PRE FEASIBILITY REPORT

For

EXPANSION OF CEMENT PLANT & CAPTIVE LIMESTONE MINE
(INTEGRATED PROPOSAL)

for

INCREASE OF PRODUCTION

CLINKER: 0.99 to 1.30 MTPA
CEMENT: 1.122 to 1.65 MTPA
COAL BASED CAPTIVE POWER PLANT: 77 MW (NO CHANGE)
WASTE HEAT RECOVERY POWER PLANT: 7 MW (NO CHANGE)
LIMESTONE: 1.5 to 1.80 MTPA

At
M/s. PENNA CEMENT INDUSTRIES LTD
Ganeshpahad village, Damaracherla Mandal
Nalgonda district, Telangana State.
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CHAPTER –1

1. EXECUTIVE SUMMARY

PENNA CEMENT INDUSTRIES LTD (PCIL) (Formerly Chaanakya Cements Limited) is one of the largest privately held cement companies in India, with an installed cement capacity of 7 Million Tonnes Per Annum.

Founded in 1991, Penna Cement has established itself as one of the most trusted cement brands, with significant footprints in southern and western India. Our clientele ranges from small house owners to established real estate developers and from various state governments to global construction majors.

Over the last two decades, PCIL have grown organically by developing in-house expertise and capabilities, across the entire value chain in the cement industry. All our cement plants are equipped with state-of-the-art technology, enabling the company to deliver the superior quality products.

PENNA CEMENT INDUSTRIES LTD (PCIL) is operating a Cement Plant with a Clinker production capacity of 0.99 Million Tonnes Per Annum (MTPA) at Ganeshpahad village, Damaracherla Mandal, Nalgonda district, Telangana State.

Penna Cement manufactures a wide range of cement including Ordinary Portland Cement (OPC 53 grade and 43 grade) and Portland Pozzolana Cement (PPC)

The limestone requirement of the cement plant is met from Chanakya Limestone mine located at Ganeshpahad and Sunyapahad villages, Damaracherla and Palakveedu Mandalas, Nalgonda and Suryapet districts, Telangana State.

PCIL received Environmental Clearance vide MOEF letter no. J-11011/31/2001 – IA II dated - 12-12-2001. (Annexure-I) for Cement production of 2500 TPD
Later **PCIL** has enhanced capacity of Cement Plant for which CFE was obtained from APPCB (now TSPCB) for the following production quantities vide letter no: APPCB/PTN/NGL/180/HO/2004/70/818 dated 16-12-2004.

<table>
<thead>
<tr>
<th></th>
<th>Total Capacity (TPD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinker</td>
<td>3000</td>
</tr>
<tr>
<td>Cement</td>
<td>3400</td>
</tr>
</tbody>
</table>

PCIL has commissioned a 77 MW Coal Based Power Plant in 26.02.2010 for which Environmental Clearance was obtained from SEIAA, AP vide letter no SEIAA/AP/NLG-17/2008-293 Dated 08.05.2009.

PCIL has installed a 7 MW waste heat recovery based power plant for which necessary CFE as per requirement was obtained from TSPCB vide letter no 180/PCB/CFE/RO-NLG/HO/2014 dated 30.10.2014.

Environmental clearance for production of limestone from captive limestone mine was obtained vide letter no J.11015.32/2001-IA.II (M) dated 10.12.2003.

The current status of various units of **PCIL** along with installed production capacities are given below:

<table>
<thead>
<tr>
<th>OVERVIEW OF PRODUCTION CAPACITIES OF PCIL</th>
<th>Installed capacity MTPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Clinker Production Capacity</td>
<td>0.99</td>
</tr>
<tr>
<td>2 Cement Production Capacity</td>
<td>1.22</td>
</tr>
<tr>
<td>3 Coal based power plant</td>
<td>77 MW</td>
</tr>
<tr>
<td>4 Waste Heat recovery based power plant</td>
<td>7 MW</td>
</tr>
<tr>
<td>5 Captive Limestone Mining</td>
<td>1.50</td>
</tr>
</tbody>
</table>

The present proposal pertains to obtaining environmental clearance for expansion of the cement plant by upgradation of existing process line for increase of production as per the table given below:
### INCREASE OF PRODUCTION

<table>
<thead>
<tr>
<th>CEMENT PLANT</th>
<th>PRODUCTION (MTPA)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BEFORE EXPANSION</td>
<td>AFTER EXPANSION</td>
</tr>
<tr>
<td>Clinker</td>
<td>0.99</td>
<td>1.30</td>
</tr>
<tr>
<td>Cement</td>
<td>1.122</td>
<td>1.65</td>
</tr>
<tr>
<td>Coal based Power Plant, MW</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Waste Heat Recovery Power Plant, MW</td>
<td>7.0</td>
<td>7.0</td>
</tr>
</tbody>
</table>

**PCIL** proposes to meet the additional limestone requirement of 0.3 MTPA from same captive limestone mining lease area of 875.33 acres, in Ganeshpahad/Sunyapahad (Villages), Damaracherla/Palakveedu (Mandals), Nalgonda/Suryapet Districts, Telangana State.

**PCIL** complex is located in an area of 85 Ac. The proposed expansion is by upgradation of existing process line of the existing cement plant complex.

The present water requirement of the Cement plant, Power plant & mine is 3,500 m³/day and is sourced from River Krishna. PCIL has obtained the permission from irrigation department wide G.O. No. 28, dated. 17.05.2016 from Dept. of Irrigation & CAD, Government of Telangana for water drawl of water from river Krishna, which is flowing at a distance of 2 km from site in the Southern direction. Additional water requirement will be 250 m³/day and is met from the same source.

No solid waste generation from the cement plant.
There are no wild life sanctuaries, national parks, eco-sensitive areas within the 10 km radius of the project site.

For transporting cement from the cement plant to the market and obtaining raw materials like coal, gypsum and other additives, well connected road and railway siding are available.

Full-fledged colony with necessary infrastructure is existing. The existing colony is adequate and no additional quarters are proposed.

Wastewater generated is only from domestic activities at cement plant and residential colony. A full-fledged sewage treatment plant (STP) is in operation. Treated domestic wastewater is 100% reused for greenbelt development within PCIL cement plant complex.

Greenbelt is maintained in about 41% of the total plant area and in mine an area of 16.69 Ha will be developed as Afforested area and 7.5 m barrier zone of about 7.535 ha Plantation will be carried out.

The peak power consumption in the PCIL Cement plant complex including mine is 15 MW. Power requirement is met from PCIL’s 77 MW Coal Based Power Plant. An additional power of 5 MW is required for the proposed expansion project which will be obtained from the same plant.

Total capital Investment Cost is Rs. 25 crores and the capital Cost of mine expansion is estimated as Rs 1.0 crores.
INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

i. IDENTIFICATION OF PROJECT AND PROJECT PROPOUNENT. IN CASE OF MINING PROJECT, A COPY OF MINING LEASE / LETTER OF INTENT SHOULD BE GIVEN.

PENNA CEMENT INDUSTRIES LTD (PCIL) is operating a Cement Plant with a Clinker production capacity of 0.99 Million Tonnes Per Annum (MTPA) at Ganeshpahad village, Damaracherla Mandal, Nalgonda district, Telangana State.

PCIL cement plant is supported by their captive limestone mines

PCIL present installed capacity of cement plant is 0.99 million tonnes per annum (MTPA) of clinker and 1.122 MTPA of cement. PCIL is manufacturing Ordinary Portland Cement (OPC), and Portland Pozzolana Cement (PPC).

The current status of various units of PCIL along with installed production capacities are given below:

| OVERVIEW OF PRODUCTION CAPACITIES OF PCIL |
|-------------------------------|------------------|
| Clinker Production Capacity | 0.99 MTPA |
| Cement Production Capacity  | 1.22 MTPA |
| Coal based power plant     | 77 MW         |
| Waste Heat recovery based power plant | 7 MW |
| Captive Limestone Mining   | 1.50 MTPA |

PROJECT PROPOUNENT

M/s. Penna Cement Industries Limited (PCIL) is one of the largest privately held cement companies in India, with an installed cement capacity of 7 Million Tonnes Per Annum.

Founded in 1991, Penna Cement has established itself as one of the most trusted cement brands, with significant footprints in southern
and western India. Our clientele ranges from small house owners to established real estate developers and from various state governments to global construction majors.

Over the last two decades, PCIL have grown organically by developing in-house expertise and capabilities, across the entire value chain in the cement industry. All our cement plants are equipped with state-of-the-art technology, enabling the company to deliver the superior quality products.

**PRESENT PROPOSAL**

**PENNA CEMENT INDUSTRIES LIMITED**, (PCIL), is operating a cement plant of 1.122 MTPA cement capacity at Ganeshpahad village, Damaracherla Mandal, Nalgonda District, Telangana State. The company is having a total installed capacity of 5.24 million tons of clinker production at different locations in the state of Andhra Pradesh & Telangana.

The plant at Ganeshpahad Village was commissioned in the year 2002. The raw material requirement to the cement plant is being met from the Captive mine located adjacent to the plant in Ganeshpahad/Sunyapahad (Villages), Damaracherla/Palakveedu (Mandals), Nalgonda Districts, Telangana State. The company is producing the three brands of Cements Viz Ordinary Portland Cement (OPC) and Pozzolona Portland Cement (PPC)

PCIL proposes to increase the Clinker production from 0.99 to 1.30 MTPA and Cement Production from 1.122 MTPA to 1.65 MTPA by upgradation and modernization of existing process unit for which Limestone requirement is 1.8 MTPA which is met from Chaanakya Limestone mine for which PCIL has obtained the mining lease sanctioned by Government of Andhra Pradesh (Now Telangana). The mine is in operation.

The present proposal pertains to obtaining environmental clearance for expansion of the cement plant by upgradation of existing process line for increase of production as per the table given below:
**INCREASE OF PRODUCTION**

<table>
<thead>
<tr>
<th>CEMENT PLANT</th>
<th>PRODUCTION (MTPA)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BEFORE EXPANSION</td>
<td>AFTER EXPANSION</td>
</tr>
<tr>
<td>Clinker</td>
<td>0.99</td>
<td>1.30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enhancement by 0.31 MTPA of clinker and 0.528 MTPA of Cement by modernisation of Kiln and cooler and extension of operational hours of upstream and downstream machinery</td>
</tr>
<tr>
<td>Cement</td>
<td>1.122</td>
<td>1.65</td>
</tr>
<tr>
<td>Coal based Power</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Plant, MW</td>
<td></td>
<td>No change</td>
</tr>
<tr>
<td>Waste Heat Recovery</td>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Power Plant, MW</td>
<td></td>
<td>No change</td>
</tr>
</tbody>
</table>

**ii) Brief description of nature of the project**

The project is cement plant with present clinker production of 0.99 MTPA and cement of 1.122 MTPA. **PCIL** now proposes to increase production of clinker capacity from 0.99 to 1.30 MTPA and Cement production from 1.122 to 1.65 MTPA.

**iii) Need for the project and its importance to the country and or region.**

Cement industry in India witnessed robust growth of 14.4% during H1FY19 after having witnessed revival during FY18 backed by Government spending on infrastructure. During the H1FY19, stable construction activity in residential real estate, increased demand from affordable housing and robust demand from infrastructure segment have ensured cement capacity utilization improves to 70%. Construction activity picked up in the housing segment across Western, Eastern and Southern Region. Affordable housing scheme for rural and urban areas supported demand for cement in the housing segment.

Infrastructure segment may continue to remain in focus during the year as far as cement demand is concerned. Roads and public
infrastructure like railways, bridges, metros would contribute to over 3-5 MT of incremental demand for cement. The development of the infrastructure projects is dispersed across regions and hence, cement demand is expected to remain high across all the 5 regions. Southern states of Andhra Pradesh and Telangana have been drivers of demand in their region due to new infrastructure development in Andhra Pradesh and pending elections in Telangana.

To capture growing opportunity demand, the management PCIL wants to take up the section wise capacity balancing and optimization. The proposed expansion will enable the company to maximize its profitability by optimum utilization of technology, manpower, present infrastructure and capital.

The cost of production will substantially reduce due to power efficient equipment, fuel, financial charges and other fixed overheads on account of large scale economics due to higher volume of production and sales. It would also enable the company to withstand against the considerable competitive pressure from large-scale units in the country and also to create wider brand loyalty for the product.

The increase of production within the existing plant is based on the following considerations

- Proximity of the site to captive limestone mines and abundant availability of reserves.
- Market demand
- Availability of land – no further land is proposed to be acquired
- Availability of existing infrastructure.

**iv) Demand – supply Gap**

With 502 million tonnes per year (mtpa) of cement production capacity as of 2018, India is the second largest cement producer in the world. The cement production capacity is estimated to touch 550 MT by 2020. Of the total capacity, 98 per cent lies with the private sector and the rest with the public sector. The top 20 companies account for around 70 per cent of the total production. In FY19, cement demand is expected to grow by 7-8 per cent.
A total of 210 large cement plants together account for 410 million tonnes of installed capacity in the country, while 350 mini cement plants make up the rest. Of the total 210 large cement plants in India, 77 are located in the states of Andhra Pradesh, Telangana, Rajasthan and Tamil Nadu. Cement production in India increased from 230.49 million tonnes in 2011-12 to 297.56 million tonnes in 2017-18. India’s exports of cement, clinker and asbestos cement increased at CAGR of 10.37 per cent between FY12-FY18 to reach US$ 433.87 million. During the same period imports of cement, clinker and asbestos cement increased at a CAGR of 11.14 per cent to US$ 174.36 million in FY18. Cement, clinker and asbestos cement exports and imports of India stood at US$ 355.98 million and US$ 112.60 million during April-December 2018, respectively.

The Government of India is strongly focused on infrastructure development to boost economic growth and is aiming for 100 smart cities. The government also intends to expand the capacity of the railways and the facilities for handling and storage to ease the transportation of cement and reduce transportation costs. These measures would lead to increased construction activity thereby boosting cement demand.

v) Imports Vs. Indigenous production

No import of any raw material is planned

vi) Export possibility

No export of cement outside the country is planned.

vii) Domestic / export markets

The expansion of cement plant will meet the domestic markets demand.

viii) Employment generation (direct and indirect) due to the project.

Present manpower working is about 120. No additional manpower will be involved
CHAPTER – 3
PROJECT DESCRIPTION

i. Type of project including interlinked and interdependent projects, if any

The present proposal pertains to obtaining environmental clearance for expansion of the cement plant by upgradation of existing process line for increase of production

Interlinked project is Captive Limestone Mine. Details of the mine are given below

DETAILS OF THE LIMESTONE MINE

The captive limestone mine of PCIL is adjacent to the cement plant and is spread over 354.236 Ha at Ganeshpahad/Sunyapahad (Villages), Damaracherla/Palakveedu (Mandals), Nalgonda/Suryapet Districts, Telangana State. The location of the cement plant and mine is shown in Fig – 1.

Mine area is about 354.236 ha. considering expansion of cement plant, limestone production will be enhanced from 1.5 to 1.8 MTPA with total Excavation increase from 1.552 to 1.864 MTPA

Application was filed with MoEFCC for obtaining TOR vide proposal number IA/TG/MIN/89548/2018 dated 24th Dec 2018

Total Excavation of 1.552 MTPA = Limestone production: 1.50 MTPA + Interstitial Clay 0.031 MTPA + Top Soil: 0.021 MTPA

Total Excavation of 1.864 MTPA = Limestone production: 1.800 MTPA + Interstitial Clay: 0.038 MTPA + Top Soil: 0.026 MTPA

PCIL has applied to MOEFCC vide proposal number IA/TG/MIN/89548/2018. TOR meeting was held on 22.01.2019

Limestone Mineral reserve of 63.71 Million will last for 35 years. The limestone produced from the mine is of good grade limestone and is directly utilized for the cement production.
The Mine lease area has gently undulating topography with relatively steeper slopes towards the Musi River and Krishna rivers which are respectively to the west and south of the lease area. The eastern part is relatively higher in elevation than the western part. The minimum and maximum levels in the area are 56 and 95 m with average of 76 m.

The maximum relief in the ML area is 38 m. A few dry streams are originating along the periphery of central and northern parts of the lease flow west south into Musi and Krishna Rivers respectively. The ground water in the lease area is deep about 35 m, despite the presence of two perennial rivers in the vicinity. This may attributed to the low porous rocks below the limestone beds.

The limestone occurring in the lease area is compact and sub horizontal to dipping at 4 to 6°. As such no geotechnical problems are anticipated during bench advancement and production. From the inception, the feedable grade limestone (Gray and Green) in combination with off white (low grade) limestone in 70:30 is being exploited and used in the Plant.

PCIL is adopting opencast mechanized mining which involves deep drilling and blasting for breaking the rock, hydraulic excavators to handle the broken material and loading into 30T dumpers for transporting the ROM material to crusher.

Drilling operations are conducted with 150 mm dia. of Atlas Capco BVB-25-10 model drills with compressor of 550 Cfm. Hydraulic excavators with bucket capacity of 3.3 m³ are deployed to load the blasted limestone into Dumpers. The blasted/ excavated limestone is sent to crusher and then to cement plant through conveyor as detailed below.

**Drilling:** Deep hole drilling and blasting is adopted for limestone excavation. Drill holes with spacing and burden of 6 m X 4 m with a sub grade drilling of 10%. Sub grade drilling is in practice to maintain the level of the bench floor, avoiding the toe.
**Excavation:** Excavation of the muck piles is carried out by hydraulic excavators 3.0cu.m. bucket capacity

**Transportation:** The crusher outside of the lease area is located adjacent to plant at a maximum distance of 1.0 Km from the working faces and limestone is transported to the crusher by 30 tons dumpers and further sent to stacker and reclaimer by conveyor.

About 2 % of LS production is interstitial calcareous clay generated during the mining operation which is treated as waste material which is backfilled in mineout pits during the course of mining operation.

The lease area is mostly bereft of conspicuous soils presence over the limestone bed. The soil is present in the form of interlocked in the fractures which is seen while developing the top bench and separated.

The generated top soil will temporarily stacked and is utilised for the plantation purposes at the all the proposed locations.

The maximum depth of the limestone deposit is 39m. Hence 4 benches are developed.

At the end of mining operations, 257.870 Ha will be mined-out area of which 242.022 Ha will be developed into water reservoir and 15.848 Ha will be backfilled and Afforestation will be done.

**Figure-5** shows the Surface Plan of Mine

Present manpower is 47 persons to carry out the mining operations. No additional manpower is required for the proposed expansion.

Power requirement is mainly for lighting in the mine area, Time office and Garage-cum-Workshop and is met from captive power plant.

A total quantity of 1.33 MTPA (@2% of LS) of interstitial clay is generated from the mining activity which will be backfilled in the mined out pits.

Based on current scheme the Top soil Generation from unbroken area of 189.35 Ha is 0.54 MTPA used for Afforestation.
The Mining will be continued up to 35 years @ 1.8 million tonnes of limestone per year. The land use pattern is furnished in the following table.

**POST LANDUSE PATTERN OF THE MINE AREA (Ha)**

<table>
<thead>
<tr>
<th>Details</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken up land for pit development</td>
<td>257.870</td>
</tr>
<tr>
<td>(including Back filled area)</td>
<td></td>
</tr>
<tr>
<td>Infrastructure (Main haul road,&amp; Magazine)</td>
<td>2.430</td>
</tr>
<tr>
<td>7.5 m barrier zone with Plantation</td>
<td>7.535</td>
</tr>
<tr>
<td>Green Belt</td>
<td>16.690</td>
</tr>
<tr>
<td>Unbroken area of the lease</td>
<td>47.415</td>
</tr>
<tr>
<td>Non Mineral Bearing area</td>
<td>22.296</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>354.236</strong></td>
</tr>
</tbody>
</table>

*Back-filled area is part of broken up area out of this non mineral bearing area at the end of mine life 15.848 ha will be brought under plantation green belt zone*

At the end of mining operations, 257.870 Ha will be mined-out area of which 242.022 Ha will be developed into water reservoir and 15.848 Ha will be backfilled and Afforestation will be done.

The estimated project cost for increase of limestone production will be about Rs. 1.0 Crores.

**ii. Location (map showing general location, specific location, and project boundary & project site layout) with co-ordinates.**

The Cement plant is located near Ganeshpahad village, Damaracherla Mandal, Nalgonda district, Telangana State.

The mining lease area comprising 354.236 ha is situated at Ganeshpahad/Sunyapahad (Villages), Damaracherla/Palakveedu (Mandals), Nalgonda/Suryapet Districts, Telangana State. The geo coordinates of the plant and mine site are given below:

**Plant Site:**
16°42'59.59” – 16°43’11.48” N Latitude
79°41’29.10” - 79°41’48.00” E Longitude

**Mine site:**
16°42’26.80”N - 16°44’1.30” N Latitude
79°40’11.30”E - 79°41’45.40” E Longitude.
The project area is covered in Survey of India Toposheet No. 56/P/10. The location map of the Project site is shown in **Fig – 1**.

Nearest railway line connecting Miryalaguda – Guntur of South Central Railway line, at a distance of 5.6 km to SW direction respect to Plant site and 3.3 km to W direction respect to mine site. Key map showing the location of various features around the Project site is shown in **Fig – 2**.

Miryalaguda is major town at a distance of 20.5 km in NW direction respect to mine site and 22.0 km NW direction respect to the plant site. The National Highway (NH-65) connecting Hyderabad - Vijayawada at a distance of about 38.5 km in NE direction respect to Plant site and 37.5 km in NE direction respect to mine site.

The State Highway (SH- 21) connecting Miryalaguda - Vadapalle at a distance of about 4.5 km in Western Direction respect to Plant site and 1.9 km in Western Direction with respect to mine site. The nearest railway station is Vishnupuram RS at 5.7 km in WSW direction and 3.3 km in W direction with respect to plant and mine site.

There are no national parks/wild life sanctuaries/eco sensitive zones within 10 km radius of the cement plant and mine sites.

The area is rich limestone deposits. Cement plants located within 10 km are Deccan Cement – 1.5 km – ESE India Cement – 5.0 km – WSW and Andhra Cement – 7.7 km – SSE.

**Fig-3** shows the 10 km radius around Cement plant & mine site. Salient features of the plant site & mine site are given in **Table-1**.
FIG - 1
LOCATION MAP

LEGEND

- DISTRICT BOUNDARY
- MANDAL HEADQUARTER
- DISTRICT HEADQUARTER
- NATIONAL HIGHWAY
- STATE HIGHWAY
- MANDAL BOUNDARY
- REVENUE BOUNDARY
- PCIL MINE SITE
- PCIL PLANT SITE

Note:- Not to Scale
### TABLE – 1

**SALIENT FEATURES OF THE CEMENT PLANT & MINE SITE**

<table>
<thead>
<tr>
<th>Feature</th>
<th>W.r.t Plant site</th>
<th>W.r.t Mine site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altitude</td>
<td>92 m above MSL</td>
<td>85 m above MSL</td>
</tr>
<tr>
<td>Latitude &amp; Longitude</td>
<td>A) 16°43′10.87″N - 79°41′29.10″E</td>
<td>A) 16°42′26.80″N - 16°44′1.30″N</td>
</tr>
<tr>
<td></td>
<td>B) 16°43′11.48″N - 79°41′47.56″E</td>
<td>B) 79°40′11.30″E - 79°41′45.40″E</td>
</tr>
<tr>
<td></td>
<td>C) 16°43′20.20″N - 79°41′48.00″E</td>
<td></td>
</tr>
<tr>
<td>Village, Tehsil, District, State</td>
<td>Ganeshpahad village, Damaracherla Mandal Nalgonda district, Telangana State.</td>
<td>Ganeshpahad/Sunyapahad (Villages), Damaracherla/Palakveedu (Mandals), Nalgonda/Suryapet Districts, Telangana State.</td>
</tr>
<tr>
<td>IMD Station</td>
<td>Khammam - 75.0 km – NE</td>
<td>Khammam - 73.0 km - NE</td>
</tr>
<tr>
<td>Nearest Water Bodies</td>
<td>Musi River – 1.8 km – W</td>
<td>Musi River – 0.1 km – W</td>
</tr>
<tr>
<td></td>
<td>Vemuleri River – 9.7 km - ENE</td>
<td>Krishna River – 1.2 km – S</td>
</tr>
<tr>
<td></td>
<td>Krishna River – 2.4 km – S</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bay of Bengal Sea – 130.0 km – SE</td>
<td></td>
</tr>
<tr>
<td>Nearest Highway</td>
<td>National Highway (NH-65) Connecting Hyderabad - Vijayawada – 38.5 km -NE</td>
<td>National Highway (NH-65) Connecting Hyderabad - Vijayawada – 37.5 km -NE State Highway (SH-21) Connecting Miryalaguda - Dachepalli – 1.9 km –W</td>
</tr>
<tr>
<td>Railway Junction</td>
<td>Nadikudi – 14.3 km – SSE</td>
<td>Nadikudi – 13.2 km - SSE</td>
</tr>
<tr>
<td>Nearest Railway station</td>
<td>Vishnupuram RS – 5.7 km – WSW</td>
<td>Vishnupuram RS – 3.3 km - W</td>
</tr>
<tr>
<td>Nearest Industries</td>
<td>India Cement – 5.0 km – WSW</td>
<td>India Cements – 2.6 km – SW</td>
</tr>
<tr>
<td></td>
<td>Andhra Cement – 7.7 km – SSE</td>
<td>Andhra Cement – 6.4 km – SSE</td>
</tr>
<tr>
<td></td>
<td>Deccan Cement - 1.5 km – ESE</td>
<td>Deccan Cement - 1.8 km – E</td>
</tr>
<tr>
<td>Nearest Village</td>
<td>Ganesh Pahad – 2.1 km – SW</td>
<td>Ganesh Pahad – 0.6 km – S</td>
</tr>
<tr>
<td>Nearest Town</td>
<td>Miryalaguda – 22.0 km – NW</td>
<td>Miryalaguda - 20.5 km NW direction</td>
</tr>
<tr>
<td>Bird sanctuarie/National Parks</td>
<td>None within 10 km radius</td>
<td></td>
</tr>
<tr>
<td>Inter State Boundary</td>
<td>Telangana - Andhra Pradesh – 2.6 km - S</td>
<td>Telangana - Andhra Pradesh – 1.5 km - S</td>
</tr>
<tr>
<td>Nearest Air port</td>
<td>Hyderabad ( Shamshabad ) – 146.0 km - WNW</td>
<td>Hyderabad ( Shamshabad ) – 144.0 km - WNW</td>
</tr>
<tr>
<td>Nearest Forest</td>
<td>Ravipahad RF – 0.4 k - ENE</td>
<td>Ravipahad RF – 0.7 km - NE</td>
</tr>
<tr>
<td></td>
<td>Saidunlam RF – 0.3 km - E</td>
<td>Saidunlam RF – Adjacent - E</td>
</tr>
<tr>
<td></td>
<td>Wazirabad RF – 1.9 km – WNW</td>
<td>Wazirabad RF – 0.2 km – W</td>
</tr>
<tr>
<td></td>
<td>Pasupulabodu RF – 0.3 km – N</td>
<td>Pasupulabodu RF – Adjacent - E</td>
</tr>
<tr>
<td>Historical places</td>
<td>None within 10 km radius</td>
<td></td>
</tr>
</tbody>
</table>

*All distances mentioned in the above table are aerial distances.*
iii. Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental considerations gone into should be highlighted.

As the expansion is proposed by up gradation of existing process line in the existing premises, no alternate site are considered for the proposed expansion project.

iv. Size or magnitude of operation

**Cement Plant**: The present proposal is for enhancement of Clinker and Cement production of Cement Plant. Present production capacity of Clinker is 0.99 MTPA and Cement production is 1.122 MTPA. **PCIL** is now proposing for enhancement of clinker production capacity from 0.99 MTPA to 1.20 MTPA and cement capacity from 1.122 to 1.65 MTPA by up gradation of existing process unit.

**PCIL** is manufacturing blended cement. viz., Ordinary Portland cement (OPC) and Portland Pozzolana Cement (PPC).

v. Project description with process details (a schematic diagram/flow chart showing the project layout, components of the project etc. should be given)

**Manufacturing Process:**

**Limestone Mining**: Mechanized mining of lime stone is done by deep hole drilling, nonel blasting, excavation and hauling. The blasted lime stone of size less than 1000mm is transported to lime stone crusher for crushing.

**Limestone Crushing**: A single Rotor Impact Crusher is installed to reduce limestone size from 1000 mm to 75mm.

**Stacking & Reclaiming**: The crushed lime stone is stacked longitudinally with stacker as per the required quality given by Quality Control Dept. The capacity of stock pile is 80000T. After forming the stockpile, the reclamation will be started. The total process of stacking and reclaiming is called chevron method.
**Raw material grinding:** Blended lime stone will be reclaimed and will be filled into raw material hopper in the Vertical Roller Mill (VRM) section. Laterite (out source material) and corrective limestone will be filled into laterite hopper and corrective limestone hopper respectively. All the three materials with the required ratio are conveyed through the weigh feeders and belt conveyors to Vertical Roller Mill, where grinding takes place.

VRM within built system of separator will grind the raw materials 75 mm size to 17%R on 90 micron size. The product called Raw meal is collected in cyclones and Pulse jet BH and transported through air slides and bucket elevator and stored in blending Silo.

**Coal Crushing & Grinding:** Raw Coal unloaded from open trucks to yard and transported by Belt Conveyors to crusher where the size is reduced from 100mm to 15 mm and conveyed to raw coal hopper through conveyor belts. Vertical roller mill (VRM) pulverizes raw coal to fine coal with fineness of 16%R on 90 microns, which is collected in Bag Filter. The fine coal is further conveyed mechanically to fine coal bins and transported to kiln and calciner pneumatically (through FK pumps) for firing.

**Pyro-Processing:** This system consists of Rotary Kiln with 6 stage Pre-heater and In-line Calciner. Raw meal from Silos is conveyed through pre-heater. Fine coal is fired through burner pipe into kiln and into pre-calciner. The material is 90 to 92 % calcined before entering into kiln and balance calcination, Pre burning and sintering takes place in the kiln for ensuring completion chemical reactions. Clinker formed is cooled in Static grate coolers with high pressure fans. The clinker after cooling is transported mechanically to clinker storage tanks.

**Cement Grinding:** Clinker from clinker storage tank is conveyed to clinker hopper. Gypsum is filled into gypsum hopper. Closed Circuit Tube Mill with dynamic separator grinds clinker and gypsum in a ratio of 95:5 respectively. The product, called Ordinary Portland cement (OPC) is conveyed mechanically to cement storage silos.

Similarly Clinker, Fly Ash, gypsum in a ratio of 60: 35: 5 respectively are ground in the Vertical roller Mill to make Portland Pozzolana
Cement (PPC), Portland slag cement (PSC) & Portland Pozzolana Cement (PPC) which is conveyed mechanically to cement storage silos.

**Cement Packing:** Electronic Packers (16 spout- double discharge) automatically fill the PP bags or paper bags of 50 Kg. These bags are loaded to the trucks through belt conveyors and loaders.

The Plant is well automated and operated form Central Control Room and Control system is based on PLC.

**Quality Control:** All the raw materials, in- process and products are carried out by means of XRF and XRD of PAN Analytical. The preventive measures are taken to ensure the consistent and best quality is achieved. Material testing is undertaken on calibrated instruments for both Physical and Chemical parameters all the time. The people involved in this stream are highly qualified and experienced and quality conscious. The product is well accepted in the market and customers like Readymix concrete, Industries and Builders prefer our product very well.

**Process Control:** The plant operation through Siemens Automation is equipped with Expert Control Systems (ECS), comprising the SDR system. PIDS with closed loops systems are intact and PLC is in advanced modern system. Fuzzy logic from FLS is also adopted for smooth and consistent operation of the plant. The process parameter is designed by the experts and is operated by qualified and experienced engineers. The deviations are minimized and the tolerances are limited. This is resulting in achieving the productivity in terms of best quality, optimal production and energy conservation (thermal as well as electrical).

**vi. Raw material required along with estimated quantity, likely source, marketing area of final products, mode of transport of raw material and finished product.**

**Cement Plant:** The raw material required for production of clinker is Limestone, laterite, Bauxite and Coal.

The requirement of raw material before and after expansion of cement plant is presented in below table.
## RAW MATERIAL REQUIREMENT OF CEMENT PLANT (MTPA)

<table>
<thead>
<tr>
<th></th>
<th>PRESENT</th>
<th>EXPANSION</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limestone</td>
<td>1.50</td>
<td>1.80</td>
<td>Captive mines</td>
</tr>
<tr>
<td>Bauxite</td>
<td>0.02</td>
<td>0.06</td>
<td>Rajamundry AP</td>
</tr>
<tr>
<td>Laterite</td>
<td>0.051</td>
<td>0.20</td>
<td>Warangal, Telangana</td>
</tr>
<tr>
<td>Gypsum</td>
<td>0.056</td>
<td>0.10</td>
<td>Coramandel Fertilizers Ltd., Vizag</td>
</tr>
<tr>
<td>Coal</td>
<td>0.148</td>
<td>0.192</td>
<td>Singareni Collieries Company Ltd</td>
</tr>
<tr>
<td>Ash</td>
<td>0.074</td>
<td>0.60</td>
<td>PCILs power plant, Vijayawada Thermal power plant, Kothagudem Power Plant</td>
</tr>
</tbody>
</table>

For obtaining raw materials like coal, gypsum, additives and transporting cement from the cement plant to the market well connected roads are available. The National Highway (NH-65) connecting Hyderabad - Vijayawada at a distance of about 38.5 km in NE direction.

**vii. Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.**

Available limestone reserves of existing mine are 63.71 million tonnes. At the proposed requirement of 1.8 MTPA Limestone, the mine will supply limestone for about 35 years.

Limestone from the mine is blended to arrive at the proper feedable quality (subjected to the receipt of quality of coal) and supplied to Cement plant for optimum utilization of resources.

Cooling water circuit is close circuited, thereby ensuring no generation of wastewater. The process, selected envisages re-cycling all the material collected in the pollution control equipment whereby ensuring no generation of solid waste.
viii. **Availability of water its source, energy / power requirement**

**Water**

Water is required for cooling, dust suppression, sanitary facilities and gardening. The present water requirement of the plant including is 3500 m$^3$/day and is sourced from River Krishna. Alternatively, PCIL has obtained the permission from irrigation department wide G.O. No. 28, dated. 17.05.2016 from Dept. of Irrigation & CAD, Government of Telangana for water drawl of water from river Krishna, which is flowing at a distance of 2 km from site in the Southern direction. Additional water requirement will be 250 m$^3$/day and is met from the same source.

**Power**

The peak power consumption in the PCIL Cement plant complex including mine is 15 MW. Power requirement is met from PCILs 77 MW Coal Based Power Plant. An additional power of 5MW is required for the proposed expansion project which will be obtained from the same plant.

xi. **Quantity of waste to be generated (liquid and solid) and scheme for their management / disposal.**

In cement plant water is used for cooling, raw material addition at various stages. This water is totally absorbed in the process or will be subjected to evaporation and hence no wastewater is released from the cement plant.

Wastewater generated is only from domestic activities at cement plant and residential colony. A full-fledged sewage treatment plant (STP) is in operation for treatment. Treated domestic wastewater is reused for greenbelt development within PCIL cement plant complex.

No solid waste will be generated from the cement plant. The dust collected in the pollution control devices is being 100% recycled back to the process.
x. Schematic representations of the feasibility drawing which give information of EIA purpose
CHAPTER – 4
SITE ANALYSIS

i. Connectivity

The Cement plant is located near Ganeshpahad village, Damaracherla Mandal Nalgonda district, Telangana State.

The area is well connected by road and rail. The National Highway (NH-65) connecting Hyderabad - Vijayawada at a distance of about 38.5 km in NE direction. The State Highway (SH- 21) connecting Miryalaguda - Vadapalle at a distance of about 4.5 km in Western Direction. The nearest railway station is Vishnupuram RS at 5.7 km in WSW direction.

ii. Land form, land use and land ownership.

Break-up of present land use of existing cement plant is given in Table-2. Fig – 4 shows the plant layout. No additional land acquisition will be required for proposed expansion.

Table-2
LAND AVAILABILITY

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Unit</th>
<th>Area (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cement Plant &amp; Power plant</td>
<td>60</td>
</tr>
<tr>
<td>2</td>
<td>Greenbelt</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>85</strong></td>
</tr>
</tbody>
</table>

PHOTO OF PLANT AREA.

PHOTO OF MINE AREA.
iii. Topography (along with map)

The Cement plant is located near Ganeshpahad village, Damaracherla Mandal Nalgonda district, Telangana State.

Nearest railway line connecting Miryalaguda – Guntur of South Central Railway line, at a distance of 5.6 km to SW direction from the Plant site.

The National Highway (NH-65) connecting Hyderabad - Vijayawada at a distance of about 38.5 km in NE direction. The State Highway (SH-21) connecting Miryalaguda - Vadapalle at a distance of about 4.5 km in Western Direction. The nearest railway station is Vishnupuram RS at 5.7 km in WSW direction.

Musi River – 1.8 km – W, Krishna River – 2.4 km – S and Vemuleri River – 9.7 km – ENE are the nearest waterbodies in the 10 km radius of the plant site.

Saidulnam RF is the Nearest Forests at a distance of – 0.3 km - E direction. The Nearest Airport from the Plant site is Hyderabad (Shamshabad) – 146.0 km – WNW

Due to availability of rich limestone deposits, major cement plants, which are located within 10 km are Deccan Cement – 1.5 km – ESE India Cement – 5.0 km – WSW and Andhra Cement – 7.7 km – SSE.

There are no national parks/wild life sanctuaries/eco sensitive zones within 10 km radius of the cement plant and mine sites.

iv. Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forests, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ, in case of notified industrial area, a copy of the Gazette notification should be given.

The existing cement plant is located in Ganeshpahad Village. No additional land will be required for proposed expansion project.
• There are no national parks or wildlife sanctuary within 10 km of the subject plant area.
• No ecologically sensitive area such as tropical forests, biosphere reserves, important lakes or coastal area rich in coral formation fall within 10 km of the plant area.
• There are no sensitive places of notified archaeological, historical or tourist importance within 10 km from the plant area.

v. Existing Infrastructure

For transporting cement from the cement plant to the market and obtaining raw materials like coal, gypsum and other additives, well connected road is available.

vi. Soil Classification

No additional land will be required for expansion.

The soils are made up of 41-49 % sand, 21-32 % silt and 24-32 % clay

vii. Climate data from secondary sources

The tropical climate of the region is manifested in hot and humid summer, moderately monsoon and mild winter seasons. May is the hottest month in the year. The maximum temperature during the day time was recorded as 47.2 °C and December the coldest with the temperature during the day time falling down to about 34.4°C. The night temperature in winter can be as low as 14°C. The months of December, January & February are considered to have pleasant climate.

viii. Social infrastructure available

A well-equipped Occupational Health center is provided at colony, which has full time male and lady medical officers assisted, by compounders and nurses. Necessary free medicines and medical aid is available for the company employees.
A good canteen is provided for the benefit of the employees. The canteen serves tea & snacks at subsidized rates to the employees.

All the necessary infrastructure facilities such as School, Dispensary, Park and Playground, Temple, Commercial Complex, etc., are provided in the colony.

Adequate number of shelters with fans, drinking water etc. for taking food and rest are provided for the benefit of the employees.

Safe hygienic drinking water is provided at the plant. Drinking water facility is available near rest shelters.

A full-fledged Training hall is available in the **PCIL** cement plant complex. The training to workmen is provided on basics as well as for refreshers.

The employees are provided with well-designed houses having electricity and water connections.

A full-fledged water supply and drainage system is already in place and the wastewater generated from the colony is being treated in the sewage treatment plant (STP) to meet the standards. The treated sewage is used for greenbelt development within Cement plant complex.
CHAPTER – 5
PLANNING BRIEF

i. Planning concept (type of industries, facilities, transportation etc) town and country planning / development authority classification.

This is expansion project of existing cement plant within the present PCIL cement plant complex. No additional civil structures will be required for proposed unit.

ii. Population projection; people will be moving into the industrial area, due to the activity industrially. Accordingly, the local infra and commercial activities will pick up further.

The total manpower at the existing plant is 120. No additional manpower is required.

Apart from the jobs, the company provided medical and educational facilities to the employees which were availed by the people around the plant. Adequate recreational facilities for the staff of the company and the local people were created.

iii. Land use planning (breakup along with greenbelt etc.,)

This is expansion project of existing cement plant. The present land use pattern of the existing PCIL cement plant complex is given in Table-2. No additional land will be required for proposed expansion project

iv. Assessment of infrastructure demand (physical & social)

No additional housing facility will be created.

v. Amenities / Facilities

All infrastructure facilities such as education, health facilities and other social facilities are adequate at district headquarter which site makes the region adequate in amenities.
CHAPTER – 6
PROPOSED INFRASTRUCTURE

i. Industrial area (processing area)

Upgradation / modifications proposed for enhancement of cement plant production are given below

1. Upgrading the Top Cyclones
2. Increase Speed of Kiln.
3. Increase in Cooler Surface Area.
4. Tertiary air Duct Modification

ii. Residential area (non-processing area)

Residential colony is located nearer to the plant and is common for Mine employees. The Waste water from colony and plant is treated in the Sewage Treatment Plant.

iii. Greenbelt

PCIL has already developed greenbelt in an area of 35 acres in and around the PCIL cement plant complex.

iv. Social infrastructure

PCIL has well defined CSR policy to Carryout social development and welfare measures in the surrounding villages. Under CSR activity PCIL has initiated community development projects, in the fields of health, education and environmental preservation, in the study area around the plant and mine.
v. Connectivity (traffic and transportation road/rail/metro/water ways etc)

For transporting cement from the cement plant to the market and obtaining raw materials like coal, gypsum and other additives, well connected roads are available. The National Highway (NH-65) connecting Hyderabad - Vijayawada at a distance of about 38.5 km in NE direction.

vi. Drinking water management (source & supply of water)

The existing cement plant is having safe drinking water facility. RO water is supplied to all the employee and contract workmen.

vii. Sewerage System

Existing STP will be utilized for treatment of domestic wastewater after expansion of project.

viii. Industrial waste management

The production of cement will be based on completely dry process; hence no process waste water will be generated from the plant. Also the cooling water will be through a closed circuit system. The only waste water generated is domestic waste water from residential township and the same is treated in STP and used for green belt development.

Hazardous wastes like spent oil is disposed off in accordance with the provisions of the Hazardous Waste Management Rules, 2016.

ix. Solid waste Management

No solid waste is generated from the cement plant. The dust collected in the pollution control devices is being 100% recycled back to the process.
**x. Power requirement & Supply/Source.**

The peak power consumption in the **PCIL** Cement plant complex including mine is 15 MW. Power requirement is met from PCILs 77 MW Coal Based Power Plant. An additional power of 5 MW is required for the proposed expansion project which will be obtained from the same plant.
i. Policy to be adopted (central / state) in respect of the project affected persons including home oustees, land oustees and landless labourers (a brief outline to be given).

The proposal is for production enhancement of existing Cement Plant by upgradation of existing process line. No additional land will be required for proposed expansion. Hence, no R&R is involved.
CHAPTER – 8
PROJECT SCHEDULE & COST ESTIMATES

i. Likely date of start of construction and likely date of completion (time schedule for the project to be given).

The project is expected to be completed in a period of 4 months from the date of receipt of all the approvals from statutory authorities.

ii. Estimated project cost along with analysis in terms of economic viability of the project.

The estimated cost of cement plant expansion is Rs. 25 crores.
CHAPTER – 9
ANALYSIS OF PROPOSAL (FINANCIAL RECOMMENDATIONS)

i. **Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area.**

The capital cost, for the proposed production enhancement project, works out to Rs 25 crores.

Growth of infrastructure, Irrigation and housing scenario automatically drives the increased requirement of Cement in the market. Based on the growing demand in the South East region of the country for Cement over the next 10 years, the proximity of the project location to this market is an advantage with respect reduction in freight of cement to these markets. The financial viability also shows a good Rate of return from the project. Considering the above **PCIL** is planning to go ahead with the project, once it gets all the statutory approvals for this enhancement project.
Annexure-I

J-11011/31/2001 IA II
Government of India
Ministry of Environment & Forests
IA, Division

Email: phalgunraj@yahoo.com
Tel No. 4363973

Paryavaran Bhavan, CGO Complex,
Lodi Road, New Delhi-110003

Dated: December 12, 2001

To

The Director,
M/s Chaanakya Cements Ltd,
Plot No. 652, Road No.3,
Banjara Hills,
Hyderabad-500034

Sub: Cement plant (2500 TPD) and 15 MW captive power plant by M/s Chaanakya Cements Limited at village Ganeshpahad, Tchsil Damaracherla in District Nalgonda, AP.

Sir,

This has reference to your letter No. CHN DIR:MOEF-40/1 dated 4th June, 2001 along with EIA / EMP and other related project documents and subsequent clarifications furnished vide communications dated 10th July, 2000; 8th August, 2001; 4th October, 2001 and 9th November, 2001, regarding the above mentioned cement project. The Ministry of Environment and Forests has carefully examined your application. It is noted that the proposal is for cement plant (capacity 2500 TPD) and 15 MW captive power plant by M/s Chaanakya Cements Limited in District Nalgonda, Andhra Pradesh. The limestone requirement will be met from the 4000 TPD captive limestone mine. Land area of the project is 85 acres. No forest land and displacement of people is involved. Solid waste generation will in the form of 60 TPD of fly ash and 15 TPD of bottom ash. Total ash generated will be used in the cement plant for portland pozzolana cement production. Public Hearing Panel has recommended the project in its meeting held on 22nd February, 2001 and NOC / Consent to Establish has been granted by the Andhra Pradesh Pollution Control Board on 19th May, 2001. Permission from the State Ground Water Department to draw water has been obtained on 11th May, 2001. Total cost of the project is Rs. 160.0 crores.

2.0. The Ministry of Environment and Forests hereby acceds environmental clearance to the above project under the provisions of EIA Notification dated 27th January, 1994 as amended on 04.03.1994 and 10.04.1997 subject to strict compliance to the following specific and general conditions:
A. Specific Conditions:

i. The gaseous and particulate matter emissions from various units should conform to the standards prescribed by the State Pollution Control Board. At no time the particulate emission should exceed 50 mg/Nm³. Further, the Company may also take appropriate additional measures to improve the design and operating practices of the pollution control equipments to achieve a load based norm of 225 gms/T of feed. Interlocking facility should be provided in the pollution control equipments so that in the event of the pollution control equipment not working, the respective unit(s) is shut down automatically.

ii. Ambient Air Quality including ambient noise levels must not exceed the standards stipulated under EPA/State authorities. Monitoring of ambient air quality and stack emissions shall be carried out regularly, in consultation with SPCB and report submitted to the Board quarterly and to the Ministry (Regional Office at Bangalore) half-annually. In the new kiln, continuous stack monitoring system should be installed.

iii. The company should install adequate dust collection and extraction system to control fugitive dust emissions at various transfer points. Closed circuit grinding should be provided in all the grinding sections of the plant. Storage of raw material should be in closed roof sheds. Water sprinkling arrangement should be made in the raw material stockyard and cement bag loading areas.

iv. The captive power plant (15MW) must be based on fluidized bed technology and the fly ash should be utilized 100% within the plant for PPC production.

The company should develop 50m wide green belt in 22.0 ha. of the plant area. Central Pollution Control Board guidelines must be followed in planning and developing green belt and selection of species etc.

vi. No discharge of treated effluent should be done outside the premises and all the treated effluent [ETP and STP] should be utilized for green belt development and other plant related activities.

vii. The company must harvest the rainwater from the roof tops and storm water drains to recharge the ground water.

B. General Conditions

i. The project authority must adhere to the stipulations made by Andhra Pradesh State Pollution Control Board and State Government.

ii. No further expansion or modification of the plant should be carried out without prior approval of this Ministry.
iii. At least four ambient air quality-monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO₂ and NOₓ are anticipated in consultation with the Andhra Pradesh State Pollution Control Board. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bangalore and the State Pollution Control Board/Central Pollution Control Board once in six months.

iv. Industrial waste water should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater should be utilized for plantation purpose.

v. The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).

vi. Proper housekeeping and adequate occupational health programmes must be taken up. Occupational Health Surveillance programme should be done on a regular basis and records maintained. The programme must include lung function and sputum analysis tests once in six months.

vii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the Environmental Impact Assessment/Environmental Management Plan.

viii. A separate environmental management cell with full fledged laboratory facilities to carry out various management and monitoring functions should be set up under the control of Senior Executive.

ix. The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.

x. The Regional Office of this Ministry at Bangalore/Central Pollution Control Board /State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.

xi. The Project Authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.
The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available at the Ministry of Environment and Forests’ website at https://envfor.nic.in. This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office.

3.0 The Ministry or any competent authority may stipulate any further condition(s) on receiving reports from the project authorizes. The above conditions will be monitored by the Regional Office of this Ministry located at Bangalore.

4.0 The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.

5.0 Any other conditions or alteration in the above conditions will have to be implemented by the project authorities in a time bound manner.

6.0 The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

Yours faithfully,

[Signature]

(Dr. P. L. Ahirwal)
Additional Director

Copy to:

1. Secretary, State Deptt. of Environment, Government of Andhra Pradesh, Madras, Hyderabad.

2. Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.

3. The Chairman, Andhra Pradesh State Pollution Control Board, 2nd Floor, HUDA Complex, Mallavaram, S.R. Nagar, Hyderabad-500038.

4. Chief Conservator of Forests (Central), Regional Office (SZ), Kendriya Sadan, 1Vth Floor, E&F Wing, 17th Main Road, Koramangalam, Bangalore-560034.

5. The Senior Adviser, (EI Division), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi - 110003.

6. The Director (Monitoring Cell), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi - 110003.

7. Guardfile.