

Arima Cements Private Limited

**Proposed Thoothukudi Cement Grinding Unit
(0.2 MTPA @ 600 TPD PPC/OPC)
(Stand Alone Grinding Unit)**

**Survey No. 399/1B Part, Therku Veerapandiyapuram Village,
Ottapidaram Taluk, Thoothukudi District, Tamil Nadu**

**Environmental Clearance under EIA Notification 2006
Schedule SI. No. 3(b) - Category 'B1'**

**Summary Environmental Impact Assessment
(after TOR for Public Hearing)**

**TOR Awarded vide Letter No. SEIAA-TN/F.No.9194/3(b)/ToR-1216/2022 dated 02.08.2022
TOR Validity Extension vide TO25B1103TN5340356A dated 25.09.2025**

October 2025

EIA Consultant



ABC Tower, #400, 13th Street, SIDCO Industrial Estate, North Phase,
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ABC Techno Labs India Private Limited, Chennai
Accreditation Certificate : NABET/EIA/2225/RA0290 dated 11.06.2023
with Validity till 16.11.2025 (SI. No. 4 of QCI/NABET List)

Lab Accreditation : NABL Certificate No. TC-5770 dated 03.04.2024-valid till 02.04.2026

Summary Environmental Impact Assessment

1.0 Introduction

1.1 Project Proponent

M/s. Arima Cements Private Limited (ACPL) is registered under the Companies Act, 2013 (18 of 2013) on 07.12.2021. The Corporate Identity Number of the Company is U26999TN2021PTC148417. The **Authorised Signatory is Mr.V.Subramanian, Director**. The registered & communication address is :

M/s. Arima Cements Private Limited,
1/38A, East Street,
Therkuveerapandiyapuram,
Thoothukudi-628 002.
Mobile No. : 9943796254
e-Mail : info@arimacements.com

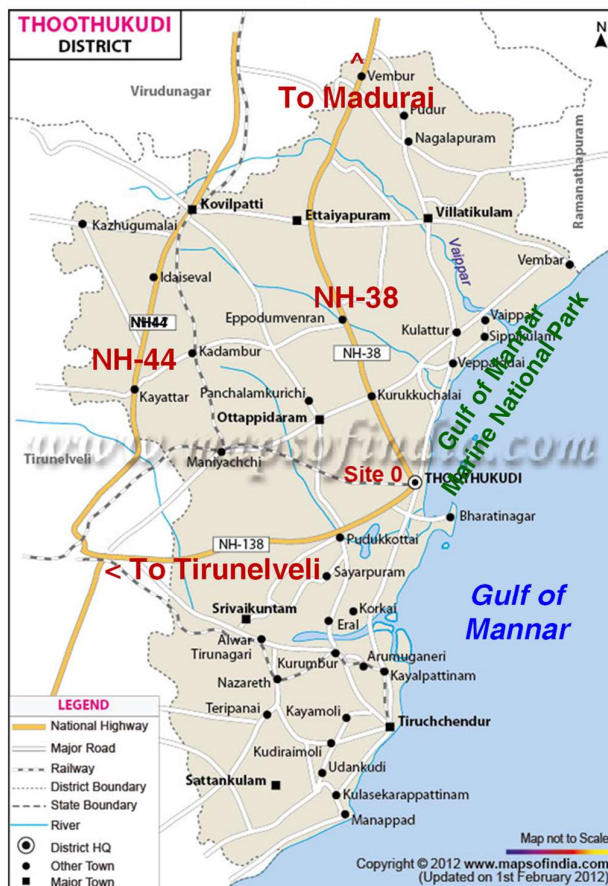
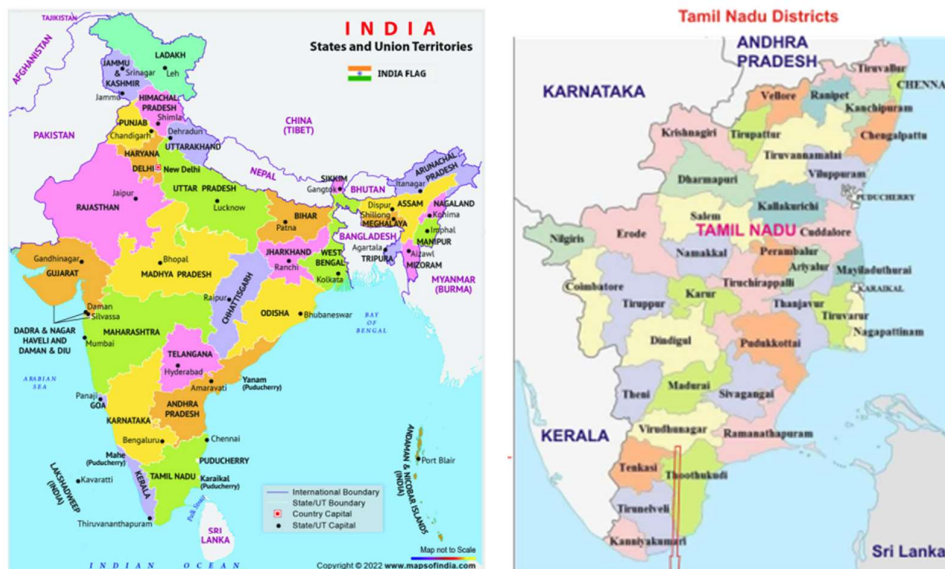
1.2 Project Profile

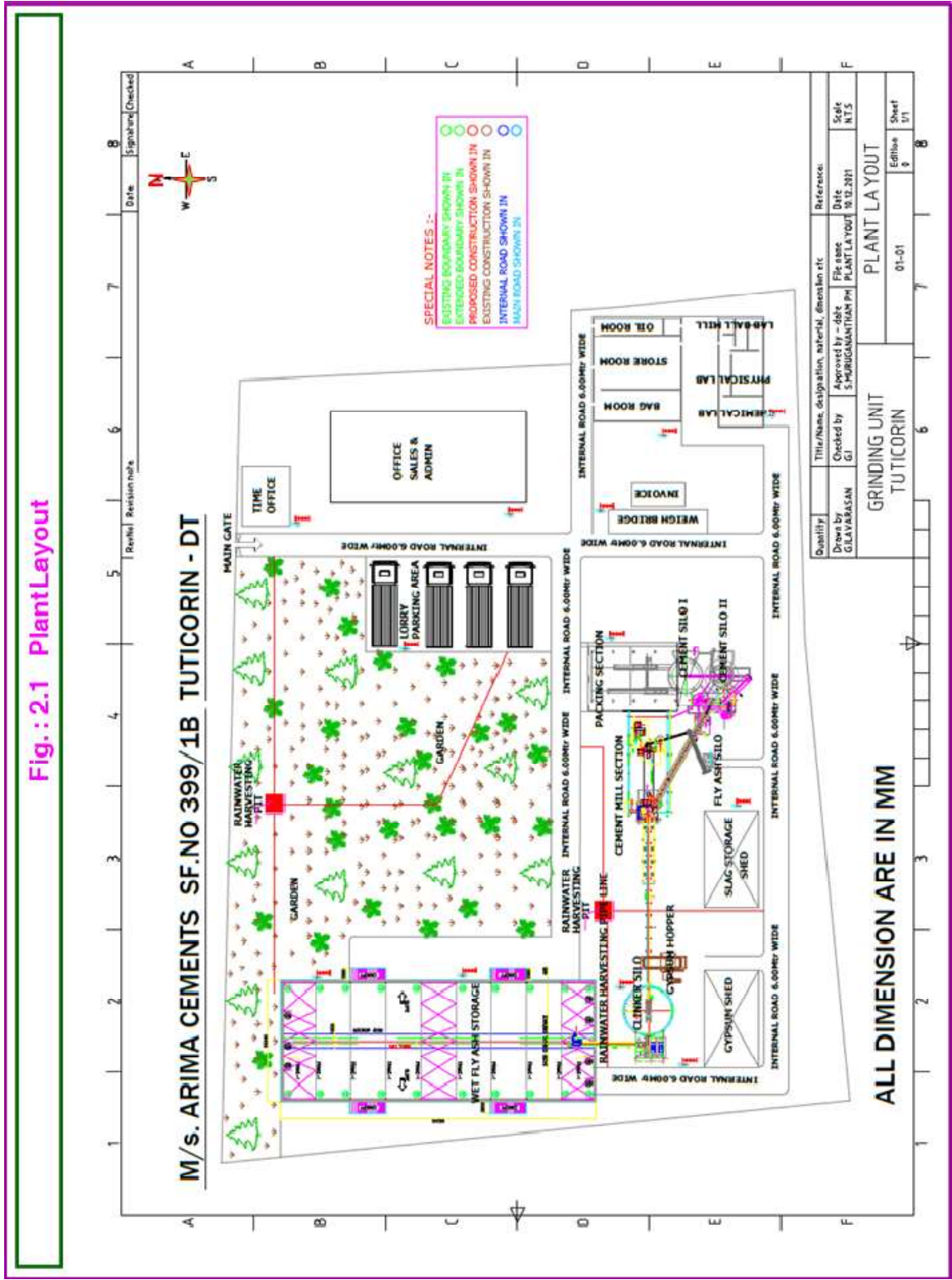
With available resources for Cement Grinding and Marketing, ACPL is proposing to establish a Cement Grinding Unit in Thoothukudi. ACPL has identified a suitable Site for the Project to an extent of 4.05 Ha, private Patta land adjacent to SIPCOT Industrial Estate-Thoothukudi, in Survey No. 399/1B Part, Therku Veerapandiyapuram Village, Ottapidaram Taluk, Thoothukudi District, Tamil Nadu (**Fig. 1.1**). Company has also executed the Lease Deed for initial 33 years with Land Owner M/s. V V Mineral on 09.12.2021. Site is in possession of ACPL. As per DTCP, the area falls in 'Non-Planning Area'. There is no Rehabilitation & Resettlement (R&R) issue due to the Proposal. There is no Litigation/Pending Case against the Proposal.

It is proposed to grind Clinker with other Raw Materials for producing Portland Pozzolana Cement (PPC) and Ordinary Portland Cement (OPC) @ **0.2 Million Tonnes per Annum (MTPA) @ 600 Tonnes per day (TPD)**. A standby DG Set of 2,500 KVA is also proposed. Along with Grinding Unit installation, various other section such as Storage Facilities for goods & materials, Admin. Office, Security Office, internal roads, Packing & Despatch Section, etc. will be constructed (**Fig. 2.1**). The Project will give direct employment to about 50 persons and indirect employment to about 100 persons.

Main process of manufacturing of PPC involves inter-grinding of Clinker, Fly Ash and Gypsum in the ratio of 65:30:5 and OPC involves inter-grinding of Clinker and Gypsum in the ratio of 95:5. Clinker will be imported from Oman, UAE, etc. MOU has been signed with M/s. Pioneer Cement Industries, UAE on 25.01.2022 for the supply of Clinker to the Project. Other Raw materials will be sourced locally.

Fig. : 1.1 Index Map





A Ball Mill is of 9 m length x 2.2 m dia and **30 TPH capacity** along with a supporting system of Classifier. Clinker and Gypsum from storages will be transported to respective feed hoppers with the help of belt conveyors. Measured quantities of Clinker and Gypsum in desired proportion will be fed to the ball mill. While producing PPC, Fly Ash of desired dosage will be extracted from Fly Ash Silo and pneumatically transported and fed through a solid flow meter to the mill. Weigh feeders will be installed under each feed hopper to ensure accurate measurement of input quantities of materials to the mill. The ground cement will be stored in the RCC Silos.

A bucket elevator is used to carry the ball mill discharge material to classifier. Fine material of required fineness from classifier will be collected as product and the coarse material will be sent back to the mill for further grinding. The fine material collected in bag filters is the final product and it will be transported to respective product silos, where it is stored. Cement (OPC/PPC), stored in silos, will be packed in 50 kg bags using electronic packers. Apart from the facility to pack cement in bags, there will be facility to load Cement in bulker also. The Grinding Unit requires about 2.0 MW power which will be sourced from TANGEDCO Grid.

Clinker, Fly Ash and Cement will be stored in RCC Silos. Gypsum & Wet Fly Ash will be stored in covered sheds. All the conveyors for material handling will be completely covered. All point sources and material transfer points are provided with Bag Filters to control PM emission <30 mg/Nm³. The dust collected from the Bag Filters will be recycled in the Cement manufacturing process. The DG Set will have adequate Stack Height and In-built acoustic measures.

As this is only a grinding unit, water is mainly required for equipment cooling, domestic consumption, etc. Raw Water is required for Equipment Cooling (20 KLD), Domestic Use (3 KLD) and Green Belt (7 KLD). The total Water Demand of 30 KLD will be met from local Desalination Plant/water supply agencies and no ground water drawl will be there. There will be no trade effluent generation from the Unit. Domestic sewage to the tune of 2.5 KLD from the Unit will be biologically treated in Septic Tank of adequate size followed by a Dispersion Trench. Thus, '**Zero Effluent Discharge-ZLD**' will be adopted/practiced.

No solid waste is envisaged from the process. Spent/waste Oil (Cat. 5.1) will be about 100 Lits./year which will be stored and sold to TNPCB Authorised Recyclers for recovery and further use. Filter Bags Scrap (20 kg/year) will also be generated which will be sold to Vendors.

As per Environmental Impact Assessment (EIA) Notification 2006 [SO 1533 (E) dated 14.09.2006], all Stand Alone Grinding Units have been kept at Sl. No. 3(b) under Category 'B' for Environmental Clearance from State Level EIA Authority -Tamil Nadu (SEIAA-TN). Accordingly, online TOR Application was filed vide Proposal No. SIA/TN/IND/76000/2022 on 21.04.2022 (**File No. 9194/2022**). State Level Expert Appraisal Committee-Tamil Nadu (SEAC-TN) deliberated the Proposal in its 293rd Meeting held on 08.07.2022 and recommended Terms of References (TORs) for carrying out Environmental Impact Assessment (EIA) Study. SEIAA-

TN has approved the TORs in its 538th Meeting held on 02.08.2022. TOR has been awarded for EIA Study vide Letter No. SEIAA-TN/F.No.9194/3(b)/ToR-1216/2022 dated 02.08.2022. ACPL has also applied and obtained **TOR Validity Extension** from SEIAA-TN vide TO25B1103TN5340356A dated 25.09.2025 for another one year. Baseline Data (BLD) was collected during **Apr.-Jun. 2023 (Summer Season)**. The EIA Report has been prepared and submitted in compliance with awarded TORs and also as per the generic structure proposed in EIA Notification 2006. The Draft EIA Report along with Summary EIA Reports (both in English and Tamil) are submitted for conducting the Public Consultation & Public Hearing.

The EIA Consultant, M/s. ABC Techno Labs India Private Limited, Chennai has been accredited for various Sectors including Sector-9 (Cement Plants) for Category 'A' by NABET vide Certificate NABET/EIA/2225/RA0290 dated 11.06.2023 with validity till 16.11.2025 (Sl. No. 4 of the List) which will be extended by NABET periodically. ABC Laboratory is accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) vide Certificate No. TC-5770 dated 03.04.2024 with validity till 02.04.2026.

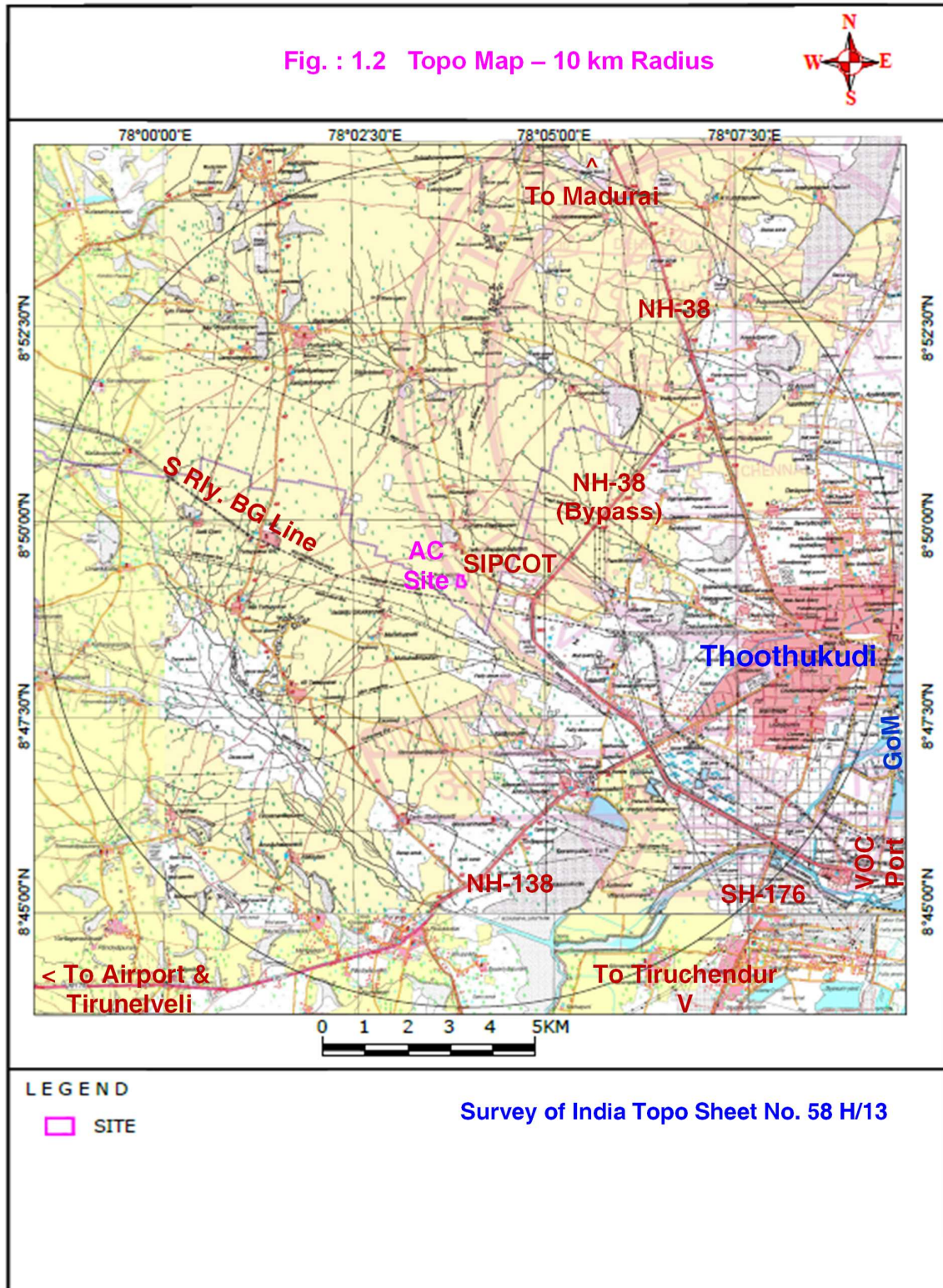
2.0 Description of the Environment

2.1 Environmental Setting

The proposed Site is located inbetween 08°49'07.30"-08°49'16.82" N Latitude & 78°03'52.90"-78°03'59.85" E Longitude (Survey of India Topo Sheets No. 58 H/13)-**Fig. 1.2**. There is no environmental issue about the site. Gulf of Mannar Marine National Park (GoMMNP) – Eco Sensitive Area (ESA) - is notified vide SO 08(E) dated 01.01.2020 with its Eco Sensitive Zone (ESZ). GoMMNP ESA boundary is located at a distance of 13.5 km in the east and ESZ is at 10.7 km in the east. Gulf of Mannar Marine Biosphere Reserve (GoMBR) is one of the Ramsar Sites in Tamil Nadu.

There is **no National Park/Wild Life Sanctuary/Reserved Forest/Hot Spot exist** within 10 km radius area. The seasonal Korampallam Odai flows at 8.3 km (SE) and there is **no Flood Hazard** to the site. There are Small, Medium and Major Industries in the SIPCOT Complex. Meelavittan SIPCOT Complex has many major industries. V V Titanium Pigments Plant is located at 0.7 km in east. Vedanta Sterlite industry (shut down now) is located in the eastern side of the Site. Sterlite Captive Thermal Power Plant (2x80 MW) is located @ 2.2 km in east from site.

The Site is well connected by road and rail modes and is accessible from nearby National Highway **NH-38. Thoothukudi Corporation Area** is located within 5-10 km distance from the site in the east. Meelavittan is the nearest settlement with a total population of 45,863 (23,167 Males and 22,696 Females-Census-2011).



2.2 Baseline Environmental Status

Considering the Environmental setting of the project, project activities and their interaction, environmental regulations and Standards, following Environmental Attributes (**Fig. 3.1**) have been included in EIA Study.

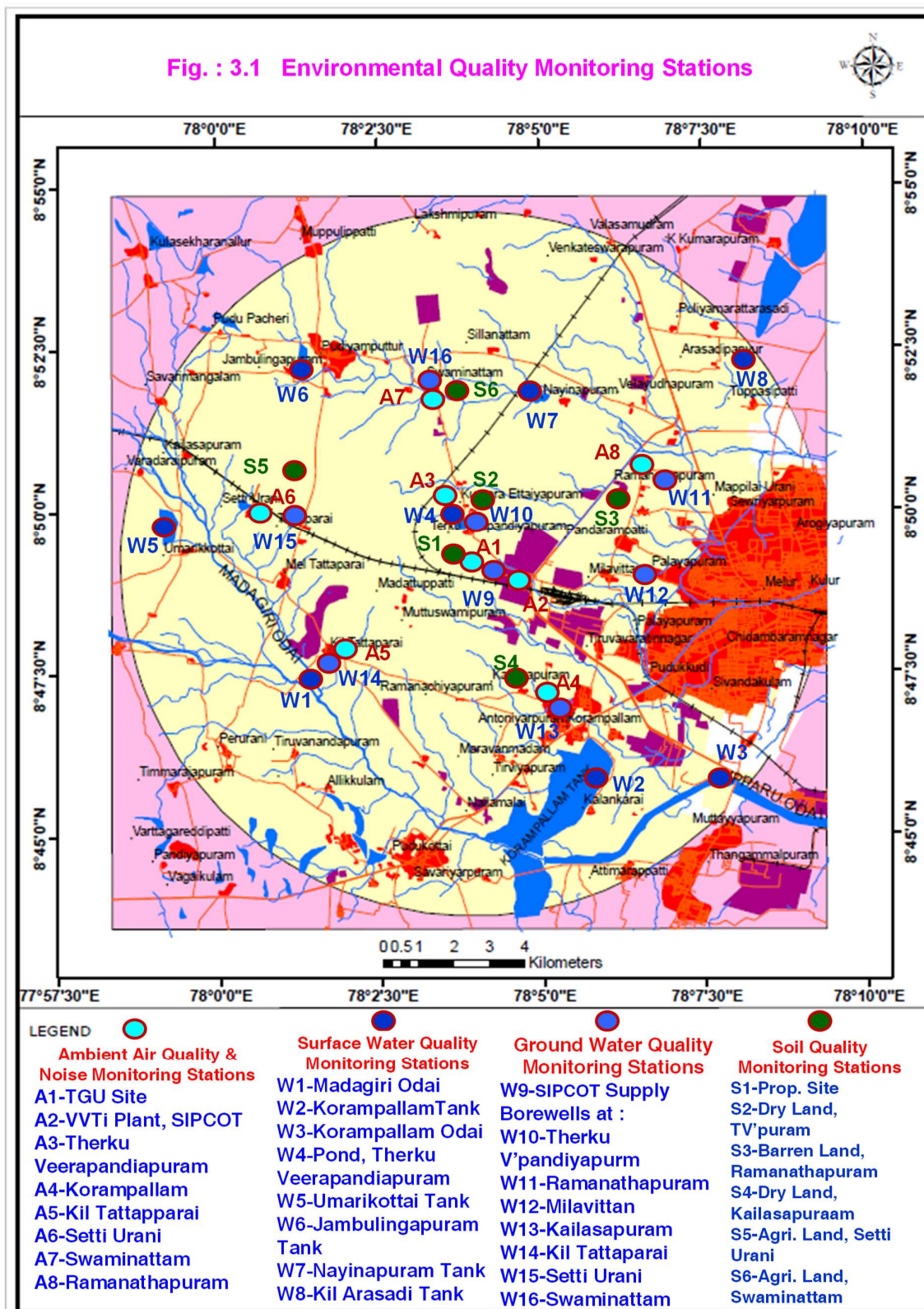
- ❖ Site specific Micrometeorological Data (hourly readings from the Site for a Season) on wind speed, wind direction (wind roses), temperature, humidity, cloud cover, atmospheric pressure, rainfall, etc.
- ❖ Ambient Air Quality Monitoring at 8 locations on 24-hourly basis, continuously for 2 days in a week for 4 weeks in a month for a season for all 12 parameters as per NAAQ Norms.
- ❖ Noise Level Measurements at all air quality monitoring station for Leq, Lday and Night values once in the season.
- ❖ Water Quality Monitoring – grab sampling once in the Season for :
Surface Waters (8 locations) as per CPCB Norms.
Ground Waters (8 Locations) as per IS:10500 Norms.
- ❖ Soil Quality Monitoring at 6 locations Land use pattern based on Satellite Imagery.
- ❖ Biotic Attributes for : Flora & Fauna.
- ❖ Socio-Economic Profile, based on 2011-Census.

The summary of baseline status is given in **Table 2.1**.

Table : 2.1 Environmental Baseline Status

Envl. Component	Main Parameters	Minimum	Maximum	Mean	Desirable Norms
Ambient Air Quality, ug/m ³	PM2.5	11	37	22.9	60
	PM10	20	68	41.8	100
	SO ₂	6	22	12.5	80
	NOx	8	28	15.0	80
Ambient Noise, dB(A)	Leq-Day	42.4	47.4	44.1	55
	Leq-Night	39.5	44.8	41.8	45
Surface Waters	TDS, mg/l	450	2200*	-	500/2100
Ground Waters	TDS, mg/l	280	800	-	500-2000
Soil Status	EC, mmhos/cm	1.24	1.63	-	0.2-0.5
	SAR	2.12	3.07	-	<5

Legend : PM2.5-Particulate Matter size less than 2.5 um; PM10- Particulate Matter size less than 10 um; SO₂-Sulphur dioxide; NOx-Oxides of Nitrogen; Leq-Day & Leq-Night - Equivalent Noise Levels during Day & Night Times; TDS-Total Dissolved Solids; EC-Electrical Conductivity & SAR-Sodium Absorption Ratio.



The findings of baseline environmental status of the study area are summarized below :

- ❖ Collected meteorological data during this season represented the local weather phenomena.
- ❖ Monitored ambient air quality in the study area was found to be in compliance with National Ambient Air Quality (NAAQ) 24-hourly Norms for Industrial, Residential, Rural and other areas.
- ❖ Ambient equivalent Noise Levels (Leq) during day and night times were found to be well within the MoEF&CC Norms for Residential Areas.
- ❖ The water quality of surface waters were found to be in compliance with CPCB/BIS Norms.
- ❖ The ground water quality was found to be in compliance with the IS:10500-2012 Norms.
- ❖ The soil in the study area would very well support vegetation after amending it suitably.
- ❖ There is no eco sensitive area exists in the study area and only domesticated animals exist.
- ❖ The basic amenities are available almost in all villages in the Study Area.

Thus, there is **adequate buffer** for the proposed Project in the physical, biological and edaphic environments of the study area.

3.0 Anticipated Environmental Impacts

Any Project would create impact on the environment in two distinct phases viz. Construction Phase which may be regarded as temporary & short term and Operation Phase which would have long term effects. Identification of all potential environmental impacts due to the Proposal are critically examined and major impacts (both **Beneficial & Adverse**) are studied. The impacts have been divided into two categories, viz. **Localised and Cumulative**. Localised Impact is confined to the area of influence of the Project and is not transmitted beyond its area. On the other hand, Cumulative Impact is aggregate impact of a number of projects on any component. Cumulative impacts can result from individually minor but collectively significant over a period of time.

Road transportation will be through National Highway-38 and SIPCOT Road to V V Ti Plant. Existing Traffic Volume at Site-SIPCOT Road Junction is computed and found to be 286 Passenger Car Units (PCUs). In the Post-Project Scenario, there will be an addition of 160 Vehicles (352 PCU/day) (in 2 ways) to the existing traffic. Cumulatively, the traffic volume in the Project vicinity will be 638 PCU/day. The existing Road & NH-38 is adequate to handle the proposed traffic volume due to the Project.

AERMOD View is used for the Prediction Modelling. The Model Inputs and Outputs are appended. The maximum incremental GLC for PM₁₀ is 0.23 ug/m³. The maximum impact is found to be confined locally i.e. within 0.1 km radius from the boundaries. Also, adequate Buffer Level exists in the Air Environment for the proposed activities.

The noise level within the plant building at a distance of one meter from the source shall be maintained at <85 db(A) for 8-hours exposure. Noise level at nearest plant boundary will be <55 dB(A) during day times and <45 dB(A) during night times. Thus, the noise levels will be well within the permissible MoEF&CC Norms for Residential Areas.

The total Water Demand of 30 KLD will be met from local Desalination Plant/water supply agencies and no ground water drawl will be there. There will be no trade effluent generation from the Unit. Domestic sewage to the tune of 2.5 KLD from the Unit will be biologically treated in Septic Tank of adequate size followed by a Dispersion Trench. Thus, '**Zero Effluent Discharge-ZLD**' will be adopted/practiced.

The dust collected from the various Air Pollution Control Measures like Bag Filters, etc. will be totally recycled in the process for cement manufacturing. Thus, no solid waste is envisaged from the process. Spent/waste Oil (Cat. 5.1) will be about 100 Lits./year which will be stored and sold to TNPCB Authorised Recyclers for recovery and further use. Filter Bags Scrap (20 kg/year) will also be generated which will be sold to Vendors.

An industrial worker may be exposed to five types of hazards, depending upon his occupation : Physical, Chemical, Biological, Mechanical and Psychosocial hazards. All efforts will be taken and followed to avoid the accidents and have a good 'Occupational Environment'.

4.0 Environmental Monitoring Programme

For effective implementations of Environmental Management Plan, ACPL will have the Environment Monitoring Cell headed by the Unit Head. The quality of air, noise, water, soil, etc. will be monitored at the identified locations as per MoEF&CC/TNPCB Norms by appointing an accredited external agency. The status reports will be submitted to MoEF&CC RO Monitoring Cell, SEIAA-TN and TNPCB periodically.

5.0 Additional Studies

There will be no handling of any hazardous chemicals in the Plant other than Fuel Storage viz. High Speed Diesel @ 0.5 KLD well within the Threshold Quantity of 2,500 Tonnes. Detailed Risk Assessment and mitigative measures are delineated and an effective Disaster Management Plan, for natural and man-made disasters, is also submitted.

6.0 Project Benefits

Environmental Benefits : Waste materials from other Industries like Fly Ash, Gypsum, etc. are beneficially utilised for cement manufacturing.

Social Benefits : The Grinding Unit will generate employment for about 50 people during the Construction Phase. About 150 persons get employment (50 Direct & 100 Indirect) during Operation Phase of the Project. About **2.5% of the Project Cost** will be earmarked for **Corporate Environment Responsibility (CER)** Works as well as for addressing Public Hearing issues.

Financial Benefits : The Project will bring Rs.23.00 crores investment in the Region. There will be a positive impact due to the proposal, by way of employment, better socioeconomic conditions, improved local and regional economy, etc.

7.0 Environmental Management Plan

An Environmental Management Plan (EMP) is formulated for mitigation of adverse impacts on the environment :

Construction Phase :-

- ❖ It shall be ensured that no change due to the constructions to the hydrology/natural drainage of the area.
- ❖ All the top soil excavated shall be stored and maintained for use for Green Belt development.
- ❖ Construction materials like sand, stone chips, etc. shall be obtained only from approved quarries.
- ❖ Proper placement of construction machineries shall be ensured to eliminate vibrations & noise.
- ❖ All construction machinery items shall be well lubricated to reduce noise.
- ❖ High Speed Diesel with low sulphur content shall be used for running the construction machineries.
- ❖ Cement handling shall be supervised properly to check fugitive emissions.
- ❖ Carrying of plastic and other nutrient locking materials shall be banned totally.
- ❖ Empty cement bags, debris, etc. shall not be disposed off at the site. They shall be collected and disposed off properly in scientific manner as per Norms/Guidelines.
- ❖ The labours for the construction works shall be pooled from the local public.
- ❖ Adequate drinking water and sanitary facilities shall be provided for construction workers.
- ❖ PPEs shall be provided to the construction workers. Protection devices viz. ear plugs/ear muffs shall be provided to the workers during welding works.
- ❖ The safe disposal of wastewater and solid wastes generated during Construction Phase shall be ensured.
- ❖ On completion of construction, all debris and extraneous materials shall be cleared off and no residuals should be left at the site.
- ❖ Adequate measures shall be taken to avoid any traffic congestion near entry and exit points.
- ❖ Periodical monitoring of environmental parameters shall be carried out during the Construction Phase as per TNPCB Norms to have a cross check and a data base.

Operation Phase :-**Air Quality:-**

- ❖ Adequate air pollution control systems viz. Bag Filters, etc. shall be installed in the Cement Mills & Packers to control PM emissions $<30 \text{ mg/Nm}^3$.
- ❖ Inside the Plant, all materials transfer shall be through closed conveyor belts.
- ❖ Adequate dust extraction systems shall be installed at various transfer points.
- ❖ The dust collected from all APC Equipments shall be totally recycled in the process.
- ❖ Fully covered sheds shall be provided for Gypsum storage.
- ❖ Silos shall be provided for Clinker, Fly Ash & Cement storages.
- ❖ Suction arrangements with suitably designed Bag Filters shall be provided at Silos to arrest the fugitive emissions.
- ❖ Dense Phase Pneumatic Handling System for receiving and conveying Fly Ash.
- ❖ All the roads in the Plant shall be paved/concreted.
- ❖ Good House Keeping will reduce the Fugitive Emissions from the Plant.
- ❖ The periodical evaluation for the efficiency performance of Bag Filters shall be carried out.
- ❖ Fugitive emissions due to storage, transportation, etc. and the leakages and spillages shall be continuously monitored and controlled.
- ❖ Periodical Ambient Air Quality and Stack Emissions shall be undertaken and the Status Reports shall be submitted to the Authorities as required.
- ❖ Charter on Corporate Responsibility for Environmental Protection (CREP) Guidelines for Fugitive Emission Control in Cement Industries shall be fully complied.

Traffic Volume:-

- ❖ Dedicated Truck Parking Area shall be earmarked and shall be fully concreted.
- ❖ No overloading of transport vehicles with materials shall be permitted.
- ❖ Loaded trucks shall be covered with tarpaulin.
- ❖ Vehicles with valid 'Pollution under Control' Certificates shall be allowed.

Noise Levels:-

- ❖ The design features of machineries shall ensure low noise levels in the working areas.
- ❖ Noise generating sources would be maintained properly to minimise noise and vibrations.
- ❖ All rotating items shall be well lubricated.
- ❖ For all fans, compressors etc. vibration isolators shall be provided to reduce noise.
- ❖ Provision of silencers shall be made wherever possible.
- ❖ The operators shall be provided with necessary safety and protection equipment like ear plugs, ear muffs etc.
- ❖ Periodical Noise monitoring shall be undertaken and Status Reports shall be submitted.

Water Environment :-

- ❖ No ground water shall be drawn for the Project.
 - ❖ Source of water shall be RO Plant supply as proposed.
-

- ❖ No trade effluent shall be discharged from the Plant.
- ❖ The domestic sewage from the Plant shall be treated effectively so as to meet the TNPCB Discharge Norms.
- ❖ 'Zero Effluent Discharge' shall be practiced.
- ❖ Periodical monitoring for specific parameters shall be done regularly.
- ❖ Effective Rain Water Harvesting Systems shall be adopted and harvested water shall be utilized for the industrial needs.

Land Environment:-

- ❖ There shall be no industrial solid waste from the Plant.
- ❖ Waste Oil shall be collected and sold to the CPCB/TNPCB Authorised Agency for further treatment & disposal.
- ❖ The municipal wastes shall be collected, transported, treated in a landfill (composting) within the Plant vicinity to make use of it as manure for Green Belt.

Biological Environment:-

- ❖ Green Belt (33% Coverage) shall be developed and maintained effectively.
- ❖ Local species and fruit bearing trees shall be preferred.

Social Measures:-

- ❖ As per the Companies Act 2013, Companies should spend at least 2% of the Profit after Tax of the previous year for CSR activities but not lower than 2% of average of previous three years Profit after Tax.
- ❖ ACPL shall carry out various Social Measures for the local as well as regional populations as per CSR Norms.

Plastic Waste Management :- There will be ban on one time use and throw away Plastic usage in the Plant in compliance with Tamil Nadu, Environment and Forests (EC-2) Department, G.O.(D) No. 84 dated 25.06.2018. ACPL will encourage the use of eco friendly alternatives.

EMP Budget : The **Project Cost is Rs.23.00 crores**. A budgetary allotment of Rs.5.00 crores has been made as Capital Cost for EMP Measures and Rs.10.00 lakhs per annum towards Operating Cost.
