	500
Patient Relative Accommodation	130	130
Grand Total		6990

Parking Details

Sl. No.	Particulars	Area (in sqm)	ECS provided
1.	Open Parking	6739	293
2.	Stilt Parking	1479	51
3.	Basement Parking	5632	520
4.	Total	13850	864

Calculation of Greenbelt

Total Plot Area	1,00,362 Sq. m
Green Cover area Provided @50.19% Hard Green @ 21% i.e 21076.02 m ² , Soft Green = 29296.02 m ²	50,372.04 Sqm.
Total No. of Trees will be Planted @ 1 tree per 80 Sqm. of Plot Area	630 Nos.

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Details of Water Requirement

SL No	Description	Total Population	Water Req./Person in LPCD	Fresh water (Litres)	Flushing Water (Litres)	Total water Requirement (Litres)	Total Wastewater (KLD) (80% of domestic + 100% Total flushing)
	Hospital						
1	Bed (500)	500	315	104000	53500	157500	136700
	Attendant (For Patient)	500	30	10000	5000	15000	13000
	Pathology & Labs			10000		10000	8000
	Hospital Staff	500	30	10000	5000	15000	13000
	Admin Staff	50	30	1000	500	1500	1300
	Security & Miscellaneous Staff	25	30	500	250	750	650
2	Medical College	2500	35	50000	37500	87500	77500
3	Hostels						
	Girls Hostels	250	100	15000	10000	25000	22000
	Boys Hostels	250	100	15000	10000	25000	22000
	Intern's hostel male & female	120	100	7200	4800	12000	10560
	Nurses Hostel	207	100	12420	8280	20700	18216
	Resident Doctor Hostel	120	100	7200	4800	12000	10560
4	Residential Blocks						
	Staff Quarters (Type III, IV, V, VI)	670	100	40200	26800	67000	58960
	Patient Relative Centre	130	100	7800	5200	13000	11440
	Community Centre	175	45	4375	3500	7875	7000
	Student Recreation Centre	500	45	12500	10000	22500	20000
	Visitors	134	15	1340	670	2010	1742

	@20% of total population						
6	Landscape area use 50372.04 Sqm. @ 3.9 Litres/Sqm.		3.9 liter/sqm of Landscape area			196,500.00	
	HVAC					7,500.00	
Total in KLD				308535	185800	698,335.00	432,628.00
Round Off				308.54	185.80	698.34	432.63
Note -Water Conservation would be apply which is 30% Reduction in total Water Requirement.							
	STP capacity				519		
	ETP capacity				12000		
Recycling							
	Treated water generation				389.37		
	Flushing water demand				185.80		
	Landscape area use 110877 Sqm. @ 3.75 Liters/Sqm.				196.50		
	HVAC				7.50		
	Total				389.80		

Energy Conservation Measures

S. No.	Net Energy saved (weighted Average Calculation)	
	Solar Based lighting will be done in the common areas, Signages, entry gates and boundary walls etc.	275 .4 KVA
2.	LED Based lighting will be done in the dwelling units	80.64 KVA
3.	Usage of energy efficient Lift (VVVF non gear lifts)	54 KVA
	Total Energy saved	410.04 KVA
	Total Energy consumption	5508 KVA
	Total Energy saving	7.74 %

Environmental Management Cost – Construction Phase

Sr. No.	Component	Particulars	Capital Investment (Lakhs)	Recurring Expenditure per Annum (Lakhs)
1.	Air	Anti-Smog Gun	5.0	2.0
2.	Water	Mobile STP, etc.	5.0	2.5
3.	Solid and C&D Waste and its Management	Stack yard and its management	3.0	2.5
4.	Occupational Health & Safety	Health medical checkup of workers, PPEs for Workers. Emergency Preparedness, Fire hydrant systems, fire extinguishers, emergency control room, OHC and HAZOP study.	3	2.0
5.	Environment Monitoring & Management	Environment Monitoring as per monitoring plan 1. Green Curtain on under construction building 2. Wind breaking wall of 3-meter height	10.0	3.0
6.	Green Belt	Development and maintenance of green belt	5.0	3.0
Total (Rs.)			31.0	15.0

Environmental Management Cost – Operation Phase

Sr. No.	Component	Particulars	Capital Investment (Lakhs)	Recurring Expenditure per Annum (Lakhs)
1.	Air	Stack emission control	3.0	0.50
2.	Water	Sewage Treatment Plant (STP)	500.0	10.0
3.	Rain Water Harvesting	Installation of RWH System & Annual Cleaning of RWH tank	30.0	3.00
4.	Solid waste Area and its Management	Purchase of Containers for Storage of Waste	3.0	5.00
		Installation of OWC for Bio-degradable waste of 400 Kg/day & 500 Kg/day	35.0	0.0

Sr. No.	Component	Particulars	Capital Investment (Lakhs)	Recurring Expenditure per Annum (Lakhs)
5.	Environment Monitoring & Management	Environment Monitoring as per monitoring plan	0.00	3.0
6.	Green Belt	Development and maintenance of green belt	15.0	1.5
7.	Others	Energy saving devices, miscellaneous	55.0	2.5
Total (Rs.)			641.0	25.5

STATUTORY CLEARANCES:

1	Land docs	:	As per record submitted by PAs the land has been allotted for this project by Joint Secretary, Deptt. of Health, Medical, Education and Family Welfare, Govt. of Jharkhand vide letter no. 6/P(nayi yojna)-12/2016/1084, dated 04.11.2016
2	DFO Forest Distance	:	DFO, Bokaro Forest Division vide letter no. 2061, dated 25.09.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
3	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1272, dated 29.06.2021 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
4	CO certificate	:	The CO, Chas (Bokaro) vide letter no. 1928, dated 20.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyani & Register II.
5	AAI NOC	:	Airport NOC not required because building height is less than 30m. As per COLOR CODED ZONING MAP (CCZM) issued by AAI for Bokaro Airport " PERMISSIBLE TOP ELEV.256M AMSL OR BELOW " up to 30 m height building in blue zone is permissible. (as per website https://nocas2.aai.aero/nocas/mappage.html)
6	Fire Department	:	Fire application is applied on dated 17.03.2024 .
7	Building Plan	:	Conceptual Plan submitted.

State Level Environment Level Impact Assessment Authority (SEIAA), Jharkhand in its 118th meeting held on 28th & 29th November, 2024 discussed the project proposal along with recommendations made by SEAC in its 118th meeting held on 22nd, 23rd, 24th, 25th and 26th October, 2024 and decided to grant EC to the project.

On the basis of recommendation of SEAC and decision of SEIAA to grant of EC, Environmental Clearance is hereby issued to the “Proposed Medical College, Hospital, Hostel, Residences – (Director type 2, 3 & 4 BHK), Community Centre, Student Recreation by Jharkhand State Building Construction Corporation Limited (Govt. of Jharkhand Undertaking) at Sector 12 Pipratand, Thana no. : 36, Thana : Chas, District : Bokaro, Jharkhand” alongwith the following specific conditions as recommended by SEAC:

I. Specific Conditions:

- i. This Environmental Clearance is valid subject to the following condition below –
That this project has-
 - a. Obtained all legal rights to operate at concerned place.
 - b. Complied with all existing concerned laws of the land and
 - c. Complied with the decisions of SEIAA on the issue of Environmental Clearance till date.
- ii. Plot no. 345 shall not be considered as part of the project area and to be excluded from the project boundary.
- iii. The Proposed oxygen plant shall be set up after obtaining all applicable clearances / permissions.
- iv. In compliance of OM no.F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign “Ek Ped Ma Ke Naam” and the details of the same shall be uploaded in the MeriLiFE Portal (<https://merilife.nic.in>).
- v. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.
- vi. 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.
- vii. All raw material to be stored only under covered shed.
- viii. 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.
- ix. 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.

- x. Trees should be developed & maintained not less than 15% of project area.
- xi. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.
- xii. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.
- xiii. 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.
- xiv. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.
- xv. 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.
- xvi. Sufficient number of EV fast charging points to be installed.
- xvii. After approval of Building Plan from competent Authority, it should be submitted to the SEIAA.
- xviii. 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.
- xix. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.
- xx. A cycling tract to be provided in residential complex so as to save on fuel and make in campus movement environment friendly.
- xxi. Install the required STP, if project start functioning before commencing or functioning of CETP of Municipal Corporation.
- xxii. This Environmental Clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT, MoEF & CC and any other Court of Law, if any, as may be applicable to this project.
- xxiii. Environmental clearance is subject to obtaining prior clearance from forestry and Wildlife angle including clearance from standing committee of NBWL, as may be applicable to this project (in case any fauna occurs / is found in the Project area or if the area involves forest land or Wildlife habitat i.e. core zone of elephant/tiger reserve etc. and or located with in 10 km. of protected area).
- xxiv. The project proponent may apply simultaneously for forest and NBWL clearance, in order to complete the formalities without undue delay, which till process on their respective merits, no rights will vest in or accrue to them unless all clearance are obtained.



- xxv. This Environmental Clearance shall be valid subject to the sustainable environmental management.

II. 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.

III. 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.

IV. 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.







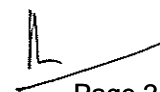
- iii. Total fresh water use shall not exceed the proposed requirement as provided in the project details.
- iv. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall 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.

V. 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.



VI. 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.

VII. 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, 2016. 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.

VIII. 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.

IX. 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.

X. 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.

XI. Corporate Environment Responsibility:

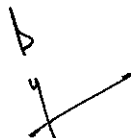
- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of 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.

XII. 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. 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.
- 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.

Sd/-
Member Secretary
State Level Environment Impact
Assessment Authority, Jharkhand.

Memo No. : EC/SEIAA/2024-25/3267/2024/111

Ranchi, Date : 06/12/2024

Copy to:

1. Principal Secretary, Department of Forests, Environment & Climate Change, Govt. of Jharkhand.
2. Deputy Commissioner, District – Bokaro, Jharkhand.
3. Divisional Forest Officer, Bokaro Forest Division, Bokaro, Jharkhand.

4. Divisional Forest Officer, Wildlife Division, Ranchi, Jharkhand.
5. Director IA Division, Monitoring Cell, MoEF and Climate Change, Indira Paryavaran Bhavan, Jorbag Road, Aliganj, New Delhi – 110003.
6. Regional Office, Ministry of Environment, Forest and Climate Change, Govt. of India, 2nd Floor, Jharkhand State Housing Board (HQ), Harmu Chowk, Ranchi, Jharkhand – 834002.
7. Member Secretary, Jharkhand State Pollution Control Board, Ranchi.
8. Member Secretary, Jharkhand State Expert Appraisal Committee, Ranchi.
9. Website.
10. Guard file.

