EXECUTIVE SUMMARY

OF

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

&

ENVIRONMENTAL MANAGEMENT PLAN

FOR

PUBLIC HEARING

OF

Expansion in Limestone Production Capacity from 1.5 Million TPA to 3.5 Million TPA, Top Soil 0.13 Million TPA, Waste/OB/IB 2.26 Million TPA, Sub Grade 0.50 Million TPA (Total Excavation 6.39 Million TPA) and Proposed crusher of 1600 TPH in Maratha Limestone Mine, ML - I (ML Area – 579.90 ha)

At
Thutra and Lakhmapur (Tehsil: Korpana)
and Hirapur, Isapur and Sonapur (Tehsil: Rajura),
District- Chandrapur, State: Maharashtra

Baseline Period Study period: Summer Season (March to May, 2021)

APPLICANT

M/s Ambuja Cements Ltd.

(Unit: Maratha Cements Works)

Village & PO : Upparwahi, Tehsil : Korpana,
District : Chandrapur, Maharashtra - 442908
Telephone No : 07173240015

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Executive Summary

1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION OF PROJECT PROPONENT

- Ambuja Cement Limited (ACL), formerly known as Gujarat Ambuja Cements Limited, is a major cement producing company in India. The Group's principal activity is to manufacture and market cement and clinker for both domestic and export markets. Now, Ambuja Cements Ltd., has become a part of the global conglomerate Lafarge-Holcim.
- Ambuja Cements Limited (ACL) is having five integrated cement manufacturing plants, eight cement grinding units; and the first in the industry with a captive port and four bulk cement terminals along the west coast of India. Established in 1986, ACL is among country's 'Most Sustainable Companies' and is recognized for its best practices in environment management and corporate citizenship.
- Ambuja cements Limited does lot of work on water management and being certified over Eight times Water Positive, Ambuja cements limited is also plastic negative, by co-processing plastic waste in its kilns, equivalent to around 2.5 times of total plastic used.
- The company also generates 7.9% of its power needs from renewable resources. It has been ranked #4 in the globally recognized Dow Jones Sustainability Index (DJSI); All Ambuja Cement plants are ISO 14001 certified.

1.2 STATUS OF PROJECT

M/s. Ambuja Cements Limited (Unit – Maratha Cement Works) has proposed expansion in Limestone Production Capacity from 1.5 Million TPA to 3.5 Million TPA, Top Soil 0.13 Million TPA, Waste/OB/IB 2.26 Million TPA, Sub Grade 0.50 Million TPA (Total Excavation 6.39 Million TPA) and a proposed crusher of 1600 TPH in Maratha Limestone Mine, ML-I (ML Area – 579.90 ha) at Villages- Thutra and Lakhmapur (Tehsil: Korpana) and Hirapur, Isapur and Sonapur (Tehsil: Rajura), District- Chandrapur, State: Maharashtra.

As per EIA Notification dated 14th September, 2006 as amended on date, the project falls under S. No. '1' (Mining of Minerals), Project or Activity '1(a) - (3)', Category "A".

Application (for ToR) was submitted to MoEFCC on 19.02.2021. Essential Details were sought by MoEFCC on 10.03.2021. EDS reply was submitted to MoEFCC on 06.05.2022. Standard ToR Letter was issued by MoEFCC on 12.05.2022. Baseline monitoring and Data collection was done in summer season i.e., March to May 2021.

1.3 NEED FOR THE PROJECT

- M/s. Ambuja Cements Limited (Unit –Maratha Cement Works) has "Proposed Expansion of Integrated Cement Project (Clinker - 2.85 MTPA to 6.15 MTPA, Cement - 4.75 MTPA to 10 MTPA and WHRS - 45 MW) by Installation of new Line-II at Village: Bhendvi / Upparwahi, Tehsil: Korpana, District: Chandrapur (Maharashtra)". Standard ToR for the same has been issued by MoEFCC vide J-11011/292/2006-IA. II (I) dated 04.03.2021. Amendment in ToR letter was issued by MoEFCC on 26.05.2022.

- In order to meet the raw material requirement (limestone) M/s. Ambuja Cements Limited (Unit – Maratha Cement Works) is proposing expansion in Limestone Production Capacity from 1.5 Million TPA to 3.5 Million TPA, Top Soil 0.13 Million TPA, Waste/OB/IB 2.26 Million TPA, Sub Grade 0.50 Million TPA (Total Excavation 6.39 Million TPA) and a proposed crusher of 1600 TPH in Maratha Limestone Mine, ML-I (ML Area – 579.90 ha) at Villages- Thutra and Lakhmapur (Tehsil: Korpana) and Hirapur, Isapur and Sonapur (Tehsil: Rajura), District- Chandrapur, State: Maharashtra

1.4 BRIEF DESCRIPTION OF THE PROJECT

Table – 1

Brief Description of the Project

S. No.	Particulars	Details
A.	**Nature of project**	Expansion in Limestone Mining Project
B.	**Size of project**	
1.	ML area	579.90 ha
2.	Production Level	➢ Expansion in Limestone Production Capacity from 1.5 Million TPA to 3.5 Million TPA ➢ Top Soil 0.13 Million TPA ➢ Waste/OB/IB 2.26 Million TPA ➢ Sub Grade 0.50 Million TPA ➢ Total Excavation 6.36 Million TPA ➢ Proposed crusher of 1600 TPH
C	**Project Location**	
1.	Villages	Thutra, Lakhmapur, Hirapur, Isapur and Sonapur
2.	Tehsil	Korpana and Rajura
3.	District	Chandrapur
4.	State	Maharashtra
5.	Coordinates	Latitude: 19°41'25.14" to 19°44'43.74"N Longitude: 79°10'52.53" to 79°12'42.06"E
6.	Toposheet No.	Core Zone: 56 M/2 (E44B2) Buffer Zone: 56 M/1 (E44B1); 56 M/2 (E44B2); 56M/5 (E44B5); 56M/6 (E44B6)
D	**Environmental Setting Details *(with approx. aerial distance & direction from the mining lease boundary)***	
1.	Habitation	➢ Habitation of Gadchandur Adjacent in West direction ➢ Habitation in Visapur Adjacent in South direction ➢ Habitation of Rengaguda ~200 m in South direction ➢ Habitation of Hirapur ~250 m in South West direction ➢ Habitation of Tutra ~400 m in NE direction ➢ Habitation of Sonapur ~400 m in South direction
2.	Nearest Highway	➢ SH 6 (~20 Km in North direction) ➢ NH 264 (~17 km in East direction) ➢ Paenganga Road (Within lease area through northern

S. No.	Particulars	Details	
		part of the North Block) ➢ Gadchandur Road (~100 m in North direction)	
3.	Nearest Railway Station	Balharshah Junction (~20 km in NE direction)	
4.	Nearest Airport	Nagpur Airport (~150 Km in North Direction)	
5.	Nearest Town / City	Chandrapur City (~25 Km in NNE direction)	
6.	National Park, Wild Life Sanctuaries, Biosphere Reserves, Wildlife corridors, Tiger/Elephant Reserves etc. within 10 km radius study area	None	
7.	Reserve/Protected Forest within 10 km radius study area	Manikgarh RF (~1.5 km in South direction)	
8.	Water Bodies within 10 km radius of the mine site	**Name**	**Distance and Direction**
		Tutra Nala	Within Lease Area
		Lohandi Nala	~1.0 km in NNW
		Nalla Vagu	~1.5 Km in West
		Chandanvayi Nala	~ 2.0 km in NNE
		Mangi Nala	~2.0 km in ESE
		Amal Nala Dam	~2.0 km in WSW
		Injapur Nala	~4.5 km in West
		Pedda Vagu	~4.5 Km in ENE
		Sonda Nala	~6.0 km in ESE
		Chikli Vagu	~7.5 km in SSE
		Khadak Nala	~8.5 km in SSE
		In addition to this, many small seasonal nala and ponds are also exist in the study area.	
9.	Seismic Zone	Zone – II as per IS: 1893 (Part-I) : 2002	
D	**Cost Details**		
1.	Project Cost	Rs. 137 Crore	
2.	**Cost for EMP**		
	Capital Cost for Environment Protection	17.37 Crore ([Rs. 6.35 Crore (existing) + Rs. 11.02 Crore (proposed)]	
	Recurring Cost for EMP (Per annum)	1.37 Crore [Rs. 0.73 Crore (existing) + Rs. 0.64 Crore (proposed)]	

Source: *Site Visit & Pre-feasibility Report*

1.5 Location map

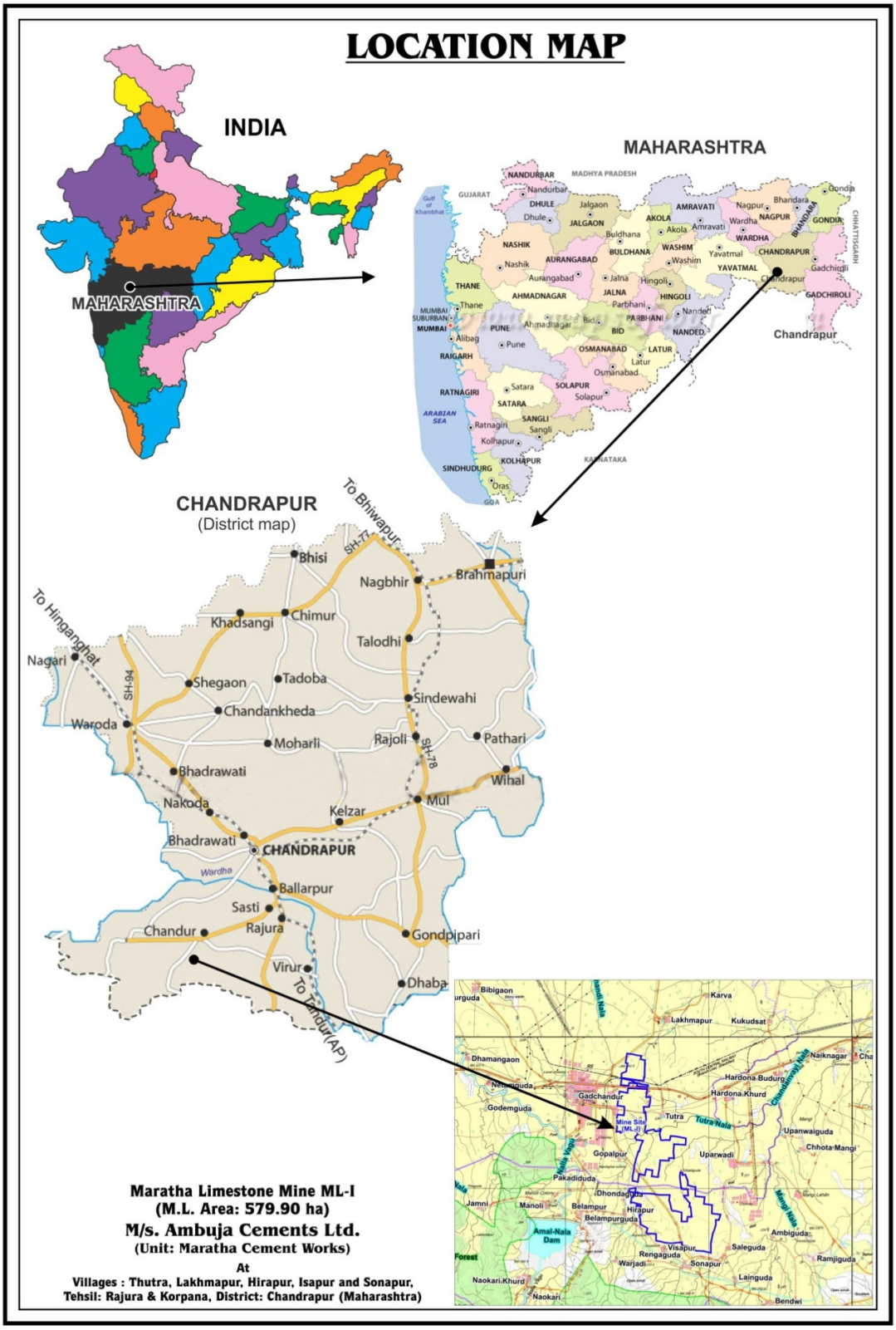

Figure-1: Location map (Showing general as well as specific location of the ML area)

1.6 MINING LEASE STATUS

- Earlier Mining Lease was granted by State Govt over an area of 933.34 Ha in favor of M/s. State Industrial and investment Corporation of Maharashtra Ltd vide letter no. MMN3683/42880(3271)/IND-9 on 14.03.1984 for 20 years. Corrigendum letter was issued by State Govt on 23.11.1984 for correction in mining lease area from 933.34 ha to 906.81 ha. Mining lease deed was executed on 31.12.1984.
- Mining lease over an area of 906.81 ha has been transferred from SICOM to M/s. Maratha Cement Limited by State Govt vide letter no. MMN-2289/325109/(5369)/IND-9 dated 23.04.1992. Transfer lease deed was executed on 23.02.1993 and registered on 30.03.1993.
- The corrigendum letter in mining lease transfer grant order was issued by State Govt for substituting 919.05 Ha in place of 906.81 Ha vide letter no. MMN2289/325109/(5369/IND-9) on 05.07.1994.
- First renewal of mining lease was granted by State Govt over an area of 579.90 Ha in favor of Gujarat Ambuja Cement Limited on 14.09.2009 for a period of 20 years w.e.f. 31.12.2004.
- The Directorate of Geology and Mining; Govt of Maharashtra extended validity of Mining lease till 30.12.2034 in favor of Ambuja Cements Limited vide letter no. MLV-C-386/2015/3563 dated 18.12.2015.
- The supplementary Lease deed executed for extension of lease period till 30.12.2034 in name of Ambuja Cements Limited (Maratha Cement Works) on 17.04.2017.

1.7 MINING DETAILS

Table – 2

Mining Details

S. No.	Particulars	Details
1.	Mining Method	Opencast Fully Mechanized Mining Method
2.	Production Capacity	➢ Expansion in Limestone Production Capacity from 1.5 Million TPA to 3.5 Million TPA ➢ Top Soil 0.13 Million TPA ➢ Waste/OB/IB 2.26 Million TPA ➢ Sub Grade 0.50 Million TPA ➢ Total Excavation 6.36 Million TPA ➢ Proposed crusher of 1600 TPH
3.	Total Geological Reserves & Resources	135.02 million Tonne (As on 01.11.2021)
4.	Proved Mineable Reserves	73.08 million Tonne (As on 01.11.2021)
5.	Life of Mine	~22 Years (As on 01.11.2021)
6.	Bench Height	8.0 m (Maximum)
7.	Bench Width	8.0 m (Minimum)
9.	Site Elevation	210 – 272 m AMSL
10.	General Ground Level	258 m AMSL

11.	Present Working Depth	210 m AMSL (48 m bgl)	
12.	Working depth during Conceptual Period	178 m AMSL (80 m bgl)	
13.	Ground Water Level	Post Monsoon Water Level	4.90 m bgl
		Pre-Monsoon Water Level	7.62 m bgl
14.	Number of Working days	305 days/year	
15.	Number of Working Shifts	2 shifts of 8 hours each	

Source: *Approved Modification of Mining Plan with Progressive Mine Closure Plan*

1.8 METHOD OF MINING

- Mining operation is being/will be carried out by opencast mining method with formation of benches by fully mechanized means.
- Bench height is not more than 8m and bench width Bench width is sufficient to accommodate the broken rock pile after blasting and still leave enough space for the movement of dumpers / excavators etc.
- Drilling is carried out by deploying 115 mm dia. drill equipped with in-built arrangement of water sprinkling for dust suppression and separate dust extraction system and this arrangement makes operations practically dust free.
- Controlled blasting method is being/will be practiced.
- The blasting is being/will be done using ANFO/SME & Boosters.
- In blasting, NONEL & hole to hole delay pattern is being/will be used.
- To reduce the size of oversized boulders generated out of the primary blasting, hydraulic rock breaker is used and no secondary blasting is involved.
- Loading is being/will be done by Hydraulic Excavators and transportation of limestone and waste, clay/soil is being/will be done by means of dumpers (35T / 55T) to the crushers (for limestone) and waste dumps (for waste & clay/soil)
- Size of Blasted limestone is reduced by crushing to meet size requirement of cement plant i.e., crushed to meet <70 mm size.
- Excavation and loading of limestone is being carried out with the help of hydraulic excavators.
- **EXISTING:** The Excavated limestone is being transported to crusher situated within the contiguous Maratha Limestone Mine (ML-II), through Haul Road by dumpers of capacity 55 tonnes and crushed limestone transport to cement plant via overland conveyor belt. Till now, no crushing activities were carried out in the mining lease area.
- **PROPOSED:** Crusher of 1600 TPH capacity has been proposed to be installed in the lease area of ML-I. All the crushed limestone from existing crusher will be directly dispatched to the existing captive cement plant via overland belt conveyor of length 4.5 to 5.0 Km from crusher of South Block.

2.0 DESCRIPTION OF THE ENVIRONMENT

2.1 PRESENTATION OF RESULTS (AIR, NOISE, WATER & SOIL)

Table – 11.4

Summary of Air, Noise, Water and Soil Parameters

Parameters	Number of locations	Description	Standards
Ambient Air Quality Monitoring	12 Locations	PM10 –50.6 to 91.5 µg/m^3	100 µg/m^3 (24 hours)
		PM2.5 – 25.7 to 53.8 µg/m^3	60 µg/m^3 (24 hours)
		SO2 – 5.89 to 13.58 µg/m^3	80 µg/m^3 (24 hours)
		NO2 – 12.59 to 30.78 µg/m^3	80 µg/m^3 (24 hours)
		All other parameters were also found within the permissible limit as per the NAAQS 2009.	
Noise Level Monitoring	12 Locations	Noise Level During Day Time – 49.6 to 64.9 Leq dB (A)	75 Leq dB (A)
		Noise Level During Night Time – 40.9 to 60.2 Leq dB (A)	70 Leq dB (A)
Surface Water	01 Locations	pH- 7.67	
		Total Hardness – 111.29 mg/l	
		Total Dissolved Solids -- 168 mg/l	
Ground Water Sampling	12 Locations	pH – 6.61 to 7.17	6.5 to 8.5
		Total Hardness – 394.21 to 758.11 mg/l	600 mg/l
		Fluoride - 0.51 mg/l to 0.88 mg/l	1 to 1.5
		TDS – 527 mg/l to 956 mg/l	2000 mg/l
Soil Sampling	12 Locations	Soil nature – neutral to moderately alkaline pH – 7.02 to 7.98 Organic Matter – 0.75 % to 1.11 % Available Nitrogen –192.5 to 286.7 kg/ha Phosphorous – 35.8 to 71.2 kg/ha Potassium – 166.69 to 409.52	-

2.2 BIOLOGICAL ENVIRONMENT

Flora Diversity:

Total of 36 trees, 19 shrubs & 2 herbs and 4 species of grasses & 3 species of climber have been recorded in the core zone based on primary observation as well as based on secondary data. Whereas, a total of 52 trees, 31 shrubs & 28 herbs and 14 species of grasses & 7 species of climber have been recorded in the buffer zone of the study area based on primary observation as well as based on secondary data. During field survey, there is no Rare, Endangered and Threatened (RET) species of flora were found in the study area.

The common floral species found in the study area are: *Aegle marmelos, Albizia lebbeck, Azadirachta indica, Accacia nilotica, and Bougainvillea glabra, Eucalyptus globulus, Euphorbia* etc.

Fauna Diversity:

The common faunal species found in the study are: Common Garden Lizard *(Calotes versicolor)*, Common Frog (*Euphlyctis hexadactyla*), Indian Hare (Lepus nigricolis), and Rat (Rattus rattus), *Presbytis entellus* (Common Langur), Ptyas mucosa (Indian Rat Snake) etc. No schedule I fauna found in the study area.

2.3 SOCIO-ECONOMIC ENVIRONMENT

The 10 km radius study area from mine site, comprises of District Chandrapur, is covered under 10 km radius. Total no. of villages observed within the 10 km radius from the project area is 72.

The population as per 2011 Census records is 66548 (for 10 km radius buffer zone). Total no. of household is 4630, 5568 and 5755 respectively, in primary, secondary and outer zone. Sex ratio is 942, 936 and 947 (females per 1000 males) observed in primary, secondary and outer zone respectively. SC population distribution is 2058, 1643 and 3654 respectively in primary, secondary and outer zone. ST population distribution is 6390, 7264 and 6303 respectively in primary, secondary and outer zone respectively. Average household size is 5 which is the standard family size in India. The 10 km radius study area demonstrates a literacy rate of 76.18% as per census 2011. The male literacy rate works out to be 73.7 % whereas the female literacy rate, which is an important factor for social change, is observed to be 60% in the study area.

3.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

- **Impact on Air Environment**

  The key air emissions from the mining activities (surface miner, excavator, drilling, blasting, loading, haulage, crushing and transportation) are Particulate Matter, Oxides of Nitrogen (NOx) and Sulphur dioxide (SO_2). Gaseous emissions will be generated from HEMMs & transportation of vehicles. Impact on ambient air quality in the study area after the implementation of project were predicted which includes the cumulative effects of the existing mine operation. As per the prediction, the impact of the existing project has been found to be within the prescribed limits of CPCB/MoEF&CC. The maximum predicted incremental values of various pollutants are given in table 11.5:

Table – 11.5

Cumulative Predicted Incremental & Ground Level Concentration (GLC) due to Mine and Integrated Cement Plant

S. No.	Pollutants	Concentration (µg/m^3)			NAAQS Standards
		Baseline Value	Incremental Value	Resultant	
1.	PM10	80.1	3.75	83.84	100
2.	PM2.5	52.4	1.50	53.9	60
3.	SO_2	13.58	3.50	17.08	80
4.	NO_2	27.98	4.38	32.36	80

- **Impact on Water Environment –**

  The limestone and associated rocks do not contain any toxic substance so that there will not be any adverse on ground water quality. As per the above-mentioned details, water table has already been intersected. Necessary permission has been obtained from CGWA for intersection of ground water table. Therefore, no adverse impact on water quality is envisaged due to the existing mining project and entire seepage will be duly utilized for various conjunctive purposes. Periodical monitoring of ground water quality will be carried out.

  - ✓ A part of Thutra i.e., seasonal Nalla (0.70 km length) is passing through center of the lease area from West to East.
  - ✓ There also exists many seasonal nala`s, and vagu present within the 10 km radius of the study area.

- **Impact of Noise & Vibration –**

  Due to Mining Activities

  Major noise generating sources of the mining activity are drilling, blasting and HEMMs movement used for transportation of limestone. The plantation and the green belt around the mining lease boundary help in reducing noise level and proper mitigation measures is being/will be carried out.

  DGMS guidelines are being/will be followed to reduce the impact of blasting on the nearest habitation. Controlled blasting techniques through proper blast design and explosive selection is being/will be used to reduce the vibrations to a greater extent.

- **Impact on Land Environment** –

  The soil within the applied area is black cotton. Top soil in the ML area is found in patches.
  As on date 223134 m^3 of top soil has been generated, Out of which 2650 m^3 Top soil has been used for plantation and remaining 220484 m^3 Top soil has been stacked at Top Soil Dump in 7.18 Ha area. Till end of lease period, 0.39 million m3 of soil will be generated which will be utilized for plantation/greenbelt.
  Following measures are/will be taken to reduce the impact of mining on adjacent land with reference to run off, soil erosion and loss of top soil:

  Run Off

  - Garland Drains 5294 m with settling pond for silt collection of 3369 m2 have been constructed on the toe of all the OB dumps to collect surface run off.
  - Garland drain (L*W*D = 5294 m x 1 m x 1 m) having settling pond have been provided at the toe of the waste dumps, to channelize the runoff water from dumps.
  - To control the surface run-offs, Retaining Wall around waste dump (L*W*H = 20 m x 1.0 m x 1.5 m) will be constructed

  Soil Erosion

  - The increased green cover will substantially prevent soil erosion.

- Total area which will be covered under greenbelt is 8.29 ha in which at present an area of 2.06 ha has been covered under greenbelt along 7.5 m lease periphery and remaining 6.23 Ha will be covered in the proposal period.
- Total area which will be covered under plantation is 66.75 ha in which at present an area of 34.94 ha has been covered and remaining will be covered at the end of lease period.
- Total area to be covered under greenbelt/plantation at the conceptual period will be 75.04 Ha.

4.0 ENVIRONMENT MANAGEMENT PLAN

4.1 AIR QUALITY MANAGEMENT

- Drilling machines (40Mt/Hr) is being/will be equipped with both Wet drilling and dust collection system to suppress dust generation at source.
- Controlled Blasting is being/will be adopted with the optimum use of explosive energy which helps in reducing air pollution.
- Use of Rock Breaker (PC-200, 129 HP capacity) for breaking oversize boulders in place of secondary blasting.
- Fugitive dust emissions from all sources shall be controlled regularly. Water sprinkling on haulage road regularly through water tanker with Dust Sol Mist Gun arrangement and Modified Fogging System which have been installed in BHEML dumper for dust suppression.
- Permanent Water sprinklers have been provided on the haul roads.
- Road maintenance with the use of compactor and motor grader.
- Maintenance of vehicles is being carried out regularly for minimization of generation of gaseous pollutants.
- The crusher hopper will be fitted with an atomized water mist sprayer to control the dust due to unloading of raw material in the hopper.
- In order to reduce air pollution in the surrounding, Green Belt around 7.5 m lease periphery has been done covering an area of 2.06 ha and Total 8.29 Ha area will be covered till end of lease period.
- Personal protective equipment's is being provided to workers/employees working in the area and adequate training is being provided on safety and health aspect.
- One Ambient Air Quality Monitoring Stations is already established towards the south-east direction of the lease.
- Fugitive emission monitoring is being done at the Mine Site

4.2 NOISE & VIBRATION QUALITY MANAGEMENT

- Drilling will be carried out with the help of sharp drill bits which will help in reducing noise.
- Secondary blasting will be totally avoided and Rock breaker will be used for breaking boulders.
- Controlled blasting will be adopted.
- HEMMs equipped with acoustic AC cabins will be provided for the operators.
- Proper maintenance, oiling and greasing of machines at regular intervals is being done to reduce generation of noise.

- Adequate silencers with AC cabins will be provided in Heavy Earth Moving Machines
- All Mine employees are being provided with necessary PPE's.
- In order to reduce noise pollution in the surrounding, Green Belt around 7.5 m lease periphery has been done covering an area of 2.06 ha and proposed 6.23 ha (Total 8.29 ha.) area will be covered till end of lease period.
- Noise & vibration generated from blasting will be for a very short duration and localized. However, Controlled Blasting will be done in accordance with standards prescribed by DGMS. Blasting will be conducted using ANFO and high explosives. NONEL shall be used to control ground vibration, noise and fly rocks.
- Explosives charge per hole and per delay will be maintained as per DGMS guidelines and vibration study.
- Blasting will be carried out during day time only.
- Ambient Noise level Monitoring is being/will be done

4.3 WATER MANAGEMENT

- Garland Drains 5294 m with settling pond for silt collection of 3369 m2 have been constructed on the toe of all the OB dumps to collect surface run off.
- Garland drain (L*W*D = 5294 m x 1 m x 1 m) having settling pond have been provided at the toe of the waste dumps, to channelize the runoff water from dumps.
- To control the surface run-offs, Retaining Wall around waste dump (L*W*H = 20 m x 1.0 m x 1.5 m) will be constructed.
- The garland drains and settling pits are being cleaned before the onset of monsoon for efficient and better management of surface run off in the lease area.
- Toe wall along with garland drain having cross section of 1.5m x 1.5m will be constructed all around dump area.
- Seepage in the mine pit will be collected in a sump formed at bottom most bench.
- Suitable drainage system will be provided to prevent surface water from entering into the mine so as to reduce soil wash off.
- The rainwater falling directly into the mine pits will be stored and used for plantation & dust suppression.
- Mining sump shall contribute to augment the ground water resources and shall be considered as recharging pit which shall create overall positive impact on ground water regime both on qualitative and quantitative aspects of ground water environment

Safety Measures for Water Reservoir at Conceptual Stage

- Construction of fencing along the periphery of the reservoir.
- Construction of bund along the periphery of the reservoir.
- Plantation will be done along the periphery of the reservoir.
- Safety sign boards will be placed on the bunds.
- Conduct slope stability studies involving expert agencies.

Management of Waste Water generated at mine site

- No waste water will be discharged outside lease boundary.

- 8 KLD of waste water generated from workshop/mine operations/washing will be used for dust suppression treating with the help of oil-water separator.
- Garland Drains of 5294 m length with settling pond for silt collection of 3369 m^2 have been constructed on the toe of all the OB dumps to collect surface run off

4.4 IMPACT ON LAND ENVIRONMENT AND MITIGATION MEASURES WITH EMP

This is an existing mining project. Total Mining Lease area is 579.90 ha in which 4.65 Ha is Govt Land and 575.25 Ha is Pvt Agriculture Land. As on date 494.08 Ha Pvt land has already been acquired and 51.61 Ha land will be acquired on the one-to-one basis as per the LARR Act,2013, if required in future. About 29.56 ha land will not be acquired.

The land use of the lease area will alter due to mining activities such as formation of pits, greenbelt, water reservoir etc.

- As on date, 125.27 ha area is under mining, 7.18 ha is under soil dumps etc., 5.21 ha is under mineral storage, 0.14 ha is under infrastructure, 13.11 ha is under roads & approach, 37.0 ha is under green belt and plantation while 410.29 ha area is undisturbed.
- At the conceptual stage, out of the total lease area (579.90 ha), mined out area will be 141.9 ha, out of which 16.72 ha area will be converted to water reservoir and the balance 125.18 ha will be left active for working after expiry of lease period (30.12.2034). Conceptually, 56.70 ha waste dump on non-mineralized area will be stabilized by plantation and re-grassing while 15.30 ha area will be under subgrade dump which will be stabilized by plantation. Total area under greenbelt and plantation will be 75.04 ha (8.29 ha area under green belt along 7.5 m lease periphery + 66.75 ha area under plantation and re-grassing on virgin area).
- A public PWD road is passing through the block – 2 of ML area joining villages Thutra to Chandur, ultimately join to Gadchandur- Deweda Road which will not be disturbed and a safety zone of 50 m will be left along both the side of road.
- Paenganga road is passing through the North-west corner of the block-4 of ML area joining Gadchandur to lakhmapur which will not be disturbed as no mining zone in block 4.
- A part of seasonal Nalla (0.70 km length) is passing through centre of the block-2 of lease area from West to East. Safety barrier of 50 m from both sides will be left along the seasonal Nalla.
- The transmission lines pass through the western part of the lease area which will be diverted after taking permission from the competent authority.

4.5 GREENBELT DEVELOPMENT AND PLANTATION

- Total area which will be covered under greenbelt is 8.29 ha in which at present an area of 2.06 ha has been covered under greenbelt along 7.5 m lease periphery and remaining 6.23 Ha will be covered in the proposal period.
- Total area which will be covered under plantation is 66.75 ha in which at present an area of 34.94 ha has been covered and remaining will be covered at the end of lease period.
- Total area covered/ to be covered under greenbelt/plantation at the conceptual period will be 131.74 Ha.
- Plantation will be done @2000 trees/ha with survival rate of 85%.

- Local species is being/ will be planted after consultation with local forest officer and as per CPCB/SPCB guidelines.
- Native plant species have been/will be planted in consultation with local forest officer such as Bauhinia recemosa (Zinza), Pongania pinnata (Karanj), Albizia lebeck (Kala siris), Saraca indica (Ashoka), Bauhinia purpuriai (Papeli) etc.

5.0 POST PROJECT ENVIRONMENTAL MONITORING PROGRAMME

Table 3

Post Project Monitoring

S. No.	Description	Frequency of Monitoring
1.	Micro-Meteorological Data	Hourly
2.	Ambient Air Quality Monitoring	Monthly
3.	Ground Water Quality & Level Monitoring	Half Yearly as per CGWA guidelines
4.	Surface Water Quality Monitoring	Half Yearly
5.	Noise Level Monitoring	Monthly
6.	Ground Vibration Monitoring	On every blast
7.	Crusher Stack Monitoring	Monthly
8.	Medical Checkup of employees	3 to 5 Year Interval ➢ Age of workers <45 years: After every 5 years ➢ Age of workers >45 years: After every 3 years

6.0 ADDITIONAL STUDIES

Additional Studies i.e., Hydro–Geological Study, Risk Assessment & Disaster Management Plan, Land use and land cover study, Ecology and Biodiversity, are covered in Draft EIA/EMP Report as per the Terms of reference granted by MoEFCC, New Delhi vide letter no. J-11015/399/2006 - IA. II (M) dated 12th May, 2022 in favor of M/s. Ambuja Cement Limited.

7.0 RESETTLEMENT & REHABILITATION

The total mining lease area is 579.90ha which spreads in five villages Thutra and Lakhmapur (Tehsil: Korpana) and Hirapur, Isapur and Sonapur (Tehsil: Rajura) District- Chandrapur, State: Maharashtra. Out of Total Area, 4.65 Ha is Govt Land and 575.25 Ha Pvt Agriculture Land.

As on date 494.08 Ha Pvt land Pvt land has already been acquired and 51.61 Ha land will be acquired on the one-to-one basis as per the LARR Act,2013, if required in future. About 29.56 ha land will not be acquired.

8.0 PROJECT BENEFITS

Proposed Expansion Project has generated a fair amount of direct and indirect employment in the study region. The local economy has received a boost due to employees spending and services generated by the company.

The overall effect has improved the buying power of employees and thus a higher standard of living viz. better education, improved health and sanitation facilities, housing etc. This is envisaged

as a major positive benefit, which will ultimately lead to the sustainable development of the region.

9.0 CONCLUSION

The proposed expansion project will prove beneficial to the local people as direct and indirect employment opportunity will be generated. There will be increase in revenue generation to the government by way of government taxes etc. Further improvement in infrastructure will take place like education, roads, availability of drinking water, medical facilities in adjacent villages.

There will be no significant pollution of air, water, soil and noise. Regular monitoring of all the components of environment will be done. Increased social welfare measures taken by the company will bring development in the near-by villages.