



Environmental Impact Assessment for Proposed expansion of Liquid formulations from 600 TPA to 1080 TPA, Powder formulations from 600 TPA to 700 TPA, Cation Exchange Resins from 300 TPA to 3000 TPA, Biocide from 24 TPA to 360 TPA, Dispersants from 24 TPA to 360 TPA, Flocculating Agents from 12 TPA to 240TPA and newly added Oil field chemicals 1200 TPA (Manufacturing of Water & Waste Water treatment – Resins & Chemicals) At Gat No. 227/2, Alandi Markal Road, Village Dhanore, Taluka Khed, District Pune, Maharashtra – 412105.
M/s. Asha Resins Private Limited



EXECUTIVE SUMMARY

1.0 INTRODUCTION

M/s. Asha Resins Private Limited (hereafter referred as ARPL) has proposed to expand permitted existing capacity of manufacturing facilities for production of Liquid formulations from 600 TPA to 1080 TPA, Powder formulations from 600 TPA to 700 TPA, Cation Exchange Resins from 300 TPA to 3000 TPA, Biocide from 24 TPA to 360 TPA, Dispersants from 24 TPA to 360 TPA, Flocculating Agents from 12 TPA to 240TPA and newly added Oil field chemicals 1200 TPA (**Manufacturing of Water & Waste Water treatment – Resins & Chemicals**).

M/s. ARPL has obtained valid CTE/CTO required till date from MPCB (**Annexure-I**).

Asha Resins has identified the Business area of water, fuel & Oil Field as part of its Mission towards Energy & Environment. Providing world class grade water treatment chemicals to industries under “Atmanirbhar Bharat Scheme”. Pollution Control norms and Zero liquid discharge is becoming mandatory as a part of environment clearance and Consent conditions as per water act. Hence the Water treatment Products (WTP) will have increasing demand and in order to address future demand of products in India and abroad proposed expansion is planned.

In order to fulfill statutory requirement for the proposed expansion of existing project for manufacturing of Liquid formulations, Powder formulations, Cation Exchange Resins, Biocide, Dispersants, Flocculating Agents and newly added Oil field chemicals (Manufacturing of Water & Waste Water treatment – Resins & Chemicals) to obtain environmental clearance, Form-1, Pre-feasibility report along with proposed draft TOR were submitted to MoEF&CC. Presentation was made before the Expert Appraisal Committee (EAC- Industry 3) New Delhi during 18th meeting on 6th October, 2021 for the approval of TOR. The committee approved the Terms of Reference No. IA-J-11011/397/2021-IA-II(I), dated 25th October, 2021 and Proposal no. IA/MH/IND3/230868/2021 dated 23rd September 2021, Ministry of Environment, Forest and Climate Change, EAC, New Delhi (**Annexure-II**).

Anacon Laboratories Pvt. Ltd., Nagpur, is QCI-NABET accredited in ‘Category A’ environment consultant organization has been assigned to undertake an Environmental Impact Assessment (EIA) study and preparation of Environment Management Plan (EMP) for various environmental components, which may be affected due to the impacts arising out of the proposed project.

The Environmental Impact Assessment (EIA) and Environment Management Plan report is prepared for obtaining Environmental Clearance (EC) from MoEF&CC, New Delhi and the Consent for Establishment from the MPCB for the proposed expansion project.

This EIA report is prepared based on the ToR conditions recommended by EAC (Industry – 3), New Delhi and project related technical details provided by M/s. Asha Resins Private Limited

1.1 IDENTIFICATION OF PROJECT

M/s. Asha Resins Private Limited (hereafter referred as ARPL) has proposed to expand permitted existing capacity of manufacturing facilities for production of Liquid formulations from 600 TPA to 1080 TPA, Powder formulations from 600 TPA to 700 TPA, Cation Exchange Resins from 300 TPA to 3000 TPA, Biocide from 24 TPA to 360 TPA, Dispersants from 24 TPA to 360 TPA, Flocculating Agents from 12 TPA to 240TPA and newly added Oil field chemicals 1200 TPA (**Manufacturing of Water & Waste Water treatment – Resins & Chemicals**).



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M/s. Asha Resins Private Limited



1.1.1 Nature of the Project

M/s. ARPL, has proposed expansion of existing facilities for Manufacturing of Water & Waste Water treatment – Resins & Chemicals i.e. Cation Resin, Liquid formulations, Powder formulations, Biocide, Dispersants, Flocculating agents and Oil field chemicals.

1.1.2 Size of the Project

The details of proposed products along with capacities to be implemented by the company are given in **Table 1.1**.

**TABLE 1.1
EXISTING AND PROPOSED EXPANSION PRODUCTION CAPACITY**

Sr. No.	Product	Qty. Granted MT/Annum	Qty. Expansion MT/Annum		Total Qty. MT/Annum
			Phase - I	Phase – II	
1	Liquid Formulations A. Boiler Water Treatment Chemicals B. Cooling Water Treatment Chemicals C. Antiscalants D. Descaling Chemicals E. Fuel Additives F. ETP /STP Chemicals	600	240	240	1080
2	Powder Formulations A) Alkaline Descalants B) Fuel Additives	600	-	100	700
3	Cation Exchange Resins in different forms	300	1700	1000	3000
4	Biocides	24	216	120	360
5	Dispersants	24	216	120	360
6	Flocculating Agents	12	108	120	240
7	Oil field chemicals	-	600	600	1200
	Total	1560	3080	2300	6940

1.1.3 Location of the Project

The plant is located at Gat No. 227/2, Alandi Markal Road, Village Dhanore, Taluka Khed, District Pune, Maharashtra – 412105. The project site lies at the **Latitude:** 18°40'2.55"N to 18°40'9.62"N, **Longitude:** 73°55'34.19"E to 73°55'35.90"E on the Toposheet No. 47 F/13, 14 and 47 J/2.

As per Town Planning Department Pune proposed expansion project is categorize as Industrial zone (Refer **Annexure III**).

The details of environmental setting are given in **Table 1.2** and the study area of 10 km radius given in **Figure 1.1**.

**TABLE 1.2
ENVIRONMENTAL SETTING OF THE SITE**

Sl.	Particulars	Details
1.	Project Location	Gat No. 227/2, Alandi Markal Road, Village Dhanore, Taluka Khed, District Pune, Maharashtra - 412105



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Sl.	Particulars	Details																																
2.	Geographical Locations	Latitude: 18°40'2.55"N to 18°40'9.62"N Longitude: 73°55'34.19"E to 73°55'35.90"E																																
3.	Toposheet No.	47 F/13, 14 and 47 J/2																																
4.	Climatic Conditions	Mean annual rainfall is 803 mm Temperature: Pre monsoon 15.7° C (Min.) 37.6° C (Max.) : Winter 11.2° C (Min.) 32.1° C (Max) : Post monsoon 14.5° C (Min.) 31.5° C (Max.) Source: IMD, Pune																																
5.	Nearest IMD station	Pune International Airport 9.4 KM/ S																																
6.	Land Form, land Use and Ownership	The land is existing industrial land; total involved land is 0.65Ha. No additional land proposed to be acquired. Greenbelt area 33.53% (i.e. 0.2180 Ha.) will be kept unchanged. The land already diverted to industrial purpose..																																
7.	Site topography	Project site located at min. 568m, max. 570 m (above MSL)																																
8.	Nearest roadway	NH 50 –8.1Km, W																																
9.	Nearest Railway Station	Kasarwadi railway station – 12.9 Km, SW																																
10.	Nearest Air Port	Pune international Airport, about 9.4Km, S																																
11.	Nearest Port	Jawaharlal Nehru Port Mumbai Port Trust																																
12.	Nearest lake/pond	<table border="1"> <thead> <tr> <th>Name</th> <th>Distance (KM)</th> <th>Direction</th> </tr> </thead> <tbody> <tr><td>1.lohegaon Lake</td><td>9.4</td><td>SSW</td></tr> <tr><td>2.Upper Lake</td><td>10.3</td><td>SW</td></tr> <tr><td>3.Dighi Lake</td><td>5.9</td><td>WSW</td></tr> <tr><td>4.CTW Lake</td><td>9.8</td><td>WSW</td></tr> <tr><td>5.Bhosari Lake</td><td>9.3</td><td>WSW</td></tr> <tr><td>6.Pond nr. Vill. Patil wasti</td><td>4.2</td><td>ESE</td></tr> <tr><td>7.Dudale Lake</td><td>3.5</td><td>NE</td></tr> <tr><td>8.Visharntwadi Lake</td><td>10.7</td><td>SSW</td></tr> <tr><td>9.Padmavati Lake</td><td>7.2</td><td>WNW</td></tr> </tbody> </table>	Name	Distance (KM)	Direction	1.lohegaon Lake	9.4	SSW	2.Upper Lake	10.3	SW	3.Dighi Lake	5.9	WSW	4.CTW Lake	9.8	WSW	5.Bhosari Lake	9.3	WSW	6.Pond nr. Vill. Patil wasti	4.2	ESE	7.Dudale Lake	3.5	NE	8.Visharntwadi Lake	10.7	SSW	9.Padmavati Lake	7.2	WNW		
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13.	Nearest State/National Boundaries	Dadra and Nagar Haveli 172.1km /NW Gujarat 176.7 km/ NNW																																
14.	Nearest major city with 2,00,000 population	Pune – 18 Km, SSW																																
15.	Nearest village/major town	Charholi Khurd 1.0km / SW																																
16.	Distance for sea coast	Arabian Sea 109 km /W																																
17.	Historical/Archeological importance	NA																																
18.	Hills/valleys	NA																																
19.	Nearest Port	Jawaharlal Nehru Port Mumbai Port Trust																																
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Sl.	Particulars	Details	
		<ul style="list-style-type: none"> • Bhima river– • Bhama river – • Thorla odha – • Mahar ka odha – 	7.9
		7.3	NNW
		9.1	WNW
22.	Areas already subjected to pollution or environmental damage	Not Applicable	
23.	Seismic zone	Zone IV (severe intensity zone)	
24.	List of major industries	<ul style="list-style-type: none"> • Enpro Industries Pvt. Ltd. 4.0 km/ • Viraj Industries 4.7 km/ • Pushpak steel Industries. 0.3 km/ • Metal Tech Industries. 0.2 km/ • Wayal Industries Pvt. Ltd. 9.1 km/ • Nikhil Packaging Industries 2.0 km/ • D K Group of Industries 2.5 km/ 	<ul style="list-style-type: none"> ENE SW W SE W WSW WNW

1.3 EIA/EMP REPORT

In line with the approved ToR obtained from EAC (Industry –3), MoEF&CC, New Delhi, baseline environmental monitoring was conducted during Pre-monsoon season (1st March 2021 to 31st May 2021) for determining the status of ambient air quality, ambient noise levels, surface and groundwater quality, soil quality, status of flora, fauna and eco-sensitive areas and socio-economic status of the villages within 10 km radius study area from the project site (**Figure 1**). The observations of the studies are incorporated in the draft EIA/EMP report. Impacts of the proposed expansion project activities during construction and operation stages were identified and duly addressed in the draft.

REGULATORY FRAMEWORK

Description of Process	Date
ToR Application submitted at MOEF for Proposal no. IA/MH/IND3/230868/2021	23 rd September 2021
ToR presentation before EAC Ind 3	6 th October 2021
ToR granted for proposed expansion project Vide letter No J-11011/397/2021-IA.II(I)	25 th October 2021
Baseline Data Generation (Post-Monsoon)	March 2021 to May 2021

As per the TOR issued by GOI, Ministry of Environment, Forest and Climate Change, EAC, New Delhi

1.3.1 Cost of the Project

The proposed project cost is estimated to be **Rs. 1250 lakhs**

Total cost after expansion to be **Rs. 1500 lakhs**



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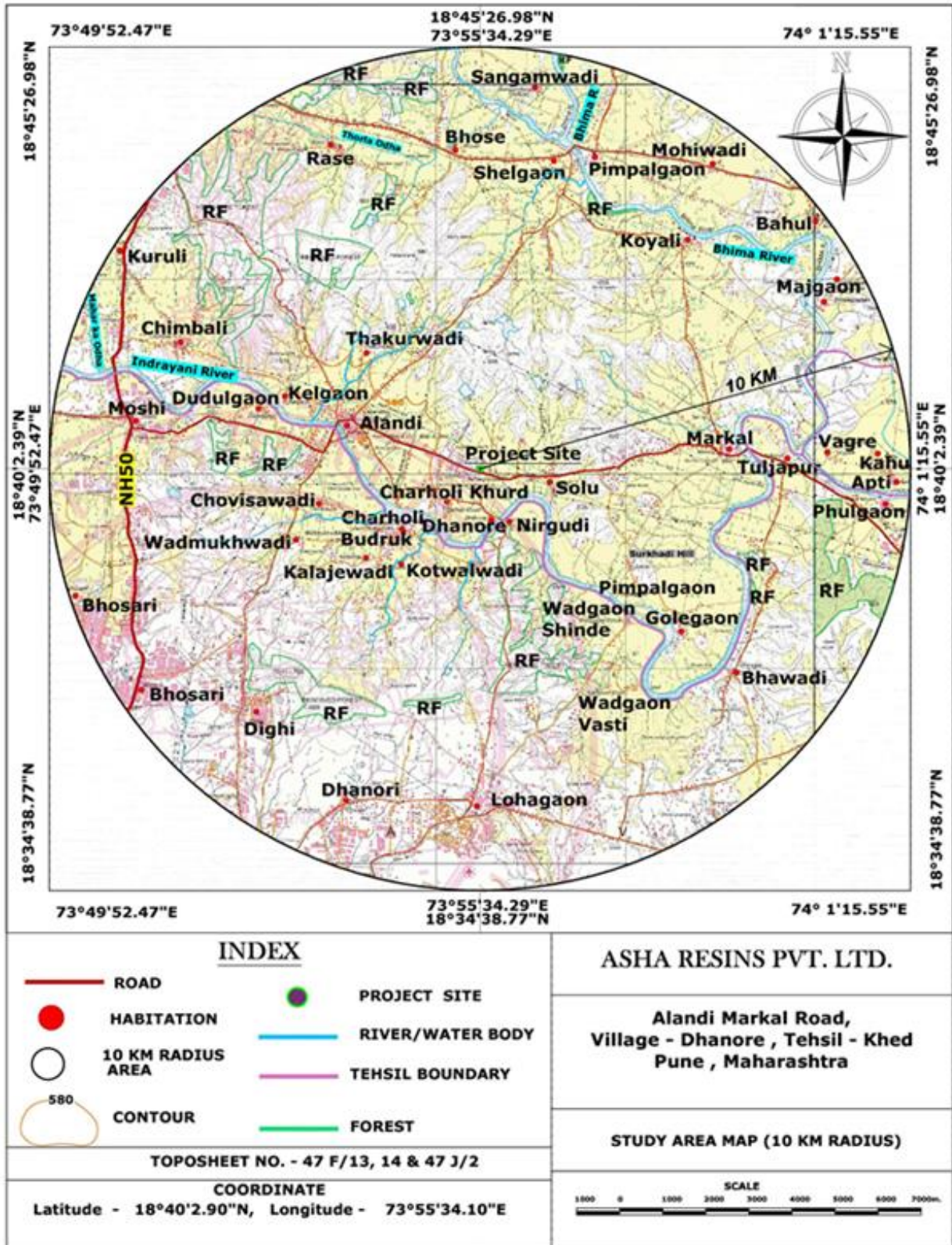


FIGURE 1.1: STUDY AREA MAP (10 KM RADIUS)



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2.0 PROJECT DESCRIPTION

2.1 TYPE OF PROJECT

M/s. ARPL has proposed expansion of Liquid formulations from 600 TPA to 1080 TPA, Powder formulations from 600 TPA to 700 TPA, Cation Exchange Resins from 300 TPA to 3000 TPA, Biocide from 24 TPA to 360 TPA, Dispersants from 24 TPA to 360 TPA, Flocculating Agents from 12 TPA to 240 TPA and newly added Oil field chemicals 1200 TPA At Gat No. 227/2, Alandi Markal Road, Village Dhanore, Taluka Khed, District Pune, Maharashtra – 412105.

According to the EIA Notification 2006 and its subsequent amendments, the project comes under the **project activity of 5(f), Synthetic Organic Chemicals industry**. The overall project activity falls under “**Category- A**”.

2.2 PROCESS DESCRIPTION OF PROPOSED PRODUCT

The process for manufacturing as and know how about manufacturing are available with the company as given in EIA report Chapter 2.

Latest clean technology which is internationally available will be adopted. The company is in the process of reviewing and shortlisting the different alternative technology and technology suppliers of various products. In respect of the other products the Company has the necessary know-how and do-how to manufacture these products. The company has also identified the routes they intend to take for manufacturing of the products.

The company has uses tested technology which is proven for performance, reliability and safety. At the same time, the company also develops new and innovative products and production techniques through in-house research and development to deliver products of international quality.

1. Liquid Formulations

- a) **Fuel Additives-** if used reduces 2 % of annual fuel consumption and reduction of SO₂). Thus calorific value is utilized for heating to maximum extent. It optimizes the fuel consumption & reduces air emissions.
- b) **Waste & water treatment chemicals-** Chemicals manufactured are used for Conditioning of water to be used in Boiler, Cooling towers to avoid Scale formation, Algae growth etc.

2. Solid Formulations

- a) **Alkaline Descalant-** is used for Evaporator cleaning in Sugar Industries.
- b) **Fuel Additives-** if used reduces clinker formation on boiler tubes surfaces which effectively reduces of fuel consumption by around 2 – 5 % and reduction of SO₂). Thus calorific value is utilized for heating to maximum extent.

3. Ion Exchange- Resins Ion exchange resins are used to remove dissolved minerals in water, delivering desired softness and TDS of treated water.

4. Biocides- used for preventing inversion/loss of sucrose in sugarcane juice leading to optimization of sugar production in Sugar Industry.

5. Dispersants- used for prevention of scale formation on the heat transfer surfaces, thus prolonging down time.

6. Flocculating agents- are used in in ETP & STP to for Coagulation of Solids.



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7. Oil field chemicals- As a flow improver for crude oil transport In-fact these chemicals if used - provides consistent viscosity and flow which is vital for transport of oil through pipelines.

2.3 DETAILS ABOUT RESOURCES

2.3.1 Raw Materials

Overall 16740.6 TPA materials will be transported through road (considering 330 working days) for the plant. Thus, around 3 trips per day i.e. 6 trucks per day will be required to transport the materials by road with the capacity of each truck 21 Tons is considered.

2.3.2 Solid and Hazardous waste generation

The total estimated solid waste generation will be 764.4 TPA and 85 lit/m used oil, spent acid 162 MT/month, 5% HCl 85 MT/ month, ETP sludge 45.475 TPM in the form Haz. Waste. It will be disposed by scientific manner or CHWTSDF Ranjangaon.

2.3.3 Land Requirement

The total land identified for the proposed project is 6500 sq. m. (0.65 ha), It is a private owned land. Gat No. 227/2, Alandi Markal Road, Village Dhanore, Tahsil Khed, District Pune, Maharashtra – 412105.

The details regarding the breakup of the land for the various activities of the proposed project is as follows. **Annexure III, IV land documents.**

**TABLE 2.1
AREA STATEMENT**

S. N.	Land use type	Area (m ²)	Area in Ha	Area in %
1.	Building/ sheds Existing	606.29	0.0607	9.4
2.	Building/ sheds Proposed	898.38	0.0898	13.8
3.	Road and Paved area	1529.33	0.1529	23.5
4.	Open land area	1136.00	0.1136	17.47
5.	Green Belt Area	2180	0.2180	33.53
6	Parking	150	0.015	2.3
	Total area of the plant	6500	0.65	100

2.3.4 Power Requirement and Supply

Total power requirement after expansion will be 70 HP load (existing 30HP load) are being and will be sourced from Maharashtra State Electricity Board (MSEB). In addition to this, one DG set having capacity 82.5 KVA is being/ will be available as standby.

2.3.5 Water Availability and Wastewater Generation

Total water requirement for plant activities after expansion will be 159 KLD. Fresh water requirement after expansion = 64 KLD [for industrial (148-95) 53 KLD and domestic waste 11 KLD]. Water will be sourced from local supplier..



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2.3.6 Waste water generation & management plan

Wastewater generation and recycle details given in **Table 2.2**

**TABLE 2.2
 WASTE WATER GENERATION (KLD)**

Sl.	Section	Existing			Proposed Expansion					
		Waste water Generation	Losses	Recycled / Reused	Waste water Generation Phase I	Losses Phase I	Recycled/ Reused Phase I	Waste water Generation Phase II	Losses Phase II	Recycled/ Reused Phase II
1.	Industrial Total	6.1	1.9	2	68	22	60	37	13	33
2.	Total (Domestic + Industrial)	6.9	2.1	2.8	72	23	64	41	14	37

Waste water generation & management plan-

Infra-structural services including water supply, sewage, drainage facilities and electrification will be made. Domestic wastewater generated will be treated in STP to conform to the discharge Norms.

Domestic wastewater- treatment and disposal:

Domestic wastewater (3.1 KLD) will be treated in STP and used for plantation/gardening. Total quantity of wastewater in the form of rejects from various treatment systems will be (5.25 KLD). The above waste water will be collected in two tanks (10 KLD each) 1st tank will be equalization followed by 2nd neutralization. This water will be sent to CETP.

Domestic wastewater 10KLD will be collected and treated. Treated water will be used for gardening within plant premises. It is proposed to install 8.8 KLD STP (MBBR technology). Treated water outlet quality, BOD < 30 mg/lit, COD < 250 mg/lit. Treated water will be used for gardening within plant.

The domestic wastewater, which is generated from various sources, is collected at source and routed towards the treatment plant. All the sewage is allowed to flow by gravity through open/close drains passing through coarse screen.

2.3.7 Manpower Requirement

Following manpower will be required for proposed expansion project

During operation phase direct employment to around for existing 23, proposed 33 persons, total after expansion 56, and around 60 indirect employments.

3.0 DESCRIPTION OF ENVIRONMENT

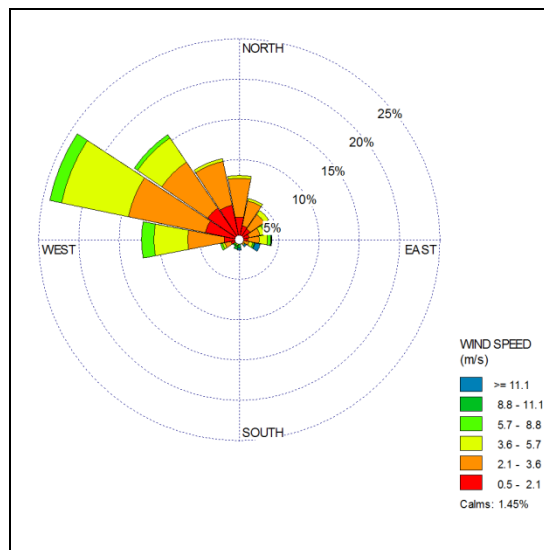
This chapter of the report provides an overview of the environmental baseline conditions within the study area of 10 km radius. Baseline environmental studies were conducted at project site along with 10 km radial distance from the project site. The baseline environmental quality data for various components of environment, viz. Air, Noise, Water, Land were monitored during premonsoon **season (1st March 2021 – 31st May 2021)**.



3.1 AIR ENVIRONMENT

3.1.1 Meteorology

The meteorological data recorded during the study period was very useful for selection of sampling locations as per upwind and downwind directions for proper on-site monitoring to be undertaken for various meteorological variables in order to generate the site specific data. Data was collected for proposed project site on hourly basis continuously for **pre-monsoon season (1st March 2021 – 31st May 2021)**. The generated data was then compared with the meteorological data collected by nearest India Meteorological Department (IMD) station located at **Pune (Maharashtra)**.



SITE SPECIFIC WINDROSE
(1st March 2021 – 31st May 2021)

Predominant Wind Direction	Wind	Pre-monsoon season
First Predominant Wind Direction	WNW	WNW (24.05%)
Second Predominant Wind Direction	NW	NW (15.81%)
Calm conditions (%)		1.45
Avg. Wind Speed (m/s)		3.09

3.1.2 Baseline Data

The status of ambient air quality within the study area was monitored from 1st March to 31st May 2021 for at 8 locations covering Project site, Charholi Khurd, Koyal, Nirgudi, Solu, Markal, Alandi, Pimpalgaon

All these 8 sampling locations were selected based on the meteorological conditions considering upwind and downwind, cross wind directions and reference point. The levels of Respirable Particulate Matter (PM₁₀), Fine Particulates (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and carbon monoxide (CO), Ammonia, Ozone, Benzene and BAP were monitored.

It has been observed that minimum and maximum concentration of PM₁₀ is ranged between **48.6 – 76.9 µg/m³**. The concentrations of PM_{2.5} vary from **18.9-32.9 µg/m³**. SO₂ concentration level ranged from **7.4-16.6 µg/m³** and NO₂ concentration ranged from **14.6-28.9 µg/m³** in the study area. CO concentration was found to be **0.305-0.557 mg/m³**. Ozone in the range between **5.3-12.7 µg/m³** and NH₃ concentration was found to be **4.2-11.4 µg/m³**. Pb ranged from **0.008-0.031 µg/m³**.

As, Ni Benzene and BaP in PM₁₀ were found below detectable limits.

3.2 NOISE ENVIRONMENT

AMBIENT NOISE LEVELS

Ambient noise level monitoring was carried out at the 8 monitoring locations. The monitoring results are summarized in **Table 3.1**.



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**TABLE 3.1
SUMMARY OF AMBIENT NOISE LEVEL MONITORING RESULTS**

Sr. No.	Monitoring Locations	Equivalent Noise Level	
		Leq _{Day}	Leq _{Night}
Residential Area			
1.	Kalajewadi	54.2	43.6
2.	Nirgudi	53.4	41.9
CPCB Standards dB(A)		55.0	45.0
Commercial Area			
3.	Charholi khurd	56.3	46.1
4.	Alandi	61.9	48.7
CPCB Standards dB(A)		65.0	55.0
Silence Zone			
5.	Chovisawadi	47.4	36.2
6.	Markal	52.6	42.1
7.	Pimpalgaon	48.6	37.8
CPCB Standards dB(A)		50.0	40.0
Industrial Area			
8.	Project site (Near main gate)	63.7	52.4
CPCB Standards dB(A)		75.0	70.0

Source: Field monitoring and analysis by Anacon Laboratories Pvt. Ltd., Nagpur

3.3 WATER ENVIRONMENT

Site specific Geology:

Project area is mostly covered by soil cover which is having thickness of around 0.8-1.2m. Outcrops are very rare in project site.

Site specific Hydrogeology:

Site area comprises of Deccan trap Basalt. Ground water in Deccan Trap Basalt occurs mostly in the upper weathered and fractured parts. Depth to water level in pre and post Monsoon ranges in study area are 5-10 and 2-6 m bgl respectively.

Geomorphology

Geomorphologically, the study area comprises of two geomorphic features such as older flood plains and plateau area. There is absence of any major geomorphic features.

SURFACE AND GROUND WATER QUALITY

13 water samples were collected from various sampling locations, eight (8) from each groundwater and five (5) surface water sources. These samples were collected as grab samples, preserved and analyzed for various parameters. The samples were analyzed as per the procedures specified in standard methods for the examination of water and wastewater published by American Public Health Association (APHA/ IS 10500).



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Physico-chemical Characteristics

A. Groundwater Quality

The analysis results indicate that the pH ranged 6.72 - 8.17. The TDS was ranging from 176-330 mg/l. Total hardness was found to be in the range of 116.91 – 229.90 mg/l. The fluoride concentration was found below detection limit (DL -0.1mg/l) at all sampling location. The nitrate and sulphate were found in the range of 2.76 – 9.47 mg/l and 5.82 – 23.68 mg/l respectively. The chloride concentration was found in the range of 42.64 to 81.24 mg/l. The Total suspended solid concentration was found below detection limit (DL -10mg/l) at all sampling location. Heavy metals like As, Pb, Ni were found below detection limit i.e. BDL (DL-0.01), BDL(DL-0.001), BDL(DL-0.1) respectively.

Sr. No.	Locations	WQI	Quality	Remark
1	Project site	50.20	Good	Water quality assessed based upon above physico-chemical parameters and samples were found to be physico-chemically good and excellent.
2	Charholi Khurd	41.77	Excellent	
3	Kalajewadi	40.63	Excellent	
4	Koyali	37.70	Excellent	
5	Solu	39.62	Excellent	
6	Markal	38.92	Excellent	
7	Alandi	47.09	Excellent	
8	Pimpalgaon	36.24	Excellent	

B. Surface Water Quality

The pH ranged between **7.82-8.21** at 25^oC which is well within the specified standard of **6.5 to 8.5**. The TDS was observed to be **389-469 mg/l** which is within the permissible limit of 2000 mg/l. The total hardness recorded was in the range of **186.64-238.81 mg/l** as CaCO₃ which is also within the permissible limit of 600 mg/l. The levels of chloride and sulphate were found to be in the range of **41.18-64.92 and 26.43-38.59mg/l** respectively. DO reported value of range of 6.1-6.4mg/l. PO₄ ranges from **0.37-0.64 mg/l**. BOD in the range **4.7-21.56 mg/l**. COD in the range **16.51-56.29 mg/l**.

C. Bacteriological Characteristics

Coliform group of organisms are indicators of faecal contamination in water. All surface water samples were found to be bacteriologically contaminated. Presence of total coliforms in surface water indicates that a contamination pathway exists between any source of bacteria (septic system, animal waste, etc.) and the surface water stream. A defective well can often be the cause when coliform bacteria are found in well water. For surface water, treatment followed by chlorination or disinfection treatment is needed before use for domestic purpose. Groundwater samples were not found to be bacteriologically contaminated.

3.4 LAND ENVIRONMENT

3.4.1 Land use of Study Area

The land-use & land cover map of the 10 km radial study area from the periphery of project site has been prepared using Resource SAT-1 (IRS-P6), sensor-LISS-3 having 23.5m spatial resolution and date of pass 15th Sept 2021 satellite image with reference to Google Earth data. In order to strengthen the baseline information on existing land use pattern, the following data covering 10 km radius is approximate about 18°34'43.79"N to 18°45'23.59"N latitude and 73°49'58.11"E to 74°01'11.36"E longitude and elevation 550 – 695 meters are used as per the project site confined within that area.



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The Land Cover classes and their coverage are summarized in **Table 3.2**.

**TABLE 3.2
 LU/LC AND ITS COVERAGE WITHIN 10 KM RADIUS**

LU/LC Classification System				
S. No.	Level-I	Level-II	Area (Sq.Km)	Percentage (%)
1	Built-up land	Settlement	18.65	5.94
		Industrial Settlement	10.89	3.47
		Road Infrastructure	8.24	2.62
2	Agricultural Land	Cropland	98.56	31.39
3	Scrubs/Wastelands	Barren Land	12.21	3.89
		Land with scrub/Open Scrub	140.59	44.77
4	Forest	Reserve Forest	10.21	3.25
5	Waterbodies	River/Nala/Stream	10.88	3.46
		Pond/Tank	2.88	0.92
6	Others	Mining/Stone Quarry	0.89	0.28
Total			314	100.00

Soil Characteristics

Total 8 representative samples were collected from different locations within the study area and analyzed. The bulk density of the soil in the study area ranged between 1.527 - 1.729 g/cc which indicates favourable physical condition for plant growth. The water holding capacity is between 28.43 - 36.19%. Infiltration rate, in the soil is in the range of 21.59 – 24.31mm/hr the pH of the soil in the study area and it is found to be neutral (6.81 – 7.52) in reaction. Electrical conductivity, a measure of soluble salts in the soil is in the range of 85.48 - 274.30 μ S/cm

The important soluble cations in the soil are calcium and magnesium whose concentration levels ranged from 176.13 – 351.17 mg/Kg and 53.19 - 232.81 mg/Kg respectively. Chloride is in the range of 304.97 – 593.68 mg/Kg.

Organic matter and organic carbon present in the soil influences its physical and chemical conditions and is responsible for stability of soil aggregates. Organic matter and organic carbon were found in the range of 1.07% – 3.16% and 0.62% – 1.73%

3.5 BIOLOGICAL ENVIRONMENT

Floral composition in Study Area

Details floristic observation has been made by Anacon team and it is presented in tabular format **Annexure –VIII A**. However, the precise study is summarized in following **Table 3.3**.

**TABLE 3.3
 FLORA IN STUDY AREA**

Habit	Study Area
Tree (T)	39
Shrub (S)	21
Herb (H)	15
Grasses (G)	10
Climber (C)	7
Total	92
Note: No Rare, Endangered and Threatened species observed in the study area	



Fauna Details:

There is no major wildlife sign was observed in the study area. Reptiles like snakes and skinks are common in the area. Birds were observed throughout the study area mostly in forest area and other water bodies. Dominant birds observed in the area are Pond Heron, Cattle egret, Red and Yellow vattled lapwing, Common Babbler, Jungle crow, Common myna, Indian Robin, Red vented bulbul, etc. The details of Fauna observed/reported provided in **Annexure VIII(C)**.

Rare and Endangered fauna of the study area

- **As per IUCN RED (2013) list**

The IUCN Red List is the world's most comprehensive inventory of the global conservation status of plant and animal species. It uses a set of criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are relevant to all species and all regions of the world. With its strong scientific base, the IUCN Red List is recognized as the most authoritative guide to the status of biological diversity.

Among the reported animals, all are categorized under least concern category as per IUCN list. No Rare, Endemic or Endangered animals observed in the study area.

- **As per Indian Wild Life (Protection) Act, 1972**

Among the Avifauna in the study area, All birds observed in the study area are protected in schedule IV as per Wild life protection Act (1972) and subsequent amendments thereof.

Among mammals; *Herpestes edwardsi* (Common Mongoose) and *Macaca mulatta* Rhesus macaque protected in schedule – II. Whereas *Funambulus pinnati* (Five stripped squirrel) and *Lepus nigricollis* (Black-naped hare) protected in Schedule IV and Rats and Bats species protected in Schedule V.

Among the Herpetofauna, Indian Cobra (*Naja naja*), and Common Rat Snake (*Ptyas mucosa*) provided protection as per Schedule-II and Common *Daboia russelii* (Russels' Viper), Indian Freshwater Frog (*Rana tigrina*) were provided as per Schedule – IV of Wildlife protection act 1972 and as amended. The detailed faunal list provided in **Annexure VIII(B)**.

3.6 SOCIO-ECONOMIC ENVIRONMENT

Information on socio-demographic status and the trends of the communities in the 10 km radius was collected through primary social survey and secondary data collection from census 2011. Summary of the socio-economic status of the study area is given in **Table 3.4**.

TABLE 3.4 (A)
SUMMARY OF SOCIO-ECONOMIC ENVIRONMENT OF VILLAGES
WITHIN 10 KM RADIUS AREA

No. of villages	34
Total households	26490
Total population	125134
Male Population	66021
Female population	59113
SC Population	11332
ST Population	6297
Total literates	91808
Total Illiterates	33326
Total workers	56536
Total main workers	52817
Total marginal workers	3719
Total non-workers	68598



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Source: Primary census abstract 2011, District Pune in Maharashtra. State

TABLE 3.4 (B)
IN PERCENTAGE DETAILS REGARDING INFRASTRUCTURE FACILITIES
WITHIN 10 KM RADIUS STUDY AREA

Education	Medical	Drinking water	drainage	communication	Transportation	Banks/Society	Roads	Recreation	electricity
100	47.06	100	85.29	94.12	94.12	76.47		73.53	100

Source: District Census handbook 2011, District Pune, State Maharashtra.

Salient observation of the survey

- **House pattern:** Types of housing varied from thatched to pucca (pakka) houses 85% houses were in pucca (pakka) form 12% in semi pakka and 3% houses were observed in kaccha form.
- **Employment:** Main occupation in the study area was Agriculture, Labour Work and Tourism (as Alandi and Indrayani river is a famous religious place in Study area). Other income generation sources of the area, small business; private jobs etc. The labours were getting daily wages in the range of 400-500 Rs, depending on type of work they set.
- **Fuel:** The primary sources of cooking fuel were LPG and very few People used cow dung.
- **Main crops:** The principal crops grown in agricultural Commodities (first) were Paddy, sugarcane, Groundnut, Vegetables and fruits whereas area under Cotton is low. It was revealed that crop productivity of the study area is good and two to three times multi crop production was performing in the study area.
- **Migration from other states:** During survey it was found that people from different states are comes for employment purpose.
- **Language:** Marathi the mother tongue of most of the Marathi population and Marathi is official language along with Hindi.
- **Sanitation:** Toilet facility is one of the most basic facilities required in a house. It was observed that more than 95 % of the households were having toilet facilities in their houses. There was problem with drainage facility in various villages around the plant. Most of the water was being discharged in Indrayani river.
- **Drinking water Facilities:** During the survey it was observed diverse sources of drinking water supply in villages. Major source of drinking water in the study area were hand pumps, tap water and dug wells and canal. During survey people from some villages reported Water Quality are good. Water treatment facility was observed in various villages around the plant site in study area.
- **Education facilities:** The Primary & secondary data reveals that literacy levels in all the villages is varying from 80% to 90%. Most of the students in Villages under study area are going to Alandi for their study which is Approximate 5 Kms. from the plant. The schools are having proper infrastructure facilities. • College facility is available in Alandi in the study area.
- **Transportation facility:** For transportation purpose auto, jeep and MSRTC bus services were available in the study area; however villagers reported that state transportation facilities were not frequently available. Private vehicles like bicycles, motor cycles and cars were also used by villagers for transportation purpose.
- **Communication facilities:** For communication purpose mainly mobile phones, news papers & post offices were present in the villages



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- **Medical facilities:** The Primary & secondary data reveals that there are only 13 nos. of Sub Health Centers & 01 nos. of PHC's in the Study area. In study area most of the villages have good medical facilities including Govt. PHC and private clinic. But severe diseases or major medical cases, a patient has to travel to Alandi or Pune for better facilities of Hospital.
- **Electricity:** All villages were availing electricity facility for domestic and agriculture purposes. Solar Street lights were seen in maximum number of villages.
- **Market facility:** Study area was predominantly rural. In villages, small shops were available for daily need things. Weekly market facility was available in some villages. Wholesale market was available Alandi and Solu village. The basic amenities exist at all villages.
- **Recreation facilities:** Television and radio are the main recreation facilities in the study area. News paper/magazine facilities are also used by villagers.
- **Crime:** Lack of literacy and poverty are the main reasons of criminal activities but it was found that literacy rate was good in study area hence, during survey it was found that the region doesn't have much criminal activities. Common criminal activities found in the area are stealing, domestic abuse and driving without licence etc. In survey with villagers no (or minimal) cases of drug abuses were reported the study area.

4.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The simulations were made to evaluate particulate matter, SO₂, NO₂ incremental rise due to existing and proposed expansion (Phase I & Phase II). These results are based on considering the emissions due to boiler and D.G. set etc. In the short-term simulations, the incremental concentrations were observed to obtain an optimum description of variations in concentrations within the study area of 10 km radius.

The mathematical Model ISCST-3, was used for predicting the GLCs, which is entirely in line with the requirement of Central Pollution Control Board, New Delhi. The maximum ground level concentrations (GLCs) for particulate matter and gaseous emission of SO₂, NO₂ due to proposed installations were carried out. The predicted 24 hourly maximum concentrations for existing facilities (Boiler-1 TPH and DG set) for particulate matter, SO₂ and NO₂ are found to be 0.19 µg/m³, 0.22 µg/m³ and 0.115 µg/m³ respectively occurring at a distance of about 1.4 km each in the ESE and SE directions. For after expansion scenario Phase I (Boiler-3 TPH, and DG set) for particulate matter, SO₂ and NO₂ are found to be 0.18 µg/m³, 0.1µg/m³, 0.32 µg/m³, after expansion scenario Phase II (Boiler-4 TPH, and DG set) for particulate matter, SO₂ and NO₂ are found to be 0.18 µg/m³, 0.105µg/m³, 0.32 µg/m³ respectively. For after expansion scenario Phase I&II combine (Boiler-3 & 4 TPH, and DG set) for particulate matter, SO₂ and NO₂ are found to be 0.34 µg/m³, 0.18µg/m³, 0.65 µg/m³ respectively occurring at a distance of about 2.8 km each in the ESE and SE directions.

The resultant concentration levels (Ambient + proposed incremental) revealed that the concentration levels for particulate matter (PM₁₀ & PM_{2.5}), SO₂ and NO₂ likely to be encountered in the operation of the project are respectively occurring at a distance of about 2.8 km each in the ESE and SE directions with a concentration levels (resultant) of 74.04 µg/m³, 32.391 µg/m³, 16.78 µg/m³ and 28.55 µg/m³ respectively and details are given in **Table 4.4**, which is well within the NAAQS levels prescribed by CPCB. Hence it is inferred that considering cumulative concentration levels, the pollution load exerted due to proposed project will be insignificant.

The mitigation measures adopted are:

The following mitigation measure are in order to prevent any planned / unplanned impacts on air quality



- **Industrial Boilers**

Industry has existing 1 TPH boiler for providing steam for routine processes. The Fuel source of existing boilers is wood and biomass briquette. The consumption of solid fuel wood required 800 kgs /day and 100 kgs /day briquette. The boiler 3 & 4 TPH have been proposed which will be equipped with stack of around 30 M height having diameter 0.8 M and is connected through multi-cyclone dust collector with bag filters as air pollution control (APC). The Fuel source of proposed boilers is wood and biomass briquette. The consumption of solid fuel wood required 1400 kgs/day & 1600 kgs /day and 200 kg/day & 250 kgs /day briquette.

- **D. G. Sets**

Since the process is continuous, it is necessary to ensure uninterrupted power supply. Presently, 1 x 82.5 KVA are provided as emergency power supply which is automatically switched on in case of power failure. This DG set is confirming the requirements of emissions standards of E.P. Act. The expected pollutants emitted from the DG set will be PM, SO₂, NO₂ and CO. There will not be any impact on surrounding area as this will be the occasional activities.

The modern set ups including multi-cyclone, dust collector and bag filters for combating fugitive emissions and particulate matter have been installed in the respective processes.

- **Noise Environment:**

During the normal operation of manufacturing process noise will be generated due to formulation plant, blower, ETP, STP, compressor, boiler, and DG Set, etc. the ambient noise levels are expected to increase significantly with the attributes of the respective equipment, but this noise will be restricted close to the concerned equipment. The preventive measures are given below:

- ❖ Equipment should be standard and equipped with silencer. The equipment should be in good working conditions, properly lubricated and maintained to keep noise within permissible limits.
- ❖ High noise zone should be marked and earplugs shall be provided to the workmen near high noise producing equipment. The workmen should be made aware of noise and vibration impacts on their health and mandatory use earplugs.
- ❖ Proper shifting arrangement shall be made to prevent over exposure to noise and vibration.
- ❖ Tall trees with heavy foliage shall be planted along the boundary / project site / plantation area, which will act as a natural barrier to propagating noise.
- ❖ Silent DG sets shall be used at project site.
- ❖ Speed limits shall be enforced on vehicle.
- ❖ Use of horns / sirens shall be prohibited.
- ❖ Use of loud speakers shall comply with the regulations set forth by CPCB.
- ❖ Regular noise monitoring shall be carried at construction camp / project site to check compliance with prevailing rules.



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- **Water Environment**

The proposed expansion project may have some impact on the water environment. The impact may be on the source of water in the form of depletion of water resources of the area and in the form of deterioration of quality of natural water resources due to discharge of plant effluent.

After expansion ETP capacity Phase-I =75 KLD, and Phase-II =42 KLD

The effluent generated from water treatment plant will be neutralized for residual acidity/alkalinity through dosing and thoroughly mixing appropriate neutralizing chemical. After neutralization, the effluent will be sent to collection tank of combined effluent for combined treatment.

Accordingly, the treatment scheme will be worked out on the basis of two stage biological treatment. The treatment will comprise of the following;

- a) Effluent collection-cum-equalisation tank
- b) Anaerobic reactor
- c) Activated sludge process (aeration tank followed by secondary clarifier)
- d) Treated effluent storage tank
- e) Sludge drying beds

The wastewater, after treatment, will be reused for various purposes, such as, disposed off onto land for irrigation. **Zero discharge is maintained by the plant and will be followed for expansion.**

- **Vehicular Movement**

All the major raw materials and finished products will be transported through covered trucks by road to the plant either from source or from nearby railway siding.

- **Biological Environment**

There is no ecological sensitive area like national park, sanctuary, biosphere reserve, within 10 km radial distance from the project site. No forest land involved in the project activities. Thus, no significant impact envisaged on biological environment.

- **Existing Plantation Status:**

M/s. Asha Resins Pvt. Ltd. is having 0.65 Ha. (6500sq.m.) of land is in possession. Presently, the plantation and green belt covered land is 905 sqm. (0.0905 Ha.) approx.13.9 % of total project area which is about 0.65 ha area. Presently, 30 nos. of trees are grown in existing plant premises. The existing plant species Coconut, Mango, Guava, Ashoka, Gulmohar, Tamarind, Nilgiri, etc. grown under green belt within plant premises. Lawn & Flowers is grown all around the plant.

- **Proposed Plantation:**

Total greenbelt area is 0.218 Ha (33.53 %). Thus, total plantation will be 545 nos. (Existing 30 + proposed addition 515) will be developed by considering 2500 trees/ha.

- **Socio-economic Impacts:**

The present land use is industrial. Moreover, the land is mostly low fertile barren land. The Increase in direct/indirect job opportunity shall take place. Services in the locality shall be used and accordingly growth in economic structure of the area will take place.



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5.0 ANALYSIS OF ALTERNATIVES (SITE AND TECHNOLOGY)

• Study of Analysis of Alternatives Related to Site

M/s. ARPL established in 1993, commercial production started in 1996. Valid CTO is obtained from Mah. State Pollution Control Board, for the existing products manufactured. The products manufactured are used for water treatment. The proposed project area located at Gat No. 227/2, Alandi Markal Road, Village Dhanore, Tahsil Khed, District Pune, Maharashtra - 412105. The land will be used for industrial purpose. The project site lies at the 18°40'2.55"N to 18°40'9.62"N, Longitude: 73°55'34.19"E to 73°55'35.90"E on the Toposheet No. 47 F/13, 14, 47 J/2. The site is situated on flat terrain.

The land area of 6500 m² (0.65 Ha) is available with M/s. ARPL for manufacturing of proposed products. The plant is already in Operation and no additional land is required for proposed expansion and additional products manufacturing. The existing project site is fit for the proposed project hence no alternative site is required

The site is selected based on the resources availability like raw materials, water, electricity, transport logistics, manpower etc. The land is acquired in the notified industrial area and therefore no major change in land use pattern is envisaged.

• Analysis of Alternatives Related to Technology

Latest clean & environment friendly technology which is internationally available will be adopted by Asha Resins Pvt. Ltd. during proposed project. The company is in the process of reviewing and shortlisting the different alternative technology and technology suppliers of various products. In respect of the other products the Company has the necessary know-how and do-how to manufacture these products. The company has also identified the routes they intend to take for manufacturing of the products.

The best technological environment friendly approach is selected.

6.0 ENVIRONMENTAL MONITORING PROGRAMME

Environmental monitoring will be carried out for monitoring of important and crucial environmental parameters to assess regularly the status of environment during operations. The monitoring program for implementation is given Chapter 6 **Table 6.1**.

BUDGET FOR IMPLEMENTATION OF ENVIRONMENTAL MONITORING PLAN

An effective Environmental Monitoring Plan is proposed during the construction and operational phases of the project to conserve the environment at site. A provision of Rs. 15.00 lakhs will be made available towards recurring cost and capital cost Rs. 35.0 Lakhs for environmental monitoring programme

7.0 ADDITIONAL STUDIES

PUBLIC CONSULTATION

The Draft EIA-EMP report for proposed expansion of Liquid formulations from 600 TPA to 1080 TPA, Powder formulations from 600 TPA to 700 TPA, Cation Exchange Resins from 300 TPA to 3000 TPA, Biocide from 24 TPA to 360 TPA, Dispersants from 24 TPA to 360 TPA, Flocculating Agents from 12 TPA to 240 TPA and newly added Oil field chemicals 1200 TPA (Manufacturing of Water & Waste Water treatment – Resins & Chemicals) at Gat No. 227/2, Alandi Markal Road, Village Dhanore, Taluka Khed, District Pune, Maharashtra- 412105 is prepared as per the TOR issued by EAC (Industry –III),



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MoEF&CC, New Delhi and the report is submitted for public consultation process as per the provisions of EIA Notification 2006 and amendments thereof.

After completing the public consultation process, the points raised and commitment of project proponent during the public hearing will be incorporated in the final EIA/EMP report for final submission to Environmental Clearance.

RISK ASSESSMENT AND DISASTER MANAGEMENT PLAN

Introduction

Risk assessment (RA) provides a numerical measure of the risk that a particular facility poses to the public. It begins with the identification of probable potential hazardous events at an industry and categorization as per the predetermined criteria. The consequences of major credible events are calculated for different combinations of weather conditions to simulate worst possible scenario. These consequence predictions are combined to provide numerical measures of the risk for the entire facility.

MCA analysis

The risk assessment report covers the following in terms of the extent of damage with resource to MCA (maximum credible accident) analysis and delineation of risk mitigations measures.

- Identification of potential hazardous sections and representative failure cases
- Visualization of release scenarios considering type and the quantity of the hazardous material
- Damage distance computations for the released cases at different wind velocities and atmospheric stability classes for heat radiations and pressure waves.
- Drawing of damage contours on plot plan to show the effect due to the accidental release of chemicals.

Hazard Identification

- Identification of hazards is an important step in risk assessment as it leads to the generation of accidental scenarios. The merits of including the hazard for further investigation are subsequently determined by its significance, normally using a cut-off or threshold quantity.

8.0 PROJECT BENEFITS

The proposed project manufacturing unit will be made improvement in infrastructure as well as overall socio-economic development in the area. The people residing in the nearby areas are being benefited directly and indirectly as well. The project is providing benefits for the locals during operational phase of the activity.

Economic Development

The products that will be manufactured by M/s. ARPL will have a high market potential. Due to increasing demand of water treatment plants and ion exchange resins, the plant has own economic importance.

This will help to increase the economy of the region, state and thereby the country itself. There are other intangible benefits apart from the tangible benefits which will help to improve the economic status of the state and the country.



Environmental Impact Assessment for Proposed expansion of Liquid formulations from 600 TPA to 1080 TPA, Powder formulations from 600 TPA to 700 TPA, Cation Exchange Resins from 300 TPA to 3000 TPA, Biocide from 24 TPA to 360 TPA, Dispersants from 24 TPA to 360 TPA, Flocculating Agents from 12 TPA to 240TPA and newly added Oil field chemicals 1200 TPA (Manufacturing of Water & Waste Water treatment – Resins & Chemicals) At Gat No. 227/2, Alandi Markal Road, Village Dhanore, Taluka Khed, District Pune, Maharashtra – 412105.
M/s. Asha Resins Private Limited



Corporate Environment Responsibility (CER) Schemes for the Study Area

The proposed cost of the project is Rs.1500 Lakhs. Thus, as per CER 1.00 % i.e.15 lakhs will spend towards the Improvement of Environment. The action plan along with budgetary provision towards Corporate Environment Responsibility (C.E.R.) is provided in **Table 8.1**.

TABLE 8.1
ACTION PLAN WITH BUDGETARY PROVISIONS TOWARDS CORPORATE ENVIRONMENT RESPONSIBILITY

S. No.	General Head of expense	Amount to be spent for head (in Rs. (Lac))
1	Women empowerment: Established and distribution of sewing machine and empowerment training center for sewing.	0.75
2	Medical a. Contribution towards medical diagnostic equipment's to various medical institutions / hospitals. b) Establishment of Ambulance room & Health Center.	5.25
3	Agricultural: Agricultural Donation of seeds, fertilizers, manure to needy farmers, Financial assistance for Irrigation facilities, Construction of farm ponds for needy farmers.	3.75
4	Infrastructure: (a) The installation of solar street lights. (b) Dhanore and Solu must be provided with Waste Bins Distribution . (c) Improve cleanliness by initiating Solid and Liquid Waste Management (SLWM) in the villages.	5.25
Total		15.00

9.0 ENVIRONMENTAL COST BENEFIT ANALYSIS

M/s. Asha Resins Private Limited has proposed expansion of Liquid formulations from 600 TPA to 1080 TPA, Powder formulations from 600 TPA to 700 TPA, Cation Exchange Resins from 300 TPA to 3000 TPA, Biocide from 24 TPA to 360 TPA, Dispersants from 24 TPA to 360 TPA, Flocculating Agents from 12 TPA to 240TPA and newly added Oil field chemicals 1200 TPA At Gat No. 227/2, Alandi Markal Road, Village Dhanore, Taluka Khed, District Pune, Maharashtra – 412105.

All the basic requirements for the production are in placed including infrastructure availability. The increase in production of ion exchange resins will be available to the user. It will definitely boost the economic growth of the country; develop region and quality of life of the people in a sustainable manner without creating any significant.

ENVIRONMENTAL VALUE ENHANCEMENT (BIODIVERSITY, CROP PRODUCTIVITY, ECOTOURISM)

The proposed project site is well connected to railways, roadways and airways. The vegetation is similar in the whole area with no sensitive ecosystem or rare and endangered flora or fauna, hence no environmental loss will be there in terms of net productive value.

The total project cost after expansion is estimated to be **Rs. 1500 Lakhs** and expenditure on implementation of the Environmental Management Plan (EMP) is presented in **Chapter 10** of this report. Besides tangible benefits, the project has got number of intangible benefits like minimum emission of the generated gases, no adverse impact on environment as far as air, noise and water environmental components are concerned. Individual industry will take care of environmental management. With the establishment of the project, there will be socio-economic development in the area and thereby the improvement in the quality of life of the people. More employment opportunities



Environmental Impact Assessment for Proposed expansion of Liquid formulations from 600 TPA to 1080 TPA, Powder formulations from 600 TPA to 700 TPA, Cation Exchange Resins from 300 TPA to 3000 TPA, Biocide from 24 TPA to 360 TPA, Dispersants from 24 TPA to 360 TPA, Flocculating Agents from 12 TPA to 240 TPA and newly added Oil field chemicals 1200 TPA (Manufacturing of Water & Waste Water treatment – Resins & Chemicals) At Gat No. 227/2, Alandi Markal Road, Village Dhanore, Taluka Khed, District Pune, Maharashtra – 412105.
M/s. Asha Resins Private Limited



will be there for the local people, moreover the project will help for enhancement of the economy of the country. The project will provide temporary and permanent job opportunities to the local people in the neighboring area. The industry management has complete focus on quality, quantity, promptness, safe delivery and best services through 3 M'S – Man, Machine and material management.

The establishment of the project when in operation will definitely provide significant supply of products to the industries, not only in the region, state but also in India and help to increase the economic status of the country.

The developmental activities due to project will increase economy of country and also help to increase the economy of the state through products transportation, taxes, supporting economy for nation's growth.

10.0 ENVIRONMENTAL MANAGEMENT PLAN

An Environmental Management Plan (EMP) is formulated for the mitigation of adverse impacts. It is based on the present environmental conditions and the environmental impact appraisal. This plan helps in formulating, implementing and monitoring the environmental parameters during and after commissioning of the project.

The Environmental Management Plan describes in brief, the management's plan for proper and adequate implementation of treatment and control system for pollutants and for maintaining the environment. It also includes development of green belt around the plant, proper safety of the workers, noise control, fire protection systems and measures.

BUDGETARY PROVISIONS FOR EMP

Adequate budgetary provision is made by the management of M/s. Asha Resins Pvt. Ltd. for executing the environmental management plan as delineated above. Total cost of project after expansion is 15.00 Crores including EMP cost. The capital cost required to implement the EMP for project estimated to be Rs. 355 Lakhs. The annual recurring expenses will be Rs. 123.5 Lakhs allocated for implementation of the Environmental Management Plan.

11.0 SUMMARY AND CONCLUSIONS

The project is environmentally, technically and economically feasible with respect to followings:

All activities are confined to private industrial land and minimum possible emission is allowed to enter in to the environment due to proposed project. Thus environment will not be adversely affected in any way.

- Most of the wastewater generated will be recycled/reused in the process,.
- Wastewater will be treated in full-fledged effluent treatment plant. The treated wastewater will be used for green belt and gardening purposes. Domestic waste will be sent to STP and utilized in gardening.
- The development of green belt and plantation will help to attenuate the noise levels and restrict air pollution and will increase the aesthetics.
- Apart from this, the environmental management plan delineated may help to reduce pollution by implementation.
- The enterprise social commitment policy (formerly CSR) will work further to bring out the development of the surrounding villages and thus area and quality of life of people will be improved.



Environmental Impact Assessment for Proposed expansion of Liquid formulations from 600 TPA to 1080 TPA, Powder formulations from 600 TPA to 700 TPA, Cation Exchange Resins from 300 TPA to 3000 TPA, Biocide from 24 TPA to 360 TPA, Dispersants from 24 TPA to 360 TPA, Flocculating Agents from 12 TPA to 240 TPA and newly added Oil field chemicals 1200 TPA (Manufacturing of Water & Waste Water treatment – Resins & Chemicals) At Gat No. 227/2, Alandi Markal Road, Village Dhanore, Taluka Khed, District Pune, Maharashtra – 412105.
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- The cost of environmental control and monitoring measures are computed and provision for capital & recurring is made by the management.
- The project has overall positive impact and it will provide employment to around ~56 persons directly during operation and indirectly ~60 during construction, which will be helping to improve quality of life of the people.
- This project being export oriented the additional capital investments will add to national exchequer and will be value addition in terms of revenue generation and enhanced foreign exchange earnings.
- Employees, company and region will be directly / indirectly benefitted.

Concluding Remarks:

Thus it can be concluded on a positive note that after the implementation of the mitigation measures, Environmental Management and Monitoring Plans as enumerated above, the normal operation of **M/s. ARPL** will have no significant impact on environment and the project will be benefitted to local people to some extent with an economic growth in state/ country level. All statutory compliances will be obtained prior to proposed expansion.

12.0 DISCLOSURE OF CONSULTANTS

The environmental studies for proposed project of **M/s. Asha Resins Pvt. Ltd.** are carried out by **M/s. Anacon Laboratories Pvt. Ltd.**, Nagpur (M/s ALPL). Anacon established in 1993 as an analytical testing laboratory and now a leading Environmental Consultancy firm backed by testing lab for environment and food in Central India region. M/s ALPL is a group of experienced former Scientists from the Government Institutions and excellent young scientist of brilliant career with subject expertise. It is recognized by Ministry of Environment & Forests, New Delhi for carrying out environmental studies & accredited by Quality Council of India (QCI) for conducting Environmental studies vide accreditation Certificate No: **NABET/EIA/1922/RA 0150 dtd. 03 Feb 2020 Valid till September 30, 2022** as category 'A' consultant for sector no. '21'.