The Ramco Cements Limited

Proposed Maravarperungudi Lime Kankar Quarry Lease-III for Quarrying of Lime Kankar & Clay (Black Cotton Soil) over an Extent of 158.865 Ha for Production of 28,00,000 Tonnes Lime Kankar (ROM) @ Maximum 1.00 MTPA & 20,00,000 Tonnes Clay (BC Soil) @ Maximum 1.00 MTPA - Upto 3.0 m BGL - during Plan Period

S.F Nos. Parts of 100, 101, 103, 109, 119 to 132, 137 to 141, 404, 407 to 413, 415 to 416, 418, 429, 431 to 435, 437 to 440 & 442 to 457 of Maravarperungudi and Parts of 468, 538 to 544, 683 & 684 of T.Koppuchithampatti Villages, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu

Minor Minerals for Captive Consumption

Precise Area Communication Letter 2171/MMC.2/2018-1 dated 02.04.2018

(Lease Period - 10 Years)

Modified Mining Plan Approval by Joint Director of Geology & Mining, Chennai vide Letter Rc.No.583/MM7/2018 dated 07.01.2025 for initial 5 Years

Environmental Clearance under EIA Notification 2006

Schedule Sl. No. 1(a) & Category 'B1' (<250 Ha)

Summary Environmental Impact Assessment Report

(after TOR for Public Hearing)

TOR Awarded vide Identification No. TO25B0108TN5802389N dated 07.04.2025

Baseline Data Collection : Dec. 2024-Feb. 2025 (Winter 2024-25 Season)

May 2025

EIA Consultant

ABC Techno Labs India Private Limited, Chennai

Accreditation Certificate : NABET/EIA/2225/RA0290 dated 11.06.2023 with Validity till 16.11.2025 (Sl. 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 Report

1.0 Introduction

1.1 Project Proponent

The Ramco Cements Limited (RCL), under RAMCO Group, is one of the reputed Cement Companies in India. The Company is the Second Largest cement producer in South India and sixth largest manufacturer of cement in the Country. The cement production of RCL is about 16.85 million tons per annum (MTPA) from their **Cement Plants** in India. RCL is producing Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC), Slag Cement (PSC), Composite Cement (CC), etc. The cement produced by RCL is marketed in the brand name of 'RAMCO'. The market centers are mainly in Tamil Nadu, Andhra Pradesh, Telangana, Kerala, Karnataka, Odisha and West Bengal States.

RCL is operating their Ramasamy Raja Nagar (RR Nagar) Cement Plant with CPP & Township at Tulukkappatti, Thammanayakkanpatti and Vachchakkarappatti Villages, Virudhunagar Taluk & District, Tamil Nadu State since Year 1961-62. The Plant is now being operated for Clinker production of 1.44 MTPA and Cement production of 2.70 MTPA of various grades from 1st March 2023. RCL intends to expand RR Nagar Cement Plant with inclusion of revamped Old Line-II operations to existing Lines I & III. On expansion, production of Clinker will be from 1.44 MTPA to 2.76 MTPA and Cement from 2.70 MTPA to 4.00 MTPA

Cement Plant Limestone requirements are met from Captive Limestone Mines and Lime Kankar Quarries in Pandalgudi Region. Captive Limestone Mines are in operation since 1976 and Kankar Quarries from 2021-22. The common **Centralised Crushing Plant** with Optical Ore Sorting Facility (2.0 MTPA Throughput/1.88 MTPA Clean Ore) is located at Pandalgudi at about 18 km (aerially) in SE from RR Nagar Cement Plant. Also, a **Lime Kankar Beneficiation Plant** (Throughput Capacity 2.0 MTPA) is also being operated at Pandalgudi. These Captive Mines and Pandalgudi Crusher & Beneficiation Plants are connected with **RCL's own Tar Road** (40+10 km) **for transportation of the Ore.**

RCL has proposed **Maravarperungudi Lime Kankar Quarry Lease (QL)-III** over an extent of 158.865 Ha for quarrying the Minor Minerals **Lime Kankar & Clay (Black Cotton Soil)** at S.F Nos. Parts of 100, 101, 103, 109, 119 to 132, 137 to 141, 404, 407 to 413, 415 to 416, 418, 429, 431 to 435, 437 to 440 & 442 to 457 of Maravarperungudi and Parts of 468, 538 to 544, 683 & 684 of (Therku) T.Koppuchithampatti villages, Aruppukottai Taluk in Virudhunagar District, Tamil Nadu (**Fig. 1.1**). The entire area **is patta land owned by RCL**. There is no Forest/Govt. Land involved. There is **no Rehabilitation & Resettlement** (R&R) issue. Also, there is **no litigation/pending case** against the Proposal. FMB Sketch is given as **Plate-I**. Lease Area in Google Earth Imagery & nearby Settlements are shown in **Plate-II**.

Fig. : 1.1 Index Map

Plate : I Lease Area in Village FMB

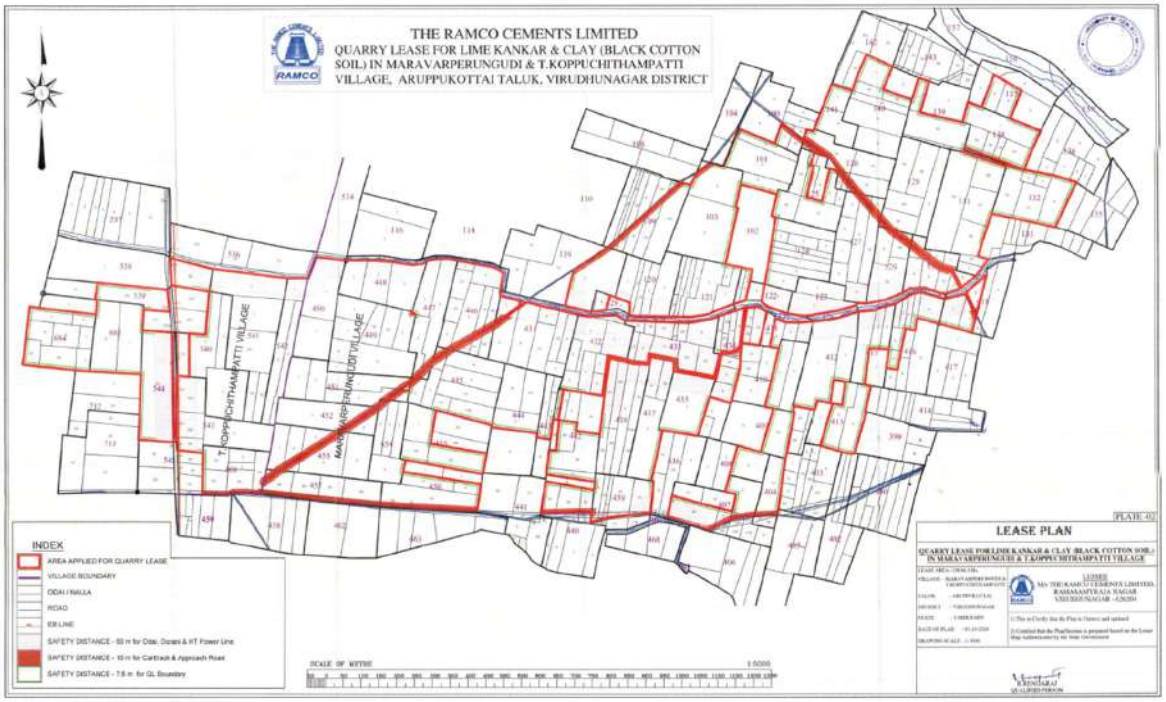
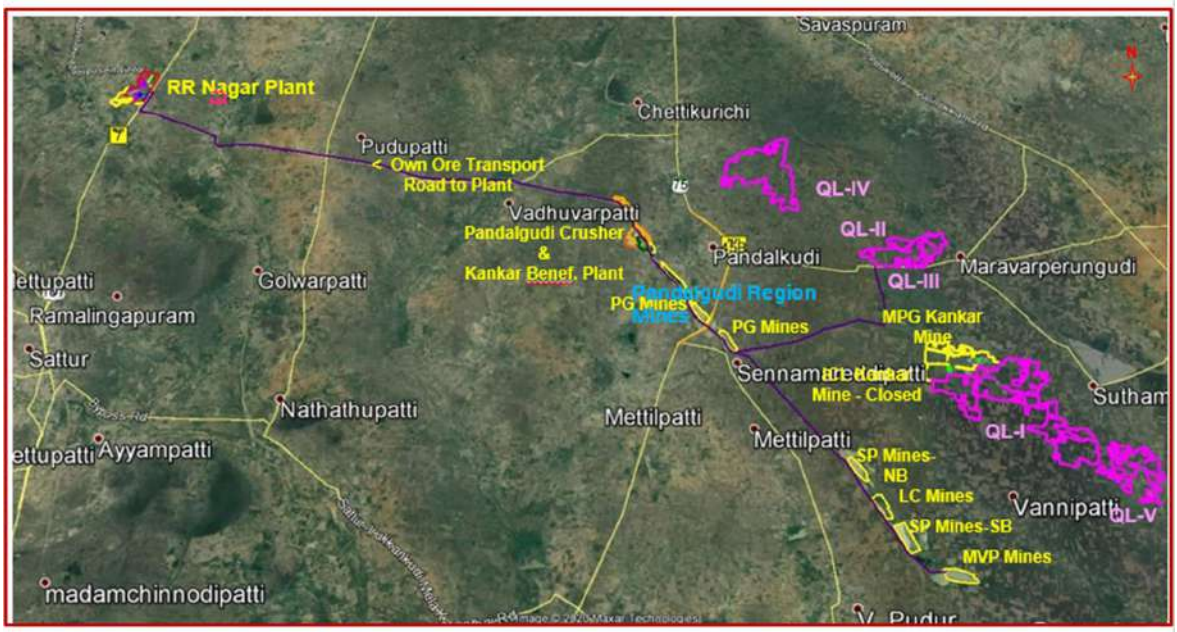


Plate : II Lease Area in Google Earth Imagery



The **Contact information of RCL Corporate Office** is :

Shri.M.Srinivasan,
Executive Director (Operations),
The Ramco Cements Limited,
5th Floor, Auras Corporate Centre,
No. 98A, Dr.Radhakrishnan Road,
Mylapore, Chennai-600 004.
Tel. No. : 044-28478666 & Fax No. : 044-28478676
e-Mail : ramcoenv@ramcocements.co.in

The Contact Information of RR Nagar Cement Plant is as follows :

Mr.S.Lakshmanan,
Asst. Vice President (Mfg.),
The Ramco Cements Limited,
Ramasamy Raja Nagar Post,
Virudhunagar District,
Tamil Nadu-626 204.
Tel. Nos. : 04562-256201 to 256203
Fax : 04562-256268.

1.2 Project Profile

Project Name : Proposed Maravarperungudi Lime Kankar Quarry Lease-III for Quarrying of Lime Kankar & Clay (Black Cotton Soil) over an Extent of 158.865 Ha for Production of 28,00,000 Tonnes Lime Kankar (ROM) @ Maximum 1.00 MTPA & 20,00,000 Tonnes Clay (BC Soil) @ Maximum 1.00 MTPA - Upto 3.0 m BGL - during Plan Period at Maravarperungudi and T.Koppuchithampatti Villages, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu.

Project Location : Pandalgudi is located at a distance of 4.3 km (W) from the Lease. A black top road from Pandalgudi connects the area by a road distance of 7.0 km. The distance of the nearest villages- Maravarperungudi is at 0.4 km (ESE), Koppuchithampatti is about 1.2 km (N) from the Lease boundary. Now, adjacent Maravarperungudi Quarry Lease-II is at Conceptual Stage and thus, **there is no other Quarry within 500 m radius area**.

Statutory Approvals : Precise Area Communication has been issued by Industries (MMC.2) Department, Govt. of Tamil Nadu vide Letter No. 2171/MMC.2/2018-1 dated 02.04.2018 for a period of 10 years. Initial Mining Plan was approved by the Additional Director of Mining & Geology, Chennai vide Letter No. 583/MM10/2018/LK/Vnr. dated 08.06.2018 for Kankar ROM production of 6,00,050 Tonnes per Annum (TPA) & Clay (Black Cotton-BC Soil) @ 30,000 TPA. **Modified Mining Plan approval** by the Joint Director of Geology & Mining, Chennai vide Letter Rc.No.583/MM7/2018 dated 07.01.2025 for initial 5 Years.

Proposal : Mechanized **Non-Conventional Opencast Mining, without Drilling and Blasting** will be adopted. The deposit will be quarried by a simple system using Excavators & Dozers-Tippers combination**.** The quarried Lime Kankar will be transported by 25 T Tarus Tippers through own haulage road to Pandalgudi Lime Kankar Beneficiation Plant for further process. Black Cotton Top Soil will be transported by 25 T Tarus Tippers to RR Nagar Cement Plant for utilizing as corrective material in Cement manufacturing.

During the first Plan Period, 28,00,000 Tonnes of Lime Kankar as ROM @ 1.0 MTPA (max.) and 21,38,180 Tonnes of Clay (BC Soil) @ 1.0 MTPA (max.) will be quarried out from this Lease up to a maximum depth of **3.0 m BGL only**. About 20,00,000 Tonnes of Clay (BC Soil) will be utilised for Cement manufacturing and balance 1,38,180 Tons will be utilised for backfilling the mined out voids of the Quarry in 5th Year. **Ore:Waste Ratio works out to be 1:0.029**. **Life of the Lease is 10 Years**. As ground water-table fluctuates between 12-15 m BGL in the vicinity, **no ground water-table intersection** due to the quarrying. The Quarry Layout, with Green Belt development, is given as **Fig. 2.1**. Quarry Particulars are detailed in **Table 1.1**.

Mine Profile :

Mineable Reserves	:	Kankar-30,71,388 T & Clay (BC Soil)-23,45,385 T
Proposed Production (Max.)	:	Lime Kankar@1.0 MTPA & Clay@1.0 MTPA
Ore : OB Ratio	:	1: 0.029
Bench Height & Width	:	- (No benches)
Life of the QL	:	10 years
No. of working days/annum	:	300 (2 shifts)
Ultimate Pit Limit-Conceptual	:	3.0 m (BGL)

Quarrying activities will not intersect the ground water-table.

Fig. : 2.1 Quarry Layout with Green Belt Development

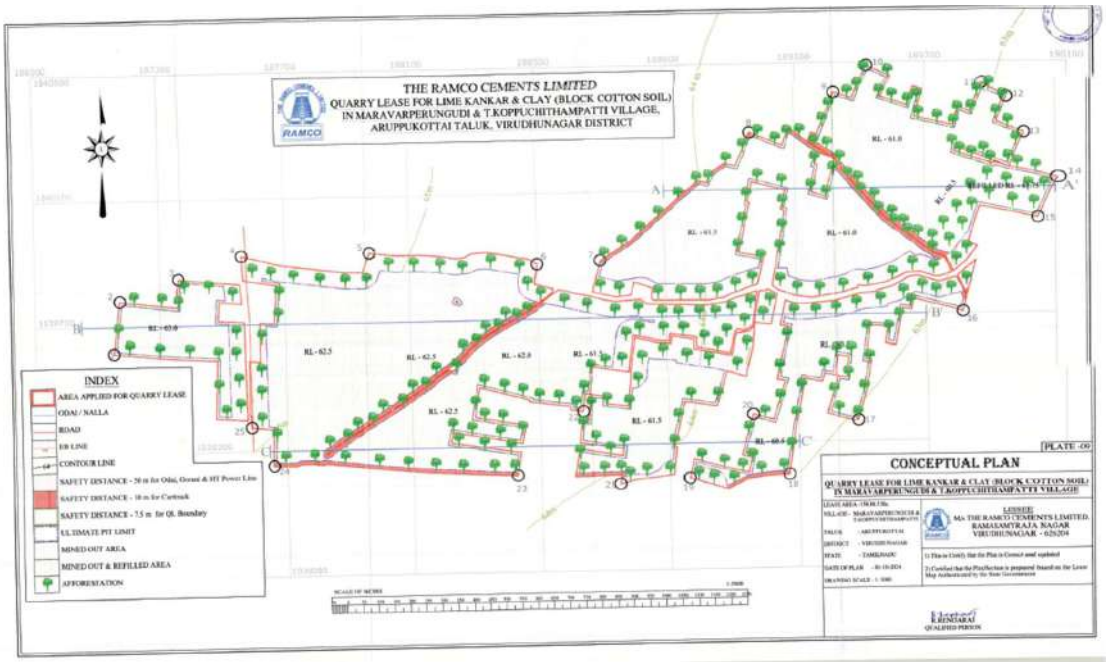


Table : 1.1 Quarry Particulars

Sl. No.	Details on	Particulars
1	Name of the Lease	Maravarperungudi Lime Kankar Quarry Lease-III
2	Lease Owner	The Ramco Cements Limited (RCL)
3	Extent of Lease	158.865 Ha
4	Dead Execution	New Lease; to be executed after obtaining EC
5	Lease Validity	10 Years from date of Lease Deed Execution
6	Lease Location	Maravarperungudi and T.Koppuchithampatti Villages, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu
7	**Land Ownership**	**Own Land of RCL**
8	**Lithology**	Black Cotton Top Soil : 0-1.5 m BGL (avg. depth of 1.25 m) Lime Kankar : 1.5-3.0 m BGL (avg. depth of 1.25 m).
9	Permitted Minerals	Lime Kankar & Clay (Black Cotton Soil)
10	Commencement on	New Lease; commencement will be after obtaining all statutory approvals.
11	Mining Plan / Scheme Approvals	Modified Mining Plan approval by the Joint Director of Geology & Mining, Chennai vide Letter Rc.No.583/MM7/2018 dated 07.01.2025 for initial 5 Years.
12	Past Production (since Commencement)	Not Applicable; New Lease
13	Assessed Reserves	Lime Kankar - 43,68,788 Tonnes & Clay (BC Soil) - 33,36,165 Tonnes
14	Mineable Reserves	Lime Kankar - 30,71,388 Tonnes & Clay (BC Soil) - 23,45,385 Tonnes
15	**Production so far**	**Nil**
16	Dispatch Quantity	Nil
17	**Process Description**	Mechanized **Non-Conventional Opencast Mining, without Drilling and Blasting** will be adopted. The deposit will be quarried by a simple system using Excavators & Dozers-Tippers combination. The quarried Lime Kankar will be transported by 25 T Tarus Tippers to Pandalgudi Lime Kankar Beneficiation Plant for further process. Clay (BC Soil) will be transported by 25 T Tarus Tippers to RR Nagar Cement Plant for Cement manufacturing-corrective material.
18	Proposed Production	During the Plan Period, 28,00,000 Tonnes of Lime Kankar as ROM @ 1.0 MTPA (max.) and 21,38,180 Tonnes of Clay (BC Soil) @ 1.0 MTPA (max.) will be quarried out from this Lease.
19	Ground water table intersection	The total depth of quarrying will be to a maximum of **3.0 m BGL** only. As ground water-table fluctuates between 12-15 m BGL in the vicinity, thus, **no ground water-table intersection**.
20	**Project Cost**	**Rs.4.75 Crores**
21	**Project Schedule**	**Life of the Lease is 10 Years**.
22	**R & R Issue**	Nil
23	**Litigation/Case Details**	Nil
24	**CER Budget**	**Rs.9.50 Lakhs**
25	Financial Assurance	Not applicable now
26	**Violation, if any**	**Nil**

EIA Study : The Lime Kankar & Clay to be mined out from this Quarry are **Minor Minerals over an extent of 158.865 Ha (<250 Ha)** and falls in **Category 'B1'** of Sl. No. 1(a) of EIA Notification 2006**,** as amended, for prior EC from State Level Environmental Impact Assessment Authority (SEIAA), Tamil Nadu. Accordingly, TOR Application/Form-1 (Form 1M is Not Applicable) has been submitted by RCL vide Parivesh Online proposal No. SIA/TN/MIN/522992/2025 dated 07.02.2025. After paying Online Scrutiny Fees, etc., the File has been accepted by SEIAA on 01.03.2025.

The Proposal was deliberated by SEAC-TN in its 538th Meeting held on 01.03.2025 and SEIAA-TN in its Meeting held on 01.04.2025. TOR has been awarded vide Identification No. TO25B0108TN5802389N dated 01.04.2025 under **File No. 11826**/2025, with Public Hearing.

EIA Consultant, M/s. ABC Techno Labs India Private Limited, Chennai has been accredited for various Sectors by Quality Council of India – National Accreditation Board for Education and Training (QCI-NABET) vide Certificate NABET/EIA/2225/RA0290 dated 11.06.2023 with validity till 16.11.2025 (Sl. No. 4 of List). ABC Laboratory is accredited by the National Accreditation Board for Testing & Calibration Laboratories (NABL) vide Certificate No. TC-5770 dated 03.04.2024 - valid till 02.04.2026.

Baseline Data (BLD) has been collected during **Dec. 2024-Feb. 2025 (Winter Season)** for Environmental Impact Assessment (EIA) Study in compliance with MoEF&CC Office Memorandum No. J-11013/41/2006-IA-II(I)(Part) dated 29.08.2017. Draft EIA Report has been prepared in compliance with awarded TORs and submitted along with Summary EIA Reports (both in English and Tamil versions) for Public Consultation & Public Hearing.

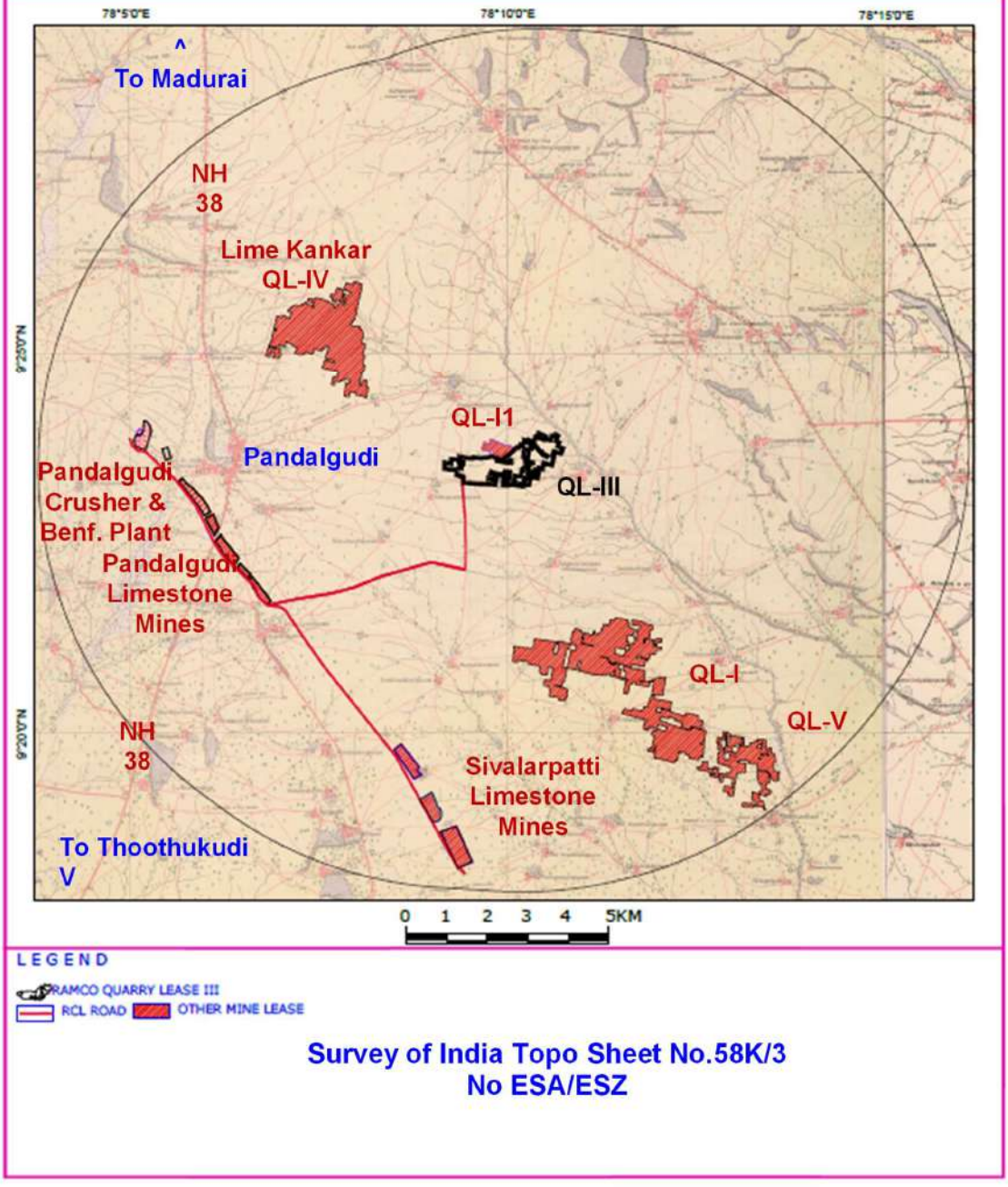
2.0 Description of the Environment

2.1 Environmental Setting

Quarry Lease-III location falls in Survey of India Topo Sheet No.58K/3 and is located between North Latitudes **9°23'22.30"N - 9°24'05.25"N** and East Longitudes **78°09'06.02"E to 78°10'42.63"E (Fig. 1.2).** The site is free from seismic effects (Seismic Zone III). There is no environmental issue about the Quarry location. There are **no eco sensitive areas** like National Parks, Wildlife Sanctuaries, Biosphere Reserves, Reserved Forests, Elephant Corridor, Mangroves, Archaeological/Historical Monuments, Heritage sites, etc. **within 10 km from the site boundary. General Condition** of EIA Notification 2006 (as amended) **is not attracted** for the Quarry Lease.

Seasonal **Uppu Odai** drains the region (flows at 0.05 km in Northeast). Seasonal Vaippar River flows at a distance of 18 km in Southwest. Gulf of Mannar is at 40 km in SE. Madurai-Thoothukudi Section of NH-38 passes at a distance of 4.1 km in the West. Southern Railway Line of Virudhunagar-Aruppukottai-Manamathurai Section runs at 15.5 km distance in NNW from the Lease. Madurai Airport is at 48 km (NNW) & VOC Port-Thoothukudi is at 70 km (S).

Fig. : 1.2 Topo Map - 10 km Radius



Survey of India Topo Sheet No.58K/3
No ESA/ESZ

The distance of the nearest villages- Maravarperungudi is at 0.4 km (ESE), Koppuchithampatti is about 1.2 km (N) from the Lease boundary. Pandalgudi is at 4.3 km (W). Taluk Headquarters Aruppukottai is at 13.5 km (NNW) and District Headquarters Virudhunagar is at 27.5 km (NW). There are existing Mines & Quarries of RCL in operation for the last 6 decades in the Region. Sri Parameswari Textile Mill is in operation at Pandalgudi.

2.2 Baseline Environmental Status

The study area of 10 km radius (from ML boundary) (**Fig. 3.1**) has been considered for assessing the baseline environmental status during **Dec. 2024-Feb. 2025 (Winter Season)**. The monitoring stations are selected in such a way that baseline data reflects the **Cumulative Impact of existing Mines & Plants** in the Study area. 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	10	44	**21.7**	**60**
	PM10	17	66	**36.8**	**100**
	SO_2	6	23	**13.2**	**80**
	NOx	6	25	**15.4**	**80**
Ambient Noise, dB(A)	Leq-Day	38.9	47.0	**43.7**	**55**
	Leq-Night	38.2	44.8	**42.1**	**45**
Surface Waters	TDS, mg/l	260	370	-	**500/2100**
Ground Waters	TDS, mg/l	290	1120	-	**500-2000**
Soil Status	EC, mmhos/cm	1.48	1.74	-	**0.2-0.5**
	SAR	2.19	3.28	-	**<5**

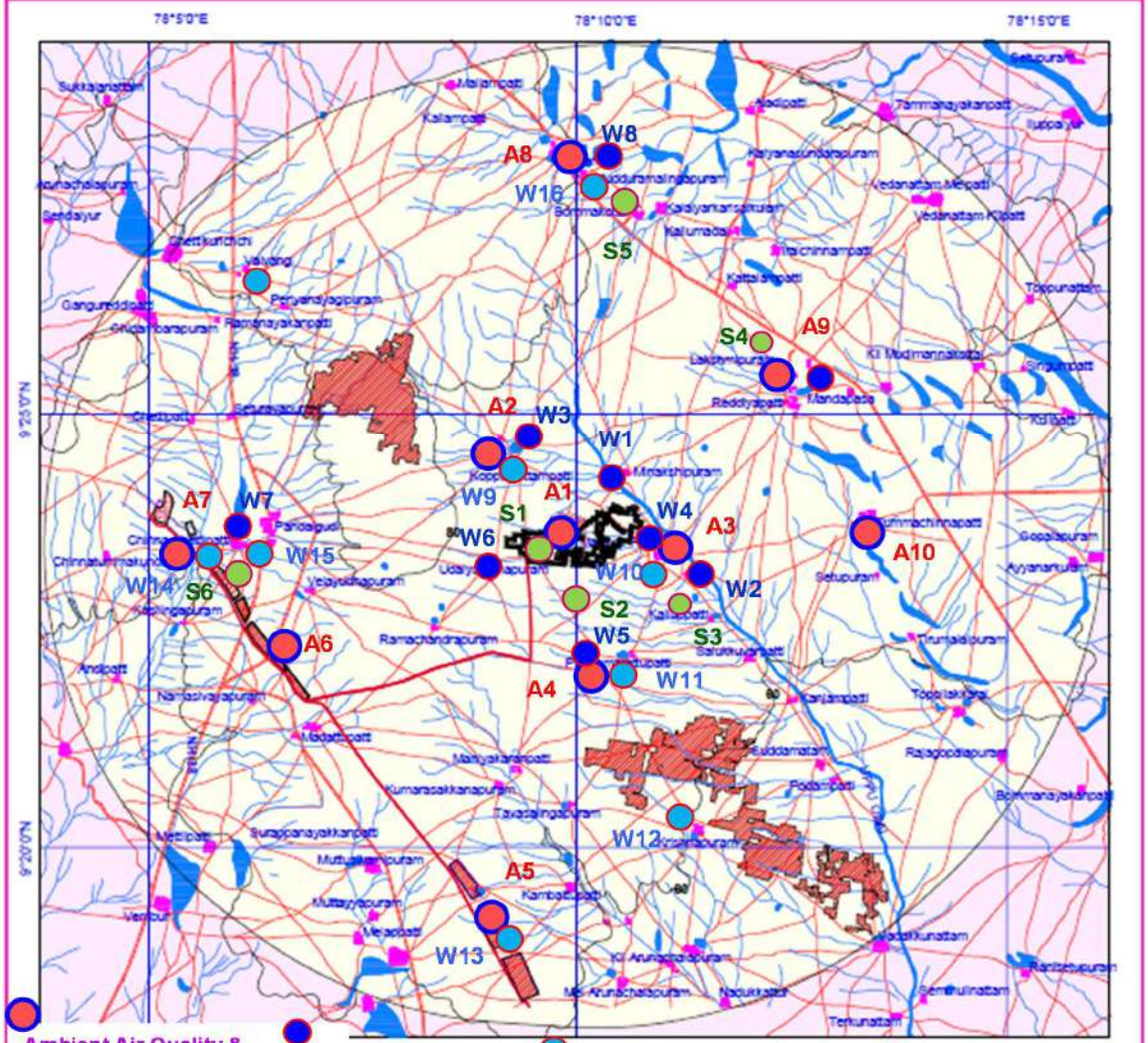
Legend : PM2.5-Particulate Matter size less than 2.5 um; PM10- Particulate Matter size less than 10 um; SO_2-Sulphur dioxide; NOx-Oxides of Nitrogen; Leq-Day & Leq-Night - Equivalent Noise Levels during Day & Night Times; TDS-Total Dissolved Solids; EC-Electrical Conductivity & SAR-Sodium Absorption Ratio.

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

- The collected meteorological data during this season represented local weather phenomena.
- The monitored ambient air quality in the study area was found to be in compliance with the 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.
- Surface water quality was found to be in compliance with CPCB Norms(C). Ground water quality was found to be in compliance with IS:10500-2012 Norms for Domestic consumption.
- Soil in the study area would very well support vegetation after amending it suitably.
- Schedule-I Fauna, Peafowl is omni present in the Study area for which Peafowl Conservation Plan has been prepared and submitted. Other than Peafowl, only domesticated animals exist.
- The area is thinly populated and basic amenities are available almost in all villages.

Thus, there is **adequate buffer** for the proposed Project in the study area.

Fig. : 3.1 Environmental Quality Monitoring Stations



Ambient Air Quality & Noise Monitoring Station
A1-QL-III Area
A2-Koppuchithampatti
A3-Maravarperungudi
A4-Pungamarattupatti
A5-Sivalarpatti Mine
A6-Pandalgudi Mine
A7-Beneficiation Plant
A8-Kallurani
A9-Reddiyapatti
A10-Tummachinnapatti

Surface Water Quality Monitoring Stations
W1-Uppu Odai u/s
W2-Uppu Odai d/s
W3-Pond, Koppuchithampatti
W4-Pond, Mravarperungudi
W5-Pond, Pungamarathupatti
W6-Pond, Udaiyanathapuram
W7-Pond, Pandalgudi
W8-Pond, Kallurani

Ground Water Quality Monitoring Stations
W9-B/W, Koppuchithampatti
W10-B/W, Maravarperungudi
W11-B/w, Pungamarathupatt
W12-B/w, Krishnapuram
W13-Sivalarpatti Mine Discharge
W14-Pandalgudi Mine Pit
W15-B/w, Pandalgudi
W16-B/w, Kallurani

Soi Quality Monitoring Stations
S1-QL Area
S2-MP Gudi Aff. Area
S3-Dry Agri. Land, MP Gudi
S4-Barren Land, R'patti
S5-Agri. Land, Kallurani
S6-GB, Pandalgudi

3.0 Anticipated Environmental Impacts

Being a Quarry Project, it **does not involve any major establishment or construction**. A small Mine Office will be constructed on **temporary structures**. The identified Impacts during Operation Phase are given in **Table 3.1**.

Table : 3.1 Identified Impacts

Sl. No.	Environmental Component & Anticipated Impacts
1	**Land Environment :** In the total Lease Area of 158.865 Ha, effective quarry area will be 111.685 Ha. Out of which, mined out void backfilled & reclaimed area will be 4.872 Ha. About 47.180 Ha is the safety barrier area which will be under Green Belt/Afforestation (**29.70% Coverage**) at Conceptual Stage.
2	**Traffic Volume** : Existing Traffic Volume at RCL Mines Road-Pandalgudi Junction was **4,558 Passenger Car Units (PCUs) i.e. 189.92 PCU/hr.** In the Post-Project Scenario, there will be an **addition of 536 vehicles/day** (1608 PCU/day) to the existing traffic in the vicinity. **The net (cumulative) traffic volume will be 6,166 PCU/day only @ 252.96 PCU/hour**. The existing Haulage Road will also be adequate to handle the proposed addition of traffic volume @ 63.04 PCU/hour.
3	**Air Quality** : The Mining & Quarrying, Loading and Transporting activities would generate both fugitive dust emissions and smoke from HEM Machineries/Equipments & Transporting Tippers. **Stack Emissions** from Existing Crusher & Proposed Screening/Beneficiation Plants are considered along with Mines/Quarries **for Cumulative impact Assessment**. AERMOD View Software is used for Predicting the maximum Ground Level Concentrations (GLCs) **including Transportation** Impact. The predicted maximum GLC-PM2.5 for cumulative activities is 0.24 ug/m^3 and GLC-PM10 for cumulative activities is 0.91 ug/m^3 and found to be confined locally i.e. within 0.8 km radius. Also, adequate Buffer Level available in the Air Environment for the Proposal.
4	**Noise Levels** : There is **no Drilling and Blasting in this Quarry and thus, no vibration.** Excavation, Loading and Transportation activities are the sources of Noise. In general, work force will be exposed to <85 dB(A) levels during 8-hours Shift. Noise level at nearest Lease boundary will be <55 dB(A) during day times and <45 dB(A) during night times as stipulated by MoEF&CC- Leq Noise Norms for Residential & Rural Areas.
5	**Water Environment** : **Impact on Surface Waters :** The area is almost flat and plain terrain with a gentle slope towards southeast and southwest. The seasonal Uppu Odai drains the area. There are **3 Nos. Seasonal First & Second order streams flows** through the QL Area and join Uppu Odai in the east. Another Seasonal Nalla flows in the southern boundary of the Lease Area. As per PAC, **safety barrier of 50 meters on either side**

Sl. No.	Environmental Component & Anticipated Impacts
	of streams/odais are provided and their **flows will be maintained as such** till the Conceptual Stage. The Normal Rainfall of the Site is 726 mm. Pre-Project and Post Project Surface Runoffs from the Quarry Area are estimated as per Manual of Artificial Recharge of Ground Water (CGWB, 2007). Pre-Project Runoffs from Quarry Area will be 2,30,672 KL/Annum and Post Project Runoffs will be 2,13,546 KL/Annum. There will be less Runoffs in the Post-Project Scenario due to more green belt area. This is the impact on Surface Waters due to the Project. There is **no Quarry Pit Water Discharge**. **Impact on Ground Waters :** There is **no ground water-table intersection** due to quarrying. The Quarry requires about 3 KLD drinking water for domestic consumption which will be supplied from the RO Plant at Pandalgudi Mine. The Quarry will also require about 2 KLD for Dust suppression measures and another 50 KLD for the development and maintenance of Green Belt. The required water will be sourced from existing Captive Mine Pits in Pandalgudi Region. **No workshop** and thus there is **no effluent generation**. Domestic sewage generation will be about 2.5 KLD which will be biologically treated in a Septic Tank followed by a Dispersion Trench. Thus, the impact on the Ground Waters would be minimum.
6	**Biological Environment** : There is no Eco Sensitive Area/Zone (ESA/ESZ) in the Region. Only Native Flora and Fauna exists. Schedule-I Species Indian Pea Fowl (*Pavo cristatus*) is commonly found in the region. The **Approved Conservation Plan for Indian Pea Fowl** has been prepared in consultation with the Forest Department and submitted. With natural vegetation and domestic fauna predominant in the Study Area, impact on the existing flora-fauna would be nil/minimum. ML area is surrounded by barren lands and dry agricultural lands within 1.0 km area. As the baseline AAQ are in lower levels as well as Predicted GLC is very low/insignificant, there will be **no impact on the surrounding dry agricultural lands** due to the Project.
7	**Socio-economics** : There are 465 Direct Employees working in the Cement Complex. Indirect Employment to about 600 persons has been provided. The existing Mines & Quarries in Pandalgudi Region are providing Direct Employment to about 252 Persons and Indirect Employment to about 393 Persons. In the Existing Mines, more than 80% Employees are from local villages only. QL-III Project will provide Direct Employment to 72 persons and Indirect Employment to 50 persons. RCL is carrying out number of social activities in and around the villages of its Mines and Factory under the **Corporate Social Responsibility (CSR)** Budget. RCL has the CSR Committee as per the provisions notified by the Ministry of Corporate Affairs

Sl. No.	Environmental Component & Anticipated Impacts
	on February 27, 2014. Based on the CSR Committee and declared CSR Policy of the Company, CSR activities are carried out and reported. The direct & indirect employment, CER & CSR activities, etc., will have a positive impact on the Socioeconomic Structure of the area.
8	**Occupational Health :** RCL is operating an **Occupational Health Centre at Factory and Mines** for supporting the health care needs of employees & their families. Periodic Health tests (Pulmonary test, Audiometric test, blood test, chest x-ray examination etc.) have been conducted every year for the employees. Supported by test observations, adequate and need based treatment has been offered to employees. RCL is committed to provide a Safety & Healthy working conditions in QL-III. The **first aid box**es will be made available in the Site Office for immediate treatment. **Occupational health surveillance programme** will be carried out for all the employees regularly.
9	**Climate Change :** About 50 KVA industrial supply for lighting is required which will be met from TANGEDCO Grid. For operating the mining equipments, High Speed Diesel (HSD) is required @ 2,000 Liters/day. A licensed fuel storage tanks is established at the Factory and the daily requirement of HSD and other lubricants will be met by a licensed mobile bowser. There will be **a standby DG** set of 380 KVA with acoustic enclosures and stack as per CPCB/TNPCB Norms. **Green Belt (47.180 Ha) Coverage will be 29.70%**. About, 11,250 local tree species like Neem, Pungan, Teak, etc. will be planted @ 500 Trees/Ha with a Survival Rate of about 90%.

4.0 Environmental Monitoring Programme

Periodical monitoring of the Ambient Air Quality (at 4 locations) as per NAAQ Norms, Fugitive/Workzone Air Quality/emissions (4 locations), Noise Levels (Ambient & Workzone areas), Water (4 Surface & 4 Ground waters) and Soil Quality (3 Locations) shall be undertaken as per MoEF&CC/TNPCB Norms by appointing an accreditated external agency. The status reports will be submitted periodically to TNPCB on monthly basis, IBM on quarterly basis and SEIAA & IRO, MoEF&CC Chennai on six monthly basis.

5.0 Additional Studies

Detailed Risk Assessment and mitigative measures are delineated and an effective Disaster Management Plan, for natural and man-made disasters, is also submitted. Safety aspects will also be ensured to reduce incidents, if any.

6.0 Project Benefits

Environmental Benefits : The proposal ensures continuous Raw Material supply to the Cement Plants. Effective utilization of the Minor Minerals for Cement manufacturing is a Mineral Conservation Measure.

Financial Benefits : Project cost is **Rs.4.75 Crores**. As per MMDR Act 2015, DMF amount @ 10% Seigniorage Fee & Green Fund 10% Seigniorage Fees and MBL Tax @ Rs.160 per Tonne to the Exchequer will improve local and regional economy.

Social Benefits : Project will employ 72 persons directly and 50 persons indirectly. Adequate **CER Budget** will be allotted. The direct & indirect employment, CSR/CER activities, etc., will have a positive impact on the Socioeconomic Structure of the area.

7.0 Environmental Management Plan

There will be **no Construction Phase** for the Project. Environmental Management Plan (EMP) is suggested to mitigate the possible negative impacts that may be caused to the various attributes of environment due to the proposed mining operations. The EMP Measures proposed are given in **Table 7.1**.

Table : 7.1 Proposed EMP Measures

Sl. No.	Environmental Component & Proposed EMP Measures
1	**Land Environment :-** ❖ Earthen bunds are to be strengthened along the boundaries to arrest wash-offs. ❖ Garland drains are to be provided and maintained periodically around the Lease. ❖ Green Belt has to be developed and maintained along the Lease boundary. ❖ No. of **trees planted shall be numbered** and referenced for review. ❖ The solid wastes shall be backfilled in the quarried out voids and the land shall be restored to its original conditions. ❖ Saplings shall also be planted along the foot of the dumps and unused slopes to arrest / prevent erosion.
2	**Transportation :-** ❖ Regular wetting of haul roads has to be undertaken to arrest fugitive emissions. ❖ Tippers are to be fully covered with Tarpaulin to avoid any spillage. ❖ No overloading of Tippers is allowed strictly. ❖ A strict Speed Limit of 30 km/hr. has to be enforced and monitored continuously. ❖ Compliance to 'Pollution under Control' Certification has to be ensured. ❖ Restriction of Truck parking in the Public Road has to be implemented. ❖ Security Guards to be posted at the public road junction.
3	**Air Quality** :- ❖ Eco friendly quarrying (with out Drilling & Blasting) shall be adopted.

Sl. No.	Environmental Component & Proposed EMP Measures
	❖ Green belt shall be developed along the periphery, haul roads, waste dumps, etc. ❖ Water sprinkling at excavation areas, loading, haul roads, etc. has to be carried out periodically. ❖ Periodical maintenance of mining equipments has to be carried out. ❖ Periodical Air Quality Monitoring & Fugitive Emissions shall be carried out and Reports submitted.
4	**Noise Levels** :- ❖ Deploying equipments shall be with in-built mechanism for reducing noise. ❖ Providing sound proof operator's cabin of equipments. ❖ Provision of ear muffs/ear plugs to the workers in higher noise zones. ❖ Green Belt with thick foliage shall be maintained around lease boundary as acoustic barriers. ❖ Ambient Noise Levels at boundaries shall comply MoEF&CC Norms for Residential Areas. ❖ Periodical Noise Monitoring shall be carried out and Reports submitted to the Authorities.
5	**Water Environment** :- ❖ Natural drains or nallas should not be disturbed. ❖ The existing Pre-Project Drainage Pattern should be maintained to the extent possible so that Post Project Runoff distribution is not affected. ❖ Runoffs from Quarry and Waste Dump should be regulated by constructing garland drains. ❖ Garland Drains and Settling Tanks are to be maintained and desilted periodically. ❖ Ground Water Levels and Water Quality are to be periodically monitored at identified Borewells & Dugwells in the Project vicinity. ❖ Monitored Water Quality data are to be periodically submitted to IBM, SEIAA-TN & IRO-MoEF&CC, Chennai.
6	**Biological Environment** :- ❖ Effective Green Belt has to be developed and maintained with about 90% Survival Rate. ❖ Native species shall be preferred for Green Belt development. ❖ Fruit bearing trees may also be preferred. ❖ The primary way that carbon is stored in the soil is as **soil organic matter (SOM).** Climatic conditions, natural vegetation, soil texture, and drainage all affect the amount and length of time carbon is stored.
7	**Socio-economics** :- CSR activities shall be carried out by providing social and welfare measures for the local residents and nearby villages around the Lease area. The prime focus will be on the creating and maintaining of drinking water facilities for the students at the nearby Government Schools, establishing toilets especially for girl students at the

Sl. No.	Environmental Component & Proposed EMP Measures
	schools, setting up of computer centres, maintenance of village roads & ponds, providing solar street lights, conducting free medical camps, etc.f
8	**Occupational Health :-** ❖ All employees are to undergo Medical Check-up on recruitment and periodically during employment. ❖ Maintenance of Pre, during & Post Employment Records are to be kept for periodical review. ❖ Required Personal Protective Equipments for the employees are to be provided. ❖ Provision of ergonomically designed seats for drivers/operators has to be ensured.

Plastic Waste Management : There will be ban on one-time use and throw away Plastic usage in the Lease. Encourage the use of eco friendly alternatives such as banana leaf, areca nut palm plate, stainless steel glass, porcelain plates / cups, cloth bag, jute bag etc.

EMP Budget : Project cost is **Rs.4.75 Crores**. An amount of **Rs. 30.00 Lakhs** has been earmarked **as EMP Capital Budget** and **Rs. 28.84 Lakhs per Annum as EMP Operating Cost** towards Green Belt maintenance, Environmental Monitoring, etc. As approved by DFO, the proposed budget for **Peafowl Conservation Plan will be Rs.15.80 Lakhs** for the ten years period. Public Hearing issued will be addressed and the **Action Plan with Budget will be included** in the EMP Budget for executing the Physical Activities as per MoEF&CC OM dated 30.09.2020. **CER Budget of Rs.9.50 Lakhs** is allotted for Maravarperungudi & T.Koppuchithampatti Villages.

***