EXECUTIVE SUMMARY FOR PUBLIC HEARING

For

PROPOSED GREENFIELD PROJECT OF STANDALONE GRINDING UNIT WITH CEMENT PRODUCTION CAPACITY OF 6 MMTPA (2 X 3 MMTPA)

Located
At

VILLAGE – MALKHED & UDKHED, TALUKA – CHANDUR RAILWAY & AMRAVATI, DISTRICT- AMRAVATI, MAHARASHTRA- 444701

(Study Period – March 2024 to May 2024)

SCHEDULE AS PER EIA NOTIFICATION, 2006 & ITS SUBSEQUENT AMENDMENTS TILL DATE - ACTIVITY 3(b), CATEGORY "B1" - CEMENT PLANTS (STANDALONE GRINDING UNIT) AS PER O.M. DATED 24TH DECEMBER, 2013

ToR Letter No. SIA/MH/IND1/500457/2024 dated 18.10.2024
Issued by State Level Expert Appraisal Committee (SEAC), Maharashtra

Project Proponent:

M/s. AMBUJA CONCRETE NORTH PRIVATE LIMITED
ADANI CORPORATE HOUSE, SHANTIGRAM, KHODIYAR,
SG HIGHWAY, AHMEDABAD - 382421 (GUJARAT) Email:
Email: bhimsi.kachhot@adani.com / sanjeewkumar.singh@adani.com

Environment Consultant:

M/s. P AND M SOLUTION
QCI Certificate No. NABET/EIA/2326/RA 0298
(Accredited by QCI/NABET, Approved by MoEF&CC,)
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EHS MATRIX PRIVATE LIMITED
(Accredited by NABL, Recognized by MoEF&CC, GoI)

Contents

1.0 PROJECT DESCRIPTION

M/s. Ambuja Concrete North Private Limited (ACNPL) has proposed a Greenfield project of a standalone grinding unit with production capacity of 2 x 3 MMTPA (6 MMTPA) which is based on Vertical Roller Mill Technology using Dry cement grinding process.

The project site is located at Survey Nos. 5 (part 1), 5 (part 2), 5 (Part 3/1), 5 (Part 3/2), 5 (Part 6), 6 (Part 1), 6 (Part 2), 7/1, 10 (Part 1), 10 (Part 2), 11, 12,13 (Part 1), 13 (Part 2), 14, 376, 377, at Village- Malkhed & Udkhed, Taluka- Chandur Railway & Amravati, District- Amravati, Maharashtra.

The road abutting the project is village road is 0.02 km towards North direction. SH-199 is at approx. 0.2 km towards South direction from the project site, NH-53 is at approx. 11.3 km towards West North West direction from the project site. SH-200 is at approx. 13.9 km towards North West direction from the project site, SH-297 is at approx. 7.6 km towards North-North-East direction from the project site. Malkhed Railway Station is approx. 0.85 km towards East direction from project site. Dr. Punjabrao Deshmukh Airport, Amravati is approx. 12.7 km towards West direction from project site and Dr. Babasaheb Ambedkar International Airport is 127.4 km towards west direction from project site. Kholad River is at a distance of 8 km towards east south east from the project site and Malkhed Dam is at a distance of 4.8 km towards Ease North East from the project site. Raigad River Dam is at a distance of 7.5 km towards South East from the project site, Dahigaon Lake is at a distance of 5.3 km towards East South East direction from project site, Bhankhed lake is at distance of 4.2 km towards north west from project site and Adgaon lake is at a distance of 3.4 km towards South West from project site. No National Park/ Wildlife Sanctuary falls within 10 km of the plant area.

Application was submitted to MoEF&CC for obtaining Terms of References (ToR) for conducting the EIA studies. Accordingly, the application was submitted for obtaining the Terms of Reference (ToR) for Environmental Clearance to the SEAC, Maharashtra, Environment Department on 09/10/2024. Thereafter, Standard ToR was granted vide File No. SIA/MH/IND1/500457/2024 on 18/10/2024, The project activity is listed at Sr. no. 3(b), Cement Plants, under Category-"B", as per the EIA Notification, 2006 and its subsequent amendments till date. It is categorized as B1 as per *OM dated 24th December, 2013 by MoEF&CC, New Delhi*.

Table 1: Salient Features of the Project

S. No.	Items	Details
1	Name of the Project	Proposed Greenfield project of Standalone Grinding Unit with Cement production capacity of 6 MMTPA i.e. (2 x 3 MMTPA) at Village- Malkhed & Udkhed, Taluka – Chandur Railway, District- Amravati, Maharashtra by M/s. Ambuja Concrete North Pvt. Ltd. (ACNPL).
2	S. No. in the Schedule	3 (b)

<table>
<tr><td>3</td><td>Proposed Capacity/ Area</td><td>Total Area = 34.56 ha
Plan- Built up area, Road and parking = 5.85 ha
Open Area = 16.98 ha
Greenbelt Area = 11.73 ha
Capacity = 6 MMTPA (2 x 3 MMTPA)</td></tr>
<tr><td>4</td><td>Category of Project</td><td>B1</td></tr>
<tr><td>5</td><td>Toposheet</td><td>F43X13, F43X9, F43X14 & F43X10.</td></tr>
<tr><td>6</td><td>Raw Material</td><td>
<table>
<tr><th rowspan="2">Sr. No.</th><th colspan="2">Raw Material (Dry basis)</th></tr>
<tr><th>Particulars</th><th>Quantity</th></tr>
<tr><td>1.</td><td>Clinker</td><td>2 x 2.85 MMTPA</td></tr>
<tr><td>2.</td><td>Gypsum (natural/ chemical)</td><td>2 x 0.24 MMTPA</td></tr>
<tr><td>3.</td><td>Fly ash</td><td>2 x 1.05 MMTPA</td></tr>
<tr><td>4.</td><td>Slag</td><td>2 x 1.95 MMTPA</td></tr>
<tr><td>5.</td><td>Coal (For HAG)</td><td>2 x 0.07 MMTPA</td></tr>
</table>
</td></tr>
<tr><td>7</td><td>Water Requirement</td><td>During Construction Phase: 200 KLD
During Operation Phase: 2 x 300 KLD i.e. 600 KLD</td></tr>
<tr><td>8</td><td>Power Requirement</td><td>
<table>
<tr><th>Sr. No.</th><th>Particular</th><th>Details</th></tr>
<tr><td>1</td><td>Power Requirement</td><td>2 x 18 MW (36 MW)</td></tr>
<tr><td>2</td><td>Source</td><td>State Grid (MSEDL)</td></tr>
</table>
</td></tr>
<tr><td>9</td><td>Manpower Requirement</td><td>
<table>
<tr><th colspan="2">Description</th><th>Construction Phase</th><th>Operation Phase</th></tr>
<tr><td rowspan="2">Proposed</td><td>Permanent</td><td>30 nos.</td><td>30 nos.</td></tr>
<tr><td>Contract</td><td>1500 nos.</td><td>125 nos.</td></tr>
<tr><td colspan="2">Total (A)</td><td>1530 nos.</td><td>155 nos.</td></tr>
<tr><td colspan="2">Period of employment in days (B)</td><td>545 nos.</td><td>365 nos./year</td></tr>
<tr><td colspan="2">Total Man-days (A*B)</td><td>8,33,850 nos.</td><td>56,575 nos./year</td></tr>
</table>
</td></tr>
<tr><td>10</td><td>Sanctuaries/ National Parks/ Biospheres, etc.</td><td>No Wildlife Sanctuary/ National Parks/ Wildlife Corridor/ ESZ within the study area.</td></tr>
<tr><td>11</td><td>Project Cost</td><td>INR 1400 Crores inclusive of capital expenditure estimated for Environmental Management and Protection Plan of INR 70.2 Crores as Capital cost and 4.8 crores as recurring cost.</td></tr>
<tr><td>12</td><td>Nearest Airport</td><td>Amravati Airport is approx. 12.7 km towards West direction.
Dr. Babasaheb Ambedkar International Airport is approx. 127.4 km towards NE direction.</td></tr>
<tr><td>13</td><td>Nearest Railway Station</td><td>Malkhed Railway Station is approx. 0.85 km towards East direction from project site.</td></tr>
<tr><td>14</td><td>Highway Connectivity</td><td>The road abutting the project is Village Road which is at approx. 0.02 km towards North direction. SH-199 is at approx. 0.2 km</td></tr>
</table>

		towards South direction from the project site, NH-53 is at approx. 11.3 km towards West-North-West direction from the project site. SH-200 is at approx. 13.9 km towards North West direction from the project site, SH-297 is at approx. 7.6 km towards North-North-East direction from the project site.

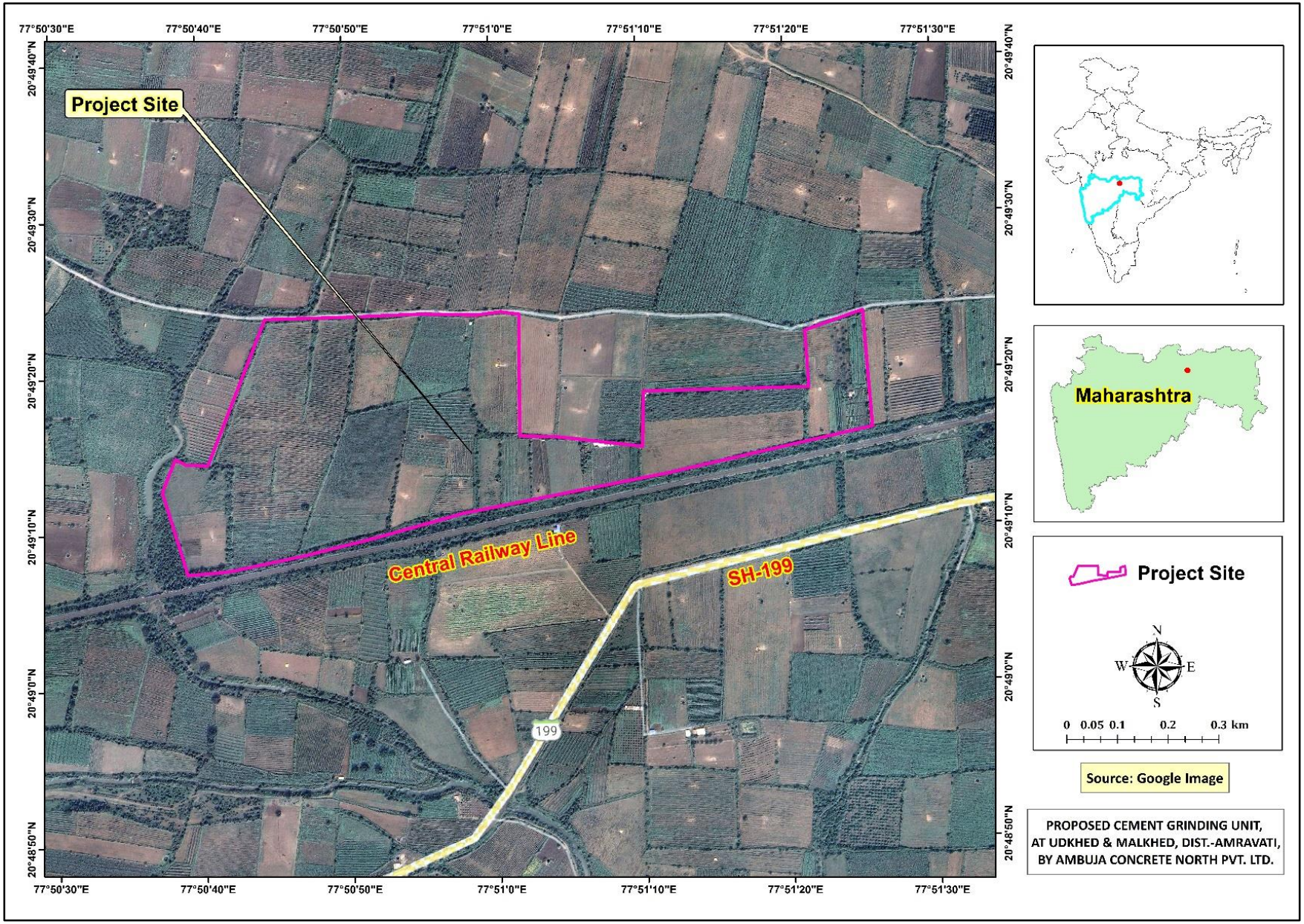

Figure 1: Google Image showing the site and surroundings

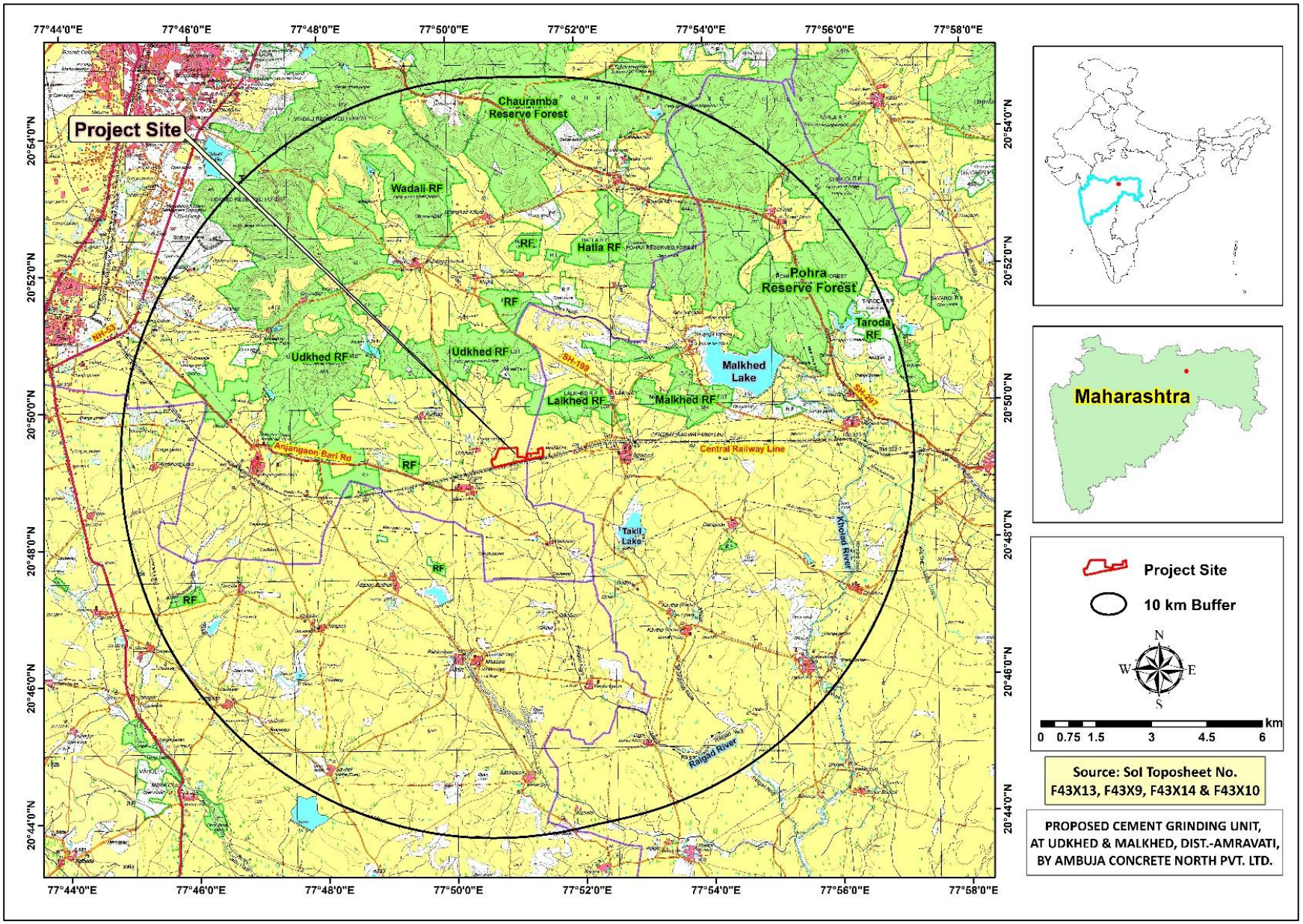

Figure 2: SOI Topographical Map of the Study area (10 km buffer)

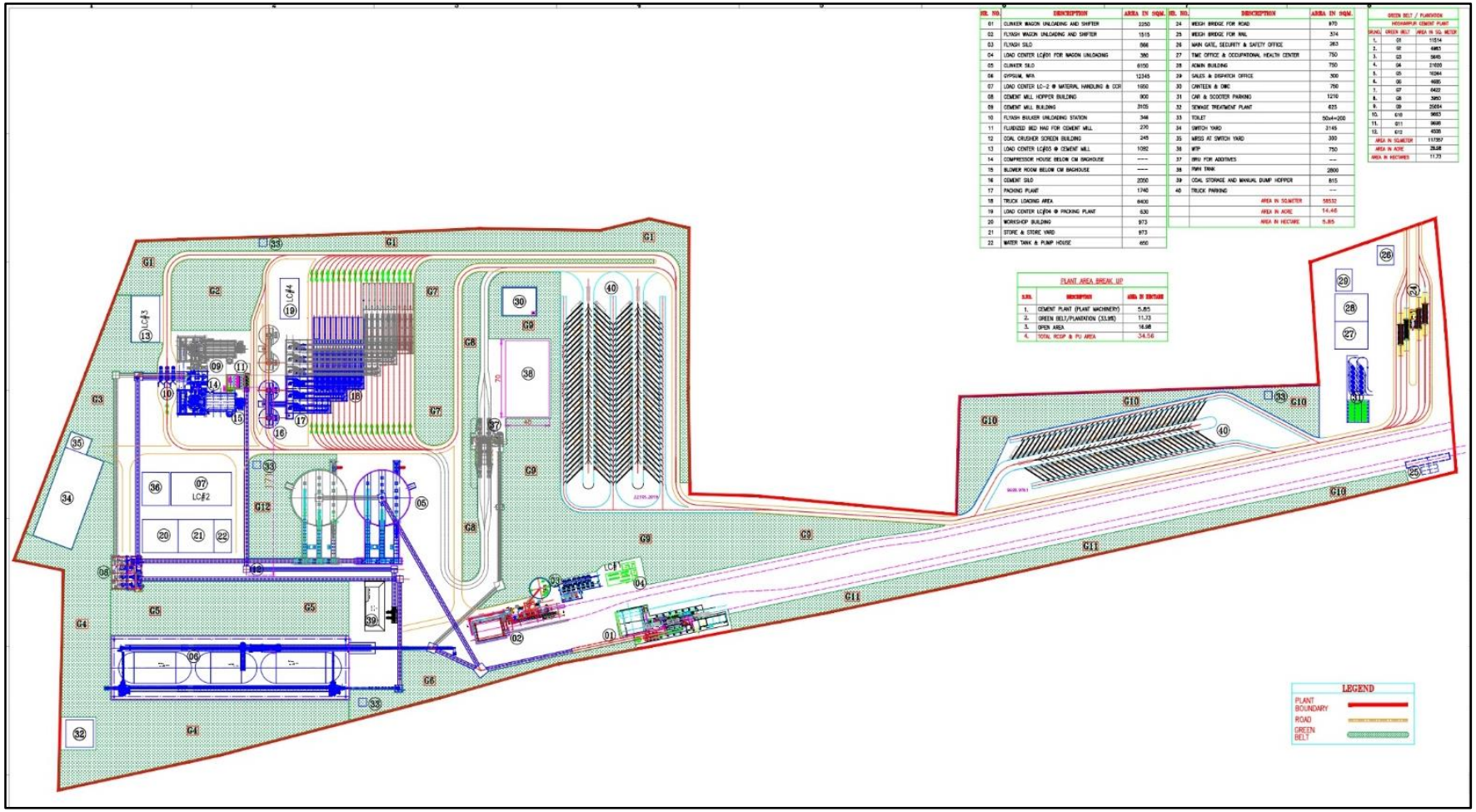

Figure 3: Proposed Site Layout

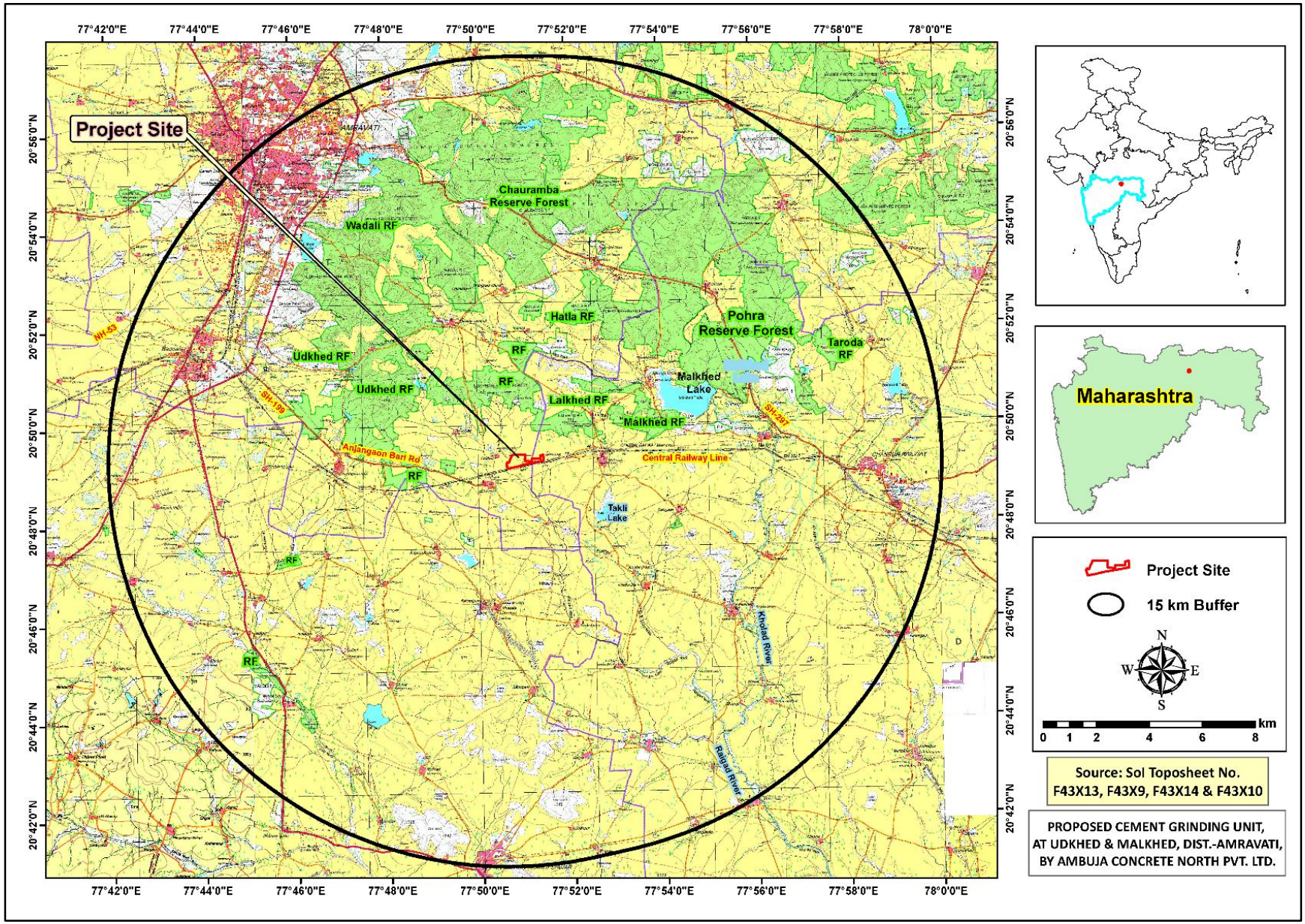

Figure 4: Map Showing Environmental Sensitive Places within 15 km Radius buffer

Table 2: Production Capacities of the Proposed Project

S. No.	Unit	Proposed Capacity (MMTPA)		
		Mill 1	Mill 2	Total
1.	Clinker Grinding Unit (PPC, OPC, PSC, PCC & Other types)	3 MMTPA	3 MMTPA	6 MMTPA

Total land for the proposed project is 34.56 ha. Out of which 11.73 ha earmarked for Green belt development, 5.85 ha will be utilized under installation of Grinding Unit, Storage facilities and packing plant. The STP of 15 KLD capacity will be installed to treat the domestic sewage water whereas treated water from Sewage Treatment Plant (STP) will be reused for flushing in toilets and gardening purpose.

Greenbelt will be developed in 34.56 ha land which is 33.94% of total area. Density of trees will be 2,500/ha = 11.73 x 2,500 = 29,325 No's. Hence, we are proposing 29,350 No's trees.

2.0 DESCRIPTION OF BASELINE ENVIRONMENT

Baseline environmental study has been carried for the period 1st March, 2024 to 31st May, 2024 (Pre-Monsoon Season).

2.1 Summary of Ambient Air Quality

- Results were compared with the standard for ambient air quality monitoring as per the Ministry of Environment, Forest and Climate Change (MoEF&CC).
- Ambient Air Quality Monitoring reveals that the minimum and maximum concentrations of $PM_{2.5}$ for all the 8 AAQM stations were found to be 23.1 μg/m³ to 37.2 μg/m³ at project site and Malkhed respectively.
- While for PM_{10}, the maximum value of 72.4 μg/m³ at Pardi and minimum 53.9 μg/m³ was recorded at Phora within the study area.
- As far as the gaseous pollutants SO_2 and NO_2 are concerned, the prescribed CPCB limit of 80 μg/m³ for residential, rural and industrial areas has never surpassed at any station.
- The minimum and maximum concentrations of SO_2 were found to be 12.4 μg/m³ to 34.5 μg/m³ at Manjari Mhasala and Angangaon Bari respectively.
- The minimum and maximum concentrations of NO_2 were found to be 13.4 μg/m³ to 38.7 μg/m³ at Dahigaon Dhawade and Angangaon Bari respectively.
- Also, CO values within study area was below permissible level of 2 mg/m³. HC values were found to be below detectable limit.
- High concentration of $PM_{2.5}$ and PM_{10} may be attributed to Vehicular emission and nearby construction activities in the area.

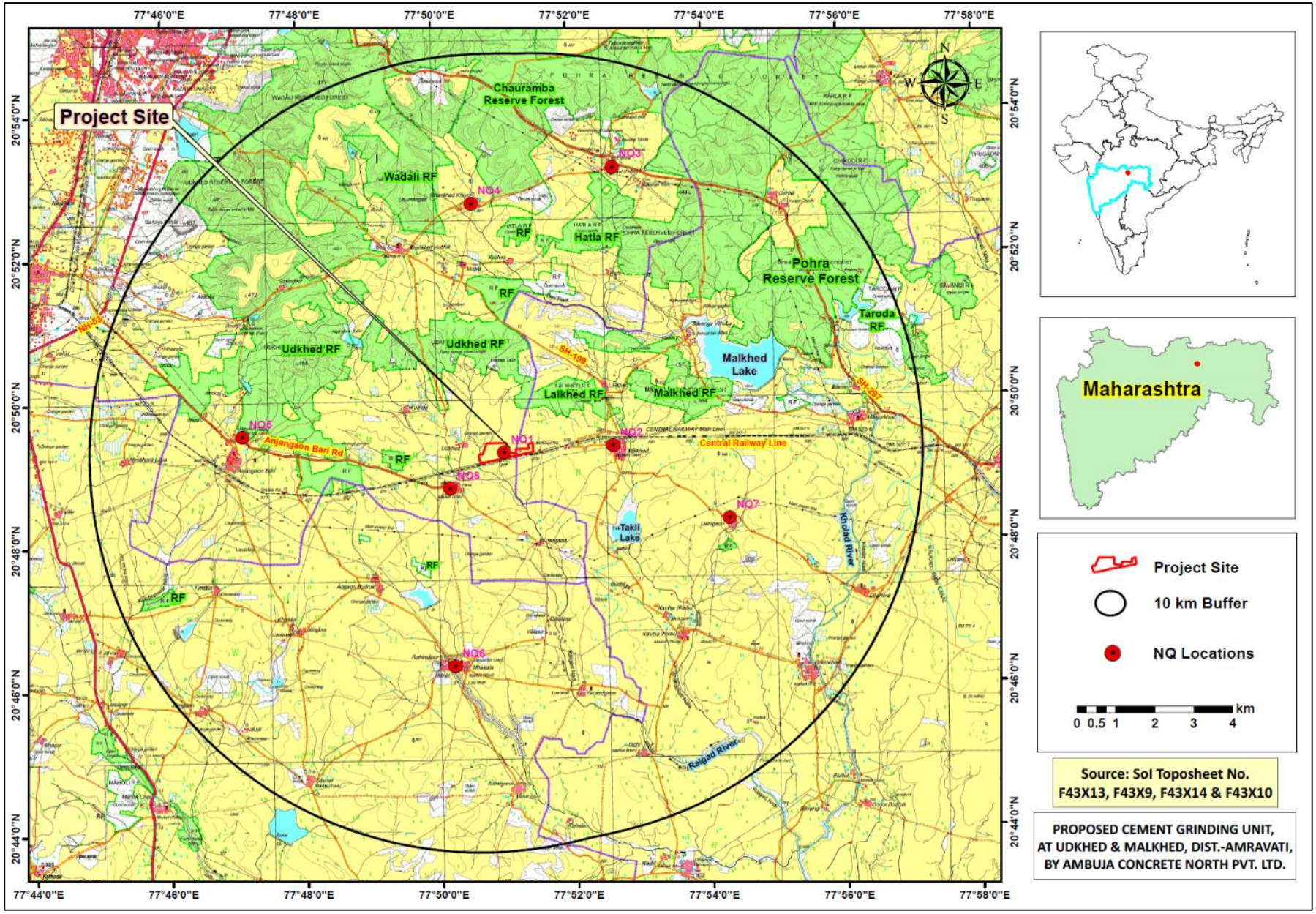

Figure 5: Ambient Air Quality Monitoring Location Map

2.2 Summary of Noise Levels

Assessment of day noise levels around the study area are ranging from 39.0 to 50.4 (A) during study period. Whereas, the range of the night equivalents were 26.0 to 39.7 (A).

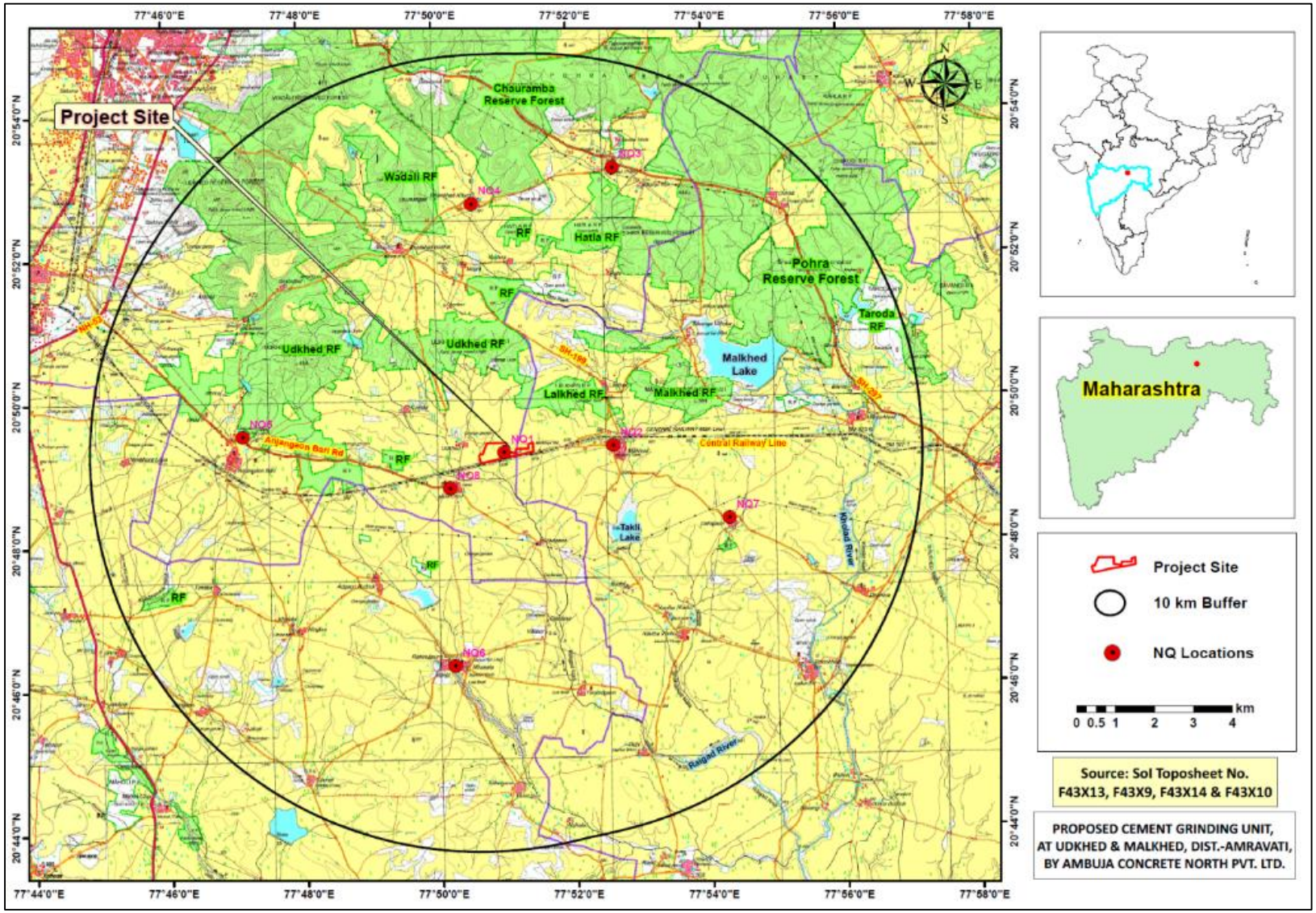

Figure 6: Ambient Noise Monitoring Location Map

2.3 Summary of Ground Water Quality

- pH of the ground water samples was in the range from 7.09 to 7.84 and is within the acceptable limit.
- Total Carbon for all the ground water samples was found to be <0.1 mg/l.
- The sodium for all the ground water samples was found to be in the range of 10 to 22 mg/l.
- Total dissolved solids found in the range of 5.5-5.7 mg/l.
- Potassium (K) of the ground water samples was in the range from 6.1 to 17 mg/l.
- Salinity of ground water samples was found to be in the range of 0.3 to 0.4 ppt.
- Total Nitrogen for all the ground water samples was found to be <0.1 mg/l.
- Phosphorous (K) was found to be in the range of 0.75 to 1.18mg/l for all the ground water samples.
- Biological oxygen demand for all the ground water samples was found to be in the range of <5.0 mg/l.
- Chemical oxygen demand for all the ground water samples was found to be in the range of <20.0 mg/l.
- Dissolved Oxygen (DO) for all the ground water samples was found to be in the range of 5.5 to 5.7 mg/l.
- Free NH_4 in ground water samples was found to be in the range of <0.04 mg/l.
- Sodium absorption Ratio (SAR) for water sample was found to be in the range of 0.26 to 0.58 mg/l.
- Turbidity from all the water samples was found below detectable limit.
- Nitrate was found to be within the acceptable limits in all the locations.
- Calcium from all the water samples were found in the range of 46.3 to 72.6 mg/l and are within the acceptable limit.
- Magnesium from all the water samples were found in the range of 11.7 to 29.6 mg/l and are within the acceptable limit.
- Total Hardness of water sample varied between 169 to 198 mg/l.
- Chloride from all the water samples were found in the range of 26.2-68.3 mg/l and are within the acceptable range.
- Sulphate in the all locations were found to be within the acceptable limit.
- Fluoride from all the water samples was found to be within the acceptable limit.
- Total Iron, Aluminum, barium, Boron, Copper, Selenium, Zinc from all the water samples were analyzed and found below detectable limit.
- Cadmium from all the water samples were found in the range of <0.002 mg/l.
- Lead, mercury, nickel total arsenic and Chromium were found to be within the acceptable limits in all the locations.
- The analysis of microbiological parameters in all water samples reveals that the total

Coliform and the Fecal Coliform were absent in the all water samples.

2.4 Summary of Surface Water Quality

The following description is based on the analysis of the samples:

- pH of the surface water samples was in the range from 6.68 to 7.75 and is within the acceptable limit.
- Total Carbon present in the surface water samples was found to be in the range of < 0.1 mg/l.
- Sodium (Na) was found to be in the range of 8.6 to 19 mg/l for all the ground water samples.
- Biological oxygen demand for all the water samples was found to be <5.0 mg/l.
- Chemical oxygen demand for all the water samples was found to be <20.0 mg/l.
- Total Dissolved oxygen (DO) of the surface water samples was found to be in the range of 5.1 to 5.8 mg/l.
- Free NH_4 for all the water samples was found to be <20.0 mg/l.
- Sodium absorption ration (SAR) found in the range of 0.19 to 36.0.
- Total dissolved solids found in the range of 339 to 397 mg/l and was found within the limits of 500 mg/l.
- Nitrate was found to be within the acceptable limits in all the locations.
- Calcium was found 19.2 to 68.0 mg/l and is within the acceptable limits in all the locations.
- Magnesium from all the water samples were found in the range of 13.3 to 26.3 mg/l and are within the acceptable limit.
- Total Hardness of water sample varied between 116.0 to 172.0 mg/l. which is within the acceptable limit.
- Chloride from all the water samples were found in the range of 34.9 to 78.6 mg/l and are within the acceptable range.
- Sulphate was found in the range of 19.9 to 36.4 mg/l and was found to be within the acceptable limit.
- Fluoride from all the water samples was found to be <1.0 mg/l.
- Total Iron, Aluminum, barium, Boron, Copper, Selenium, Zinc from all the water samples were analyzed and found below detectable limit.
- Cadmium from all the water samples were found in the range <0.002 mg/l.
- Lead, mercury, nickel and total arsenic were found to be within the acceptable limits in all the locations. Total Chromium from all the water samples were analyzed and found to be in the range of <0.04 mg/l.
- Phytoplankton and Zooplankton were found to be absent in all the water samples.
- The analysis of microbiological parameters in all water samples reveals that the total Coliform and the Fecal Coliform were found to absent.

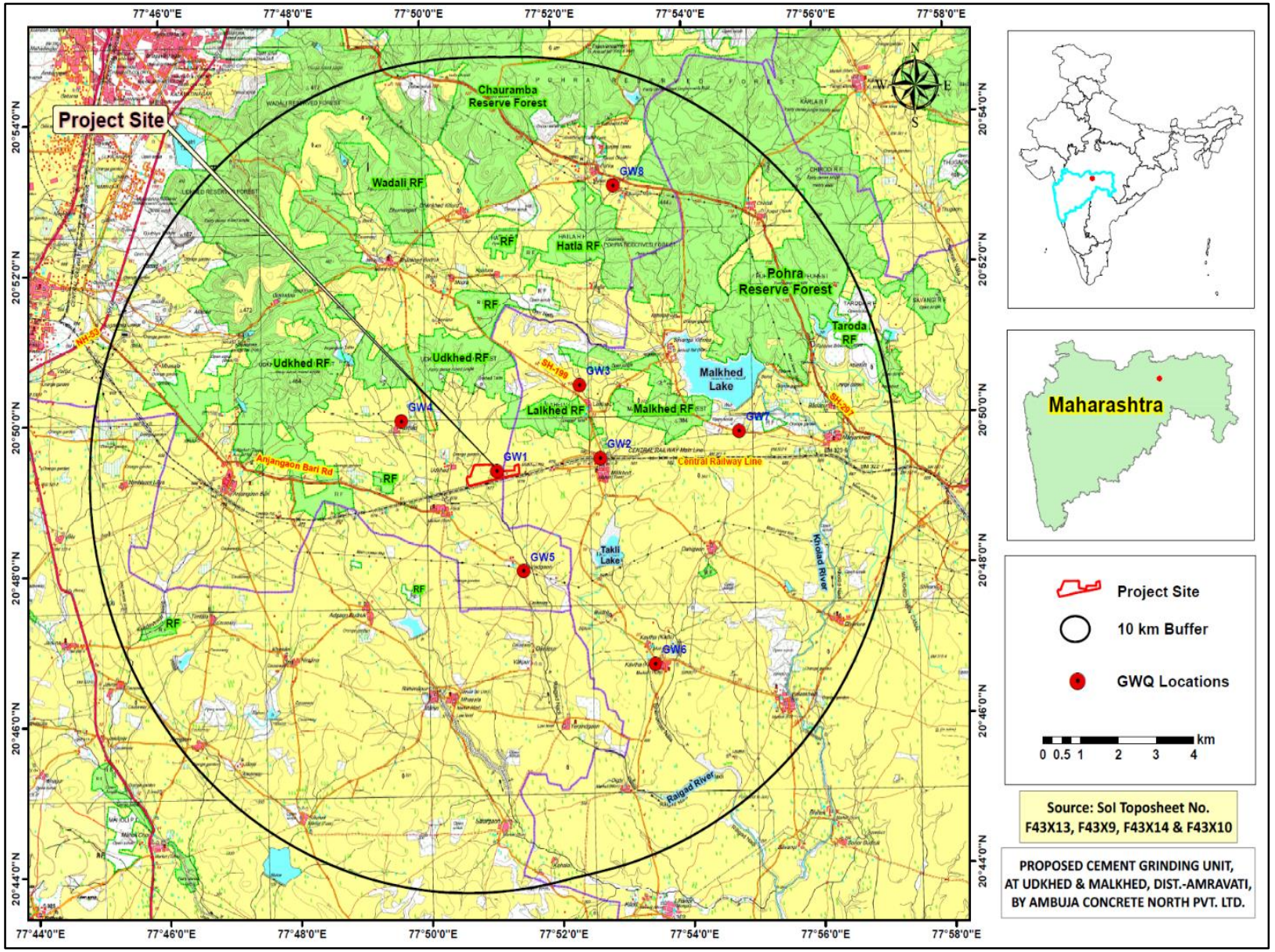

Figure 7: Ground Water Monitoring Location Map

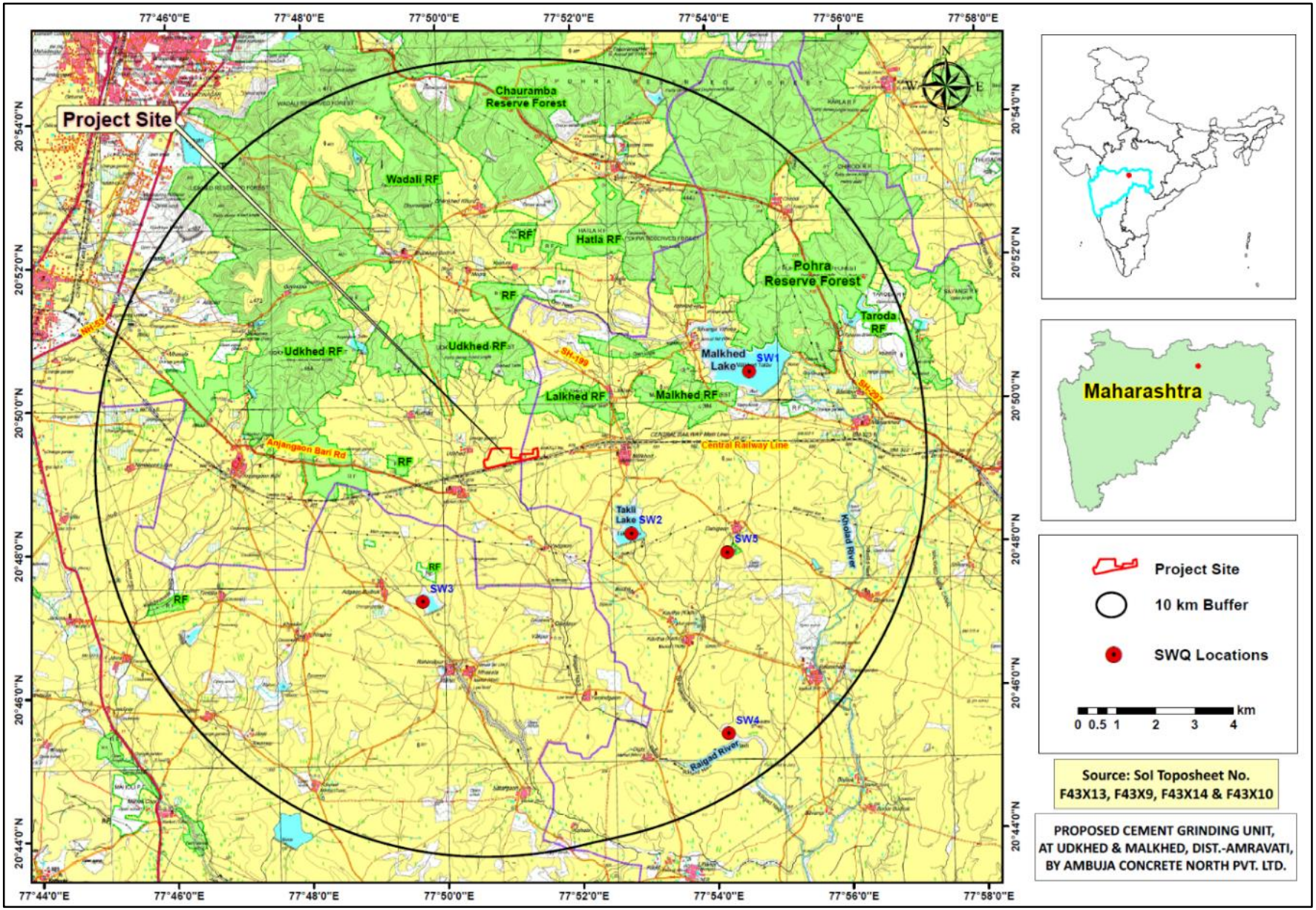

Figure 7: Surface Water Monitoring Location Map

2.5 Summary of Soil Quality

The color of the soil is deep brown. The soil texture for all the locations was observed to be Clay loam. The permeability of the soil is in the range of 0.95 to 1.25 cm/hr. The porosity of soil is in the range of 56.0 to 58.0 %. Water holding capacity is in the range of 56.0 % to 58.0 %.

Chemical properties represent the complex chemical reactions and processes occurring in the soils. They represent nutrient availability, deficiency, toxicity and salinity just to name a few. Almost all of the properties require field equipment or lab analysis for measurement. They include:

Electrical conductivity value ranges from 95.0 to 508.0 µS/cm. The pH of the soil samples varies from 7.10 to 8.32 which is an indicative of the Neutral to Moderately alkaline nature of soil. It is very important property of soil as it determines the availability of nutrients, microbial activity and physical conditions of soil. The cation exchange capacity of soil in the study area is found to be 9.6 to 12.8 meq/100g. Sodium absorption ration is in the range of 0.98 to 1.39. Potassium is found to be in the range of 31.6 to 44.8 mg/kg.

Soil sample was also analyzed for heavy metals such as Manganese (as Mn), Zinc (as Zn), Lead, Arsenic, Copper (as Cu) and Iron. It habitat a particular soil. Soil biological properties reflect how well-suited a soil is to support life.
They include organic matter contributes to plant growth through its effect on the physical, chemical and biological properties of the soil. Organic matter of the soils samples collected from the study was found to be in the range of 1.2 to 3.3 %. The soil samples show good fertility and soil quality in terms of organic matter.

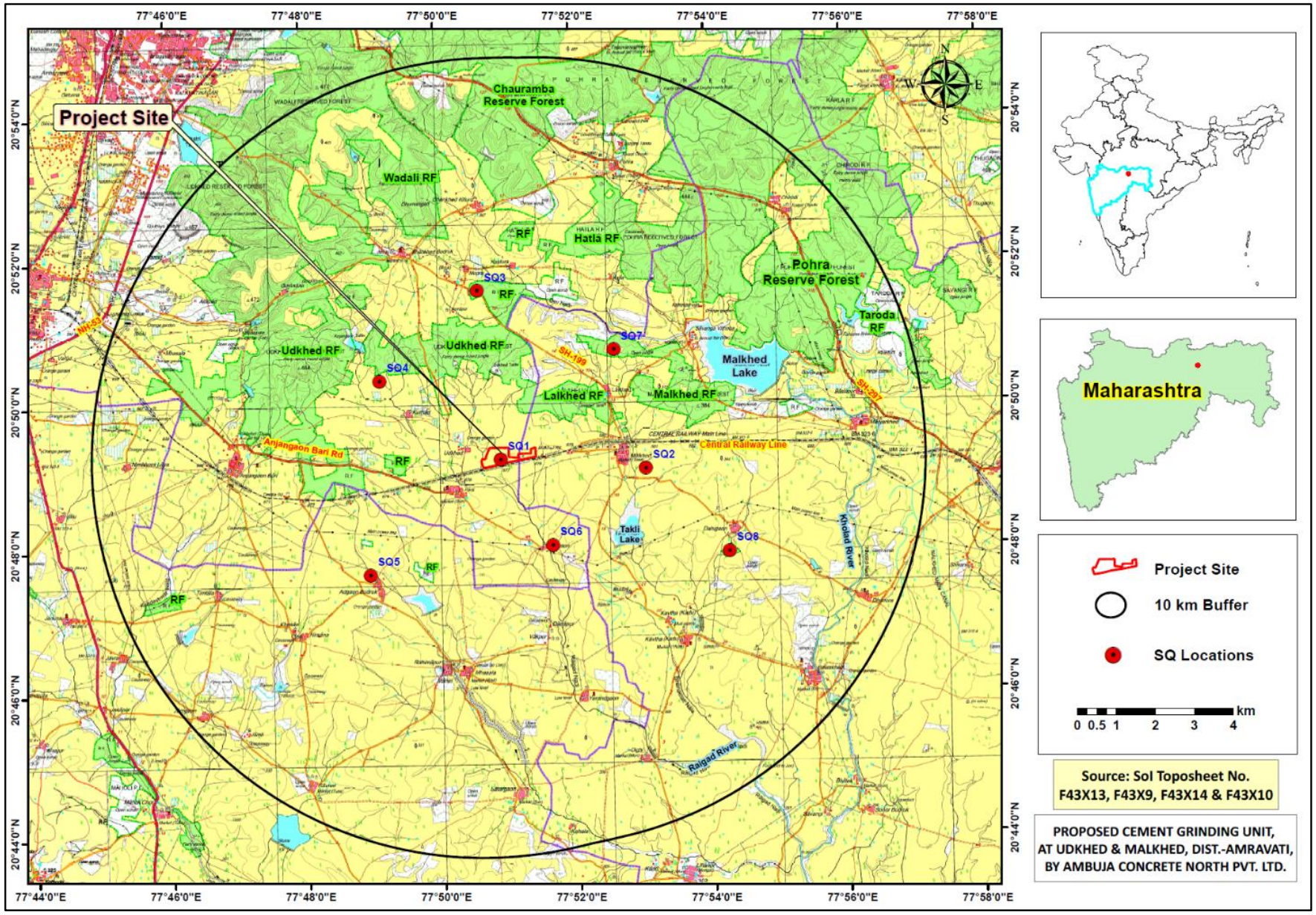

Figure 8: Soil Quality Monitoring Location Map

2.6 Socio-economic Study:

The socio-economic study area is restricted up to 10 km periphery from the project site. The total study area is restricted up to 10 km periphery from the project site. The area within 10 km limit of the proposed site includes most of Amravati Taluka (11 Villages), Nandgaon Khandeshwar (12 Villages), and Chandur Railway Taluka (15 Villages).

According to Population Census 2011 the study area has a total population of 5880 of which 54.5 percent are male and the remaining 45.5 percent are female.

The term Sex ratio is used to describe the number of females per 1000 males. Of the total population in the study area 322 are children belonging to 0-6 age group. This constitutes 5.47 percent of total population of the study area. Again, of the total population belonging to 0-6 age group 52.7 percent are male and the remaining 47.2 percent are female.

The overall sex ratio in this group has been worked out to 850 females per 1,000 males. Density of population is a key geographical term. It refers to number of people per square Kilometer. The overall density of population in the study area has been worked out to 676 persons per square kilometer.

Of the total population of the study area Hindu counts highest, that is 82.5 percent of total population 5880. This is followed by Muslims (10.9 %), Christians (0.5 %), Buddhist (0.9 %), Sikh (4.5 %) and Jain (0.7 %). The overall literacy rate in the study area has been worked out to 88 percent. The gender wise distribution of literacy rate reveals that 56 percent of the literate persons are male, and 74.9 percent are female.

The project site and 10 km buffer radius around project site are encompassing a total area of 34,691.49 ha comes under Amravati district of Maharashtra state. The project comes under F43X13, F43X9, F43X14 and F43X10 (project and study area). There is No national park and wildlife sanctuary or any animal corridor is present in the study area.

Table 3: List of Schools, Colleges and Hospitals

Sr. No.	Areas	Name/ Identity	Aerial distance
1.	Schools	Sharda Kanya Vidyalaya Malkhed	2.7 km (E)
		Z. P. Marathi School Pardi	0.96 km (SW)
		Vikas Vidyalaya Pardi	1.15 km (SW)
		BDS High School, Chandur Railway	11.86 km (E)
		Z.P. Marathi School Udkhed	0.81 km (W)
2.	Colleges	Prof. Ram Meghe Square Angangaon Bari Rd Badnera, Amravati,	10.22 km (WNW)
		Narsamma Hirayya Arts Commerce & Science College, Amravati	13.03 Km (NW)
		Brijlal Biyani Science College	14.4 Km (NW)
		HVPM Engineering College	15.5 Km (NW)
		Sau Vasudhatai Deshmukh college of agriculture	10.67 km (NNE)

Sr. No.	Areas	Name/ Identity	Aerial distance
		Bodna Amravati	
		Mahila Arts & Commerce College	12.48 km (ESE)
		Sipna College of Engineering and Technology	12.09 km (NW)
3.	Hospitals	Malkhed Railway Government Hospital	2.13 km (E)
		Radiant Super speciality Hospital	13.86 KM (NW)
		Mazi May Multi specialist hospital	12.45 km (E)
		Hi-tech multispecialty Hospital & Research Centre	14 km (NW)
		Sanjeevan Multispeciality Hospital	13.78 km (NW)
		Dr. Krantisagar Dhole: Dhole Hospital Chandur railway	12.79 Km (E)
4.	Religious Places	Gajanan Maharaj Temple	1.97 km (E)
		Hanuman Mandir	2.22 km (E)
		Digambar Jain Mandir	2.25 km (E)
		Datta Mandir Temple	2.31 km (E)
		Balaji Temple	2.34 km (E)

2.7 Ecology & Biodiversity:

In buffer area following Schedule-I species were found as per the WLPA, 1972 and amended in 2022: *Urva auropunctata* (Small Indian Moongoose), *Naja naja* (Indian Cobra), *Calodactylodes aureus* (lndian Golden Gecko), *Accipiter badius* (Shikra), *Pavo cristatus* (Indian Pea fowl). There is No national park and wildlife sanctuary or any animal corridor is present in the study area.

2.7.1 Floral Diversity

- Total number of plant species observed in the core site including trees, herbs, and shrubs: 19
- Total number of species observed in the buffer region: 109
- Number of quadrates used in studying buffer region: 16
- Number of locations studied in Buffer: 4
- No Rare, Endangered, vulnerable or protected species encountered in the project site area.
- Potential of rare and endangered plant species in buffer area. The area is largely a deciduous to semi-evergreen forested region and may have species of ecological and conservation importance.

2.7.2 Faunal Diversity

- Total number of species in core: 64 species
- Total number of species in buffer: 157 species.
- In buffer area following Schedule-I species were found as per the WLPA, 1972 and

amended in 2022: *Urva auropunctata* (Small Indian Moongoose), *Naja naja* (Indian Cobra), *Calodactylodes aureus* (lndian Golden Gecko), *Accipiter badius* (Shikra), *Pavo cristatus* (Indian Pea fowl).

- Least Concened species encountered in the project site area: As per IUCN red list, Alexandrine Parakeet (Psittacula eupatria) is categorized as Near Threatened species
- Fishes: Rohu, Katla, Mrigal, Magur, Mola Mola, Murangi, etc.

3.0 ANTICIPATED IMPACTS AND MITIGATION MEASURES

Table 4: Anticipated Impacts and Mitigation Measures

Sr. No.	Environmental Facets	During construction	During operational	Mitigation measures
1.	Air Environment	• Deterioration of air quality due to fugitive dust emissions from construction activities (especially during dry season) like excavation, back filling and concreting, hauling and dumping of earth materials and from construction spoils. • Emission of gaseous pollutants due to operation of heavy vehicles and movement of machineries and equipment for material handling, earth moving, laying of sands, metal, stones, asphalt etc.	• Raw Material and product handling areas. • Production process. • Movement of Vehicles. • The operational phase of the project comprises of various activities each of which will have an impact Air Quality. Both Dust & Gaseous emissions are likely to be emitted. The key emissions from the proposed Project are emissions due to Particulate Matter, Sulphur dioxide (SO2), Nitrogen dioxide (NO2) & CO.	• Suitably designed Bag filters will be installed cement mill stacks which separate out the incoming dust in the dust laden gas and limit the dust concentration at its designed outlet concentration of 30 mg/Nm^3. • The dust generated from coal handling plant will be insignificant because of handling of fine coal in closed circuit. For further suppression of dust adequate water spray shall be provided.
2.	Noise Environment	The major activities which are likely to increase ambient noise levels during construction phase are foundation work, fabrication of structures, operations of construction equipment and	During the normal operation of various plants, the ambient noise levels are expected to increase significantly with the attributes of the respective equipment, but this noise will be	• Proper maintenance, oiling and greasing of machines at regular intervals will be done to reduce generation of noise.

Sr. No.	Environmental Facets	During construction	During operational	Mitigation measures
		movement of vehicles. The study area may likely to experience increment in ambient noise level due to the above- mentioned activities. The areas closer to the site will have slight increase in noise level.	restricted close to the concerned equipment.	• Improved silencers within the equipment generating high noise.
3.	Water Environment	Stagnant pools of water would promote breeding of mosquitoes and generally create unsanitary conditions. However, adequate arrangements would be made to ensure proper drainage of wastewater from the construction sites, so that such waters do not form stagnant pools nor aggravate soil erosion.	Total water requirement during operation phase will be 600 KLD which will be met from the ground water resources.	• Wastewater will not be generated in the dry grinding process. • About 11.73 ha of the total project area will be covered under greenbelt & plantation. Treated waste water from the STP will be reused in greenbelt development.
4.	Land Environment	The project site is more or less leveled land. Thus, there will be not much cutting or filling required. For the leveling of land, soils from within the site would be enough and no soil will be transported from outside, thus reducing impact of fugitive emission outside the site due to transportation.	No water bodies or drains are passing through the project site. The current land use of the project site is for agricultural purpose. After the commencement of construction of grinding unit, the land use of area will change from agricultural to industrial. About 11.73 ha of the total project area	--

Sr. No.	Environmental Facets	During construction	During operational	Mitigation measures
			will be covered under greenbelt & plantation.	
5.	Biological Environment	There is no forest land involves within the project. No tree felling is involved, as the site is devoid of vegetation. Birds and other domesticated biodiversity observed near the project site are common and already adapted to thrive in human - colonized habitats. The project will not have any major negative ecological impact. Greenery shall be developed along most of the periphery of the project area as well as along roads.	The green area will be developed with local species that will attract local bird and insect species. Greenbelt will reduce carbon dioxide emissions caused by significant amount of energy consumption due to lighting, heating, cooling and air condition as well as fixed and mobile material handling equipment. Therefore, there will be no effect on the ecology of the core and buffer zone.	• It is proposed to develop green area in the project site to improve the aesthetics of the area which will also help in reduction of air pollution, noise pollution and provide suitable habitat for local birds and animal species.
6.	Traffic Environment	There would be congestion due to transport of construction materials to the site during construction phase of the project.	There would be congestion due to transport of raw materials and finished products.	• Construction raw materials will be transported only during non-peak hours. • Internal roads within the Cement grinding unit premises will be maintained sufficiently wide to allow free flow of incoming and outgoing transport vehicles.

4.0 ENVIRONMENTAL MONITORING PROGRAM

Environmental Management Cell (EMC) has been made to undertake routine environmental monitoring. Monitoring will be done to ensure compliance with the prescribed laws and standards. The Head of EMC reports to the Plant Head. Qualified staff will be recruited in EMC. Environmental monitoring of ambient air, stack emission, fugitive dust emission, noise levels, groundwater quality, surface water quality and soils are carried out as per norms. EMC is responsible for the following functions:

Regular monitoring of:

- Measuring fugitive emissions, measuring $PM_{2.5}$ and PM_{10} in work environment and report any abnormalities for initiating corrective and preventive actions.
- Measuring the ambient air quality at upwind and downwind direction of crusher, at plant boundary.
- Checking the wastewater quality (inlet and outlet).
- Checking the ground water quality near the project area, and surrounding villages.
- Water quality of water body present in study area at upstream and downstream of site.
- Noise monitoring at plant boundary, nearest habitation, near highway, and work areas.
- Development and maintenance of greenbelt and greenery within the plant boundary.

Table 5: Observations of Environmental Monitoring

Sr. No.	Environmental Attributes	Parameters	Monitoring Location	Monitoring Duration	Monitoring Frequency
1.	Meteorology	Wind Speed, Wind Direction, Temperature, Humidity & Rainfall	Project site	24 Hours	Daily
2.	Ambient Air Quality	PM_{10}, $PM_{2.5}$, SO_2, NO_x & CO.	2 Location (Upwind & downwind)	24 Hours	Twice a Week
3.	Noise level	Day and Night Equivalent Noise Level dB(A)	1 Location	24 Hours	Weekly Once
4.	Surface Water Analysis	Physico–chemical, biological characteristics	2 Locations (Upstream & downstream)	---	Once in Six Months
5.	Ground Water Analysis	Physico–chemical, biological	1 Location	---	Once in Six Months

Sr. No.	Environmental Attributes	Parameters	Monitoring Location	Monitoring Duration	Monitoring Frequency
		characteristics			
6.	Soil Quality	Physico–chemical, micro-biological characteristics	1 Location	---	Once in Six Months
7.	Stack Attached to APCE & DG sets	Particulate Matter, SO_2, NO_x	---	Isokinetic	Once in a Week
8.	Ecology	Loss of Flora and Fauna	Construction Site	---	During site Preparation
9.	Occupational Health & Safety	General Health aspects of Workers and Staff	Project Site	---	Once in Six Months

Adequate fire mitigation measures will be ensured for handling fire in project area in case of emergency. Disaster Management Plan has been prepared to take care of public health and safety during any accident.

CER will be done as per CER norms. Generally, the CER amount is used to spend as per the issues raised during the public consultation as per Office Memorandum vide F.No.22-65/2017-IA.III dated. 30th September 2020 by MoEF&CC, New Delhi. A budget of INR 14.00 Crores is allocated for CER.

5.0 PROJECT BENEFITS

The proposed project is expected to yield a positive impact on the socio-economic environment within the study area. It helps to sustain the development of this area including further development of physical infrastructural facilities.

About 1530 Nos. of people on daily wages basis will get employment during the construction stage. During operation of the proposed Cement Grinding Unit, total 155 Nos. of people will get employment. The preference will be given to local population for employment in the semi-skilled and unskilled category; this will increase the employment opportunity in the surrounding area. More revenue will be generated by the way of GST to the State & Central exchequers.

6.0 ENVIRONMENTAL MANAGEMENT PLAN

The cost of project is proposed to be INR 1400 Crores. The capital cost for environmental management of the proposed project is estimated to be INR 7020 lakhs. INR 480 lakhs per year will be required as annual recurring expenses to meet the recurring expenditure for implementing the measures. The break-up of the investment is shown in **Table 7.**

Table 7: EMP Budget

DURING CONSTRUCTION PHASE		
Component	**Capital cost (INR lakhs)**	**Recurring cost (INR Lakhs/Year)**
Labor Sanitation & Waste water Management	50	10
Dust Mitigation Measures Including site barricading, water sprinkling, anti-smog gun and monitoring)	80	15
Storm Water Management (temporary drains and sedimentation basin)	50	10
Solid Waste Management	55	10
TOTAL	**235**	**45**
DURING OPERATION PHASE		
Component	**Capital Cost (INR Lakhs)**	**Recurring Cost (INR Lakhs/Year)**
Air Pollution Controlling Devices (Stack with Bag Filter) & Industrial Vacuum Cleaners, CEMS	2420	235.0
Water Pollution Controlling measures	750	25
Rain Water Harvesting System	650	20
Solid Waste Management	445	25
Green Area/ Landscape Area	320	30
Others (Energy saving devices, miscellaneous)	500	50
DMP and Occupational Health & Safety	300	50
CER	1400	-
TOTAL	**6785**	**435**
Total EMP Budget		
Component	**Capital Cost (INR Lakhs)**	**Recurring Cost (INR Lakhs/Year)**
During Construction Phase	**235**	**45**
During Operation Phase	**6785**	**435**
TOTAL	**7020**	**480**

6.1 Environmental Management Cell

An Environmental Management Cell (EMC) will be established in the plant under the guidance of Project Head. The Environmental Management Cell (EMC) will be headed by an Environmental Experts having adequate qualification and experience in the field of environmental management. Hierarchical Structure of environmental management cell is shown in following figure.

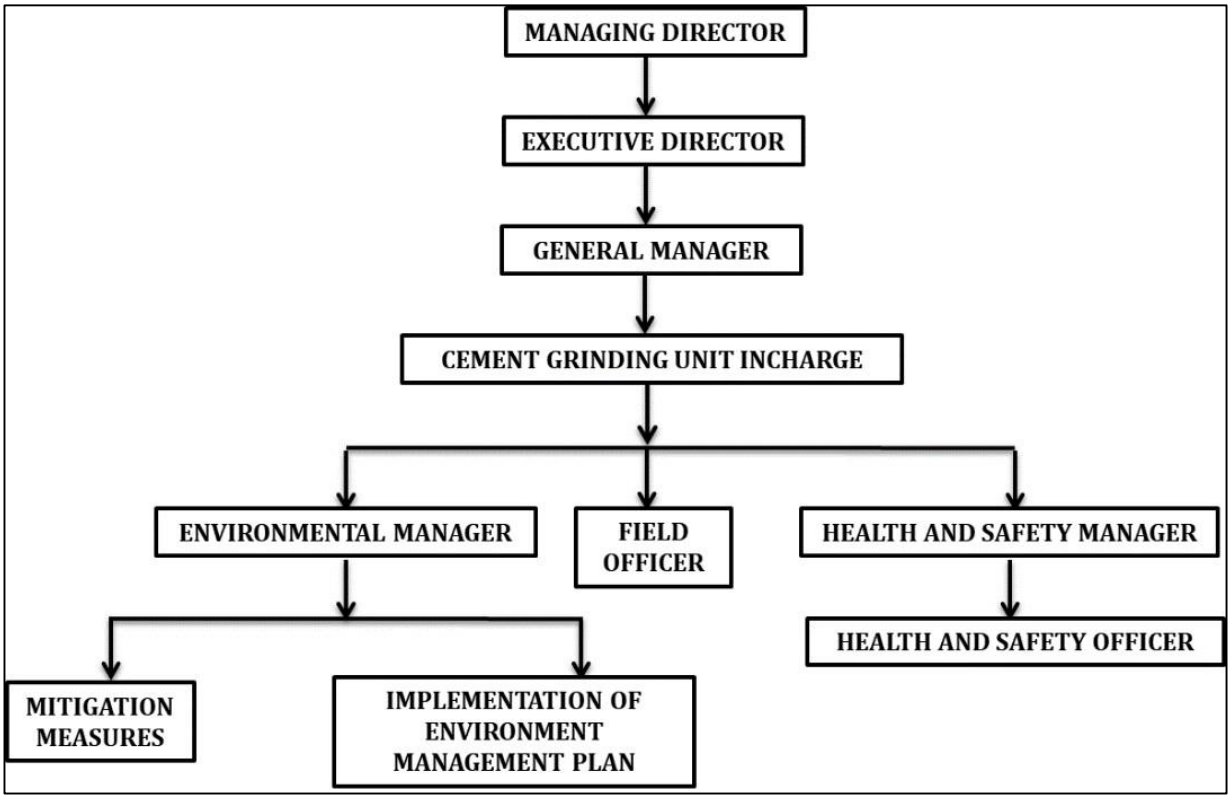

Figure 9: Hierarchical Structure of environmental management Cell