

Date: 30.05.26

To,
The Deputy Director -General of Forests (C),
Ministry of Environment Forest and Climate Change
Regional Office (WCZ), Ground Floor ,
East Wing , New Secretariat Building , Civil Lines,
Nagpur -440 001

Subject: Regarding the Half-Yearly EC Condition Compliance report for the period of Dec. 25 to Mar. 26.

(i) Reference: Environment Clearance Obtained From MOEF&CC (EC Identification No.- EC25A2405MH5448929N) dated. 24.11.2025.

Respected Sir,

In Reference to the above mentioned Subject, We are enclosing herewith the EC Condition Compliance Report for Period of December-2025 to March-2026 in respect to the above mentioned reference of Environment Clearance for proposed project at Plot No. L-99 and L-10, MIDC, Tarapur, Dist- Palghar. Under the provision of the EIA Notification 2006 and as amended thereof.

The Compliance report to EC Conditions is enclosed along with supported documents.
Thanking you,

Yours Faithfully,
for, M/s. Aarti Pharmalabs Limited



Authorized Signatory

AARTI PHARMALABS LIMITED

www.aartipharmalabs.com | CIN : U24100GJ2019PLC110964 | Email : info@aartipharmalabs.com

Factory : Unit V-II, Plot No. L-99, M.I.D.C., Tarapur, Taluka & District - Palghar, PIN 401 506, Maharashtra, INDIA. T : +91 77988 82264 / +91 70309 64131
Admin Office : 204, Udyog Kshetra, 2nd Floor, Mulund - Goregaon Link Road, Mulund (W), Mumbai, PIN - 400 080, Maharashtra, INDIA, T : +91 22 67976666 | F : +91 22 25653234
R&D Office : Plot No. 22-C/1 & 22-C/2, 1st Phase, G.I.D.C. Vani 396 195, District - Valsad, Gujarat, INDIA T : +91 260 2400467 +91 99099 94655

Encl:

EC Compliance Report

1. Annexure-I EC Copy
2. Annexure -II Boiler Stack Monitoring Report
3. Annexure -III Water Supply Permission from MIDC
4. Annexure -IV Wildlife Conservation Plan
5. Annexure -V Green Belt Development
6. Annexure -VI News Paper Advertisement.
7. Annexure -VII Letter to Local Govt. Bodies
8. Annexure -VIII Environment Policy
9. Annexure -IX Environment Monitoring Report L-99
10. Annexure -X EIA Report
11. Annexure -XI Boiler Stack Monitoring Report
12. Annexure -XII Letter to Local Govt. Bodies
13. Annexure -XIII News Paper Advertisement.
14. Annexure - XIV Hazardous Waste Disposal details L-10.
15. Annexure - XV Old CTO.
16. Annexure - XVI Exiting Part CTE.

CC:

1. The Regional Directorate,
Central Pollution Control Board,
Survey No. 110, Dhankawadi,
Multipurpose Hall, Baner Road,
Baner, Pune 411 045 (MH)
2. Sub-Regional Office,
Maharashtra Pollution Control Board,
MIDC Tarapur, Tal & Dist- Palghar
3. Regional Office,
Maharashtra Pollution Control Board,
Thane

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EC Condition No.	EC Condition Details	Compliance Status																						
02.	The particulars of the proposal are as below : <table><tr><td>(i) EC Identification No.</td><td>EC25A2405MH5448929N</td></tr><tr><td>(ii) File No.</td><td>IA-J-11011/55/2025-IA-II(I)</td></tr><tr><td>(iii) Clearance Type</td><td>Fresh EC</td></tr><tr><td>(iv) Category</td><td>A</td></tr><tr><td>(v) Project/Activity Included Schedule No.</td><td>5(f)Synthetic organic chemicals industry</td></tr><tr><td>(vi) Sector</td><td>Industrial Projects - 3</td></tr><tr><td>(vii) Name of Project</td><td>New Project for Manufacturing of API Products by M/s. <u>Aarti Pharmalabs</u> Limited</td></tr><tr><td>(viii) Name of Company/Organization</td><td>AARTIPHARMALABS LIMITED</td></tr><tr><td>(ix) Location of Project (District, State)</td><td>PALGHAR, MAHARASHTRA</td></tr><tr><td>(x) Issuing Authority</td><td><u>MoEF&CC</u></td></tr><tr><td>(xi) Applicability of General Conditions as per EIA Notification, 2006</td><td>Yes</td></tr></table>	(i) EC Identification No.	EC25A2405MH5448929N	(ii) File No.	IA-J-11011/55/2025-IA-II(I)	(iii) Clearance Type	Fresh EC	(iv) Category	A	(v) Project/Activity Included Schedule No.	5(f)Synthetic organic chemicals industry	(vi) Sector	Industrial Projects - 3	(vii) Name of Project	New Project for Manufacturing of API Products by M/s. <u>Aarti Pharmalabs</u> Limited	(viii) Name of Company/Organization	AARTIPHARMALABS LIMITED	(ix) Location of Project (District, State)	PALGHAR, MAHARASHTRA	(x) Issuing Authority	<u>MoEF&CC</u>	(xi) Applicability of General Conditions as per EIA Notification, 2006	Yes	Noted and Agreed
(i) EC Identification No.	EC25A2405MH5448929N																							
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(xi) Applicability of General Conditions as per EIA Notification, 2006	Yes																							
03.	The Ministry of Environment, Forest and Climate Change has examined the proposal seeking environmental clearance of the proposed New project for Manufacturing of 2000 TPM of API Products at Plot no L-99 and Boilers, Utility & production of TechSalt (Potassium Chloride containing about 0.5% of Potassium Fluoride) of 250 TPM located at Plot No. L-10 by M/s.Aarti Pharmalabs Limited (Unit V-II), MIDC Tarapur, Taluka & District – Palghar, Maharashtra.	Noted and Agreed																						
04.	The project is covered under the Category A of item 5(f) of the Schedule of Environment Impact Assessment (EIA) Notification, 2006 (amended from time to time) due to the applicability of the general condition i.e., the project site is located in Tarapur Industrial Area which is a Critically Polluted Area (CPA) and hence the proposal is appraised at the Central Level by the Expert Appraisal Committee (EAC).	Noted and Agreed																						
05.	ToR has been issued by Ministry vide letter No.IA-J-11011/55/2025-IA-II(I) dated 13/02/2025. The project proposal was considered by the Expert Appraisal Committee (Industry-3) in its 113th meeting held on 24th October, 2025 . wherein the Project Proponent and the accredited Consultant namely M/s. Sadekar Enviro Engineers Private Limited (NABET Accreditation Number: NABET/EIA/23-26/SA 0239, Valid till 18-04-2026) made a detailed presentation on the salient features of the project.	Noted and Agreed																						

09.	Details / Chronology of existing EC, CTO, CTE: Consent to Establish obtained vide no. Format1.0/AS(T)/UAN no. 0000223966/CE/2411000875 obtained dated 14/11/2024 and valid up to commissioning of the unit or up to 5 years whichever is earlier for Plot No. L-99 and vide no. Format1.0/AS(T)/UAN No.0000232468/CR/2502002099 obtained dated 25/02/2025, valid up to 31/03/2030			Proposed Work under Progress for L-99 / Complied as per existing CTO for L-10
	Sr. No.	Environment related Clearance / Permit Type	Granted by	
	1.	Consent to Establish (CTE)	Maharashtra Pollution Control Board	
	2.	Consent to Operate (CTO)	Maharashtra Pollution Control Board	
				Document No. & Date Format1.0/AS(T)/UAN No.0000223966/CE/2411000875 Date of Issue: 14/11/2024 Format1.0/AS(T)/UAN No.0000232468/CR/2502002099 Date of Issue: 25/02/2025
10.	PP reported that there are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. River/ water body Lower Banganga River is flowing at a distance of 1.90 Km in South direction. 6 nos. Schedule-I species i.e. Spilornis cheela, Accipiter badius, Pavo cristatus, Ptyas mucosa, Naja naja, Daboia russelii and status of approval of the conservation plan for the Schedule-I species. PP reported that Wildlife Conservation Plan is submitted to the Chief Wildlife Warden, Nagpur with an allocated budget of Rs. 30.25 Lakh. Details of project site proximity (in km) to sensitive areas: • Habitation: Boisar is at an aerial distance of 2.0 km away from the project site in E direction. • School: Z.P. School Kumbhawali is located at an aerial distance of 1.10 Km in WSW direction from the project site • River/Waterbody: Lower Banganga River is approximately at an aerial distance of 1.90 Km towards S direction from the project site • Hospital: Thunga Hospital, MIDC Tarapur is located at an aerial distance of 1.80 km in E direction from the project site			Noted and Agreed
11.	Ambient air quality monitoring was carried out at 8 locations during October 2024 to December 2024 and the baseline data indicates the ranges of concentrations as: PM10 (46.0 µg/m ³ – 68.3 µg/m ³), PM2.5 (10.1 µg/m ³ – 24.3 µg/m ³), SO ₂ (5.1 µg/m ³ – 18.7 µg/m ³), NO _x (6.1 µg/m ³ – 21.2 µg/m ³). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.01154 µg/m ³ , 0.00577 µg/m ³ , 1.6212 µg/m ³ and 1.49428 µg/m ³ with respect to PM10, PM2.5, SO _x and NO _x . The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).			Noted and Agreed
12.	PP reported that total water requirement will be 1516.35 m ³ /day (1164.85 CMD at Plot No. L-99 and 351.5 CMD at Plot No. L-10) of which fresh water requirement will be 790.69 m ³ /day (683.1 CMD at Plot No. L-99 and 107.59 CMD at Plot No. L-10) will be met from MIDC Tarapur, Taluka & District – Palghar, Maharashtra the approval for water supply will be obtained after grant of Environmental Clearance. Remaining water requirement of (617.72 m ³ /day treated wastewater+ 98.59 m ³ /day recirculation) will be met from recycled water.			Noted and Agreed
13.	PP reported that effluent of 607 CMD (Trade effluent: 602 CMD, Domestic effluent: 5.0 CMD) quantity will be treated through solvent stripper, MVR/MEE followed by ATFD, ETP (Primary, Secondary and Tertiary), RO systems & Sewage Treatment Plant (STP) respectively at Plot No. L-99 and 41.01 CMD (Trade effluent: 37.01 CMD, Domestic effluent: 4.0 CMD) quantity will be treated through SEE (Single Effect Evaporator) followed by Centrifuge, full fledge ETP comprises primary, secondary, and tertiary and RO system & Sewage Treatment Plant (STP) respectively at Plot No. L-10.			Noted/Work in Progress
14.	Rainwater storage tank capacity (nos. x KL): - (1 x 20 KL at Plot No. L-99 & 1 x 20 KL at L-10)			Noted/Work in Progress
15.	PP reported that Power requirement for proposed unit will be 2550 kVA (Demand Load) and 2775 kW (Connected Load) at plot No L-99 and 250 kVA (Demand Load) and 800 kW (Connected			Noted/Work in Progress

	Load) at plot No L-10 and will be met from Maharashtra State Electricity Distribution Company Limited (MSEDCL). Proposed unit will have D. G. Set of (500 kVAX 2 nos.) capacity at Plot No L-99 and (200 kVA X 1 no.) capacity at Plot No L-10, will be used as standby during power failure. Stack (5 m height each (Above roof level) for 500 KVA at Plot No. L-99 and 3 m height (Above roof level) for 200 KVA at plot no. L-10) will be provided as per CPCB norms to the proposed DG sets.																																										
16.	PP reported that APL has 2 Nos. of biomass briquette/Imported coal fired boiler (1 x 10 TPH & 1 x 6 TPH) at Plot No. L-10. Bag filter with common stack of height of 35 m is installed for controlling the particulate emissions within the statutory limit of 115 mg/Nm³ for the boilers. Stack Height Details along with Pollution Control System given below: <table><tr><th>Sr. No.</th><th>Utilities</th><th>Details</th><th>Fuel Used</th><th>Pollution Control System</th></tr><tr><td>1.</td><td>#Steam Boilers at</td><td>10 TPH x 1 No 6 TPH x 1 No</td><td>Biomass Briquette/ Imported Coal</td><td>Bag filter and Common Stack of 35-meter height is provided.</td></tr><tr><td>2.</td><td>DG set*</td><td>(500 KVA X 2 nos.),</td><td>HSD</td><td>Acoustic enclosure with separate 30-meter stack each (above roof level) will be provided.</td></tr><tr><td>3.</td><td>DG set*</td><td>(200 KVA X 1 nos.)</td><td>HSD</td><td>Acoustic enclosure with separate 3-meter stack (above roof level) will be provided.</td></tr></table>	Sr. No.	Utilities	Details	Fuel Used	Pollution Control System	1.	#Steam Boilers at	10 TPH x 1 No 6 TPH x 1 No	Biomass Briquette/ Imported Coal	Bag filter and Common Stack of 35-meter height is provided.	2.	DG set*	(500 KVA X 2 nos.),	HSD	Acoustic enclosure with separate 30-meter stack each (above roof level) will be provided.	3.	DG set*	(200 KVA X 1 nos.)	HSD	Acoustic enclosure with separate 3-meter stack (above roof level) will be provided.	Proposed Work under Progress for L-99 / Complied as per existing CTO for L-10 (Refer Annex.II)																					
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1.	#Steam Boilers at	10 TPH x 1 No 6 TPH x 1 No	Biomass Briquette/ Imported Coal	Bag filter and Common Stack of 35-meter height is provided.																																							
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17.	Details of fuel: Existing and Proposed <table><tr><th>Fuel Name</th><th>Total</th></tr><tr><td>High Speed Diesel (HSD) for DG set.</td><td>252 Ltr. /Hr.</td></tr></table> <i>Note: DG Sets will be operated only during power failure.</i>	Fuel Name	Total	High Speed Diesel (HSD) for DG set.	252 Ltr. /Hr.	Noted/Work in Progress																																					
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18.	Details of Process emissions generation and its management: <table><tr><th>Sr. No.</th><th>Utilities</th><th>Details</th><th>Fuel Used</th><th>Pollutant</th><th>Pollution Control System</th></tr><tr><td colspan="6">At Plot No. L-99</td></tr><tr><td>1.</td><td>Acid Scrubber</td><td>2000 CFM x 1 no.</td><td>--</td><td>Alkaline pollutant</td><td rowspan="2">6-meter stack each(above roof top) will be provided.</td></tr><tr><td>2.</td><td>Alkali Scrubber</td><td>2000 CFM x 1 no.</td><td>--</td><td>Acid Mist</td></tr><tr><th>Sr. No.</th><th>Utilities</th><th>Details</th><th>Fuel Used</th><th>Pollutant</th><th>Pollution Control System</th></tr><tr><td colspan="6">At Plot No. L-10</td></tr><tr><td>1.</td><td>Water Scrubber</td><td>2000 CFM x 1 no.</td><td>--</td><td>Alkaline pollutant</td><td>15-meter stack is provided.</td></tr></table>	Sr. No.	Utilities	Details	Fuel Used	Pollutant	Pollution Control System	At Plot No. L-99						1.	Acid Scrubber	2000 CFM x 1 no.	--	Alkaline pollutant	6-meter stack each(above roof top) will be provided.	2.	Alkali Scrubber	2000 CFM x 1 no.	--	Acid Mist	Sr. No.	Utilities	Details	Fuel Used	Pollutant	Pollution Control System	At Plot No. L-10						1.	Water Scrubber	2000 CFM x 1 no.	--	Alkaline pollutant	15-meter stack is provided.	Proposed Work under Progress for L-99 / Complied as per existing CTO for L-10
Sr. No.	Utilities	Details	Fuel Used	Pollutant	Pollution Control System																																						
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1.	Acid Scrubber	2000 CFM x 1 no.	--	Alkaline pollutant	6-meter stack each(above roof top) will be provided.																																						
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1.	Water Scrubber	2000 CFM x 1 no.	--	Alkaline pollutant	15-meter stack is provided.																																						

19.	Details of Solid waste/ Hazardous waste generation and its management: Interim storage area earmarked for Hazardous waste (sq. m.): - 56.77 sq. m. (Approximate) at plot no L-99 and 38.36 sq. m. (Approximate) at plot no L-10. Details of Hazardous Waste:						Proposed Work under Progress for L-99 / Complied as per existing CTO for L-10
	Sr. No.	Type of Waste	Category of waste	Quantity Total	UOM	Method of Disposal	
	At Plot No. L-99						
	1.	Spent Carbon	28.3	1930	TPA	Co-processing / CHWTSDF	
	2.	Spent Acid 30-40%AceticAcid(From Paracetamol process)	36.1	12650	TPA	Sale to MPCB Authorized Party / CHWTSDF	
	3.	Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste.	33.1	150	TPA	Sale to MPCB Authorized Party	
	4.	Contaminated cotton rags or other cleaning materials	33.2	6	TPA	Incineration / Co-processing	
	5.	Used or Spent Oil	5.1	8	TPA	Sale to MPCB Authorized Recycler	
	6.	Wastes or residues containing oil	5.2	5	TPA	CHWTSDF/Co-processing	
	7.	Chemical sludge from waste water treatment.	35.3	110	TPA	CHWTSDF	
	8.	Concentration or evaporation residues (From ATFD)	37.3	15500	TPA	CHWTSDF	
	9.	Discarded Asbestos	15.2	12	TPA	CHWTSDF	
	10.	Date expired products	28.5	50	TPA	CHWTSDF/Co-processing	
	11.	Off Specification Product	28.4	50	TPA	CHWTSDF/Co-processing	
	12.	Dust from air filtration system	26.2	1.2	TPA	CHWTSDF/Co-processing	
	13.	Spent carbon or filter medium	36.2	24	TPA	Co-processing /CHWTSDF	
	At Plot No. L-10						
	14.	Process Residue and wastes	28.1	12	TPA	Co-processing / CHWTSDF	
	15.	Spent carbon	28.3	180	TPA	Co-processing through authorized /CHWTSDF	
	16.	Chemical sludge from waste water treatment	35.3	60	TPA	CHWTSDF	
	17.	Empty barrels / containers / liners contaminated with hazardouschemicals/wastes	33.1	36	TPA	Sale to MPCB Authorized Party	
	18.	Used or spent oil	5.1	2	TPA	Sale to MPCB	

					Authorized Recycler
19.	Spent ion exchange resin containing toxic metals	35.2	5	TPA	CHWTSDF / Co- processing
20.	Contaminated cotton rags or other cleaning materials	33.2	10	TPA	CHWTSDF
21.	Wastes or residues containing oil	5.2	2	TPA	CHWTSDF/Co- processing
22.	Process waste sludge/residues containing acid, toxic metals, organic compounds	26.1	12	TPA	CHWTSDF
23.	Process Residue and wastes	28.1	204	TPA	Co-processing / CHWTSDF
24.	Process residues and wastes (Sulfolane)	28.1	300	TPA	CHWTSDF
25.	Process residues and wastes (KF Solution neutral)	28.1	396	TPA	Sale to MPCB Authorised party/CHWTSDF

Details of Non - Hazardous Waste:

Sr. No.	Particulars	Quantity	UOM	Method of Disposal
At Plot No. L-99				
1.	STP Sludge	20	TPA	Use as manure
2.	Dry Waste : Garbage	5.5	TPA	Sale to authorized party for recycling
	Wet Waste : Food Waste	4	TPA	After composting use as manure
3.	Metal scrap (MS scrap piping, structural, Equipment, Broken Shutters, etc.)	50	TPA	Sale to authorized Recycler
4.	Wood, Wooden Box, Wooden fills cooling tower, Plywood, Pallets	10	TPA	Sale to authorized party
5.	Glass waste	5	TPA	Sale to authorized party
6.	Paper waste	5	TPA	Sale to authorized Recycler
7.	PVC fins cooling tower	15	TPA	Sale to authorized party
8.	Plastic material	0.5	TPA	Sale to authorized party
At Plot No. L-10				
9.	Fuel Ash	2664	TPA	Sale to Brick Manufacturers

10.	Dry Waste : Garbage	2.2	TPA	Sale to authorized party for recycling	
	Wet Waste : Food Waste	1.5	TPA	Wet waste will be composted at site and compost to be used as manure	
11.	Packaging material/Used PPE's/Non-Recyclable Plastic Waste, Insulation Waste, Used Cables	12	TPA	Sale to Authorized Party	
12.	STP sludge	15	TPA	Use as manure	
Schedule-I of The Hazardous and Other Wastes (Management and Trans boundary Movement) Rule, 2016.					
Details of E - Waste:					
Sr. No.	Particulars	E – Waste Category	Quantity	UOM	Method of Disposal
			Total		
At Plot No. L-99					
1.	Personal Computers (Central Processing Unit with input and output devices)	ITEW2	0.5	TPA	Sale To MPCB Authorized recycler / returned to manufacturer / supplier
2.	Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)	ITEW3	0.5	TPA	
3.	Printers including cartridges	ITEW6	0.5	TPA	
4.	Telephones	ITEW12	0.1	TPA	
At Plot No. L-10					
5.	E-waste	ITEW2	1	TPA	Sale to Authorized Battery Recyclers
Reference: E- Waste (Management) Rules 2022 and its amendments					
Details of Battery Waste:					
Particulars		Total		Method of Disposal	
At Plot No. L-99					
Lead batteries from D.G. Sets, UPS system		1 TPA		Returned to supplier / Sale to Authorized recycler	
At Plot No. L-10					
E-waste		1 TPA		Sale to authorized E-waste recycler	
Reference: Battery Waste Management Rules, 2022					
Details of Bio - Medical Waste:					
Particulars		Category	Quantity (TPA)		Method disposal
At Plot No. L-99					

	Soiled waste (Items contaminated with blood, body fluids like dressings, plaster casts, cotton swabs and bags containing residual or discarded blood and blood components)	Yellow	1.5	To CBMWTSDf	
	At Plot No. L-10				
	Soiled waste (Items contaminated with blood, body fluids Like dressings, plaster casts, cotton swabs and bags containing residual or discarded blood and blood components)	Yellow	0.5	To CBMWTSDf	
	Reference: Biomedical Waste Management Rules 2016 and its amendments				
20.	Public Hearing is exempted as per clause 7(i)(iii) of OM No. J-11011/321/2016-IA. II(I) dated 27th April 2018 of EIA Notification, 2006 (amended from time to time) as the project site is located within the MIDC Tarapur , Notified Industrial Area declared by Government of Maharashtra and notified vide Gazette no. IDC.2169/23025 IND 1 dated 27.05.1969 .				Noted
21.	Details/Status of approved Water Supply Permission: PP reported that water permission is approved by MIDC Tarapur for water requirement of 1516.35 CMD.				Complied (Refer Annex.III)
22.	Details/Status of approved Wildlife Conservation Plan: PP reported that Wildlife Conservation Plan is submitted to Chief Wildlife Warden Office, Nagpur for Approval with an allocated budget of Rs. 30.25 Lakhs.				Complied (Refer Annex.IV)
23.	Details of Best Technology Adopted: PP reported the process has been developed after years of R&D at pilot level and all the process have been optimized to achieve maximum yield and minimize the generation of waste. Project integrates eco-friendly technologies focused on sustainability and environmental compliance. Project will be operated on Zero Liquid Discharge (ZLD) i.e. MVR/MEE followed by ATFD, ETP (Primary, Secondary and Tertiary), RO systems and Sewage Treatment Plant (STP) respectively will be installed for Zero Liquid Discharge (ZLD). STP will be installed for domestic sewage treatment, ensuring water reuse for domestic flushing/greenbelt development. Details are given in EIA Report Ch. 2, Page no. 2. Provision for Disposal of hazardous waste to Sale to Authorized party/ Co-processing/ Pre-processing/ CHWTSDf will be made. Details are given in the EIA Report Ch. 2, Page no. 2-6. Also, 1 No. of Alkali Scrubber, 1 No. of Acidic Scrubber with adequate stack height 6-meter stack each (above roof top) at Plot No. L-99 and and 1 No. of Water Scrubber with adequate stack height 15 meter at Plot No. L-10 and will be provided to comply with CPCB guidelines. Details are mentioned in the EIA Report Ch. 2, Page no. 2-5. For energy conservation solar panel of 20kW capacity and 35 Nos. of Solar Street lights is made. Details are mentioned in the EIA Report Ch. 2, Page no. 2-25.				Noted

	Regular monitoring of effluent and air emissions will be carried out for regulatory compliance. Details are mentioned in the EIA Report Ch. 6, Page no. 6-2. This approach minimizes waste, optimizes resource use, and ensures minimal environmental impact.					
24.	Status of Litigation Pending against the proposal, if any : PP reported that no litigations are pending against the proposal.				Noted	
25.	Industry will develop total greenbelt in an area of 41.60 % i.e. 3019.19 Sq. m. at project site. The industry will plant a total of 944 nos. of tree saplings.				Noted/Work in Progress (Refer Annex.V)	
26.	Total Employment will be 175 persons for proposed new project. Industry proposes to allocate Rs 3.80 Crore @ of 4 % towards CER				Noted	
27.	The estimated project cost is Rs 94.88 Crore. Total capital cost earmarked towards environmental pollution control measures is Rs 2195.5 Lakhs and the Recurring cost (operation and maintenance) will be about Rs 5729.02 Lakhs per annum. The breakup of capital and recurring cost is as follows:				Noted/Work in Progress	
	Sr. No.	Activity	Approximate Capital cost(Rs. in Lakhs)	Approximate recurring Cost Per Annum (Rs. in Lakhs)		Basis for cost estimates
	1.	Air pollution control	40.0	1.0		Installation, Operation and Maintenance cost of Scrubber (2 nos.), D G Sets. (2 nos.) and stacks.
	2.	Water pollution control	2000.0	2700.0		Installation, Operation and Maintenance cost of MVR followed by ATFD, Full-fledged ETP (Primary,SecondaryandTertiaryTreatment), HPPTRO, PTRO, PTRO and STP.
	3.	Noise pollution monitoring	2.0	1.0		Anti – vibration pads, Regular/routine maintenance of equipment's, Appropriate PPEs(Earplugs/Ear Muffs etc.)Isolation of high intensity noise generating equipment. Appropriate traffic management will be implemented.
	4.	Solid and hazardous waste management	100.0	3000.0		Impervious flooring with leachate collection system and proper ventilation, Membership of the CHWTSDF, organic waste converter ,Purchase of containers /bags for storage of hazardous& non-hazardous solid waste, Solid Waste Management and disposal to CHWTSDF.
	5.	Environment monitoring and management	0	6.42	Regular Environmental Monitoring - As per EC conditions / As per SPCB guideline, Maintenance of inhouse Laboratory	

		6. Green belt	4.0	9.10	Development & maintenance of greenbelt.	
		7. Fire & Safety	99.2	10.0	Fire Fighting system, Lightning Arrestor, Fire extinguishers, Personal protective equipment, Alarm system for alerting the working members, First aid kit	
		8. Occupational health(OHC)	2.5	2.5	Provision of standard PPE's (Helmet, masks, gloves, earplugs and Safety boots), Annual health-medical check-up of all employees and provision of health insurance to workers.	
		9. CER Activity	380	-	As per the OM, 4% of the total project cost allocated for CER activities.	
		10. Cost of conservation plan Of Schedule-Ispecies ,if any	30.25	-	As per the survey and secondary data.	
		Total	2657.95	5730.02	--	
Sr No.	Particular	Activity			Amount allocated (Rs.)	
1.	Total Cost	Total Project Cost			9488 Lakh	
2.	EMP Cost	1. Installation & Operation cost of Scrubber 2. Installation of STP Installation, Operation and Maintenance cost of ETP, MVR/ MEE followed by ATFD, Full-fledged ETP (Primary, Secondary and Tertiary Treatment), RO System, SEE Installation of anti-vibration & noise cancellation pads. 1. Glares, Breathing Masks, Hand sanitizers, Gloves, Boots, Helmets, Ear Plugs etc. 2. Purchase of containers / bags for storage of hazardous & non-hazardous solid waste. 3. Greenbelt development cost. 4. Installation of the Rain water Harvesting system 5. Solar Street lights 35 Nos. 6. Installation of Solar Roof Top Harvesting System & Solar streetlights.			2195.5 Lakh	
3.	Recurring cost	1. Cost of Scrubber installation and maintenance. 2. STP maintenance cost 3. Maintenance cost of ETP 4. Cost for Maintenance of anti-vibration & noise cancellation pads. 5. Annual health-medical check-up of workers 6. Purchase of containers / bags for storage of hazardous & non-hazardous solid waste. 7. Solid Waste Management and disposal to CHWTSDF. 8. Maintenance of Greenbelt.			5729.02 Lakh	

			9. Cost for maintenance of the Rain water Harvesting system. 10. Maintenance of Solar Roof Top Harvesting System & Solar streetlights 11. Monitoring of ambient air, noise, stack, ETP inlet and outlet, workplace 12. Third party monitoring of Compliance of EC Conditions (six monthly)		
	4.	CER Cost	As per MoEF & CCOT No. F.No.22-23/2018-IA.III(Pt) dated 31st October, 2019 the % of the CER may be at least 2.0 times the slabs given in the OM dated 1st May, 2018 for Critically Polluted Area (CPA). Hence, 4% of the total project cost will be allocated for CER activities	380 Lakh	
	5.	Land	Land is owned by Project Proponent	---	
	6.	P. H. Commitment and action plan in brief	Public Hearing is Not Applicable for this Project, since it is located in Notified Industrial Area .	---	
	7.	Green belt	Green belt development and maintenance of green belt on an area of 3323 sq. m. (64.43%)	4.0 Lakh	
	8.	Conservation plan	Cost will be allocated for the Conservation of Schedule-I species.	30.25 Lakh	
	9.	Water approval	Water permission is obtained from MIDC Tarapur, Taluka & District – Palghar, Maharashtra.	---	
	10.	Critical issues related to the Project, (if any)	-----	-----	

Action Plan to comply with the following mitigation measures as Per Ministry's Office Memorandum 31st October, 2019 regarding Projects located in Critically Polluted Area is as given below:

S N	Environment	Condition	Compliance						
1	Air	Stipulation of condition such as: i. Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants	S N	Source	Source of Emission	Fuel	Emission Level	SPCB Standards	Air Pollution Control Devices
			1	2 No. x 500 kVA D.G.Set at Plot No. L-99	TPM	HSD	<50 mg/Nm ³	50 mg/Nm ³	Adequate stack height of 5 meter (each) above roof top
					SO ₂		<43.2 Kg/Day	43.2 Kg/Day	
			2	1 No. x 200 kVA D.G.Set at Plot No. L-10	TPM	HSD	<50 mg/Nm ³	50 mg/Nm ³	Adequate stack height of 3 meter above roof top.
					SO ₂		<43.2 Kg/Day	43.2 Kg/Day	
3.	Boilers: 1 No. x 10 TPH & 1 No. x 6 TPH (Stand by)	TPM	Bio mass Briquette : 74 TPD or Imported Coal: 45 TPD	50 mg/Nm ³	<50 mg/Nm ³	Common stack with height of 30 meter provided. With multi cyclone filter followed by bag filter as APCD			
		SO ₂		407.4 Kg/Day	<407.4 Kg/Day				
Note: DG Sets will be operated only during power failure									
		ii.CEMS may be installed in all large / medium red category industries (air polluting) and connected to SPCB and CPCB server.	Not applicable. As per directions under section 18(1)(b) of the water (prevention Control of pollution) act, 1974 and the air (prevention Control of pollution) act, 1981 in the matter of pollution Control in 17 category of highly polluting industries dated 05/02/2014, M/s Aarti Pharmed Labs Limited categories under Pharmaceutical Category, which does not requires installation of CEMS for stack monitoring.						
		iii. Effective fugitive emission control measures should be imposed in the process, transportation packing etc.	Below mentioned are the mitigation measures which will be implemented by PP to control fugitive emissions. · Closed feed system will be adopted for charging of raw materials by utilizing transfer line from storage area to process area. · 1 no. of Acid scrubber & 1 no. of Alkali scrubber will be installed at Plot No. L-99, 1 no. of Water scrubber is at Plot No. L-10, and monitored regularly and checked if emissions are within standard. · Pumps with mechanical seals will be provided · Minimal provision of flanges, joints and valves in pipeline · Regular maintenance of valves, pipes, fittings to avoid any leakages · All the internal roads inside the project will be paved. And same will be used for transportation. Periodical work area monitoring will be done.						
		iv. Transportation of materials by rail/conveyor belt, wherever feasible.	Transportation of material by rail is not feasible project. Company has identified the Local Supplier to purchase the raw materials which will help to reduce the distance & fuel emission that arising from transportation of raw materials.						
		v.Encourage use of cleaner fuels (petcoke/furnace oil/LSH) may be avoided.	Noted. · Industry is using cleaner fuel Biomass Briquette as a primary fuel for operation of Boilers and Imported Coal is used as a contingency. · For operation of 2 nos. of DG set having capacity 500 kVA each at Plot No. L-99 and 1 no. of DG set having capacity 200 kVA at Plot No. L-10, HSD fuel (Total Quantity: 252 Ltr/Hr.) will be used. DG Sets will be operated only during power failure.						
		vi. Best available	Following measures will be provide by PP:						

The following points were discussed in the meeting:

1. PP submitted an undertaking stating that the Environmental Impact Assessment (EIA) Report has been revised by excluding Plot Nos. L-28 and L-10 from the amalgamated proposal, which has resulted in the following:
 - a. The industrial effluent previously associated with Plot Nos. L28 and L29 will no longer be routed to Plot No. L-99 for treatment. Accordingly, the overall effluent generation has been significantly reduced.
 - b. The generation of hazardous waste has also been minimized, in alignment with the reduced process load and material throughput.
 - c. Only the transfer of steam from Plot No. L-10 to Plot No. L-99 has been retained in the revised proposal, purely for economic efficiency and resource optimization. This arrangement also facilitates the centralized treatment of flue gases at a single designated location, thereby improving emission control and ensuring compliance with applicable environmental norms.
2. PP submitted revised Action Plan to comply with the mitigation measures as Per Ministry's Office Memorandum 31st October, 2019 regarding Projects located in Critically Polluted Area.

Sr. No.	Type of Waste	Category of waste	Quantity	UOM	Method of Disposal
			Total		
At Plot No. L-99					
1.	Spent Carbon	28.3	1930	TPA	Co-processing / CHWTSDF
2.	Spent Acid 30-40%AceticAcid(From Paracetamol process)	36.1	12650	TPA	Sale to MPCB Authorized Party/ CHWTSDF
3.	Empty Barrels/ Drums /Containers/liners/contaminated chemical Bottles / waste.	33.1	150	TPA	Sale to MPCB Authorized Party
4.	Contaminated cotton rags or other cleaning materials	33.2	6	TPA	CHWTSDF / Co-processing
5.	Used or Spent Oil	5.1	8	TPA	Sale to MPCB Authorized Recycler
6.	Wastes or residues containing oil	5.2	5	TPA	CHWTSDF/Co-processing
7.	Chemical sludge from waste water treatment.	35.3	110	TPA	CHWTSDF
8.	Concentration or evaporation residues (From ATFD)	37.3	15500	TPA	CHWTSDF
9.	Discarded Asbestos	15.2	12	TPA	CHWTSDF
10.	Date expired products	28.5	50	TPA	CHWTSDF/Co-processing
11.	Off Specification Product	28.4	50	TPA	CHWTSDF/Co-processing
12.	Dust from air filtration system	26.2	1.2	TPA	CHWTSDF/Co-processing
13.	Spent carbon or filter medium	36.2	24	TPA	Co-processing /CHWTSDF
At Plot No. L-10					
14.	Process Residue and wastes	28.1	12	TPA	Co-processing / CHWTSDF

29.

	15.	Spent carbon	28.3	180	TPA	Co-processing through authorized /CHWTSDF	
	16.	Chemical sludge from waste water treatment	35.3	60	TPA	CHWTSDF	
	17.	Empty barrels/containers/liners contaminated with hazardous chemicals / wastes	33.1	36	TPA	Sale to MPCB Authorized Party	
	18.	Used or spent oil	5.1	2	TPA	Sale to MPCB Authorized Recycler	
	19.	Spent ion exchange resin containing toxic metals	35.2	5	TPA	CHWTSDF / Co-processing	
	20.	Contaminated cotton rags or other cleaning materials	33.2	10	TPA	CHWTSDF	
	21.	Wastes or residues containing oil	5.2	2	TPA	CHWTSDF/Co-processing	
	22.	Process waste sludge/residues Containing acid, toxic metals, organic compounds	26.1	12	TPA	CHWTSDF	
	23.	Process Residue and wastes	28.1	204	TPA	Co-processing / CHWTSDF	
	24.	Process residues and wastes (Sulfolane)	28.1	300	TPA	CHWTSDF	
	25.	Process residues and wastes (KF Solution neutral)	28.1	396	TPA	Sale to MPCB Authorised party/CHWTSDF	
	The committee was satisfied with the response provided by PP on above information. The EAC deliberated the Onsite and Offsite Emergency plans and also the various mitigation measures proposed during the implementation of the project and advised the PP to implement the provisions of the Rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, as amended from time to time. The EAC deliberated on the proposal with due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC found the proposal in order and recommended for the grant of environmental clearance. The EAC is of the view that its recommendation and grant of environmental clearance by the regulatory authority to the project/activity is strictly under the provisions of the EIA Notification 2006 and its subsequent amendments. It does not tantamount/construe to approvals/consent/permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The PP shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.						
30.	The EAC, after detailed deliberations, recommended the project for the grant of environmental clearance, subject to the compliance of the terms and conditions and general terms and conditions in Annexure 1.						Noted/Agreed
31.	Minutes of the meeting may kindly be seen at https://parivesh.nic.in/utildoc/168505178_1761904172305.pdf .						Complied

32.	Based on the recommendations made by EAC in its 113th meeting held on 24th Oct 2025, the Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance for “ New project for Manufacturing of 2000 TPM of API Products at Plot no L-99 and Boilers, Utility & production of Tech Salt (Potassium Chloride containing about 0.5 % of Potassium Fluoride) of 250 TPM located at Plot No. L-10 by M/s. Aarti Pharmalabs Limited (Unit V-II), MIDC Tarapur, Taluka & District – Palghar, Maharashtra ” under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the Specific and General terms and conditions as mentioned at Annexure-1.	Noted
33.	The Ministry reserves the right to stipulate additional conditions, if found necessary. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project. The Project Proponent is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC	Noted
34.	General Instructions: (a) The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed. (b) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt. (c) The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. (d) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during perational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report. (e) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986. (f) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports. (g) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Complied (Refer Annex.VI/VII/VI II/IX)

Specific Conditions :

1.1	(i) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Complied (Refer Annex.X)
	(ii) Bag filter along with a stack height of 35 m shall be provided to the proposed biomass fired steam boilers (1 x 6 TPH , 1 x 10 TPH) at Plot no. L-10. Stack height of 30 m along with	Complied (Refer Annex.XI)

1.2	acoustic enclosure shall be provided to the proposed D.G sets (2 x 500 KVA) respectively as per CPCB/SPCB norms. Stack height of 3 m above roof level along with acoustic enclosure shall be provided to each of the proposed D.G sets (1 x 200 KVA) respectively as per CPCB/SPCB norms.	
1.3	(iii) Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits imposed by SPCB.	Noted
1.4	(iv) Acid Scrubber along with adequate stack height shall be provided to control process emissions viz., alkaline pollutant and Alkali Scrubber along with adequate stack height shall be provided to control process emissions viz., acid mist generated at Plot no. L-99 from the proposed project activities. Water Scrubber along with adequate stack height shall be provided to control process emissions viz., alkaline pollutant generated at Plot no. L-10 from the proposed project activities. The scrubbed water should be sent to ETP for further treatment. Efficiency of scrubber shall be monitored regularly and maintained properly. At no time, the emission levels shall go beyond the prescribed standards.	Noted/Work in Progress
1.5	(v) Total fresh water requirement from MIDC water supply shall not exceed 790.69 m ³ /day (683.1 CMD at Plot No. L-99 and 107.59 CMD at Plot No. L-10).	Proposed Work under Progress for L-99 / Complied as per existing CTO for L-10
1.6	(vi) NOC from the competent authority shall be obtained before start of the plant for drawing of the water from MIDC water supply for the project activities. State Pollution Control Board / Pollution Control Committees shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall obtain such permission.	Noted/Work in Progress
1.7	(vii) Total Industrial effluent generation shall not exceed 639.01 m ³ /day (602 m ³ /day at Plot no. L- 99 and 37.01 m ³ /day at Plot no. L-10). Around 495 CMD HCOD (5%)/HTDS (10%) effluent shall be treated through a Solvent Stripper column, Mechanical Vapour Recompression (MVR)/Multiple Effect Evaporator (MEE) unit followed by an Agitated Thin Film Dryer (ATFD). MVR/MEE condensate shall be sent to ETP (Primary, Secondary, Tertiary). ETP treated effluent and cooling tower blow down LCOD (0.05%) / LTDS (0.15%) shall be sent to Reverse Osmosis (RO) system. The RO permeate will be reused in cooling tower makeup. RO reject will be sent to the MVR/MEE for further treatment, ensuring zero discharge of liquid effluent at plot no 99. STP having capacity 6 CMD will be provided for treatment of 5.0 CMD sewage. Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season. The trade effluent stream will be segregated in LCOD (0.05%) / LTDS (0.5%) effluent at Plot L-10. Effluent generated from industrial process along with blow downs from the Cooling tower and Boilers will be passed through SEE (Single Effect Evaporator) followed by Centrifuge, full fledge ETP comprises primary, secondary, and tertiary and RO system. RO permeate will be reused for cooling tower makeup. STP having capacity 5 CMD shall be provided for treatment of 4.0 CMD sewage. Unit shall maintain ZLD.	Proposed Work under Progress for L-99 / Complied as per existing CTO for L-10

1.8	(viii) The green belt of at least 5 m-10m width shall be developed in an area of 3019.19 sq m (41.60%) within plant premises. The industry shall plant additional 944 nos. of trees/saplings/plants within premises. Trees saplings selected for the plantations should be of sufficient height, preferably 6-ft shall be planted in greenbelt area. Indigenous species shall only be developed as part of greenbelt and non-indigenous / alien species shall be replaced with native species. No invasive or alien or non-native tree species shall be selected for plantation. PP shall develop at least 20 variety of species as a part of greenbelt. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department and native species shall be developed. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP shall annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.	Noted/Work in Progress
1.9	(ix) Plantation of saplings shall be carried out as a part of tree plantation campaign "EK PED MAA ke NAAM" and details of the same to be uploaded in the Meri LiFE portal(https://merilife.nic.in) in respect to this Ministry's OM No. IA3-22/3/2024-IA.III(E-241594) dated 24th July 2024.	Noted & Agreed
1.10	(x) Roof top rain water shall be collected in 1 no. x 20 KL (at Plot No. L-99) and 1 x 20 KL (at Plot No. L-10) underground RCC storage tank. The rain water collected shall be reused within the plant after filtration as per requirement. Storm water from the open area shall be collected separately and stored in underground RCC storage tank, which shall be recycled/reused within the plant premises.	Noted/Work in Progress
1.11	(xi) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP Rs. 2195.5 Lakhs (Capital cost) and Rs 5729.02 Lakhs per annum (Recurring cost)] shall be kept in a separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.	Noted/Work in Progress
1.12	(xii) Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB servers. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.	Noted/Work in Progress
1.13	(xiii) No banned chemicals shall be manufactured by the project proponent. No banned raw materials shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.	Noted & Agreed

1.14	(xiv) The project proponent shall comply with the environment norms for synthetic organic chemical as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 608(E), dated 21.7.2010 under the provisions of the Environment (Protection) Rules, 1986.	Noted
1.15	(xv) All the hazardous wastes shall be managed and disposed as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Hazardous waste such as Distillation Residue and Off Specification Products shall be either sent to common incineration site or sent for coprocessing. Solid waste shall be segregated into dry and wet garbage at site in accordance to the Solid Waste Management Rules, 2016. Wet garbage shall be converted into compost and used as manure for greenbelt development.	Noted & Agreed
1.16	(xvi) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions by engaging Environment Officials. In addition to this, one safety & health officer as per the qualification given in Factories Act, 1948 shall be engaged within a month of grant of EC. The PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.	Noted/Work in Progress
1.17	(xvii) The PP shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.	Noted
1.18	(xviii) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The PP shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996. The occupier of new as well as expansion projects shall be required to comply with the provisions of the MSIHC Rules, 1989 including notifying their activities or seeking site approval from the concerned authorities, to address operational safety aspects. In doing so, various schedule, particularly Schedule-5 of the said rules may be referred.	Noted
1.19	(xix) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97% with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.	Noted
1.20	(xx) The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report.	Noted
1.21	(xxi) The occupational health centre for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.	Noted/Work in Progress
1.22	(xxii) Training shall be imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training shall be provided to employees. Action plan for	Noted

	mitigation measures shall be properly implemented based on the safety and risk assessment studies.																															
1.23	(xxiii)Theunitshallmakethearrangementforthe protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.	Noted/Work in Progress																														
1.24	(xxiv) The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of activeing redientstominimizewaste;(b)Reuseofby-productsfromtheprocessasraw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.	Noted/Work in Progress																														
1.25	(xxv) There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products and no parking to be allowed outside on public places.	Noted/Work in Progress																														
1.26	(xxvi) Storage of raw materials shall be either in silos or in covered areas to prevent dust pollution and other fugitive emissions. All stockpiles should be constructed over impervious soil and garland drains with catch pits to trap runoff material shall be provided. Chemicals shall be stored in covered sheds and wind breaking walls/curtains shall be provided around biomass storage area to prevent its suspension during high wind speed. All Internal roads shall be paved. The Air Pollution Control System shall be interlocked with process plant/machinery for shutdown in case of operationalfailure of Air Pollution Control Equipment.	Noted/Work in Progress																														
1.27	(xxvii) PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12th August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.	Noted/Work in Progress																														
1.28	Asproposed,PPshallcomplywiththefollowingmitigationmeasuresasperMinistry’sOffice Memorandum 31st October, 2019 regarding Projects located in Critically Polluted Area: <table> <tr> <th>S.No.</th> <th>Environmen</th> <th>Condition</th> <th colspan="7">Compliance</th> </tr> <tr> <th></th> <th>t</th> <th>Stipulation of conditions such as:</th> <th>S N</th> <th>Sourc</th> <th>Sourcee of Emission</th> <th>Fuel</th> <th>Emissio n Level</th> <th>SPCB Standard s</th> <th>Air Pollutio n Control Devices</th> </tr> <tr> <td></td> <td></td> <td>i. Stack emissio n</td> <td></td> <td>2 No. x</td> <td>TPM</td> <td></td> <td><50 mg/Nm³</td> <td>50 mg/Nm³</td> <td></td> </tr> </table>	S.No.	Environmen	Condition	Compliance								t	Stipulation of conditions such as:	S N	Sourc	Sourcee of Emission	Fuel	Emissio n Level	SPCB Standard s	Air Pollutio n Control Devices			i. Stack emissio n		2 No. x	TPM		<50 mg/Nm ³	50 mg/Nm ³		Noted/Work in Progress
S.No.	Environmen	Condition	Compliance																													
	t	Stipulation of conditions such as:	S N	Sourc	Sourcee of Emission	Fuel	Emissio n Level	SPCB Standard s	Air Pollutio n Control Devices																							
		i. Stack emissio n		2 No. x	TPM		<50 mg/Nm ³	50 mg/Nm ³																								

		Air	levelsshould be stringent than the existing standards in terms of the identified critical pollutants.	1	500 kVA D.G. Setat Plot No. L-99	SO ₂	HSD	<43.2 Kg/Day	43.2 Kg/Day	Adequate stack height of 5 meter (each)above roof top.
				2	1 No. x 200 kVA D.G. Setat Plot No. L-10	TPM	HSD	<50 mg/Nm ³	50 mg/Nm ³	Adequate stackheight of 3 meter above roof top.
					SO ₂	<43.2 Kg/Day		43.2 Kg/Day		
				3.	Boile 1 No. x10 TP H &1 No.x 6 TPH	TPM	Biomass Briquette : 74 TPD or Importe d Coal: 45 TPD	50 mg/Nm ³	<50 mg/Nm ³	Common stack with heightof30 meter provided. With multicyclon e followed by
SO ₂	407.4 Kg/Day	<407.4 Kg/Day								
S.No	Environment	Condition	Compliance							
			(Stand by)						bagfilter as APCD	
			Note: DG Sets will be operated only during power failure							
		ii.CEMS may be installed in all large / medium red category industries(air polluting)and connected to SPCB and CPCB server.	Not applicable. As per directions under section 18(1)(b) of the water (prevention Control of pollution) act, 1974 and the air (prevention Control of pollution) act, 1981 in the matter of pollutionControlin17categoryofhighlypollutingindustries dated 05/02/2014, M/s Aarti Pharmalabs Limited categories under Pharmaceutical Category, which does not requires installation of CEMS for stack monitoring.							

			iii. Effective fugitive emission control measures should be imposed in the process, transportation, packing etc.	Below mentioned are the mitigation measures which will be implemented by PP to control fugitive emissions. · Closed feed system will be adopted for charging of the raw materials by utilizing transfer line from storage area to process area. · 1 no. of Acid scrubber & 1 no. of Alkali scrubber will be installed at Plot No. L-99, 1 no. of Water scrubber is at Plot No. L-10, and monitored regularly and checked if emissions are within standard. · Pumps with mechanical seals will be provided · Minimal provision of flanges, joints and valves in pipeline · Regular maintenance of valves, pipes, fittings to avoid any leakages · All the internal roads inside the project will be paved. And same will be used for transportation. · Periodical work area monitoring will be done.	
			iv. Transportation of materials by rail/ conveyor belt, wherever feasible.	Transportation of material by rail is not feasible project. Company has identified the Local Supplier to purchase the raw materials which will help to reduce the distance & fuel emissions that arising from transportation of raw materials.	
			v. Encourage use of cleaner fuels (pet coke/furnace oil/ LSHS may be avoided).	Noted. · Industry is using cleaner fuel Biomass Briquette as a primary fuel for operation of Boilers and Imported Coal is used as a contingency. · For operation of 2 nos. of DG sets having capacity 500kVA each at Plot No. L-99 and 1 no. of DG Set having capacity 200kVA at Plot No. L-10, HSD fuel (Total Quantity: 252 Ltr/Hr.) will be used. DG Sets will be operated only during power failure.	
				Following measures will be provided by PP: · The company proposes to achieve Zero Liquid Discharge (ZLD) by way of installation of MVR, ATFD, ETP, ROs	

			vi. Best availabl e	systems	
	S.No	Environment	Condition	Compliance	
	.				
			may be used. For example: usage of EAF/SAF/IF in place of Cupola furnace. Usage of supercritical technology in place of sub- critical technology.	at Plot No. L-99 and SEE, Centrifuge, ETP, RO systems at Plot No. L-10. Entire effluent after appropriate treatment shall be recycled within the plot premises. · The company propose to install dedicated STP for sewage treatment. Entire sewage after appropriate treatment shall be reused within plot premises for greenbelt development and toilet flushing purpose at both plots. · Reduction in effluent will be achieved by continuously reducing the input water consumption by recycling Treated effluent. This shall help in reduction of fresh water usage. · Dedicated plant/reactors/equipment for the product will enable to reduce the intermittent washings of the equipment thereby reducing the effluent quantity, · Periodic preventive maintenance of the moving parts of the equipment as per the pre-planned schedule will keep the noise under control. · In addition, PP shall provide acoustic system to the noise generating equipment to control the noise.	
			vii. Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33% wherever feasible.	· Company will develop Greenbelt in 2178.26 Sq. m. (42.24 % of the total plot area) at Plot No. L-99. · Company will develop Greenbelt in 840.93 Sq. m. (40.04 % of the total plot area) at Plot No. L-10. Thus, a total of 3019.19 sq. m. (41.60 % of the total plot area) greenbelt will develop by the company. Plantation will be done considering 2500 no. of trees / hectare.	
			viii.	As per the requirement of the MoEF&CC guidelines,	

			Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry etc.	greenbelt of 40 % of the total plot area is required to be developed by the industry. The total plot area is 7257 sq. m., APL already started the greenbelt development in 3019.19 sq. m. i.e. 41.60% of the total plot area as greenbelt. Considering 2500 nos. of trees per hectare (10,000 sq. m.), total around 994 nos. of the trees required to plant by the industry.	
			ix. Assessment of carrying capacity of transportation load on roads inside the industrial premises. If the roads required to be widened shall be prescribed as a condition	Internal roads having min width of 6 meter and 9 meter turning radius will be provided which will be adequate to carry the transportation activity as per MIDC DCR rules.	

	2	Water		The project will be operated on the basis of Zero Liquid Discharge System. <i>EFFLUENT TREATMENT SCHEME FOR PLOT NO. L-99</i> A. Effluent Treatment Scheme for Trade effluent: The unit will be operated on Zero Liquid Discharge system. Around 495 CMD HCOD (5%)/HTDS (10%) effluent will be treated through a Solvent Stripper column, Mechanical Vapour Recompression (MVR)/Multiple Effect Evaporator (MEE) unit followed by an Agitated Thin Film Dryer (ATFD). MVR/MEE condensate will be sent to ETP (Primary, Secondary, Tertiary). ETP treated effluent and cooling tower blow down LCOD (0.05%) / LTDS (0.15%) will be sent to Reverse Osmosis (RO) system. The RO permeate will be reused in cooling tower make-up. RO reject will be sent to the MVR for further treatment, ensuring zero discharge of liquid effluent. B. Treatment Scheme for Sewage: STP having capacity 6 CMD will be provided for treatment of 5.0 CMD sewage. Treated sewage will be used for green belt development during dry season and will be used for toilet flushing during wet season. <i>EFFLUENT TREATMENT SCHEME FOR PLOT NO. L-10</i> A. Effluent Treatment Scheme for Trade effluent: The trade effluent stream will be segregated in LCOD (0.05%) / LTDS (0.5%) effluent. Effluent generated from industrial process along with blow downs from the Cooling tower and Boilers will be passed through SEE (Single Effect Evaporator) followed by Centrifuge, full fledge ETP comprises primary, secondary, and tertiary and RO system. RO permeate will be reused for cooling tower makeup. B. Treatment Scheme for Sewage: · STP having capacity 5 CMD will be provided for treatment of 4.0 CMD sewage · Treated sewage will be used for green belt development during dry season and will be used for toilet flushing during wet season	
				The project will be operated on the basis of Zero Liquid Discharge System. Flowmeters with IP cameras will be installed.	
			iii. Detailed water harvesting plan may be submitted by the project proponent.	· Company will provide 20 KL capacity Rooftop Rainwater Harvesting System at both plots. · The harvested rainwater will be used during wet season for the cooling tower makeup which will reduce the fresh water requirement during wet season.	

S.No.	Environment	Condition	Compliance
			Trade Effluent Treatment Scheme at Plot No. L-99 The unit will be operated on Zero Liquid Discharge system. Around 495 CMD HCOD (5%)/HTDS (10%) effluent will be treated through a Solvent Stripper column, Mechanical Vapour Recompression(MVR)/Multiple Effect Evaporator(MEE) unit followed by an Agitated Thin Film Dryer(ATFD). MVR/MEE condensate will be sent to ETP (Primary, Secondary, Tertiary). ETP treated effluent and cooling tower blow down LCOD (0.05%) / LTDS (0.15%) will be sent to Reverse Osmosis (RO) system. The RO permeate will be reused in cooling tower make-up. RO reject will be sent to the MVR for further treatment, ensuring zero discharge of liquid effluent. Trade Effluent Treatment Scheme at Plot No. L-10 The trade effluent stream will be segregated in LCOD (0.05%) / LTDS (0.5%) effluent. Effluent generated from industrial process along with blow downs from the Cooling tower and Boilers will be passed through SEE (Single Effect Evaporator) followed by Centrifuge, full fledged ETP comprises primary, secondary, and tertiary and RO system. RO permeate will be reused for cooling tower makeup.
			Domestic Effluent Treatment Scheme at Plot No. L-99 STP having capacity 6 CMD will be provided for treatment of 5.0 CMD sewage. Treated sewage will be used for green belt development during dry season and will be used for toilet flushing during wet season. Domestic Effluent Treatment Scheme at Plot No. L-10 · STP having capacity 5 CMD will be provided for treatment of 4.0 CMD sewage · Treated sewage will be used for green belt development during dry season and will be used for toilet flushing during wet season
3	Land	i. Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33% wherever, feasible for new projects.	· Company will develop Green belt in 2178.26 Sq.m. (42.24% of the total plot area) at Plot No. L-99. · Company will develop Green belt in 840.93 Sq.m. (40.04% of the total plot area) at Plot No. L-10. Thus, a total of 3019.19 sq. m. (41.60 % of the total plot area) green belt will develop by the company. Plantation will be done considering 2500 no. of trees / hectare.

			ii. Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry etc.	· Company will develop Greenbelt in 2178.26 Sq. m. (42.24% of the total plot area) at Plot No. L-99. · Company will develop Greenbelt in 840.93 Sq. m. (40.04% of the total plot area) at Plot No. L-10. Thus, a total of 3019.19 sq. m. (41.60 % of the total plot area) greenbelt will develop by the company. Plantation will be done considering 2500 no. of trees / hectare.	

					Not Applicable. Dumping of the mentioned waste is not envisaged in the said project.				
					Hazardous waste and its management are given below;				
					At Plot No. L-99				
					Spent Carbon	28.3	1930	TP A	Co-processing / CHWTSDF
					Spent Acid 30-40%Acetic Acid(From Paracetamol process)	36.1	12650	TP A	SaletoMPCB Authorized Party / CHWTSDF
					EmptyBarrels/ Drums /Containers/ liners / contaminate d chemical Bottles / waste.	33.1	150	TP A	SaletoMPCB Authorized Party
					Contaminate d cotton rags or other cleaning materials	33.2	6	TP A	CHWTSDF / Co-processing
					UsedorSpent Oil	5.1	8	TP A	SaletoMPCB Authorized Recycler
					Wastes or residues containingoil	5.2	5	TP A	CHWTSDF/Co - processing
					Chemical sludgefrom waste water treatment.	35.3	110	TP A	CHWTSDF
					Concentration or evaporation residues (From ATFD)	37.3	15500	TP A	CHWTSDF
					Discarded Asbestos	15.2	12	TP A	CHWTSDF

				Date expired products	28.5	50	TPA	CHWTSDF/Co-processing
				Off Specification Product	28.4	50	TPA	CHWTSDF/Co-processing
				Dust from air	26.2	1.2	TPA	CHWTSDF/Co-
				filtration system				processing
				Spent carbon or filter medium	36.2	24	TPA	Co-processing /CHWTSDF
				At Plot No. L-10				
				Process Residue and wastes	28.1	12	TPA	Co-processing/ CHWTSDF
				Spent carbon	28.3	180	TPA	Co-processing through authorized /CHWTSDF
				Chemical sludge from waste water treatment	35.3	60	TPA	CHWTSDF
				Empty barrels/ containers / liners contaminated with hazardous chemicals / wastes	33.1	36	TPA	SaletoMPCB Authorized Party
				Used or spent oil	5.1	2	TPA	SaletoMPCB Authorized Recycler
				Spent ion exchange resin containing toxic metals	35.2	5	TPA	CHWTSDF / Co-processing
Contaminated cotton rags or other cleaning materials	33.2	10	TPA	CHWTSDF				
Wastes or residues	5.2	2	TPA	CHWTSDF / Co-processing				

Standard EC Conditions for (Synthetic organic chemicals industry)

1.

SR No	EC Conditions	Compliance Status
1.1	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted
1.2	The Project proponent shall strictly comply with the rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, and Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and other rules notified under various Acts.	Noted
1.3	The energy source for lighting purposes shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	Noted
1.4	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Noted
1.5	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. The activities shall be undertaken by involving local villages and administration. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Noted
1.6	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	Noted
1.7	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	Complied (Refer Annex.XII)
1.8	The project proponent shall also upload/submit six monthly reports on Parivesh Portal on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data to the respective Integrated Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	Noted
	The environmental statement for each financial year ending 31st March in Form-V as is	Noted

1.9	mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance condition and shall also be sent to the respective Integrated Regional Office of MoEF&CC by e-mail	
1.10	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/ . This shall 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 shall be forwarded to the concerned Regional Office of the Ministry.	Complied (Refer Annex.XIII)
1.11	The project authorities shall 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 start of the project.	Noted
1.12	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Noted

Additional EC Conditions

1	(i) PP shall ensure that there is no transfer of raw materials as well as products including waste/wastewater between the plot No L-10 and Plot No L-99 except steam through pipeline. Adequate safety measures shall be ensured during transfer of steam	Noted



सत्यमेव जयते

File No: IA-J-11011/55/2025-IA-II(I)
Government of India
Ministry of Environment, Forest and
Climate Change
IA Division



Date 24/11/2025



To,

AARTI PHARMALABS LIMITED
AARTI PHARMALABS LIMITED
Unit-III, Plot No. K-17/18/19, M.I.D.C., Tarapur, Taluka - Palghar, Kolwade, PALGHAR,
MAHARASHTRA, Navapur Road, MIDC Tarapur, 401506
mahendra.patil@aartipharmalabs.com

Subject: Grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA Notification 2006 -regarding.

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/MH/IND3/551451/2025 dated 25/09/2025 for grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA Notification 2006 and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC25A2405MH5448929N
(ii) File No.	IA-J-11011/55/2025-IA-II(I)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	5(f) Synthetic organic chemicals industry
(vi) Sector	Industrial Projects - 3
(vii) Name of Project	New Project for Manufacturing of API Products by M/s. Aarti Pharmalabs Limited
(viii) Name of Company/Organization	AARTI PHARMALABS LIMITED
(ix) Location of Project (District, State)	PALGHAR, MAHARASHTRA
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	Yes

3. The Ministry of Environment, Forest and Climate Change has examined the proposal seeking environmental clearance of the proposed New project for Manufacturing of 2000 TPM of API Products at Plot no L-99 and Boilers, Utility & production of Tech Salt (Potassium Chloride containing about 0.5 % of Potassium Fluoride) of 250 TPM located at Plot No. L-10 by M/s.

4. The project is covered under the Category A of item 5(f) of the Schedule of Environment Impact Assessment (EIA) Notification, 2006 (amended from time to time) due to the applicability of the general condition i.e., the project site is located in Tarapur Industrial Area which is a **Critically Polluted Area (CPA)** and hence the proposal is appraised at the Central Level by the Expert Appraisal Committee (EAC).

5. ToR has been issued by Ministry vide letter No. IA-J-11011/55/2025-IA-II(I) dated 13/02/2025. The project proposal was considered by the Expert Appraisal Committee (Industry-3) in its **113th meeting held on 24th October, 2025**, wherein the Project Proponent and the accredited Consultant namely M/s. Sadekar Enviro Engineers Private Limited (NABET Accreditation Number: NABET/EIA/23-26/SA 0239, Valid till 18-04-2026) made a detailed presentation on the salient features of the project.

6. Existing land area is 7257 m². Details/Status of Land Ownership/Land Possession:

Sr. No.	Plot no./Survey no./Gat no.	Plot area (sq. m.)	Date of land allotment (if applicable)	Date of land Possession (if applicable)	Date of lease /sale deed / land transfer (if applicable)	Validity of lease/sale deed or possession certificate	Name on the lease/sale deed or allotment/possession certificate
1.	Plot no. L-99	5157	12.09.2024	NA	NA	NA	M/s. Aarti Pharmalabs Limited
2.	Plot no. L-10	2100	NA	NA	29.11.2023	NA	

Chronology of Land Transfer:

- The Plot no. L-99 & L-10 was allotted to M/s. Aarti Pharmalabs Limited (Unit V-II) by MIDC Tarapur dated 03.10.2024 & 29.11.2023 respectively.
- PP reported that MIDC provided plot possession receipt vide letter no. RO THANE-1/TRP/L-99/ dated 03/10/2024 and Plot name change letter having vide letter no. MIDC/ROTI-1/TRP/L-10/6453/2023 dated 29.11.2023 by MIDC Tarapur.

7. The details of products and capacity as under:

S.N.	Product Details	CAS No.	Total Quantity (TPM)	Uses
At Plot No. L-99				
1.	Caffeine	58-08-02	1000	Food & Drug
2.	Paracetamol	103-90-2	1000	Anti-Fever Medicine
Total			2000 TPM	
S.N.	Product Details	CAS No.	Total Quantity (TPM)	Uses
At Plot No. L-10				
1.	Tech Salt (Potassium Chloride containing about 0.5 % of Potassium Fluoride)	7447-40-7 7789-23-3	250	-

8. PP reported that there is no violation under EIA, 2006/court case/show cause/direction related to the project under consideration.

9. Details / Chronology of existing EC, CTO, CTE:

Consent to Establish obtained vide no. **Format1.0/AS(T)/UAN no. 0000223966/CE/2411000875 obtained dated 14/11/2024 and valid up to commissioning of the unit or up to 5 years whichever is earlier for Plot No. L-99 and vide no. Format1.0/AS(T)/UAN No.0000232468/CR/2502002099 obtained dated 25/02/2025, valid up to 31/03/2030**

Sr. No.	Environment related Clearance / Permit Type	Granted by	Document No. & Date
1.	Consent to Establish (CTE)	Maharashtra Pollution Control Board	Format1.0/AS(T)/UAN No.0000223966/CE/2411000875 Date of Issue: 14/11/2024

2.	Consent to Operate (CTO)	Maharashtra Pollution Control Board	Format1.0/AS(T)/UAN No.0000232468/CR/2502002099 Date of Issue: 25/02/2025

10. PP reported that there are **no** national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. River/ water body **Lower Banganga River** is flowing at a distance of **1.90 Km** in **South** direction. **6 nos. Schedule-I species i.e. *Spilornis cheela*, *Accipiter badius*, *Pavo cristatus*, *Ptyas mucosa*, *Naja naja*, *Daboia russelii*** and status of approval of the conservation plan for the Schedule-I species.

PP reported that Wildlife Conservation Plan is submitted to the Chief Wildlife Warden, Nagpur with an allocated budget of Rs. **30.25 Lakh**.

Details of project site proximity (in km) to sensitive areas:

- Habitation: **Boisar is at an aerial distance of 2.0 km away from the project site in E direction.**
- School: **Z.P. School Kumbhawali is located at an aerial distance of 1.10 Km in WSW direction from the project site**
- River/Waterbody: **Lower Banganga River is approximately at an aerial distance of 1.90 Km towards S direction from the project site**
- Hospital: **Thunga Hospital, MIDC Tarapur is located at an aerial distance of 1.80 km in E direction from the project site**

11. Ambient air quality monitoring was carried out at **8 locations** during **October 2024 to December 2024** and the baseline data indicates the ranges of concentrations as: PM₁₀ (**46.0 g/m³ – 68.3 g/m³**), PM_{2.5} (**10.1 g/m³ – 24.3 g/m³**), SO₂ (**5.1 g/m³ – 18.7 g/m³**), NO_x (**6.1 g/m³ – 21.2 g/m³**). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.01154 µg/m³, 0.00577 µg/m³, 1.6212 µg/m³ and 1.49428 µg/m³ with respect to PM10, PM2.5, SOx and NOx. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

12. PP reported that total water requirement will be **1516.35 m³/day** (1164.85 CMD at Plot No. L-99 and 351.5 CMD at Plot No. L-10) of which fresh water requirement will be **790.69 m³/day** (683.1 CMD at Plot No. L-99 and 107.59 CMD at Plot No. L-10) will be met from **MIDC Tarapur, Taluka & District – Palghar, Maharashtra** the approval for water supply will be obtained after grant of Environmental Clearance. Remaining water requirement of (617.72 m³/day treated wastewater+ 98.59 m³/day recirculation) will be met from recycled water.

13. PP reported that effluent of **607 CMD (Trade effluent: 602 CMD, Domestic effluent: 5.0 CMD)** quantity will be treated through **solvent stripper, MVR/MEE followed by ATFD, ETP (Primary, Secondary and Tertiary), RO systems & Sewage Treatment Plant (STP) respectively at Plot No. L-99 and 41.01 CMD (Trade effluent: 37.01 CMD, Domestic effluent: 4.0 CMD)** quantity will be treated through **SEE (Single Effect Evaporator) followed by Centrifuge, full fledge ETP comprises primary, secondary, and tertiary and RO system & Sewage Treatment Plant (STP) respectively at Plot No. L-10.**

14. Rainwater storage tank capacity (nos. x KL): - **(1 x 20 KL at Plot No. L-99 & 1 x 20 KL at L-10)**

15. PP reported that Power requirement for proposed unit will be **2550 kVA (Demand Load)** and **2775 kW (Connected Load)** at plot No L-99 and **250 kVA (Demand Load)** and **800 kW (Connected Load)** at plot No L-10 and will be met from **Maharashtra State Electricity Distribution Company Limited (MSEDCL)**. Proposed unit will have D. G. Set of **(500 kVA X 2 nos.)** capacity at Plot No L-99 and **(200 kVA X 1 no.)** capacity at Plot No L-10, will be used as standby during power failure. Stack **(5 m height each (Above roof level) for 500 KVA at Plot No. L-99 and 3 m height (Above roof level) for 200 KVA at plot no. L-10)** will be provided as per CPCB norms to the proposed DG sets.

16. PP reported that APL has **2 Nos. of biomass briquette/Imported coal fired boiler (1 x 10 TPH & 1 x 6 TPH) at Plot No. L-10**. Bag filter with common stack of height of **35 m** is installed for controlling the particulate emissions within the statutory limit of 115 mg/Nm³ for the boilers.

Stack Height Details along with Pollution Control System given below:

Sr. No.	Utilities	Details	Fuel Used	Pollution Control System
1.	#Steam Boilers at	10 TPH x 1 No 6 TPH x 1 No	Biomass Briquette/ Imported Coal	Bag filter and Common Stack of 35-meter height is provided.

	Plot No. L-10, MIDC Tarapur, Maharashtra			
2.	DG set*	(500 KVA X 2 nos.),	HSD	Acoustic enclosure with separate 30-meter stack each (above roof level) will be provided.
3.	DG set*	(200 KVA X 1 nos.)	HSD	Acoustic enclosure with separate 3-meter stack (above roof level) will be provided.
* DG Sets will be operated only during power failure.				

17. Details of fuel: Existing and Proposed

Fuel Name	Total
High Speed Diesel (HSD) for DG set.	252 Ltr. /Hr.
<i>Note: DG Sets will be operated only during power failure.</i>	

18. Details of Process emissions generation and its management:

Sr. No.	Utilities	Details	Fuel Used	Pollutant	Pollution Control System
At Plot No. L-99					
1.	Acid Scrubber	2000 CFM x 1 no.	--	Alkaline pollutant	6-meter stack each (above roof top) will be provided.
2.	Alkali Scrubber	2000 CFM x 1 no.	--	Acid Mist	
Sr. No.	Utilities	Details	Fuel Used	Pollutant	Pollution Control System
At Plot No. L-10					
1.	Water Scrubber	2000 CFM x 1 no.	--	Alkaline pollutant	15-meter stack is provided.

19. Details of Solid waste/ Hazardous waste generation and its management:

Interim storage area earmarked for Hazardous waste (sq. m.): - **56.77 sq. m. (Approximate) at plot no L-99 and 38.36 sq. m. (Approximate) at plot no L-10.**

Details of Hazardous Waste:

Sr. No.	Type of Waste	Category of waste	Quantity	UOM	Method of Disposal
			Total		
At Plot No. L-99					
1.	Spent Carbon	28.3	1930	TPA	Co-processing / CHWTSDF
2.	Spent Acid 30-40% Acetic Acid (From Paracetamol process)	36.1	12650	TPA	Sale to MPCB Authorized Party / CHWTSDF
3.	Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste.	33.1	150	TPA	Sale to MPCB Authorized Party
4.	Contaminated cotton rags or other cleaning materials	33.2	6	TPA	Incineration / Co-processing
5.	Used or Spent Oil	5.1	8	TPA	Sale to MPCB Authorized Recycler
6.	Wastes or residues containing oil	5.2	5	TPA	CHWTSDF/Co-processing
7.	Chemical sludge from waste water treatment.	35.3	110	TPA	CHWTSDF
8.	Concentration or evaporation residues (From ATFD)	37.3	15500	TPA	CHWTSDF

9.	Discarded Asbestos	15.2	12	TPA	CHWTSDF
10.	Date expired products	28.5	50	TPA	CHWTSDF/Co-processing
11.	Off Specification Product	28.4	50	TPA	CHWTSDF/Co-processing
12.	Dust from air filtration system	26.2	1.2	TPA	CHWTSDF/Co-processing
13.	Spent carbon or filter medium	36.2	24	TPA	Co-processing /CHWTSDF
At Plot No. L-10					
14.	Process Residue and wastes	28.1	12	TPA	Co-processing / CHWTSDF
15.	Spent carbon	28.3	180	TPA	Co-processing through authorized /CHWTSDF
16.	Chemical sludge from waste water treatment	35.3	60	TPA	CHWTSDF
17.	Empty barrels / containers / liners contaminated with hazardous chemicals / wastes	33.1	36	TPA	Sale to MPCB Authorized Party
18.	Used or spent oil	5.1	2	TPA	Sale to MPCB Authorized Recycler
19.	Spent ion exchange resin containing toxic metals	35.2	5	TPA	CHWTSDF / Co-processing
20.	Contaminated cotton rags or other cleaning materials	33.2	10	TPA	CHWTSDF
21.	Wastes or residues containing oil	5.2	2	TPA	CHWTSDF/Co-processing
22.	Process waste sludge/residues containing acid, toxic metals, organic compounds	26.1	12	TPA	CHWTSDF
23.	Process Residue and wastes	28.1	204	TPA	Co-processing / CHWTSDF
24.	Process residues and wastes (Sulfolane)	28.1	300	TPA	CHWTSDF
25.	Process residues and wastes (KF Solution neutral)	28.1	396	TPA	Sale to MPCB Authorised party/CHWTSDF

Details of Non - Hazardous Waste:

Sr. No.	Particulars	Quantity	UOM	Method of Disposal
At Plot No. L-99				
1.	STP Sludge	20	TPA	Use as manure
2.	Dry Waste : Garbage	5.5	TPA	Sale to authorized party for recycling
	Wet Waste : Food Waste	4	TPA	After composting use as manure
3.	Metal scrap (MS scrap piping, structural, Equipment, Broken Shutters, etc.)	50	TPA	Sale to authorized Recycler
4.	Wood, Wooden Box, Wooden fills cooling tower, Plywood, Pallets	10	TPA	Sale to authorized party
5.	Glass waste	5	TPA	Sale to authorized party
6.	Paper waste	5	TPA	Sale to authorized Recycler
7.	PVC fins cooling tower	15	TPA	Sale to authorized party
8.	Plastic material	0.5	TPA	Sale to authorized party
At Plot No. L-10				
9.	Fuel Ash	2664	TPA	Sale to Brick Manufacturers
10.	Dry Waste : Garbage	2.2	TPA	Sale to authorized party for recycling
	Wet Waste : Food Waste	1.5	TPA	Wet waste will be composted at site and compost to be used as manure

11.	Packaging material/Used PPE's/Non-Recyclable Plastic Waste, Insulation Waste, Used Cables	12	TPA	Sale to Authorized Party
12.	STP sludge	15	TPA	Use as manure
Schedule-I of The Hazardous and Other Wastes (Management and Trans boundary Movement) Rule, 2016.				

Details of E - Waste:

Sr. No.	Particulars	E – Waste Category	Quantity	UOM	Method of Disposal
			Total		
At Plot No. L-99					
1.	Personal Computers (Central Processing Unit with input and output devices)	ITEW2	0.5	TPA	Sale to MPCB authorised recycler / returned to manufacturer / supplier
2.	Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)	ITEW3	0.5	TPA	
3.	Printers including cartridges	ITEW6	0.5	TPA	
4.	Telephones	ITEW12	0.1	TPA	
At Plot No. L-10					
5.	E-waste	ITEW2	1	TPA	Sale to Authorized Battery Recyclers
Reference: E- Waste (Management) Rules 2022 and its amendments					

Details of Battery Waste:

Particulars	Total	Method of Disposal
At Plot No. L-99		
Lead batteries from D.G. Sets, UPS system	1 TPA	Returned to supplier / Sale to Authorized recycler
At Plot No. L-10		
E-waste	1 TPA	Sale to authorized E-waste recycler
Reference: Battery Waste Management Rules, 2022		

Details of Bio - Medical Waste:

Particulars	Category	Quantity (TPA)	Method disposal
At Plot No. L-99			
Soiled waste (Items contaminated with blood, body fluids like dressings, plaster casts, cotton swabs and bags containing residual or discarded blood and blood components)	Yellow	1.5	To CBMWTSDf
At Plot No. L-10			
Soiled waste (Items contaminated with blood, body fluids like dressings, plaster casts, cotton swabs and bags containing residual or discarded blood and blood components)	Yellow	0.5	To CBMWTSDf
Reference: Biomedical Waste Management Rules 2016 and its amendments			

20. Public Hearing is exempted as per clause 7(i)(iii) of OM No. J-11011/321/2016-IA. II(I) dated 27th April 2018 of EIA Notification, 2006 (amended from time to time) as the project site is located within the **MIDC Tarapur**, Notified Industrial Area declared by Government of Maharashtra and notified vide Gazette no. **IDC.2169/23025 IND 1** dated **27.05.1969**.

21. Details/Status of approved Water Supply Permission: PP reported that water permission is approved by MIDC Tarapur for water requirement of 1516.35 CMD.

22. Details/Status of approved Wildlife Conservation Plan: PP reported that Wildlife Conservation Plan is submitted to Chief Wildlife Warden Office, Nagpur for Approval with an allocated budget of Rs. 30.25 Lakhs.

23. Details of Best Technology Adopted: PP reported the process has been developed after years of R&D at pilot level and all the process have been optimized to achieve maximum yield and minimize the generation of waste.

Project integrates eco-friendly technologies focused on sustainability and environmental compliance.

Project will be operated on Zero Liquid Discharge (ZLD) i.e. MVR/MEE followed by ATFD, ETP (Primary, Secondary and Tertiary), RO systems and Sewage Treatment Plant (STP) respectively will be installed for Zero Liquid Discharge (ZLD). STP will be installed for domestic sewage treatment, ensuring water reuse for domestic flushing/greenbelt development. Details are given in **EIA Report Ch. 2, Page no. 2.**

Provision for Disposal of hazardous waste to Sale to Authorized party/ Co-processing/ Pre-processing/ CHWTSDF will be made. Details are given in the **EIA Report Ch. 2, Page no. 2-6.**

Also, 1 No. of Alkali Scrubber, 1 No. of Acidic Scrubber with adequate stack height 6-meter stack each (above roof top) at Plot No. L-99 and and 1 No. of Water Scrubber with adequate stack height 15 meter at Plot No. L-10 and will be provided to comply with CPCB guidelines.

Details are mentioned in the **EIA Report Ch. 2, Page no. 2-5.**

For energy conservation solar panel of 20 kW capacity and 35 Nos. of Solar Street lights is made. Details are mentioned in the **EIA Report Ch. 2, Page no. 2-25.**

Regular monitoring of effluent and air emissions will be carried out for regulatory compliance. Details are mentioned in the **EIA Report Ch. 6, Page no. 6-2.**

This approach minimizes waste, optimizes resource use, and ensures minimal environmental impact.

24. Status of Litigation Pending against the proposal, if any : PP reported that no litigations are pending against the proposal.

25. Industry will develop total greenbelt in an area of **41.60 % i.e. 3019.19 Sq. m.** at project site. The industry will plant a total of **944** nos. of tree saplings.

26. Total Employment will be **175** persons for proposed new project. Industry proposes to allocate **Rs 3.80 Crore @** of **4 %** towards CER.

27. The estimated project cost is **Rs 94.88 Crore.** Total capital cost earmarked towards environmental pollution control measures is Rs 2195.5 Lakhs and the Recurring cost (operation and maintenance) will be about Rs 5729.02 Lakhs per annum. The breakup of capital and recurring cost is as follows:

Sr. No.	Activity	Approximate capital cost (Rs. in Lakhs)	Approximate recurring cost per annum (Rs. in Lakhs)	Basis for cost estimates
1.	Air pollution control	40.0	1.0	Installation, Operation and Maintenance cost of Scrubber (2 nos.), D G Sets. (2 nos.) and stacks.
2.	Water pollution control	2000.0	2700.0	Installation, Operation and Maintenance cost of MVR followed by ATFD, Full-fledged ETP (Primary, Secondary and Tertiary Treatment), HPPTRO, PTRO, PTRO and STP.
3.	Noise pollution monitoring	2.0	1.0	Anti – vibration pads, Regular/routine maintenance of equipment's, Appropriate PPEs (Ear plugs / Ear Muffs etc.) Isolation of high intensity noise generating equipment. Appropriate traffic management will be implemented.
4.	Solid and hazardous waste management	100.0	3000.0	Impervious flooring with leachate collection system and proper ventilation, Membership of the CHWTSDF, organic waste converter, Purchase of containers / bags for storage of hazardous & non-hazardous solid waste, Solid Waste Management and disposal to CHWTSDF.
5.	Environment monitoring and management	0	6.42	Regular Environmental Monitoring - As per EC conditions / As per SPCB guideline, Maintenance of inhouse Laboratory
6.	Green belt	4.0	9.10	Development & maintenance of greenbelt.
7.	Fire & Safety	99.2	10.0	Fire Fighting system, Lightning Arrestor, Fire extinguishers, Personal protective equipment, Alarm system for alerting the working members, First aid kit
8.	Occupational health (OHC)	2.5	2.5	Provision of standard PPE's (Helmet, masks, gloves, ear plugs and safety boots), Annual health-medical check-up of all employees and provision of health insurance to workers.
9.	CER Activity	380	-	As per the OM, 4% of the total project cost allocated for CER activities.
10.	Cost of conservation plan of Schedule-I species, if any	30.25	-	As per the survey and secondary data.
	Total	2657.95	5730.02	--
Sr. No.	Particular	Activity	Amount allocated (Rs.)	
1.	Total Cost	Total Project Cost	9488 Lakh	

2.	EMP Cost	1. Installation & Operation cost of Scrubber 2. Installation of STP Installation, Operation and Maintenance cost of ETP, MVR/MEE followed by ATFD, Full-fledged ETP (Primary, Secondary and Tertiary Treatment), RO System, SEE Installation of anti-vibration & noise cancellation pads. 1. Glares, Breathing Masks, Hand sanitizers, Gloves, Boots, Helmets, Ear Plugs etc. 2. Purchase of containers / bags for storage of hazardous & non-hazardous solid waste. 3. Greenbelt development cost. 4. Installation of the Rain water Harvesting system 5. Solar Street lights 35 Nos. 6. Installation of Solar Roof Top Harvesting System & Solar streetlights.	2195.5 Lakh
3.	Recurring cost	1. Cost of Scrubber installation and maintenance. 2. STP maintenance cost 3. Maintenance cost of ETP 4. Cost for Maintenance of anti-vibration & noise cancellation pads. 5. Annual health-medical check-up of workers 6. Purchase of containers / bags for storage of hazardous & non-hazardous solid waste. 7. Solid Waste Management and disposal to CHWTSDF. 8. Maintenance of Greenbelt. 9. Cost for maintenance of the Rain water Harvesting system. 10. Maintenance of Solar Roof Top Harvesting System & Solar streetlights 11. Monitoring of ambient air, noise, stack, ETP inlet and outlet, workplace 12. Third party monitoring of Compliance of EC Conditions (six monthly)	5729.02 Lakh
4.	CER Cost	As per MoEF&CC OM No. F. No. 22-23/2018-IA.III (Pt) dated 31st October, 2019 the % of the CER may be at least 2.0 times the slabs given in the OM dated 1st May, 2018 for Critically Polluted Area (CPA). Hence, 4% of the total project cost will be allocated for CER activities	380 Lakh
5.	Land	The Land is owned by Project Proponent	---
6.	P. H. Commitment and action plan in brief	Public Hearing is Not Applicable for this Project, since it is located in Notified Industrial Area .	---
7.	Green belt	Greenbelt development and maintenance of greenbelt on an area of 3323 sq. m. (64.43%)	4.0 Lakh
8.	Conservation plan	Cost will be allocated for the Conservation of Schedule-I species.	30.25 Lakh
9.	Water approval	Water permission is obtained from MIDC Tarapur, Taluka & District – Palghar, Maharashtra.	---
10.	Critical issues related to the Project, (if any)	---	---

28. Action Plan to comply with the following mitigation measures as Per Ministry's Office Memorandum 31st October, 2019 regarding Projects located in Critically Polluted Area is as given below:

S N	Environment	Condition	Compliance																												
	Air	Stipulation of condition such as: i. Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants.	<table><thead><tr><th>S N</th><th>Source</th><th>Source of Emission</th><th>Fuel</th><th>Emission Level</th><th>SPCB Standards</th><th>Air Pollution Control Devices</th></tr></thead><tbody><tr><td>1</td><td>2 No. x 500 kVA D.G. Set at Plot No. L-99</td><td>TPM SO₂</td><td>HSD</td><td><50 mg/Nm³ <43.2 Kg/Day</td><td>50 mg/Nm³ 43.2 Kg/Day</td><td>Adequate stack height of 5 meter (each) above roof top.</td></tr><tr><td>2</td><td>1 No. x 200 kVA D.G. Set at Plot No. L-10</td><td>TPM SO₂</td><td>HSD</td><td><50 mg/Nm³ <43.2 Kg/Day</td><td>50 mg/Nm³ 43.2 Kg/Day</td><td>Adequate stack height of 3 meter above roof top.</td></tr><tr><td>3.</td><td>Boilers: 1 No. x 10 TPH & 1 No. x 6 TPH (Stand by)</td><td>TPM SO₂</td><td>Biomass Briquette: 74 TPD or Imported Coal: 45 TPD</td><td>50 mg/Nm³ 407.4 Kg/Day</td><td><50 mg/Nm³ <407.4 Kg/Day</td><td>Common stack with height of 30 meter provided. With multi cyclone filter followed by bagfilter as APCD</td></tr></tbody></table> Note: DG Sets will be operated only during power failure	S N	Source	Source of Emission	Fuel	Emission Level	SPCB Standards	Air Pollution Control Devices	1	2 No. x 500 kVA D.G. Set at Plot No. L-99	TPM SO ₂	HSD	<50 mg/Nm ³ <43.2 Kg/Day	50 mg/Nm ³ 43.2 Kg/Day	Adequate stack height of 5 meter (each) above roof top.	2	1 No. x 200 kVA D.G. Set at Plot No. L-10	TPM SO ₂	HSD	<50 mg/Nm ³ <43.2 Kg/Day	50 mg/Nm ³ 43.2 Kg/Day	Adequate stack height of 3 meter above roof top.	3.	Boilers: 1 No. x 10 TPH & 1 No. x 6 TPH (Stand by)	TPM SO ₂	Biomass Briquette: 74 TPD or Imported Coal: 45 TPD	50 mg/Nm ³ 407.4 Kg/Day	<50 mg/Nm ³ <407.4 Kg/Day	Common stack with height of 30 meter provided. With multi cyclone filter followed by bagfilter as APCD
S N	Source	Source of Emission	Fuel	Emission Level	SPCB Standards	Air Pollution Control Devices																									
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3.	Boilers: 1 No. x 10 TPH & 1 No. x 6 TPH (Stand by)	TPM SO ₂	Biomass Briquette: 74 TPD or Imported Coal: 45 TPD	50 mg/Nm ³ 407.4 Kg/Day	<50 mg/Nm ³ <407.4 Kg/Day	Common stack with height of 30 meter provided. With multi cyclone filter followed by bagfilter as APCD																									
		ii. CEMS may be installed in all large / medium red category industries (air polluting) and connected to SPCB and CPCB server.	Not applicable. As per directions under section 18(1)(b) of the water (prevention Control of pollution) act, 1974 and the air (prevention Control of pollution) act, 1981 in the matter of pollution Control in 17 category of highly polluting industries dated 05/02/2014, M/s Aarti Pharmalabs Limited categories under Pharmaceutical Category, which does not requires installation of CEMS for stack monitoring.																												
		iii. Effective fugitive emission control measures should be imposed in the process, transportation packing etc.	Below mentioned are the mitigation measures which will be implemented by PP to control fugitive emissions. · Closed feed system will be adopted for charging of the raw materials by utilizing transfer line from storage area to process area. · 1 no. of Acid scrubber & 1 no. of Alkali scrubber will be installed at Plot No. L-99, 1 no. of Water scrubber is at Plot No. L-10, and monitored regularly and checked if emissions are within standard.																												

			· Pumps with mechanical seals will be provided · Minimal provision of flanges, joints and valves in pipeline · Regular maintenance of valves, pipes, fittings to avoid any leakages · All the internal roads inside the project will be paved. And same will be used for transportation. · Periodical work area monitoring will be done.
		iv. Transportation of materials by rail/ conveyor belt, wherever feasible.	Transportation of material by rail is not feasible project. Company has identified the Local Suppliers to purchase the raw materials which will help to reduce the distance & fuel emissions that arising from transportation of raw materials.
		v. Encourage use of cleaner fuels (pet coke/ furnace oil/ LSHS may be avoided.	Noted. · Industry is using cleaner fuel Biomass Briquette as a primary fuel for operation of Boilers and Imported Coal is used as a contingency. · For operation of 2 nos. of DG set having capacity 500 kVA each at Plot No. L-99 and 1 no. of DG Set having capacity 200kVA at Plot No. L-10, HSD fuel (Total Quantity: 252 Ltr/Hr.) will be used. DG Sets will be operated only during power failure.
		vi. Best available technology may be used. For example: usage of EAF/SAF/IF in place of Cupola furnace. Usage of supercritical technology in place of sub-critical technology.	Following measures will be provide by PP: · The company propose to achieve Zero Liquid Discharge (ZLD) by way of installation of MVR, ATFD, ETP, RO systems at Plot No. L-99 and SEE, Centrifuge, ETP, RO systems at Plot No. L-10. Entire effluent after appropriate treatment shall be recycled within the plot premises. · The company propose to install dedicated STP for sewage treatment. Entire sewage after appropriate treatment shall be reused within plot premises for greenbelt development and toilet flushing purpose at both plots. · Reduction in effluent will be achieved by continuously reducing the input water consumption by recycling Treated effluent. This shall help in reduction of fresh water usage. · Dedicated plant/reactors/equipment for the product will enable to reduce the intermittent washings of the equipment thereby reducing the effluent quantity, · Periodic preventive maintenance of the moving parts of the equipment as per the pre-planned schedule will keep the noise under control. · In addition, PP shall provide acoustic system to the noise generating equipment to control the noise.
		vii. Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33% wherever feasible.	· Company will develop Greenbelt in 2178.26 Sq. m. (42.24 % of the total plot area) at Plot No. L-99. · Company will develop Greenbelt in 840.93 Sq. m. (40.04 % of the total plot area) at Plot No. L-10. Thus, a total of 3019.19 sq. m. (41.60 % of the total plot area) greenbelt will develop by the company. Plantation will be done considering 2500 no. of trees / hectare.
		viii. Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry etc.	As per the requirement of the MoEF&CC guidelines, greenbelt of 40 % of the total plot area is required to be developed by the industry. The total plot area is 7257 sq. m., APL already started the greenbelt development in 3019.19 sq. m. i.e. 41.60% of the total plot area as greenbelt. Considering 2500 nos. of trees per hectare (10,000 sq. m.), total around 994 nos. of the trees required to plant by the industry.
		ix. Assessment of carrying capacity of transportation load on roads inside the industrial premises. If the roads required to be widened shall be prescribed as a condition.	Internal roads having min width of 6 meter and 9 meter turning radius will be provided which will be adequate to carry the transportation activity as per MIDC DCR rules.
2	Water	i. Reuse / recycle of treated wastewater, wherever feasible.	The project will be operated on the basis of Zero Liquid Discharge System. EFFLUENT TREATMENT SCHEME FOR PLOT NO. L-99 A. Effluent Treatment Scheme for Trade effluent: The unit will be operated on Zero Liquid Discharge system. Around 495 CMD HCOD (5%)/HTDS (10%) effluent will be treated through a Solvent Stripper column, Mechanical Vapour Recompression (MVR) / Multiple Effect Evaporator (MEE) unit followed by an Agitated Thin Film Dryer (ATFD). MVR/MEE condensate will be sent to ETP (Primary, Secondary, Tertiary). ETP treated effluent and cooling tower blow down LCOD (0.05%) / LTDS (0.15%) will be sent to Reverse Osmosis (RO) system. The RO permeate will be reused in cooling tower make-up. RO reject will be sent to the MVR for further treatment, ensuring zero discharge of liquid effluent. B. Treatment Scheme for Sewage: STP having capacity 6 CMD will be provided for treatment of 5.0 CMD sewage. Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season. EFFLUENT TREATMENT SCHEME FOR PLOT NO. L-10 A. Effluent Treatment Scheme for Trade effluent: The trade effluent stream will be segregated in LCOD (0.05%) / LTDS (0.5%) effluent. Effluent generated from industrial process along with blow downs from the Cooling tower and Boilers will be passed through SEE (Single Effect Evaporator) followed by Centrifuge, full fledge ETP comprises primary, secondary, and tertiary and RO system. RO permeate will be reused for cooling tower makeup.

			B. Treatment Scheme for Sewage: · STP having capacity 5 CMD will be provided for treatment of 4.0 CMD sewage · Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season																															
		ii. Continuous monitoring of effluent quality/ quantity in large and medium red category industries (water polluting)	The project will be operated on the basis of Zero Liquid Discharge System. Flow meters with IP cameras will be installed.																															
		iii. Detailed water harvesting plan may be submitted by the project proponent.	· Company will provide 20 KL capacity Rooftop Rainwater Harvesting System at both plots. · The harvested rain water will be used during wet season for the cooling tower makeup which will reduce the fresh water requirement during wet season.																															
		iv. Zero Liquid Discharge wherever techno economically feasible.	Trade Effluent Treatment Scheme at Plot No. L-99 The unit will be operated on Zero Liquid Discharge system. Around 495 CMD HCOD (5%)/HTDS (10%) effluent will be treated through a Solvent Stripper column, Mechanical Vapour Recompression (MVR)/ Multiple Effect Evaporator (MEE) unit followed by an Agitated Thin Film Dryer (ATFD). MVR/MEE condensate will be sent to ETP (Primary, Secondary, Tertiary). ETP treated effluent and cooling tower blow down LCOD (0.05%) / LTDS (0.15%) will be sent to Reverse Osmosis (RO) system. The RO permeate will be reused in cooling tower make-up. RO reject will be sent to the MVR for further treatment, ensuring zero discharge of liquid effluent. Trade Effluent Treatment Scheme at Plot No. L-10 The trade effluent stream will be segregated in LCOD (0.05%) / LTDS (0.5%) effluent. Effluent generated from industrial process along with blow downs from the Cooling tower and Boilers will be passed through SEE (Single Effect Evaporator) followed by Centrifuge, full fledge ETP comprises primary, secondary, and tertiary and RO system. RO permeate will be reused for cooling tower makeup.																															
		v. In case domestic waste water generation is more than 10 KLD, the industry may install STP	Domestic Effluent Treatment Scheme at Plot No. L-99 STP having capacity 6 CMD will be provided for treatment of 5.0 CMD sewage. Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season. Domestic Effluent Treatment Scheme at Plot No. L-10 · STP having capacity 5 CMD will be provided for treatment of 4.0 CMD sewage · Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season																															
3	Land	i. Increase of greenbelt cover by 40% of the total land area beyond the permissible requirement of 33% wherever, feasible for new projects.	· Company will develop Greenbelt in 2178.26 Sq. m. (42.24 % of the total plot area) at Plot No. L-99. · Company will develop Greenbelt in 840.93 Sq. m. (40.04 % of the total plot area) at Plot No. L-10. Thus, a total of 3019.19 sq. m. (41.60 % of the total plot area) greenbelt will develop by the company. Plantation will be done considering 2500 no. of trees / hectare.																															
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		iii. Dumping of waste (fly ash, slag red mud etc.) may be permitted only at designated locations approved by SPCBs / PCCs.	Not Applicable. Dumping of the mentioned waste is not envisaged in the said project.																															
		iv. More stringent norms for management of hazardous waste. The waste generated should be perfectly utilized in co-processing.	Hazardous waste and its management are given below; <table><tr><th rowspan="2">Sr. No.</th><th rowspan="2">Type of Waste</th><th rowspan="2">Category of waste</th><th>Quantity</th><th rowspan="2">UOM</th><th rowspan="2">Method of Disposal</th></tr><tr><th>Total</th></tr><tr><td colspan="6">At Plot No. L-99</td></tr><tr><td>1.</td><td>Spent Carbon</td><td>28.3</td><td>1930</td><td>TPA</td><td>Co-processing / CHWTSDf</td></tr><tr><td>2.</td><td>Spent Acid 30-40% Acetic Acid (From Paracetamol process)</td><td>36.1</td><td>12650</td><td>TPA</td><td>Sale to MPCB Authorized Party / CHWTSDf</td></tr><tr><td>3.</td><td>Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles /</td><td>33.1</td><td>150</td><td>TPA</td><td>Sale to MPCB Authorized Party</td></tr></table>	Sr. No.	Type of Waste	Category of waste	Quantity	UOM	Method of Disposal	Total	At Plot No. L-99						1.	Spent Carbon	28.3	1930	TPA	Co-processing / CHWTSDf	2.	Spent Acid 30-40% Acetic Acid (From Paracetamol process)	36.1	12650	TPA	Sale to MPCB Authorized Party / CHWTSDf	3.	Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles /	33.1	150	TPA	Sale to MPCB Authorized Party
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				waste.					
			4.	Contaminated cotton rags or other cleaning materials	33.2	6	TPA	CHWTSDF / Co-processing	
			5.	Used or Spent Oil	5.1	8	TPA	Sale to MPCB Authorized Recycler	
			6.	Wastes or residues containing oil	5.2	5	TPA	CHWTSDF/Co-processing	
			7.	Chemical sludge from waste water treatment.	35.3	110	TPA	CHWTSDF	
			8.	Concentration or evaporation residues (From ATFD)	37.3	15500	TPA	CHWTSDF	
			10.	Discarded Asbestos	15.2	12	TPA	CHWTSDF	
			11.	Date expired products	28.5	50	TPA	CHWTSDF/Co-processing	
			12.	Off Specification Product	28.4	50	TPA	CHWTSDF/Co-processing	
			13.	Dust from air filtration system	26.2	1.2	TPA	CHWTSDF/Co-processing	
			14.	Spent carbon or filter medium	36.2	24	TPA	Co-processing /CHWTSDF	
			At Plot No. L-10						
			15.	Process Residue and wastes	28.1	12	TPA	Co-processing / CHWTSDF	
			16.	Spent carbon	28.3	180	TPA	Co-processing through authorized /CHWTSDF	
			17.	Chemical sludge from waste water treatment	35.3	60	TPA	CHWTSDF	
			18.	Empty barrels / containers / liners contaminated with hazardous chemicals / wastes	33.1	36	TPA	Sale to MPCB Authorized Party	
			19.	Used or spent oil	5.1	2	TPA	Sale to MPCB Authorized Recycler	
			20.	Spent ion exchange resin containing toxic metals	35.2	5	TPA	CHWTSDF / Co-processing	
			21.	Contaminated cotton rags or other cleaning materials	33.2	10	TPA	CHWTSDF	
			22.	Wastes or residues containing oil	5.2	2	TPA	CHWTSDF / Co-processing	
			23.	Process waste sludge/residues containing acid, toxic metals, organic compounds	26.1	12	TPA	CHWTSDF	
			24.	Process Residue and wastes	28.1	204	TPA	Co-processing / CHWTSDF	
			25.	Process residues and wastes (Sulfolane)	28.1	300	TPA	CHWTSDF	
			26.	Process residues and wastes (KF Solution neutral)	28.1	396	TPA	Sale to MPCB Authorised party/ CHWTSDF	
			Schedule-I of The Hazardous and Other Wastes (Management and Trans boundary Movement) Rule, 2016.						
			· Dedicated storage area will be provided inside the plot boundary for storage as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.						

			· Hazardous waste will be disposed according to the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, category specified in Schedule I [rule 3 (1) (17) (i)]. · All records will be maintained as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. · The generated wastes such as Used or Spent Oil, Concentration or Evaporation residue (ATFD Salt), Chemical sludge from Waste Water Treatment, Solid Waste from process (Carbon) and Distillation residue are suitable for co-processing and having good calorific value will be utilized in co-processing.
4	Other Condition (Additional)	i. Monitoring of compliance of EC conditions may be submitted with third party audit every year.	APL will ensure monitoring of compliance of EC conditions will be submitted through third party audit every year.
		ii. The % of the CER may be at least 1.5 times the slabs given in the OM dated 01.05.2018 for SPA and 2 times for CPA in case of Environmental Clearance.	· Total CER fund will be 380 Lakh (As per OM No. F. No. 22-23/2018-IA.III (Pt) dated 31st October 2019, the % of the CER may be at least 2.0 times the slabs given in the OM dated 01.05.2018 for Critically Polluted Area (CPA). As our project comes under CPA now 4% of the total project cost will be allocated for CER activities.) · Company will prepare a CER plan and the same will be communicated to the District Collector and implementation of the same will be done in consultation with District Collector.

29. **Deliberations by the EAC:**

The following points were discussed in the meeting:

1. PP submitted an undertaking stating that the Environmental Impact Assessment (EIA) Report has been revised by excluding Plot Nos. L-28 and L-10 from the amalgamated proposal, which has resulted in the following:

a. The industrial effluent previously associated with Plot Nos. L-28 and L-29 will no longer be routed to Plot No. L-99 for treatment. Accordingly, the overall effluent generation has been significantly reduced.

b. The generation of hazardous waste has also been minimized, in alignment with the reduced process load and material throughput.

c. Only the transfer of steam from Plot No. L-10 to Plot No. L-99 has been retained in the revised proposal, purely for economic efficiency and resource optimization. This arrangement also facilitates the centralized treatment of flue gases at a single designated location, thereby improving emission control and ensuring compliance with applicable environmental norms.

2. PP submitted revised Action Plan to comply with the mitigation measures as Per Ministry's Office Memorandum 31st October, 2019 regarding Projects located in Critically Polluted Area.

3. PP submitted revised details of disposal of hazardous waste which is as given below:

Sr. No.	Type of Waste	Category of waste	Quantity	UOM	Method of Disposal
			Total		
At Plot No. L-99					
1.	Spent Carbon	28.3	1930	TPA	Co-processing / CHWTSDF
2.	Spent Acid 30-40% Acetic Acid (From Paracetamol process)	36.1	12650	TPA	Sale to MPCB Authorized Party / CHWTSDF
3.	Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste.	33.1	150	TPA	Sale to MPCB Authorized Party
4.	Contaminated cotton rags or other cleaning materials	33.2	6	TPA	CHWTSDF / Co-processing
5.	Used or Spent Oil	5.1	8	TPA	Sale to MPCB Authorized Recycler
6.	Wastes or residues containing oil	5.2	5	TPA	CHWTSDF/Co-processing
7.	Chemical sludge from waste water treatment.	35.3	110	TPA	CHWTSDF
8.	Concentration or evaporation residues (From ATFD)	37.3	15500	TPA	CHWTSDF
9.	Discarded Asbestos	15.2	12	TPA	CHWTSDF
10.	Date expired products	28.5	50	TPA	CHWTSDF/Co-processing
11.	Off Specification Product	28.4	50	TPA	CHWTSDF/Co-processing
12.	Dust from air filtration system	26.2	1.2	TPA	CHWTSDF/Co-processing
13.	Spent carbon or filter medium	36.2	24	TPA	Co-processing /CHWTSDF
At Plot No. L-10					

14.	Process Residue and wastes	28.1	12	TPA	Co-processing / CHWTSDF
15.	Spent carbon	28.3	180	TPA	Co-processing through authorized /CHWTSDF
16.	Chemical sludge from waste water treatment	35.3	60	TPA	CHWTSDF
17.	Empty barrels / containers / liners contaminated with hazardous chemicals / wastes	33.1	36	TPA	Sale to MPCB Authorized Party
18.	Used or spent oil	5.1	2	TPA	Sale to MPCB Authorized Recycler
19.	Spent ion exchange resin containing toxic metals	35.2	5	TPA	CHWTSDF / Co-processing
20.	Contaminated cotton rags or other cleaning materials	33.2	10	TPA	CHWTSDF
21.	Wastes or residues containing oil	5.2	2	TPA	CHWTSDF/Co-processing
22.	Process waste sludge/residues containing acid, toxic metals, organic compounds	26.1	12	TPA	CHWTSDF
23.	Process Residue and wastes	28.1	204	TPA	Co-processing / CHWTSDF
24.	Process residues and wastes (Sulfolane)	28.1	300	TPA	CHWTSDF
25.	Process residues and wastes (KF Solution neutral)	28.1	396	TPA	Sale to MPCB Authorised party/CHWTSDF

The committee was satisfied with the response provided by PP on above information.

The EAC deliberated the Onsite and Offsite Emergency plans and also the various mitigation measures proposed during the implementation of the project and advised the PP to implement the provisions of the Rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, as amended from time to time.

The EAC deliberated on the proposal with due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC found the proposal in order and recommended for the grant of environmental clearance.

The EAC is of the view that its recommendation and grant of environmental clearance by the regulatory authority to the project/activity is strictly under the provisions of the EIA Notification 2006 and its subsequent amendments. It does not tantamount/construe to approvals/consent/permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The PP shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

30. The EAC, after detailed deliberations, **recommended the project for the grant of environmental clearance, subject to the compliance of the terms and conditions and general terms and conditions in Annexure 1.**

31 . Minutes of the meeting may kindly be seen at https://parivesh.nic.in/utildoc/168505178_1761904172305.pdf.

32. Based on the recommendations made by EAC in its 113th meeting held on 24th Oct 2025, the Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance for “ **New project for Manufacturing of 2000 TPM of API Products at Plot no L-99 and Boilers, Utility & production of Tech Salt (Potassium Chloride containing about 0.5 % of Potassium Fluoride) of 250 TPM located at Plot No. L-10 by M/s. Aarti Pharmalabs Limited (Unit V-II), MIDC Tarapur, Taluka & District – Palghar, Maharashtra** ” under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the Specific and General terms and conditions as mentioned at Annexure-1.

33. The Ministry reserves the right to stipulate additional conditions, if found necessary. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project. The Project Proponent is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.

34. General Instructions:

- (a) The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.
- (b) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- (c) The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.
- (d) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during perational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.
- (e) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (f) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- (g) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

This issues with the approval of the Competent Authority

Copy To

1. The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur- 440001.
2. The Secretary, Environment and Climate Change Department, Govt. of Maharashtra, New Administrative Bhavan, 15th Floor, Madame Kama Road, Mantralaya, MUMBAI - 400032, Maharashtra, India.
3. The Office of the Principal Chief Conservator of Forests (Head of Forests Force) M.S. Nagpur, 3rd Floor Van Bhavan Ramgiri Road Civil Lines Nagpur 440 001.
4. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.
5. The Member, Central Ground Water Authority, 18/11, Jamnagar House, Mansingh Road, New Delhi – 110011.
6. The Chairman, Maharashtra Pollution Control Board, Kalpataru Point, 3rd and 4th floor, Opp. PVR Cinema, Sion Circle, Mumbai-400 022.
7. Collector & District Magistrate, Office of the Collector and District Magistrate Palghar, Palghar-Boisar road, Kolgaon, Palghar 401404
8. Guard File/Record File/Monitoring File / MoEF&CC Website.

Annexure 1

Specific EC Conditions for (Synthetic Organic Chemicals Industry)

1. Specific Conditions

S. No	EC Conditions
1.1	(i) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.

S. No	EC Conditions
1.2	(ii) Bag filter along with a stack height of 35 m shall be provided to the proposed biomass fired steam boilers (1 x 6 TPH , 1 x 10 TPH) at Plot no. L-10. Stack height of 30 m along with acoustic enclosure shall be provided to the proposed D.G sets (2 x 500 KVA) respectively as per CPCB/SPCB norms. Stack height of 3 m above roof level along with acoustic enclosure shall be provided to each of the proposed D.G sets (1 x 200 KVA) respectively as per CPCB/SPCB norms.
1.3	(iii) Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits imposed by SPCB.
1.4	(iv) Acid Scrubber along with adequate stack height shall be provided to control process emissions viz., alkaline pollutant and Alkali Scrubber along with adequate stack height shall be provided to control process emissions viz., acid mist generated at Plot no. L-99 from the proposed project activities. Water Scrubber along with adequate stack height shall be provided to control process emissions viz., alkaline pollutant generated at Plot no. L-10 from the proposed project activities. The scrubbed water should be sent to ETP for further treatment. Efficiency of scrubber shall be monitored regularly and maintained properly. At no time, the emission levels shall go beyond the prescribed standards.
1.5	(v) Total fresh water requirement from MIDC water supply shall not exceed 790.69 m3/day (683.1 CMD at Plot No. L-99 and 107.59 CMD at Plot No. L-10).
1.6	(vi) NOC from the competent authority shall be obtained before start of the plant for drawing of the water from MIDC water supply for the project activities. State Pollution Control Board / Pollution Control Committees shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall obtain such permission.
1.7	(vii) Total Industrial effluent generation shall not exceed 639.01 m3/day (602 m3/day at Plot no. L-99 and 37.01 m3/day at Plot no. L-10). Around 495 CMD HCOD (5%)/HTDS (10%) effluent shall be treated through a Solvent Stripper column, Mechanical Vapour Recompression (MVR)/Multiple Effect Evaporator (MEE) unit followed by an Agitated Thin Film Dryer (ATFD). MVR/MEE condensate shall be sent to ETP (Primary, Secondary, Tertiary). ETP treated effluent and cooling tower blow down LCOD (0.05%) / LTDS (0.15%) shall be sent to Reverse Osmosis (RO) system. The RO permeate will be reused in cooling tower make-up. RO reject will be sent to the MVR/MEE for further treatment, ensuring zero discharge of liquid effluent at plot no 99. STP having capacity 6 CMD will be provided for treatment of 5.0 CMD sewage. Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season. The trade effluent stream will be segregated in LCOD (0.05%) / LTDS (0.5%) effluent at Plot L-10. Effluent generated from industrial process along with blow downs from the Cooling tower and Boilers will be passed through SEE (Single Effect Evaporator) followed by Centrifuge, full fledge ETP comprises primary, secondary, and tertiary and RO system. RO permeate will be reused for cooling tower makeup. STP having capacity 5 CMD shall be provided for treatment of 4.0 CMD sewage. Unit shall maintain ZLD.
1.8	(viii) The green belt of at least 5 m-10m width shall be developed in an area of 3019.19 sq m (41.60%) within plant premises. The industry shall plant additional 944 nos. of trees/saplings/plants within premises. Tree saplings selected for the plantation should be of sufficient height, preferably

S. No	EC Conditions
	6-ft shall be planted in greenbelt area. Indigenous species shall only be developed as part of greenbelt and non-indigenous / alien species shall be replaced with native species. No invasive or alien or non-native tree species shall be selected for plantation. PP shall develop at least 20 variety of species as a part of greenbelt. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department and native species shall be developed. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP shall annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
1.9	(ix) Plantation of saplings shall be carried out as a part of tree plantation campaign "EK PED MAA ke NAAM" and details of the same to be uploaded in the Meri LiFE portal (https://merilife.nic.in) in respect to this Ministry's OM No. IA3-22/3/2024-IA.III(E-241594) dated 24th July 2024.
1.10	(x) Roof top rain water shall be collected in 1 no. x 20 KL (at Plot No. L-99) and 1 x 20 KL (at Plot No. L-10) underground RCC storage tank. The rain water collected shall be reused within the plant after filtration as per requirement. Storm water from the open area shall be collected separately and stored in underground RCC storage tank, which shall be recycled/reused within the plant premises.
1.11	(xi) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP Rs. 2195.5 Lakhs (Capital cost) and Rs 5729.02 Lakhs per annum (Recurring cost)] shall be kept in a separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
1.12	(xii) Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB servers. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
1.13	(xiii) No banned chemicals shall be manufactured by the project proponent. No banned raw materials shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.
1.14	(xiv) The project proponent shall comply with the environment norms for synthetic organic chemical as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 608 (E), dated 21.7.2010 under the provisions of the Environment (Protection) Rules, 1986.
1.15	(xv) All the hazardous waste shall be managed and disposed as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Hazardous waste such as Distillation Residue and Off Specification Products shall be either sent to common incineration site or sent for coprocessing. Solid waste shall be segregated into dry and wet garbage at site in accordance to the Solid Waste Management Rules, 2016. Wet garbage shall be converted into compost and used as manure for greenbelt development.

S. No	EC Conditions
1.16	(xvi) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions by engaging Environment Officials. In addition to this, one safety & health officer as per the qualification given in Factories Act, 1948 shall be engaged within a month of grant of EC. The PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
1.17	(xvii) The PP shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
1.18	(xviii) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The PP shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996. The occupier of new as well as expansion projects shall be required to comply with the provisions of the MSIHC Rules, 1989 including notifying their activities or seeking site approval from the concerned authorities, to address operational safety aspects. In doing so, various schedule, particularly Schedule-5 of the said rules may be referred.
1.19	(xix) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.
1.20	(xx) The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report.
1.21	(xxi) The occupational health centre for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.
1.22	(xxii) Training shall be imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training shall be provided to employees. Action plan for mitigation measures shall be properly implemented based on the safety and risk assessment studies.
1.23	(xxiii) The unit shall make the arrangement for the protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.
1.24	(xxiv) The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.
1.25	(xxv) There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products and no parking to be allowed outside on public places.

S. No	EC Conditions									
1.26	(xxvi) Storage of raw materials shall be either in silos or in covered areas to prevent dust pollution and other fugitive emissions. All stockpiles should be constructed over impervious soil and garland drains with catch pits to trap runoff material shall be provided. Chemicals shall be stored in covered sheds and wind breaking walls/curtains shall be provided around biomass storage area to prevent its suspension during high wind speed. All Internal roads shall be paved. The Air Pollution Control System shall be interlocked with process plant/machinery for shutdown in case of operational failure of Air Pollution Control Equipment.									
1.27	(xxvii) PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12th August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.									
1.28	As proposed, PP shall comply with the following mitigation measures as per Ministry's Office Memorandum 31st October, 2019 regarding Projects located in Critically Polluted Area:									
	S.No.	Environment	Condition	Compliance						
		Air	Stipulation of condition such as: i. Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants.	S N	Source of Emission	Fuel	Emission Level	SPCB Standards	Air Pollution Control Devices	
	1			2 No. x 500 kVA D.G. Set at Plot No. L-99	TPM SO ₂	HSD	<50 mg/Nm ³ <43.2 Kg/Day	50 mg/Nm ³ 43.2 Kg/Day	Adequate stack height of 5 meter (each) above roof top.	
	2			1 No. x 200 kVA D.G. Set at Plot No. L-10	TPM SO ₂	HSD	<50 mg/Nm ³ <43.2 Kg/Day	50 mg/Nm ³ 43.2 Kg/Day		Adequate stack height of 3 meter above roof top.
	3.			Boilers: 1 No. x 10 TPH & 1 No. x 6 TPH	TPM SO ₂	Biomass Briquette: 74 TPD or Imported Coal: 45 TPD	50 mg/Nm ³ 407.4 Kg/Day	<50 mg/Nm ³ <407.4 Kg/Day	Common stack with height of 30 meter provided. With multicyclone followed by	

S. No	EC Conditions						
	S.No.	Environment	Condition	Compliance			
				(Stand by)			bagfilter as APCD
				Note: DG Sets will be operated only during power failure			
			ii. CEMS may be installed in all large / medium red category industries (air polluting) and connected to SPCB and CPCB server.	Not applicable. As per directions under section 18(1)(b) of the water (prevention Control of pollution) act, 1974 and the air (prevention Control of pollution) act, 1981 in the matter of pollution Control in 17 category of highly polluting industries dated 05/02/2014, M/s Aarti Pharmalabs Limited categories under Pharmaceutical Category, which does not requires installation of CEMS for stack monitoring.			
			iii. Effective fugitive emission control measures should be imposed in the process, transportation packing etc.	Below mentioned are the mitigation measures which will be implemented by PP to control fugitive emissions. · Closed feed system will be adopted for charging of the raw materials by utilizing transfer line from storage area to process area. · 1 no. of Acid scrubber & 1 no. of Alkali scrubber will be installed at Plot No. L-99, 1 no. of Water scrubber is at Plot No. L-10, and monitored regularly and checked if emissions are within standard. · Pumps with mechanical seals will be provided · Minimal provision of flanges, joints and valves in pipeline · Regular maintenance of valves, pipes, fittings to avoid any leakages · All the internal roads inside the project will be paved. And same will be used for transportation. · Periodical work area monitoring will be done.			
			iv. Transportation of materials by rail/ conveyor belt, wherever feasible.	Transportation of material by rail is not feasible project. Company has identified the Local Suppliers to purchase the raw materials which will help to reduce the distance & fuel emissions that arising from transportation of raw materials.			
			v. Encourage use of cleaner fuels (pet coke/ furnace oil/ LSHS may be avoided.	Noted. · Industry is using cleaner fuel Biomass Briquette as a primary fuel for operation of Boilers and Imported Coal is used as a contingency. · For operation of 2 nos. of DG set having capacity 500 kVA each at Plot No. L-99 and 1 no. of DG Set having capacity 200kVA at Plot No. L-10, HSD fuel (Total Quantity: 252 Ltr/Hr.) will be used. DG Sets will be operated only during power failure.			
			vi. Best available technology	Following measures will be provide by PP: · The company propose to achieve Zero Liquid Discharge (ZLD) by way of installation of MVR, ATFD, ETP, RO systems			

S. No	EC Conditions			
	S.No.	Environment	Condition	Compliance
			may be used. For example: usage of EAF/SAF/IF in place of Cupola furnace. Usage of supercritical technology in place of sub-critical technology.	at Plot No. L-99 and SEE, Centrifuge, ETP, RO systems at Plot No. L-10. Entire effluent after appropriate treatment shall be recycled within the plot premises. · The company propose to install dedicated STP for sewage treatment. Entire sewage after appropriate treatment shall be reused within plot premises for greenbelt development and toilet flushing purpose at both plots. · Reduction in effluent will be achieved by continuously reducing the input water consumption by recycling Treated effluent. This shall help in reduction of fresh water usage. · Dedicated plant/reactors/equipment for the product will enable to reduce the intermittent washings of the equipment thereby reducing the effluent quantity, · Periodic preventive maintenance of the moving parts of the equipment as per the pre-planned schedule will keep the noise under control. · In addition, PP shall provide acoustic system to the noise generating equipment to control the noise.
			vii. Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33% wherever feasible.	· Company will develop Greenbelt in 2178.26 Sq. m. (42.24 % of the total plot area) at Plot No. L-99. · Company will develop Greenbelt in 840.93 Sq. m. (40.04 % of the total plot area) at Plot No. L-10. Thus, a total of 3019.19 sq. m. (41.60 % of the total plot area) greenbelt will develop by the company. Plantation will be done considering 2500 no. of trees / hectare.
			viii. Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry etc.	As per the requirement of the MoEF&CC guidelines, greenbelt of 40 % of the total plot area is required to be developed by the industry. The total plot area is 7257 sq. m., APL already started the greenbelt development in 3019.19 sq. m. i.e. 41.60% of the total plot area as greenbelt. Considering 2500 nos. of trees per hectare (10,000 sq. m.), total around 994 nos. of the trees required to plant by the industry.
			ix. Assessment of carrying capacity of transportation load on roads inside the industrial premises. If	Internal roads having min width of 6 meter and 9 meter turning radius will be provided which will be adequate to carry the transportation activity as per MIDC DCR rules.

S. No	EC Conditions																				
	<table><tr><th>S.No.</th><th>Environment</th><th>Condition</th><th>Compliance</th></tr><tr><td></td><td></td><td>the roads required to be widened shall be prescribed as a condition.</td><td></td></tr><tr><td>2</td><td>Water</td><td></td><td> The project will be operated on the basis of Zero Liquid Discharge System. <i>EFFLUENT TREATMENT SCHEME FOR PLOT NO. L-99</i> A. Effluent Treatment Scheme for Trade effluent: The unit will be operated on Zero Liquid Discharge system. Around 495 CMD HCOD (5%)/HTDS (10%) effluent will be treated through a Solvent Stripper column, Mechanical Vapour Recompression (MVR) / Multiple Effect Evaporator (MEE) unit followed by an Agitated Thin Film Dryer (ATFD). MVR/MEE condensate will be sent to ETP (Primary, Secondary, Tertiary). ETP treated effluent and cooling tower blow down LCOD (0.05%) / LTDS (0.15%) will be sent to Reverse Osmosis (RO) system. The RO permeate will be reused in cooling tower make-up. RO reject will be sent to the MVR for further treatment, ensuring zero discharge of liquid effluent. B. Treatment Scheme for Sewage: STP having capacity 6 CMD will be provided for treatment of 5.0 CMD sewage. Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season. <i>EFFLUENT TREATMENT SCHEME FOR PLOT NO. L-10</i> A. Effluent Treatment Scheme for Trade effluent: The trade effluent stream will be segregated in LCOD (0.05%) / LTDS (0.5%) effluent. Effluent generated from industrial process along with blow downs from the Cooling tower and Boilers will be passed through SEE (Single Effect Evaporator) followed by Centrifuge, full fledge ETP comprises primary, secondary, and tertiary and RO system. RO permeate will be reused for cooling tower makeup. B. Treatment Scheme for Sewage: · STP having capacity 5 CMD will be provided for treatment of 4.0 CMD sewage · Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season </td></tr><tr><td></td><td></td><td></td><td>The project will be operated on the basis of Zero Liquid Discharge System. Flow meters with IP cameras will be installed.</td></tr><tr><td></td><td></td><td>iii. Detailed water harvesting plan may be submitted by the project proponent.</td><td> · Company will provide 20 KL capacity Rooftop Rainwater Harvesting System at both plots. · The harvested rain water will be used during wet season for the cooling tower makeup which will reduce the fresh water requirement during wet season. </td></tr></table>	S.No.	Environment	Condition	Compliance			the roads required to be widened shall be prescribed as a condition.		2	Water		The project will be operated on the basis of Zero Liquid Discharge System. <i>EFFLUENT TREATMENT SCHEME FOR PLOT NO. L-99</i> A. Effluent Treatment Scheme for Trade effluent: The unit will be operated on Zero Liquid Discharge system. Around 495 CMD HCOD (5%)/HTDS (10%) effluent will be treated through a Solvent Stripper column, Mechanical Vapour Recompression (MVR) / Multiple Effect Evaporator (MEE) unit followed by an Agitated Thin Film Dryer (ATFD). MVR/MEE condensate will be sent to ETP (Primary, Secondary, Tertiary). ETP treated effluent and cooling tower blow down LCOD (0.05%) / LTDS (0.15%) will be sent to Reverse Osmosis (RO) system. The RO permeate will be reused in cooling tower make-up. RO reject will be sent to the MVR for further treatment, ensuring zero discharge of liquid effluent. B. Treatment Scheme for Sewage: STP having capacity 6 CMD will be provided for treatment of 5.0 CMD sewage. Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season. <i>EFFLUENT TREATMENT SCHEME FOR PLOT NO. L-10</i> A. Effluent Treatment Scheme for Trade effluent: The trade effluent stream will be segregated in LCOD (0.05%) / LTDS (0.5%) effluent. Effluent generated from industrial process along with blow downs from the Cooling tower and Boilers will be passed through SEE (Single Effect Evaporator) followed by Centrifuge, full fledge ETP comprises primary, secondary, and tertiary and RO system. RO permeate will be reused for cooling tower makeup. B. Treatment Scheme for Sewage: · STP having capacity 5 CMD will be provided for treatment of 4.0 CMD sewage · Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season				The project will be operated on the basis of Zero Liquid Discharge System. Flow meters with IP cameras will be installed.			iii. Detailed water harvesting plan may be submitted by the project proponent.	· Company will provide 20 KL capacity Rooftop Rainwater Harvesting System at both plots. · The harvested rain water will be used during wet season for the cooling tower makeup which will reduce the fresh water requirement during wet season.
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S. No	EC Conditions			
	S.No.	Environment	Condition	Compliance
				Trade Effluent Treatment Scheme at Plot No. L-99 The unit will be operated on Zero Liquid Discharge system. Around 495 CMD HCOD (5%)/HTDS (10%) effluent will be treated through a Solvent Stripper column, Mechanical Vapour Recompression (MVR)/ Multiple Effect Evaporator (MEE) unit followed by an Agitated Thin Film Dryer (ATFD). MVR/MEE condensate will be sent to ETP (Primary, Secondary, Tertiary). ETP treated effluent and cooling tower blow down LCOD (0.05%) / LTDS (0.15%) will be sent to Reverse Osmosis (RO) system. The RO permeate will be reused in cooling tower make-up. RO reject will be sent to the MVR for further treatment, ensuring zero discharge of liquid effluent. Trade Effluent Treatment Scheme at Plot No. L-10 The trade effluent stream will be segregated in LCOD (0.05%) / LTDS (0.5%) effluent. Effluent generated from industrial process along with blow downs from the Cooling tower and Boilers will be passed through SEE (Single Effect Evaporator) followed by Centrifuge, full fledge ETP comprises primary, secondary, and tertiary and RO system. RO permeate will be reused for cooling tower makeup.
				Domestic Effluent Treatment Scheme at Plot No. L-99 STP having capacity 6 CMD will be provided for treatment of 5.0 CMD sewage. Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season. Domestic Effluent Treatment Scheme at Plot No. L-10 · STP having capacity 5 CMD will be provided for treatment of 4.0 CMD sewage · Treated sewage will be used for greenbelt development during dry season and will be used for toilet flushing during wet season
	3	Land	i. Increase of greenbelt cover by 40% of the total land area beyond the permissible requirement of 33% wherever, feasible for new projects.	· Company will develop Greenbelt in 2178.26 Sq. m. (42.24 % of the total plot area) at Plot No. L-99. · Company will develop Greenbelt in 840.93 Sq. m. (40.04 % of the total plot area) at Plot No. L-10. Thus, a total of 3019.19 sq. m. (41.60 % of the total plot area) greenbelt will develop by the company. Plantation will be done considering 2500 no. of trees / hectare.
			ii. Stipulation of greenbelt outside the project premises such as avenue plantation,	· Company will develop Greenbelt in 2178.26 Sq. m. (42.24 % of the total plot area) at Plot No. L-99. · Company will develop Greenbelt in 840.93 Sq. m. (40.04 % of the total plot area) at Plot No. L-10. Thus, a total of 3019.19 sq. m. (41.60 % of the total plot area) greenbelt will develop by the company. Plantation will be done considering 2500 no. of trees / hectare.

S. No	EC Conditions					
	S.No.	Environment	Condition	Compliance		
			plantation in vacant areas, social forestry etc.			
				Not Applicable. Dumping of the mentioned waste is not envisaged in the said project.		
				Hazardous waste and its management are given below;		
				At Plot No. L-99		
				Spent Carbon	28.3	1930 TPA Co-processing / CHWTSDF
				Spent Acid 30-40% Acetic Acid (From Paracetamol process)	36.1	12650 TPA Sale to MPCB Authorized Party / CHWTSDF
				Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste.	33.1	150 TPA Sale to MPCB Authorized Party
				Contaminated cotton rags or other cleaning materials	33.2	6 TPA CHWTSDF / Co-processing
				Used or Spent Oil	5.1	8 TPA Sale to MPCB Authorized Recycler
				Wastes or residues containing oil	5.2	5 TPA CHWTSDF/Co-processing
				Chemical sludge from waste water treatment.	35.3	110 TPA CHWTSDF
				Concentration or evaporation residues (From ATFD)	37.3	15500 TPA CHWTSDF
				Discarded Asbestos	15.2	12 TPA CHWTSDF
				Date expired products	28.5	50 TPA CHWTSDF/Co-processing
				Off Specification Product	28.4	50 TPA CHWTSDF/Co-processing
				Dust from air	26.2	1.2 TPA CHWTSDF/Co-

S. No	EC Conditions					
	S.No.	Environment	Condition	Compliance		
				filtration system		processing
				Spent carbon or filter medium	36.2	24 TPA Co-processing /CHWTSDF
				At Plot No. L-10		
				Process Residue and wastes	28.1	12 TPA Co-processing / CHWTSDF
				Spent carbon	28.3	180 TPA Co-processing through authorized /CHWTSDF
				Chemical sludge from waste water treatment	35.3	60 TPA CHWTSDF
				Empty barrels / containers / liners contaminated with hazardous chemicals / wastes	33.1	36 TPA Sale to MPCB Authorized Party
				Used or spent oil	5.1	2 TPA Sale to MPCB Authorized Recycler
				Spent ion exchange resin containing toxic metals	35.2	5 TPA CHWTSDF / Co-processing
				Contaminated cotton rags or other cleaning materials	33.2	10 TPA CHWTSDF
				Wastes or residues containing oil	5.2	2 TPA CHWTSDF / Co-processing
				Process waste sludge/residues containing acid, toxic metals, organic compounds	26.1	12 TPA CHWTSDF
				Process Residue and wastes	28.1	204 TPA Co-processing / CHWTSDF
				Process residues and	28.1	300 TPA CHWTSDF

S. No	EC Conditions					
	S.No.	Environment	Condition	Compliance		
				wastes (Sulfolane)		
				Process residues and wastes (KF Solution neutral)	28.1	396 TPA Sale to MPCB Authorised party/ CHWTSDF
				Schedule-I of The Hazardous and Other Wastes (Management and Trans boundary Movement) Rule, 2016.		
				- Dedicated storage area will be provided inside the plot boundary for storage as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. - Hazardous waste will be disposed according to the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, category specified in Schedule I [rule 3 (1) (17) (i)]. - All records will be maintained as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. - The generated wastes such as Used or Spent Oil, Concentration or Evaporation residue (ATFD Salt), Chemical sludge from Waste Water Treatment, Solid Waste from process (Carbon) and Distillation residue are suitable for co-processing and having good calorific value will utilized in co-processing.		
	4	Other Condition (Additional)	i. Monitoring of compliance of EC conditions may be submitted with third party audit every year.	APL will ensure monitoring of compliance of EC conditions will be submitted through third party audit every year.		
			ii. The % of the CER may be at least 1.5 times the slabs given in the OM dated 01.05.2018 for SPA and 2 times for CPA in case of Environmental Clearance.	- Total CER fund will be 380 Lakh (As per OM No. F. No. 22-23/2018-IA.III (Pt) dated 31st October 2019, the % of the CER may be at least 2.0 times the slabs given in the OM dated 01.05.2018 for Critically Polluted Area (CPA). As our project comes under CPA now 4% of the total project cost will be allocated for CER activities.) - Company will prepare a CER plan and the same will be communicated to the District Collector and implementation of the same will be done in consultation with District Collector.		

Standard EC Conditions for (Synthetic organic chemicals industry)

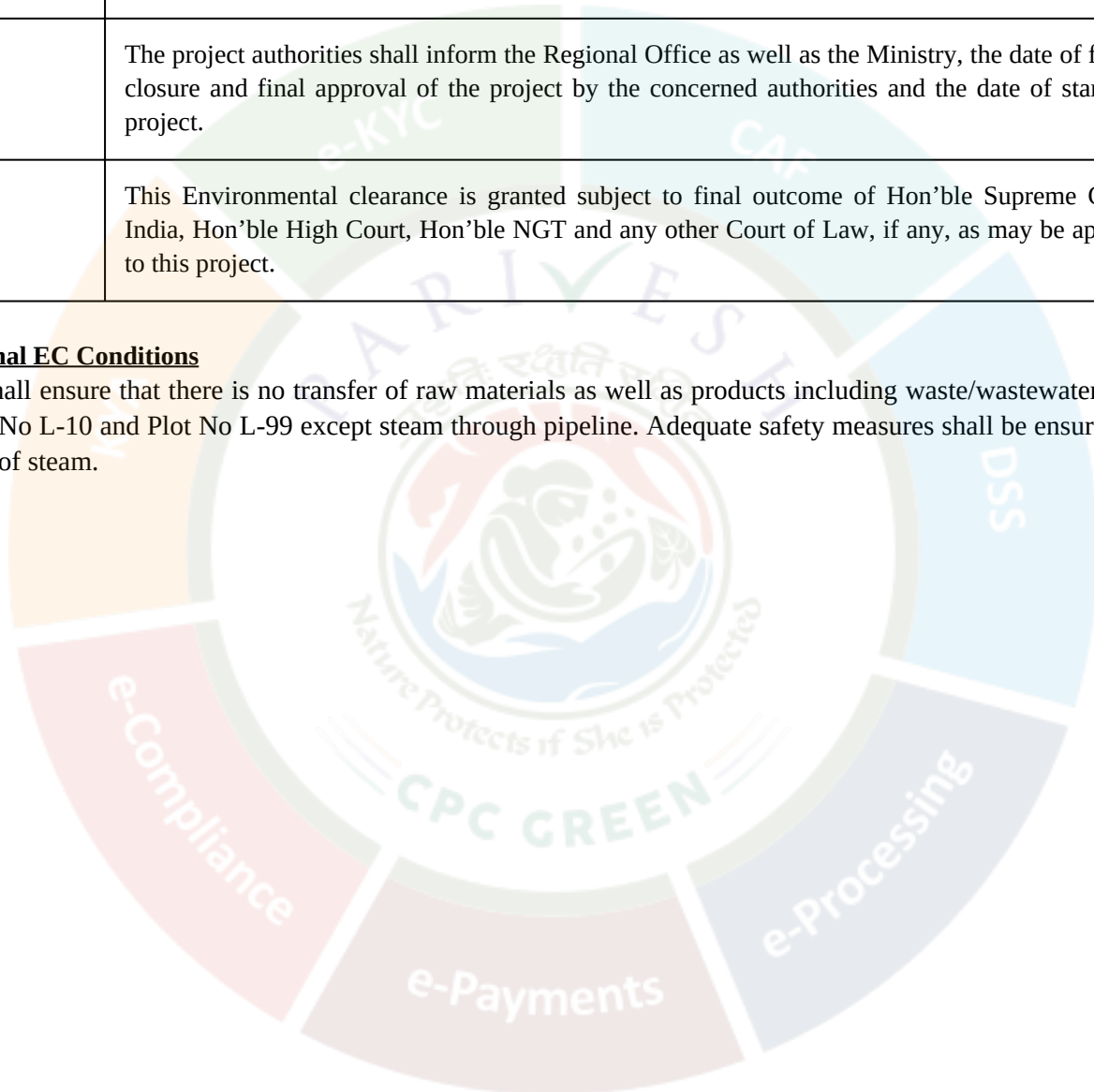
1.

S. No	EC Conditions
1.1	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
1.2	The Project proponent shall strictly comply with the rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, and Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and other rules notified under various Acts.
1.3	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
1.4	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
1.5	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. The activities shall be undertaken by involving local villages and administration. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
1.6	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
1.7	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
1.8	The project proponent shall also upload/submit six monthly reports on Parivesh Portal on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data to the respective Integrated Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
1.9	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall

S. No	EC Conditions
	also be sent to the respective Integrated Regional Office of MoEF&CC by e-mail.
1.10	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/ . This shall 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 shall be forwarded to the concerned Regional Office of the Ministry.
1.11	The project authorities shall 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 start of the project.
1.12	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

Additional EC Conditions

(i) PP shall ensure that there is no transfer of raw materials as well as products including waste/wastewater between the plot No L-10 and Plot No L-99 except steam through pipeline. Adequate safety measures shall be ensured during transfer of steam.



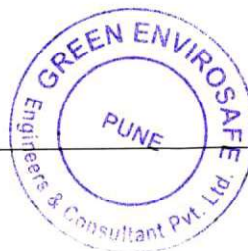
Signature Not Verified

Digitally Signed by : Mr A N Singh
Member Secretary, MoEFCC (EC)

Date: 24/11/2025

Recognised by Ministry of Environment and Forests (MoEF) / Central Pollution Control Board Govt. of India (CPCB)
 ISO 9001:2015, ISO 45001 : 2018 and ISO 14001 : 2015 Certified Company
TEST REPORT

Test Report No	GESEC/PRO/ST/2025-26/03/386		Report Date	21.03.2026
Sample ID -	GESEC/PRO/ST/2025-26/03/386			
Name & Address of the Customer	M/s. Aarti Pharmalabs Ltd. Plot No. L-10, MIDC Tarapur, Boisar, Tal & Dist. Palghar.			
Sample Details				
Sample Collection Date	Sample Receipt Date	Analysis Start Date	Analysis Complete Date	
16.03.2026	17.03.2026	17.03.2026	21.03.2026	
Instrument Details				
Name of Instrument	SEC/TAR/SMK/10B/8014	Date of Calibration	27.05.2025	
Certificate No	EI/FF/1290	Due Date of Calibration	26.05.2026	
Stack Details				
Stack No/ID	Stack Attached to		Sampling done by	
--	Boiler (10 Ton/Hrs.)		M/S. Shree Swami Samarth Environmental Consultant.	
Shape	Round	Fuel Used	Coal	
Diameter/ Dimensions (m)	1.3	Pressure	3.2	
Height (m)	30 mtr			
Temperature (°K)	443	Velocity (m/s)	7.14	
Flow Rate/Gas Volume (Nm³/Hr)	22970.64			
Parameters	Method	Unit	Limit	Result
Total Particulate Matter (TPM)	EPA METHOD 17:2017	mg/Nm³	≤50	38.62
Sulphur Dioxide (SO₂)	EPA METHOD 06:2017	mg/Nm³	-	105.26
Sulphur Dioxide (SO₂)	EPA METHOD 06:2017	Kg/day	≤407.4	58.02
Nitrogen Dioxide (NO₂)	EPA METHOD 07 E	ppm	-	07.35
Note-				
➤ All above results are well within MPCB Limit.				



Vinod Hande
Mr. Vinod Hande
 (Technical Manager)
 Reviewed & Authorized By
 Page 1 of 1

END OF REPORT

Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
- The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not revel to third party unless required by the statutory or legal requirement.
- If on site there is no proper sampling location, source or port available the result of testing is not challenge.



MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION
(A Government of Maharashtra Undertaking)

Phone No.-02525-272369

No./DE/TM/IFMS/P-166056 /of 2025

Office of the Deputy Engineer,

MIDC, Maint. Sub-Division, Tarapur

Date- **27-01-2025**

To,
M/s. Aarti Pharmalabs Ltd.
Plot No. L-99
MIDC, Indl. Area,
Tarapur

Sub:- Tarapur Indl.Area
Water Supply Agreement for new connection.

M/s. Aarti Pharmalabs Ltd.

Plot No. L-99

Ref:- 1 Consumer No. **9149 TRP**
2 Demand Note Dt.09/01/2025.
3 Your letter No. **1025089** Dt.04/01/2025.

Dear Sir,

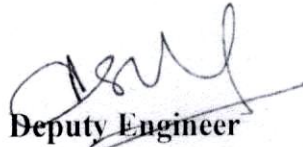
Please find enclosed herewith the water supply agreement form for water supply connection duly signature of competent authority of MIDC for New Connection.

Consumer Name-	M/s. Aarti Pharmalabs Ltd.		
Consumer No.	9149	TRP	
New Size of Connection-	15	dia.	
Water Demanded Qty-	11.50	m3/Day	
Plot Area-	5157	sqm	
Category	Red	MSI	

At present NGT has imposed 40% curtailment for Tarapur Indl. Area, hence no complaint shall be entertained for less water supply to your unit or for low pressure till the periods of curtailment.

Thanking You.

Yours faithfully


Deputy Engineer
 MIDC, Maint. Sub-division,
 Tarapur

Copy submitted to the Executive Engineer, MIDC, Division no.1, Thane for information please.

Wildlife Conservation Plan for Schedule - I Species
Spilornis cheela, Accipiter badius, Pavo cristatus,
Ptyas mucosa, Naja naja, Daboia russelii
(IWPA 1972 & Amendment 2022)

New project for the manufacturing of API Products

By

M/s Aarti Pharmalabs Limited. (Unit V-II)

Plot No.: L-99 MIDC Tarapur, Taluka & District:
Palghar, Maharashtra, India – 401506

Report Prepared By:



M/s. Sadekar Enviro Engineers Pvt. Ltd.
(QCI-NABET Accredited Consulting Organization)

Certificate No. NABET/EIA/2326/RA 0307

Valid till 18/04/2026

Plot No. A-95, Road No. 16, Kisan Nagar Raod, MIDC
Wagle Industrial Area, Thane – 400604.

Wildlife Conservation Plan for Schedule-I species (IWPA 1972 & Amendment 2022)
M/s Aarti Pharmalabs Limited, Plot No. L-99, MIDC Tarapur, Tehsil & District – Palghar,
Maharashtra, India

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Conservation plan for schedule - I species (IWPA 1972)

1. Project Details

The Project activity is a new Project by M/s Aarti Pharmed Labs Limited (Unit V-II) (APL) for Manufacturing Capacity of 2000 TPM (Active Pharmaceutical Ingredients). The manufacturing unit is located at Plot No L-99, MIDC Tarapur, Tehsil & District – Palghar, Maharashtra, India. The total plot area of the project is 5157 Sq. m.

The project activity is covered under schedule 5(f) viz. Synthetic Organic Chemicals Industry (dyes & dye intermediates: bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates) of EIA Notification 2006. Since the project is located in MIDC Tarapur which is categorized as a Critically Polluted Area (CPA) and as per the general conditions of EIA notification and its subsequent amendment the project is to be appraised as Category “A” by EAC (Ind-3) MoEF&CC.

The project location & surrounding environs being located in the notified industrial area prevails industrial type of land use form. The project activity will be carried out within said project site which already prevails industrial type of land use.

The existing land use pattern in the 10 km radial distance of the project site comprises of Non-Agricultural land, human habitations / settlements, small agricultural / crop lands land use classes. The distances from environmental sensitive areas within 15 km radial distance of project are tabulated below.

Table No. 1: Environmental Sensitivity

Sr. No.	Areas	Present within 15 km (Yes/No)	Aerial distance (with 15 km) project location boundary
1	Areas protected under international conventions, national or legislation for their ecological, Landscape, cultural or other related value.	Yes	1. Reserve Forests near Khambak is present at an approx. aerial distance of 10.46 km (ENE) from project site. 2. Reserve Forests near Hanuman Nagar is present at an approx. aerial distance of 4.60 km (ENE) from project site.
2	Areas which are important or sensitive for ecological reasons- Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests.	Yes	1. Surya River is present at an approx. aerial distance of 11.28 km from the project site in East direction. 2. Upper Banganga River is present at an approx. aerial distance of 2.60 km from the project site in NW direction. 3. Lower Banganga River is present at an approx. aerial distance of 1.90 km from

Wildlife Conservation Plan for Schedule-I species (IWPA 1972 & Amendment 2022)
M/s Aarti Pharmed Labs Limited, Plot No. L-99, MIDC Tarapur, Tehsil & District – Palghar,
Maharashtra, India

Sr. No.	Areas	Present within 15 km (Yes/No)	Aerial distance (with 15 km) project location boundary
			the project site in South direction. 4. Ucheli creek is present at an approx. aerial distance of 3.73 km from the project site in West direction. 5. Arabian Sea is present at an approx. aerial distance of 6.44 km from the project site in West direction. 6. Devkhop Dam is at an approximate aerial distance of 11.72 km from the project site in SE direction. 7. Asaava Reservoir is at an approximate aerial distance of 9.30 km from the project site in East direction
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration.	Yes	1. Wetlands: Mangroves are present along Banganga River at an approx. aerial distance of 2.30 km from project site in NW direction. 2. Coastal zone: Arabian Sea is present at an approx. aerial distance of 5.80 km from the project site in West direction.
4	Inland, coastal, marine, or underground waters.	Yes	1. Surya River is present at an approx. aerial distance of 11.28 km from the project site in East direction. 2. Upper Banganga River is present at an approx. aerial distance of 2.60 km from the project site in NW direction. 3. Lower Banganga River is present at an approx. aerial distance of 1.90 km from the project site in South direction. 4. Ucheli creek is present at an approx. aerial distance of 3.73 km from the project site in West direction. 5. Arabian Sea is present at an approx. aerial distance of 6.44 km from the project site in West direction. 6. Devkhop Dam is at an approximate aerial distance of 11.72 km from the project site in SE direction. 1. Asaava Reservoir is at an approximate aerial distance of 9.30 km from the project site in East direction
5	State, National boundaries.	No	State, National boundaries do not come in 15 km from the boundary of the project.

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Sr. No.	Areas	Present within 15 km (Yes/No)	Aerial distance (with 15 km) project location boundary
6	Routes or facilities used by the public for access to recreation or tourist, pilgrim areas.	Yes	1. Navapur road is present at an approx. aerial distance of 0.21 km from the project site in NW direction. 2. Boisar-Tarapur road is present at an approx. aerial distance of 2.85 km from the project site in NE direction. 3. Boisar-Palghar road is present at an approx. aerial distance of 3.0 km from the project site in East direction. 4. MIDC Internal road is present at an approx. aerial distance of 0.01 km from the project site in South direction. 5. Boisar Railway station is present at an approx. aerial distance of 3.75 km from the project site in NE direction
7	Defence installations.	No	No defence installations are within 15 km from the project location boundary.
8	Densely populated or built-up area.	Yes	1. Salwad village is at an aerial distance of 1.47 km from the project site in North direction. 2. Pasthal is at an aerial distance of 2.81 km away from the project site in North direction. Boisar is at an aerial distance of 2.04 km away from the project site in NE direction.
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities).	Yes	The project is located in MIDC Tarapur which is surrounded by several populated localities hence several hospitals, schools, places of worship, community facilities are present in 15 km area from the boundary of the project site.
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals).	Yes	The project is located in Notified MIDC area, Tarapur, which is surrounded by ground water resources, surface resources, agricultural fields etc.
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded).	Yes	The area falls in MIDC Tarapur which is Critically Polluted Area (CPA) declared by NGT.
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding)	Yes	They may be affected by natural disasters; however, there is no history of such a disaster in the area under reference.

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Sr. No.	Areas	Present within 15 km (Yes/No)	Aerial distance (with 15 km) project location boundary
	or extreme or adverse climatic conditions).		The project falls under seismic zone III as per IS 1893 (Part I) 2016; classification, Hence, seismically it is under moderate damage risk zone.

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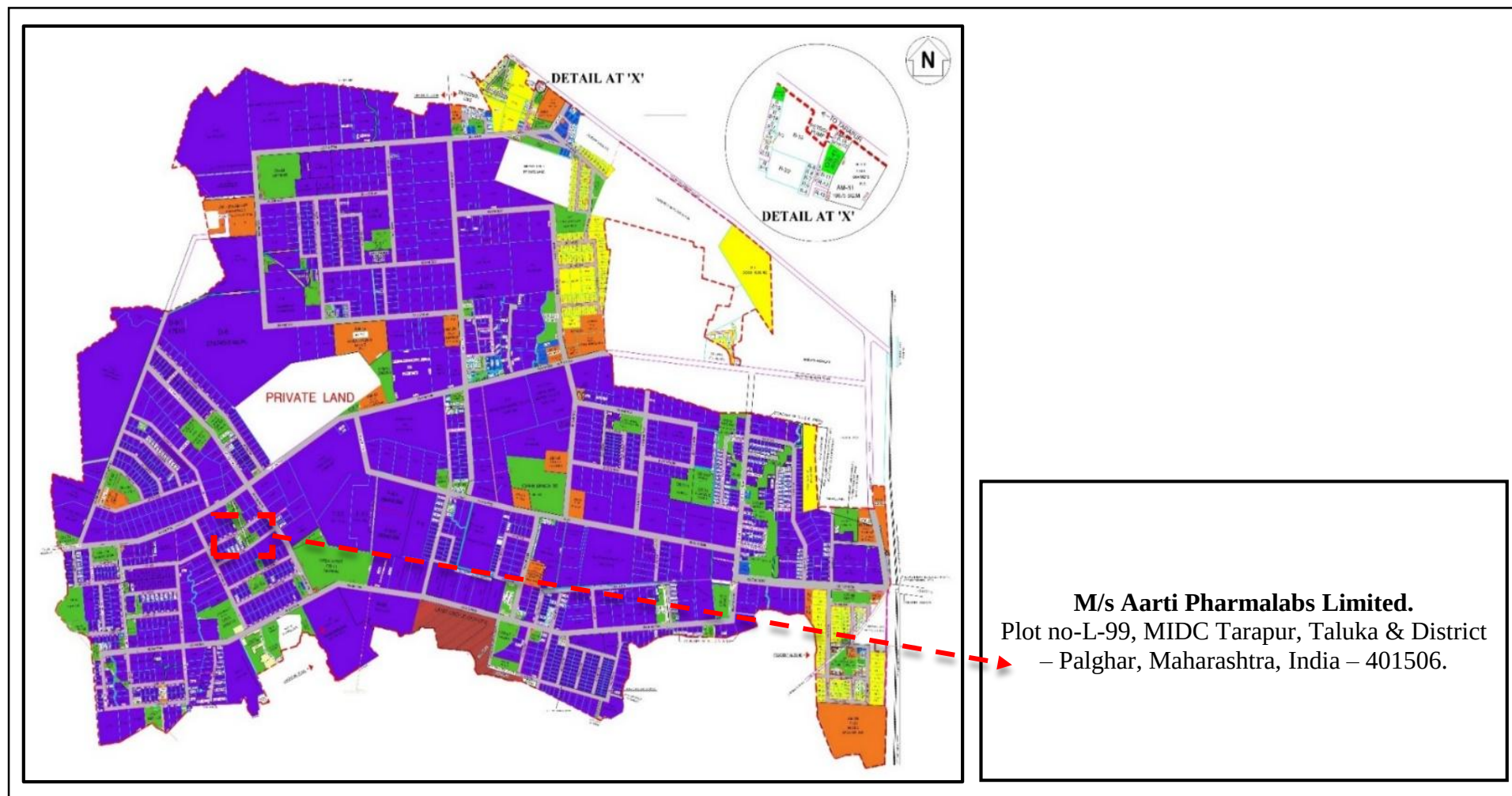


Figure 1: Project location on MIDC Tarapur layout map

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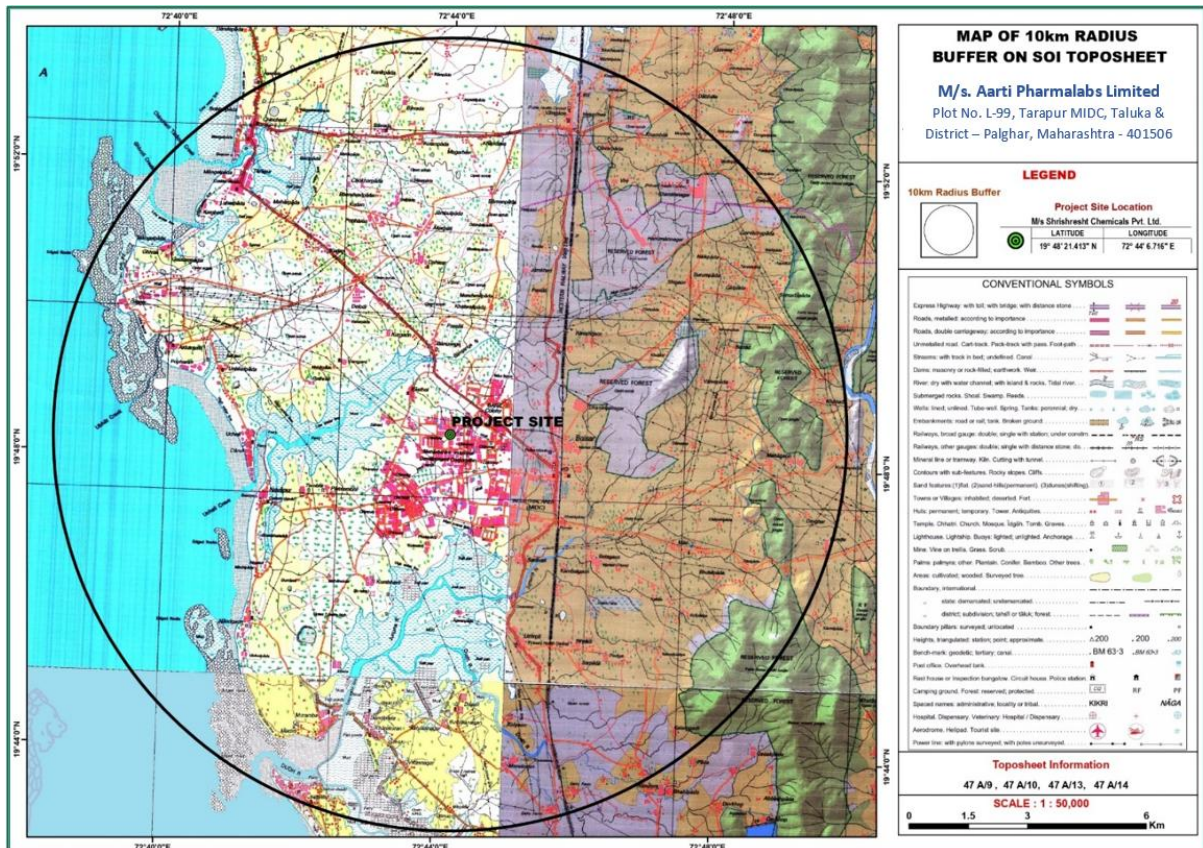


Figure 2: Topographical representation of Various Habitats in the 10 Km Study Area

1.1 Studies Conducted

The ecological study has been conducted to establish the prevailing baseline ecological data in terms of terrestrial & aquatic biodiversity status in the project influenced area to identify, quantify the impacts associated with the project on the prevailing ecology & to advocate suitable mitigation measures for the same. The study area was 10 km radial distance from the project site area as depicted in the following **Figure 1**. Forest /National Park / Sanctuary - No such areas fall within buffer zone of the 10 km radius.

Study Period

A field visits were conducted on thrice in the Post – Monsoon Season in the months of October, November & December 2024, for ecology and biodiversity studies in 10 km study area from the project site.

Threat Assessment Criteria

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Threat Assessment Criteria is based on **Indian Wild Life Protection Act – 1972 & amendment 2022** and **IUCN Database**.

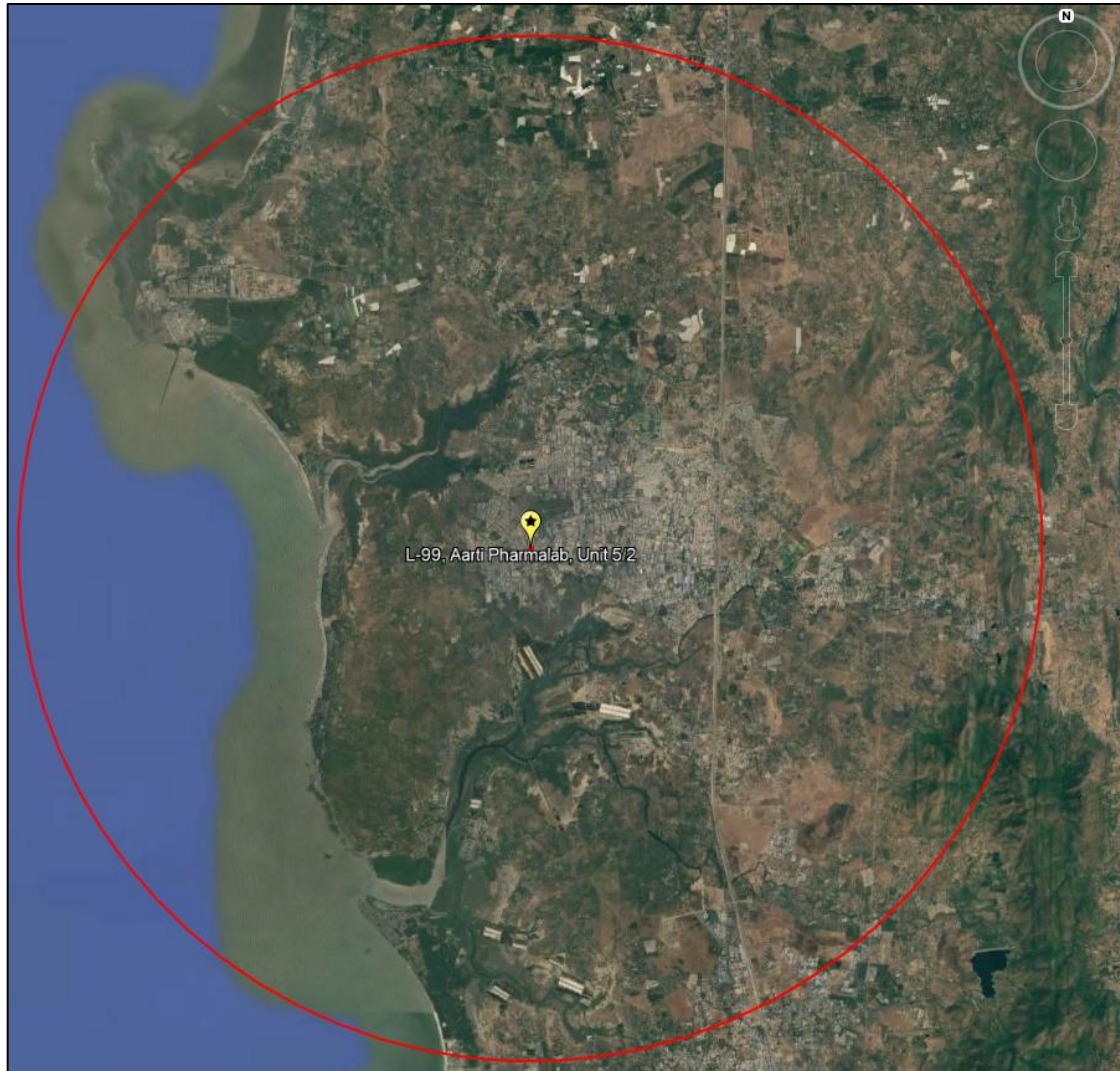


Figure 3: 10 km (Buffer) radial study area (Google Earth Imagery)

Field Data Collection / Inventory

Terrestrial Ecology - The important habitats with respect to ecology and biodiversity in the core & buffer zone is dominated with Crop/Shrub land & Human settlements area. Only inventory of the floral and faunal species was made

Aquatic Ecology - Since the proposed project is Zero Liquid Discharge, treated effluent will be reused within the process hence the aquatic environments of project study have been kept out of purview of this study.

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1.2 Scope of the Study

To assess the implications of the proposed project on the surrounding ecology within study area following attributes were considered & executed:

- To Identify flora and fauna in selected survey area and Assessed threat Criteria which based on Indian Wild Life Protection Act - 1972, Amendment 2022 & IUCN Database.
- To evaluate flora and faunal species diversity.
- To identify & assess habitat loss if any due to the proposed project.
- Negative impacts if any on the existing ecologically sensitive areas/potential habitats in the study area due to the proposed project.

1.3 Faunal Diversity & Status in the Study Area: - Meandering Survey

1.3.1 Justification of selection of sampling areas

The study area was studied initially through satellite imagery (Google earth) and literature available to obtain an overall perspective of various prevailing habitats and eco-systems in the study areas including protected areas and reserved forests. Once the areas to be surveyed were identified, physical site surveys were conducted. The survey areas were selected strategically to ensure the coverage of all the prevailing habitats and eco-systems in the study areas including protected areas and reserved forests. The survey areas were selected, in which species were to be identified by visual observation. Also, the inputs received from other FAE's in terms of the likely area to be impact was considered while selecting the study areas. Accordingly, 5 survey areas of 1 km radius were selected in the study area for the identification of floral and faunal species. The selection was done based on topography and specific characteristics like presence of water body, dense tree covers and hillocks etc.

Table No. 2: Location of Survey area

Survey area	Starting Point		Ending Point	
	Latitude	Longitude	Latitude	Longitude
Survey - 1	19°49'8.09"N	72°46'51.14"E	19°49'9.60"N	72°47'24.84"E
Survey - 2	19°45'0.81"N	72°47'31.85"E	19°44'56.97"N	72°48'5.81"E
Survey - 3	19°51'23.81"N	72°40'57.47"E	19°51'9.62"N	72°40'26.98"E
Survey - 4	19°44'26.63"N	72°42'43.43"E	19°44'12.80"N	72°43'14.20"E
Survey - 5	19°46'5.67"N	72°41'17.94"E	19°45'33.44"N	72°41'16.48"E

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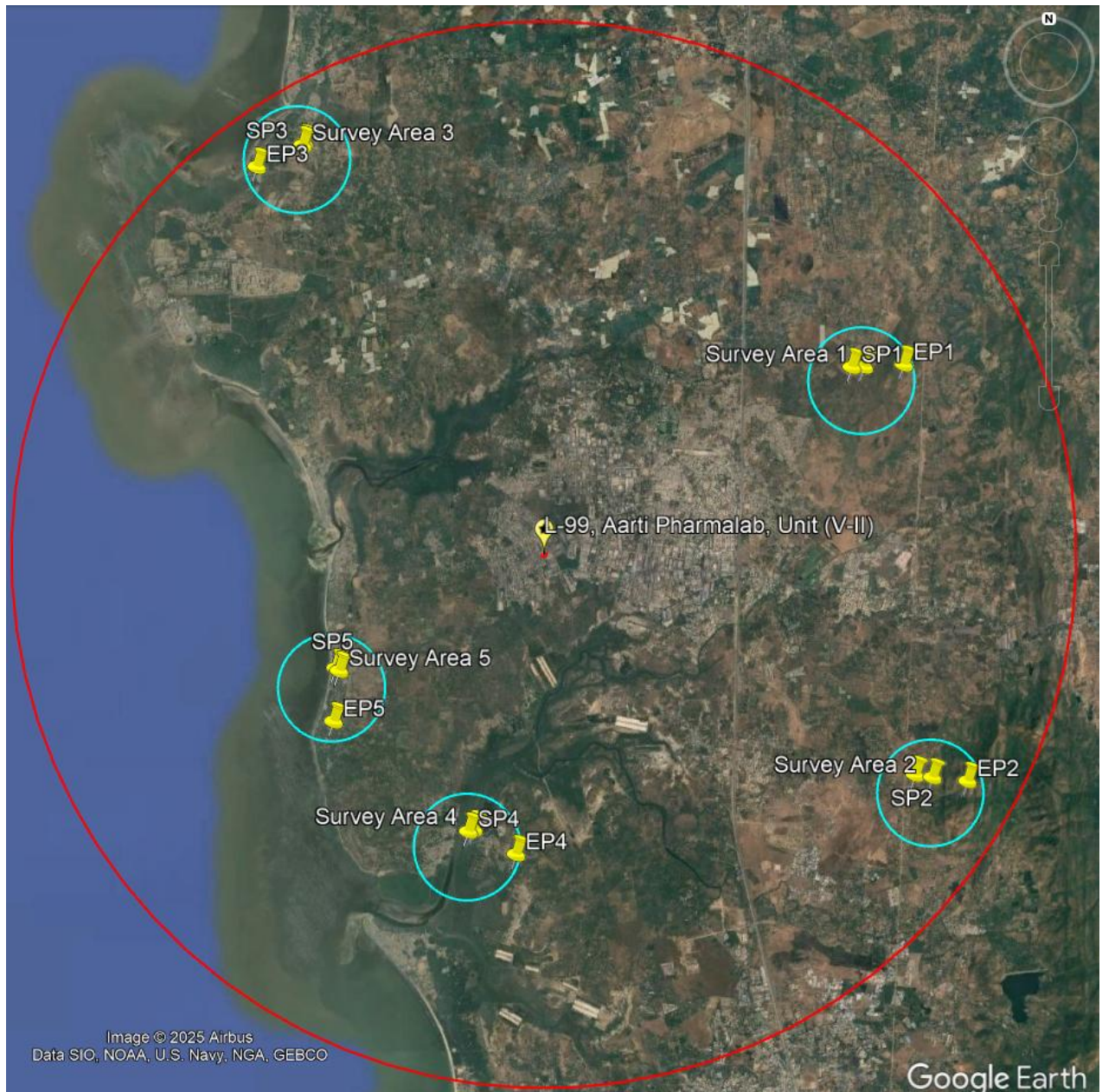


Figure 3: Selection of sampling area on Google Earth

1.3.2 Flora of study area

The field studies in & around the potential habitats within the study area resulted in recording 102 plant species which comprised of various habit forms viz. 11 herbs, 16 shrubs, 4 climbers & 71 trees. Of the recorded plant species only 1 tree species falls under endangered category, 1 tree species falls under Near Threatened category & rest of were not rare or endemic however they were extremely common for the study area in consideration & had a very wide range of presence &

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abundance across the entire Palghar district. The inventory of Floral species observed during field survey along with IUCN status assessment is attached as **Annexure - 1**.

102 plant species recorded in the study area, 35 species were assessed as **Least Concern** ver. 3.1, 62 species were **Not Evaluated**, 2 species were **Data Deficiency**, 1 species was **Near Threatened**, 1 species was **Vulnerable**, and 1 species was assessed **Endangered**. The overall assessment status of 102 species is 34.30% as **Least concern** ver. 3.1, 60.80% as **Not Evaluated**, 1.96% as **Data Deficiency**, 0.98% as **Vulnerable**, 0.98% as **Endangered** and 0.98% as **Near Threatened**. Hence, conservation related aspects are anticipated.

1.3.3 Fauna in Study Area

The field visits in and round the prominent habitats within the core and buffer study area resulted in recording 69 bird species comprising of aquatic & terrestrial habitat. The recorded bird species are resident & commonest for the study region in consideration and have a wide range of presence & abundance across the Palghar District.

- a. **Butterflies:** 8 species of Butterfly were observed during the study.
- b. **Reptiles:** 5 species of Reptile (i.e. Changeable Lizard, Deccan Fan-throated Lizard, Indian Rat snake, Yellow-bellied House Gecko, Yellow-bellied House Gecko & Common House Gecko) were observed amongst the bushes during the study.
- c. **Mammals:** 6 mammal's species (Domestic water buffalo, Indian cow / cattle, Stray dog, Indian flying fox, Common Palm Squirrel & Pig) were observed during the study.

The inventory of Faunal species observed during field survey along with IUCN status & WPA 1972, amendment 2022 assessment is attached as **Annexure 1**.

Of the recorded 69 **bird** species the all species were listed as **Least Concern** as per **IUCN ver. 3.1**; whereas, as per the **WPA, 1972 & Amendment 2022**, 1 species was listed as **schedule – I**, 66 species were listed as **Schedule – II** and remaining 2 bird species were not listed in any Schedule. Similarly, out of recorded 6 Species from **Mammals**, no single species was fall under schedule – I and out of recorded 5 species form **Reptiles**, 1 species was listed in **schedule – I**. also, out of 8 **butterfly** species no single species was falls under schedule – I. With the reference of secondary sources, **3 species of bird and 3 species of reptile** were coming in **Schedule – I** as per **WPA, 1972 & amendment 2022**. Hence, conservation related aspects are anticipated below for 6 faunal species (3 Bird species & 3 Reptile species).

1.4 Scheduled I Species

Schedule - I species as per Indian Wildlife Protection Act 1972 (IWPA, 1972) & Amendment 2022 reported according to primary and secondary observations in study area are *Spilornis cheela* (Crested Serpent-eagle), *Accipiter badius* (Shikra), *Pavo cristatus* (Indian Peafowl), *Ptyas mucosa* (Indian Rat snake), *Naja naja* (Indian Cobra) & *Daboia russelii* (Western Russell's Viper). Description, taxonomic status, distribution, habitat, behaviour peculiarities, ecology and threats of these species are presented below,

1.4.1 *Spilornis cheela* (Crested Serpent-eagle)

Introduction: *Spilornis cheela* (Crested Serpent-eagle) is a medium-sized bird of prey that is found in forested habitats across tropical Asia.

Table No. 3: Conservation status of *Spilornis cheela*

Sr. No.	Legal Statute	Status
1.	Indian Wildlife Protection Act - 1972 & Amendment 2022	Schedule- I
2.	The Red Data Book on Indian Animal Part 1 Vertebrata published by zoological Survey of India, July 1994	--
3.	CITIES	--
4.	IUCN ver 3.1	Least Concern

Description

Spilornis cheela (Crested Serpent-eagle) is medium-sized raptors. They range in length from 55 to 76 cm, and their wingspan ranges from 109 to 169 cm. They can weigh anywhere from 420 to 1800 g. When perched, an adult appears overall dark brown with an almost black 'hood' on the head and neck. The breast and belly are brown with white mottling. The crest is black with some white flecks is very prominent when raised. In flight, their underside is brown with a distinctive single, broad, pale band across the tail and wings. They hold their wings forward in a shallow V shape. The legs, eyes, and skin around the eyes and beak (lores) are yellow and bare. Juveniles are distinguished by a much more white plumage, especially around the head. Sexes have very similar plumage.

Table: Taxonomical status of *Spilornis cheela*

Common Name	Crested Serpent-eagle
Phylum	Chordata
Class	Aves
Order	Falconiformes
Family	Accipitridae
Genus	Haliastur Accipitridae
Species	S. cheela

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Migratory species	Resident
Occurrence	Common in Indian Subcontinent

Habitat: *Spilornis cheela* (Crested serpent eagle) can occur in many different habitats. They prefer the edges of forests where they can soar and effectively hunt. They can inhabit dry to wet forests, tea plantations, wooded savannas and mangroves. They only occasionally enter forest interiors because their size makes maneuvering difficult in thickly wooded habitats. They can tolerate a great deal of disturbance to their habitat, and are found primarily near secondary forests, but they must have some kind of forested area in which to hunt and make a nest. Crested serpent eagles can be found at altitudes of 1900 m.

Distribution: *Spilornis cheela* are found throughout much of the Oriental region. In India, Crested serpent eagles can be found from the lower Himalayas to Sri Lanka and the Andamans. Further east they can be found in Southeast Tibet and Southeast China south of the Changiang valley. Outside of mainland Asia, they can be found on the Greater Sunda islands, Bali and the Philippines.

Behaviour & Ecology: *Spilornis cheela* are diurnal and non-migratory. They can often be seen soaring over a territory in pairs regardless of season. When not hunting, crested serpent eagles spend a lot of time perched at the edge of a forest surveying their territory. The Japanese race is always found in very close proximity to forest edges or on wet marshland.

Spilornis cheela communicate with one another using vocal cues and aerial displays. Their courtship display is fairly complex involving multiple diving runs and mutual soaring with the head and tail feathers raised. They can often be seen soaring over a forest making a distinctive call. There is some geographical variation in the call, but it tends to be a shrill three-note “kluee-wip-wip.” Crested serpent eagles raise their crest when alarmed. Like all birds, they perceive the environment through visual, auditory, tactile, and chemical stimuli.

Spilornis cheela mate in monogamous pairs and remain in pairs throughout the year. Courtship displays consist of pairs soaring and calling together. These courtship flights may include rolling and wing vibrating. The breeding season of crested serpent eagles depends upon the area they live. They prefer to initiate breeding during the dry season. In Southern India they lay eggs between December and March; in Northern India and Sri Lanka they lay between February and May. Their nests are usually found midway in tall trees close to a source of water such as a stream. Their nests range from 1 to 2 feet in diameter, and they are composed of large twigs and stems, usually from the tree that the nest is built on. The nest is lined with smaller twigs, and fresh picked leaves. They

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frequently nest in the same general area through multiple breeding seasons, but not always in the same nest.

Table: Project impact & Significance for *Spilornis cheela*

Sr. No.	Species	Threats in General
1	<i>Spilornis cheela</i>	Loss of natural habitat Loss of access to water sources Hunting for meat/Eggs in wild by some tribes Hunting for feathers

1.4.2 *Accipiter badius* (Shikra)

Introduction: *Accipiter badius* (Shikra) is a common, widespread resident across Asia and Africa.

Table No. 4: Conservation status of *Accipiter badius*

Sr. No.	Legal Statute	Status
1.	Indian Wildlife Protection Act - 1972 & Amendment 2022	Schedule- I
2.	The Red Data Book on Indian Animal Part 1 Vertebrata published by zoological Survey of India, July 1994	--
3.	CITIES	--
4.	IUCN ver 3.1	Least Concern

Description

The *Accipiter badius* (Shikra) is a small raptor (26–30 cm long) and like most other *Accipiter* hawks, this species has short rounded wings and a narrow and somewhat long tail. Adults are whitish on the underside with fine rufous bars while the upperparts are grey. The lower belly is less barred and the thighs are whitish. Males have a red iris while the females have a less red (yellowish orange) iris and brownish upperparts apart from heavier barring on the underparts. The females are slightly larger. The mesial stripe on the throat is dark but narrow. In flight the male seen from below shows a light wing lining (underwing coverts) and has blackish wing tips. When seen from above the tail bands are faintly marked on the lateral tail feathers and not as strongly marked as in the Eurasian sparrowhawk. The central tail feathers are unbanded and only have a dark terminal band. Juveniles have dark streaks and spots on the upper breast and the wing is narrowly barred while the tail has dark but narrow bands. A post juvenile transitional plumage is found with very strong barring on the contour feathers of the underside. The call is pee-wee, the first note being higher and the second being longer. In flight the calls are shorter and sharper kik-ki ... kik-ki. The Chinese sparrowhawk

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is somewhat similar in appearance but has swollen bright orange ceres and yellow legs with the wing tips entirely black.

Table: Taxonomical status of *Accipiter badius*

Common Name	Shikra
Phylum	Chordata
Class	Aves
Order	Accipitriformes
Family	Accipitridae
Genus	Accipiter
Species	A. badius
Migratory species	Resident
Occurrence	Common in Indian Subcontinent

Habitat: The *Accipiter badius* is found in a range of habitats including forests, farmland and urban areas. They are usually seen singly or in pairs. The flight is typical with flaps and glides. During the breeding season pairs will soar on thermals and stoop at each other. *Accipiter badius* frequents woodlands and savannahs, arid steppes, small exotic plantations and urban parks.

Distribution: *Accipiter badius* is found in Africa, south-east India and Sri Lanka.

Behaviour & Ecology: *Accipiter badius* hunts from a perch hidden within vegetation. It performs rapid flight in order to catch the prey on tree trunk, among foliage or on the ground. It also performs aerial pursuits and its attacks are very powerful.

Accipiter badius is migratory. Some birds move to Arabia, mostly to Pakistan, India and South Asia. The species is resident in numerous locations in Africa and India, but regularly moves between the most dry and humid savannahs.

Table: Project impact & Significance for *Accipiter badius*

Sr. No.	Species	Threats in General
1	<i>Accipiter badius</i>	Loss of natural habitat Loss of access to water sources Hunting for meat/Eggs in wild by some tribes Hunting for feathers

1.4.3 *Pavo cristatus* (Indian Peafowl)

Introduction: *Pavo cristatus* (Indian Peafowl) is found Widely Distributed Over the Indian Subcontinent.

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Table No. 5: Conservation status of *Pavo cristatus*

Sr. No.	Legal Statute	Status
1.	Indian Wildlife Protection Act - 1972 & Amendment 2022	Schedule- I
2.	The Red Data Book on Indian Animal Part 1 Vertebrata published by zoological Survey of India, July 1994	--
3.	CITIES	--
4.	IUCN ver 3.1	Least Concern

Description

Measurements: *Pavo cristatus* (Indian Peafowl) have weigh in between 2.7-6 kg and have a wingspan of 1.4-1.6 m. They have vary wide in length vary between 0.86-2.12 m. This species has long, strong, greyish brown legs equipped for running away into brush for safety.

Diagnostic characters: Both sexes are equipped with spurs that are around 2.5 cm long; males will use them during the breeding season to ward off other competing males. Females are brown, grey, and cream-colored. Chicks are usually a light yellow to brown colour. The males have a long tail, about 1.2 m in length on average, from June to December. The tail is discarded in January, but is grown again at a rapid pace when breeding season approaches. Their necks and breasts are a bright blue, golden feathers line their sides and backs, and their tails are an iridescent arrangement of multiple colours featuring ocelli (eye-spots).

Table: Taxonomical status of *Pavo cristatus*

Common Name	Indian Peafowl
Phylum	Chordata
Class	Aves
Order	Galliformes
Family	Phasianidae
Genus	Pavo
Species	Cristatus
Migratory species	Resident
Occurrence	Common in Indian Subcontinent

Habitat: *Pavo cristatus* (Indian Peafowl) inhabits most commonly in deciduous, open forest habitats. Areas that have sufficient water sources and are relatively distant from human presence are also preferred if given the choice. Their basic requirements include a suitable roost tree, a small territory, and sufficient food. In their native range, *Pavo cristatus* are found from 900 to 1200 m above sea level in areas with appropriate forest habitat to support them.

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Distribution: *Pavo cristatus* (Indian Peafowl) are native to Sri Lanka and India, but can also be found naturally in Pakistan, Kashmir, Nepal, Assam, Nagaland, Burma, Java, Ceylon, Malaya, and the Congo.

Behaviour & Ecology: *Pavo cristatus* (Indian Peafowl) prefer solitary and isolated lifestyle. A single male can have a harem of six females. Outside of the breeding season, females live alone or with other females in groups of 2 or 3. They are diurnal, seeking protection high up in trees when it sleeps. It flies to the lowest branch, and then works its way up branch by branch until it has reached a safe height. They take dust baths which help to get rid of any parasites or bugs. They are omnivorous. They consume insects, worms, lizards, frogs, and snakes. They also feed on tree and flower buds, petals, grain, and grass and bamboo shoots. It also requires abundance of water for survival. Females lay 3-5 brownish oval eggs, but in some cases, have laid up to 12. The eggs are laid one at a time every other day. The incubation period lasts up to 28 days. The nest is made up of dry sticks and leaves, and is located on the ground, under shrubs.

Table: Project impact & Significance for *Pavo cristatus*

Sr. No.	Species	Threats in General
1	<i>Pavo cristatus</i>	Loss of natural habitat Loss of access to water sources Hunting for meat/Eggs in wild by some tribes Hunting for feathers

1.4.4 *Ptyas mucosa* (Indian Rat snake)

Introduction: *Ptyas mucosa* (Indian Rat Snake) is a common non-venomous species of colubrid snake found in parts of South and Southeast Asia. Very fast moving and slender snakes.

Table No. 6: Conservation status of *Ptyas mucosa*

Sr. No.	Legal Statute	Status
1.	Indian Wildlife Protection Act - 1972 & Amendment 2022	Schedule- I
2.	The Red Data Book on Indian Animal Part 1 Vertebrata published by zoological Survey of India, July 1994	--
3.	CITIES	--
4.	IUCN ver 3.1	Least Concern

Description

The *Ptyas mucosa* (Indian Rat Snake) is a commonly seen snake which is famous for its fast crawling speed and much larger size than most of the widely distributed species found in India. Very long body with dark color patterns on the whole dorsal surface are its general identification

features. Apart from these it can be identified precisely by checking posterior body reticulated with black color net like markings. Traditionally people differentiate between Cobra and Rat Snake by accepting Rat Snake to be a snake having head broader than neck or neck thinner than mid body. The record length for this species was 3.7 m (12 ft 2 in).

Furthermore, the average weight of ratsnakes caught in Java was around 877 to 940 g (1.933 to 2.072 lb), though larger males of over 2.3 m (7 ft 7 in) (which average mildly larger of the two sexes in the species) may easily weigh over 2.5 kg (5.5 lb). Their colour varies from pale browns in dry regions to nearly black in moist forest areas. Rat snakes are diurnal, semi-arboreal, non-venomous, and fast-moving. Rat snakes eat a variety of prey and are frequently found in urban areas where rodents thrive.

Table: Taxonomical status of *Ptyas mucosa*

Common Name	Indian Rat Snake
Phylum	Chordata
Class	Reptilia
Order	Squamata
Suborder	Serpentes
Family	Colubridae
Genus	<i>Ptyas</i>
Species	<i>P. mucosa</i>
Migratory species	Resident
Occurrence	Common in Indian Subcontinent

Habitat: The *Ptyas mucosa* is Extremely common throughout India. Inhabit a wide variety of habitats like forests, grasslands and human habitations. Hide in dark places like rat holes, termite mounds and under rocky caves. Prefers wet surroundings during summer and drier areas in monsoon.

Distribution: *Ptyas mucosa* is an extremely common throughout India. Also, found in parts of South and Southeast Asia.

Behaviour & Ecology: The *Ptyas mucosa* though harmless to humans, are fast-moving, excitable snakes. In captivity, they are territorial and may defend their turf aggressively, attempting to startle or strike at passing objects. Rat snakes are diurnal and semi-arboreal. They inhabit forest floors, wetlands, rice paddies, farmland, and suburban areas where they prey upon small reptiles, amphibians, birds, and mammals. Adults, unusually for a colubrid, prefer to subdue their prey by sitting on it rather than by constricting, using body weight to weaken prey.

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Ptyas mucosa mate in late spring and early summer, though in tropical areas reproduction may take place year round. Males establish boundaries of territory using a ritualised test of strength in which they intertwine their bodies. The behaviour is sometime misread by observers as a "mating dance" between opposite-sex individuals. Females produce 6–15 eggs per clutch several weeks after mating.

Table: Project impact & Significance for *Ptyas mucosa*

Sr. No.	Species	Threats in General
1	<i>Ptyas mucosa</i>	Heavy deforestation harvested for skin, food, and medicinal purposes Hunting for meat/Eggs in wild by some tribes International pet trade Overuse of pesticides

1.4.5 *Naja naja* (Indian Cobra)

Introduction: *Naja naja* (Indian Cobra) also known commonly as the spectacled cobra, Asian cobra, or binocellate cobra, is a species of cobra, a venomous snake in the family Elapidae. The species is native to the Indian subcontinent, and is a member of the "big four" species that are responsible for the most snakebite cases in India.

Table No. 7: Conservation status of *Naja naja*

Sr. No.	Legal Statute	Status
1.	Indian Wildlife Protection Act - 1972 & Amendment 2022	Schedule- I
2.	The Red Data Book on Indian Animal Part 1 Vertebrata published by zoological Survey of India, July 1994	--
3.	CITIES	--
4.	IUCN ver 3.1	Least Concern

Description

The *Naja naja* (Indian Cobra) most known characteristic features are the wide black band on the underside of the neck, and the hood marking design which shows half-rings on either side of the hood. It is a smooth-scaled snake with black eyes, a wide neck and head, and a medium-sized body. Its colouring varies from black, to dark brown, to a creamy white. The body is usually covered with a spectacled white or yellow pattern, which sometimes forms ragged bands. The Indian cobra may grow from 1.8m to 2.2m.

Table: Taxonomical status of *Naja naja*

Common Name	Indian Cobra
Phylum	Chordata

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Class	Reptilia
Order	Squamata
Family	Elapidae
Genus	Naja
Species	N. Naja
Migratory species	Resident
Occurrence	Common in Indian Subcontinent

Habitat: The *Naja naja* inhabits a wide range of habitats throughout its geographical range. It can be found in dense or open forests, plains, agricultural lands (rice paddy fields, wheat crops), rocky terrain, wetlands, and it can even be found in heavily populated urban areas, such as villages and city outskirts, ranging from sea level to 2,000 metres (6,600 ft) in altitude. This species is absent from true desert regions. The Indian cobra is often found in the vicinity of water. Preferred hiding locations are holes in embankments, tree hollows, termite mounds, rock piles and small mammal dens.

Distribution: The *Naja naja* is native to the Indian subcontinent and can be found throughout India, Pakistan, Sri Lanka, Bangladesh, and southern Nepal. In India, it may or may not occur in the state of Assam, some parts of Kashmir, and it does not occur at high altitudes of over 2,000 metres (6,600 ft) and in extreme desert regions. In Pakistan, it is absent in most of Balochistan province, parts of Khyber Pakhtunkhwa Province, desert areas elsewhere and the Northern Areas. The most westerly record comes from Duki, Balochistan in Pakistan, while the most easterly record is from the Tangail District in Bangladesh. As this species has been observed in Drosh, in the Chitral Valley, it may also occur in the Kabul River Valley in extreme eastern Afghanistan. There's been at least one report of this species occurring in Bhutan.

Behaviour & Ecology: When threatened, the *Naja naja* will assume its characteristic posture. It will raise the front one-third of its body and elongate its long, flexible neck ribs and loose skin to form its distinctive hood, on which are resembled eyes.

The Indian cobra feeds on rodents, lizards and frogs. It bites quickly, and then waits while its venom damages the nervous system of the prey, paralyzing and often killing it. Like all snakes, *Naja naja* swallows its prey whole. This species sometimes enters buildings in search of rodent prey.

The Indian Cobra reproduces sexually by the joining of male and female gametes and produces eggs. Most snakes do not pay much attention to their eggs, but this is not the case with the Indian Cobra. The eggs, usually 12 to 20, are laid in a hollow tree, or in the earth, and the female will guard them throughout the incubation period, only leaving to feed. The young snakes will then hatch after

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approximately 50 days. Immediately freeing itself from the egg, a hatchling is capable of rearing up, spreading its hood and striking.

Table: Project impact & Significance for *Naja naja*

Sr. No.	Species	Threats in General
1	<i>Naja naja</i>	Heavy deforestation harvested for skin, food, and medicinal purposes Hunting for meat/Eggs in wild by some tribes International pet trade

1.4.6 *Daboia russelii* (Western Russel's Viper)

Introduction: *Daboia russelii* (Western Russel's Viper) is a highly venomous snake in the family Viperidae native to the Indian subcontinent and one of the big four snakes in India.

Table No. 8: Conservation status of *Daboia russelii*

Sr. No.	Legal Statute	Status
1.	Indian Wildlife Protection Act - 1972 & Amendment 2022	Schedule- I
2.	The Red Data Book on Indian Animal Part 1 Vertebrata published by zoological Survey of India, July 1994	--
3.	CITIES	--
4.	IUCN ver 3.1	Least Concern

Description

The head of *Daboia russelii* (Western Russel's Viper) is flattened, triangular, and distinct from the neck. The snout is blunt, rounded, and raised. The nostrils are large, each in the middle of a large, single nasal scale. The lower edge of the nasal scale touches the nasorostral scale. The supranasal scale has a strong crescent shape and separates the nasal from the nasorostral scale anteriorly. The rostral scale is as broad as it is high.

The crown of the head is covered with irregular, strongly fragmented scales. The supraocular scales are narrow, single, and separated by six to nine scales across the head. The eyes are large, flecked with yellow or gold, and surrounded by 10–15 circumorbital scales. The snake has 10–12 supralabials, the fourth and fifth of which are significantly larger. The eye is separated from the supralabials by three or four rows of suboculars. Of the two pairs of chin shields, the front pair is notably enlarged. The two maxillary bones support at least two, and at the most five or six, pairs of fangs at a time: the first are active and the rest replacements. The fangs attain a length of 16.5 mm (0.65 in) in the average specimen.

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The body is stout, the cross-section of which is rounded to circular. The dorsal scales are strongly keeled; only the lowest row is smooth. Mid-body, the dorsal scales number 27–33. The ventral scales number 153–180. The anal plate is not divided. The tail is short—about 14% of the total length—with the paired subcaudals numbering 41–68.

Table: Taxonomical status

Common Name	Indian Rat Snake
Phylum	Chordata
Class	Reptilia
Order	Squamata
Suborder	Serpentes
Family	Viperidae
Genus	Daboia
Species	<i>Daboia russelii</i>
Migratory species	Resident
Occurrence	Common in Indian Subcontinent

Habitat: The Russell's viper is not restricted to any particular habitat, but does tend to avoid dense forests. The snake is mostly found in open, grassy or bushy areas, but may also be found in second growth forests (scrub jungles), on forested plantations and farmland. It is most common in plains, coastal lowlands, and hills of suitable habitat. Generally, it is not found at altitude, but has been reported as far up as 2300–3000 m (7,500–9,800 ft). Humid environments, such as marshes, swamps, and rain forests, are avoided.

This species is often found in highly urbanized areas and settlements in the countryside, the attraction being the rodents commensal with man.

Distribution: The Russell's viper is found in India, Sri Lanka, Bangladesh, Nepal, and Pakistan. Populations from South-East Asia previously assigned to this species are now considered to be part of a different species, *Daboia siamensis*. The type locality is listed as "India". More specifically, this would be the Coromandel Coast, by inference of Russell (1796).

Within its range, it can be common in some areas, but scarce in others. In India, it is abundant in Punjab, very common along the West Coast and its hills, and in southern India, especially in the state of Karnataka and north to Bengal. It is uncommon to rare in the Ganges valley, northern Bengal, and Assam.

Behaviour & Ecology: Russell's viper is terrestrial and active primarily as a nocturnal forager. However, during cool weather, it alters its behavior and becomes more active during the day. Adults

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are reported to be slow and sluggish unless pushed beyond a certain limit, after which they can become very aggressive. Juveniles, though, are generally more nervous. When threatened, they form a series of S-loops, raise the first third of the body, and produce a hiss that is supposedly louder than that of any other snake. When striking from this position, they can exert so much force that even a large individual can lift most of its body off the ground in the process. These snakes are strong and may react violently to being picked up. The bite may be a snap, or they may hang on for many seconds.

Although this genus does not have the heat-sensitive pit organs common to the Crotalinae, it is one of a number of viperines that are apparently able to react to thermal cues, further supporting the notion that they, too, possess a heat-sensitive organ. The identity of this sensor is not certain, but the nerve endings in the supranasal sac of these snakes resemble those found in other heat-sensitive organs.

Table: Project impact & Significance

Sr. No.	Species	Threats in General
1	<i>Daboia russelii</i>	Heavy deforestation harvested for skin, food, and medicinal purposes Hunting for meat/Eggs in wild by some tribes International pet trade

1.5 Conservation Plan

The Conservation Plan would focus on conservation of habitats of Schedule - I species identified during filed survey (Primary data collection) comparing the secondary data for the same study area. Support in the form of donation of funds and active participation in awareness campaigns will be provided to the management plans undertaken by the Forest Department in the area. Awareness drives will be undertaken targeting different group of society at different times. During these, dialogue with locals will be established and importance of co-existence of these species will be explained. Farmers will be made aware for optimum use of chemical fertilizers, organic fertilizers, weedicides/ pesticides etc. will be made available to farmers and importance of use of organic farmer will be explained.

1.5.1 Habitat Preservation

M/s Aarti Pharmalabs Limited will develop total Greenbelt of around 3323 sq. m. (64.43% of total plot area) at project site with plantation of 1040 Nos. of trees (considering 80% survival rate), the trees count are considered as per the MoEFCC guideline i.e. 2500 nos. of trees per 10,000 sq. m. (1

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hectare). A dedicated group of trained personals (gardeners) that maintains and monitor greenbelt within plant site M/s Aarti Pharmed Labs Limited. will formulate the competent team of experts headed by EHS professional to discuss with the forest department officials to know various existing habitat improvement and wildlife management activities conducted in study area. In consultation with the forest department, the industry will provide support to the existing forest and wildlife conservation plans by earmarking separate, sufficient fund as mentioned in table below for such activities and through inclusion of ‘wildlife awareness campaign’s in various other programs from time to time. These campaigns will be conducted by team of experts in the field to make the locals aware about the protected species in the area; their behaviour, habitat, ecology, breeding/ nesting seasons, threats to habitats and species, laws regarding protection of species; through audio-visual aids, quiz competitions, arranging study tours to various locations in different seasons etc. on village level.

1.5.2 Budgetary allocation for schedule – I species

The cost for proposed project is about **INR 90 Crore**, out of **INR 3.25 Lakh** has been considered for Conservation of the Schedule – I species.

Table No. 9: Cost for Conservation plan of Scheduled-1 Species

Sr. No.	Particular	Percentage of total outlay of wildlife Conservation plan	Cost for wildlife Conservation plan (Lakh)
1	Habitat improvement & mitigative measures (Food, water, Shelter, Movement etc) and measure to reduce/minimize the human-animal conflicts	50 %	45
2	Awareness & extension (Forest staff will also be invited for various activities to ensure participation)	10%	9
	1) Pam tembhi (min. 5 Awareness Campaign)		
	2) Kolwade (min. 5 Awareness Campaign)		
	3) Devkhope (min. 2 Awareness Campaign)		
	4) Padghe (min. 5 Awareness Campaign)		
	5) Khaniwade (min. 5 Awareness Campaign)		
3	Support to Forest Department for monitoring, Rescue & re-habitation of wildlife (Veterinary care, Animal health, rescue, tool and equipment etc.)	10%	9
4	Contribution towards conservation of wildlife in PAs (To be deposited in MPACS)	10%	9
5	Administrative cost for processing inspection etc. (To be deposited in MPACS)	10%	9
6	Miscellaneous including Eco-development	10%	9
	Total	100%	90

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Ref: <https://forest.rajasthan.gov.in/content/dam/raj/forest/rajasthan-wild-life/pdf/Instructions.pdf>
WCP/CWLW/2019/6451-6463 Dated on 24-05-2019.

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Annexure-1

List of Flora & Fauna which is observed in Primary survey and Secondary data in the study area

Table 1: List of Floral species observed during primary survey

Sr. No.	Botanical Name	Common Name	Family	Habit	IUCN ver 3.1
Tree					
1	<i>Mangifera indica</i>	Amba	Anacardiaceae	T	DD
2	<i>Anacardium occidentale</i>	cashew	Anacardiaceae	T	LC
3	<i>Annona squamosa</i>	Sitaphal	Annonaceae	T	NE
4	<i>Polyalthia longifolia</i> var. <i>longifolia</i>	False Ashoka	Annonaceae	T	NE
5	<i>Polyalthia longifolia</i> var. <i>pendula</i>	Asupalav / False Ashoka	Annonaceae	T	NE
6	<i>Alstonia scholaris</i>	saptaparni	Apocynaceae	T	LC
7	<i>Plumeria rubra</i>	chafa	Apocynaceae	T	LC
8	<i>Wrightia tinctoria</i>	Kala kuda	Apocynaceae	T	LC
9	<i>Areca catechu</i>	Indian Nut, Supari	Arecaceae	T	NE
10	<i>Borassus flabellifer</i>	Asian Palmyra Palm, Taad	Arecaceae	T	NE
11	<i>Cocos nucifera</i>	Coconut Palm	Arecaceae	T	NE
12	<i>Calotropis gigantea</i>	Rui	Asclepiadaceae	T	NE
13	<i>Oroxylum indicum</i>	Indian Trumpet Tree	Bignoniaceae	T	NE
14	<i>Cordia dichotoma</i>	Bhokar	Boraginaceae	T	LC
15	<i>Cactaceae juss</i>	Cactus	Cactaceae	T	NE
16	<i>Casuarina equisetifolia</i>	Whistling Pine, Casuarina	Casuarinaceae	T	LC
17	<i>Terminalia bellirica</i>	Behda	Combretaceae	T	LC
18	<i>Anogeissus latifolia</i>	Dhawda	Combretaceae	T	NE
19	<i>Terminalia arjuna</i>	Arjun tree	Combretaceae	T	NE
20	<i>Terminalia catappa</i>	Indian almond, Sea Almond	Combretaceae	T	NE
21	<i>Terminalia elliptica</i>	Ain	Combretaceae	T	NE
22	<i>Diospyros melanoxylon</i>	Temrun	Ebenaceae	T	NE
23	<i>Acacia nilotica</i>	babul	Fabaceae	T	LC
24	<i>Butea monosperma</i>	Palash	Fabaceae	T	LC
25	<i>Cassia fistula</i>	Bahawa	Fabaceae	T	LC

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Sr. No.	Botanical Name	Common Name	Family	Habit	IUCN ver 3.1
26	<i>Delonix regia</i>	Gulmohar	Fabaceae	T	LC
27	<i>Gliricidia sepium</i>	giripushpa	Fabaceae	T	LC
28	<i>Pongamia pinnata</i>	Karanj	Fabaceae	T	LC
29	<i>Tamarindus indica</i>	Chinch	Fabaceae	T	LC
30	<i>Bauhinia racemosa</i>	Apta	Fabaceae	T	NE
31	<i>Erythrina suberosa</i>	Pangara	Fabaceae	T	NE
32	<i>Millettia pinnata</i>	Indian Beach Tree	Fabaceae	T	NE
33	<i>Peltophorum pterocarpum</i>	Copperpod tree, Yellow Gulmohar	Fabaceae	T	NE
34	<i>Saraca asoca</i>	Sitaashok	Fabaceae	T	VU
35	<i>Tectona grandis</i>	Saag	Lamiaceae	T	EN
36	<i>Couroupita guianensis</i>	Cannonball Tree	Lecythidaceae	T	NE
37	<i>Magnolia champaca</i>	Sonchapha, champak	Magnoliaceae	T	LC
38	<i>Bombax ceiba</i>	Sawar	Malvaceae	T	LC
39	<i>Thespesia lampas</i>	Ranbhend	Malvaceae	T	NE
40	<i>Azadirachta indica</i>	Neem	Meliaceae	T	LC
41	<i>Ficus racemosa</i>	Umbar	Moraceae	T	LC
42	<i>Artocarpus heterophyllus</i>	Jackfruit	Moraceae	T	NE
43	<i>Ficus amplissima</i>	Thick leaf Pimpal	Moraceae	T	NE
44	<i>Ficus benghalensis</i>	Banyan Tree	Moraceae	T	NE
45	<i>Ficus religiosa</i>	Sacred Fig, Pipal	Moraceae	T	NE
46	<i>Moringa oleifera</i>	Drumstick	Moringaceae	T	LC
47	<i>Musa paradisiaca</i>	Banana	Musaceae	T	NE
48	<i>Psidium guajava</i>	Guava	Myrtaceae	T	LC
49	<i>Syzygium cumini</i>	Jambhul	Myrtaceae	T	LC
50	<i>Nyctanthes arbor-tristis</i>	Parijatak	Oleaceae	T	NE
51	<i>Phyllanthus acidus</i>	Tahitian Gooseberry Tree, Chhota aavala	Phyllanthaceae	T	NE
52	<i>Phyllanthus emblica</i>	Indian gooseberry, Amla	Phyllanthaceae	T	NE
53	<i>Zizyphus jujuba</i>	Bhor, Ber	Rhamnaceae	T	NE
54	<i>Ziziphus xylopyrus</i>	Kath Ber, घाटबोर	Rhamnaceae	T	NE
55	<i>Haldina cordifolia</i>	Haldu	Rubiaceae	T	NE
56	<i>Mitragyna parvifolia</i>	Kalam	Rubiaceae	T	NE
57	<i>Morinda coreia</i>	Indian mulberry	Rubiaceae	T	NE
58	<i>Aegle marmelos</i>	Bel	Rutaceae	T	NT
59	<i>Schleichera oleosa</i>	Kusum	Sapindaceae	T	LC
60	<i>Madhuca longifolia</i>	Moha	Sapotaceae	T	NE

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Sr. No.	Botanical Name	Common Name	Family	Habit	IUCN ver 3.1
61	<i>Manilkara hexandra</i>	Ceylon Ironwood, Rayan, Khirni	Sapotaceae	T	NE
62	<i>Manilkara zapota</i>	Sapodilla, Chiku	Sapotaceae	T	NE
Shrub					
1	<i>Carissa carandas</i>	Karwand	Apocynaceae	S	LC
2	<i>Holarrhena pubescens</i>	Kuda	Apocynaceae	S	LC
3	<i>Asteracantha longifolia</i>	Kateri	Acanthaceae	S	NE
4	<i>Caesalpinia pulcherrima</i>	Peacock flower	Fabaceae	S	NE
5	<i>Hibiscus rosa-sinensis</i>	Hibiscus	Malvaceae	S	NE
6	<i>Lantana camara</i>	Ghaneri	Verbenaceae	S	NE
7	<i>Ocimum sanctum</i>	Holy basil	Lamiaceae	S	NE
8	<i>Ocimum tenuiflorum</i>	Kali Tulas	Lamiaceae	S	NE
9	<i>Rosa indica</i>	Gulab/Rose	Rosaceae	S	NE
10	<i>Ziziphus nummularia</i>	Jungle bor, Zhad beri	Rhamnaceae	S	NE
11	<i>Ziziphus oenopolia</i>	Small-Fruited Jujube,	Rhamnaceae	S	NE
12	<i>Ziziphus rugosa</i>	Wrinkled jujube	Rhamnaceae	S	NE
Herb					
1	<i>Curcuma inodora</i>	Scentless Turmeric	Zingiberaceae	H	LC
2	<i>Justicia adhatoda</i>	Vasaka, Malabar nut, Adulsa	Acanthaceae	H	LC
3	<i>Bryophyllum pinnatum</i>	Panphuti	Crassulaceae	H	NE
4	<i>Cassia tora</i>	Takla	Fabaceae	H	NE
5	<i>Catharanthus roseus</i>	Pink Periwinkle, Sadabahar, Sadaphulee	Apocynaceae	H	NE
6	<i>Curacao Aloe</i>	Aloevera	Xanthorrhoeaceae	H	NE
7	<i>Hyptis suaveolens</i>	Jungali tulas	Lamiaceae	H	NE
8	<i>Zingiber cassumunar</i>	Jangli Adrak, Pewa, Nisa	Zingiberaceae	H	NE
Climber					
1	<i>Calycopteris floribunda</i>	Ukshi	Combretaceae	C	NE
2	<i>Dioscorea bulbifera</i>	Karanda	Dioscoreaceae	C	NE
3	<i>Piper betle</i>	paan	Piperaceae	C	NE
True Mangrove Species					
Tree					
1	<i>Avicennia marina</i> var. <i>acutissima</i>	Grey Mangrove	Acanthaceae	T	LC
2	<i>Avicennia marina</i> var. <i>marina</i>	Grey Mangrove	Acanthaceae	T	LC
3	<i>Bruquiera gymnorhiza</i>	Black mangrove	Rhizophoraceae	T	LC
4	<i>Rhizophora apiculata</i>	Tall-Stilt Mangrove	Rhizophoraceae	T	LC
5	<i>Sonneratia apetala</i>	Sonneratia Mangrove	Lythraceae	T	LC
6	<i>Sonneratia caseolaris</i>	Sonneratia Mangrove	Lythraceae	T	LC
Shrub					
1	<i>Excoecaria agallocha</i>	Milky Mangrove	Euphorbiaceae	S	LC

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Sr. No.	Botanical Name	Common Name	Family	Habit	IUCN ver 3.1
Mangrove Associate Species					
Tree					
1	<i>Pithecellobium dulce</i>	Madras thorn, Vilayati chinch	Fabaceae	T	NE
2	<i>Salvadora persica</i>	Miswak	Salvadoraceae	T	NE
3	<i>Thespesia populnea</i>	Indian tulip tree	Malvaceae	T	NE
Shrub					
1	<i>Abelmoschus manihot</i>	Sweet Hibiscus	Malvaceae	S	DD
2	<i>Acanthus ilicifolius</i>	Sea Holly	Acanthaceae	S	LC
3	<i>Biophytum sensitivum</i>	Little Tree Plant	Malvaceae	S	NE
Herb					
1	<i>Hygrophila schulli</i>	Marsh Barbel	Acanthaceae	H	LC
2	<i>Cressa cretica</i>	Rudravanti	Malvaceae	H	NE
3	<i>Porteresia coarctata</i>	Wild rice	Malvaceae	H	NE
Climber					
1	<i>Derris trifoliata</i>	Common Derris	Fabaceae	C	NE
T: Tree, S: Shrub, H: Herb, C: Climber; EN: Endangered, NT: Near Threatened, VU: Vulnerable, LC: Least Concern, DD: Data Deficient, NE: Not Evaluated.					

Table 2: List of Faunal species observed during primary survey

Sr. No.	Scientific Name	Common Name	Family	IUCN Status	WPA - 1972 & 2022
Birds					
1	<i>Spilornis cheela</i>	Crested Serpent-eagle	Accipitridae	LC	Sch-I
2	<i>Milvus migrans</i>	Black Kite	Accipitridae	LC	Sch-II
3	<i>Aegithina tiphia</i>	Common Iora	Aegithinidae	LC	Sch-II
4	<i>Alcedo atthis</i>	Common Kingfisher	Alcedinidae	LC	Sch-II
5	<i>Halcyon smyrnensis</i>	White-breasted Kingfisher	Alcedinidae	LC	Sch-II
6	<i>Anas poecilorhyncha</i>	Indian Spot-billed Duck	Anatidae	LC	Sch-II
7	<i>Dendrocygna javanica</i>	Lesser Whistling-duck	Anatidae	LC	Sch-II
8	<i>Cypsiurus balasiensis</i>	Asian Palm-swift	Apodidae	LC	Sch-II
9	<i>Bubulcus ibis</i>	Cattle Egret	Ardeidae	LC	Sch-II
10	<i>Egretta garzetta</i>	Little Egret	Ardeidae	LC	Sch-II
11	<i>Ardea cinerea</i>	Grey Heron	Ardeidae	LC	Sch-II
12	<i>Egretta gularis</i>	Western Reef-egret	Ardeidae	LC	Sch-II
13	<i>Ardea alba</i>	Great White Egret	Ardeidae	LC	Sch-II
14	<i>Ardea purpurea</i>	Purple Heron	Ardeidae	LC	Sch-II

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15	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron	Ardeidae	LC	Sch-II
16	<i>Ardeola grayii</i>	Indian Pond-heron	Ardeidae	LC	Sch-II
17	<i>Ocyrceros birostris</i>	Indian Grey Hornbill	Bucerotidae	LC	Sch-II
18	<i>Vanellus indicus</i>	Red-wattled Lapwing	Charadriidae	LC	Sch-II
19	<i>Prinia inornata</i>	Plain prinia	cisticolidae	LC	Sch-II
20	<i>Orthotomus sutorius</i>	Common Tailorbird	Cisticolidae	LC	Sch-II
21	<i>Prinia socialis</i>	Ashy Prinia	Cisticolidae	LC	Sch-II
22	<i>Columba livia</i>	Rock Dove	Columbidae	LC	-
23	<i>Spilopelia suratensis</i>	Western Spotted Dove	Columbidae	LC	Sch-II
24	<i>Spilopelia senegalensis</i>	Laughing Dove	Columbidae	LC	Sch-II
25	<i>Corvus splendens</i>	House Crow	Corvidae	LC	--
26	<i>Corvus macrorhynchos</i>	Large-billed Crow	Corvidae	LC	Sch-II
27	<i>Eudynamys scolopaceus</i>	Western Koel	Cuculidae	LC	Sch-II
28	<i>Centropus sinensis</i>	Greater Coucal	Cuculidae	LC	Sch-II
29	<i>Hierococcyx varius</i>	Common Hawk-cuckoo	Cuculidae	LC	Sch-II
30	<i>Dicrurus macrocercus</i>	Black Drongo	Dicruridae	LC	Sch-II
31	<i>Dicrurus leucophaeus</i>	Ashy Drongo	Dicruridae	LC	Sch-II
32	<i>Elanus caeruleus</i>	Black-winged Kite	Elanidae	LC	Sch-II
33	<i>Lonchura punctulata</i>	Scaly-breasted Munia	Estrildidae	LC	Sch-II
34	<i>Amandava amandava</i>	Red Avadavat	Estrildidae	LC	Sch-II
35	<i>Hirundo rustica</i>	Barn Swallow	Hirundinidae	LC	Sch-II
36	<i>Cecropis daurica</i>	Red-rumped Swallow	Hirundinidae	LC	Sch-II
37	<i>Lanius schach</i>	Long-tailed Shrike	Laniidae	LC	Sch-II
38	<i>Argya striata</i>	Jungle babbler	Leiotrichidae	LC	Sch-II
39	<i>Psilopogon haemacephalus</i>	Coppersmith Barbet	Megalaimidae	LC	Sch-II
40	<i>Merops orientalis</i>	Asian Green Bee-eater	Meropidae	LC	Sch-II
41	<i>Terpsiphone paradisi</i>	Indian Paradise-flycatcher	Monarchidae	LC	Sch-II
42	<i>Motacilla flava</i>	Western Yellow Wagtail	Motacillidae	LC	Sch-II
43	<i>Motacilla alba</i>	White Wagtail	Motacillidae	LC	Sch-II
44	<i>Copsychus saularis</i>	Oriental Magpie-robin	Muscicapidae	LC	Sch-II
45	<i>Copsychus fulicatus</i>	Indian Robin	Muscicapidae	LC	Sch-II
46	<i>Saxicola caprata</i>	Pied Bushchat	Muscicapidae	LC	Sch-II
47	<i>Cinnyris asiaticus</i>	Purple Sunbird	Nectariniidae	LC	Sch-II

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48	<i>Leptocoma zeylonica</i>	Purple-rumped Sunbird	Nectariniidae	LC	Sch-II
49	<i>Oriolus kundoo</i>	Indian Golden Oriole	Oriolidae	LC	Sch-II
50	<i>Oriolus xanthornus</i>	Black-hooded Oriole	Oriolidae	LC	Sch-II
51	<i>Chrysomma sinense</i>	Yellow-eyed Babbler	Paradoxornithidae	LC	Sch-II
52	<i>Passer domesticus</i>	House Sparrow	Passeridae	LC	Sch-II
53	<i>Microcarbo niger</i>	Little Cormorant	Phalacrocoracidae	LC	Sch-II
54	<i>Phalacrocorax fuscicollis</i>	Indian Cormorant	Phalacrocoracidae	LC	Sch-II
55	<i>Ploceus philippinus</i>	Baya Weaver	Ploceidae	LC	Sch-II
56	<i>Alexandrinus krameri</i>	Rose-ringed Parakeet	Psittacidae	LC	Sch-II
57	<i>Pycnonotus cafer</i>	Red-vented Bulbul	Pycnonotidae	LC	Sch-II
58	<i>Pycnonotus leucotis</i>	White-eared Bulbul	Pycnonotidae	LC	Sch-II
59	<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	Pycnontidae	LC	Sch-II
60	<i>Amaurornis phoenicurus</i>	White-breasted Waterhen	Rallidae	LC	Sch-II
61	<i>Himantopus himantopus</i>	Black-winged Stilt	Recurvirostridae	LC	Sch-II
62	<i>Actitis hypoleucos</i>	Common Sandpiper	Scolopacidae	LC	Sch-II
63	<i>Tringa totanus</i>	Common Redshank	Scolopacidae	LC	Sch-II
64	<i>Acridotheres fuscus</i>	Jungle Myna	Sturnidae	LC	Sch-II
65	<i>Acridotheres tristis</i>	Common Myna	Sturnidae	LC	Sch-II
66	<i>Pastor roseus</i>	Rosy Starling	Sturnidae	LC	Sch-II
67	<i>Threskiornis melanocephalus</i>	Black-headed Ibis	Threskiornithidae	LC	Sch-II
68	<i>Upupa epops</i>	Common Hoopoe	Upupidae	LC	Sch-II
69	<i>Tephrodornis pondicerianus</i>	Common Woodshrike	Vangidae	LC	Sch-II

Mammals

Sr. No.	Scientific Name	Common Name	Family	IUCN Status	WPA - 1972 & 2022
1	<i>Bubalus bubalis</i>	Domestic water buffalo	Bovidae	--	-
2	<i>Bos taurus</i>	Indian cow / cattle	Bovidae	--	-
3	<i>Canis sp.</i>	Stray dog	Canidae	--	-
4	<i>Pteropus medius</i>	Indian flying fox	Pteropodidae	LC	Sch-II
5	<i>Funambulus palmarum</i>	Common Palm Squirrel	Sciuridae	LC	--
6	<i>Sus scrofa domesticus</i>	Pig	Suidae	--	-

Reptiles

Sr. No.	Scientific Name	Common Name	Family	IUCN Status	WPA - 1972 & 2022

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1	<i>Calotes versicolor</i>	Changeable Lizard	Agamidae	LC	
2	<i>Sarada deccanensis</i>	Deccan Fan-throated Lizard	Agamidae	LC	-
3	<i>Ptyas mucosa</i>	Indian Rat snake	Colubridae	LC	Sch-I
4	<i>Hemidactylus flaviviridis</i>	Yellow-bellied House Gecko	Gekkonidae	LC	-
5	<i>Hemidactylus frenatus</i>	Common House Gecko	Gekkonidae	LC	-
Butterfly					
Sr. No.	Scientific Name	Common Name	Family	IUCN Status	WPA - 1972 & 2022
1	<i>Hypolimnas misippus</i>	Danaid Eggfly	Nymphalidae	LC	Sch-II
2	<i>Papilio polytes</i>	Common mormon	Papilionidae	NE	-
3	<i>Pachliopta aristolochiae</i>	Common Rose	Papilionidae	LC	-
4	<i>Graphium agamemnon</i>	Tailed Jay	Papilionidae	NE	-
5	<i>Delias eucharis</i>	Common jezebel	Pieridae	NE	-
6	<i>Eurema hecabe</i>	Grass Yellow	Pieridae	LC	-
7	<i>Colitis aurora</i>	Plain Orange-tip	Pieridae	NE	-
LC: Least Concern, NE: Not Evaluated.					

Table 3: List of Floral species as per Secondary data

Sr. No.	Botanical Name	Common Name	Family	Habit	IUCN
Tree					
1	<i>Acacia nilotica</i>	babul	Fabaceae	T	LC
2	<i>Aegle marmelos</i>	Bel	Rutaceae	T	NT
3	<i>Alstonia scholaris</i>	saptaparni	Apocynaceae	T	LC
4	<i>Anacardium occidentale</i>	cashew	Anacardiaceae	T	LC
5	<i>Annona reticulata</i>	Custard apple, Ramphal	Annonaceae	T	LC
6	<i>Annona squamosa</i>	Sitaphal	Annonaceae	T	NE
7	<i>Anogeissus latifolia</i>	Dhawda	Combretaceae	T	NE
8	<i>Areca catechu</i>	Indian Nut, Supari	Arecaceae	T	NE
9	<i>Artocarpus heterophyllus</i>	Jackfruit	Moraceae	T	NE
10	<i>Azadirachta indica</i>	Neem	Meliaceae	T	LC
11	<i>Bauhinia racemosa</i>	Apta	Fabaceae	T	NE
12	<i>Bombax ceiba</i>	Sawar	Malvaceae	T	LC
13	<i>Borassus flabellifer</i>	Asian Palmyra Palm, Taad	Arecaceae	T	NE
14	<i>Butea monosperma</i>	Palash	Fabaceae	T	LC
15	<i>Cactaceae juss</i>	Cactus	Cactaceae	T	NE
16	<i>Calotropis gigantea</i>	Rui	Asclepiadaceae	T	NE
17	<i>Casuarina equisetifolia</i>	Whistling Pine, Casuarina	Casuarinaceae	T	LC
18	<i>Cassia fistula</i>	Bahawa	Fabaceae	T	LC

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19	<i>Cocos nucifera</i>	Coconut Palm	Arecaceae	T	NE
20	<i>Cordia dichotoma</i>	Bhokar	Boraginaceae	T	LC
21	<i>Couroupita guianensis</i>	Cannonball Tree	Lecythidaceae	T	NE
22	<i>Delonix regia</i>	Gulmohar	Fabaceae	T	LC
23	<i>Diospyros melanoxylon</i>	Temrun	Ebenaceae	T	NE
24	<i>Erythrina suberosa</i>	Pangara	Fabaceae	T	NE
25	<i>Ficus amplissima</i>	Pimpal, Thick leaf Pimpal	Moraceae	T	NE
26	<i>Ficus benghalensis</i>	Banyan Tree	Moraceae	T	NE
27	<i>Ficus racemosa</i>	Umbar	Moraceae	T	LC
28	<i>Ficus religiosa</i>	Sacred Fig, Pipal	Moraceae	T	NE
29	<i>Gliricidia sepium</i>	giripushpa	Fabaceae	T	LC
30	<i>Grewia tiliifolia</i>	Dhaman	Malvaceae	T	LC
31	<i>Haldina cordifolia</i>	Haldu	Rubiaceae	T	NE
32	<i>Kigelia africana</i>	Sausage Tree	Bignoniaceae	T	NE
33	<i>Lannea coromandelica</i>	Shemat	Anacardiaceae	T	NE
34	<i>Madhuca longifolia</i>	Moha	Sapotaceae	T	NE
35	<i>Magnolia champaca</i>	Sonchapha, champak	Magnoliaceae	T	LC
36	<i>Mangifera indica</i>	Amba	Anacardiaceae	T	DD
37	<i>Manilkara hexandra</i>	Ceylon Ironwood, Rayan, Khirni	Sapotaceae	T	NE
38	<i>Manilkara zapota</i>	Sapodilla, Chiku	Sapotaceae	T	NE
39	<i>Millettia pinnata</i>	Indian Beach Tree	Fabaceae	T	NE
40	<i>Mitragyna parvifolia</i>	Kalam	Rubiaceae	T	NE
41	<i>Morinda coreia</i>	Indian mulberry	Rubiaceae	T	NE
42	<i>Moringa oleifera</i>	Drumstick	Moringaceae	T	LC
43	<i>Musa paradisiaca</i>	Banana	Musaceae	T	NE
44	<i>Nyctanthes arbor-tristis</i>	Parijatak	Oleaceae	T	NE
45	<i>Oroxylum indicum</i>	Indian Trumpet Tree	Bignoniaceae	T	NE
46	<i>Peltophorum pterocarpum</i>	Yellow Gulmohar	Fabaceae	T	NE
47	<i>Phyllanthus acidus</i>	Tahitian Gooseberry Tree,	Phyllanthaceae	T	NE
48	<i>Phyllanthus emblica</i>	Indian gooseberry, Amla	Phyllanthaceae	T	NE
49	<i>Plumeria rubra</i>	chafa	Apocynaceae	T	LC
50	<i>Polyalthia longifolia</i> var. <i>longifolia</i>	False Ashoka	Annonaceae	T	NE
51	<i>Polyalthia longifolia</i> var. <i>pendula</i>	Asupalav / False Ashoka	Annonaceae	T	NE
52	<i>Pongamia pinnata</i>	Karanj	Fabaceae	T	LC
53	<i>Psidium guajava</i>	Guava	Myrtaceae	T	LC
54	<i>Saraca asoca</i>	Sitaashok	Fabaceae	T	VU
55	<i>Schleichera oleosa</i>	Kusum	Sapindaceae	T	LC
56	<i>Semecarpus anacardium</i>	Bibba	Anacardiaceae	T	NE
57	<i>Swietenia macrophylla</i>	Big-leaf Mahogany	Meliaceae	T	NE
58	<i>Syzygium cumini</i>	Jambhul	Myrtaceae	T	LC
59	<i>Tamarindus indica</i>	Chinch	Fabaceae	T	LC
60	<i>Tecoma stans</i>	Yellow Trumpet Flower	Bignoniaceae	T	NE
61	<i>Tectona grandis</i>	Saag	Lamiaceae	T	EN
62	<i>Terminalia arjuna</i>	Arjun tree	Combretaceae	T	NE

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63	<i>Terminalia bellirica</i>	Behda	Combretaceae	T	LC
64	<i>Terminalia catappa</i>	Indian almond, Sea Almond	Combretaceae	T	NE
65	<i>Terminalia elliptica</i>	Ain	Combretaceae	T	NE
66	<i>Thespesia lampas</i>	Ranbhend	Malvaceae	T	NE
67	<i>Wrightia tinctoria</i>	Kala kuda	Apocynaceae	T	LC
68	<i>Ziziphus xylopyrus</i>	Kath Ber, Ghatbor	Rhamnaceae	T	NE
69	<i>Ziziphus jujuba</i>	Bhor, Ber	Rhamnaceae	T	NE
Shrub					
1	<i>Abrus precatorius</i>	Rosary Pea	Fabaceae	S	NE
2	<i>Asteracantha longifolia</i>	Kateri	Acanthaceae	S	NE
3	<i>Caesalpinia pulcherrima</i>	Peacock flower	Fabaceae	S	NE
4	<i>Carissa carandas</i>	Karwand	Apocynaceae	S	LC
5	<i>Flemingia strobilifera</i>	Asuda	Fabaceae	S	NE
6	<i>Hibiscus rosa-sinensis</i>	Hibiscus	Malvaceae	S	NE
7	<i>Holarrhena pubescens</i>	Kuda	Apocynaceae	S	LC
8	<i>Lantana camara</i>	Ghaneri	Verbenaceae	S	NE
9	<i>Ocimum sanctum</i>	Holy basil	Lamiaceae	S	NE
10	<i>Ocimum tenuiflorum</i>	Kali Tulas	Lamiaceae	S	NE
11	<i>Rosa indica</i>	Gulab/Rose	Rosaceae	S	NE
12	<i>Woodfordia fruticosa</i>	Dhausad	Lythraceae	S	LC
13	<i>Ziziphus nummularia</i>	Jungle bor, Zhad beri	Rhamnaceae	S	NE
14	<i>Ziziphus oenopolia</i>	Small-Fruited Jujube	Rhamnaceae	S	NE
15	<i>Ziziphus rugosa</i>	Wrinkled jujube	Rhamnaceae	S	NE
Herb					
1	<i>Justicia adhatoda</i>	Vasaka, Malabar nut, Adulsa	Acanthaceae	H	LC
2	<i>Amorphophallus commutatus</i>	Ransuran	Araceae	H	NE
3	<i>Bryophyllum pinnatum</i>	Panphuti	Crassulaceae	H	NE
4	<i>Cassia tora</i>	Takla	Fabaceae	H	NE
5	<i>Catharanthus roseus</i>	Pink Periwinkle, Sadabahar, Sadaphulee	Apocynaceae	H	NE
6	<i>Curacao Aloe</i>	Aloevera	Xanthorrhoeaceae	H	NE
7	<i>Curcuma inodora</i>	Scentless Turmeric	Zingiberaceae	H	LC
8	<i>Hyptis suaveolens</i>	Jungali tulas	Lamiaceae	H	NE
9	<i>Solanum americanum</i>	American Black Nightshade	Solanaceae	H	NE
10	<i>Trichodesma indicum</i>	Chota kalpa	Boraginaceae	H	NE
11	<i>Zingiber cassumunar</i>	Jangli Adrak, Pawa, Nisa	Zingiberaceae	H	NE
Climber					
1	<i>Calycopteris floribunda</i>	Ukshi	Combretaceae	C	NE
2	<i>Dioscorea bulbifera</i>	Karanda	Dioscoreaceae	C	NE
3	<i>Piper betle</i>	Paan	Piperaceae	C	NE
True Mangrove Tree					

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1	<i>Avicennia marina</i> var. <i>acutissima</i>	Grey Mangrove	Acanthaceae	T	LC
2	<i>Avicennia marina</i> var. <i>marina</i>	Grey Mangrove	Acanthaceae	T	LC
3	<i>Bruguiera cylindrica</i>	Black Mangrove	Rhizophoraceae	T	NE
4	<i>Bruguiera gymnorhiza</i>	Black mangrove	Rhizophoraceae	T	LC
5	<i>Rhizophora apiculata</i>	Tall-Stilt Mangrove	Rhizophoraceae	T	LC
6	<i>Rhizophora mucronata</i>	Asiatic Mangrove, True Mangrove /Burma Mangrove	Rhizophoraceae	T	LC
7	<i>Sonneratia alba</i>	Sweet-Scented Apple Mangrove / Sonneratia Mangrove	Lythraceae	T	LC
8	<i>Sonneratia apetala</i>	Sonneratia Mangrove	Lythraceae	T	LC
9	<i>Sonneratia caseolaris</i>	Sonneratia Mangrove	Lythraceae	T	LC
10	<i>Avicennia officinalis</i>	Indian mangrove	Acanthaceae	T	NE
11	<i>Sonneratia apetala</i>	Chipi, Sonneratia Mangrove	Lythraceae	T	LC
Shrub					
1	<i>Excoecaria agallocha</i>	Milky Mangrove	Euphorbiaceae	S	LC
Mangrove Associate Species					
Tree					
1	<i>Pithecellobium dulce</i>	Madras thorn, Vilayati chinch	Fabaceae	T	NE
2	<i>Salvadora persica</i>	Miswak	Salvadoraceae	T	NE
3	<i>Thespesia populnea</i>	Indian tulip tree	Malvaceae	T	NE
Shrub					
1	<i>Abelmoschus manihot</i>	Sweet Hibiscus	Malvaceae	S	DD
2	<i>Acanthus ilicifolius</i>	Sea Holly	Acanthaceae	S	LC
3	<i>Alternanthera sessilis</i>	Sessile Joyweed	Amaranthaceae	S	LC
4	<i>Biophytum sensitivum</i>	Little Tree Plant	Malvaceae	S	NE
5	<i>Clerodendrum inerme</i>	Glory Bower	Verbenaceae	S	NE
Herb					
1	<i>Cressa cretica</i>	Rudravanti	Malvaceae	H	NE
2	<i>Cyperus rotundus</i>	Common Nut Sedge	Cyperaceae	H	LC
3	<i>Cyperus scariosus</i>	Umbrella Sedge	Cyperaceae	H	NE
4	<i>Euphorbia hirta</i>	Asthma Weed	Euphorbiaceae	H	NE
5	<i>Fimbristylis ferrugine</i>	West Indian Fimbry	Cyperaceae	H	LC
6	<i>Hygrophila schulli</i>	Marsh Barbel	Acanthaceae	H	LC
7	<i>Porteresia coarctata</i>	Wild rice	Malvaceae	H	NE
8	<i>Sida acuta</i>	Common Wireweed	Malvaceae	H	NE
Climber					
1	<i>Derris trifoliata</i>	Common Derris	Fabaceae	C	NE
2	<i>Dioscorea pentaphylla</i>	Five Leaf Yam	Dioscoreaceae	C	NE
3	<i>Mucuna pruriens</i>	Velvet Bean	Fabaceae	C	NE
Grass					
1	<i>Aeluropus lagopoides</i>	Mangrove Grass	Malvaceae	G	LC

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2	<i>Cynodon dactylon</i>	Bermuda Grass	Malvaceae	G	NE
T: Tree, S: Shrub, H: Herb, C: Climber, G: Grass; EN: Endangered, NT: Near Threatened, VU: Vulnerable, LC: Least Concern, DD: Data Deficient, NE: Not Evaluated.					

Table 4: List of Faunal species as per Secondary data

Sr. No.	Scientific Name	Common Name	Family	IUCN Status	WPA - 1972 & 2022
Birds					
1	<i>Spilornis cheela</i>	Crested Serpent-eagle	Accipitridae	LC	Sch-I
2	<i>Milvus migrans</i>	Black Kite	Accipitridae	LC	Sch-II
3	<i>Accipiter badius</i>	Shikra	Accipitridae	LC	Sch-I
4	<i>Aegithina tiphia</i>	Common Iora	Aegithinidae	LC	Sch-II
5	<i>Eremopterix griseus</i>	Ashy-crowned Sparrow-lark	Alaudidae	LC	Sch-II
6	<i>Mirafra erythroptera</i>	Indian Bushlark	Alaudidae	LC	Sch-II
7	<i>Alcedo atthis</i>	Common Kingfisher	Alcedinidae	LC	Sch-II
8	<i>Halcyon smyrnensis</i>	White-breasted Kingfisher	Alcedinidae	LC	Sch-II
9	<i>Anas poecilorhyncha</i>	Indian Spot-billed Duck	Anatidae	LC	Sch-II
10	<i>Dendrocygna javanica</i>	Lesser Whistling-duck	Anatidae	LC	Sch-II
11	<i>Cypsiurus balasiensis</i>	Asian Palm-swift	Apodidae	LC	Sch-II
12	<i>Bubulcus ibis</i>	Cattle Egret	Ardeidae	LC	Sch-II
13	<i>Egretta garzetta</i>	Little Egret	Ardeidae	LC	Sch-II
14	<i>Ardea cinerea</i>	Grey Heron	Ardeidae	LC	Sch-II
15	<i>Egretta gularis</i>	Western Reef-egret	Ardeidae	LC	Sch-II
16	<i>Ardea alba</i>	Great White Egret	Ardeidae	LC	Sch-II
17	<i>Ardea purpurea</i>	Purple Heron	Ardeidae	LC	Sch-II
18	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron	Ardeidae	LC	Sch-II
19	<i>Ardeola grayii</i>	Indian Pond-heron	Ardeidae	LC	Sch-II
20	<i>Ardea intermedia</i>	Intermediate Egret	Ardeidae	LC	Sch-II
21	<i>Ocyrceros birostris</i>	Indian Grey Hornbill	Bucerotidae	LC	Sch-II
22	<i>Vanellus indicus</i>	Red-wattled Lapwing	Charadriidae	LC	Sch-II
23	<i>Prinia inornata</i>	Plain prinia	cisticolidae	LC	Sch-II
24	<i>Orthotomus sutorius</i>	Common Tailorbird	Cisticolidae	LC	Sch-II
25	<i>Prinia socialis</i>	Ashy Prinia	Cisticolidae	LC	Sch-II
26	<i>Columba livia</i>	Rock Dove	Columbidae	LC	-
27	<i>Spilopelia suratensis</i>	Western Spotted Dove	Columbidae	LC	Sch-II
28	<i>Spilopelia senegalensis</i>	Laughing Dove	Columbidae	LC	Sch-II
29	<i>Streptopelia orientalis</i>	Oriental Turtle-dove	Columbidae	LC	Sch-II
30	<i>Corvus splendens</i>	House Crow	Corvidae	LC	--
31	<i>Corvus macrorhynchos</i>	Large-billed Crow	Corvidae	LC	Sch-II
32	<i>Eudynamys scolopaceus</i>	Western Koel	Cuculidae	LC	Sch-II
33	<i>Centropus sinensis</i>	Greater Coucal	Cuculidae	LC	Sch-II

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34	<i>Hierococcyx varius</i>	Common Hawk-cuckoo	Cuculidae	LC	Sch-II
35	<i>Dicrurus macrocercus</i>	Black Drongo	Dicruridae	LC	Sch-II
36	<i>Dicrurus leucophaeus</i>	Ashy Drongo	Dicruridae	LC	Sch-II
37	<i>Elanus caeruleus</i>	Black-winged Kite	Elanidae	LC	Sch-II
38	<i>Lonchura punctulata</i>	Scaly-breasted Munia	Estrildidae	LC	Sch-II
39	<i>Amandava amandava</i>	Red Avadavat	Estrildidae	LC	Sch-II
40	<i>Hirundo rustica</i>	Barn Swallow	Hirundinidae	LC	Sch-II
41	<i>Cecropis daurica</i>	Red-rumped Swallow	Hirundinidae	LC	Sch-II
42	<i>Lanius schach</i>	Long-tailed Shrike	Laniidae	LC	Sch-II
43	<i>Argya striata</i>	Jungle babbler	Leiotrichidae	LC	Sch-II
44	<i>Psilopogon haemacephalus</i>	Coppersmith Barbet	Megalaimidae	LC	Sch-II
45	<i>Merops orientalis</i>	Asian Green Bee-eater	Meropidae	LC	Sch-II
46	<i>Terpsiphone paradisi</i>	Indian Paradise-flycatcher	Monarchidae	LC	Sch-II
47	<i>Motacilla flava</i>	Western Yellow Wagtail	Motacillidae	LC	Sch-II
48	<i>Motacilla alba</i>	White Wagtail	Motacillidae	LC	Sch-II
49	<i>Copsychus saularis</i>	Oriental Magpie-robin	Muscicapidae	LC	Sch-II
50	<i>Copsychus fulicatus</i>	Indian Robin	Muscicapidae	LC	Sch-II
51	<i>Saxicola caprata</i>	Pied Bushchat	Muscicapidae	LC	Sch-II
52	<i>Cinnyris asiaticus</i>	Purple Sunbird	Nectariniidae	LC	Sch-II
53	<i>Leptocoma zeylonica</i>	Purple-rumped Sunbird	Nectariniidae	LC	Sch-II
54	<i>Leptocoma minima</i>	Crimson-backed Sunbird	Nectariniidae	LC	Sch-II
55	<i>Oriolus kundoo</i>	Indian Golden Oriole	Oriolidae	LC	Sch-II
56	<i>Oriolus xanthornus</i>	Black-hooded Oriole	Oriolidae	LC	Sch-II
57	<i>Chrysomma sinense</i>	Yellow-eyed Babbler	Paradoxornithidae	LC	Sch-II
58	<i>Passer domesticus</i>	House Sparrow	Passeridae	LC	Sch-II
59	<i>Gymnoris xanthocollis</i>	Chestnut-shouldered Bush-sparrow	Passeridae	LC	Sch-II
60	<i>Microcarbo niger</i>	Little Cormorant	Phalacrocoracidae	LC	Sch-II
61	<i>Phalacrocorax fuscicollis</i>	Indian Cormorant	Phalacrocoracidae	LC	Sch-II
62	<i>Pavo cristatus</i>	Indian Peafowl	Phasianidae	LC	Sch-I
63	<i>Perdica asiatica</i>	Jungle Bush-quail	Phasianidae	LC	Sch-II
64	<i>Ploceus philippinus</i>	Baya Weaver	Ploceidae	LC	Sch-II
65	<i>Alexandrinus krameri</i>	Rose-ringed Parakeet	Psittacidae	LC	Sch-II
66	<i>Pycnonotus cafer</i>	Red-vented Bulbul	Pycnonotidae	LC	Sch-II
67	<i>Pycnonotus leucotis</i>	White-eared Bulbul	Pycnonotidae	LC	Sch-II
68	<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	Pycnonotidae	LC	Sch-II
69	<i>Amaurornis phoenicurus</i>	White-breasted Waterhen	Rallidae	LC	Sch-II
70	<i>Porphyrio porphyrio</i>	Purple Swamphe	Rallidae	LC	Sch-II
71	<i>Himantopus himantopus</i>	Black-winged Stilt	Recurvirostridae	LC	Sch-II
72	<i>Actitis hypoleucos</i>	Common Sandpiper	Scolopacidae	LC	Sch-II
73	<i>Tringa totanus</i>	Common Redshank	Scolopacidae	LC	Sch-II
74	<i>Acridotheres fuscus</i>	Jungle Myna	Sturnidae	LC	Sch-II
75	<i>Acridotheres tristis</i>	Common Myna	Sturnidae	LC	Sch-II
76	<i>Pastor roseus</i>	Rosy Starling	Sturnidae	LC	Sch-II

Wildlife Conservation Plan for Schedule-I species (IWPA 1972 & Amendment 2022)

M/s Aarti Pharmalabs Limited, Plot No. L-99, MIDC Tarapur, Tehsil & District – Palghar,

Maharashtra, India

77	<i>Threskiornis melanocephalus</i>	Black-headed Ibis	Threskiornithidae	LC	Sch-II
78	<i>Upupa epops</i>	Common Hoopoe	Upupidae	LC	Sch-II
79	<i>Tephrodornis pondicerianus</i>	Common Woodshrike	Vangidae	LC	Sch-II

Mammals

Sr. No.	Scientific Name	Common Name	Family	IUCN Status	WPA - 1972 & 2022
1	<i>Bubalus bubalis</i>	Domestic water buffalo	Bovidae	--	-
2	<i>Bos taurus</i>	Indian cow / cattle	Bovidae	--	-
3	<i>Canis sp.</i>	Stray dog	Canidae	--	-
4	<i>Lepus nigricollis</i>	Indian hare	Cervidae	LC	Sch-II
5	<i>Pteropus medius</i>	Indian flying fox	Pteropodidae	LC	Sch-II
6	<i>Funambulus palmarum</i>	Common Palm Squirrel	Sciuridae	LC	--
7	<i>Sus scrofa domesticus</i>	Pig	Suidae	--	-
8	<i>Sus scrofa cristatus</i>	Indian Boar	Suidae	LC	Sch-II

Reptiles

Sr. No.	Scientific Name	Common Name	Family	IUCN Status	WPA - 1972 & 2022
1	<i>Calotes versicolor</i>	Changeable Lizard	Agamidae	LC	
2	<i>Sarada deccanensis</i>	Deccan Fan-throated Lizard	Agamidae	LC	-
3	<i>Ptyas mucosa</i>	Indian Rat snake	Colubridae	LC	Sch-I
4	<i>Boiga trigonata</i>	Indian Gamma Snake	Colubridae	LC	-
5	<i>Coelognathus helenae</i>	Trinket Snake	Colubridae	LC	-
6	<i>Bungarus caeruleus</i>	Common Krait	Elapidae	LC	-
7	<i>Naja naja</i>	Indian Cobra	Elapidae	LC	Sch-I
8	<i>Hemidactylus flaviviridis</i>	Yellow-bellied House Gecko	Gekkonidae	LC	-
9	<i>Hemidactylus frenatus</i>	Common House Gecko	Gekkonidae	LC	-
10	<i>Hemidactylus leschenaultii</i>	Leschenault's Gecko	Gekkonidae	LC	-
11	<i>Lycodon aulicus</i>	Common Wolf Snake	Lycodon	LC	--
12	<i>Grypotyphlops acutus</i>	Beaked Worm Snake	Typhlopidae	LC	-
13	<i>Echis carinatus</i>	Saw-scaled viper	Viperidae	LC	Sch-II
14	<i>Daboia russelii</i>	Western Russel's Viper	Viperidae	LC	Sch-I

Butterfly

Sr. No.	Scientific Name	Common Name	Family	IUCN Status	WPA - 1972 & 2022
1	<i>Hypolimnys misippus</i>	Danaid Eggfly	Nymphalidae	LC	Sch-II
2	<i>Papilio polytes</i>	Common mormon	Papilionidae	NE	-
3	<i>Pachliopta aristolochiae</i>	Common Rose	Papilionidae	LC	-
4	<i>Graphium agamemnon</i>	Tailed Jay	Papilionidae	NE	-
5	<i>Graphium doson</i>	Common jay	Papillionidae	NE	-

Wildlife Conservation Plan for Schedule-I species (IWPA 1972 & Amendment 2022)

M/s Aarti Pharmalabs Limited, Plot No. L-99, MIDC Tarapur, Tehsil & District – Palghar,

Maharashtra, India

6	<i>Delias eucharis</i>	Common jezebel	Pieridae	NE	-
7	<i>Eurema hecabe</i>	Grass Yellow	Pieridae	LC	-
8	<i>Colitis aurora</i>	Plain Orange-tip	Pieridae	NE	-
VU: Vulnerable, LC: Least Concern, NE: Not Evaluated, NA: Not Applicable.					

Green Belt Development.





John C. Reid
www.johncreid.com

दक्षिण अफ्रीका के संसदीय प्रणाली के प्रमुख विचारक, जेम्स कोल्टर, ने कहा कि 'अफ्रीका के विकास के लिए, अफ्रीका के विकास के लिए, अफ्रीका के विकास के लिए'।



॥ श्री गणेशाय नमः ॥

[illegible][illegible][illegible][illegible]

Date:16.12.2025

To,
The Sarpanch / Gram Sevak
Kolawade Grampanchayat,
Tal & Dist – Palghar

Subject: Environment Clearance granted to New Project - M/s. Aarti Pharmalabs Limited, Plot No. L-99 & L-10, MIDC Tarapur on 24/11/2025

Respected Sir/Mam,

This is to inform you that the company M/s. Aarti Pharmalabs Limited located at Plot no. L-99 & L-10, MIDC Tarapur, District – Palghar, Maharashtra, India obtained Environmental Clearance (EC) for new project vide EC no. EC25A2405MH5448929N for Manufacturing of 2000 TPM of API Products at Plot no L-99 and Boilers, Utility & production of Tech Salt (Potassium Chloride containing about 0.5 % of Potassium Fluoride) of 250 TPM located at Plot No. L-10, from Ministry of Environment, Forest and Climate Change, Government of India under Schedule 5(f) of the EIA Notification, 2006 and its subsequent amendment viz. Synthetic Organic Chemicals Industry.

This letter is for your kind information.

Thank You.

Yours faithfully,

M/s. Aarti Pharmalabs Limited

Authorized Signatory



AARTI PHARMALABS LIMITED

www.aartipharmalabs.com | CIN : U24100GJ2019PLC110964 | Email : info@aartipharmalabs.com

Factory : Unit V-II, Plot No. L-99, M.I.D.C., Tarapur, Taluka & District - Palghar, PIN 401 506, Maharashtra, INDIA. T : +91 77988 82264 / +91 70309 64131
Admin Office : 204, Udyog Kshetra, 2nd Floor, Mulund - Goregaon Link Road, Mulund (W), Mumbai, PIN - 400 080, Maharashtra, INDIA, T : +91 22 67976666 | F : +91 22 25653234
Regd. Office : Plot No. 22-C/1 & 22-C/2, 1st Phase, G.I.D.C., Vapi 396 195, District - Valsad, Gujarat, INDIA T : +91 260 2400467, +91 99099 94655

Date: 16.12.2025

To,
Deputy Engineer,
MIDC Tarapur,
Tal & Dist – Palghar

Subject: Environment Clearance granted to New Project - M/s. Aarti Pharmalabs Limited, Plot No. L-99 & L-10, MIDC Tarapur on 24/11/2025

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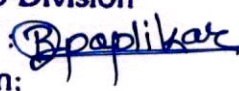
Thank You.

Yours faithfully,

M/s. Aarti Pharmalabs Limited


Authorized Signatory



Received
Drainage Sub-Division
Inward Clerk: 
MIDC Sub-Dn:
Tarapur,
Date: 17.12.2025

AARTI PHARMALABS LIMITED

www.aartipharmalabs.com | CIN : U24100GJ2019PLC110964 | Email : info@aartipharmalabs.com

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Date: 16.12.2025

To,
SRO Tarapur-I,
Maharashtra Pollution Control board,
Tal & Dist – Palghar

Subject: Environment Clearance granted to New Project - M/s. Aarti Pharmalabs Limited, Plot No. L-99 & L-10, MIDC Tarapur on 24/11/2025

Respected Sir/Mam,

This is to inform you that the company M/s. Aarti Pharmalabs Limited located at Plot no. L-99 & L-10, MIDC Tarapur, District – Palghar, Maharashtra, India obtained Environmental Clearance (EC) for new project vide EC no. EC25A2405MH5448929N for Manufacturing of 2000 TPM of API Products at Plot no L-99 and Boilers, Utility & production of Tech Salt (Potassium Chloride containing about 0.5 % of Potassium Fluoride) of 250 TPM located at Plot No. L-10, from Ministry of Environment, Forest and Climate Change, Government of India under Schedule 5(f) of the EIA Notification, 2006 and its subsequent amendment viz. Synthetic Organic Chemicals Industry.

This letter is for your kind information.

Thank You.

Yours faithfully,

M/s. Aarti Pharmalabs Limited



Authorized Signatory



 17/12/25
SUB-REGIONAL OFFICE
MAHARASHTRA POLLUTION CONTROL BOARD
TARAPUR, MIDC. COLONY, BOISAR,
TALUKA & DIST. PALGHAR, PIN 401 504.

AARTI PHARMALABS LIMITED

www.aartipharmalabs.com | CIN : U24100GJ2019PLC110964 | Email : info@aartipharmalabs.com

Factory : Unit V-II, Plot No. L-99, M.I.D.C., Tarapur, Taluka & District - Palghar, PIN 401 506, Maharashtra, INDIA. T : +91 77988 82264 / +91 70309 64131
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Regd. Office : Plot No. 22-C/1 & 22-C/2, 1st Phase, G.I.D.C., Vapi 396 195, District - Valsad, Gujarat, INDIA T : +91 260 2400467, +91 99099 94655

Environment Policy

At Aarti Pharmalabs Ltd (APL), we are dedicated to delivering stakeholder value through our core values of 'Care', 'Integrity', and 'Excellence.' This policy guides responsible behaviour benefiting all stakeholders. APL emphasises compliance, and environmental conservation in the workplace. We are committed to addressing environmental challenges. Our Environment Policy focuses on reducing GHG emissions, managing water resources, mitigating air pollution, managing energy consumption responsibly and ensuring the health and safety of employees and patients.

In order to fulfil our commitment, we strive to:

- Comply all applicable statutory, regulatory and other requirements in respect to environment;
- Commit to reducing GHG emissions across our direct operations and supply chain in line with the 1.5°C Paris Agreement target;
- Commit to responsible water stewardship by reducing, reusing, recycling, conserving water, and ensuring proper wastewater management;
- Commit to reducing air pollution from our operations, including hazardous and non-hazardous emissions, by utilising air pollution control technologies to protect human health, biodiversity and ecosystems;
- Commit to reducing and safely managing hazardous materials to protect the environment, ensure employee safety, and maintain the high quality of our products;
- Focus on minimisation, sorting, and circularity to reduce, reuse, and recycle both hazardous and non-hazardous waste for a sustainable production process;
- Foster to reducing and safely managing hazardous materials to protect the environment, ensure employee well-being, and maintain product quality;
- Develop methodologies for non-degradable waste, such as plastics, by implementing circular practices in consumption and disposal;
- Minimise the use of wood sourced from deforestation by encouraging recycled wood and avoiding wooden products throughout our direct operations and supply chain;
- Commit to forest conservation by promoting sustainable practices that reduce deforestation within our operations and supply chain;
- Ensure compliance with relevant legislation in alignment with ISO 14001 standards for effective environmental management;
- Disclose various metrics on relevant platforms such as CDP, UNGC and SBTi to enhance transparency and accountability;
- Set, monitor, benchmark and review objectives and targets on environmental performance and continually improve them by implementing environmental management programs.
- Communicate Environment Policy and achievement of relevant key performance indicators to employees, contractors, customers, community, business associates, and interested parties on a regular basis;



Narendra Salvi
Managing Director
Aarti Pharmalabs Limited

Recognised by Ministry of Environment and Forests (MoEF) / Central Pollution Control Board Govt. of India (CPCB)
 ISO 9001:2015, ISO 45001 : 2018 and ISO 14001 : 2015 Certified Company

TEST REPORT				
Test Report No: -	GESEC/PRO/AAQM/2025-26/03/890		Report Date	21.03.2026
Sample ID: -	GESEC/PRO/AAQM/2025-26/03/890			
Name & Address of the Customer:	M/s. Aarti Pharmalabs Limited, Unit V-II, Plot No. L-99, MIDC Tarapur			
Ambient Air Sample Details				
Type	Sampling Location	Sampling done by		
Ambient Air	Near Gate No.1	M/s. Shree Swami Samarth Environmental Consultant.		
Sampling Time				
Start Time	Stop Time	Total Hrs.		
10:30 AM (16.03.2026)	10:30 AM (17.03.2026)	24.0 Hrs.		
Metrological Data/Environmental Conditions				
Ambient Temperature °C	30°C/ 29°C	Wet Bulb Temperature °C	25°C	
Dry Bulb Temperature °C	29°C	Relative Humidity % RH	73%	
Date of Sampling	Sample Receipt Date	Analysis Start Date	Analysis End Date	
16.03.2026	16.03.2026	16.03.2026	21.03.2026	
Name of Instrument	SEC/TAR/AFDS/2919	Date of Calibration	07.10.2025	
Calibration Certificate No.	EI/FF/6788	Due Date of Calibration	06.10.2026	
Parameters	Method	Unit	NAAQ Standards	Result
Sulphur Dioxide (SO ₂)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 1	µg/m ³	≤ 80	18.65
Oxides Of Nitrogen (NO _x)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 7	µg/m ³	≤ 80	13.46
Particulate Matter PM ₁₀	CPCB Guidelines, Volume I ,36/2012-13, Page no. 11	µg/m ³	≤ 100	30.22
Particulate Matter PM _{2.5}	CPCB Guidelines, Volume I ,36/2012-13, Page no. 15	µg/m ³	≤ 60	15.34
Ozone(O ₃) For 1 Hrs.	CPCB Guidelines, Volume I ,36/2012-13, Page no. 31	µg/m ³	≤ 180	06.58
Ammonia (NH ₃) For 24 Hrs.	CPCB Guidelines, Volume I ,36/2012-13, Page no. 35	µg/m ³	≤ 400	04.11
Carbon Monoxide (CO)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 16	mg/ m ³	≤ 04	0.40
Benzene (C ₆ H ₆)	Method TO-17	µg/ m ³	≤ 05	0.06
Benzo(a)Pyrene (BaP)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 40	ng/ m ³	≤ 01	BDL
Arsenic (As)	MASA -822 3RD EDITION	ng/ m ³	≤ 06	BDL
Nickel (Ni)	MASA -822 3RD EDITION	ng/ m ³	≤ 20	0.5
Lead (Pb)	MASA -822 3RD EDITION	µg/ m ³	≤ 1.00	BDL
Note- ➤ All above results are within National Ambient Air Quality standards. ➤ BDL – Below Detectable Limit.				

END OF REPORT


 Mr. Vinod Hande
 (Technical Manager)
 Reviewed & Authorized By

Page 1 of 1

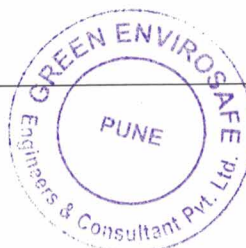
Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
- The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not revel to third party unless required by the statutory or legal requirement.
- If on site there is no proper sampling location, source or port available the result of testing is not challenge.

Recognised by Ministry of Environment and Forests (MoEF) / Central Pollution Control Board Govt. of India (CPCB)
 ISO 9001:2015, ISO 45001 : 2018 and ISO 14001 : 2015 Certified Company

Test report				
Test Report No: -	GESEC/PRO/AAQM/2025-26/03/891		Report Date	21.03.2026
Sample ID: -	GESEC/PRO/AAQM/2025-26/03/891			
Name & Address of the Customer:		M/s. Aarti Pharmalabs Limited, Unit V-II, Plot No. L-99, MIDC Tarapur		
Ambient Air Sample Details				
Type	Sampling Location	Sampling done by		
Ambient Air	Storage Tank Form Area	M/s. Shree Swami Samarth Environmental Consultant.		
Sampling Time				
Start Time	Stop Time	Total Hrs.		
10:40 PM (16.03.2026)	10:40 AM (17.03.2026)	24.0 Hrs.		
Metrological Data/Environmental Conditions				
Ambient Temperature °C	30°C/ 29°C	Wet Bulb Temperature °C	25°C	
Dry Bulb Temperature °C	29°C	Relative Humidity % RH	73%	
Date of Sampling	Sample Receipt Date	Analysis Start Date	Analysis End Date	
16.03.2026	16.03.2026	16.03.2026	21.03.2026	
Name of Instrument	SEC/TAR/AFDS/3019	Date of Calibration	07.10.2025	
Calibration Certificate No.	EI/FF/6790	Due Date of Calibration	06.10.2026	
Parameters	Method	Unit	NAAQ Standards	Result
Sulphur Dioxide (SO ₂)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 1	µg/m ³	≤ 80	26.53
Oxides Of Nitrogen (NO _x)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 7	µg/m ³	≤ 80	21.16
Particulate Matter PM ₁₀	CPCB Guidelines, Volume I ,36/2012-13, Page no. 11	µg/m ³	≤ 100	40.38
Particulate Matter PM _{2.5}	CPCB Guidelines, Volume I ,36/2012-13, Page no. 15	µg/m ³	≤ 60	32.55
Ozone(O ₃) For 1 Hrs.	CPCB Guidelines, Volume I ,36/2012-13, Page no. 31	µg/m ³	≤ 180	12.28
Ammonia (NH ₃) For 24 Hrs.	CPCB Guidelines, Volume I ,36/2012-13, Page no. 35	µg/m ³	≤400	08.64
Carbon Monoxide (CO)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 16	mg/m ³	≤ 04	0.19
Benzene (C ₆ H ₆)	Method TO-17	µg/m ³	≤ 05	0.11
Benzo(a)Pyrene (BaP)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 40	ng/m ³	≤ 01	BDL
Arsenic (As)	MASA -822 3RD EDITION	ng/m ³	≤ 06	0.03
Nickel (Ni)	MASA -822 3RD EDITION	ng/m ³	≤ 20	01.65
Lead (Pb)	MASA -822 3RD EDITION	µg/m ³	≤1.00	BDL
Note- ➤ All above results are within National Ambient Air Quality standards. ➤ BDL – Below Detectable Limit.				

END OF REPORT



Hande
Mr. Vinod Hande
 (Technical Manager)
 Reviewed & Authorized By

Page 1 of 1

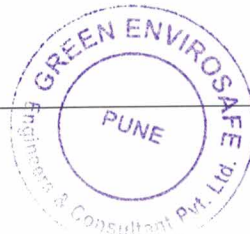
Terms and conditions

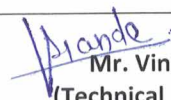
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 ISO 9001:2015, ISO 45001 : 2018 and ISO 14001 : 2015 Certified Company

TEST REPORT				
Test Report No: -	GESEC/PRO/AAQM/2025-26/03/892	Report Date	21.03.2026	
Sample ID: -	GESEC/PRO/AAQM/2025-26/03/892			
Name & Address of the Customer:	M/s. Aarti Pharmalabs Limited, Unit V-II, Plot No. L-99, MIDC Tarapur			
Ambient Air Sample Details				
Type	Sampling Location	Sampling done by		
Ambient Air	Near Gate No.2	M/s. Shree Swami Samarth Environmental Consultant.		
Sampling Time				
Start Time	Stop Time		Total Hrs.	
10:50 AM (16.03.2026)	10:50 AM (27.03.2026)		24.0 Hrs.	
Metrological Data/Environmental Conditions				
Ambient Temperature °C	30°C/ 29°C	Wet Bulb Temperature °C	25°C	
Dry Bulb Temperature °C	29°C	Relative Humidity % RH	73%	
Date of Sampling	Sample Receipt Date	Analysis Start Date	Analysis End Date	
16.03.2026	16.03.2026	16.03.2026	21.03.2026	
Name of Instrument	SEC/TAR/AFDS/5017	Date of Calibration	07.10.2025	
Calibration Certificate No.	EI/FF/6292	Due Date of Calibration	06.10.2026	
Parameters	Method	Unit	NAAQ Standards	Result
Sulphur Dioxide (SO ₂)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 1	µg/m ³	≤ 80	21.53
Oxides Of Nitrogen (NO _x)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 7	µg/m ³	≤ 80	14.28
Particulate Matter PM ₁₀	CPCB Guidelines, Volume I ,36/2012-13, Page no. 11	µg/m ³	≤ 100	40.36
Particulate Matter PM _{2.5}	CPCB Guidelines, Volume I ,36/2012-13, Page no. 15	µg/m ³	≤ 60	20.27
Ozone(O ₃) For 1 Hrs.	CPCB Guidelines, Volume I ,36/2012-13, Page no. 31	µg/m ³	≤ 180	05.69
Ammonia (NH ₃) For 24 Hrs.	CPCB Guidelines, Volume I ,36/2012-13, Page no. 35	µg/m ³	≤400	04.22
Carbon Monoxide (CO)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 16	mg/ m ³	≤ 04	0.18
Benzene (C ₆ H ₆)	Method TO-17	µg/m ³	≤ 05	0.05
Benzo(a)Pyrene (BaP)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 40	ng/m ³	≤ 01	BDL
Arsenic (As)	MASA -822 3RD EDITION	ng/m ³	≤ 06	BDL
Nickel (Ni)	MASA -822 3RD EDITION	ng/m ³	≤ 20	BDL
Lead (Pb)	MASA -822 3RD EDITION	µg/m ³	≤1.00	BDL
Note- ➤ All above results are within National Ambient Air Quality standards. ➤ BDL – Below Detectable Limit.				

END OF REPORT




 Mr. Vinod Hande
 (Technical Manager)
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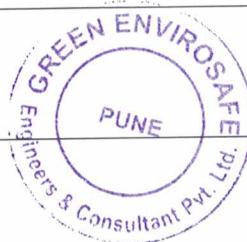
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TEST REPORT

Test Report No: -	GESEC/PRO/AAQM/2025-26/03/893	Report Date	21.03.2026	
Sample ID: -	GESEC/PRO/AAQM/2025-26/03/893			
Name & Address of the Customer:	M/s. Aarti Pharmalabs Limited, Unit V-II, Plot No. L-99, MIDC Tarapur			
Ambient Air Sample Details				
Type	Sampling Location	Sampling done by		
Ambient Air	Near Gate No.3	M/s. Shree Swami Samarth Environmental Consultant.		
Sampling Time				
Start Time	Stop Time		Total Hrs.	
11:00 AM (16.03.2026)	11:00 AM (17.03.2026)		24.0 Hrs.	
Metrological Data/Environmental Conditions				
Ambient Temperature °C	30°C/ 29°C	Wet Bulb Temperature °C	25°C	
Dry Bulb Temperature °C	29°C	Relative Humidity % RH	73%	
Date of Sampling	Sample Receipt Date	Analysis Start Date	Analysis End Date	
16.03.2026	16.03.2026	16.03.2026	21.03.2026	
Name of Instrument	SEC/TAR/AFDS/5017	Date of Calibration	07.10.2025	
Calibration Certificate No.	EI/FF/6292	Due Date of Calibration	06.10.2026	
Parameters	Method	Unit	NAAQ Standards	Result
Sulphur Dioxide (SO ₂)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 1	µg/m ³	≤ 80	17.68
Oxides Of Nitrogen (NO _x)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 7	µg/m ³	≤ 80	10.32
Particulate Matter PM ₁₀	CPCB Guidelines, Volume I ,36/2012-13, Page no. 11	µg/m ³	≤ 100	35.16
Particulate Matter PM _{2.5}	CPCB Guidelines, Volume I ,36/2012-13, Page no. 15	µg/m ³	≤ 60	14.39
Ozone(O ₃) For 1 Hrs.	CPCB Guidelines, Volume I ,36/2012-13, Page no. 31	µg/m ³	≤ 180	06.43
Ammonia (NH ₃) For 24 Hrs.	CPCB Guidelines, Volume I ,36/2012-13, Page no. 35	µg/m ³	≤ 400	05.10
Carbon Monoxide (CO)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 16	mg/ m ³	≤ 04	0.26
Benzene (C ₆ H ₆)	Method TO-17	µg/m ³	≤ 05	0.10
Benzo(a)Pyrene (BaP)	CPCB Guidelines, Volume I ,36/2012-13, Page no. 40	ng/m ³	≤ 01	BDL
Arsenic (As)	MASA -822 3RD EDITION	ng/m ³	≤ 06	BDL
Nickel (Ni)	MASA -822 3RD EDITION	ng/m ³	≤ 20	BDL
Lead (Pb)	MASA -822 3RD EDITION	µg/m ³	≤ 1.00	BDL
Note-				
➤ All above results are within National Ambient Air Quality standards. ➤ BDL – Below Detectable Limit.				

END OF REPORT



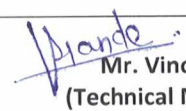
Vinod Hande
Mr. Vinod Hande
 (Technical Manager)
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TEST REPORT							
Test Report No: - GESEC/PRO/ANLM/2025-26/03/894			Date of Report		21.03.2026		
Sample ID: GESEC/PRO/ANLM/2025-26/03/894			Date of Sampling		16.03.2026- 17.03.2026		
Name & Address of the Customer: M/s. Aarti Pharmalabs Limited, Unit V-II, Plot No. L-99, MIDC Tarapur			Start Date of Analysis		17.03.2026		
			End Date of Analysis		21.03.2026		
			Location		Storage Tank Form Area		
Sample Collected By			M/s. Shree Swami Samarth Environmental Consultant.				
Standard method			IS: 9989:2020				
Calibration Detail							
Name of Instrument		SEC/TAR/SL-4030		Date of Calibration		07.10.2025	
Calibration Certificate No		EI/ME/4558		Due Date of Calibration		06.10.2026	
Ambient Noise Level Monitoring Report							
Date	Timing	Result dB(A) Day	Date	Timing	Result dB(A) Night	Unit	CPCB Standards dB(A)
16/03/2026	11:10:00	67.6	16/03/2026	23:10:00	48.3	dB(A)	Day (6.00 a.m. to 10.00 p.m.) -75 Night (10.00 p.m. to 6.00 a.m.)-70
16/03/2026	12:10:00	69.7	17/03/2026	00:10:00	47.6	dB(A)	
16/03/2026	13:10:00	71.3	17/03/2026	01:10:00	45.5	dB(A)	
16/03/2026	14:10:00	67.6	17/03/2026	02:10:00	48.2	dB(A)	
16/03/2026	15:10:00	70.8	17/03/2026	03:10:00	46.1	dB(A)	
16/03/2026	16:10:00	69.6	17/03/2026	04:10:00	49.6	dB(A)	
16/03/2026	17:10:00	68.2	17/03/2026	05:10:00	47.2	dB(A)	
16/03/2026	18:10:00	69.5	17/03/2026	06:10:00	67.8	dB(A)	
16/03/2026	19:10:00	66.1	17/03/2026	07:10:00	64.6	dB(A)	
16/03/2026	20:10:00	69.4	17/03/2026	08:10:00	68.3	dB(A)	
16/03/2026	21:10:00	67.5	17/03/2026	09:10:00	66.4	dB(A)	
16/03/2026	22:10:00	45.3	17/03/2026	10:10:00	69.5	dB(A)	
Day Time Leq		68.3					
Night Time Leq		47.2					
Note- ➤ All above Noise level results are within Central Pollution Control Board Standards limit. ➤ Day/Night -75/70 dB(A).							
						 Mr. Vinod Hande (Technical Manager) Reviewed & Authorized By	

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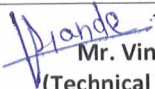
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TEST REPORT							
Test Report No: - GESEC/PRO/ANLM/2025-26/03/895			Date of Report		21.03.2026		
Sample ID: GESEC/PRO/ANLM/2025-26/03/895			Date of Sampling		16.03.2026- 17.03.2026		
Name & Address of the Customer: M/s. Aarti Pharmalabs Limited, Unit V-II, Plot No. L-99, MIDC Tarapur			Start Date of Analysis		17.03.2026		
			End Date of Analysis		21.03.2026		
			Location		Near Main Gate 1		
Sample Collected By			M/s. Shree Swami Samarth Environmental Consultant.				
Standard method			IS: 9989:2020				
Calibration Detail							
Name of Instrument		SL-4035 SD	Date of Calibration		24.04.2025		
Calibration Certificate No		EI/ME/341	Due Date of Calibration		22.04.2026		
Ambient Noise Level Monitoring Report							
Date	Timing	Result dB(A) Day	Date	Timing	Result dB(A) Night	Unit	CPCB Standards dB(A)
16/03/2026	11:20:00	64.3	16/03/2026	23:20:00	48.4	dB(A)	Day (6.00 a.m. to 10.00 p.m.) -75
16/03/2026	12:20:00	67.2	17/03/2026	00:20:00	47.6	dB(A)	
16/03/2026	13:20:00	68.3	17/03/2026	01:20:00	46.3	dB(A)	
16/03/2026	14:20:00	70.1	17/03/2026	02:20:00	45.1	dB(A)	
16/03/2026	15:20:00	67.3	17/03/2026	03:20:00	48.8	dB(A)	
16/03/2026	16:20:00	70.6	17/03/2026	04:20:00	49.5	dB(A)	
16/03/2026	17:20:00	64.6	17/03/2026	05:20:00	47.3	dB(A)	
16/03/2026	18:20:00	68.3	17/03/2026	06:20:00	66.2	dB(A)	
16/03/2026	19:20:00	68.1	17/03/2026	07:20:00	65.3	dB(A)	
16/03/2026	20:20:00	65.3	17/03/2026	08:20:00	63.5	dB(A)	
16/03/2026	21:20:00	68.9	17/03/2026	09:20:00	66.4	dB(A)	
16/03/2026	22:20:00	46.1	17/03/2026	10:20:00	68.8	dB(A)	
Day Time Leq		67.0					
Night Time Leq		47.3					
Note- ➤ All above Noise level results are within Central Pollution Control Board Standards limit. ➤ Day/Night -75/70 dB(A).							

END OF REPORT

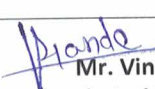



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TEST REPORT							
Test Report No: - GESEC/PRO/ANLM/2025-26/03/896			Date of Report		21.03.2026		
Sample ID: GESEC/PRO/ANLM/2025-26/03/896			Date of Sampling		16.03.2026- 17.03.2026		
Name & Address of the Customer: M/s. Aarti Pharmalabs Limited, Unit V-II, Plot No. L-99, MIDC Tarapur			Start Date of Analysis		17.03.2026		
			End Date of Analysis		21.03.2026		
			Location		Near Main Gate - 2		
Sample Collected By			M/s. Shree Swami Samarth Environmental Consultant.				
Standard method			IS: 9989:2020				
Calibration Detail							
Name of Instrument		SEC/TAR/Q-623353		Date of Calibration		07.10.2025	
Calibration Certificate No		EI/ME/4559		Due Date of Calibration		06.10.2026	
Ambient Noise Level Monitoring Report							
Date	Timing	Result dB(A) Day	Date	Timing	Result dB(A) Night	Unit	CPCB Standards dB(A)
16/03/2026	11:30:00	66.3	16/03/2026	23:30:00	46.5	dB(A)	Day (6.00 a.m. to 10.00 p.m.) -75
16/03/2026	12:30:00	68.1	17/03/2026	00:30:00	48.2	dB(A)	
16/03/2026	13:30:00	67.8	17/03/2026	01:30:00	49.6	dB(A)	
16/03/2026	14:30:00	65.2	17/03/2026	02:30:00	45.4	dB(A)	
16/03/2026	15:30:00	67.6	17/03/2026	03:30:00	46.3	dB(A)	
16/03/2026	16:30:00	65.5	17/03/2026	04:30:00	48.1	dB(A)	
16/03/2026	17:30:00	68.2	17/03/2026	05:30:00	45.6	dB(A)	
16/03/2026	18:30:00	67.3	17/03/2026	06:30:00	65.5	dB(A)	
16/03/2026	19:30:00	69.7	17/03/2026	07:30:00	63.7	dB(A)	
16/03/2026	20:30:00	67.3	17/03/2026	08:30:00	66.3	dB(A)	
16/03/2026	21:30:00	65.6	17/03/2026	09:30:00	65.1	dB(A)	Night (10.00 p.m. to 6.00 a.m.)-70
16/03/2026	22:30:00	47.2	17/03/2026	10:30:00	67.6	dB(A)	
Day Time Leq		66.6					
Night Time Leq		47.1					
Note- ➤ All above Noise level results are within Central Pollution Control Board Standards limit. ➤ Day/Night -75/70 dB (A).							
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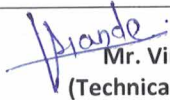
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TEST REPORT							
Test Report No: - GESEC/PRO/ANLM/2025-26/03/897			Date of Report		21.03.2026		
Sample ID: GESEC/PRO/ANLM/2025-26/03/897			Date of Sampling		16.03.2026- 17.03.2026		
Name & Address of the Customer: M/s. Aarti Pharmalabs Limited, Unit V-II, Plot No. L-99, MIDC Tarapur			Start Date of Analysis		17.03.2026		
			End Date of Analysis		21.03.2026		
			Location		Near Main Gate - 3		
Sample Collected By			M/s. Shree Swami Samarth Environmental Consultant.				
Standard method			IS: 9989:2020				
Calibration Detail							
Name of Instrument		SEC/TAR/Q-697669		Date of Calibration		06.10.2025	
Calibration Certificate No		EI/ME/5267		Due Date of Calibration		05.10.2026	
Ambient Noise Level Monitoring Report							
Date	Timing	Result dB(A) Day	Date	Timing	Result dB(A) Night	Unit	CPCB Standards dB(A)
16/03/2026	11:40:00	68.3	16/03/2026	23:40:00	47.5	dB(A)	Day (6.00 a.m. to 10.00 p.m.) -75 Night (10.00 p.m. to 6.00 a.m.)-70
16/03/2026	12:40:00	67.1	17/03/2026	00:40:00	49.2	dB(A)	
16/03/2026	13:40:00	66.8	17/03/2026	01:40:00	50.6	dB(A)	
16/03/2026	14:40:00	64.2	17/03/2026	02:40:00	46.4	dB(A)	
16/03/2026	15:40:00	68.6	17/03/2026	03:40:00	46.3	dB(A)	
16/03/2026	16:40:00	66.5	17/03/2026	04:40:00	48.1	dB(A)	
16/03/2026	17:40:00	69.2	17/03/2026	05:40:00	46.8	dB(A)	
16/03/2026	18:40:00	66.3	17/03/2026	06:40:00	67.3	dB(A)	
16/03/2026	19:40:00	70.7	17/03/2026	07:40:00	62.6	dB(A)	
16/03/2026	20:40:00	68.3	17/03/2026	08:40:00	67.1	dB(A)	
16/03/2026	21:40:00	69.1	17/03/2026	09:40:00	66.3	dB(A)	
16/03/2026	22:40:00	46.2	17/03/2026	10:40:00	65.4	dB(A)	
Day Time Leq		67.1					
Night Time Leq		47.6					
Note- ➤ All above Noise level results are within Central Pollution Control Board Standards limit. ➤ Day/Night -75/70 dB (A).							

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SEEPL/EIA/D/IND/APL/001/2025-26/00

Draft Environmental Impact Assessment Report
For
New project for manufacturing of 2000 TPM Capacity
of API Products
By



M/s. AARTI PHARMALABS LIMITED (UNIT V-II)

Plot no. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India

EIA CONSULTANT ORGANIZATION



M/s. SADEKAR ENVIRO ENGINEERS PRIVATE LIMITED



QCI – NABET Accredited EIA Consultancy for Schedule 5(f) Category - 'A'

Vide Certificate No. – NABET/EIA/2326/RA 0307; Valid up to 18/04/2026

NABL Accredited Laboratory; Valid up to 06/09/2025

Lab. Recognized by MoEF& CC, GOI under EPA 1986; Valid up to 06/09/2025

Certified by ISO 9001:2015& ISO 45001:2018; Valid up to 07/03/2026



Plot No. A-95, Road No. 16, Kisan Nagar Road, MIDC Wagle Industrial Area, Thane – 400604

Email: prs@sadekarenviro.com, eia@sadekarenviro.com

Web site: www.sadekarenviro.com

Telephone: (91-22) 25833321 / 22 / 23 / 24

Baseline Monitoring Period: October 2024 to December 2024

Baseline data collection by:

NABL Accredited Laboratory M/s Sadekar Enviro Engineers Private Limited, Thane

As per EIA notification Project Schedule & Category: 5(f) 'A'

As per QCI NABET Version 3 Project Sector: 21

EIA Report Submission: April 2025

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10.4	Schematic representation of administrative order of company to deal with environmental issues	10-29

ES 1 PROJECT DESCRIPTION

M/s. Aarti Pharmalabs Limited (Unit V-II) (APL) is a New activity for manufacturing of 2000 TPM capacity of API Products located at plot no. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. The total plot area of the project is 5,157 Sq. m.

The project activity is covered under schedule 5(f) viz. Synthetic Organic Chemicals Industry of EIA Notification 2006. Since the project is located in MIDC Tarapur which is categorized as a Critically Polluted Area (CPA) and as per the general conditions of EIA notification and its subsequent amendment the project is to be appraised as Category “A” by EAC (Ind-3) MoEF&CC.

APL has appointed M/s Sadekar Enviro Engineers Private Limited (SEEPL). (NABET Accredited consultant) to conduct Environmental Impact Assessment (EIA) study and the report has been prepared as per the Standard Terms of Reference granted to APL vide TOR Letter File No. IA-J-11011/55/2025-IA-II(I) dated 13/02/2025 by MoEF&CC.

ES 1.1 SALIENT FEATURE OF THE PROJECT

Table No. ES 1: Salient features of the project

Sr. No.	Components	Details		
1.	Name	New project for the manufacturing of API Products by M/s Aarti Pharmalabs Limited. (Unit V-II)		
2.	Location	Plot No.: L-99 MIDC Tarapur, Taluka & District: Palghar, Maharashtra, India – 401506.		
3.	Product Type	Active Pharmaceutical Ingredients.		
4.	Project Type	New		
5.	Schedule	5(f)		
6.	Category	‘A’ General condition applicability as per the EIA notification, 2006 and its subsequent amendments. Project is located in CPA (Critically Polluted Area) i.e. MIDC Tarapur, Maharashtra.		
7.	Total Plot Area	Area Details	Area (Sq. m.)	% of Total Plot Area.
		Total Plot Area	5157	-
		Greenbelt Area at project site	3323	64.43
		Note: • APL will develop Greenbelt accounting to 2123 Sq. m. (41.17 % of the total plot area) in the adjoining plot no. OS-09, which will be used only for the Greenbelt development purpose. • Letter to MIDC Tarapur for granting plot OS-09 for Greenbelt development is attached as Annexure 10.1. • Additionally, 142 Sq. m. (2.75 % of the total plot area) greenbelt will develop between MIDC Road & project plot boundary in the South direction. • Thus the total Greenbelt to be developed by APL shall be around 3323 sq. m. accounting to 64.43% of the total plot area		
8.	Total Production Capacity	2000 TPM		

9.	Total Project Cost	INR 90 Cr.	
10.	CER Cost	INR 3.60 Cr. <i>(As per MoEF&CC OM No. F. No. 22-23/2018-IA.III (Pt) dated 31st October, 2019 the % of the CER may be at least 2.0 times the slabs given in the OM dated 1st May, 2018 for Critically Polluted Area (CPA). Hence, 4% of the total project cost will be allocated for CER activities).</i>	
11.	Power Requirement	Construction Phase	
		Demand Load	10 HP
		Operation Phase	
		Connected Load	2775 kW
		Demand Load	2550 kVA
		Source	Maharashtra State Electricity Distribution Company Limited (MSEDCL).
12.	Water Requirement	Total Water Requirement	1265.5 CMD
		Source	MIDC, Tarapur Maharashtra.
13.	Utilities	(a) Steam Boilers*	10 TPH x 1 No 6 TPH x 1 No <i>*Note: Steam Requirement will be fulfilled from the Boilers installed at the Sister concern unit i.e. Aarti Pharmalabs Limited, Plot no. L-10.</i>
		(b) D. G. Set Details	500 KVA x 2 No. <i>Note: DG Sets will be operated only during power failure</i>
		(c) Scrubber Details	Acid Scrubber of 2000 CFM x 1 No. Alkali Scrubber of 2000 CFM x 1 No.
14.	Fuel Requirement	Fuel Name	Details of Utilities
		High Speed Diesel (HSD) for DG set.	200 Lit/Hr.
15.	Stack Details	Parameters	Height (Meters)
		Acid Scrubber of 2000 CFM x 1 No Alkali Scrubber of 2000 CFM x 1 No	6.0 m each (Above roof top)
		DG Set 500 KVA (02 Nos.),	5.0 m each (Above roof level)
16.	Effluent Generation	Domestic Sewage (CMD)	13.20 CMD (5.20 (Sewage from plot no L-99) + 8.0 (Sewage from plot no L- 28 & 29))
		Trade Effluent (CMD)	771 CMD (606 (Trade Effluent from plot no L-99) + 165 (Trade Effluent from plot no L- 28 & 29))
		Total Effluent (CMD)	784.20
17.	Treatment scheme for	A. Effluent Treatment Scheme for Trade effluent: • The unit will be operated on Zero Liquid Discharge system.	

	Trade & Domestic effluent	- Effluent will be segregated into two streams i.e. HCOD / HTDS and LCOD / LTDS. - For appropriate treatment of effluent, provision of MVR (Capacity – 760 CMD) followed by ATFD, Full-fledged ETP (Capacity – 820 CMD) (Primary, Secondary and Tertiary Treatment), HPPTRO (Capacity – 335 CMD), PTRO (Capacity – 85 CMD), PTRO (Capacity – 770 CMD) is made. - Around 755.55 CMD HCOD (5%) / HTDS (10%) effluent from in-house manufacturing process and around 165 CMD HCOD (5%) / HTDS (10%) effluent from sister concern at Plot No. L-28 & 29 after neutralization treated through MVR followed by ATFD along with 113.50 CMD HPPTRO reject. - Around 680 CMD condensate from MVR and ATFD and around 129 CMD LCOD (0.05%) / LTDS (0.15%) effluent from cooling tower blowdown & floor cleaning treated in the ETP comprising of Primary, Secondary and Tertiary treatment. - Around 757 CMD Treated effluent from ETP will be sent to PTRO System. - Considering 70% permeate and 30% reject from PTRO system. Around 530 CMD permeate will be recycled and reused as Cooling Tower makeup and the reject will be sent to HPPTRO system for further treatment. - Around 113.50 CMD HPPTRO permeate (50%) will be recycle & reuse for Cooling Tower makeup and around 113.50 HPPTRO reject (50%) will be resent to MVR for further treatment. - Sludge generated from primary & secondary treatment will be sent to CHWTSDF for disposal. ATFD salts will be sent to CHWTSDF for disposal. <i>As a contingency, membership will be taken with M/s Sadekar Enviro Engineers Pvt. Ltd. High COD/TDS reduction facility, MIDC Tarapur.</i> B. Treatment Scheme for Sewage: - STP having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern unit at Plot No. L-28 & 29. - Treated sewage will be used for greenbelt development during wet season and will be used for domestic flushing during wet season. - STP sludge will be used as manure for greenbelt development. Note : With reference to the Consent to Establish (CTE) obtained from Maharashtra Pollution Control Board vide no Format1.0/AS(T)/UAN No.0000223966/CE/2411000875 dated 14-11-2024, the Effluent Treatment Plant at plot no.L-99 will be utilized for the treatment of trade effluent generating from the plot no. L 28 & 29 as it is sister concern. The copy of CTE is attached as Annexure 2.2.																			
18.	Man Power (Nos.)	<table><tr><td colspan="2">Skilled</td><td colspan="3">50</td></tr><tr><td colspan="2">Unskilled</td><td colspan="3">75</td></tr><tr><td colspan="2">Total</td><td colspan="3">125</td></tr></table>					Skilled		50			Unskilled		75			Total		125		
Skilled		50																			
Unskilled		75																			
Total		125																			
19.	Hazardous Waste	<table><tr><td></td><td>Type of Waste</td><td></td><td>Quantity</td><td>UOM</td><td>Method of Disposal</td></tr></table>		Type of Waste		Quantity	UOM	Method of Disposal													
	Type of Waste		Quantity	UOM	Method of Disposal																

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Sr. No.		Category of waste	Total		
1.	Spent Carbon	28.3	1930	TPA	Sale to Authorized party/ Co-processing/ Pre-processing/ CHWTSDF
2.	Spent Acid 30-40% Acetic Acid (From Paracetamol process)	36.1	12650	TPA	Sale to Authorized Party / CHWTSDF
3.	Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste.	33.1	180	TPA	Sale to Authorized Party / CHWTSDF
4.	Contaminated cotton rags or other cleaning materials	33.2	12	TPA	CHWTSDF / Co-processing
5.	Used or Spent Oil	5.1	12	TPA	Sale to Authorized Party / CHWTSDF
6.	Wastes or residues containing oil	5.2	6	TPA	CHWTSDF / Co-processing
7.	Chemical sludge from waste water treatment.	35.3	300	TPA	CHWTSDF
8.	Concentration or evaporation residues (From ATFD)	37.3	27500	TPA	CHWTSDF
9.	Discarded Asbestos	15.2	12	TPA	Sale to Authorized Party / CHWTSDF
10.	Date expired products	28.5	50	TPA	CHWTSDF
11.	Off Specification Product	28.4	50	TPA	CHWTSDF
12.	Dust from air filtration system	26.2	1.2	TPA	CHWTSDF
13.	Spent carbon or filter medium	36.2	24	TPA	Co-processing/ Pre-processing/ CHWTSDF.

Schedule-I of The Hazardous and Other Wastes (Management and Trans boundary Movement) Rule, 2016.

20.	Non Hazardous Waste	Sr. No.	Particulars	Quantity	UOM	Method of Disposal		
		1.	STP Sludge	40	TPA	Use as manure		
		2.	Dry Waste : Garbage	5.5	TPA	Sale to authorized party for recycling		
			Wet Waste : Food Waste	4	TPA	After composting use as manure		
		3.	Metal scrap (MS scrap piping, structural, Equipment, Broken Shutters, etc.)	50	TPA	Sale to authorized Recycler		
		4.	Wood, Wooden Box, Wooden fills cooling tower, Plywood, Pallets	10	TPA	Sale to authorized party		
		5.	Glass waste	5	TPA	Sale to authorized party		
		6.	Paper waste	5	TPA	Sale to authorized Recycler		
		7.	PVC fins cooling tower	15	TPA	Sale to authorized party		
21.	E – Waste	Sr. No.	Particulars	E – Waste Category	Quantity Total	UOM	Method of Disposal	
		1.	Personal Computers (Central Processing Unit with input and output devices)	ITEW2	0.5	TPA	Sale to MPCB authorised recycler / returned to manufacturer / supplier	
		2.	Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)	ITEW3	0.5	TPA		
		3.	Printers including cartridges	ITEW6	0.5	TPA		
		4.	Telephones	ITEW12	0.1	TPA		
		Reference: E- Waste (Management) Rules 2022 and its amendments						

Reference: E- Waste (Management) Rules 2022 and its amendments

22.	Battery Waste	Particulars	Total (TPA)	Method of Disposal	
		Lead batteries from D.G. Sets, UPS system	1	Returned to supplier / Sale to Authorized recycler	
		Reference: Battery Waste Management Rules, 2022			
23.	Bio -Medical Waste (BMW)	Particulars	Category	Quantity (TPA)	Method disposal
		Contaminated face mask, Hand Gloves, Cotton waste, bags, Micro-biological Media.	Yellow	3	To CBMWTSDF
		Reference: Biomedical Waste Management Rules 2016 and its amendments			

ES 2 DESCRIPTION OF THE ENVIRONMENT

ES 2.1 AMBIENT AIR QUALITY MONITORING

ES 2.1.1 INTERPRETATION

PM₁₀ –

- The study reveals that PM₁₀ concentration at all 8 locations was observed to be in the range of 46.0 µg/m³– 68.3 µg/m³.
- The highest concentration was observed to be 68.3 µg/m³ at A7 near Kolavade; it might be due to emissions from various surrounding industries & heavy vehicular movements on the surrounding MIDC internal road network.
- The minimum concentration was observed to be 46.0 µg/m³ at A6 near Yadav Nagar, located at aerial distance of 5.29 km from the project site towards ENE Direction.

PM_{2.5} –

- The study reveals that PM_{2.5} concentration at all 8 locations was observed to be in the range of 10.1 µg/m³– 24.3 µg/m³.
- The maximum concentration of PM_{2.5} was observed to be 24.3 µg/m³ at location A7 near Kolavade. High concentration of this might be due to vehicular movement on the surrounding MIDC internal road network and suspension of dust into air by the winds.
- The minimum concentration of PM_{2.5} was observed at 12.2 µg/m³ at A1 Project Site

Sulphur Dioxide (SO₂) –

- The study reveals that SO₂ concentration at all 8 locations was observed to be in the range of 5.1 µg/m³ – 18.7 µg/m³.
- The ambient air monitoring results indicate that the highest concentration 18.7 µg/m³ of SO₂ is experienced at location A3 while minimum concentration 5.1 µg/m³ was obtained at location A8 which is at aerial distance of 2.23 km. The emission emanating from vehicular fuel combustion and other anthropogenic activities can contribute to higher concentration of SO₂ at location A3.
- The minimum concentration was observed at location A8 which is 5.1 µg/m³. The location is at an aerial distance of 2.23 km from the project site towards SSW Direction.

Oxides of Nitrogen (NOX) –

- The study reveals that Oxides of Nitrogen were found in range of 6.1 µg/m³ – 21.2 µg/m³.
- The highest value of NOX 21.2 µg/m³ during the monitoring period was observed at location A7. This might be due to vehicular movement as vehicular emission are mostly responsible for NOX emission.
- The minimum value 6.1 µg/m³ was observed at location A6.

Carbon Monoxide (CO) –

- Monitoring reveals that CO concentration was found to be in range of 0.4 mg/m³ – 0.9 mg/m³ in the study area.
- The maximum concentration 0.9 mg/m³ was found at location A2 to A7 locations. It might be due to the location being in residential, where fossil fuel is used for burning. And also due to area having industrial emissions and vehicular movements.
- The minimum concentration 0.4 mg/m³ was found at location A1 (Project Site)

Monitoring of Additional Parameters

The additional ambient air quality parameters like Ozone, Lead, Ammonia, Arsenic, Nickel, Benzo(a)pyrene and Benzene were monitored within the project premises (A1 location). On the basis of results of additional ambient air quality parameters at sampling location A1 (project premises) it can be said that values for some additional parameters were below detection limit and other parameters did not exceed the National Ambient Air Quality Standards (NAAQS) during the sampling period.

ES 2.2 SURFACE WATER QUALITY

ES 2.2.1 INTERPRETATION

It can be concluded that based on their usage & information provided by the locals and obtained results these water bodies were categorized. SW1, SW5 and SW6 is classified as category B (Outdoor bathing (Organized)); SW2 is classified as category C (Drinking water source after conventional treatment and disinfection); SW3 and SW4 is classified as category D (Propagation of Wild life and Fisheries); SW7 and SW8 classified as category Below E (Not Meeting A, B, C, D & E Criteria).

ES 2.3 GROUND WATER QUALITY

ES 2.3.1 INTERPRETATION

The heavy metals like Arsenic, Lead, Nickel, Chromium, Cadmium and Mercury concentrations were below the detection limit. Zinc was detected in range of 0.019 mg/l – 0.187 mg/l. Iron were observed to be below the acceptable standards of IS:10500:2012 (Reaffirmed 2018) Standards for Drinking Water.

ES 2.4 AMBIENT NOISE QUALITY MONITORING

ES 2.4.1 INTERPRETATION

Industrial Zone

The noise levels during the day time as well as night time were observed to be within the prescribed standards by Central Pollution Control Board.

Residential Zone

The noise levels during the day time as well as night time were observed to be within the prescribed standards by Central Pollution Control Board.

Silence zone

The noise levels during the day time as well as night time were observed to be within the prescribed standards by Central Pollution Control Board.

ES 2.5 SOIL QUALITY

2.5.1 INTERPRETATION

The findings of the study are compared with Hand Book of Agriculture, ICAR, which reveals that pH of the soil in the study area are indicative of the Neutral to Strongly alkaline nature of soil. The values for Total Nitrogen, Phosphate and potassium at all locations are found to be more than sufficient. The concentration of electrical conductivity was estimated to be average.

ES 2.6 GEOLOGY & HYDROGEOLOGY OF THE STUDY AREA

ES 2.6.1 GEOLOGY

Geologically, all the rock formations of different geological ages (Archean to Recent) are found in Palghar district. The district is endowed with rich mineral deposits like coal, iron ore, Limestone, barytes and chromite. A major part of district is covered with basalt lava flows generally called as Deccan trap. This volcanic activity was confined mainly to Upper Cretaceous to Lower Eocene age. Besides Deccan traps the formation like local alluvium, beach sand, coastal alluvium, laterites, trachyte & rhyolite cover very small area of the district. The main topographic features of this lava flows are flat topped hills and steps like terrace Stratigraphic sequences of the geological formation in the district.

ES 2.6.2 HYDROGEOLOGY

Deccan trap Basalt of Upper Cretaceous to Lower Eocene age is the major rock type covering about 80% of the district, coastal alluvium is other formation occurring only in western end of the district.

ES 2.7 LAND USE & LAND COVER PATTERN ASSESSMENT

ES 2.7.1 INTERPRETATION

The study area encompassing radial area of 314.15 sq. km. from the project site as center, broadly had 6 types of classification such as Built up land, Agriculture land, Forest, Wasteland, Water bodies and others. Agriculture (Crop Land, Plantation and Poly- house Farming) was the dominant land use class with 108.09 sq. km. which accounted for 34% of the total land use land cover pattern of the study area followed by Wastelands (Abandoned Saltpan, Barren Land, Mud Flat, Open Scrub, Rocky knobs, Saltpan, Sand & Water Logged Area) as the second major land use class with 76.09 sq. km. which accounted for 26% of the total land cover of the study area respectively. Apart from these land use land cover type, the study area 57.98 sq.km, 41.77 sq.km, 25.19 sq.km, and 6.03 sq.km of the study area were subjected to Built-up, Water Bodies and Forest respectively.

ES 2.8 BIOTIC ENVIRONMENT

ES 2.8.1 INTERPRETATION

The project activity does not involve any sort of habitat loss also of the recorded 131 Flora species, 109 faunal species from secondary data, out of that from floral group only 3 species of trees are belonging to categories of concern as per IUCN assessment in which 1 comes under Endangered category, 1 comes under Vulnerable category and another one comes under Near threatened category. Similarly, in the faunal group only 3 species of birds, 3 species of Reptiles were listed as schedule – I as per WPA 1972 & amendment 2022; Out of all species, 105 species were listed Least Concern and 4 species were not listed in any category

as per IUCN ver. 3.1. Moreover, the remaining recorded plant & animal species were extremely common for the study area and had a very wide range of presence & abundance across the entire Palghar district. The inventory of Secondary data of Floral and Faunal diversity along with IUCN status & WPA 1972, amendment 2022 assessment is attached as Annexure 3.12. Wildlife conservation plan has been prepared for protection of Schedule – I species and is attached as Annexure 3.13.

ES 2.9 SOCIO ECONOMIC STATUS OF THE STUDY AREA

ES 2.9.1 INTERPRETATION

From the above Socio economic study result, the percentage obtained for the study parameters i.e. Water Facilities, Health Facilities, Educational Facilities, Local Body Functioning & support and Transport Facilities are 55.67%, 49.33%, 48.67%, 54.33% and 53.33% respectively. The Minimum percentage for satisfaction obtained was 48.67% i.e. for Education Facilities and the maximum percentage for satisfaction obtained was 55.67% i.e. for Water Facilities. Looking into the results obtained for socio economic study, SCCPL plans to spend its CER fund on the above parameters. The CER Plan in accordance to the results obtained for social economic study has been prepared and provided in the chapter 8 & 10 of this EIA report.

ES 3 ANTICIPATED ENVIRONMENT ASPECT, IMPACT AND MITIGATION MEASUREMENT

ES 3.1 DETAILS OF ENVIRONMENTAL MITIGATION MEASURES

Table No. ES 2: Overview of probable Environmental Pollution & Mitigation Measures during Construction Phase

A) Construction Phase				
Sr. No.	Environmental Parameters	Aspect Attributes	Impact	Proposed Mitigation Measures
1.	Air Quality	Dust emissions from handling & transportation of cement / concrete / stone aggregates.	20 Nos. of Construction workers getting exposed to the dust pollution generated due to the construction activity can suffer from respiratory problems and prolonged exposure can lead to malfunctioning of lungs.	- Management for loading and unloading of the materials. - Regular sprinkling of water on the working site, avoiding Cement dust emissions, covering stockpiles. - Providing dust masks, Safety goggles to 20 nos. of workers during construction. - Creating wind barrier for controlling the dust emissions. - Managing stockpiles management (sand, gravel) by using water sprays (when emptying cement bags into mixer) will be implemented to ensure minimum dust generation. - Stockpiles will be covered. - PUC certified vehicles which are older not more than 15 years shall be used for transportation.
2.	Water Quality	Water used for construction activity mainly for concrete mixing, sprinkling, Sewage generation due to construction workers.	Contamination of the soil at the project site.	- Proper surface water runoff management would be implemented. - Storm water drains will be constructed. - Settling ponds will be provided for de-gritting.
3.	Noise Quality	- Noise generated from construction equipment's / machinery like spade, shovel, dabber, drill, hammer, concrete mixer etc. - Transportation of construction materials.	The Impacts of high noise level can be temporary/permanent hearing loss, mental disturbance, increasing heart rate, affecting workers performance.	- Appropriate PPEs to 20 nos. of construction workers. (Hearing protection) - Implementation of Traffic management. - Creating wind barriers for containing noise within project boundary.

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4.	Solid Waste Management	Construction wastes such as left off concrete, stone, aggregates, wooden piles, excavated material etc.	- Unhealthy Work Conditions at project site. - The nutrient in the top soil will get wasted if is not utilized for greenbelt development.	- The inert recyclable waste viz. left-over metal rods, wooden flanks, cardboards; wooden boxes will be stored in separately & sold to authorized recycler. - The inert non-recyclable wastes viz. left-over concrete debris, stones, aggregates will used for base filling & levelling activity within plot. - The excavated soil will be used stored & used for replenishing & greenbelt maintaining activity.
5.	Safety & Health	Site Safety	Unsafe conditions at workplace compromising safety at work place	- Construction area barricading, sign boards. - Provision of mask, hand sanitizers, Reflective clothing, Safety shoes, Helmet & Glasses to workers.

Table No. ES 3: Overview of probable Environmental Pollution & Mitigation Measures during Operation Phase

B) Operational Phase				
Sr. No.	Environmental Parameters	Aspect Attributes	Impact	Mitigation Measures
1.	Air Quality	1. Emission from Operation of 3 nos. x 4 Lac Kcal/hr Thermic Fluid Heater 2. 1 no. of D.G set having 165 kVA capacity. 3. Emissions from Transportation of raw materials & finished goods. 4. Odour sources can be continuous or intermittent, point sources (for example chimneys, stacks or building vent/exhaust pipes), area sources (for example stockpiles, ponds or open-	The Maximum Incremental concentration of PNG/LDO due to expansion project in the study area: For LDO: PM₁₀: 0.0000087 µg/m³ PM_{2.5}: 0.0000023 µg/m³ SO₂: 0.23 µg/m³ NO_x: 0.00018 µg/m³ CO: 0.0003 µg/m³ For PNG: NO_x: 1.27 µg/m³ CO: 15.19 µg/m³	- Adequate Stack of height 30 meter each will be provided as per CPCB guidelines for 3 nos. x 4 Lac Kcal/hr Thermic Fluid Heater, so that the pollutants are dispersed effectively in the atmosphere which will reduce the impact substantially. - Installation of 5 Nos. of Alkali scrubbers with Stack of height 6 m each above roof will be provided to scrubbers. - Stack of 3 meter height will be provided to D.G. Set having 165 kVA capacity, so that the pollutants will disperse effectively in the atmosphere at proper height which will reduce the impact substantially.

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B) Operational Phase

Sr. No.	Environmental Parameters	Aspect Attributes	Impact	Mitigation Measures
		topped tanks) or volume sources (for example, a building with many openings from which odour escapes). 5. Fugitive Emissions from material handling.	▪ The Health effects related to particulate matter are majorly respiratory, pulmonary injury & lung cancer etc. ▪ Exposure to SO₂ and NO_x majorly leads to respiratory problems. Carbon monoxide decreases the oxygen carrying capacity of the blood. ▪ The health effects related to VOC emission are eye, nose and throat irritation headaches, loss of coordination and nausea, damage to liver, kidney and central nervous system etc. ▪ The air emissions in long course of time may affect the immediate surrounding vegetation stature physically (leaf senescence, hampered growth etc.) & biologically thus may affect the overall surrounding ecology.	▪ Periodic and regular monitoring of the flue gas and scrubber stacks shall be done to ascertain the efficiency of the APCD's provided. ▪ The roads within the premises will be paved to avoid the dust generation from day to day vehicular activity. ▪ It will be ensured that all the vehicles used for transportation activity have a valid PUC (Pollution under Control) Certificate. ▪ Industry has already developed 558 sq. m. (24.80% of the total plot area) within premises & proposed greenbelt of 400 sq. m. (17.77% of the total plot area) at Gut no. 160/163, Village Pam tembhi, Palghar which is located at approximately aerial distance of 1.26 km from project site in west direction. ▪ Company shall ensure that at any point of time the air emission concentration does not exceed the prescribed standards. ▪ Industry will provide adequate air flow and air exchange in plant area for comfortable working. ▪ Also, adequate exhaust will be provided in the area to control odour. ▪ Supervision and maintenance for all equipment, machines & assets. ▪ Industry to ensure that good housekeeping & carry out periodic cleaning. ▪ Provision of Mechanical Ventilation, Protective Clothing and good industrial hygiene practise will be followed.

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B) Operational Phase

Sr. No.	Environmental Parameters	Aspect Attributes	Impact	Mitigation Measures
2.	Noise Quality	1. 3 nos. x 4Lac Kcal/hr TFH. 2. D.G set (165 kVA x 1). 3. Reactors. 4. Ancillary Utilities. 5. Transportation Activity. 6. Operation of ETP.	The impacts of high noise level can be Temporary/Permanent hearing loss, Mental disturbance Increase in heart rate, decrease in workers performance due to psychiatric disorder, Workers developing Tinnitus due to high level of noise exposure on regular basis.	- Acoustic enclosure will be provided to D.G set for attenuation of noise level during operation. - TFH will be placed in a confined space where the surrounding walls acts as a barrier for noise propagation. - Isolation of high intensity noise generating equipment. - Appropriate traffic management will be implemented. - Greenbelt will be developed around the company premises which will acts as a noise barrier. - Appropriate PPEs to 17 nos. of workers.
3.	Water Quality	- Effluent from manufacturing process. - Blow down from Cooling Tower - Domestic wastewater	Indiscriminate / accidental release / discharge of effluents if finds its way to surrounding soils, surface/ground water may lead to contamination of the same there by affecting the overall ecology & agricultural productivity.	Proposed Effluent Treatment Scheme for trade effluent: - Effluent will be segregated into two streams: HCOD/HTDS and LCOD/LTDS. - Around 55 CMD of HCOD (1.2%) / HTDS (5%) effluent from the process will undergo pre-primary treatment for the removal of color. After pre-primary treatment, the effluent will be sent for primary treatment and then to the Solvent Stripper for further processing. - Around 2.75 CMD of spent solvent recovered from the stripper column will be disposed to Authorized Party / CHWTSDf and the remaining 52.25 CMD of effluent from the solvent stripper along with around 12 CMD of RO reject (20%) will be sent to the MEE followed by ATFD. - Around 61.03 CMD of MEE condensate and around 9 CMD of LCOD (0.4%) / LTDS (0.1%)

B) Operational Phase

Sr. No.	Environmental Parameters	Aspect Attributes	Impact	Mitigation Measures
				effluent from the cooling tower blowdown will be sent to the upgraded ETP (Primary, Secondary, and Tertiary treatment) with a capacity of 75 CMD. - As permitted in the CTO, SCCPL currently transfers 6 CMD of treated effluent to the CETP. A valid membership with CETP, MIDC Tarapur, is available. After expansion, 6 CMD of treated effluent from the ETP will be sent to the CETP, and the remaining effluent will be sent to the in-house RO system for further treatment. - Around 60 CMD of treated effluent from the ETP will be sent to the RO system. The two-stage RO system achieves approximately 90% to 93% permeate. However, for calculation purposes, a worst-case scenario of 80% RO permeate is considered. Around 48 CMD of RO permeate (80%) will be recycled and reused for cooling tower blowdown. - Sludge generated from the ETP will be sent to the CHWTSDF for disposal. - The mixed solvent obtained from the solvent stripper will be sent to an authorized party/CHWTSDF, and the salts obtained from the ATFD will be sent for Pre-processing/Co-processing/CHWTSDF. - As a contingency, membership is available with M/s Sadekar Enviro Engineers Private Limited High COD/TDS reduction facility, MIDC Tarapur.

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B) Operational Phase

Sr. No.	Environmental Parameters	Aspect Attributes	Impact	Mitigation Measures
				▪ The membership of CETP, MIDC Tarapur is available. ▪ The membership is available with Hazardous waste management system. Proposed Domestic sewage treatment Scheme: ▪ After expansion, the total manpower will be 17 personnel, and as per the NBC guidelines, domestic water usage will be around 1 CMD. around 0.75 CMD of domestic sewage will be sent to the Sewage Treatment Plant (STP) with a capacity of 1 CMD for treatment. ▪ The treated sewage will be used for greenbelt development during the dry season and for toilet flushing during the wet season. The sludge from the STP will be used as manure for greenbelt development.
4.	Occupational Health and Safety	▪ Site Safety	Unsafe conditions at workplace compromising safety at work place	▪ PPE's to 17 nos. of employees and health check-ups of employees.
5.	Hazardous waste	▪ Used or Spent Oil ▪ Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste ▪ Chemical sludge from waste water treatment ▪ Concentration or Evaporation ▪ Spent Carbon from ETP	1. Unscientific handling may affect the health of workers coming in direct contact with the hazardous waste and may lead to skin allergies /rashes /burns etc. 2. Indiscriminate/accidental disposal of hazardous waste if finds its way to surrounding soils; surface/ground water may lead to contamination of the same there by affecting the overall ecology & agricultural productivity.	▪ Providing separate storage area for storage of solid waste as per the chemical compatibility chart. ▪ Purchase of solid waste storage bags, containers and its scientific disposal. ▪ Around 1 TPA Used or Spent Oil will Sale to Authorized Party / CHWTSDF. ▪ Around 300 nos. per month Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste will Sale to Authorized Party.

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B) Operational Phase

Sr. No.	Environmental Parameters	Aspect Attributes	Impact	Mitigation Measures
		▪ Mix solvent from solvent stripper ▪ Process waste Sludge / residues containing acid, toxic metals, organic compounds		▪ Around 5 TPM Chemical sludge from waste water treatment sent for Pre-Processing Followed by Co-Processing / CHWTSDF. ▪ Around 100 TPM Concentration or Evaporation Residue sent to CHWTSDF for disposal. ▪ Around 2 TPM Spent Carbon from ETP Sale to Authorized Party / CHWTSDF / Co-processing. ▪ Around 83 TPM Mix solvent from solvent stripper Sale to Authorized Party / CHWTSDF. ▪ Around Process waste Sludge / residues containing acid, toxic metals, organic compounds sent to Pre-processing/Co-processing/CHWTSDF.
6.	Solid waste	▪ General scrap (Polythene bags, Empty containers, Glass waste, Wood waste and Metal waste) ▪ Contaminated glassware ▪ Plastic waste ▪ STP Sludge	Haphazard handling & storage may lead to inadequate open space in plant premises & it may lead to rodent breeding.	▪ Non-hazardous waste shall be disposed through local administration waste disposal system, authorized vendors & sale to recycler will be done. ▪ Around 3 TPA STP Sludge will be used as manure for Greenbelt Development Purpose.

ES 4 ENVIRONMENT MONITORING PROGRAM

ES 4.1 POST PROJECT MONITORING PARAMETERS & FREQUENCY

Table No. ES 4: Post project monitoring parameters & frequency

Sr. No.	Activity / Area	Pollutant	Pollutant Characteristics	Frequency	Period	No. of samples (Per Quarter)	Sampling Cost per sample	Analysis Charges Per Sample	Estimated Cost (Quarterly)	Estimated Cost (Annual)
OPERATION PHASE										
1	Ambient Air	Air Emission	SO ₂ , NO _x , PM, CO, Benzene, Ammonia, Benzopyrene, Lead, Nickel, Arsenic, Ozone in Ambient Air	Intermittent / Periodic	As per EC conditions / As per SPCB guideline	3	10000	12,250	66,750	2,67,000
2	Diesel power Generators, Boiler stack, Scrubber Stack	Air emissions	TPM, SO ₂ , CO, NO _x from boiler, thermopack, D.G. Set stacks, Scrubber for Ammonia & Sulphuric	Intermittent / Periodic	As per EC conditions / As per SPCB guideline	5	12000	6400	92,000	3,68,000
3	Boiler Area, ETP, Work Place Area, DG Set Area.	Sound	Noise Level dB (A)	Intermittent / Periodic	As per EC conditions / As per SPCB guideline	1	10000	0	10,000	40,000
4	Effluent treatment plant	All parameters	pH, O & G, TDS, TSS, COD, BOD. Heavy Metals & Organic Compounds,	Intermittent / Periodic	As per EC conditions / As per SPCB guideline	3	6000	0	18,000	72,000

Environmental Impact Assessment Report of New project for Manufacturing of 2000 TPM Capacity of API Products by M/s. Aarti Pharmalabs Limited (Unit V-II) at Plot no L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India 401506.

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			Color							
5	Hazardous Wastes	-	H.W. characteristics	Once in a year.	As per EC conditions / As per SPCB guideline	1	5000	4850	9,850	39,400
6	Work Place	Air pollutants,	Specific VOC's in ambient Air	Intermittent / Periodic	As per EC conditions / As per SPCB guideline	3	0	5300	15,900	63,600
7	Monitoring of six monthly compliance by third party audit	--	--	--	Six Monthly / As per EC conditions / As per SPCB guideline	--	--	--	--	4,00,000
TOTAL									2,12,500	12,50,000
GST 18%									-	2,25,000
Grand Total										14,75,000
Hence, budgetary allocation of INR 12.50 Lakhs has been made in Environmental Management Plan										



ES 5 ADDITIONAL STUDIES

ES 5.1 QUANTITATIVE RISK ASSESSMENT BASED ON THE SOFTWARE ALOHA

Based on the unsafe distances identified by the software output, the MCLS (maximum credible loss scenario) for the factory works out to about 391 meters for Methanol and 100 meter for HCL30%. The failure considered are Evaporating Puddle and Leak from hole in vertical cylindrical tank. The scenario considered for assessing the impact by quantitative risk assessment was taken from CPR18 E. The probability of occurrence of the scenario is $5 \times 10^{-4} \text{ y}^{-1}$, which is very less. The Disaster Management Plan highlights the suggestive measures to be taken to avoid occurrence of such an accident.

ES 5.2 DOW INDEX

The calculation for Dow Fire and Explosion Index is given and from the calculations it is seen that the storage will have a Dow Index of 116.16 indicating Moderate Hazard Potential. Based on the unsafe distances identified by the DOW Index, the radius of exposure from the raw material storage area is around 97.57 ft. (29.74 meter) and the Area of Exposure is around 2778.63 Sq. m. The calculation for Dow Fire and Explosion Index is given for HSD fuel and from the calculations it is seen that the storage will have a Dow Index of 29.2 indicating Light Hazard Potential. Based on the unsafe distances identified by the DOW Index, the radius of exposure from the raw material storage area is around 24.63 ft. (7.50 meter) and the Area of Exposure is around 176.71 Sq. m.

ES 5.3 MOND'S INDEX

Total 07 raw materials are having Nh values ≥ 3 . According to the Mond's Index the toxicity is calculated for the storage of above chemicals out of which Dimethyl Sulphate and PHOSPHOROUS OXY CHLORIDE are having maximum value for Monds index i.e. 8.56 indicating moderate degree of Hazard. Also, other chemicals Mond's index indicate Moderate degree of Hazard.

ES 5.4 CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

As per MoEF&CC OM dated 31-10-2019 and 1-05-2018, 2% of the proposed project cost will be allocated for CER activities. RCIPL proposed capital investment for project is INR 2.54 Cr., thus INR 5.08 Lakhs is allocated for implementation of need based CER activities in consultation with the district collector.

ES 6 PROJECT BENEFITS

- No human displacement or habitat loss is envisaged.
- Employment of around 55 skilled and unskilled personnel.
- SCPL will undertake CER activity to improve social infrastructure in the vicinity.
- Renewable energy use in the form of solar installations will help to reduce electricity consumption.
- ZLD installations and Roof top Rainwater water harvesting will help to reduce water consumption.
- The proposed products will help to decrease the demand supply gap and increase the foreign exchange of the country.

ES 7 ENVIRONMENT MANAGEMENT PLAN

ES 7.1 COST DETAILS FOR ENVIRONMENT MANAGEMENT

Table No. ES 5: Cost details for environmental management (Construction phase)

Environment Management Plan (Construction Phase)						Time Frame	Responsibilities
Sr. No.	Component	Description	Proposed Mitigation Measures	Capital cost (Lakh)	O&M cost (Lakh/annum)		
1.	Air Quality	Dust emissions from handling & transportation of cement / concrete / stone aggregates.	Installation of wind barriers / Green Net	0.5	0.1	After EC 3 months	Project Proponent/ EHS Team
			Regular sprinkling of water on the working site	0.5	0.5	After EC 3 months	Project Proponent/ EHS Team
2.	Noise Quality	Noise generated from construction equipment's / machinery like spade, shovel, drill, hammer, etc. Transportation of construction materials.	Appropriate PPE's to 20 nos of construction workers.	0.2	0.2	After EC 3 months	Project Proponent/ EHS Team
			Implementation of Traffic management (Traffic Safety Barricade, Loading / Unloading sign board).	0.50	0.20	After EC 3 months	Project Proponent/ EHS Team
3.	Water Quality	Water used for construction activity mainly for concrete mixing, sprinkling etc.	Proper surface water runoff management would be implemented. <i>(In case the construction started during non-monsoon season the runoff management will not be applicable.)</i>	0.5	0.1	After EC 3 months	Project Proponent/ EHS Team
4.	Soil	Soil erosion due to construction activity	Use of silt fence sand / or sand bags in areas that are susceptible to erosion.	0.5	0.1	After EC 3 months	Project Proponent/ EHS Team

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5.	Solid Waste Management	Solid waste management in construction phase	Disposal of solid waste.	0.1	0.1	After EC 3 months	Project Proponent/ EHS Team
			Utilization of excavated soil for greenbelt development activities within the premises.	0.1	0.1	After EC 3 months	Project Proponent/ EHS Team
6.	Safety & Health	Site Safety	Construction Area barricading, Sign Boards etc. Provision of mask and hand sanitizers to workers.	0.1	0.1	After EC 3 months	Project Proponent/ EHS Team
Total				3.0	1.5	--	--

Table No. ES 6: Cost details for environmental management (Operation phase)

Sr. No.	Activity	Aspect	Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization
1	Air Pollution Control	1. Emission from HSD fired 2 nos. of D.G set having 500 kVA capacity. 2. Emissions from Transportation of raw materials & finished goods. 3. Odour sources can be continuous or intermittent, point sources (for example chimneys, stacks or building vent/exhaust pipes), area sources (for example stockpiles, ponds or open-topped tanks) or volume sources (for example, a building with many openings from which odour escapes). 4. Fugitive Emissions from material handling.	1. Installation of 1 No. of Acidic Scrubber and 1 No. of Alkali scrubbers will provided. Stack of height 6 meter each above roof top will be provided to scrubbers. 2. Stack of 5 meter height will be provided to 2 Nos. of D.G. sets each having 500 kVA capacity, so that the pollutants will disperse effectively in the atmosphere at proper height which will reduce the impact substantially. 3. Periodic and regular monitoring of the flue gas and scrubber stacks shall be done to ascertain the efficiency of the APCD's provided. 4. Industry will provide adequate air flow and air exchange in plant area for comfortable working. 5. Provision of Mechanical Ventilation, Protective Clothing and good industrial hygiene practise will be followed.	40.0	--	After EC 3 months	Project Proponent/ EHS Team
2.	Water Pollution Control	1. Effluent from manufacturing process. 2. Trade Effluent from plot no L- 28 & 29 3. Blow down from Cooling Tower. 4. Domestic Sewage from plot no L-99 along with Domestic Sewage from plot no L- 28 & 29	Proposed Effluent Treatment Scheme for trade effluent: - The unit will be operated on Zero Liquid Discharge system. - Effluent will be segregated into two streams i.e. HCOD / HTDS and LCOD / LTDS. - For appropriate treatment of effluent, provision of MVR (Capacity – 760 CMD) followed by ATFD, Full-fledged ETP (Capacity – 820 CMD) (Primary, Secondary and Tertiary Treatment), HPPTRO (Capacity – 335 CMD), PTRO (Capacity – 85 CMD), PTRO (Capacity – 770 CMD) is made.	3857	4600	After EC Regularly	Project Proponent/ EHS Team

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Sr. No.	Activity	Aspect	Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization
			• Around 755.55 CMD HCOD (5%) / HTDS (10%) effluent from in-house manufacturing process and around 165 CMD HCOD (5%) / HTDS (10%) effluent from sister concern at Plot No. L-28 & 29 after neutralization treated through MVR followed by ATFD along with 113.50 CMD HPPTRO reject. • Around 680 CMD condensate from MVR and ATFD and around 129 CMD LCOD (0.05%) / LTDS (0.15%) effluent from cooling tower blowdown & floor cleaning treated in the ETP comprising of Primary, Secondary and Tertiary treatment. • Around 757 CMD Treated effluent from ETP will be sent to PTRO System. • Considering 70% permeate and 30% reject from PTRO system. Around 530 CMD permeate will be recycled and reused as Cooling Tower makeup and the reject will be sent to HPPTRO system for further treatment. • Around 113.50 CMD HPPTRO permeate (50%) will be recycle & reuse for Cooling Tower makeup and around 113.50 HPPTRO reject (50%) will be resent to MVR for further treatment. Proposed Effluent Treatment Scheme for domestic sewage: • STP (with MBBR technology) having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern at Plot No. L-28 & 29.				

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Sr. No.	Activity	Aspect	Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization															
			Treated water will be used for greenbelt development & toilet flushing and sludge will be used as manure for greenbelt development. With above mitigations below is the SPCB Standard: <table><tr><th>Sr. no.</th><th>Parameters</th><th>SPCB standards</th></tr><tr><td>1</td><td>pH</td><td>6.0 to 8.5</td></tr><tr><td>2</td><td>BOD</td><td>30 mg/l</td></tr><tr><td>3</td><td>COD</td><td>250 mg/l</td></tr><tr><td>4</td><td>Suspended solids</td><td>100 mg/l</td></tr></table>	Sr. no.	Parameters	SPCB standards	1	pH	6.0 to 8.5	2	BOD	30 mg/l	3	COD	250 mg/l	4	Suspended solids	100 mg/l				
Sr. no.	Parameters	SPCB standards																				
1	pH	6.0 to 8.5																				
2	BOD	30 mg/l																				
3	COD	250 mg/l																				
4	Suspended solids	100 mg/l																				
3.	Noise & Vibration pollution control	Operation of Air compressors, feed pumps, condensate pumps, D.G set, recycle pumps, full fledge Zero Liquid Discharge System, ETP, Vehicular activities, etc.	1. Acoustic enclosure will be provided to 2 Nos. of 500 kVA D.G set for attenuation of noise level during operation. 2. Isolation of high intensity noise generating equipment. 3. Appropriate traffic management will be implemented. 4. Greenbelt is developed around the company premises which acts as a noise barrier. 5. Industry will maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.	1.0	--	After EC 3 Months	Project Proponent / EHS Team															
			Regular/routine maintenance of equipment's during operation phase.	--	0.5	After EC Regularly	Project Proponent / EHS Team															

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Sr. No.	Activity	Aspect	Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization
4.	Occupational health	During operation activity, any type of accident/physical hazard/danger to life scenario to the 125 nos. employees/workers and Visitors.	Provision of standard PPE’s, Annual health-medical check-up of all employees and provision of health insurance to workers.	2.5	--	After EC 3 Months	Project Proponent / EHS Team
				--	2.5	After EC Regularly	Project Proponent/ HR Team/ EHS Team
5.	Waste management	<u>Generation of Hazardous Waste:</u>		50.0	18700	After EC 3 Months	Project Proponent / EHS Team
		Type of waste	Qty.				
		Spent Carbon (Cat. 28.3)	1930 TPA				
		Spent Acid 30-40% Acetic Acid (From Paracetamol process) (Cat. 36.1)	12650 TPA				
		Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste. (Cat. 33.1)	180 TPA				
		Contaminated cotton rags or other cleaning materials (Cat. 32.2)	12 TPA				
		Used or Spent Oil (Cat. 5.1)	12 TPA				
- Provision of Hazardous Waste storage in dedicated area of 217.2 Sq. m. (Considering triple stack) and non-hazardous waste storage in dedicated area of 5.0 Sq. m. inside company premises. - Different types of hazardous waste will be segregated and labelled clearly with their category as per Schedule I, II, and III of the - It will be restricted to authorized personnel and have proper signage (e.g., "Hazardous Waste Storage Area"). - A provision of Hazardous waste storage for 4 to 5 days. Record Keeping & Disposal Maintain records of hazardous waste storage, transportation, and disposal. Waste will be sent only to authorize disposal facilities. - Membership with CHWTSDF is obtained for disposal of hazardous waste. - The recyclable/ recoverable wastes will be disposed to authorized vendors. - The remaining wastes will Sold to Authorized Reprocessing / Pre-Processing/ CHWTSDF facility for disposal.		--	-	After EC Regularly	Project Proponent / EHS Team		

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Sr. No.	Activity	Aspect		Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization
		Wastes or residues containing oil (Cat. 5.2)	6 TPA	• Membership of Hazardous waste management system, MIDC Tarapur is vailable. • Metal scrap materials will be Sale to authorized party for recycling • STP Sludge will be used as manure for green belt development. • Food waste (4 TPA) will be process in organic waste converter (OWC) of capacity 25 kg/hr. • E-Waste will be sale to MPCB authorized recycler / return to manufacturer /supplier. • Battery waste will be returned to supplier. • Bio-medical waste will be Disposal To CBMWTSDF.				
		Chemical sludge from waste water treatment. (Cat. 35.3)	300 TPA					
		Concentration or evaporation residues (From ATFD) (Cat. 37.3)	27500 TPA					
		Discarded Asbestos (Cat. 15.2)	12 TPA					
		Date expired products (Cat. 28.5)	50 TPA					
		Off Specification Product (Cat. 28.4)	50 TPA					
		Dust from air filtration system (Cat. 26.2)	1.2 TPA					
		Spent carbon or filter medium (Cat.36.2)	24 TPA					
		Schedule I of The Hazardous and Other Wastes (Management and Trans boundary Movement) Rule, 2016. Industry shall ensure disposal to the actual user having permissions under Rule 9 of Hazardous and Other Waste (M&TM) Rules, 2016						

Sr. No.	Activity	Aspect	Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization									
		#Hazardous waste will be generated and disposed from Plot No.L-99 as per SPCB CTO conditions. <u>Non Hazardous waste :</u> 1. Metal scrap (MS scrap piping, structural, Equipment, Broken Shutters, etc.)Contaminated glassware 2. Wood, Wooden Box, Wooden fills cooling tower, Plywood, Pallets 3. Glass Ware 4. PVC fins cooling tower 5. Plastic material 6. Paper waste 7. STP Sludge 8. Dry waste 9. Food waste <u>E-Waste Category :</u> <table><tr><th>Sr No</th><th>Particulars</th><th>E Waste Category</th></tr><tr><td>1</td><td>Personal Computers (Central Processing Unit with input and output devices)</td><td>ITEW2</td></tr><tr><td>2</td><td>Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)</td><td>ITEW3</td></tr></table>	Sr No	Particulars	E Waste Category	1	Personal Computers (Central Processing Unit with input and output devices)	ITEW2	2	Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)	ITEW3					
Sr No	Particulars	E Waste Category														
1	Personal Computers (Central Processing Unit with input and output devices)	ITEW2														
2	Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)	ITEW3														

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Sr. No.	Activity	Aspect			Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization
		3	Printers including cartridges	ITEW6					
		4	Telephones	ITEW12					
		Battery Waste Lead batteries from D.G. Sets and UPS system							
		Bio-medical Waste (Yellow Category) Contaminated face mask, Hand Gloves, Cotton waste, bags, Micro-biological Media.							
6.	Greenbelt Development	1200 Sq. m. Area of Greenbelt to be developed at site. 2123 Sq. m Area of Greenbelt to be developed on adjoining plot No. OS-09.			Greenbelt area of 790 sq. m. (64.43% of the total plot area) required with 1040 nos. of trees (considering 80% survival rate). Trees count are considered as per the MoEFCC guideline i.e. 2500 nos. of trees per 10,000 sq. m. Industry planned to develop Greenbelt of around 1200 sq.m (23.26 % of the total plot area) at site with plantation of 332 Nos. of trees. APL will develop Greenbelt accounting to 2123 Sq. m. (41.17 % of the total plot area) at adjoining plot no. OS-09 with plantation of total 708 Nos. of trees.	4.0	9.10	Greenbelt development is in process	Admin/EHS Team
7.	Roof top Rain water harvesting	--			Installation of roof top RWH system and collected water will be reused in utilities and its maintenance.	10.0	1.0	After EC 3 months Maintenance will be regularly	Admin/EHS Team

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Sr. No.	Activity	Aspect	Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization
8.	Energy conservation	Installation of	Usage of Renewable energy as an alternative will reduce power requirement by 1%.	37.0	4.0	After EC 3 months Maintenance will be regularly	Admin/EHS Team
9.	Environmental monitoring	--	Regular Environmental Monitoring	0.0	--	After EC 3 months	EHS Team
				--	6.42	After EC Regularly	EHS Team
10.	EC conditions monitoring	To comply with EC conditions	--	--	4.0	After EC Regularly 6 monthly	EHS Team
			Total	4001.5	23328.7		

1 INTRODUCTION

1.1 PURPOSE OF THE PROJECT

M/s. Aarti Pharmalabs Limited (APL) (Unit V-II) is a new project for API Products manufacturing unit located at plot no. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. The total plot area of the project is 5157 Sq. m.

The project activity is covered under schedule 5(f) viz. Synthetic Organic Chemicals Industry (dyes & dye intermediates: bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates) of EIA Notification 2006. Since the project is located in MIDC Tarapur which is classified as a Critically Polluted Area (CPA) and as per the general conditions of EIA notification, 2006 and its subsequent amendment the project is to be appraised as Category “A” by Hon’ EAC (Ind-3) MoEF&CC, Govt. of India.

APL has appointed M/s Sadekar Enviro Engineers Private Limited. (NABET Accredited consultant) to conduct Environmental Impact Assessment (EIA) study and the report has been prepared as per the Standard Terms of Reference granted to APL vide TOR Letter File No. IA-J-11011/55/2025-IA-II(I) dated 13/02/2025 by MoEF&CC. ToR Letter is attached as **Annexure 1.1.**

1.1.1 THE OBJECTIVES OF THE EIA STUDY

- To establish existing baseline conditions of different environmental components by primary & secondary data collection.
- To identify & quantify potential sources, also determine the significance of impacts on sensitive receptors.
- To avoid serious & irreversible damage to the environment.
- To identify, forecast and assess the impacts on the environment and the resultant effects predicted arising during the phases such as construction and operation of the proposed project in reference to the subtle receptors.
- To identify, evaluate and stipulate the methods, actions and standards and to be considered in the design, construction and operation of the brownfield project which are essential in order to alleviate such impacts on the environment and decrease such impacts to acceptable levels.
- To identify enumerate anticipated risk & hazard in the phases of operations of the project & recommending suitable mitigation actions to minimize the impacts.
- Description of environmental management plan (EMP) describing prevention and control strategies for minimalizing contrary influences of the project.
- Preparation of environmental monitoring program during operational phase of the project to be followed by the project proponent.
- The purpose of this report is to provide an Environmental Impact Assessment to demonstrate that there is no unwavering environmental problem associated with the proposed project.

1.2 IDENTIFICATION OF PROJECT & PROJECT PROPONENT

(Standard ToR Point 2.2)

APL is a new Project proposing to manufacture API Products at plot no-L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. M/s Aarti Pharmalabs Limited (APL) (Formerly known as Aarti Industries Ltd.) was established in the year 1984. Mr. Narendra Salavi is the Director of APL, he has rich & varied experience of more than 30 years in industry. Under his guidance & leadership APL has excelled in all fields & surpassed all its previous targets & performance. He is responsible for all the functions, projects division including appraisal of the projects.

1.3 BRIEF DESCRIPTION OF NATURE, SIZE, LOCATION OF THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY, REGION

(Standard ToR Point 2.3)

1.3.1 NATURE OF THE PROJECT

APL is planning to setup a new unit at plot no. L-99, MIDC Tarapur for manufacturing of API product namely Caffeine and Paracetamol. An API is a molecule which is main component of specific medicine. These can be single molecule or formulation of more molecules.

These chemicals have vast market in EU countries, Americas, and SE Asian countries. The global Paracetamol and Caffeine tablets market is projected to reach US\$ million by 2029. The Paracetamol market itself was valued at US\$ 9,993.29 million in 2022 and is expected to reach US\$ 14.59 million by 2031.

The proposed production capacity of API products is 2000 TPM i.e. Caffeine 1000 TPM and Paracetamol 1000 TPM. Total cost of the project will be INR 90 Crores. APL strive towards mission of customer's total satisfaction by delivering quality products and services worldwide, which will help the company to become one of the established and most reliable and most reputed suppliers of API Products.

1.3.2 SIZE OF THE PROJECT

The total plot area of the proposed manufacturing plant is 5157 sq. m. around 3323 sq. m. i.e. 64.23% of the total plot area will be utilised for greenbelt development at project site. The total manufacturing capacity is envisaged to be 2000 TPM and total project cost will be 90 Cr.

1.3.3 LOCATION OF THE PROJECT

(Standard ToR Point 4.1)

Project site of APL is located at Plot no. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. The project site and surrounding 10 km radial study area is falling under SOI Toposheet nos. 47A/9, 47A/10, 47A/13 and 47A/14. The geographical location of the plot is at 19°47'23.95"N, 72°43'35.41"E with an elevation of 18 meter above mean sea level. The unit is well connected to Boisar - Tarapur Road & Boisar Navapur Road. State highway 32 is approximately aerial distance 4.8 km from project site in South direction. Navapur road is present at an approx. aerial distance of 0.21 km from the project site in NW direction. The nearest Railway Station is Boisar, which is approximately at an aerial distance of 3.75 km.

1.3.4 IMPORTANCE TO THE COUNTRY

In today's environment there is a need for reliable supply of high quality pharmaceutical materials, specifically for niche chemical molecules. The company expects to cater to both domestic and international customers, delivering quality products. The biggest risk in today's market is a manufacturer's supply chain, which is heavily reliant on imports. APL aim is to empower domestic suppliers and start from an early stage to reduce the countries reliance on imports.

The project will provide direct & indirect employment opportunities to local people and as the industry has the export market, it will add to the net foreign exchange earning of the country.

➤ Demand and Supply Gap of the Products

The Indian Pharmaceutical industry is highly fragmented with about 24,000 players (around 330 in the organized sector). The top ten companies make up for more than one third of the market. The Indian pharma industry accounts for about 1.4% of the world's pharma industry in value terms and 10% in volume terms.

The Indian pharmaceuticals market is the third largest in terms of volume and thirteenth largest in terms of value, as per a report by Equity Master. India is the largest provider of generic drugs globally with the Indian generics accounting for 20 per cent of global exports in terms of volume.

The increased cost competitiveness of Indian producers (for various products), established quality of products, and approval of manufacturing facilities by international regulatory authorities (like the United States Food and Drugs Administration, or USFDA and the United Kingdom Medicines Control Agency or UKMCA) have resulted in export orders coming from both developed and developing markets.

India enjoys an important position in the global pharmaceuticals sector. The country also has a large pool of scientists and engineers who have the potential to steer the industry ahead to an even higher level.

The Indian Pharma Industry, which is expected to grow over 11.5 per cent per annum between 2020 and 2025, will outperform the global pharma industry, which is set to grow at an annual rate of 5 per cent between the same periods. The market is expected to grow to USD 80 billion by 2025, thereby emerging as the sixth largest pharmaceutical market globally by absolute size share.

➤ Imports vs. Indigenous Production

Indigenous production will not only drive costs down, it will enable more competitive prices and shorten delivery time to customers. 60% of the Indian pharma manufacturing depends on the APIs coming from China. Considering this aspect, Government of India has approved promotion of domestic manufacturing of critical key starting materials/drug intermediates and APIs in the country.

The products have high in demand in overseas market. Production of these products domestically reduces the need to import these in future along with significant scope for export in these products. If our finished goods cost is less compared to costly imports, we can replace the import of finished goods with locally made products.

➤ Export & Possibility

The products to be manufactured by APL have huge demand in domestic and international market. The product will be sold both in domestic as well international market.

Domestic Market: 20%.

Export Market: 80%.

The market is expected to grow to USD 80 billion by 2025, thereby emerging as the sixth largest pharmaceutical market globally by absolute size share.

1.3.5 EMPLOYMENT GENERATION DUE TO THE PROJECT

The company will give employment to 125 personnel for the proposed activity. The skilled employees will be around 50 nos. and unskilled employees will be around 75 nos. It is expected that proposed unit will generate employment for skilled and unskilled people as well.

1.3.6 APPLICABLE LAW AND RULES

The applicable laws & Rules are addressed as **Annexure 1.2**.

1.4 SCOPE OF THE STUDY

As per the Environmental Impact Assessment Notification, 2006 & its subsequent amendments, the project activity in consideration falls under Schedule 5(f) - Synthetic organic chemicals industry (Dyes & dye intermediates: bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates).

The proposed new project is located in the MIDC Tarapur which is classified as a CPA (Critically Polluted Area) as per N.G.T Order (O.A No 1038/2018) dated 10.07.2019. Thus, due to applicability of the General Condition of the EIA notification, 2006 and its subsequent amendments the project is categorized as Category 'A' which entails prior Environment Clearance from Hon' EAC (Ind-3) MoEF&CC, Govt. of India.

Furthermore, the project is located in notified industrial area thus public hearing is not applicable for the said project.

In order to assess the probable environmental impacts due to the new project the Environmental Impact Assessment studies have been undertaken to prepare the Environmental Impact Assessment Report.

Accordingly, the application for prior Environmental Clearance was submitted to MoEF&CC vide proposal number IA/MH/IND3/514500/2025 dated 03/02/2025 along with all necessary documents. Following which the project was granted Standard TOR dated **13/02/2025**.

Therefore, the present EIA report is prepared based on the Standard TOR prescribed by MOEF&CC dated April 2015 and Standard Terms of Reference granted to APL vide TOR Letter File No. IA-J-11011/55/2025-IA-II(I) dated 13/02/2025 by MoEF&CC.

5(f) - STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY FOR SYNTHETIC ORGANIC CHEMICALS INDUSTRY (DYES & DYE INTERMEDIATES; BULK DRUGS AND INTERMEDIATES EXCLUDING DRUG FORMULATIONS; SYNTHETIC RUBBERS; BASIC ORGANIC CHEMICALS, OTHER SYNTHETIC ORGANIC CHEMICALS AND CHEMICAL INTERMEDIATES) AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT

1.4.1 STANDARD TERMS OF REFERENCE

(Additional ToR Point 11.17)

Table No. 1.1: Compliance of Standard TOR

Sr. No.	Standard TOR	Compliance
1	Executive Summary	
1.1	Executive Summary	Executive summary is prepared and attached along with this report.
2	Introduction	
2.1	Details of the EIA Consultant including NABET accreditation	Name of Consulting Organization: M/s. Sadekar Enviro Engineers Private Limited. NABET Accreditation Certificate: NABET/EIA/2326/RA0307 valid till 18/04/2026. The details are addressed in Chapter 12 . Copy of the QCI-NABET certificate is enclosed as Annexure 1.3 .
2.2	Information about the project proponent	Project Proponent: M/s Aarti Pharmalabs Limited (APL) (Formerly known as Aarti Industries Ltd.) was established in the year 1984. Mr. Narendra Salavi is the Director of APL, he has rich & varied experience of more than 30 years in industry. Under his guidance & leadership APL has excelled in all fields & surpassed all its previous targets & performance. He is responsible for all the functions, projects division including appraisal of the projects. Details about Project & project proponent are addressed in Chapter 1, Page No. 1 .
2.3	Importance and benefits of the project	APL aim is to empower domestic suppliers and start from an early stage to reduce the countries reliance on imports. The project will provide direct & indirect employment opportunities to local people and as the industry has the export market, it will add to the net foreign exchange earning of the country. This is further explained in Chapter 8, Page No. 7 .
3	Project Description	
3.1	Cost of project and time of completion.	Total Project Cost: INR 90 Cr. The project will be implemented approx. 18 months after the receipt of Environment Clearance. Details are given in Chapter 2, Page No. 5 .
3.2	Products with capacities for the proposed project.	The proposed project will manufacture 2 nos. of products with a total capacity of 2000 TPM. Details of Production are addressed in Chapter 2, Page No. 21 .
3.3	If expansion project, details of existing products with	Not Applicable.

Sr. No.	Standard TOR	Compliance
	capacities and whether adequate land is available for expansion, reference of earlier EC if any.	
3.4	Details of existing products and production, if any, along with present product/production details in tabular format, to verify the compliance of the EIA Notifications.	Not Applicable.
3.5	List of raw materials required and their source along with mode of transportation.	Detailed list of raw materials along with source, mode of transport and storage details etc. are addressed in Chapter 2, Page No. 23.
3.6	Other chemicals and materials required with quantities and storage capacities.	Detailed list of raw materials along with source, mode of transport and storage details etc. are addressed in Chapter 2, Page No. 23.
3.7	Details of Emission, effluents, hazardous waste generation and their management.	Air Emissions: There will be no Boiler or TFH installed on the Project site, Steam requirement will be fulfilled from the Boilers installed at the sister concern unit i.e. Aarti Pharmalabs Limited, Plot No. L-10. HSD will be used for DG Set in case of power failure only. Emissions from Transportation of raw materials & finished goods, Fugitive Emissions from handling, storage and transportation activity of raw materials (such as Para Amino Phenol, etc.) can be continuous or intermittent, point sources. Details are addressed in Chapter 4, Page No. 3. Effluents: Trade & domestic effluent <u>Trade effluent: 771 CMD</u> (606 CMD (Trade Effluent from plot no L-99) + 165 CMD (Trade Effluent from plot no L- 28 & 29)) <u>Domestic effluent: 13.20 CMD</u> (5.20 CMD (Sewage from plot no L-99) + 8.0 CMD (Sewage from plot no L- 28 & 29)) Trade Effluent Treatment Scheme: - The unit will be operated on Zero Liquid Discharge system. - Effluent will be segregated into two streams i.e. HCOD / HTDS and LCOD / LTDS.

Sr. No.	Standard TOR	Compliance												
		<i>Note: As a contingency provision membership will be taken with M/s. Sadekar Enviro Engineers Pvt. Ltd. High COD/TDS reduction system, MIDC Tarapur.</i> Domestic Effluent Treatment Scheme: - STP (with MBBR technology) having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern at Plot No. L-28 & 29. - Treated water will be used for greenbelt development & toilet flushing and sludge will be used as manure for greenbelt development. Hazardous Waste Generation Details and Their Management Emission, effluent and waste generation details along with their management etc. is addressed in Chapter 4, Page No. 49.												
3.8	Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).	Total water requirement: 1265.5 CMD Source of water: MIDC, Tarapur Copy of Water permission is attached as Annexure 4.4. Power requirement: Connected Load: 2775 kW Demand Load: 2550 kVA Source: Maharashtra State Electricity Distribution Company Limited (MSEDCL). Manpower Requirement: 125 Nos. (Skilled: 50, Un-Skilled: 75), Detailed water balance in tabular form is addressed in Chapter 4, Page No. 21.												
3.9	Details of boiler/gensets (including stacks/exhausts) and fuels to be used.	<table><tr><th>S. N.</th><th>Parameters</th><th>Capacity</th><th>Fuel</th><th>Quantity</th><th>Stack height</th></tr><tr><td>1</td><td>D.G. Set</td><td>500 kVA</td><td>High Speed Diesel (HSD)</td><td>2 nos.</td><td>5.0 m (each) (Above roof level)</td></tr></table> <i>Note:</i> i) Steam Requirement will be fulfilled from the Boilers installed at the Sister concern unit i.e. Aarti Pharmalabs Limited, Plot no. L-10 ii) DG Sets will be operated only during power failure. Details are addressed in Annexure 4.2.	S. N.	Parameters	Capacity	Fuel	Quantity	Stack height	1	D.G. Set	500 kVA	High Speed Diesel (HSD)	2 nos.	5.0 m (each) (Above roof level)
S. N.	Parameters	Capacity	Fuel	Quantity	Stack height									
1	D.G. Set	500 kVA	High Speed Diesel (HSD)	2 nos.	5.0 m (each) (Above roof level)									
3.10	Process description along with major equipment's and machineries, process	Manufacturing process of both products Paracetamol and Caffeine considering inputs, outputs, and flow diagram are provided in Chapter 2, Page No. 18.												

Sr. No.	Standard TOR	Compliance
	flow sheet (quantitative) from raw materials to products to be provided.	Details of Major Equipment's and machineries are attached as Annexure 2.5.
3.11	Hazard identification and details of proposed safety systems.	The details of hazard identification, risk assessment, Safety systems and Disaster Management Plan are addressed Chapter 7, Page No. 1.
3.12 a.	Expansion / Modernization Proposals: a. Copy of all the Environmental Clearance(s) including Amendments there to Obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Integrated Regional Office of the Ministry of Environment, Forest and Climate Change as per circular dated 30 th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, copy of the latest CTO and status of compliance of Consent to Operate for the ongoing/existing operation of the project from SPCB shall be attached with the EIA-EMP report.	Not Applicable.
3.12 b.	b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the	Not Applicable.

Sr. No.	Standard TOR	Compliance						
	EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.							
4	Site Details							
4.1	Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.	The project of M/s. Aarti Pharmalabs Limited. is located at Plot No. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. The project is located in Notified Industrial Area i.e. Tarapur MIDC and alternate site analysis was conducted. As per the b/c (benefit/cost) ratio, Tarapur MIDC is the most feasible site for setting up of the proposed project out of all the other alternatives considered. Further details are provided in Chapter 5, Page No. 1.						
4.2	A topo-sheet of the study area of radius of 10 km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (Including all eco-sensitive areas and environmentally sensitive places).	Study area of 10 km radius is covered on Toposheet No. 47A/9, 47A/10, 47A/13 and 47A/14 which includes project site and study area of 10 km radius around project site and it is addressed in Chapter 2, Page No. 17.						
4.3	Details w. r. t. option analysis for selection of site.	The project is located in Notified Industrial Area i.e. Tarapur MIDC and alternate site analysis was conducted. As per the b/c (benefit/cost) ratio Tarapur MIDC is the most feasible site for setting up of the proposed project out of all the other alternatives considered. Further details are provided in Chapter 5, Page No. 1.						
4.4	Co-ordinates (lat-long) of all four corners of the site.	Coordinates of corners representing the boundary of the plot are as follows: <table border="1"> <thead> <tr> <th>No. of Corners</th><th>Latitude</th><th>Longitude</th></tr> </thead> <tbody> <tr> <td>A</td><td>19°47'23.81"N</td><td>72°43'33.66"E</td></tr> </tbody> </table>	No. of Corners	Latitude	Longitude	A	19°47'23.81"N	72°43'33.66"E
No. of Corners	Latitude	Longitude						
A	19°47'23.81"N	72°43'33.66"E						

Sr. No.	Standard TOR	Compliance			
		B	19°47'25.11"N	72°43'35.84"E	
		C	19°47'24.75"N	72°43'36.13"E	
		D	19°47'25.19"N	72°43'36.83"E	
		E	19°47'24.07"N	72°43'37.58"E	
		F	19°47'22.29"N	72°43'34.53"E	
4.5	Google map – Earth downloads of the project site.	Google Earth image with site location and demarcated plot boundary is given in Chapter 2, Page No. 10.			
4.6	Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.	Layout maps indicating proposed units, raw material storage area, plant area, utilities area, stack and greenbelt is depicted in Chapter 2, Page No. 12. Location of the plot on Tarapur MIDC Map is shown at Chapter-2, Page No. 11.			
4.7	Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/ greenbelt, in particular.	Photographs of the Project site & Greenbelt are provided in Chapter 2, Page No. 13 & 14.			
4.8	Land use break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements, etc. shall be included. (not required for industrial area).	Not required; as project site is in Notified Industrial area.			
4.9	A list of major industries with name and type within study area (10 km radius) shall be incorporated. Land use details of the study area.	List of major industries within 10 km radius is given in Chapter 2; Page No. 13.			
		Name of the Industry	Type of Industry	Distance in Km (aerial)	Direction
		Aarti Industries Limited	Pharmaceutical	0.01	North East
		Vadilal Dairy International	Dairy Products	0.27	West

Sr. No.	Standard TOR	Compliance			
		Galaxy surfactants Ltd	Chemical Plant	0.26	South West
		NGL Fine Chem Limited	Pharmaceutical	0.13	North East
		Aarti Drugs Ltd	Pharmaceutical	0.45	North
		Rang Rasayan Limited	Chemical Plant	0.05	North West
		Jaskaran Textiles	Textile mill	0.14	South
		Lupin Ltd.	Pharmaceutical	1.0	North West
		Aarti Drugs Ltd.	Pharmaceutical	0.87	South West
		Tata Steel Global Wires	Iron & Steel Industry	0.89	North East
		Shrishreshth Chemicals Pvt Ltd	Chemical Plant	1.95	North East
		Vasundhara Dairy Milk Plant	Dairy Products	1.83	North East
		D C Textile Mills Pvt Ltd	Textile mill	2.0	North East
4.10	Geological features and Geo-hydrological status of the study area shall be included.	Since geological and hydrogeological aspects are associated with larger area hence the geomorphological aspects of entire Palghar district as per secondary source are mentioned in Chapter 3 Page No. 26 and as Annexure 3.9 .			
4.11	Details of drainage of the project up to 5 km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects).	Project study area comprises of western plains along the Sahyadri ranges accordingly study area had small hillocks & undulations in north eastern, eastern & south eastern parts of the study area whereas major part was moreover plain terrain. The surface drainage in study area was largely represented by westerly meandering upper Banganga River, Lower Banganga River and Ucheli Creek. Details of Drainage map are given in Annexure 3.11 .			
4.12	Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land. Documents related to conversion of land for Industrial purpose.	Project is proposed to be established on Notified Industrial Area i.e. Tarapur MIDC. Tarapur MIDC has allotted land to M/s. Aarti Pharmalabs limited. The Copy of MIDC plot allotment letter is enclosed as an Annexure 2.1 .			

Sr. No.	Standard TOR	Compliance
4.13	R&R details in respect of land in line with state Government policy.	The project will be carried out inside the notified industrial area. Hence Resettlement and Rehabilitation (R&R) are not applicable in this project.
5	Forest, wildlife and CRZ related issues (if applicable)	
5.1	Permission and approval for the use of forest land (forestry clearance), if any, and Recommendations of the State Forest Department. (if applicable).	Not Applicable, as no forest land is involved. Protected areas not present within 10 km study area. Hence Forest and Wildlife Clearance is not required for the proposed project.
5.2	Land-use map based on High resolution satellite imagery of the proposed site delineating the forestland (in case of projects involving forest land more than 40 ha).	Not applicable, as no forest land is involved.
5.3	Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.	Not applicable, as no forest land is involved. Protected areas not present within 10 km study area. Hence stage I forestry clearance is not required for the proposed project.
5.4	The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon.	Not Applicable. Protected area not present within 10 km study area.
5.5	Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for	Based on the Ecology and Biodiversity survey, Scheduled-1 species were observed in the study area. Details of Ecology and Biodiversity survey are given in Chapter 3, Page No. 28 and as Annexure 3.12 . Also, a

Sr. No.	Standard TOR	Compliance
	conservation of Schedule I fauna, if any exists in the study area.	Wildlife Conservation Plan is prepared for Concerned species and same has been submitted to The Chief Wildlife Warden Office Nagpur, Maharashtra. Copy is attached as Annexure 3.13 & 3.15.
5.6	Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.	Not applicable.
5.7	Recommendations and NOC from the concerned State/UT Coastal Zone Management Authority on CRZ angle.	Not applicable.
6	Environmental Status	
6.1	Determination of atmospheric inversion level at the project site and site-specific micrometeorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.	Atmospheric inversion levels are addressed in Annexure 4.1. The site specific micro meteorological data including temperature (14.86°C to 36.28°C), relative humidity (18.49% to 94.60%) hourly wind speed (min. 0.05 km/h to max. 6.60kmph) and predominant wind direction is North West, rainfall (Annual Average: 148.74 mm/year, during study period: 21.36 mm) etc. are addressed in Chapter 3, Page 2.
	AAQ data (except monsoon) at 8 locations for PM₁₀, PM_{2.5}, SO₂, NO_x, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and consider the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Study should indicate minimum, maximum	Ambient Air Quality Monitoring has been carried out for PM₁₀ (46.0 µg/m³– 68.3 µg/m³), PM_{2.5} (10.1 µg/m³– 24.3 µg/m³), SO₂ (5.1 µg/m³– 18.7 µg/m³), NO_x (6.1 µg/m³– 21.2 µg/m³) and CO (0.4 mg/m³ – 0.9 mg/m³) at all locations and other parameters (ozone, lead, ammonia, benzo (a) pyrene, arsenic, nickel and benzene) are monitored at project site. The ambient air monitoring locations are selected based on pre-dominant wind direction in the study area during the months as that of baseline data sampling. Air quality data with ambient and other important parameters are presented in Chapter 3, Page No. 3.

Sr. No.	Standard TOR	Compliance
	value of different parameters for the period (3 months) collected. Collected data should be supported by the reference data of either CPCB or SPCB. AAQ data & GLC of pollutants from stack emissions should suggest technology/ measures - Best Practiced Technology (BPT) indicating best achieved results.	
6.2	Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAAQM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.	Raw data of all AAQ measurement for 12 weeks (4 weeks per month) (October to December 2024) of all stations as per frequency given in the NAAQM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations are provided as an Annexure 3.3 (b) .
6.3	Surface water quality of nearby River (100 m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF& CC guidelines.	Surface water quality monitoring of nearby river and other surface drains at eight locations are performed, as per the CPCB/ MoEF& CC guidelines. The results of the same are addressed in Chapter 3, Page No. 10 .
6.4	Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF& CC, if yes give details.	River Surya at an aerial distance of 11.55 km towards East direct from the project site. River Surya stretch at MIDC pumping station on Boisar - Chillarphata road, Village- Garvashet is declared Category- Water quality of Priority V polluted river stretches by MPCB.

Sr. No.	Standard TOR	Compliance
		(Reference: MPCB https://www.mpcb.gov.in/river-polluted-stretches/water_quality_of_polluted_river_stretches). Details given in Chapter 3, Page No. 14.
6.5	Ground water monitoring at minimum 8 locations shall be included.	Ground water monitoring is done at 8 locations for the study. Results of the same are addressed in Chapter 3, Page No. 16.
6.6	Noise levels monitoring at 8 locations within the study area.	Noise levels are monitored in project site and as well in study area and the results are obtained within the limits of National Ambient Air Quality Standards (NAAQS) are given in Chapter 3, Page No. 20.
6.7	Soil Characteristic as per CPCB guidelines.	Soil characteristics are monitored as per CPCB guidelines and the results are addressed in Chapter 3, Page No. 24.
6.8	Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.	From the traffic study it can be concluded that that the Existing traffic scenario is in Very Good condition for Junction TS1 & Junction TS2. Also considering the traffic scenario after the proposed activity the traffic scenario won't change much and LOS in both the case will remain same. Traffic study includes type of vehicles; their count, frequency with respect to proposed project scenario etc. is given in Chapter 3, Page No. 27 and Annexure 3.10.
6.9	Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.	Description of flora and fauna existing in the study area is provided in Chapter 3, Page No. 28 and Annexure 3.12. Also, Wildlife conservation plan for Schedule-I species is attached as Annexure 3.13.
6.10	Socio-economic status of the study area.	Socio economic status is studied and the results, interpretations and conclusions of the same are addressed in Chapter 3; Page No. 28 and Annexure 3.14.
7	Environment Impact and Environment Management Plan	
7.1	Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly	Assessment of ground level concentration of pollutants and their impact on existing air environment is predicted by air quality modeling and resultant concentrations are checked to be in line with the National Ambient Air Quality Standards. Air quality modeling is done using the inputs of the specific terrain characteristics, emissions and onsite meteorological

Sr. No.	Standard TOR	Compliance
	terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.	data inventory. The resultant concentrations are presented in Chapter 4, Page No. 5 and Annexure 4.1.
7.2	Water Quality Modelling - in case of discharge in water body.	Water quality modeling is not applicable as the project activity does not involve the discharge of effluent directly into any of the water body.
7.3	Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor cum rail transport shall be examined.	Traffic study in the surrounding study is assessed and the impact on the surrounding due to transportation of raw materials and finished products in proposed establishment activity is considered for study. Traffic study findings are addressed Chapter 3, Page No. 27 and as Annexure 3.9.
7.4	A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be	Trade Effluent Treatment Scheme: - The unit will be operated on Zero Liquid Discharge system. - Effluent will be segregated into two streams i.e. HCOD / HTDS and LCOD / LTDS.

Sr. No.	Standard TOR	Compliance
	included. Complete scheme of effluent treatment. Characteristics of untreated & treated effluent to meet the prescribed standards of discharge under E(P) Rules 1986.	- For appropriate treatment of effluent, provision of MVR (Capacity – 760 CMD) followed by ATFD, Full-fledged ETP (Capacity – 820 CMD) (Primary, Secondary and Tertiary Treatment), HPPTRO (Capacity – 335 CMD), PTRO (Capacity – 85 CMD), PTRO (Capacity – 770 CMD) is made. - Around 755.55 CMD HCOD (5%) / HTDS (10%) effluent from in-house manufacturing process and around 165 CMD HCOD (5%) / HTDS (10%) effluent from sister concern at Plot No. L-28 & 29 after neutralization treated through MVR followed by ATFD along with 113.50 CMD HPPTRO reject. - Around 680 CMD condensate from MVR and ATFD and around 129 CMD LCOD (0.05%) / LTDS (0.15%) effluent from cooling tower blowdown & floor cleaning treated in the ETP comprising of Primary, Secondary and Tertiary treatment. - Around 757 CMD Treated effluent from ETP will be sent to PTRO System. - Considering 70% permeate and 30% reject from PTRO system. Around 530 CMD permeate will be recycled and reused as Cooling Tower makeup and the reject will be sent to HPPTRO system for further treatment. - Around 113.50 CMD HPPTRO permeate (50%) will be recycle & reuse for Cooling Tower makeup and around 113.50 HPPTRO reject (50%) will be resent to MVR for further treatment. - Sludge generated from primary & secondary treatment will be sent to CHWTSDF for disposal. ATFD salts will be sent to CHWTSDF for disposal. - As a contingency, membership will be taken with M/s Sadekar Enviro Engineers Pvt. Ltd. High COD/TDS reduction facility, MIDC Tarapur. Domestic Effluent Treatment Scheme: - STP having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern unit at Plot No. L-28 & 29. - Treated sewage will be used for greenbelt development during wet season and will be used for domestic flushing during wet season. - STP sludge will be used as manure for greenbelt development.

Sr. No.	Standard TOR	Compliance
		Complete scheme of effluent treatment, characteristics of treated and untreated effluent are addressed in Chapter 4, Page No. 31.
7.5	Details of stack emission & action plan for control of emissions to meet standards.	Stack emissions is involved due to operations of DG Sets and process emission. For controlling the emissions adequate stack height as per CPCB guidelines will be provided to stacks for the effective dispersion of pollutants. For D.G. Sets (2 nos. of 500 KVA): - Stack of 5 m height will be provided to each D.G. Set capacity of 500 kVA each above roof level. For Scrubber (1 nos. of acid and 1 nos. of alkaline media scrubbers): 2 no. of Stacks, each having 6 meters height above roof to the proposed scrubbers. Details are mentioned in Annexure 4.2.
7.6	Measures for fugitive emission control.	- The roads will be Paved to avoid dust generation due to vehicular movement. - Closed feed system will be adopted for charging the raw materials by utilizing transfer line from storage to process area. - Reactors will be connected with secondary condensers with chilled water circulation to recover maximum solvent and reduce VOC emission. - As per the guideline 40% of the total plot area to be developed greenbelt in the Critical Polluted Area (CPA) with 2500 nos of trees plantation per 10,000 sq. m area. - APL will developed total 64.43% of greenbelt at site against the total plot area of 5157 Sq. m. - The mitigation measures are detailed in Chapter 4, Page No. 65.
7.7	Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid & hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization,	The details of Hazardous waste generation, utilization, management and disposal are addressed in Chapter 4, Page No. 49. Membership Copy of the CHWTSDf is attached as Annexure 4.6. EMP includes waste minimization, recycle, recover, reuse, energy and natural conservation details. EMP is addressed in Chapter 10, Page No. 13. For energy conservation and natural resource conservation, use of renewable energy is proposed by APL such as solar street

Sr. No.	Standard TOR	Compliance
	recycle /reuse /recover techniques, Energy conservation and natural resource conservation.	lights (35 nos), solar panels of 20 KW are mentioned in Chapter 2, Page No. 34.
7.8	Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.	Fly ash utilization is addressed in Chapter 10, Page No. 15. and MOU with brick manufacturer is attached as Annexure 4.3.
7.9	Action plan for the green belt development plan in 33 % area i.e. land with not less than 2,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.	As per the guideline 40% of the total plot area to be developed in the Critical Polluted Area (CPA) with 2500 nos. of trees plantation per 10,000 sq. m area. APL will developed total 64.43% i.e. 3323 sq.m. Greenbelt at site of total plot area of 5157 Sq. m. (Considering 80% survival rate) The action plan for the development and maintenance of green belt, budgetary allocations and list of species etc. details are included in Chapter 10 Page No. 16.
7.10	Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.	Rain water harvesting potential is calculated in terms of the water storage capacity by rational method. Rooftop rain water harvesting will be implemented above plant building. On the basis of calculation, it is estimated that 13.05 m ³ /day rain water can be harvested. The collected water will be stored in tank of capacity 50 m ³ . The details are addressed in Chapter 10, Page No. 20. Action plan for storm water drainage requirements is illustrated in Chapter 10, Page No. 21.
7.11	Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.	Capital Cost for Environmental pollution control measures (EMP) is INR 4001.5 Lakhs during operation phase. Recurring cost per annum for Environmental pollution control measures is INR 23328.7 Lakhs/Annum during operation phase.

Sr. No.	Standard TOR	Compliance
		The detailed break-up of each measure along with estimated cost is addressed in Chapter 10, Page No. 13.
7.12	Action plan for post-project environmental monitoring shall be submitted.	Post project Environmental monitoring program along with pollutant, parameters, frequency etc. is addressed in Chapter 6, Page No. 2.
7.13	Onsite and Offsite Disaster (Natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.	Onsite and offsite disaster management plan is prepared in case of emergencies. The Risk Assessment studies and the interpretations and recommendations are linked in Disaster Management Plan. Detailed Disaster management plan is addressed in Chapter 7, Page No. 25.
8	Occupational Health	
8.1	Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.	The company has provided budgetary allocation of Rs. 2.5 Lakhs for purchase of Personal Protective Equipment's (PPEs) and Rs. 2.5/- per annum as recurring expenses for 125 Nos. of manpower as a part of Occupational Health & Safety measures. Plan and fund allocation details with respect to occupational health and safety are addressed in Chapter 10, Page No. 13.
8.2	Details of exposure specific health status evaluation of worker. If the worker's health is being evaluated by pre-designed format, chest X rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre-placement and periodical examinations give the details of the same. Details regarding last month analysed data of above mentioned parameters as per age, sex, duration of exposure and department wise.	It is a new project. Hence, Not Available.

Sr. No.	Standard TOR	Compliance
8.3	Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure Level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved.	It is a new project. Hence, Not Available.
8.4	Annual report of health status of workers with special reference to Occupational Health and Safety.	It is a new project. Hence, Not Available.
9	Corporate Environment Policy	
9.1	Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.	Yes, company has established well laid Environment Policy approved by the board of directors; which is addressed in Chapter 10, Page No. 27
9.2	Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.	EHS policy of the company is designed and it prescribes the operating procedure to bring into focus any deviation or violation of environmental norms; it is addressed Chapter 10, Page No. 28.
9.3	What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions?	Hierarchical system or administrative order is in force to deal with the environmental issues and for ensuring compliance with the environmental norms & compliances. The details are addressed in Chapter 10, Page No. 28.

Sr. No.	Standard TOR	Compliance
	Details of this system may be given.	
9.4	Does the company have system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report.	Yes, company has developed a system of reporting non-compliances / violations of environmental norms. Details are furnished in Chapter 10, Page No. 28.
9.5	Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.	Infrastructure facilities such as sanitation, restroom etc. will be provided during construction for construction workers and also for the other workers like truck drivers during operation phase.
10	Corporate Environmental Responsibility (CER)	
10.1	Adequate funds, as per the Ministry's OM/Guidelines, shall be earmarked towards the Corporate Environmental Responsibility based on Public Hearing issues/socio-economic issues and item-wise details along with time bound action plan shall be included (CER activities shall be related to environment). Socio-economic development activities need to be elaborated upon. For the projects where public hearing is not conducted, CER plan shall be provided	(As per MoEF&CC OM No. F. No. 22-23/2018-IA.III (Pt) dated 31 st October 2019 the % of the CER may be at least 2.0 times the slabs given in the OM dated 1 st May 2018 for Critically Polluted Area (CPA). Hence now 4% of the total project cost will be allocated for CER activities) APL proposed capital investment for project is INR 90 Cr. , thus INR 3.6 Cr. is allocated for implementation of need based CER activities. Details regarding above is given in Chapter 8, Page No. 1.

Sr. No.	Standard TOR	Compliance
	based on socio-economic study of the area.	
11	Additional studies/Measures to be considered	
11.1	Provide latest and eco-friendly technology for product manufacturing.	The process has been developed after years of R&D at pilot level and all the process have been optimized to achieve maximum yield and minimize the generation of waste.
11.2	Emphasize on Green chemistry/Clean Manufacturing.	Same as above point.
11.3	Provide CAS No. of products along with product list.	The list of products along with their CAS No. is given in Chapter No. 2, Page No. 22.
11.4	Provide details of amount of carbon sequestered in their unit through greenbelt/other modes, in case of expansion project.	It is a new project hence, not applicable.
11.5	Life structure and sustainability for carbon and water foot print.	Total Carbon emission will be 2945538 KgCO ₂ /A (2945.538 TCO ₂ /A) and the total Carbon Sequestration will be 27.06 TCO ₂ /A. Total percent carbon sequestration will 9.15%. The detailed report of carbon foot prints along with the carbon sequestration study and water foot print is given in Chapter 2, Page No. 30 and Chapter 4, Page No. 18.
11.6	Detailed pollution Load estimation.	Detailed pollution Load estimation has been attached in Annexure 1.4.
11.7	Transportation of Hazardous substance, effluents etc. shall be carried out through authorized and GPS enable vehicles/Trucks only.	Hazardous substances will be transported by authorized and GPS enabled vehicles only. The entire effluent generated inside company premises will be appropriately treated and will be recycled and reused inside company premises to achieve ZLD.
11.8	Category of Hazardous Wastes shall be mentioned in the EIA/EMP report and in presentation.	Hazardous Wastes along with its categories are mentioned in the EIA report in Chapter No. 4, Page No. 49.
11.9	Details of greenhouse gases and emissions shall be provided.	For catering the emissions company has made provision of 10 scrubbers (2 nos. of acid and 8 nos. of alkaline media scrubbers). Details are provided in the Chapter No. 4, Page No. 17.
11.10	Greenbelt shall be developed in the first year	As per the guideline 40% of the total plot area to be developed in the Critical Polluted Area (CPA) with 2500 nos of trees plantation per 10,000 sq. m area. APL has already started the

Sr. No.	Standard TOR	Compliance
	of the project and wind breaks shall be erected.	tree plantation within the premises and has planted 229 nos. of trees. Total 988 nos. of trees (considering 80% survival rate) are required to fulfil the guideline. Greenbelt development by the company inside company premises is in process and same will be completed within 1 year. Further details are provided in Chapter 10, Page No. 16 of EIA Report.
11.11	Study area map shall be overlapped with all the associated features.	The study area map is given in Chapter 2, Page No. 17 .
11.12	Emphasize on green fuels.	Biomass Briquette (cleaner fuel) will be used as primary fuel; Imported coal will be used only in case of non-availability of Biomass Briquettes.
11.13	The project from NCR shall not use Coal as fuel. Further, PP shall avoid use of Coal in the CPAs and elsewhere also if alternatives are available.	The company will use Biomass Briquette (cleaner fuel) as primary fuel. Imported coal will be used only in case of non-availability of biomass briquettes.
11.14	Provide the Cost-Benefit analysis with respect to the environment due to the project.	The Cost-Benefit analysis details are given in Chapter 9, Page No. 1 .
11.15	Details of carbon foot prints and carbon sequestration study w.r.t. proposed project needs to spelled out. Proposed mitigation measures also needs to be analyzed and submitted for further appraisal of the EAC	Total Carbon emission will be 2945538 KgCO ₂ /A (2945.538 TCO ₂ /A) and the total Carbon Sequestration will be 27.06 TCO ₂ /A. Total percent carbon sequestration will 9.15%. Details related carbon foot prints and carbon sequestration study is given in Chapter 2, Page No. 30 .
11.16	Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection)	No any litigations against PP.

Sr. No.	Standard TOR	Compliance
	Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.	
11.17	A tabular chart with index for points wise compliance of above TORs and its details needs to be submitted in the EIA/EMP Report.	Complied.
12	Specific Conditions	
12.1	Details on solvents to be used, measures for solvent recovery and for emissions control.	No solvent is used as the Raw Material. The details are provided in Chapter 10, Page No. 25 .
12.2	Details of process emissions from the proposed unit and its arrangement to control.	Details are addressed in Chapter 4, Page No. 3 .
12.3	Ambient air quality data should include VOC, other process-specific pollutants* like NH ₃ *, chlorine*, HCl*, HBr*, H ₂ S*, HF*, etc., (*-as applicable).	Details are addressed in Chapter 3, Page No. 7 .
12.4	Work zone monitoring arrangements for hazardous chemicals.	It is a new project; hence the company has proposed a budget for conducting the work zone monitoring during operation phase of the project.
12.5	Detailed effluent treatment scheme including segregation of effluent streams for units adopting 'Zero' liquid discharge	The complete study is described in Chapter 4, Page No. 33 .
12.6	Action plan for odour control to be submitted.	Odour control measures which will be used are as follows: Provision of Ventilation and Exhaust, Supervision and maintenance, Provision of Containment & Increasing Air Exchange. The details impact assessment is explained in Chapter 4, Page No. 64 .

Sr. No.	Standard TOR	Compliance
12.7	A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they co-process organic solid/hazardous waste generated.	The company will dispose the hazardous waste to the CHWTSDF or sale to the MPCB authorized reproprocessors / recyclers. Membership of CHWTSDF, Taloja is available, Copy of the same is attached as Annexure 4.6 . MoU with Brick Manufacturer is attached as Annexure 4.3 .
12.8	Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.	For effluent- The project will use ZLD system. Hence Authorization/Membership for the disposal of liquid effluent in CETP is not applicable. Solid and Hazardous Waste Membership of CHWTSDF, Taloja is available. Copy of the same is attached as Annexure 4.6 .
12.9	Action plan for utilization of MEE/dryers salts.	MVR and ATFD will be installed. Salts will be sent to CHWTSDF for disposal.
12.10	Material Safety Data Sheet for all the Chemicals are being used/will be used.	MSDS will be used for handling & storage of the chemicals. It is explained in Annexure 7.6 .
12.11	Authorization/Membership for the disposal of solid/hazardous waste in TSDF.	It is a new project.
12.12	Details of incinerator if to be installed.	Not Applicable- as no incinerator is installed.
12.13	Risk assessment for storage and handling of hazardous chemicals/solvents. Action plan for handling & safety system to be incorporated.	Risk assessment for storage and handling chemicals/solvents. Action plan for handling and safety system to be incorporated in Chapter 7 Page No. 1 .
12.14	Arrangements for ensuring health and safety of workers engaged in handling of toxic materials.	APL has allocated an amount of INR 5.00 Lakhs capital for Glares, Breathing Masks, Hand sanitizers, Gloves, Boots, Helmets, Ear Plugs etc. and recurring amount of INR 5,00,000 for maintenance. Also recurring amount of INR 2.5 Lakhs for annual medical checkup of workers is proposed.
12.15	Details of carbon foot prints and carbon sequestration study w.r.t. proposed project needs to spell out. Proposed mitigation measures also needs to be analysed and submitted for	Total Carbon emission will be 2945538 KgCO ₂ /A (2945.538 TCO ₂ /A) and the total Carbon Sequestration will be 27.06 TCO ₂ /A. Total percent carbon sequestration will 9.15%. The details related carbon foot prints and carbon sequestration study is given in Chapter 2, Page No. 30 .

Sr. No.	Standard TOR	Compliance
	further appraisal of the EAC.	

1.4.2 ADDITIONAL TERMS OF REFERENCE

Table No. 1.2: Additional Terms of Reference

Sr. No.	Additional TOR	Compliance
(i)	Please submit quantified and specific compliance and action plan for the additional safeguard measures prescribed in the Ministry's O.M. dated 31.10.2019 for critically and severely polluted areas.	NGT Compliance.
(ii)	Certified compliance report of the existing CTO from the regional office of IRO, MoEF&CC/SPCB.	Not Applicable, as the company possess CTE, however CTO is not obtained.
(iii)	Copy of valid CTO for the existing unit.	
(iv)	PP shall ensure the compliance of OM dated 14.01.2025 regarding streamlining the implementation of notifications G.S.R 702 and G.S.R. 703 dated 12.11.2024. Comments from the SPCB regarding the proposal shall be submitted along with the EIA Report.	

2 PROJECT DESCRIPTION

2.1 TYPE OF THE PROJECT

M/s. Aarti Pharmalabs Limited (APL) is a New Unit for manufacturing of 2000 TPM capacity of API Products located at plot no. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506.

2.2 NEED OF THE PROJECT

In today's environment there is a need for reliable supply of high quality pharmaceutical materials, specifically for niche chemical molecules. The company expects to cater to both domestic and international customers, delivering quality products. The biggest risk in today's market is a manufacturer's supply chain, which is heavily reliant on imports. APL aim is to empower domestic suppliers and start from an early stage to reduce the countries reliance on imports.

The project will provide direct & indirect employment opportunities to local people and as the industry has the export market, it will add to the net foreign exchange earning of the country.

2.3 HISTORY OF THE PROJECT

M/s Aarti Pharmalabs Limited (Unit V-II) (APL) is a limited company desirous to establish a new manufacturing unit for API products at plot no. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. The total plot area is 5157 sq. m. Plot possession receipt is attached as **Annexure 2.1**

APL has obtained Consent to Establish (CTE) from Maharashtra Pollution Control Board (MPCB) having vide no. Format1.0/AS(T)/UAN no. 0000223966/CE/2411000875 obtained dated 14/11/2024 and valid up to commissioning of the unit or up to 5 years whichever is earlier for Storage of Chemicals, Intermediates & Finish Products and Packing & Repacking activity and for Installation of the Utility, ETP, MVR, RO and ATFD system for utility and effluent treatment plant for the treatment of trade effluent generating from the plot no. L-28 & 29 which is sister concern unit of APL and located adjacent to each other. Copy of the CTE is attached as **Annexure 2.2**.

However, after conducting market survey, feedback from various potential customers and various government initiative to promote API Products, APL decided to venture into organic chemicals manufacturing.

As per the provision of EIA Notification, 2006 and its subsequent amendments the project is categorized under Schedule 5(f), Category – A and needs prior Environmental Clearance. The unit is located in MIDC Tarapur which falls under Critically Polluted Area (CPA) as identified by CPCB as per NGT order dated 10.07.2019. With reference to the Office Memorandum (F. No. 22-23/2018-IA.III (Pt)) by MoEF&CC dated 31st October 2019 which states “Any project or activity specified in Category B1 will be appraised at the Central Level, if located in whole or in part within 5 km from the boundary of Critically Polluted areas or Severely polluted areas”. The compliance to the Central Pollution Control Board (CPCB) norms, specified in No. Q-16017/38/2018-CPA dated 24th October 2019, is outlined in detail in **Annexure 2.3**.

Status of MIDC Tarapur w. r. t. CEPI Score by CPCB

As per MPCB report of June, 2023 “Tarapur industrial area has about 23 highly polluting 17 category industries, 59 red category industries, 53 orange category industries and 66 green category industries of various category engaged in the manufacturing of chemicals, dyes, dye-

intermediates, Bulk drugs, pharmaceuticals, Textile auxiliaries, Pesticides, Petrochemicals, Iron and steel, Textile processors, Engineering units etc. Besides the industries, there are other sources which are major contributors of pollution like emissions by transport and construction activities etc.” As per the NGT order dated 10.07.2019, MIDC Tarapur was listed under Critically Polluted Area (CPA) with CEPI score of 93.69 (Air: 72, Water: 89 & Land: 59.25). MPCB has taken various efforts to control and reduce the CEPI score. The details efforts are addressed below:

Efforts Taken to Control Air Pollution

- Introduction of Cleaner fuel PNG instead of Coal. More than 130 industries switched fuel from Coal to PNG. The use of clean fuel (PNG) will reduce dust emissions by industries which improves air quality in the vicinity.
- Increase Air monitoring vigilance to verify the Air pollution Control system.
- Establishment of three Continuous Ambient Air Quality Monitoring (CAAQM) with meteorological data in the Tarapur industrial area is also proposed by the regional office.
- M/s JSW Steel Ltd. has installed a CAAQM station with an AQI display to be aware of Air Quality.
- Established 3 manual Air monitoring stations.
- Increase of greenbelt coverage in the MIDC Tarapur area.

Efforts Taken to Control Land Pollution

- Persuasion with CHWTSDF to increase the frequency of collecting HW and its transportation.
- Removed and disposed of Sludge lying in Sump No.2 during the COVID period.
- Repeated directives to CETP for Sludge removal and disposal at CHWTSDF which resulted in CETP having disposed of more than 25000 MT of Sludge from 2019 to till date.
- Increase HW disposal quantum.

Efforts Taken to Control Water Pollution

- Issued closure direction to Old 25 MLD CETP towards continuous non-performance.
- Commissioned New CETP Diversion of the entire effluent of old CETP to new CETP of 50 MLD (25 MLD partly in operation).
- Improved CETP Inlet Standards which resulted in improved outlet standards.
- As per MPC Board directives positive discharge system, 2-way SCADA, NRV & Autosampler installed by CETP members.
- Chamber numbering helps to identify defaulter areas and industries.
- Industry-wise Segregation of high COD/TDS effluent stream.
- Establishment of eight monitoring stations under the National Water Quality Monitoring Program (NWMP).
- Steps are taken for industrial area/other units to recycle 100% treated effluent to achieve zero liquid discharge (ZLD) -120 nos.
- Installation of CEMS installed for Air and Water in Large and Medium scale RED category industries: Two-way SCADA installed by industries.

- The newly adopted advanced technologies by industries for effluent treatment for achieving Zero liquid discharge to avoid effluent discharge outside project site,
- Also, industries who are unable to treat high COD / TDS effluent at own premises, M/s Sadekar Enviro Engineers Pvt. Ltd. has provided common treatment facility for HCOD/HTDS reduction having 300 CMD capacity,
- Underground drainage pipeline to avoid overflow of effluent.

Other Efforts taken to Control Pollution

- More than 1000 nos. of trees are planted.
- Action taken against non-complied various industries by giving Show-cause notices, proposed directions and closure directions.

Comparison of CEPI scores of Tarapur are provided in the image given below

	Air Index	Water Index	Land Index	CEPI
CEPI Score March 2024	21.00	53.00	54.80	59.80
CEPI score June 2023	24.00	56.50	56.00	62.30
CEPI Score March 2023	21.00	63.00	50.75	66.94
CEPI score June 2021	31.00	61.50	60.00	68.66
CEPI Score March 2021	31.00	65.00	30.75	68.34
CEPI score March 2020	47.00	65.30	36.50	71.30
CEPI score June 2019	37.07	51.10	54.40	54.56
CEPI score March 2019	34.75	45.00	45.00	53.60
CEPI score June 2018	26.00	39.25	45.00	50.61
CEPI score March 2018	32.50	38.50	45.00	51.88
CPCB CEPI score March 2018	72.00	89.00	59.25	93.69

With all above efforts by MPCB, the aggregated CEPI score indicates a transition for the Tarapur industrial clusters from a critical level of pollution to a severe level of pollution concerning the respective environmental components. A significant decrease of approximately 36% in the CEPI score is noted, declining from 93.69 (Air: 72, Water: 89 & Land: 59.25) in 2018 to 59.8 (Air: 21.00, Water: 53.00 & Land: 54.80) in 2024 (pre-monsoon season).

(Reference: https://mpcb.gov.in/sites/default/files/inline-files/5_MPCB_CEPI_Report_Tarapur_March_2024_R1.pdf)

2.4 SIZE AND MAGNITUDE OF THE PROJECT

Table No. 2.1: Project Details

Sr. No.	Components	Details
1.	Name	New project for the manufacturing of API Products by M/s Aarti Pharmalabs Limited. (Unit V-II)
2.	Location	Plot No.: L-99 MIDC Tarapur, Taluka & District: Palghar, Maharashtra, India – 401506.
3.	Product Type	Active Pharmaceutical Ingredients.
4.	Project Type	New
5.	Schedule	5(f)
6.	Category	‘A’

		General condition applicability as per the EIA notification, 2006 and its subsequent amendments. Project is located in CPA (Critically Polluted Area) i.e. MIDC Tarapur, Maharashtra.		
7.	Total Plot Area	Area Details	Area (Sq. m.)	% of Total Plot Area.
		Total Plot Area	5157	-
		Greenbelt Area at project site	3323	64.43
		Note: • APL will develop Greenbelt accounting to 2123 Sq. m. (41.17 % of the total plot area) in the adjoining plot no. OS-09, which will be used only for the Greenbelt development purpose. • Letter to MIDC Tarapur for granting plot OS-09 for Greenbelt development is attached as Annexure 10.1. • Additionally, 142 Sq. m. (2.75 % of the total plot area) greenbelt will develop between MIDC Road & project plot boundary in the South direction. • Thus the total Greenbelt to be developed by APL shall be around 3323 sq. m. accounting to 64.43% of the total plot area		
8.	Total Production Capacity	2000 TPM		
9.	Total Project Cost	INR 90 Cr.		
10.	CER Cost	INR 3.60 Cr. (As per MoEF&CC OM No. F. No. 22-23/2018-IA.III (Pt) dated 31 st October, 2019 the % of the CER may be at least 2.0 times the slabs given in the OM dated 1 st May, 2018 for Critically Polluted Area (CPA). Hence, 4% of the total project cost will be allocated for CER activities).		
11.	Power Requirement	Construction Phase		
		Demand Load	10 HP	
		Operation Phase		
		Connected Load	2775 kW	
		Demand Load	2550 kVA	
		Source	Maharashtra State Electricity Distribution Company Limited (MSEDCL).	
12.	Water Requirement	Total Water Requirement	1265.5 CMD	
		Source	MIDC, Tarapur Maharashtra.	
13.	Utilities	(a) Steam Boilers*	10 TPH x 1 No 6 TPH x 1 No <i>*Note: Steam Requirement will be fulfilled from the Boilers installed at the Sister concern unit i.e. Aarti Pharmalabs Limited, Plot no. L-10.</i>	
		(b) D. G. Set Details	500 KVA x 2 No. <i>Note: DG Sets will be operated only during power failure</i>	
		(c) Scrubber Details	Acid Scrubber of 2000 CFM x 1 No. Alkali Scrubber of 2000 CFM x 1 No.	
14.	Fuel Requirement	Fuel Name	Details of Utilities	
		High Speed Diesel (HSD) for DG set.	200 Lit/Hr.	
		Note: DG set will be used in case of power failure.		

15.	Stack Details	Parameters	Height (Meters)
		Acid Scrubber of 2000 CFM x 1 No Alkali Scrubber of 2000 CFM x 1 No DG Set 500 KVA (02 Nos.),	6.0 m each (Above roof top) 5.0 m each (Above roof level)
16.	Effluent Generation	Domestic Sewage (CMD)	13.20 CMD (5.20 (Sewage from plot no L-99) + 8.0 (Sewage from plot no L- 28 & 29))
		Trade Effluent (CMD)	771 CMD (606 (Trade Effluent from plot no L-99) + 165 (Trade Effluent from plot no L- 28 & 29))
		Total Effluent (CMD)	784.20
17.	Treatment scheme for Trade & Domestic effluent	A. Effluent Treatment Scheme for Trade effluent: - The unit will be operated on Zero Liquid Discharge system. - Effluent will be segregated into two streams i.e. HCOD / HTDS and LCOD / LTDS. - For appropriate treatment of effluent, provision of MVR (Capacity – 760 CMD) followed by ATFD, Full-fledged ETP (Capacity – 820 CMD) (Primary, Secondary and Tertiary Treatment), HPPTRO (Capacity – 335 CMD), PTRO (Capacity – 85 CMD), PTRO (Capacity – 770 CMD) is made. - Around 755.55 CMD HCOD (5%) / HTDS (10%) effluent from in-house manufacturing process and around 165 CMD HCOD (5%) / HTDS (10%) effluent from sister concern at Plot No. L-28 & 29 after neutralization treated through MVR followed by ATFD along with 113.50 CMD HPPTRO reject. - Around 680 CMD condensate from MVR and ATFD and around 129 CMD LCOD (0.05%) / LTDS (0.15%) effluent from cooling tower blowdown & floor cleaning treated in the ETP comprising of Primary, Secondary and Tertiary treatment. - Around 757 CMD Treated effluent from ETP will be sent to PTRO System. - Considering 70% permeate and 30% reject from PTRO system. Around 530 CMD permeate will be recycled and reused as Cooling Tower makeup and the reject will be sent to HPPTRO system for further treatment. - Around 113.50 CMD HPPTRO permeate (50%) will be recycle & reuse for Cooling Tower makeup and around 113.50 HPPTRO reject (50%) will be resent to MVR for further treatment. - Sludge generated from primary & secondary treatment will be sent to CHWTSDF for disposal. ATFD salts will be sent to CHWTSDF for disposal. <i>As a contingency, membership will be taken with M/s Sadekar Enviro Engineers Pvt. Ltd. High COD/TDS reduction facility, MIDC Tarapur.</i> B. Treatment Scheme for Sewage: - STP having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern unit at Plot No. L-28 & 29. - Treated sewage will be used for greenbelt development during wet season and will be used for domestic flushing during wet season. - STP sludge will be used as manure for greenbelt development.	

		Note : With reference to the Consent to Establish (CTE) obtained from Maharashtra Pollution Control Board vide no Format1.0/AS(T)/UAN No.0000223966/CE/2411000875 dated 14-11-2024, the Effluent Treatment Plant at plot no.L-99 will be utilized for the treatment of trade effluent generating from the plot no. L 28 & 29 as it is sister concern. The copy of CTE is attached as Annexure 2.2.					
18.	Man Power (Nos.)						
		Skilled			50		
		Unskilled			75		
		Total			125		
19.	Hazardous Waste	Sr. No.	Type of Waste	Category of waste	Quantity Total	UOM	Method of Disposal
		1.	Spent Carbon	28.3	1930	TPA	Sale to Authorized party/ Co-processing/ Pre-processing/ CHWTSDF
		2.	Spent Acid 30-40% Acetic Acid (From Paracetamol process)	36.1	12650	TPA	Sale to Authorized Party / CHWTSDF
		3.	Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste.	33.1	180	TPA	Sale to Authorized Party / CHWTSDF
		4.	Contaminated cotton rags or other cleaning materials	33.2	12	TPA	CHWTSDF / Co-processing
		5.	Used or Spent Oil	5.1	12	TPA	Sale to Authorized Party / CHWTSDF
		6.	Wastes or residues containing oil	5.2	6	TPA	CHWTSDF / Co-processing
		7.	Chemical sludge from waste water treatment.	35.3	300	TPA	CHWTSDF
		8.	Concentration or evaporation residues (From ATFD)	37.3	27500	TPA	CHWTSDF
		9.	Discarded Asbestos	15.2	12	TPA	Sale to Authorized Party / CHWTSDF
		10.	Date expired products	28.5	50	TPA	CHWTSDF
		11.	Off Specification Product	28.4	50	TPA	CHWTSDF
		12.	Dust from air filtration system	26.2	1.2	TPA	CHWTSDF

		13.	Spent carbon or filter medium	36.2	24	TPA	Co-processing/ Pre-processing/ CHWTSDF.
Schedule-I of The Hazardous and Other Wastes (Management and Trans boundary Movement) Rule, 2016.							
20.	Non Hazardous Waste	Sr. No.	Particulars	Quantity	UOM	Method of Disposal	
		1.	STP Sludge	40	TPA	Use as manure	
		2.	Dry Waste : Garbage	5.5	TPA	Sale to authorized party for recycling	
			Wet Waste : Food Waste	4	TPA	After composting use as manure	
		3.	Metal scrap (MS scrap piping, structural, Equipment, Broken Shutters, etc.)	50	TPA	Sale to authorized Recycler	
		4.	Wood, Wooden Box, Wooden fills cooling tower, Plywood, Pallets	10	TPA	Sale to authorized party	
		5.	Glass waste	5	TPA	Sale to authorized party	
		6.	Paper waste	5	TPA	Sale to authorized Recycler	
		7.	PVC fins cooling tower	15	TPA	Sale to authorized party	
		8.	Plastic material	0.5	TPA	Sale to authorized party	
21.	E – Waste	Sr. No.	Particulars	E – Waste Category	Quantity Total	UOM	Method of Disposal
		1.	Personal Computers (Central Processing Unit with input and output devices)	ITEW2	0.5	TPA	Sale to MPCB authorised recycler / returned to manufacturer / supplier
		2.	Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)	ITEW3	0.5	TPA	
		3.	Printers including cartridges	ITEW6	0.5	TPA	
		4.	Telephones	ITEW12	0.1	TPA	
Reference: E- Waste (Management) Rules 2022 and its amendments							

22.	Battery Waste	Particulars	Total (TPA)		Method of Disposal
		Lead batteries from D.G. Sets, UPS system	1		Returned to supplier / Sale to Authorized recycler
		Reference: Battery Waste Management Rules, 2022			
23.	Bio -Medical Waste (BMW)	Particulars	Category	Quantity (TPA)	Method disposal
		Contaminated face mask, Hand Gloves, Cotton waste, bags, Micro-biological Media.	Yellow	3	To CBMWTSDF
		Reference: Biomedical Waste Management Rules 2016 and its amendments			

2.5 LOCATION OF THE PROJECT

(Standard ToR point 4.4 & 4.5)

Project site of APL is located at plot no. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. The coordinates of the unit are Latitude 19°47'23.95"N, Longitude 72°43'35.41"E. The Google Earth imagery depicting the location of APL is given in **Figure No. 2.1**.



M/s. Aarti Pharmalabs Limited.
Plot no- L-99, MIDC Tarapur, Taluka & District
– Palghar, Maharashtra, India – 401506

Figure No. 2.1: Location of APL Plot no. L-99 on Google Earth

Table No. 2.2: Latitude & Longitude of Project Site

Sr. No.	Latitude	Longitude
A	19°47'23.81"N	72°43'33.66"E
B	19°47'25.11"N	72°43'35.84"E
C	19°47'24.75"N	72°43'36.13"E
D	19°47'25.19"N	72°43'36.83"E
E	19°47'24.07"N	72°43'37.58"E
F	19°47'22.29"N	72°43'34.53"E

The details of immediate surroundings of the project site is tabulated below.

Table No. 2.3: Surroundings of the Industry

Sr. No.	Direction	Industry
1.	East	Open Plot MIDC (OS-9)
2.	West	Aarti Pharmalabs Limited Unit V, Plot no. L-28 & 29
3.	North	Shree Shivshankar Drugs & Pharmaceutical Pvt Ltd, L-27/3&4
4.	South	Shiv Shakti, Plot No. L-98

M/s. Aarti Pharmalabs Limited is located at Plot no.: L-99 MIDC Tarapur, Taluka & District - Palghar, Maharashtra, India. The MIDC Tarapur is a notified Industrial area, the said industrial area is close to the Boisar road which further connects to NH-48. The proximity to the highway is a great advantage, since the company's raw materials and finished products will be moved by road. The nearest Airport is Chhatrapati Shivaji Maharaj International (Mumbai) Airport, which is approximately at an aerial distance of 78.78 km. The entire industrial area is well connected by internal roads.

Total plot area is 5157 sq. m. The project plot location on MIDC layout map & Plot layout of the project site is addressed below.

➤ **Location of the project plot on MIDC layout map** *(Standard ToR Point 4.6)*

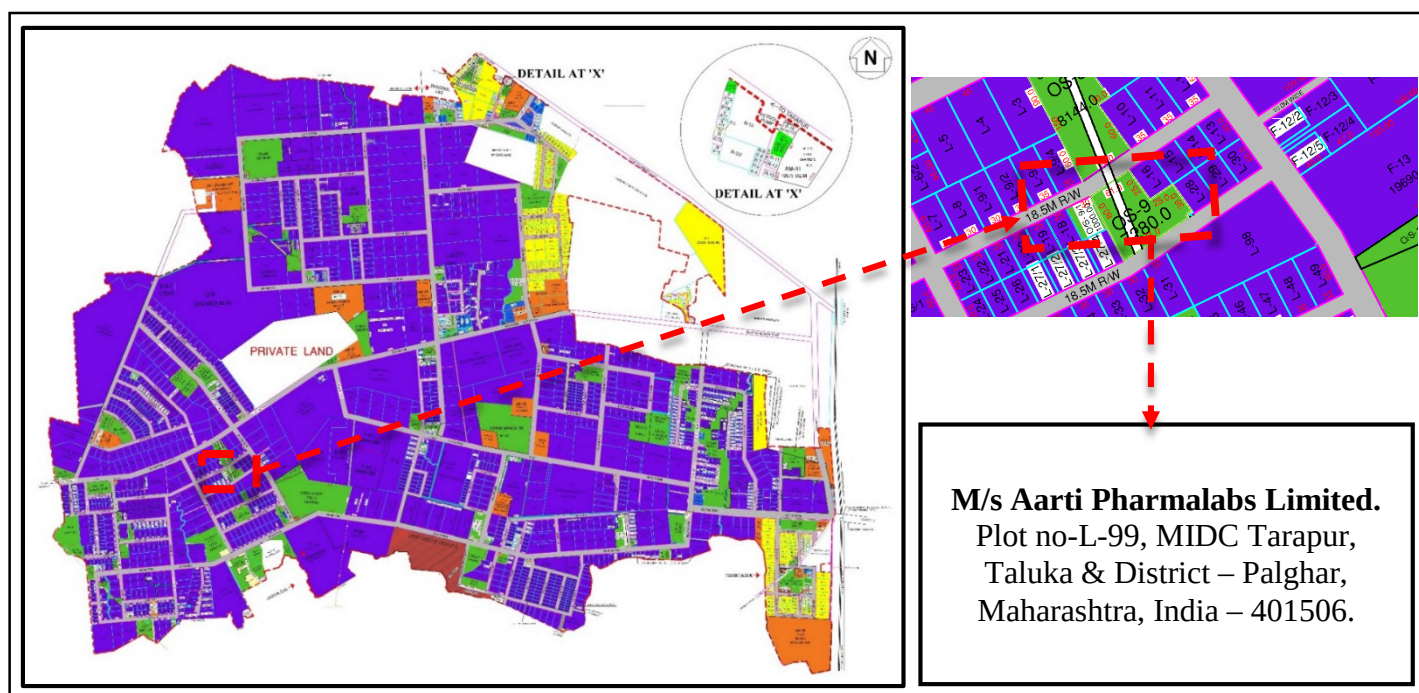


Figure No. 2.2: Project location on Tarapur MIDC layout map

2.5.1 LIST OF MAJOR INDUSTRIES WITHIN THE 10 KM RADIAL STUDY AREA (Standard ToR Point 4.9)

The list of major industries located within 10 km aerial distance from the project site within the study area is depicted in the **Table No. 2.4**.

Table No. 2.4: List of some of the major industries within the 10 km radial study area

Name of the Industry	Type of Industry	Distance in Km (aerial)	Direction
Aarti Industries Limited	Pharmaceutical	0.01	North East
Vadilal Dairy International	Dairy Products	0.27	West
Galaxy surfactants Ltd	Chemical Plant	0.26	South West
NGL Fine Chem Limited	Pharmaceutical	0.13	North East
Aarti Drugs Ltd	Pharmaceutical	0.45	North
Rang Rasayan Limited	Chemical Plant	0.05	North West
Jaskaran Textiles	Textile mill	0.14	South
Lupin Ltd.	Pharmaceutical	1.0	North West
Aarti Drugs Ltd.	Pharmaceutical	0.87	South West
Tata Steel Global Wires	Iron & Steel Industry	0.89	North East
Shrishreshth Chemicals Pvt Ltd	Chemical Plant	1.95	North East
Vasundhara Dairy Milk Plant	Dairy Products	1.83	North East
D C Textile Mills Pvt Ltd	Textile mill	2.0	North East

2.5.2 PROJECT SITE PHOTOGRAPHS (Standard ToR Point 4.7)



2.5.3 LAND USE DETAILS OF THE PROJECT PLOT AREA

The new project will be executed in the notified industrial area at plot no-L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. Which already prevails industrial type of land use.

The project location & surrounding environs being located in the notified industrial area prevails industrial type of land use form. The project activity will be carried out within said project site which already prevails industrial type of land use. The area details for proposed activity are tabulated in **Table No. 2.5**.

Table No. 2.5: Area break up details of the project site

Components	Total Area (Sq. m.)	% of the Total Plot Area
Plot Area	5157.00	-
Greenbelt Area at project site	3323	64.43

2.5.4 DETAILS OF ENVIRONMENTAL SENSITIVITY WITHIN 15 KM RADIUS FROM THE PROJECT BOUNDARY LOCATION *(Standard ToR point 4.2)*

Table No. 2.6: Details of Environmental Sensitivity within 15 km radius from project boundary location

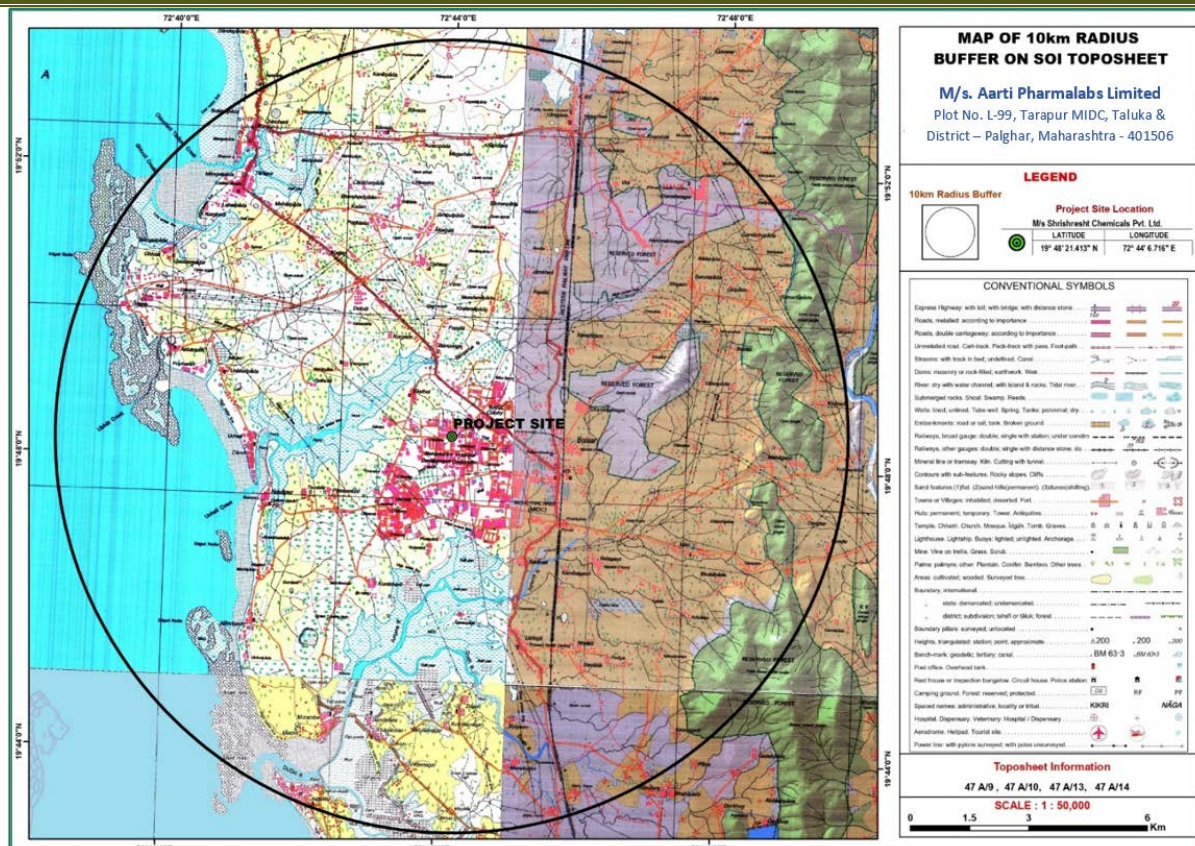
Sr. No.	Areas	Present within 15 km (Yes/No)	Aerial distance (with 15 km) project location boundary
1	Areas protected under international conventions, national or legislation for their ecological, Landscape, cultural or other related value.	Yes	1. Reserve Forests near Khambak is present at an approx. aerial distance of 10.46 km (ENE) from project site. 2. Reserve Forests near Hanuman Nagar is present at an approx. aerial distance of 4.60 km (ENE) from project site.
2	Areas which are important or sensitive for ecological reasons- Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests.	Yes	1. Surya River is present at an approx. aerial distance of 11.28 km from the project site in East direction. 2. Upper Banganga River is present at an approx. aerial distance of 2.60 km from the project site in NW direction. 3. Lower Banganga River is present at an approx. aerial distance of 1.90 km from the project site in South direction. 4. Ucheli creek is present at an approx. aerial distance of 3.73 km from the project site in West direction. 5. Arabian Sea is present at an approx. aerial distance of 6.44 km from the project site in West direction. 6. Devkhop Dam is at an approximate aerial distance of 11.72 km from the project site

Sr. No.	Areas	Present within 15 km (Yes/No)	Aerial distance (with 15 km) project location boundary
			in SE direction. 7. Asaava Reservoir is at an approximate aerial distance of 9.30 km from the project site in East direction
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration.	Yes	1. Wetlands: Mangroves are present along Banganga River at an approx. aerial distance of 2.30 km from project site in NW direction. 2. Coastal zone: Arabian Sea is present at an approx. aerial distance of 5.80 km from the project site in West direction.
4	Inland, coastal, marine, or underground waters.	Yes	1. Surya River is present at an approx. aerial distance of 11.28 km from the project site in East direction. 2. Upper Banganga River is present at an approx. aerial distance of 2.60 km from the project site in NW direction. 3. Lower Banganga River is present at an approx. aerial distance of 1.90 km from the project site in South direction. 4. Ucheli creek is present at an approx. aerial distance of 3.73 km from the project site in West direction. 5. Arabian Sea is present at an approx. aerial distance of 6.44 km from the project site in West direction. 6. Devkhop Dam is at an approximate aerial distance of 11.72 km from the project site in SE direction. 1. Asaava Reservoir is at an approximate aerial distance of 9.30 km from the project site in East direction
5	State, National boundaries.	No	State, National boundaries do not come in 15 km from the boundary of the project.
6	Routes or facilities used by the public for access to recreation or tourist, pilgrim areas.	Yes	1. Navapur road is present at an approx. aerial distance of 0.21 km from the project site in NW direction. 2. Boisar-Tarapur road is present at an approx. aerial distance of 2.85 km from the project site in NE direction. 3. Boisar-Palghar road is present at an approx. aerial distance of 3.0 km from the

Sr. No.	Areas	Present within 15 km (Yes/No)	Aerial distance (with 15 km) project location boundary
			project site in East direction. 4. MIDC Internal road is present at an approx. aerial distance of 0.01 km from the project site in South direction. 5. Boisar Railway station is present at an approx. aerial distance of 3.75 km from the project site in NE direction
7	Defence installations.	No	No defence installations are within 15 km from the project location boundary.
8	Densely populated or built-up area.	Yes	1. Salwad village is at an aerial distance of 1.47 km from the project site in North direction. 2. Pasthal is at an aerial distance of 2.81 km away from the project site in North direction. 3. Boisar is at an aerial distance of 2.04 km away from the project site in NE direction.
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities).	Yes	The project is located in MIDC Tarapur which is surrounded by several populated localities hence several hospitals, schools, places of worship, community facilities are present in 15 km area from the boundary of the project site.
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals).	Yes	The project is located in Notified MIDC area, Tarapur, which is surrounded by ground water resources, surface resources, agricultural fields etc.
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded).	Yes	The project falls in MIDC Tarapur which is Critically Polluted Area (CPA) declared by NGT.
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions).	Yes	They may be affected by natural disasters; however, there is no history of such a disaster in the area under reference. The project falls under seismic zone III as per IS 1893 (Part I) 2016; classification, Hence, seismically it is under moderate damage risk zone.



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2.6 PROPOSED SCHEDULE FOR APPROVAL AND IMPLEMENTATION

Sr. No.	Description	Time Period	Cost in %
1	Obtaining all Statutory permissions	14 Months	1
2	Design and engineering plan	3 Months	4
3	Equipment's and machineries.	6 Months	92
4	Testing and Commissioning	4 Months	3

The land allotted for the proposed project is located in a Notified Industrial Area viz MIDC Tarapur, Maharashtra. The total land admeasuring 5157 Sq. m has been allotted to M/s. Aarti Pharmalabs Limited. The Copy of the Agreement along with MIDC plot allotment letter is enclosed as an **Annexure 2.1**.

The manufacturing process and mass balance of the product Caffeine and Paracetamol is described in detail in the below section. The Products and Raw materials are tabulated in the **section 2.6.3** and **section 2.6.4** respectively. All material balance give in **Annexure 2.4**.

Name of Product: Caffeine

Process Description: The manufacturing of Caffeine is a multiple step process. Make a slurry of Theophylline crude in purified water and break the Theophylline crude to Sodium Theophyllinate by the addition of Sodium Hydroxide (Caustic Lye). Then methylation by addition of Dimethyl sulphate in Sodium Theophyllinate by maintaining pH simultaneously addition of HCl. Caffeine crude to make caffeine pure by using Activated Carbon treatment with improved colour by Catalyst E. Wet cake of caffeine dried by FBD.

Sr. No.	Stage	Input in kg		Output in kg Caffeine	
		Component	Kg	Component	Kg
1.	Reaction	Theophylline Crude (With 40 % Moist)	5600.00	Reaction Mass	26219.78
		Recycle Water (Pure ML)	10000.00	Spent Carbon	199.92
		50% Caustic Lye	2384.00		
		Di-Methyl Sulphate (DMS)	3231.90		
		HCl 30%	483.80		
		Carbon	120.00		
		Fresh water (carbon)	4600.00		
		Total	26419.70	Total	26419.70
2.	Crystallization	Reaction Mass F	26219.78	Liq. Caffeine Crude	30219.78
		Washing water from MTCF	4000.00		
		Total	30219.78	Total	30219.78
3.	Crude Filtration (ANF)	Reaction Mass F	30219.78	Wet Caffeine Crude Cake	4048.38
		Fresh Chilled water washing	4000.00	Crude Mother Liquor	30171.40
		Fresh Hot Water	9400.00		
		Total	43619.78	Total	43619.78
4.	Catalyst E Treatment	Caffeine Crude	13448.38	Liq. Caffeine Mass	14186.30
		HCL	169.92	Spent Carbon	240.00
		Catalyst E	48.00		
		Carbon	160.00		
		Fresh Water (carbon)	600.00		
		Total	14426.30	Total	14426.30

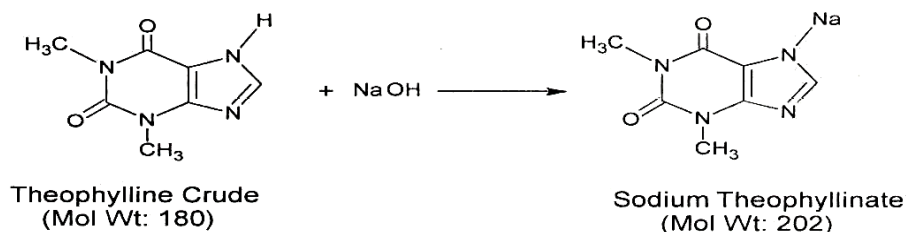
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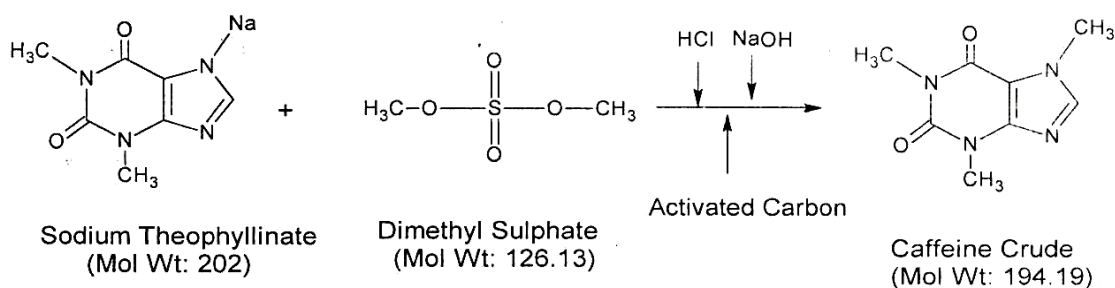
5.	Crystallization	Reaction Mass	14186.30	Pre Liq. Caffeine Mass	18186.30
		Fresh Hot water to Multi Tube Candle Filter	4000.00		
		Total	18186.30	Total	18186.30
6.	Pure Filtration (ANF)	Reaction Mass	18186.30	Pure Caffeine Wet Cake	3750.00
		Chilled water washing	3000.00	Pure Mother Liquor	17436.30
		Total	21186.30	Total	21186.30
7.	Drying	Caffeine cake	3750.00	Caffeine	3000.00
		---		Loss of drying	750.00
		Total	3750.00	Total	3750.00
8.	Extraction	Mother Liquor	37607.70	Recovered Caffeine	800.00
		Recovered Chloroform	75027.36	Extracted ML	36807.70
		Fresh Chloroform	188.04	Rec. Chloroform	75027.36
		Total	112635.06	Total	112635.06
9.	Second Crop	Rec. Caffeine	800.00	Second Crop Caffeine	600.00
		Fresh Water	240.00	Spent carbon	75.00
		HCL	65.00	Mother Liquor	788.00
		Catalyst E	8.00		
		Carbon	50.00		
		Fresh Water (carbon)	300.00		
		Total	1463.00	Total	1463.00

Route of synthesis:

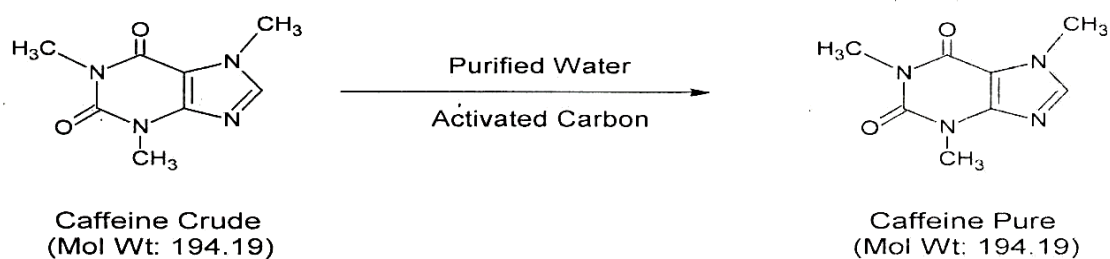
STAGE I: THEOPHYLLINE CRUDE TO SODIUM THEOPHYLLINATE



SODIUM THEOPHYLLINATE TO CAFFEINE CRUDE

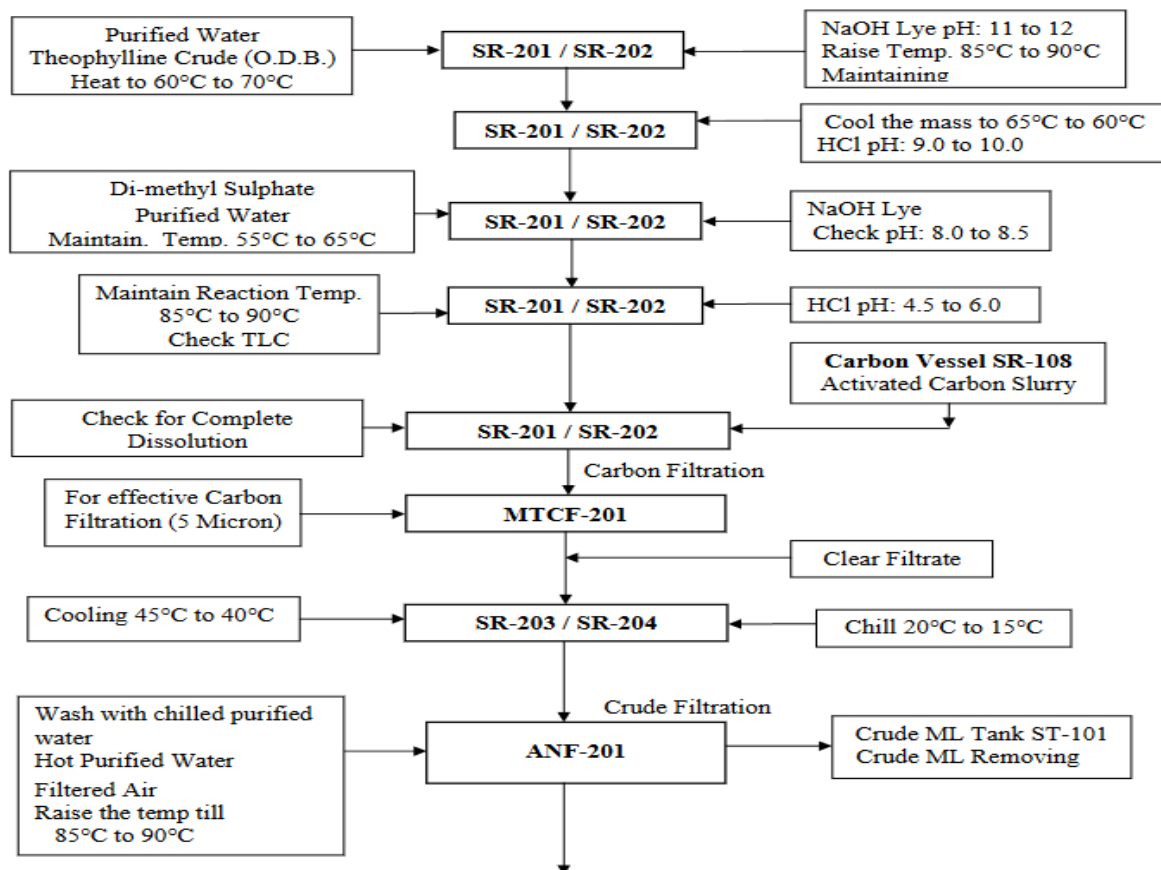


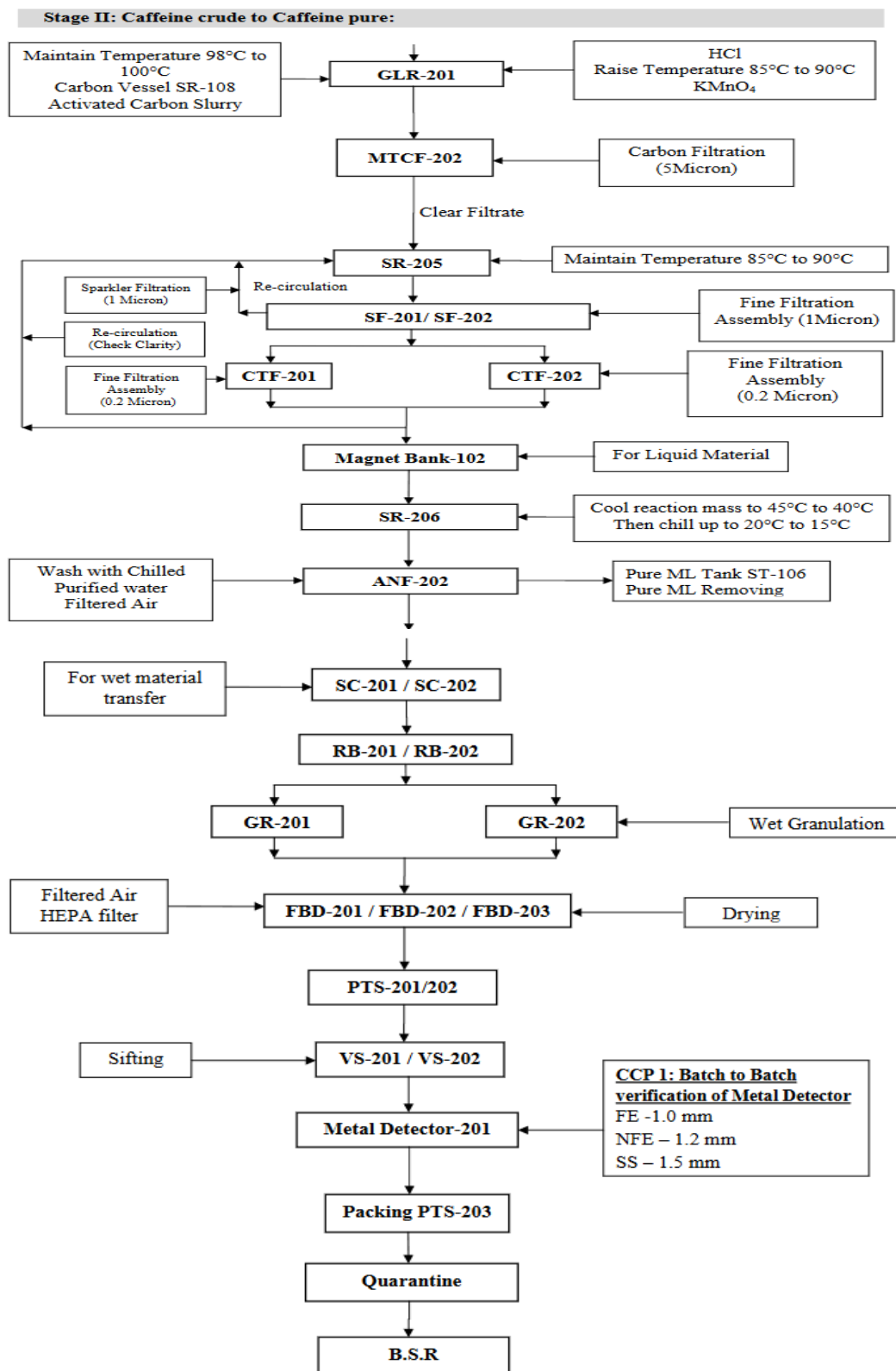
STAGE II: CAFFEINE CRUDE TO CAFFEINE PURE



Flow Chart and Material Balance:

Stage I: Theophylline Crude to Caffeine crude:





2.6.3 LIST OF PRODUCTS

The detailed list of products with their quantities is as below and the raw materials required for proposed activity will be imported or made available through local market.

Table No. 2.8: List of products

Sr.no	Name of the product	CAS No.	TPM	End Uses/Therapeutic use
1.	Caffeine	58-08-02	1000	Food & Drug
2.	Paracetamol	103-90-2	1000	Anti-Fever Medicine
Total			2000	--

2.6.4 LIST OF RAW MATERIALS

The details of raw materials are given below.

Table No. 2.9: List of Raw Materials

Sr. No.	Name of the Raw material	Total Consumption (TPM)	Quantity at any given time in Ton	Storage (Drums/Tank/Carboys/Bags etc.)	Source of Supply	Means of Transport
1	Theophylline Crude OWB	59.61	6	HDPE Bags	Local	By Road
2	Dimethyl Sulphate	34.53	40	Tank	Local	By Road
3	Caustic Soda Lye	25.47	17.6	Tank	Local	By Road
4	Hydrochloric Acid 30%	6.98	16	Tank	Local	By Road
5	Activated Carbon	3.53	3.53	HDPE Bags	Local	By Road
6	Catalyst E	0.51	0.51	HDPE Drums	Local	By Road
7	Chloroform	4.02	8	Tank	Local	By Road
8	Para Amino Phenol	29.23	3	HDPE Bags	Local/Import	By Road
9	Acetic Anhydride	28.08	24	Tank	Local	By Road
10	Sodium Hydrosulphite	0.04	0.04	HDPE Bags	Local	By Road

Environmental Impact Assessment Report of New project for Manufacturing of 2000 TPM Capacity of API Products by M/s. Aarti Pharmalabs Limited (Unit V-II) at Plot no L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India 401506.

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11	Soda Ash	0.05		HDPE Bags	Local	By Road
12	Activated Carbon	0.38		HDPE Bags	Local	By Road

2.7 DESCRIPTION OF MITIGATION MEASURES

The overview of probable environmental pollution & respective mitigation measures during Construction phase and operation phase of the project is depicted diagrammatically in the **Figure No 2.5 & Figure No. 2.6.**

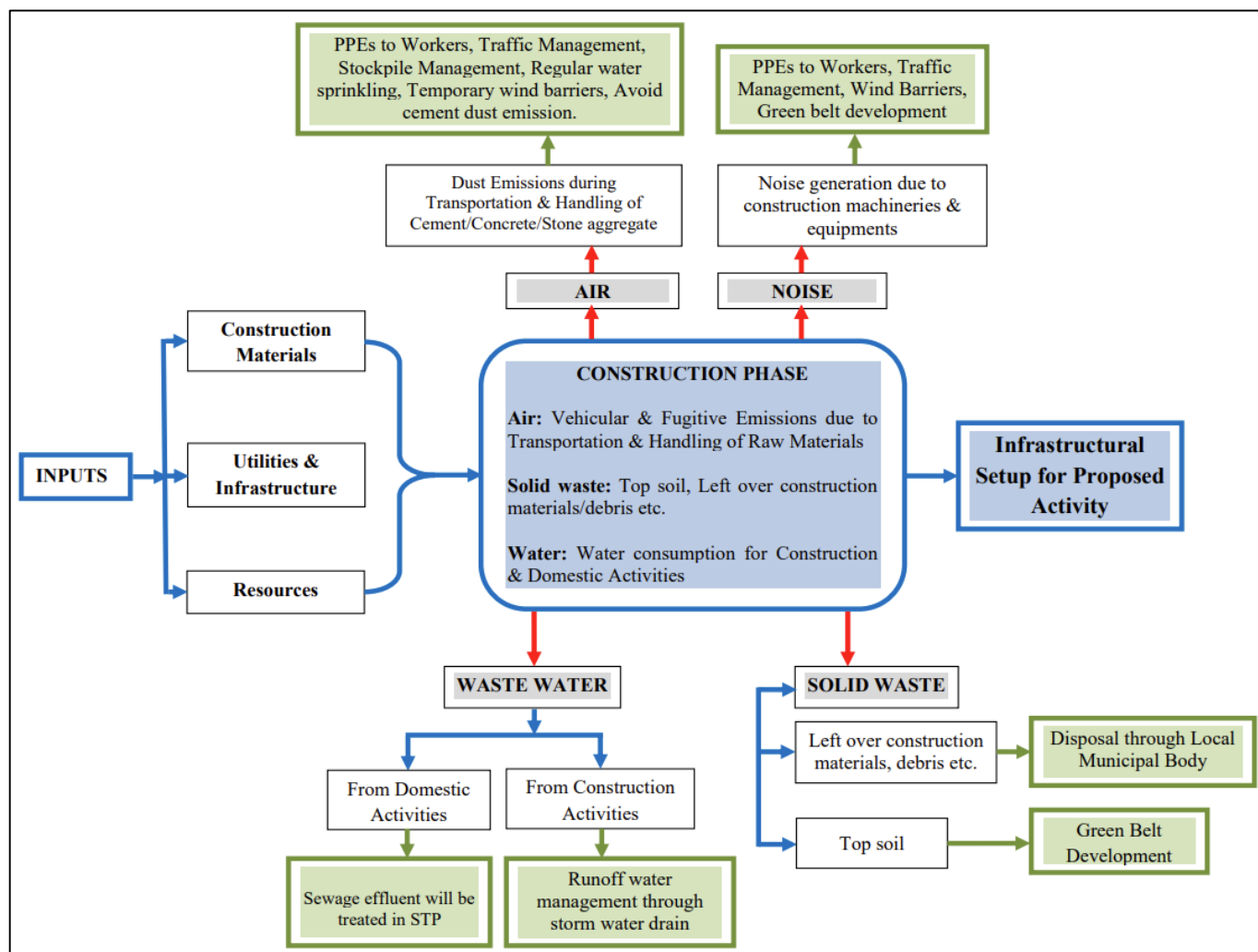


Figure No. 2.5: Overview of environmental aspects and its respective mitigation measures during Construction phase

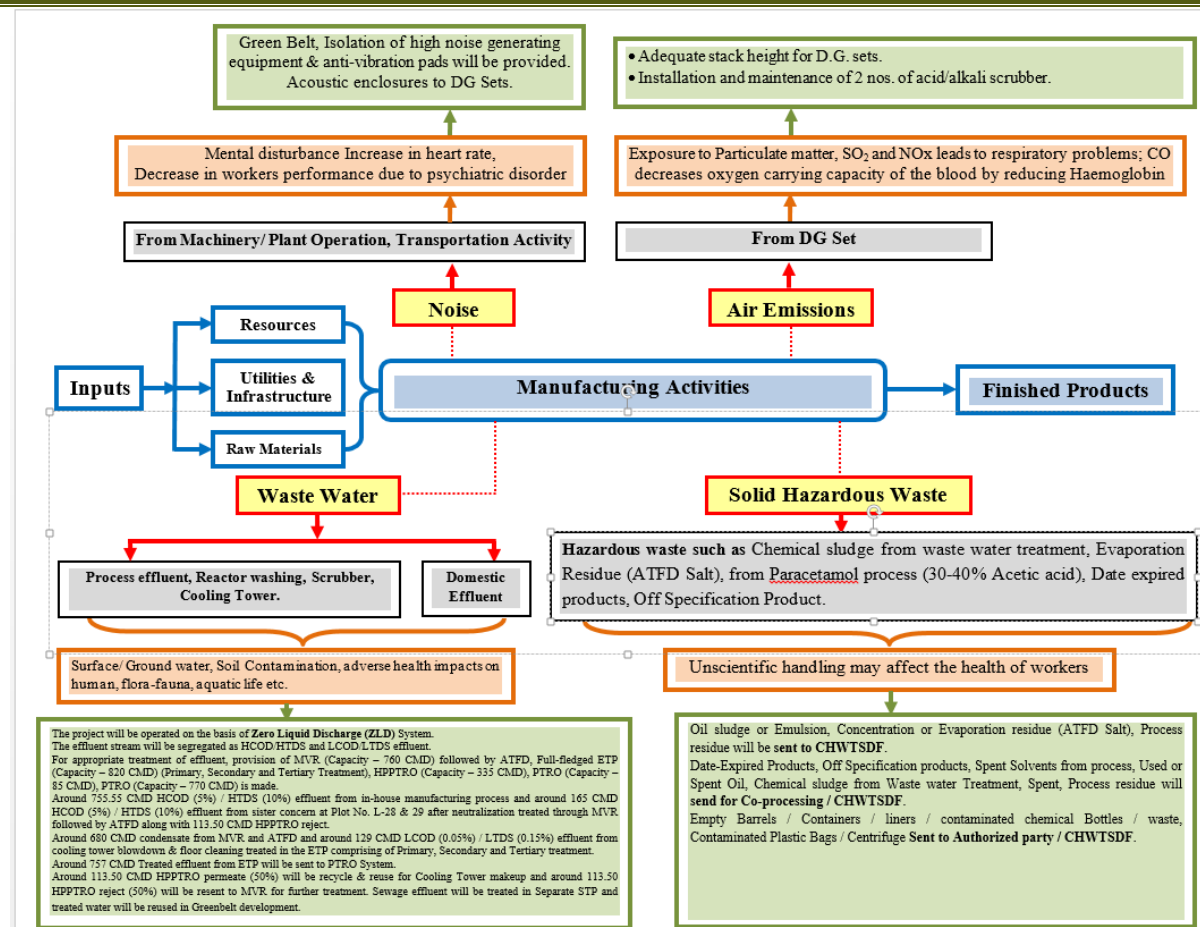


Figure No. 2.6: Overview of environmental aspects, impacts & respective mitigation measures during operation phase

2.8 LIFE STRUCTURE AND SUSTAINABILITY FOR CARBON AND WATER FOOT PRINT (Standard ToR Point 11.5 & 12.15)

2.8.1 CARBON FOOTPRINTS

Assessment of greenhouse gas (GHG) emissions in units of tons from any industry is called its carbon footprint. Greater the carbon footprint more is the negative impact on the climate. It is evident that, carbon emissions are responsible for 81% of overall GHG emissions. The rest of GHG emissions are: Methane (10%), Nitrous Oxide (7%) and Fluorinated Gases (3%).

Industries release GHG into the atmosphere while performing various activities like manufacturing, transportation, or other undertakings. Carbon footprint of an industry accounts for both the direct and indirect GHG emissions.

Direct and indirect GHG emissions vary considerably based on the nature of operation of the industry. It is important to note that the Greenhouse Gas Protocol provides a three-tiered classification for greenhouse gas emissions, referred to as Scope 1, Scope 2, and Scope 3.

- Scope I: Emissions correspond entirely to direct GHG emissions.
- Scope II: Emissions are a subset of indirect GHG emissions.
- Scope III: Emissions are a subset of other indirect GHG emission.

For gaining the sustainable competitive advantage in the sector, SCPL would start focusing on quantifying and reducing Scope I and Scope II emissions. Monitoring and estimating their CO₂ emission would be the first and important step towards reducing them.

Methodology of Calculating Carbon Footprint

1. Identifying industry specific operations which are sources of GHG emissions.
2. Data collection related to the sources.
3. Pursuit of operations specific emission factor.
4. Calculate and Interpretation.
5. GHG reduction through suggested mitigation measure.

2.8.1.1 IDENTIFYING INDUSTRY SPECIFIC OPERATIONS WHICH ARE SOURCES OF GHG EMISSIONS

APL will be involved in manufacturing of API Products, in their manufacturing activity they will require utilities like Boiler operated on fuel Imported Coal. However, steam requirement will be fulfilled from Boiler installed at adjoining Sister Unit located at Plot no. L-99, considering worst case scenario burning of fuel at plot L-10 is considered as sources of GHG emissions. Burning of fuel is one of the major sources of GHG emission from the Industry. Another possible source of GHG emission is from operating the DG set on HSD fuel. Although the DG Set would be operational only in the event of power supply from the main grid, it has been considered in the calculation for depicting the worst-case scenario.

Further, GHG emission from the company owned vehicles has also been taken into consideration. It is pertinent to mention here that there is no emission of CO₂ from the manufacturing of products. GHG emission from the process has to be studied for estimating the overall GHG emission from the industry.

However, the GHG emission from the electricity consumed by the industry has also been contemplated into the study.

2.8.1.2 DATA COLLECTION RELATED TO THE SOURCES

Data related to the quantification of the sources were collected and refined. Other data collected for estimating the GHG emission are tabulated below,

Table No. 2.10: Sources of emission

Sr. No.	Components	Fuel	Unit	Quantity
1	D. G. Set	HSD	Lit./Hr.	215
2	Boiler (From Plot no. L-10)	Imported Coal	TPD	40.74

2.8.1.3 PURSUIT OF OPERATIONS SPECIFIC EMISSION FACTOR

Emission factors for the specific operations were taken from the standard literature available online from the open accessible portal like GHG protocol, IPCC 2006 Guidelines for National Greenhouse Gas Inventories & Central Electricity Authority Government of India.

2.8.1.4 CALCULATION & INTERPRETATION

Table No. 2.11: Estimation of Scope I, II, and III Emission

Sr. no.	Components	Quantity	Emission Factor	Annual Carbon footprint in Ton CO ₂ eq.
1	Scope I Emission (Fuel consumption)	14870 TPA	0.95	14126
2	Scope II Emission (Electricity KWh)	2,23,38,000 kWh/A	0.82	18317.16
3	Scope III Emission (Transport)	153300 kms	0.19	29
Total				32472.16

Source: Greenhouse Gas Protocol–India GHG Program

2.8.2 WATER FOOTPRINT

The total water requirement after expansion for its domestic and industrial activity will be around 1265.5 CMD. The water requirement shall be sourced from MIDC Tarapur, Maharashtra. Total Water Budget and Total Water Balance is given in Chapter 4.

2.8.3 PRECAUTIONS AND MITIGATION MEASURES

1. Use of Renewable energy:

Company proposes the 20 kW capacity solar panel and 35 Nos. of Solar Street lights having 70 Watt capacity which will be installed at project site. Adoption of solar energy as an alternative for conventional electricity will result in substantial reduction in Electricity consumption. This mitigation measure is accounted in life cycle assessment for the whole production. Also, above solar installations will account in around 01% reductions of the total power requirement of the industry. Around 27.60 Ton CO₂ eq. will be sequester due to use of solar energy. Total percent carbon sequestration reduction will be around 0.08 %.

2. Minimizing usage of fresh water by using Treated effluent:

The unit will be operated on Zero Liquid Discharge system. For appropriate treatment of effluent, provision of MVR followed by ATFD, Full-fledged ETP (Primary, Secondary and Tertiary Treatment), HPPTRO, PTRO, PTRO, STP is made. Approximately 56.04% water will be reused.

3. Greenbelt Development:

APL will develop total Greenbelt of around 3323 sq. m. (64.43% of total plot area) at project site with plantation of 1040 Nos. of trees (considering 80% survival rate), the trees count are considered as per the MoEFCC guideline i.e. 2500 nos. of trees per 10,000 sq. m. (1 hectare). Total percent carbon sequestration reduction will be around 9.07 %.

2.8.4 CARBON SEQUESTRATION

Carbon sequestration is referred to as a process of capturing and storing atmospheric CO₂. It is one of the methods of reducing the amount of carbon dioxide in the atmosphere with the intention of minimizing global climate change. There are two main types of carbon sequestration i.e. biological and geological.

Biological carbon sequestration is the natural capability of plants/trees and ecosystems to store carbon, whereas geologic carbon sequestration is the process of storing carbon dioxide (CO₂) in an underground geologic formation. The CO₂ is usually pressurized until it becomes a liquid, and then it is injected into porous rock formations in geologic basins.

Table No. 2.12: Estimation of total carbon sequestration

S. N.	Name of species	Scientific Name	D (cm)	H (m)	D (inch)	H (f)	Green weight above ground (lbs/tree)	Weight with roots (lbs/tree)	Dry weight (lbs/tree)	Carbon (lbs)	CO ₂ Sequestration (lbs)	CO ₂ Sequestration per year per tree (lbs CO ₂)	CO ₂ Sequestration per year per tree (Kg CO ₂)	Nos of trees	Total carbon sequestration per year (Kg CO ₂)
1	Bahava	<i>Cassia fistula</i>	100	15	39	49.2	11225.0	13470.0	9765.7	4882.9	17871.3	893.6	402.1	30	12063.1
2	Arjun	<i>Terminalia arjuna</i>	150	18	58.5	59.04	30307.4	36368.9	26367.5	13183.7	48252.5	2412.6	1085.7	35	37998.8
3	Neem	<i>Azadirachta indica</i>	170	20	66.3	65.6	43253.6	51904.3	37630.6	18815.3	68864.0	3443.2	1549.4	150	232416.1
4	Pimpal	<i>Ficus religiosa</i>	300	17	117	55.76	114494.8	137393.8	99610.5	49805.2	182287.2	9114.4	4101.5	200	820292.2
5	Vad	<i>Ficus bengalensis</i>	350	15	136.5	49.2	137506.0	165007.2	119630.2	59815.1	218923.3	10946.2	4925.8	300	1477732.3
6	Sitaashoka	<i>Saraca asoca</i>	100	8	39	26.24	5986.7	7184.0	5208.4	2604.2	9531.4	476.6	214.5	15	3216.8
7	Karanj	<i>Pongamia pinnata</i>	70	12	27.3	39.36	4400.2	5280.2	3828.2	1914.1	7005.5	350.3	157.6	15	2364.4
8	Asupalav	<i>Polyalthia longifolia</i>	80	12	31.2	39.36	5747.2	6896.6	5000.1	2500.0	9150.1	457.5	205.9	15	3088.2
9	Mahogany	<i>Khaya senegalensis</i>	100	18	39	59.04	13470.0	16164.0	11718.9	5859.4	21445.5	1072.3	482.5	15	7237.9
10	Gulmohar	<i>Delonix regia</i>	180	7	70.2	22.96	16972.2	20366.6	14765.8	7382.9	27021.4	1351.1	608.0	15	9119.7
11	Kusum	<i>Schleichera oleosa</i>	200	15	78	49.2	44899.9	53879.9	39062.9	19531.5	71485.2	3574.3	1608.4	200	321683.2
12	Palas	<i>Butea monosperma</i>	40	8	15.6	26.24	957.9	1149.4	833.3	416.7	1525.0	76.3	34.3	10	343.1
13	Kadam	<i>Neolamarckia cadamba</i>	50	10	19.5	32.8	1870.8	2245.0	1627.6	813.8	2978.5	148.9	67.0	10	670.2
14	Sisam	<i>Dalbergia sissoo</i>	120	20	46.8	65.6	21552.0	25862.4	18750.2	9375.1	34312.9	1715.6	772.0	10	7720.4
15	Bakul	<i>Mimusops elengi</i>	100	14	39	45.92	10476.6	12572.0	9114.7	4557.3	16679.9	834.0	375.3	10	3753.0
16	Saptaparna	<i>Alstonia scholaris</i>	110	18	42.9	59.04	16298.7	19558.4	14179.8	7089.9	25949.1	1297.5	583.9	10	5838.6
Total														1040	2945538

- Total carbon sequestration using greenbelt will be 2945.538 Ton CO₂/Annum.
- Total carbon sequestration using renewable energy will be around 27.06 Ton CO₂ eq. /Annum.
- Therefore Total percent carbon sequestration reduction will be around 9.15 % due to greenbelt development and usage of renewable energy

IN ADDITION, APL PROPOSES TO PROVIDE SOLAR PANEL OF 20 KW CAPACITY AND 35 NOS. OF SOLAR STREET LIGHTS.

A) APL will install 20 kW solar power system.

- 1 kW solar panels generate around 5 units.
- Considering 1 unit of electricity is equivalent to 1 kWh. Hence, 20 kW will generate 100 Units/Day (132 kWh/Day).
- Daily Electricity Saved using Solar Panels: 100 kWh/Day.
- Connected Load: 2550 kW
- The solar panel will save around 01 % amount of electricity consumption.
- 100 kWh/Day x 300 days (sunny days) = 30000 kWh/A. Therefore 30000 kWh/A x 0.82 (emission factor) = 24.60 Ton CO₂ eq. carbon will be sequester.

B) The number of Solar Street Lights will be installed by APL within plant premises: 35 Nos.

- Electricity Saved: 70 Watt Solar Street light saves 0.84 kWh/Day of Electricity.
- The electrical energy consumed by a 70 Watt bulb switched on for 12 hours per day can be calculated as follows.
- Energy consumed per day = Power x Time. Energy consumed per day = 70 Watt x 12 hours = 840 Watt.Hr/Day.
- Total Energy consumed by 35 Nos. Solar lights will be (840 Watt.Hr/Day X 35 Nos.) = 29,400 Watt.Hr/Day i.e. 29.4 kWh/Day.
- Daily Electricity Saved using solar Street lights: 29.4 kWh/Day

3 DESCRIPTION OF ENVIRONMENT

3.1 INTRODUCTION

An overview of the methodology of EIA is depicted in the **Annexure 3.1**. The process of the consultant organization to carry out the EIA study is presented in **Annexure 3.1**. Out of the above-mentioned aspects the present section focuses on monitoring of present environmental conditions such as air quality, water quality, soil & noise pollution levels. The monitoring duration for the study was considered for three months (October 2024 to December 2024). The season in which the data was collected for the study area was post-monsoon season including the collection of onsite meteorological data during the study period. The study also encompasses the biotic environment assessment of the 10 km study area. Other aspects which are indirectly related to the environment such as traffic conditions, hydrology, geology, socio-economic status of the population, land use and land cover details are also discussed in the present study.

The Standard Operating Procedures (SOPs) for all the functional areas applicable in this study are followed from SEE-METH-EIA-01 to SEE-METH-EIA-12 as per the Quality Management System (QMS) of the organization. Correctness of results was ensured for water and soil sample as per the methodology prepared by the consultant organization based on relevant literature. Quality of EIA was ensured against the checklist for quality of EIA (Annexure XVI) as per the QMS of the consultant organization.

3.2 METEOROLOGY

It is known that meteorological conditions around us influence not only the levels of pollution but also their dispersion on local, regional, national as well as global scale. Moreover, these meteorological conditions also vary spatially and temporally. Hence it is important to study the meteorological conditions around the study area in order to estimate their level of influence in dispersion of pollutants. For the present study primary data was collected for duration of three months from site and secondary data period of thirty years was obtained from India Meteorological Department (IMD) for Palghar district (Dahanu Station). Dahanu station was nearest from the project site, at an approx aerial distance of 20 km.

3.2.1 SECONDARY DATA FROM IMD

As mentioned earlier the secondary data was taken for selected parameters from the IMD (1971-2000). The parameters selected for the study were Temperature, Ambient Pressure, Relative Humidity, Wind speed, Wind direction and Rainfall etc.

The data for cloud cover has been compiled from the climatological tables of the IMD. The descriptive statistics of the selected meteorological parameters is presented in **Annexure 3.2**. The statistics of the primary data monitored during the sampling duration at the monitoring station at project site is presented in **Annexure 3.2**.

3.2.2 SITE SPECIFIC METEOROLOGICAL DATA *(Standard ToR point 6.1)*

Monitoring for micro meteorological data was carried out on continuous basis at the project site. The parameters selected were wind speed, wind direction, rainfall, temperature, and relative humidity. Monitoring was carried out using weather monitoring station at the project site. The station was installed keeping in view the free exposure of sensors to atmosphere & minimum interference from the nearby structures. The monitoring was carried out for a period of 3 months from Oct 2024 to Dec 2024.

The variations in the meteorological data are presented in **Table No. 3.1**. The highlights of the meteorological factors considered for monitoring for the present study are discussed as under:

**Table No. 3.1: Site Specific Micro Meteorology Data at Project Site
(Oct 2024 to Dec 2024)**

Period	Rainfall (mm)	Temperature (°C)			Relative Humidity (%)			Wind Speed (m/s)			Dominant Wind Direction (Blowing from)
		Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	
Oct, 24	22.46	24.71	36.28	29.60	18.49	94.60	52.16	0.5	5.22	2.76	North West
Nov, 24	7.09	23.35	35.51	29.22	19.86	92.74	44.23	0.5	6.60	3.18	
Dec, 24	3.27	14.86	32.88	25.65	20.54	91.87	60.28	0.5	4.90	2.53	

Temperature

Temperature during the study period was found to vary from 14.86°C to 36.28°C during the study period.

Relative Humidity

The Relative Humidity during the study period varied in the range of minimum 18.49% to maximum 94.60%.

Wind Speed and Wind Direction

The wind rose diagram representing the post-monsoon (Oct & Nov) and early winter i.e. December season are shown in **Annexure 3.2**. A review of wind rose diagram shows that predominant winds are mostly from North West. The hourly minimum wind speed was recorded to be 0.5 m/s & maximum was observed around 6.60 m/s. (*Note = 0.0 – 0.5 m/s is defined as calm, hence the lowest measured Wind Speed is 0.5 m/s.*)

3.2.3 INTERPRETATION

- Meteorology forms the base of any dispersion studies. With this understanding Windrose diagrams using secondary data obtained from India Meteorological Department (IMD) for annual data 1971-2000 (30 Years) & Primary data from sampling period Oct to Dec 2024.
- The wind rose from secondary data for Annual (1971-2000), indicates that about most of the time, wind was blowing from West direction while during the baseline period (Oct-Dec) secondary data showed wind blew from North-West direction.
- Whereas, the wind rose diagram based on primary data (for the monitoring period) indicates that around 19 % of the time the wind is blowing from the North of North West direction.
- For determining the sampling locations of air quality monitoring, it is important to understand the distribution of wind direction during the monitoring period, i.e. during the months of October to December. According to the interpretation of the secondary data for meteorology for October to December, it is concluded that the prominent upwind direction is North West, Therefore the monitoring stations can be selected based on the prominent wind direction identified.

3.2.4 CONCLUSION

The collected secondary data and the primary data have been compared and analyzed to verify the quality of the data. Also, the variation may have been attributed due to the difference in locations of stations. The comparison of the secondary meteorological data for (1971 – 2000) with the primary data (Oct 2024 to Dec 2024) monitored at site is summarized as under:

- Minor variation in the values is observed for two data sets for temperature. For instance, the minimum temperature recorded at the monitoring site was 14.86 °C and the same from the secondary data (Oct – Dec) was observed to be 14.9 °C, while the maximum temperature at project site was measured to be 36.28 °C at the same time the maximum temperature from the meteorological data from IMD was observed to be 35.8 °C.
- The data for minimum relative humidity recorded at site was noted to be 18.49% and that from secondary was observed to be 65%. At the same time maximum relative humidity recorded at site was 94.60% while the same according to the secondary data was 72%.

3.3 AMBIENT AIR QUALITY MONITORING (Standard ToR point 6.1)

The baseline data for the project is collected during month of Oct 2024 – Dec 2024. The monitoring of ambient air quality around the project site provides an understanding about the prevailing level of environmental pollution in the atmosphere.

A study area of 10 km radius from project site has been considered for the purpose of air quality monitoring.

Based on the observations of study area from satellite imagery it can be categorized as rural area as per the guideline of CPCB.

The study area comprises of scattered settlements of Industries, Residential areas & Commercial areas, agricultural areas, and open/scrub land.

From the field investigations & reconnaissance surveys the various sources identified that can contribute to air pollution in the study area are Industrial activities in MIDC Tarapur area transportation activities all along the MIDC Tarapur internal road network.

The probable sources of air pollution along with sampling details, criteria for selection of monitoring locations, methodology of sampling, equipment used for sampling and sample preservation and transportation is addressed as **Annexure 3.3 (a)**.

3.3.1 AMBIENT AIR QUALITY STATUS

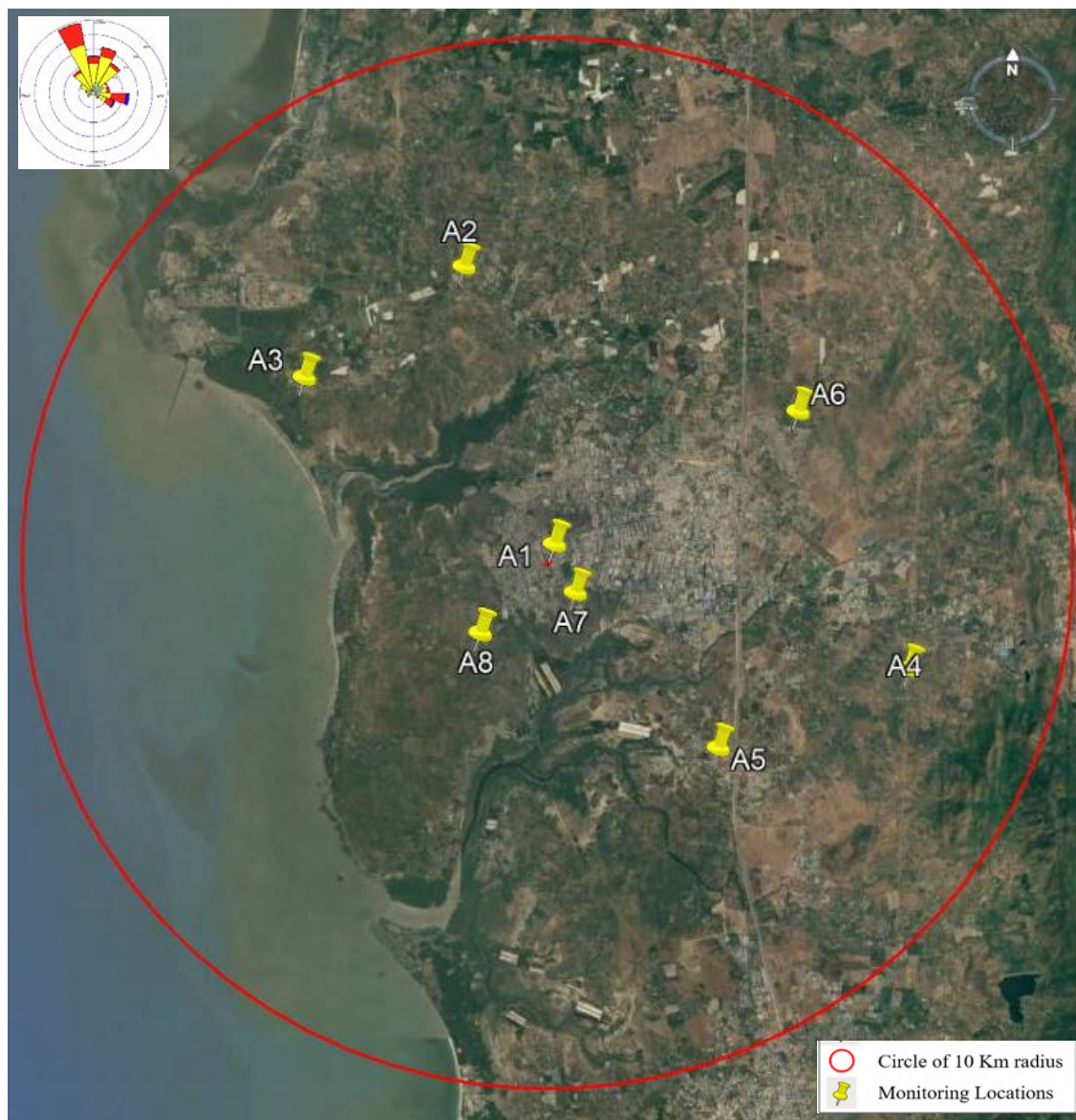


Figure No. 3.1: Ambient Air Quality Monitoring Locations on Google Earth Imagery

Table No. 3.2: Ambient Air Quality Monitoring Locations

Sr. No.	Sampling Location Code & Name		M/s. Aarti Pharmalabs Limited (Unit V-II)					Type of Area
			Direction*		Dist. (Km)*	Latitude	Longitude	
1	A1	Project Site	--	--	-	19°47'23.63"N	72°43'35.79"E	Industrial
2	A2	Near Delwadi, ZP Marathi School	NNW	Upwind	5.52	19°50'14.69"N	72°42'36.61"E	Residential

3	A3	Near Unbhat, Dandi road	WNW	Upwind	5.71	19°49'6.34"N	72°40'51.92"E	Residential
4	A4	Near Kallale	ESE	Downwind	7.18	19°46'6.82"N	72°47'28.31"E	Residential
5	A5	Near Umroli, palghar road	SSE	Downwind	4.99	19°45'17.96"N	72°45'23.16"E	Residential
6	A6	Near Yadav Nagar	ENE	Crosswind	5.29	19°48'45.39"N	72°46'15.59"E	Residential
7	A7	Near kolavade, MIDC road	SSE	Downwind	1.02	19°46'53.70"N	72°43'49.46"E	Residential
8	A8	Near Shree Saptashruni Devi Mandir	SSW	Crosswind	2.23	19°46'28.84"N	72°42'47.18"E	Residential

* Direction and distance from project site.

As mentioned earlier ambient air quality monitoring was carried out at eight locations including the project site for a period of three months during **October 2024 to December 2024**.

The results of ambient air quality monitoring presented in **Table No. 3.3**. The prescribed standard by CPCB are addressed in **Annexure 3.3 (a)**.

Table No. 3.3: Ambient Air Quality Status (Criteria Pollutants)

Sr. No.	Sampling Location Code & Name		Stats	Values in $\mu\text{g}/\text{m}^3$				Values in mg/m^3
				PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
1	*A1	Project Site	Min	48.2	10.1	6.1	9.3	0.4
			Max	51.9	12.4	8.1	13.2	0.6
			Avg.	49.8	11.1	7.2	11.2	0.5
			98 th Percentile	51.7	12.3	8.1	13.2	0.6
2	A2	Near Delwadi, ZP Marathi School	Min	55.1	14.1	10.1	9.1	0.7
			Max	58.3	18.1	13.1	11.4	0.9
			Avg.	56.8	16.0	11.4	10.3	0.8
			98 th Percentile	58.3	18.1	13.1	11.4	0.9
3	A3	Near Unbhat	Min	57.2	18.8	16.1	14.0	0.7
			Max	62.3	22.2	18.7	17.4	0.9
			Avg.	60.0	20.6	17.4	15.9	0.8
			98 th Percentile	62.2	22.2	18.7	17.4	0.9
4	A4	Near Kallale	Min	53.1	18.8	7.0	11.1	0.7
			Max	55.5	23.1	9.6	13.6	0.9
			Avg.	54.3	20.7	8.3	12.2	0.8
			98 th Percentile	55.5	23.0	9.5	13.6	0.9
5	A5	Near Umroli, Palghar Road	Min	62.3	21.1	14.1	15.1	0.7
			Max	64.5	23.4	17.1	17.6	0.9
			Avg.	63.6	22.3	15.7	16.4	0.8
			98 th Percentile	64.4	23.3	17.1	17.6	0.9
6	A6		Min	46.0	14.2	7.0	6.1	0.7

Sr. No.	Sampling Location Code & Name		Stats	Values in µg/m³				Values in mg/m³
				PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
		Near Yadav Nagar	Max	49.6	16.9	8.9	7.7	0.9
			Avg.	47.8	15.7	7.9	6.7	0.8
			98 th Percentile	49.5	16.9	8.9	7.6	0.9
7	A7	Near Kolavade	Min	64.3	21.1	15.1	18.1	0.7
			Max	68.3	24.3	17.1	21.2	0.9
			Avg.	66.6	22.7	16.3	19.6	0.8
			98 th Percentile	68.3	24.2	17.1	21.2	0.9
8	A8	Near Shree Saptashrungi Devi Mandir	Min	56.9	17.0	5.1	7.1	0.5
			Max	59.3	18.3	6.5	8.5	0.8
			Avg.	58.0	17.6	5.8	7.8	0.7
			98 th Percentile	59.2	18.2	6.5	8.5	0.8
NAAQ Standard				100	60	80	80	4
Note: Monitoring & Analysis performed by Sadekar Enviro Engineers Private, Limited, Laboratory								

Note: Monitoring & Analysis performed by Sadekar Enviro Engineers Private. Limited, Laboratory

3.3.2 INTERPRETATION OF PRIMARY DATA

PM₁₀

- The study reveals that PM₁₀ concentration at all 8 locations was observed to be in the range of 46.0 $\mu\text{g}/\text{m}^3$ – 68.3 $\mu\text{g}/\text{m}^3$.
- The highest concentration was observed to be 68.3 $\mu\text{g}/\text{m}^3$ at A7 Near Kolavade; it might be due to emissions from various surrounding industries & heavy vehicular movements on the surrounding MIDC internal road network.
- The minimum concentration was observed to be 46.0 $\mu\text{g}/\text{m}^3$ at A6 Near Yadav Nagar, located at aerial distance of 5.29 km from the project site towards ENE Direction.

PM_{2.5}

- The study reveals that PM_{2.5} concentration at all 8 locations was observed to be in the range of 10.1 $\mu\text{g}/\text{m}^3$ – 24.3 $\mu\text{g}/\text{m}^3$.
- The maximum concentration of PM_{2.5} was observed to be 24.3 $\mu\text{g}/\text{m}^3$ at location A7 Near Kolavade. High concentration of this might be due to vehicular movement on the surrounding MIDC internal road network and suspension of dust into air by the winds.
- The minimum concentration of PM_{2.5} was observed at 12.2 $\mu\text{g}/\text{m}^3$ at A1 Project Site

Sulphur Dioxide (SO₂)

- The study reveals that SO₂ concentration at all 8 locations was observed to be in the range of 5.1 $\mu\text{g}/\text{m}^3$ – 18.7 $\mu\text{g}/\text{m}^3$.
- The ambient air monitoring results indicate that the highest concentration 18.7 $\mu\text{g}/\text{m}^3$ of SO₂ is experienced at location A3 while minimum concentration 5.1 $\mu\text{g}/\text{m}^3$ was obtained at location A8 which is at aerial distance of 2.23 km. The emission emanating from vehicular fuel combustion and other anthropogenic activities can contribute to higher concentration of SO₂ at location A3.
- The minimum concentration was observed at location A8 which is 5.1 $\mu\text{g}/\text{m}^3$. The location is at an aerial distance of 2.23 km from the project site towards SSW Direction.

Oxides of Nitrogen (NO_x)

- The study reveals that Oxides of Nitrogen were found in range of 6.1 µg/m³ – 21.2 µg/m³.
- The highest value of NO_x 21.2 µg/m³ during the monitoring period was observed at location A7. This might be due to vehicular movement as vehicular emission are mostly responsible for NO_x emission.
- The minimum value 6.1 µg/m³ was observed at location A6.

Carbon Monoxide (CO)

- Monitoring reveals that CO concentration was found to be in range of 0.4 mg/m³ – 0.9 mg/m³ in the study area.
- The maximum concentration 0.9 mg/m³ was found at location A2 to A7 locations. It might be due to the location being in residential, where fossile fuel is use for burning. And also due to area having industrial emissions and vehicular movements.
- The minimum concentration 0.4 mg/m³ was found at location A1 (Project Site)

3.3.3 MONITORING OF ADDITIONAL PARAMETERS (Standard ToR Point 7.6)

The additional ambient air quality parameters like Ozone, Lead, Ammonia, Arsenic, Nickel, Benzo(a)pyrene and Benzene were monitored within the project premises (A1 location). The results obtained are tabulated below in the **Table No. 3.4**.

Table No. 3.4: Results of Additional Air Quality Parameters at Project Site

Sr. No.	Parameters	A1-premises of APL			NAAQs Standard	Units
		Min.	Max.	Avg.		
1.	Ozone (O ₃)	10.1	19.6	14.4	100 (8 Hourly)	µg/m ³
2.	Lead (Pb)	<0.10	<0.10	<0.10	1.0 (24 Hourly)	ng/m ³
3.	Ammonia (NH ₃)	20.0	29.0	24.7	400 (24 Hourly)	µg/m ³
4.	Benzo (a) pyrene (BaP)	<0.10	<0.10	<0.10	1.0 (Annual)	ng/m ³
5.	Arsenic (As)	<5.0	<5.0	<5.0	6.0 (Annual)	ng/m ³
6.	Nickel (Ni)	<5.0	<5.0	<5.0	20 (Annual)	ng/m ³
7.	Benzene (C ₆ H ₆)	<4.0	<4.0	<4.0	5 (Annual)	µg/m ³

Note: Monitoring & Analysis performed by Sadekar Enviro Engineers Pvt. Ltd., Laboratory

On the basis of results of additional ambient air quality parameters at sampling location A1 (project premises) it can be said that values for some additional parameters were below detection limit and other parameters did not exceed the National Ambient Air Quality Standards (NAAQS) during the sampling period.

3.3.1 INTERPRETATION

- The descriptive statistics of the monitoring at all the locations are indicating that pollution levels did not exceed the standards prescribed by the CPCB.
- It should be noted that 98th Percentile values computed at all the sampling locations were similar to the maximum value observed at most of the locations indicating a negligible variance in the observations obtained.
- Furthermore, the additional parameters monitored at the sampling location no. A1 indicated that the parameters monitored did not exceed the standards provided by CPCB.
- The Air Quality index has been calculated where all the locations i.e. A6 falls in ‘GOOD’ i.e. Minimal impact and locations A1, A2, A3, A4, A5, A6, A7 and A8 falls in ‘SATISFACTORY’ range as per AQI which may cause minor breathing discomfort to sensitive people.

3.3.4 AIR QUALITY INDEX

Air Quality Index is a tool for effective communication of air quality status to people in terms, which are easy to understand. Details are addressed as **Annexure 3.4**.

3.3.5 RESULTS AND DISCUSSION

The Air Quality index has been calculated where all the locations i.e. A6 falls in ‘GOOD’ i.e. Minimal impact and locations A1, A2, A3, A4, A5, A6, A7 and A8 falls in ‘SATISFACTORY’ range as per AQI which may cause minor breathing discomfort to sensitive people.

3.4 SURFACE WATER QUALITY

(Standard ToR point 6.3)

3.4.1 SURFACE WATER SOURCES IN THE STUDY AREA

In terms of surface water bodies, the study area mainly had presence of various water bodies such as river & lake. The surface water sampling locations were finalized in consultation with the respective Functional Area Expert.

The probable sources of surface water pollution along with sampling details, criteria for selection of monitoring locations, methodology of sampling, Equipment used for sampling and Sample Preservation and Transportation is addressed as **Annexure 3.5**.

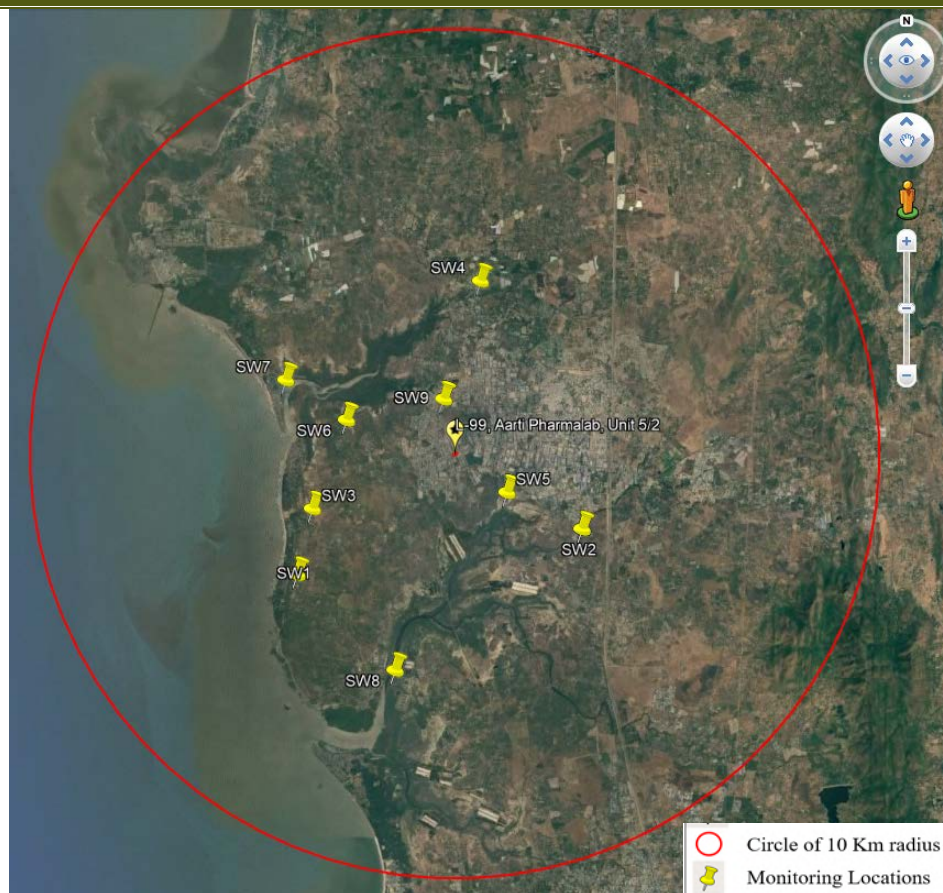


Figure No. 3.2: Surface Water Monitoring Locations on Google Earth Imagery

Table No. 3.5: Details of Sampling Locations for Surface Water samples

Sr. No.	Sampling Location		M/s. Aarti Pharmalabs Limited (Unit V-II)				
			*Direction	*Dist. (Km)	Latitude	Longitude	Type
1	SW1	Nandgav Lake	SW	4.92	19°45'40.66"N	72°41'24.03"E	Lake
2	SW2	Januna river, Saravali.	SE	3.54	19°46'15.37"N	72°45'14.97"E	River
3	SW3	Alewadi Lake	SW	3.79	19°46'30.77"N	72°41'36.36"E	Lake
4	SW4	Banganga river, Pasthal	N	3.70	19°49'24.52"N	72°43'52.57"E	River
5	SW5	River Near Kolavade Village	SE	1.65	19°46'43.21"N	72°44'14.10"E	River
6	SW6	Tembhi Lake	W	2.66	19°47'38.46"N	72°42'3.92"E	Lake
7	SW7	Banganga river near Uchheli	NW	4.28	19°48'8.90"N	72°41'14.71"E	River
8	SW8	Banganga River near Dandipada	S	5.58	19°44'27.65"N	72°42'43.43"E	River

** Direction and distance from project site.*

Table No. 3.6: Surface Water Quality Results

Sr. No.	Location/ Parameter	SW 1 Nandgav Lake	SW 2 Januna river, Saravali	SW 3 Alewadi Lake	SW 4 Banganaga River Pasthal	SW 5 River Near Kolavade Village	SW 6 Tembhi Lake	SW 7 Banganaga river near Uchheli	SW 8 Banganaga River near Dandipada	Unit
1	pH	7.22	7.41	7.33	7.62	7.33	8.01	7.24	7.33	-
2	Electrical Conductivity (EC)	240	815	283	705	1120	327	29600	33700	µs/cm
3	Total Dissolved Solids (TDS)	165	563	187	486	728	224	20169	21757	mg/l
4	Chloride as Cl-	5.96	101.24	9.43	28.29	151.87	14.89	8933.40	10670.45	mg/l
5	Total Alkalinity as CaCO ₃	114.95	282.15	109.72	282.15	235.12	130.62	339.62	182.87	mg/l
6	Dissolved Oxygen (DO)	5.1	4.5	5.3	5.8	5.5	5.7	3.1	2.4	mg/l
7	Chemical Oxygen Demand (COD)	<4.0	<4.0	16.00	<4.0	<4.0	<4.0	760.00	560.00	mg/l
8	Biochemical Oxygen Demand (BOD) at 27°C for 3	<1.0	<1.0	4.80	<1.0	<1.0	<1.0	253.12	196.00	mg/l

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Sr. No.	Location/ Parameter	SW 1 Nandgav Lake	SW 2 Januna river, Saravali	SW 3 Alewadi Lake	SW 4 Banganaga River Pasthal	SW 5 River Near Kolavade Village	SW 6 Tembhi Lake	SW 7 Banganga river near Uchheli	SW 8 Banganga River near Dandipada	Unit
	days									
9	Total Hardness as CaCO ₃	100	284	110	296	280	128	4500	5300	mg/l
10	Calcium Hardness as CaCO ₃	76	150	80	148	160	82	2200	2900	mg/l
11	Calcium as Ca ²⁺	30.4608	60.1200	32.0640	59.3184	64.1280	32.8656	881.7600	1162.3200	mg/l
12	Magnesium as Mg ²⁺	5.8344	32.5754	7.2930	35.9788	29.1720	11.1826	559.1300	583.4400	mg/l
13	Sulphate as SO ₄ ²⁻	6.93	42.54	15.52	136.00	117.00	50.52	3012.00	2885.00	mg/l
14	Phosphate as PO ₄ ³⁻	<1.0	16.13	25.45	<1.0	20.88	<1.0	5.09	<1.0	mg/l
15	Nitrate as NO ₃ ⁻	7.49	69.33	5.58	24.36	55.37	11.69	18.69	25.69	mg/l
16	Nitrite as NO ₂ ⁻	28.6036	1.8136	1.1901	0.0742	0.0504	0.0231	19.4413	12.5449	mg/l
17	Fluoride as F ⁻	<0.5	1.44	<0.5	0.63	0.72	0.81	0.54	<0.5	mg/l
18	Ammonia	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	mg/l
19	Arsenic as As	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l
20	Cadmium as	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l

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Sr. No.	Location/ Parameter	SW 1 Nandgav Lake	SW 2 Januna river, Saravali	SW 3 Alewadi Lake	SW 4 Banganaga River Pasthal	SW 5 River Near Kolavade Village	SW 6 Tembhi Lake	SW 7 Banganaga river near Uchheli	SW 8 Banganaga River near Dandipada	Unit
	Cd									
21	Boron as B	0.060	0.067	0.580	0.046	0.205	0.040	6.910	6.983	mg/l
22	Iron as Fe	0.050	0.098	0.066	0.140	0.862	0.070	0.140	0.220	mg/l
23	Nickel as Ni	<0.01	0.015	<0.01	<0.01	0.038	<0.01	0.010	0.020	mg/l
24	Lead as Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l
25	Mercury as Hg	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	mg/l
26	Zinc as Zn	0.085	0.074	0.048	0.086	0.100	0.067	0.080	0.125	mg/l
27	Chromium as Cr	<0.01	0.015	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	mg/l
28	Manganese as Mn	0.018	0.032	0.047	0.094	1.010	0.046	0.680	0.070	mg/l
29	Sodium as Na	3.6302	57.1601	6.0523	20.1912	109.7108	8.5799	5150.4100	5866.0050	mg/l
30	Potassium as K	1.0751	3.5889	4.8804	1.2400	9.8571	2.1519	193.4585	94.4290	mg/l
31	Sodium Absorption Ratio (SAR)	0.16	1.48	0.25	0.51	2.85	0.33	33.39	35.05	-
32	Total coliforms at 37°C for 48 hrs.	63	70	26	58	79	31	21	33	MPN index/10 0ml

Environmental Impact Assessment Report of New project for Manufacturing of 2000 TPM Capacity of API Products by M/s. Aarti Pharmalabs Limited (Unit V-II) at Plot no L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India 401506.

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Sr. No.	Location/ Parameter	SW 1 Nandgav Lake	SW 2 Januna river, Saravali	SW 3 Alewadi Lake	SW 4 Banganaga River Pasthal	SW 5 River Near Kolavade Village	SW 6 Tembhi Lake	SW 7 Banganaga river near Uchheli	SW 8 Banganaga River near Dandipada	Unit
33	Ecoli at 44.5°C for 24hrs.	<1.8	34	<1.8	<1.8	27	<1.8	17	<1.8	MPN index/100 ml

**Note: Monitoring & Analysis performed by Sadekar Enviro Engineers Private. Limited., Laboratory.*



3.4.2 INTERPRETATION

- The results of the surface water analysis are discussed in the section. The values obtained are compared with the standards prescribed for the respective designated use of the water body as categorized in the earlier part of the study. It should be noted that, samples are in wide range of types such as river & lakes. Hence, there is variation in the results.
- Based on the analysis results of water samples it can be stated that the pH was observed to be ranging from 7.22– 8.01. It should be noted that the values obtained within the desirable limit for pH as prescribed by CPCB.
- The concentration of Electrical conductivity was observed to be 240 $\mu\text{S}/\text{cm}$ – 33700 $\mu\text{S}/\text{cm}$. (In some river samples creek's backwater is there, so there is presence of inorganic dissolved solids such as chloride, nitrate. So Electrical conductivity of this sample is exceeding in comparison to standards). The high EC concentration observed at location SW7, SW8 (River sample); it may be due to the presence of creek backwater.
- The concentration of Total Dissolved Solids was ranging from 165 mg/l – 21757 mg/l. The maximum concentration of Total Dissolved Solids (TDS) was observed at SW8 whereas the minimum TDS concentration was observed at SW1. The high TDS concentration observed at location SW7, SW8 (River sample); it may be due to the presence of creek backwater.
- Biochemical Oxygen Demand (BOD) was in range of <1.0 mg/l to 253.12 mg/l of samples.
- Dissolved Oxygen (DO) was found to be in range of 2.4 mg/l to 5.8 mg/l.
- Ammonia in all water samples were below <0.5 mg/l.
- The concentration of heavy metal Boron was in range of 0.040 to 0.580 for SW1 to SW6. While for SW7 and SW8 it was found to be 6.910 and 6.983 respectively. Higher concentration at locations SW7 and SW8 might be due to urban wastewater containing detergents and cleaning products, industrial effluents, mining and processing industries and chemical products used in agriculture and ground water streams containing boron joining surface water.
- The analysis of microbiological parameters reveals that total coliforms were to be ranging from <1.8 to 34 MPN index/100. It may be possible that the water bodies are subject to discharge of uncontrolled & untreated domestic waste in the form of sewage.
- SAR value in surface water is in range from 0.16 to 2.85 for SW1 to SW6. While for SW7 and SW8 it was found to be 33.39 and 35.05 respectively. Higher SAR value at locations SW7 and SW8 might be due to creek backwater as sea has higher concentration of salts.
- It can be concluded that based on their usage & information provided by the locals and obtained results these water bodies were categorized. SW1, SW5 and SW6 is classified as category B (Outdoor bathing (Organized)); SW2 is classified as category C (Drinking water source after conventional treatment and disinfection); SW3 and SW4 is classified as category D (Propagation of Wild life and Fisheries); SW7 and SW8 classified as category Below E (Not Meeting A, B, C, D & E Criteria).

3.4.3 WHETHER THE SITE FALLS NEAR TO THE POLLUTED STRETCH OF RIVER IDENTIFIED BY THE CPCB / MOEF&CC (Standard ToR point 6.4)

River Surya at an aerial distance of 11.11 km towards East direct from the project site. River Surya stretch at MIDC pumping station on Boisar - Chillarphata road, Village- Garvashet is declared Category- Water quality of Priority V polluted river stretches by MPCB.

(Reference: MPCB https://www.mpcb.gov.in/river-polluted-stretches/water_quality_of_polluted_river_stretches)

3.5 GROUND WATER QUALITY (Standard ToR point 6.5)

3.5.1 GROUND WATER SOURCES IN THE STUDY AREA

Ground water is used as an alternate source in surrounding villages for domestic purposes. Therefore, it is important to assess the existing baseline status of the ground water quality in the study area. The study area had presence of larger numbers of bore wells as ground water sources in the surrounding area.

The probable sources of ground water pollution along with sampling details, criteria for selection of monitoring locations, methodology of sampling is addressed as **Annexure 3.6**.



Figure No. 3.3: Ground Water Sampling Locations on Google Earth Imagery

Table No. 3.7: Details of Sampling Locations for Ground Water samples

Sr. No.	Sampling Location Code & Name		M/s. Aarti Pharmalabs Limited (Unit V-II)					
			Dir*	Dist. (Km) *	Latitude	Longitude	Type	Depth (ft)
1	GW-1	Kumbhavali Village Borewell	S	0.85	19°46'55.65"N	72°43'26.29"E	Bore well	90
2	GW-2	Near Navapur Road, Churi Compound, Awadh Nagar, Boisar	ENE	2.45	19°47'53.13"N	72°44'53.57"E	Bore well	90
3	GW-3	Near Rajput Pasthal village	N	3.14	19°49'6.15"N	72°43'51.53"E	Bore well	95
4	GW-4	Near HDFC Bank ATM, Betegon village	E	5.81	19°47'1.30"N	72°46'55.48"E	Bore well	70
5	GW-5	Shree Datta mandir, Tembi	W	2.65	19°47'32.31"N	72°42'2.94"E	Bore well	150
6	GW-6	Shekhawat Nagar	N	2.54	19°48'40.13"N	72°44'13.46"E	Bore well	80
7	GW-7	Near Gramin Road, Warangade	E	7.20	19°48'18.20"N	72°47'38.39"E	Open well	70
8	GW-8	Near Wanipada	E	4.07	19°48'15.47"N	72°45'46.19"E	Open well	90
<i>*Direction and distance from project site</i>								

Table No. 3.8: Ground Water Quality Results

Sr. No.	Location Parameter	GW 1 Kumbhavali Village Borewell	GW 2 Near Navapur Road, Churi Compound, Awadh Nagar, Boisar Borewell	GW 3 Near Rajput Pasthan village Borewell	GW 4 Near HDFC Bank ATM, Betegon village Borewell	GW 5 Shree Datta mandir, Tembi Borewell	GW 6 Shekhawat Nagar Borewell	GW 7 Near Gramin Road, Warangade Open well	GW 8 Near Wanipada Open well	Unit
1	pH	7.32	7.13	7.35	7.65	7.51	7.16	7.86	7.12	-
2	Electrical Conductivity (EC)	1132	1313	809	521	1170	629	266	772	µs/cm
3	Total Dissolved Solids (TDS)	768	901	552	363	805	428	182	515	mg/l
4	Chloride as Cl-	85.36	116.13	58.56	30.27	133.01	44.67	9.93	69.48	mg/l
5	Total Alkalinity as CaCO ₃	433.67	512.05	397.10	261.25	585.20	303.05	161.98	276.92	mg/l
6	Bicarbonate Alkalinity as CaCO ₃	433.67	512.05	397.10	261.25	585.20	303.05	161.98	276.92	mg/l
7	Chemical Oxygen Demand (COD)	4.00	8.00	<4.0	<4.0	16.00	<4.0	<4.0	20.00	mg/l
8	Biochemical Oxygen Demand (BOD) at 27°C for 3 days	<1.0	<1.0	<1.0	<1.0	1.20	<1.0	<1.0	2.10	mg/l

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Sr. No.	Location Parameter	GW 1 Kumbhav ali Village Borewell	GW 2 Near Navapur Road, Churi Compound, Awadh Nagar, Boisar Borewell	GW 3 Near Rajput Pasthal village Borewell	GW 4 Near HDFC Bank ATM, Betegon village Borewell	GW 5 Shree Datta mandir, Tembi Borewell	GW 6 Shekhawat Nagar Borewell	GW 7 Near Gramin Road, Warangade Open well	GW 8 Near Wanipada Open well	Unit
9	Total Hardness as CaCO ₃	422.00	516.00	312.00	200.00	416.00	234.00	108.00	272.00	mg/l
10	Calcium Hardness as CaCO ₃	264.00	248.00	160.00	116.00	186.00	152.00	66.00	188.00	mg/l
11	Calcium as Ca ²⁺	105.8112	99.3984	64.1280	46.4928	74.5488	60.9216	26.4528	75.3504	mg/l
12	Magnesium as Mg ²⁺	38.4098	65.1508	36.9512	20.4204	55.9130	19.9342	10.2102	20.4204	mg/l
13	Sulphate as SO ₄	172.10	213.90	103.00	42.94	57.80	47.32	17.41	40.88	mg/l
14	Phosphate as PO ₄ ³⁻	3.83	3.34	<1.0	<1.0	21.00	<1.0	4.20	4.11	mg/l
15	Nitrate as NO ₃ ⁻	14.75	21.18	6.56	25.87	15.06	31.45	<1.0	78.63	mg/l
16	Nitrite as NO ₂ ⁻	<0.005	0.0293	0.1428	0.0193	0.6552	0.0954	0.0755	1.6510	mg/l
17	Fluoride as F ⁻	0.71	0.53	1.01	1.21	1.10	0.81	0.96	1.30	mg/l
18	Arsenic As	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l
19	Cadmium as Cd	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l
20	Iron as Fe	0.065	0.057	0.093	0.057	0.083	0.044	0.112	0.080	mg/l
21	Nickel as Ni	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l
22	Lead as Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l
23	Mercury as Hg	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	mg/l
24	Zinc as Zn	0.031	0.024	0.046	0.019	0.120	0.025	0.101	0.178	mg/l



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Sr. No.	Location Parameter	GW 1 Kumbhavali Village Borewell	GW 2 Near Navapur Road, Churi Compound, Awadh Nagar, Boisar Borewell	GW 3 Near Rajput Pasthal village Borewell	GW 4 Near HDFC Bank ATM, Betegon village Borewell	GW 5 Shree Datta mandir, Tembi Borewell	GW 6 Shekhawat Nagar Borewell	GW 7 Near Gramin Road, Warangade Open well	GW 8 Near Wanipada Open well	Unit
25	Chromium as Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l
26	Manganese as Mn	0.081	0.062	0.142	<0.01	0.047	0.011	0.015	0.014	mg/l
27	Sodium as Na	49.5160	61.8807	35.2872	17.8886	74.0400	25.0142	5.4880	36.5204	mg/l
28	Potassium as K	2.1690	8.9147	3.4129	0.7868	5.7573	0.3437	0.8308	0.3480	mg/l
29	Total coliforms at 37°C for 48 hrs.	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	12	MPN index/100ml
30	Ecoli at 44.5°C for 24hrs.	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	MPN index/100ml

Note: Monitoring & Analysis performed by Sadekar Enviro Engineers Private. Limited. Laboratory.

3.5.2 INTERPRETATION

- The ground water samples were within the prescribed standards following in the range of 7.12 – 7.86 pH.
- The heavy metals like Arsenic, Lead, Nickel, Chromium, Cadmium and Mercury concentrations were below the detection limit. Zinc was detected in range of 0.019 mg/l – 0.187 mg/l. Iron were observed to be below the acceptable standards of IS:10500:2012 (Reaffirmed 2018) Standards for Drinking Water.
- Total hardness as CaCO_3 of all the samples was found to be ranging between 108 to 516 mg/lit. Highest value of the Hardness found at near Near Navapur Road GW2. It might be due to percolation of contaminated runoff water from cloth washing activity.
- It can be observed that the values for total dissolved solids in all the sampling locations were estimated to be under the permissible standards for drinking water. The concentration of total dissolved solids ranged between 182 to 901 mg/lit. The maximum concentration was observed at location GW2 whereas the minimum concentration was observed at GW7. Highest value of the TDS found near Near Navapur Road (Borewell) GW2. It might be due to percolation of contaminated runoff water from cloth washing activity.
- It should be noted that the microbiological analysis of all the samples indicate that E-Coli was observed below detection limit & Total coliforms was detected in GW8 only which is open-well. At GW8 total coliform was found to be 12 MPN index/100ml.
- The Fluoride concentrations at all locations was observed to be in range of 0.53 to 1.3 mg/lit. Maximum concentrain of fluoride was found in GW8.
- The Nitrite concentrations were observed to be ranging between <0.005 mg/lit to 1.651 mg/lit, with maximum concentration at GW8 and minimum at GW1.
- The Nitrate concentrations were ranging between 6056 mg/lit to 78.63 mg/lit except for GW7, where the concentration was <1.0 mg/lit. The probable sources of nitrates in the ground water could be the use of fertilizers in the nearby agricultural activity, livestock waste, failing septic tanks, drain fields.

3.6 AMBIENT NOISE QUALITY MONITORING (Standard ToR point 6.6)

Noise level pollution in the urban & rural areas is of great concern as high and constant exposure to noise levels are reported to cause deleterious effects on the humans as well as biotic environment. Noise level monitoring provides an insight pertaining to the present conditions of noise levels in the surrounding areas. Based on the understanding of these monitoring, noise levels are calculated in $L_{\text{equivalent}}$ and this helps in deciding the management technologies for abatement of noise pollution.

The noise generation sources along with monitoring details, criteria for selection of monitoring locations, methodology of sampling, is addressed as **Annexure 3.7**.



Figure No. 3.4: Ambient Noise Quality Monitoring Locations on Google Earth Imagery

Table No. 3.9: Details of Ambient Noise Quality Monitoring Locations

The ambient noise quality monitoring standards are addressed in Annexure 3.7.

Sr. No.	Sampling Location Code & Name		M/s. Aarti Pharmalabs Limited (Unit V-II)				
			Dir*	Dist. (Km)*	Latitude	Direct	Type
1	N1	Project site	-	-	19°47'23.63"N	72°43'35.79"E	Industrial
2	N2	Near Delwadi, ZP Marathi School	NNW	5.51	19°50'14.72"N	72°42'38.32"E	Residential
3	N3	Near Unbhat	WNW	5.83	19°49'9.31"N	72°40'48.64"E	Residential
4	N4	Near Kallale	ESE	7.20	19°46'8.76"N	72°47'29.76"E	Residential
5	N5	Near Umroli, Palghar Road	SSE	5.01	19°45'15.68"N	72°45'21.54"E	Residential
6	N6	Near Yadav Nagar	ENE	5.17	19°48'46.13"N	72°46'10.31"E	Residential
7	N7	Near Kolavade	SSE	0.94	19°46'55.78"N	72°43'48.12"E	Residential

8	N8	Near Kumbhavali Ground	SW	2.28	19°46'28.55"N	72°42'43.32"E	Residential
<i>*Direction and distance from project site.</i>							

The ambient noise quality monitoring results for all the monitoring locations is presented in **Table No. 3.10** below.

Table No. 3.10: Result of Ambient Noise Quality Monitoring

Location Code	Monitoring Location	Noise in dB(A) Day Time				Noise in dB(A) Night Time			
		Leq	L10	L50	L90	Leq	L10	L50	L90
N1	Project site	67.2	67.75	67.07	66.65	55.9	57	55.9	54.8
N2	Near Delwadi, ZP Marathi School	54.6	55.17	54.61	54.32	40.8	42.35	41.08	39.32
N3	Near Unbhat	49.7	51.2	49.54	48.39	39.3	39.88	39.61	38.40
N4	Near Kallale	53.8	55.55	53.50	52.40	45.2	47.52	44.77	42.24
N5	Near Umroli, Palghar Road	54.2	54.97	54.21	53.46	44.9	45.75	44.84	44.17
N6	Near Yadav Nagar	50.5	51.78	50.80	48.46	43.2	43.83	43.23	42.20
N7	Near Kolavade	47.3	47.80	47.23	46.67	39.6	40.19	39.91	38.87
N8	Near Kumbhavali Ground	49.0	50.30	48.91	47.89	39.5	41.15	39.23	37.74
Ambient Noise Standard (Industrial Area)		75				70			
Ambient Noise Standard (Commercial Area)		65				55			
Ambient Noise Standard (Residential Area)		55				45			
Ambient Noise Standard (Silence Zone)		50				45			
Source for Standard: The Noise Pollution (Control and Regulation) Rules, 2000) Note: Monitoring & Analysis performed by Sadekar Enviro Engineers Pvt. Ltd., Laboratory.									

3.6.1 INTERPRETATION

Industrial Zone

The Leq noise level values recorded during the day time was 67.2 dB (A), which was observed at location N1. During night time the Leq noise level value was recorded to be 55.9 dB (A) at location N1. The high values of noise were due to the industrial activities, presence of internal MIDC road which has high traffic density of heavy vehicles entering the MIDC in the vicinity of the sampling location. It should be noted that the noise levels during the day time as well as night time were observed to be within the prescribed standards by Central Pollution Control Board.

Residential Zone

The noise monitoring was conducted at representative sites at five locations for 24 hr. As prescribed the sampling was carried out once in a week and average hourly readings were recorded. The minimum noise level recorded during the daytime was 47.3 dB (A) which was observed at location N7; whereas the maximum noise levels recorded during the daytime were 54.6 dB (A) which was observed at location N2. The minimum noise level recorded during the night time was 39.3 dB (A) which was observed at location N2; whereas the maximum noise levels recorded during the night time were 45.2 dB (A) which was observed at location N4. It should be noted that the noise levels during the day time as well as night time were observed to be within the prescribed standards by Central Pollution Control Board.

3.7 SOIL QUALITY

(Standard ToR point 6.7)

The probable sources of soil pollution along with sampling details, sampling techniques, criteria for selection of monitoring locations, methodology of sampling, is addressed as **Annexure 3.8.**

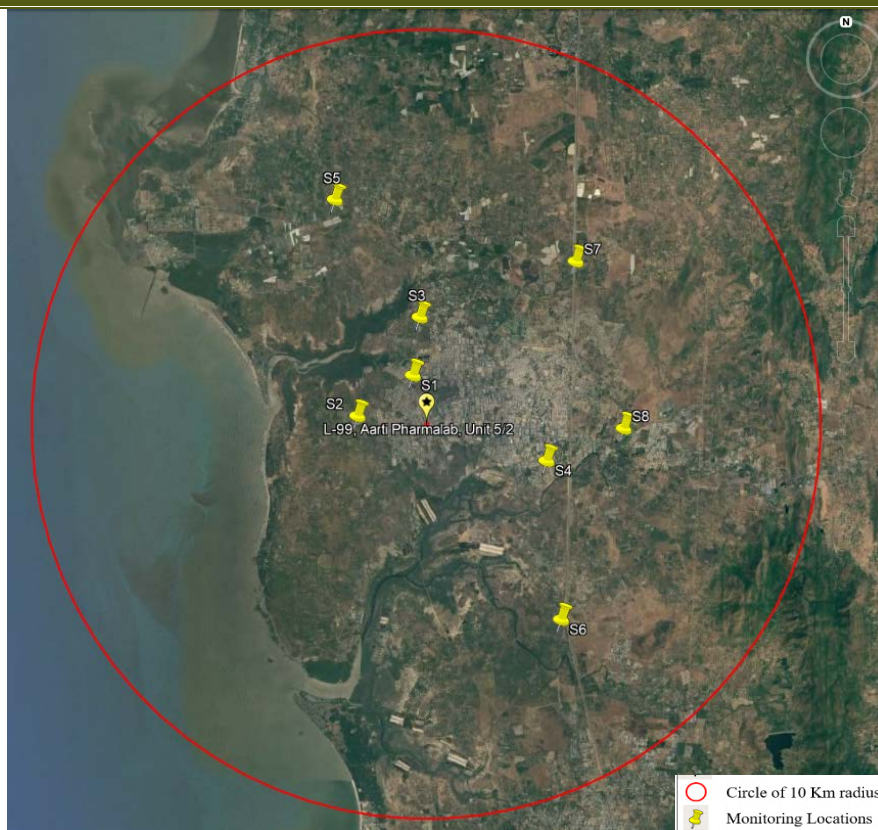


Figure No. 3.5: Soil Quality Sampling Locations on Google Earth Imagery

Table No. 3.11: Details of Soil Quality Sampling Locations

Sr. No.	Sampling Location Code & Name		M/s. Aarti Pharmalabs Limited (Unit V-II)				Type of land
			Dire*	Dist. (Km)*	Latitude	Longitude	
1	S1	Project Site	-	-	19°47'23.63"N	72°43'35.79"E	Industrial
2	S2	Near Pam Village	W	1.81	19°47'19.44"N	72°42'31.61"E	Agricultural Land
3	S3	Near salwad village	N	2.34	19°48'40.62"N	72°43'25.96"E	Agricultural Land
4	S4	Near Saravali Village	SE	3.21	19°46'42.81"N	72°45'16.66"E	Agricultural Land
5	S5	Near Delwadi	N	5.86	19°50'17.08"N	72°42'11.79"E	Agricultural Land
6	S6	Near Kolgaon Village	SE	6.20	19°44'32.50"N	72°45'29.43"E	Agricultural Land
7	S7	Near Ganesh Nagar,	NE	5.29	19°49'26.47"N	72°45'42.11"E	Agricultural Land

Environmental Impact Assessment Report of New project for Manufacturing of 2000 TPM Capacity of API Products by M/s. Aarti Pharmalabs Limited (Unit V-II) at Plot no L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India 401506.



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		Katkar pada					
8	S8	Near Nandgaon	E	4.87	19°45'12.07"N	72°41'54.57"E	Agricultural Land
<i>*Direction and distance from project site.</i>							

The prescribed standards are addressed as **Annexure 3.8.**

Table No. 3.12: Chemical Classification of Soil Quality

Sr. No	Location/Parameters	S -1 Project site Aarti-L 99	S -2 near pam village open ground	S -3 Near salwad village (Garden)	S -4 near sarvali village open ground	S -5 Near Delwadi (agriculture)	S -6 near kolgao n village	S -7 near ganesh nagar katkar pada (agriculture)	S -8 near nandgao n	Unit
1	Parameter									
2	pH	7.85	7.70	7.73	8.47	8.12	8.16	7.68	7.13	--
3	Electrical Conductivity	3820.0	1170.0	210.0	345.0	289.0	929.0	732.0	356.0	uS/cm
4	Moisture Content	28.37	32.27	21.27	28.66	21.01	32.96	26.96	27.71	%
5	Organic matter	2.02	1.67	1.56	1.82	3.08	1.04	2.71	2.58	%
6	Organic carbon	1.17	0.97	0.90	1.06	1.79	0.61	1.57	1.49	%
7	Exchangeable Calcium as Ca	17.89	17.00	15.87	12.47	9.78	14.00	13.17	9.96	meq/100 g
8	Exchangeable Magnesium as Mg	2.98	13.00	5.95	11.48	2.59	5.00	2.99	13.94	meq/100 g
9	Color	Brown	Brown	Brown	Brown	Olive brown	Brown	Brown	Dark reddish brown	--
10	Soil texture	Sandy Clay loam	Sandy clay loam	Sandy loam	Sandy clay	Clay	Loamy sand	Clay loam	Silty clay loam	--
11	Sand	64.13	44.58	52.27	44.76	52.75	83.43	31.62	29.29	%
12	Silt	13.82	16.92	34.81	4.69	6.89	5.86	39.02	40.33	%
13	Clay	22.04	38.49	12.92	50.55	40.36	10.71	29.35	30.37	%
14	Porosity	41.09	40.58	28.43	42.18	47.15	33.05	43.22	32.80	%

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15	Water holding Capacity	43.55	41.89	32.41	46.74	54.38	40.56	46.79	39.90	%
16	Bulk Density	1.081	1.271	1.300	1.094	1.263	1.303	1.262	1.269	g/cm3
17	Total Nitrogen	869.11	931.66	1053.36	819.28	1287.44	994.84	1326.07	1053.36	mg/kg
18		2818.52	3552.42	4108.10	2688.88	4878.11	3888.83	5020.50	4010.14	kg/ha
19	Phosphate as P	96.00	68.00	86.00	95.05	156.00	104.00	128.00	68.63	mg/kg
20		311.33	259.28	335.40	311.95	591.08	406.54	484.61	261.27	kg/ha
21	Potassium as K	927.75	1736.11	1454.36	1828.73	2786.40	1770.46	2764.10	1611.67	mg/kg
22		3008.69	6619.79	5672.00	6001.89	10557.67	6920.73	10464.88	6135.63	kg/ha
23	Sodium as Na	1046.12	1878.50	1318.21	1879.24	1649.67	1891.87	1526.23	1227.58	mg/kg
24	Cation exchange capacity	23.60	26.00	17.00	25.20	28.40	19.20	29.76	23.81	meq/100 g
25	SAR	4.45	6.67	5.49	7.47	9.12	8.44	7.38	4.88	-

3.7.1 INTERPRETATION

- The findings of the study reveal that pH of the soil in the study area ranged between 7.13 to 8.47 which are indicative of the Neutral to Moderately alkaline nature of soil. Maximum concentration of pH was observed at location S4 & Minimum at S8.
- The values for Total Nitrogen at all locations varied between 2688.88 kg/ha to 5020.5 kg/ha. The Minimum concentration was observed at location S4 is 2688.88 kg/ha. Maximum concentration was observed at location S7 5020.5 kg/ha. The maximum concentration might be due to the use of fertilizers on agricultural field, decomposition of plant and animal waste. As per soil classification given by Hand Book of Agriculture, ICAR, it is observed that Nitrogen concentration observed are found to be more than sufficient (>300 kg/ha).
- The concentration of phosphate was found to be between 259.28 kg/ha to 591.08 kg/ha. The highest concentration can be observed at location S5, while the lowest concentration can be observed at location S2. As per soil classification given by Hand Book of Agriculture, ICAR, it is observed that Phosphate concentration observed are found to be more than sufficient (>80 kg/ha).
- The concentration of Potassium was found to be between 1343.98 kg/ha to 10557.67 kg/ha. The highest concentration was observed at location S5 while lowest was observed at S1. As per soil classification given by Hand Book of Agriculture, ICAR, it is observed that Potash or Potassium concentration are found to be more than sufficient (>360 kg/ha).
- The concentration of electrical conductivity was estimated to be between 210 μ S/cm to 1170 μ S/cm (0.21 mmhos/cm to 1.17 mmhos/cm). The highest concentration can be observed at location S2, while the lowest concentration can be observed at location S3. As per Hand Book of Agriculture, ICAR electrical conductivity is average except for S2. At S2 it is harmful to germination.
- Organic carbon was found minimum 0.04 % at the project site S1, while maximum 1.79 % was found at location S5 Near Delwadi. Former being in industrial area and latter being at agricultural field. Other locations also have organic carbon more than 0.6 % which suggest that all locations other than project site have on an average sufficient to more than sufficient organic carbon as per Hand Book of Agriculture, ICAR.

3.8 ENVIRONMENTAL CONDITIONS AT INDUSTRY

Proposed projects is new project by M/s. Aarti Pharmalabs Limited (Unit V-II) at Plot no L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India 401506 for manufacturing of 2000 TPM Capacity of API Products

3.9 GEOLOGY & HYDROGEOLOGY OF THE STUDY AREA

(Standard ToR point 4.10)

The geological & hydrogeology aspects are often associated with the comparatively larger expanse of land areas & since the project in consideration is a new project to be executed in an area measuring 5157 sq. m; hence the geomorphologic aspects of entire Palghar District are considered as described below as per the secondary sources.

3.9.1 GEOLOGY OF PALGHAR DISTRICT

A major part of district is covered with basalt lava flows generally called as Deccan trap. This volcanic activity was confined mainly to Upper Cretaceous to Lower Eocene age. Besides

Deccan traps, the formation like local alluvium, beach sand, coastal alluvium, laterites, trachytes & rhyolite cover very small area of the district.

The main topographic features of this lava flows are flat topped hills and steps like terrace
Table 3.22

Table 3.13: Stratigraphic sequences of the geological formation in the district

Formation	Age	Lithology
Alluvium	Recent	Clay, Silt & Sand
Beach Sand	Recent	Sand & Silt
Laterite	Pleistocene	Laterite
Dykes	--	Basic intrusion
Deccan Traps Basalt	Eocene to Upper Cretaceous	Amygdularbasalt
Rhyolite	Eocene to Upper Cretaceous	Rhyolite
Trachyte	Eocene to Upper Cretaceous	Trachyte

Structure

The basalt flows are generally disposed and traversed by well-developed sets of joints namely vertical & horizontal. The weathering activity is quite susceptible in the case of Deccan traps. The depth of weathering varies from 3.00 to 6.00 m. The common type of weathering is spheroidal weathering.

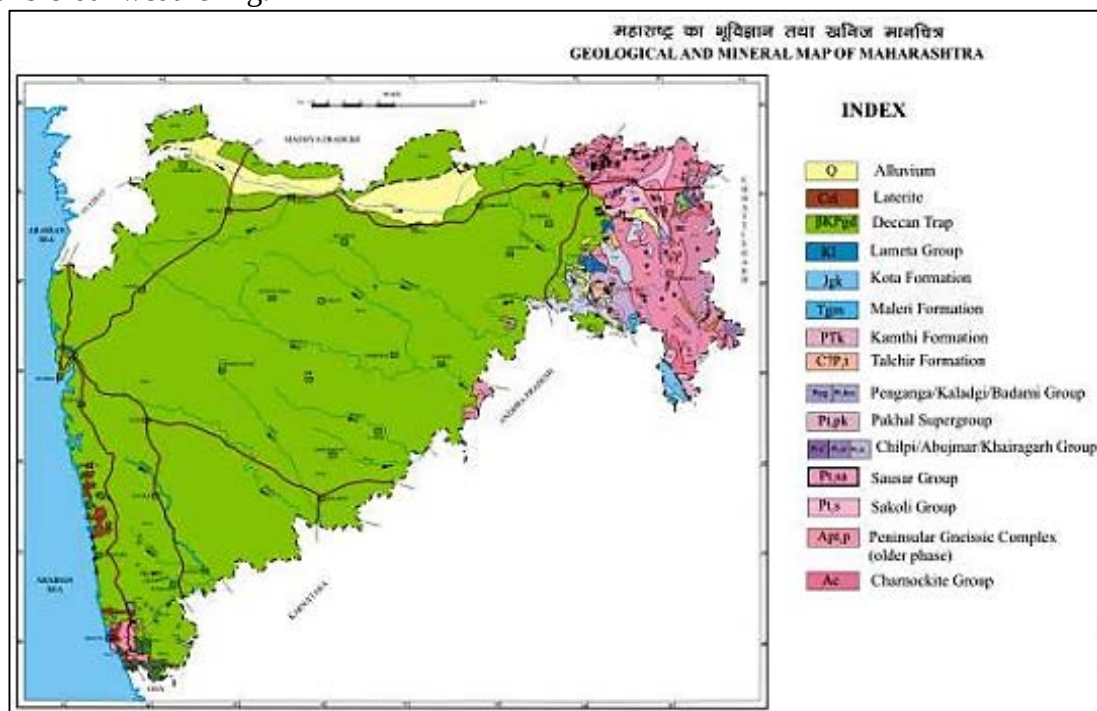


Figure 3.6: Geological Map of Maharashtra State

3.9.2 HYDROGEOLOGY OF PALGHAR DISTRICT

Deccan trap Basalt of Upper Cretaceous to Lower Eocene age is the major rock type covering about 80% of the district, coastal alluvium is other formation occurring only in western end of the district. A map depicting the hydrogeological features is presented as Figure 3.12.

GROUND WATER SCENARIO

Central Ground Water Board periodically monitors 42 National Hydrograph Network Stations (NHNS) stations in the district, four times a year i.e. in January, May (Premonsoon), August and November (Post-monsoon). The data on premonsoon and postmonsoon water levels along with fluctuation during 2011 and long term water level trends (2001-2010) are discussed below. Kindly note that the data represented here is of the Thane district covering all talukas of Palghar district. As the study conducted is before the formation of Palghar district (2014), same study is referred and addressed herewith.

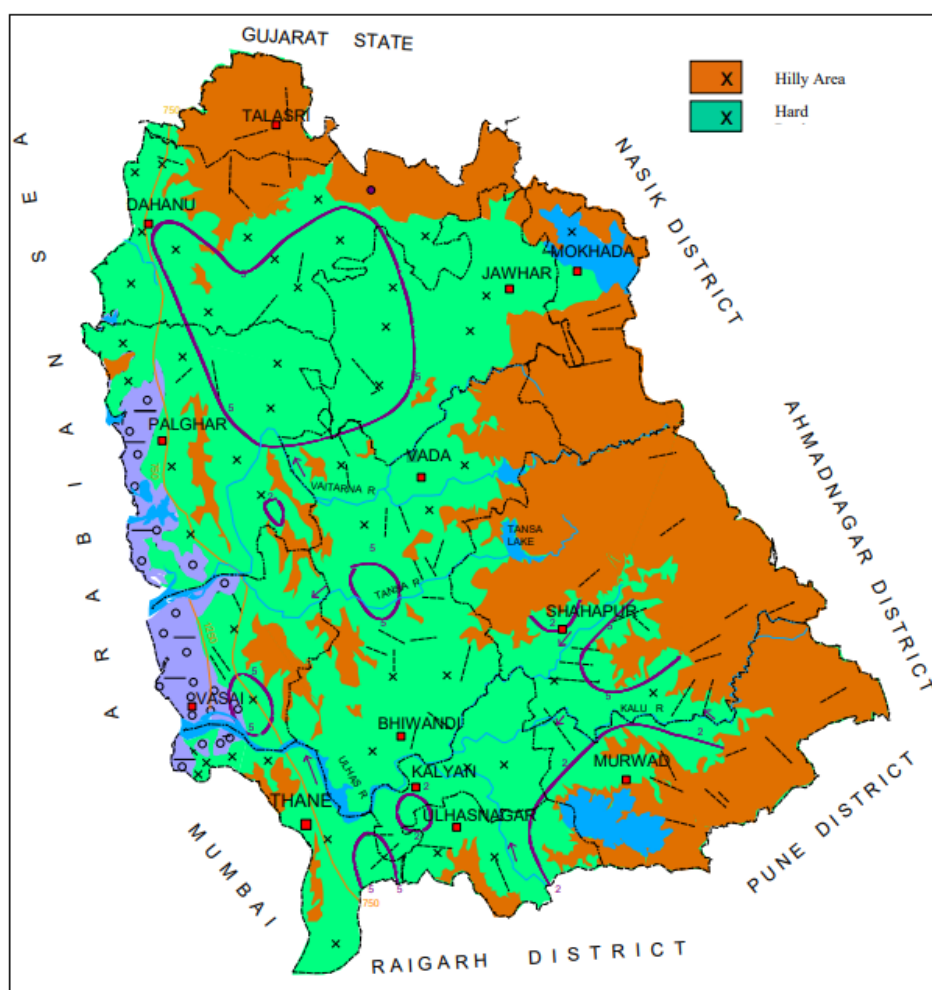


Figure 3.7: Hydrogeology

Depth To Water Level

Pre monsoon Depth to Water Level (May-2012)

The pre-monsoon depth to water level ranges from 0.50 to 14.60 m bgl. The depth to water level ranging between 2 to 5 m bgl and 5 to 10 mbgl are observed in major part of the district,

whereas water level more than 10 mbgl are observed as patches. Spatial distribution of pre monsoon water level is depicted in Fig 3.14.

Post monsoon Depth to water level (Nov-2012)

The post monsoon water level ranges from 1.20 to 6.90 m bgl. The water levels of 2-5 m bgl are observed in major part of the district. Less than 2 mbgl water level is observed in the eastern part of the district and water level of more than 5 m bgl occurs as isolated patches in the central and northern part of the district. Spatial distribution of water level is depicted in Fig 3.13.

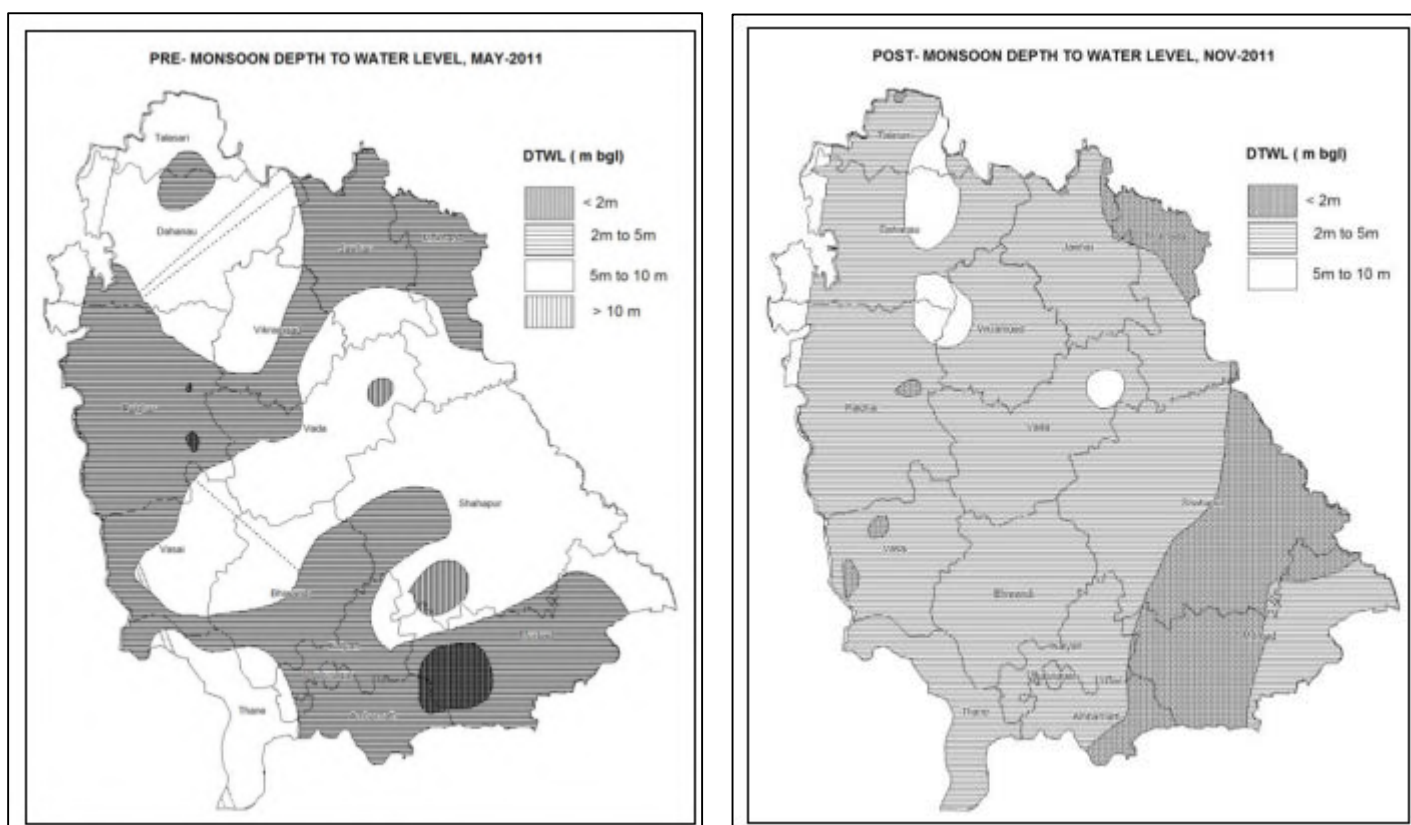


Figure No 3.8 Pre-Monsoon & Post Monsoon Depth of Ground Water Level

3.10 TRAFFIC STUDY

(Standard ToR point 6.8 & 7.3)

The present project site is in Notified MIDC Industrial Area; Tarapur is surrounded by many industries & commercial establishments which lead to anthropogenic activities and thereby vehicular movement.

The road access to the project site is provided by MIDC road which is a feeder road. This MIDC road is also being utilized by neighboring industries for transport of raw material & products. The major traffic on this road is heavy vehicles like trucks, mini trucks, public vehicles such as taxis, auto rickshaws and private vehicles such as two wheelers and four wheelers. The present section discusses the results of assessment of the present scenario of local transportation and connectivity to the project site. The study attempts to achieve this by analyzing the adequacy of the existing infrastructure related to vehicular movement and based on this the impacts of increased load of transportation due to new project by Aarti Pharmalabs

Limited (Unit V-II) is assessed. Appropriate mitigation measures are suggested at the end of the section to eliminate or minimize the impacts related to vehicular congestion around the proposed project site. Detailed traffic study is addressed in **Annexure-3.11**.

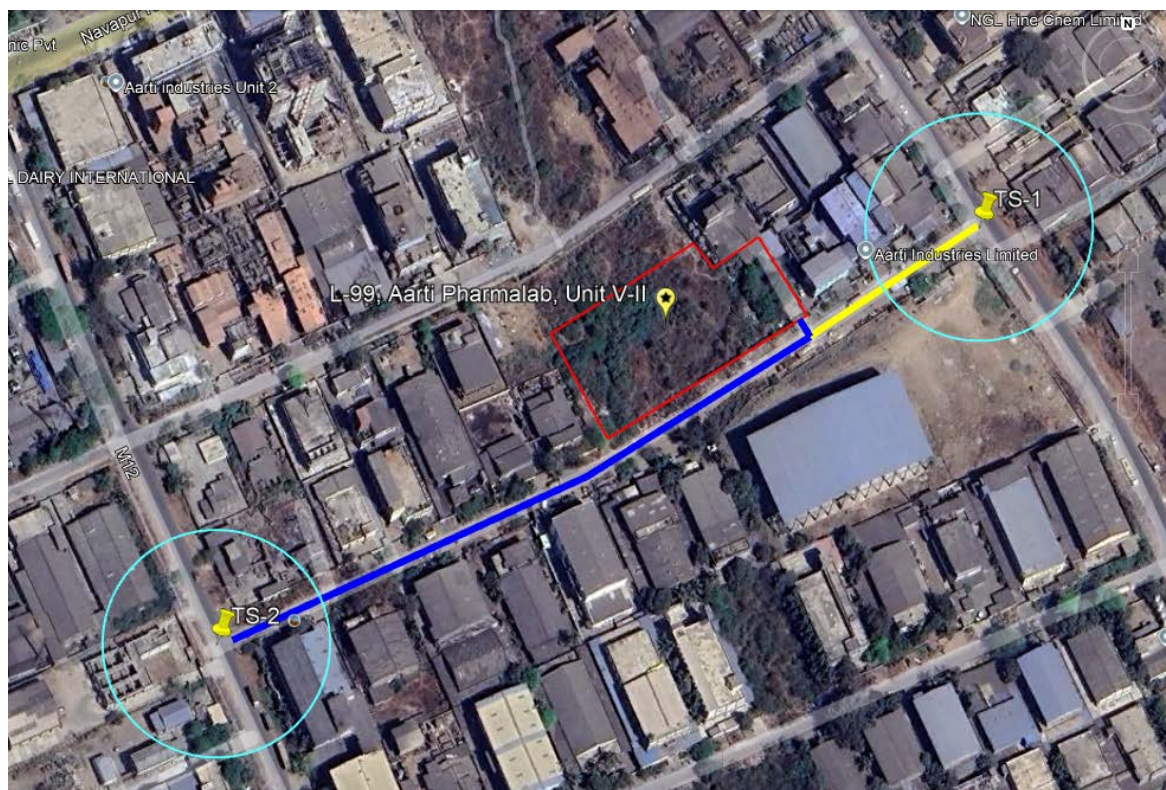


Figure No 3.9: Traffic observation locations (TS 1 and TS 2)

Table No. 3.14: Traffic Study Observation Locations

Sr. No.	Legend	Observation Point Code	Observation point details	Distance from project site (km)
1		TS-1	Junction near MIDC Main Road – Project Site	0.1
2		TS-2	Junction near MIDC internal Road – Project Site	0.30

3.10.1 INCREASED TRAFFIC SCENARIO DUE TO THE EXPANSION ACTIVITY

The transportation of raw materials and finished goods for the New project activity will be mainly done by tankers/trucks. It is estimated that around 08 trucks per day will make to and fro trip from the project site. As described in the above section the transportation activity will mainly take place by Junction near MIDC internal Road – Project Site which is approximately 0.1 km away from project site. As an initiative for efficient traffic management, the project proponent will ensure that transportation activity will be done mainly during non-peak hours to avoid the peak hour traffic. However, to assess the increased traffic scenario due to the project, the increased fleet of around 08 trucks, 07 cars, 02 tempo, and 25 Motor cycles, 1 Bus

has been considered during the peak hours at the two observation points. It is estimated that due to the New project activity increased PCUs and the increased Traffic scenario is explained by segregating the peak hours temporally.

3.10.2 INTERPRETATION

As per Traffic Study It can be concluded that the existing traffic scenario is in **very good** and **Average** for observation points TS-1 & TS-2 respectively. Also, considering traffic scenario after the expansion activity the traffic scenario won't change and LOS in both the case will remain same.

Table 3.15: Traffic scenario of the existing activity – Level of Service as per IRC

Sr. No.	Junction Number	Time		Volume (PCU's/Hr.)	Capacity (PCU's/Hr.)	V/C Ratio (Congestion Index)	Level of Service (LOS)
1	TS-1	Morning	8-9 AM	773.9	2400	0.32	B
			9-10 AM	796.5	2400	0.33	B
2	TS-1	Evening	4-5 PM	733	2400	0.31	B
			5-6 PM	810.9	2400	0.34	B
3	TS-2	Morning	8-9 AM	1038.35	2400	0.43	C
			9-10 AM	1082	2400	0.45	C
4	TS-2	Evening	4-5 PM	986.75	2400	0.41	C
			5-6 PM	1089.5	2400	0.45	C

Table 3.16 Traffic scenario of the proposed activity – Level of Service as per IRC

Sr. No.	Junction Number	Time		Volume (PCU's/Hr.)	Capacity (PCU's/Hr.)	V/C Ratio (Congestion Index)	Level of Service (LOS)
1	TS-1	Morning	8-9 AM	846.45	2400	0.35	B
			9-10 AM	834	2400	0.35	B
2	TS-1	Evening	4-5 PM	778.6	2400	0.32	B
			5-6 PM	871.05	2400	0.36	B
3	TS-2	Morning	8-9 AM	1067.15	2400	0.44	C
			9-10 AM	1107.65	2400	0.46	C
4	TS-2	Evening	4-5 PM	997.25	2400	0.42	C
			5-6 PM	1138.5	2400	0.47	C

Table 3.17 Range of V/C and its performance standard as per IRC

V/C	LOS	Performance
0.0-0.2	A	Excellent
0.2-0.4	B	Very good
0.4-0.6	C	Average
0.6-0.8	D	Poor
0.8-1.0	E	Very poor
1.0 & Above	F	Worst

Note:

Capacity as per IRC-106; 1990 for guideline, for capacity, for urban roads Page 11 Table-2

V= Volume in PCU"s/hr &

C= Capacity in PCU"s/ hr

LOS = Level of Service

Table 3.18 Comparison of LOS of existing scenario and proposed scenario

Sr. No.	Junction Number	Time	Level of Service of existing traffic scenario (LOS)	Level of Service after proposed traffic scenario (LOS)
1.	TS-1 Morning	8-9 AM	B	B
		9-10 AM	B	B
2.	TS-1 Evening	4-5 PM	B	B
		5-6 PM	B	B
3.	TS-2 Morning	8-9 AM	C	C
		9-10 AM	C	C
4.	TS-2 Evening	4-5 PM	C	C
		5-6 PM	C	C

Interpretation: From the above table it can be concluded that the Existing traffic scenario is in Very Good to Average condition for Junction TS1 & Average to Poor for Junction TS2. Also considering the traffic scenario after the new project, the traffic scenario won't change and LOS in both the case will remain same.

3.11 LAND USE & LAND COVER

(Standard ToR point 4.8)

The Land Use & Land Cover (LULC) pattern in the 10 km radial study area were assessed based on remote sensing technique using satellite imagery & by conducting ground verification surveys.

Details of Satellite & Imagery Data Used

National Remote Sensing Agency (NRSA) under ISRO is instrumental for carrying out application of remotely sensed data in land use studies. Various comprehensive geospatial data sets were used to produce a thematic LU/LC map of the study area. This includes IRS Resources at LISS IV satellite data with 5.8 m spatial resolution and Survey of India SOI toposheet maps 47 A\9, 47 A\10 & 47 A\13, 47 A\14 of 1:50,000 scales.

Table No.3.19: Technical specifications/details of the satellite

Name of Satellite	IRS–Resources at		
No. of sensors	3 (AWIFS, LISS - III & LISS - IV)		
Specifications of sensors	AWIFS	LISS - III	LISS – IV
No. of bands	4	4	3
Spectral bands (μ)	B2 0.52 - 0.59	B2 0.52 - 0.59	B2 0.52 - 0.59
	B3 0.62 - 0.68	B3 0.62 - 0.68	B3 0.62 - 0.68
	B4 0.77 - 0.86	B4 0.77 - 0.86	B4 0.77 - 0.86
	B5 1.55 - 1.70	B5 1.55 - 1.70	
Resolution (m)	5	24	5
Swath (km)	740	140	70
Revisit (days)	5	24	5

Of the above-mentioned details, data of sensor dated 13th May 2019 having path no. 094 & row no. 58 & 59 was used. The processing & interpretation of satellite images was done in succession stages as described below.

Satellite Data Processing

The multispectral data was processed using ERDAS image processing software to classify various land use land cover classes by running supervised classification & thematic LULC map was developed on ARC GIS software, the thematic LULC map thus developed was used for ground verification for doubtful features.

Ground Verification

Ground verification surveys to confirm some of the doubtful elements/features following which the earlier developed LULC map was corrected. Thus, a generated LULC map of the study area is given below.

NRSA CLASSIFICATION.

National Remote Sensing Agency (NRSA) under ISRO is instrumental for carrying out application of remotely sensed data in land use studies. NRSA devised a land use classification scheme based on satellite data. They classified land use into six major types with 23 sub divisions as shown in table. This ‘twenty three fold’ classification system is widely used for land use studies and agricultural as well as environmental planning in the country.

Table no. 3.20: Land use Classification

Sr.	Level I Level II	Level I & Level II
1	Built- up land	1.1 Built- up land 1.2 Industry
2	Agricultural land	2.1 Crop land 2.2 Fallow Land 2.3 Plantation
3	Forest	3.1 Evergreen/semi ever green 3.2 Deciduous forest 3.3 Degraded/scrub land 3.4 Forest blank 3.5 Forest plantation 3.6 Mangrove
4	Waste land	4.1 Salt affected land 4.2 water logged land 4.3 Marshy/swampy land 4.4 Gullied/ravenous land 4.5 Land with or without scrub 4.6 Sandy area 4.7 Barren/ rocky/ stony waste / sheet rock area
5	Water bodies	5.1 River/streams 5.2 Lake/reservoir/tank/canal
6	Others	6.1 Shifting cultivation

		6.2	Grass land/ grazing land
		6.3	Snow covered/ glaciated land

PREVAILING LULC IN THE STUDY AREA

The thematic map of Land Use and Land cover of the study area is given as **figure 3.14**

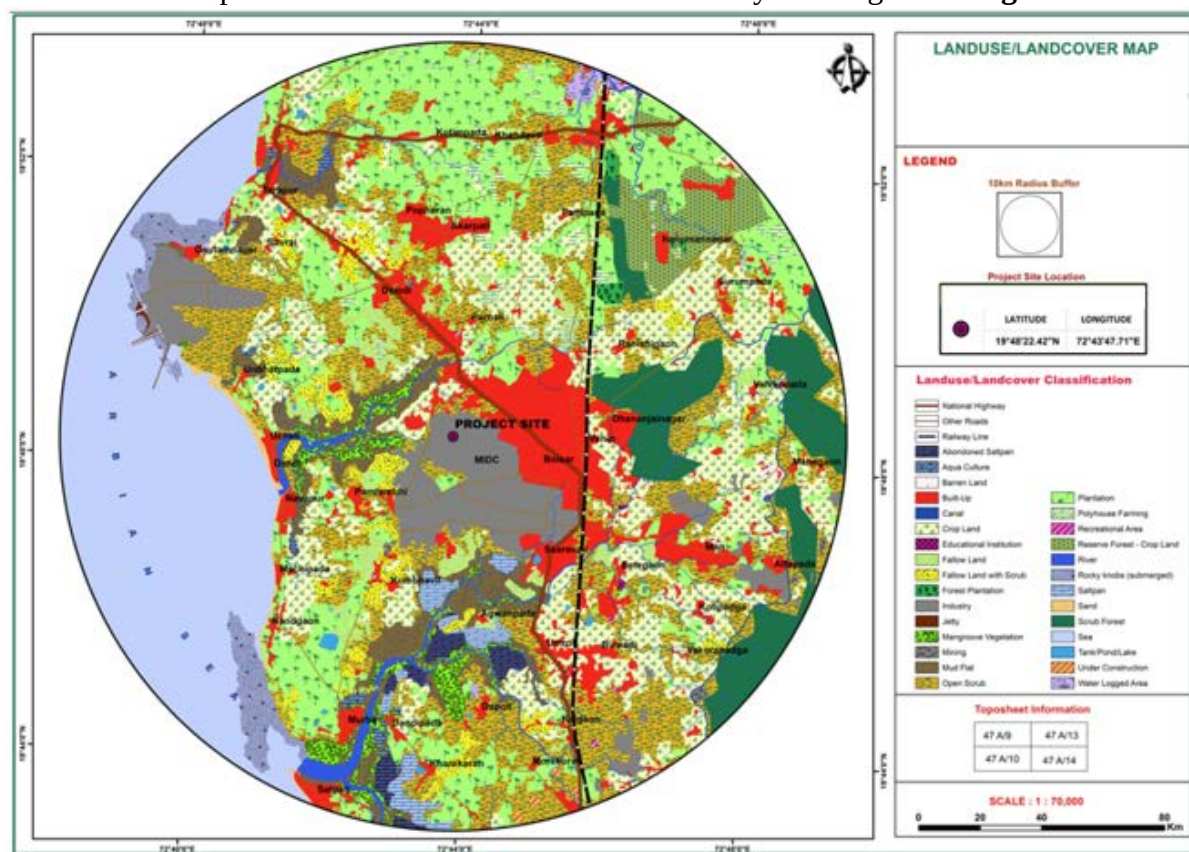


Figure 3.10: Land Use Land Cover map of the study area

OBSERVATION & ASSESSMENT OF LULC OF THE STUDY AREA

To assess the land use classification of the study area two levels approach viz. Level - I & Level - II classification was used based on the classification scheme developed by National Remote Sensing Center as under (Parthasarathy et al., 2012). Based on image analysis the land use and land cover classes in study area can be categorized as presented in Table 3.29 The area is distributed in as per LULC classification is provided in Figure 3.15.

Table no. 3.21: Categorization of land use & land cover pattern of the study area

Sr. No.	Land use/ Land Cover Classification		Area in Sq. Km
	Level-I Classification	Level-II Classification	
1	Built Up	Industry	16.70
		Recreational Area	0.22
		Settlements, Commercial	27.81
		Educational Institute	0.19
		Under Construction	0.23
2	Agriculture	Crop Land	43.28

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		Fallow Land	5.45
		Fallow Land with Scrub	7.52
		Plantation	33.09
		Polyhouse Farming	2.56
3	Mining	Stone Quarries	0.31
4	Forest	Forest Plantation	0.48
		Crop Land	3.18
		Scrub Forest	13.89
		Mangroove Vegetation	5.54
5	Waste Land	Barren Land	0.24
		Open Scrub	54.80
		Rocky knobs (submerged)	4.73
		Water Logged Area	0.11
		Mud Flat	13.28
6	Water Bodies	Canal	0.18
		River	3.49
		Tank/Pond/Lake	0.46
		Sand	0.83
		Sea	68.57
7	Others	Aqua Culture	0.84
		Abandoned Saltpan	2.66
		Saltpan	3.37
		Jetty	0.14
Total			314.15

PERCENTAGE WISE LULC ASSESSMENT OF THE STUDY AREA

The percentage wise land use & land cover pattern of the study areas is represented in the Figure No. 3.24.

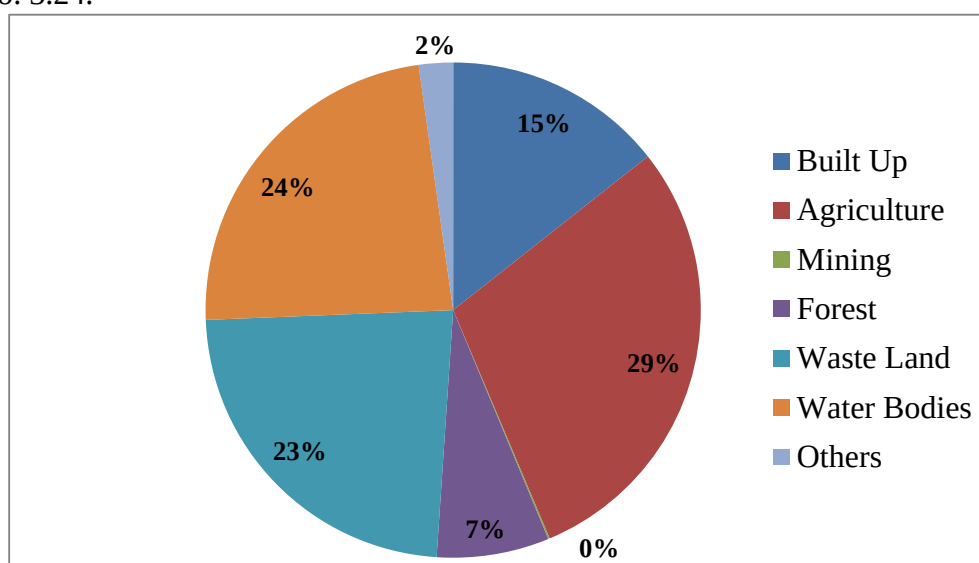


Figure No 3.11: Percentage wise Land Use & Land cover classification of the study area

3.11.1 INTERPRETATION

The study area encompassing radial area of 314.15 sq. km. from the project site as center, broadly had 7 types of classification such as Built up, Agriculture, Mining, forest, waste land, Water Bodies and various land use classes Agriculture (Crop Land, Fallow Land, Fallow Land with Scrub, Plantation and Poly- house Farming) was the dominant land use class with 91.9 sq. km. which accounted for 29.25% of the total land use land cover pattern of the study area followed by Water Bodies (Canal, River, Tank/Pond/Lake, Sand, Sea) as the second major land use class with 73.53 sq. km. which accounted for 23.4% of the total land cover of the study area respectively. Apart from these land use land cover type meager 73.16, 45.15, 23.09, 7.01 sq. kms of the study area were subjected to waste land, Built-up, Forest and Others respectively.

3.11.2 DRAINAGE PATTERN OF THE STUDY AREA

The drainage pattern map of the study area is developed by using remote sensing technique wherein the satellite imagery has been processed by using software to obtain drainage pattern map of the study area.

OBSERVATION & ASSESSMENT OF DRAINAGE PATTERN IN STUDY AREA

Study area was a representative of western plains along the Sahyadri ranges accordingly study area had small hillocks & undulations in north eastern, eastern & south eastern parts of the study area whereas major part was moreover plain terrain. The surface drainage in study area was largely represented by westerly meandering Banganga River, Dudh River and their associated terrains. Drainage pattern of study area was of dendritic type as depicted in Figure 3.16.

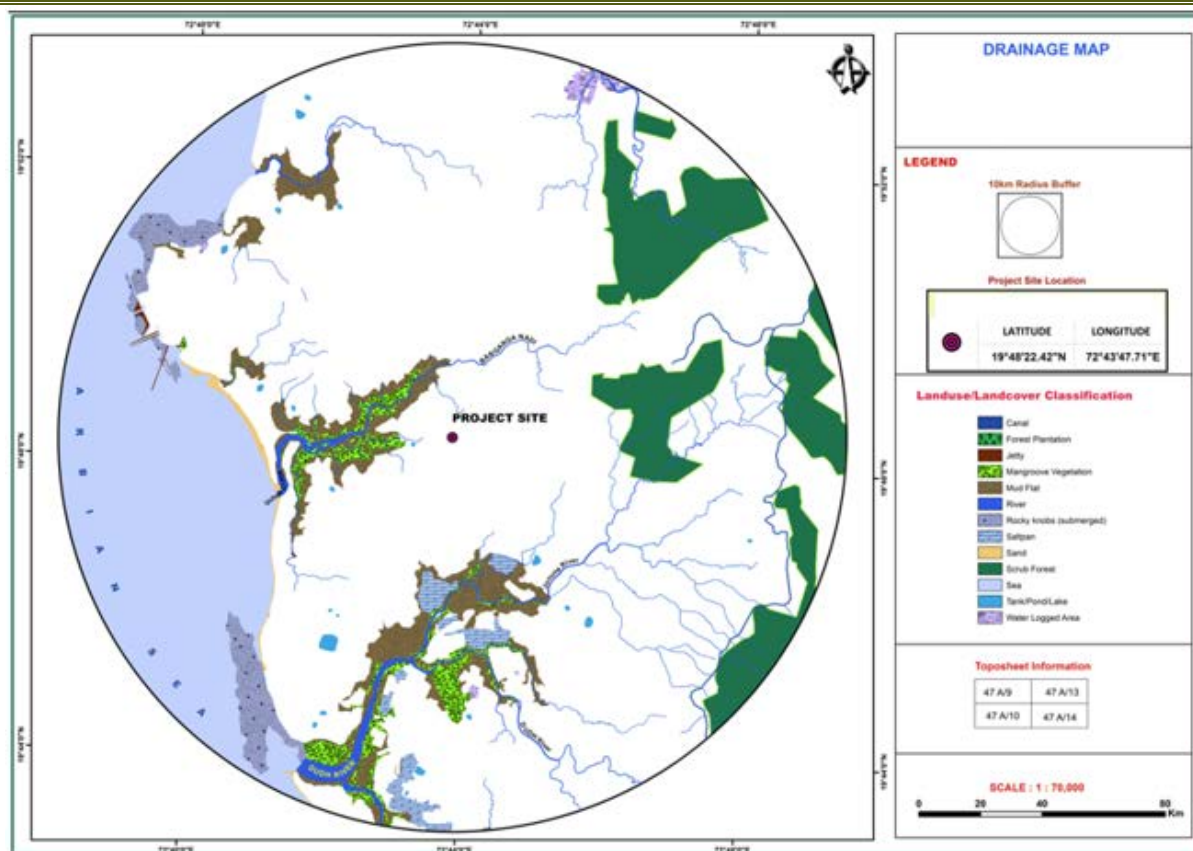


Figure 3.12 Map depicting Drainage Pattern of the study area

3.12 BIOTIC ENVIRONMENT

(Standard ToR point 6.9)

The biotic study has been conducted to establish the prevailing baseline ecological data in terms of terrestrial & aquatic biodiversity status in the project influenced area to identify, quantify the impacts associated with the project on the prevailing ecology & to advocate suitable mitigation measures for the same. Details are addressed as **Annexure 3.12**.

3.12.1 INTERPRETATION OF PRIMARY AND SECONDARY DATA STATUS EVALUATION OF FLORAL DIVERSITY

102 plant species recorded in the study area, 35 species were assessed as Least Concern ver. 3.1, 62 species were Not Evaluated, 2 species were Data Deficiency, 1 species was Near Threatened, 1 species was Vulnerable, and 1 species was assessed Endangered. The overall assessment status of 102 species is 34.30% as Least concern ver. 3.1, 60.80% as Not Evaluated, 1.96% as Data Deficiency, 0.98% as Vulnerable, 0.98% as Endangered and 0.98% as Near Threatened. Hence, conservation related aspects are anticipated.

3.12.2 STATUS EVALUATION OF FAUNAL DIVERSITY

Of the recorded 69 bird species the all species were listed as Least Concern as per IUCN ver. 3.1; whereas, as per the WPA, 1972 & its amendment 2022, 1 species was listed as schedule – I, 66 species were listed as Schedule – II and remaining 2 bird species were not listed in any Schedule. Similarly, out of recorded 6 Species from Mammals, no single species was fall under schedule – I and out of recorded 5 species form Reptiles, 1 species was listed in schedule – I.

also, out of 8 butterfly species no single species was falls under schedule – I. With the reference of secondary sources, 3 species of bird and 3 species of reptile were coming in Schedule – I as per WPA, 1972 & amendment 2022. Hence, conservation related aspects are anticipated for 6 faunal species (3 Bird species & 3 Reptile species).

The inventory of Secondary data of Floral and Faunal diversity along with IUCN status & WPA 1972, amendment 2022 assessment is attached as **Annexure 3.12**. Wildlife conservation plan has been prepared for protection of Schedule – I species and is attached as **Annexure 3.13** as per **(Standard ToR Point 5.5)**.

(Secondary data source for region specific: Birds of India, Birds of the Indian Subcontinent, Indian Mammals, BNHS Field Guide Butterflies of India, <https://ebird.org/hotspots>, <https://www.inaturalist.org/>, A Naturalist's Guide to the Reptiles of India, <https://datazone.birdlife.org/home>)

3.12.3 APPLICABILITY OF FOREST & WILDLIFE RELATED CLEARANCES

The proposed project is located in notified Tarapur MIDC industrial area & also, none of the Protected Area existing within 5 km radial distance of the project site. Hence, Forestry wild life related clearances are not applicable.

The list of flora and fauna in the observed study are is provide in **Annexure 3.12**.

3.13 SOCIO ECONOMIC STATUS OF THE STUDY AREA

(Standard ToR point 6.10)

3.13.1 INTRODUCTION

A socioeconomic impact assessment (SEIA) emphasis on how the new project activity affects human or societal well-being as well as the use and benefit of the project. The aim of this process is to evaluate the potential impact of both positive and negative aspects and to develop set of measures for improvement of the socio-economic situation in smaller and larger communities and environment as whole during the various stages of project. Socioeconomic impact assessment (SEIA) can help to identify the impacts due to the project activity. It also provides a forum to for planning to minimize the adverse impacts while enhancing beneficial impacts. Details are addressed as **Annexure 3.14**.

3.13.2 INTERPRETATION

The findings of the study indicate that the sample population which was surveyed is satisfied in terms of accessibility to the public resources except water due to geographic location and is of view that the activity of the M/s. Aarti Pharmalabs Limited, will not hamper or impact in any way to them. The local body must try to improve the health and water facilities. Hence it can be summarized that the attitude of people towards the expansion project of M/s. Aarti Pharmalabs Limited is found to be favourable.

a. Educational Facilities:

The maximum and minimum score from the study, for Educational Facilities was recorded to be 4 (Satisfied) and 1 (Strongly Dissatisfied) respectively. Off the Max score i.e. 250, the total score obtained from the survey, for an Educational facility was 129. Subsequently, the percentage obtained from the response for satisfaction from the samples for Educational Facilities was calculated to **51.6%**.

b. Water Facilities:

The maximum and minimum score from study, for Water Facilities was recorded to be 3 (Moderately Satisfied) and 1 (Strongly Dissatisfied) respectively. Off the Max score i.e. 250, the total score obtained from the survey, for Water Facilities was 86. Subsequently the percentage obtained from the response for satisfaction from samples for Water Facilities was calculated to be **34.4%**.

c. Health Facilities:

The maximum and minimum score from the study, for Health Facilities was recorded to be 3 (Moderately Satisfied) and 1 (Strongly Dissatisfied). Off the Max score i.e. 250, the total score obtained from the survey, for Health Facilities was 85. Subsequently the percentage obtained from the response satisfaction from the samples for Health Facilities was calculated to be **34.0%**.

d. Transport Facilities:

The maximum and minimum score from the study, for Transport Facilities was recorded to be 4 (Satisfied) and 1 (Strongly Dissatisfied) respectively. Off the Max score i.e. 250, the total score obtained from the survey, for Transport Facilities was 123. Subsequently, the percentage obtained from the response for satisfaction from the samples for Transport Facilities was calculated to be **49.2 %**.

e. Local Body Functioning & support:

The maximum and minimum score from the study, for Local Body Functioning & Support was recorded to be 4 (Satisfied) and 1 (Strongly Dissatisfied). Off the Max score i.e. 250, the total score obtained from the survey, for Local Body Functioning & Support was 107. Subsequently, the percentage obtained from the response for satisfaction from the samples for Local Body Functioning & Support was calculated to be **42.8%**.

From the Socio economic study result, the percentage obtained for the study parameters i.e. Education Facilities, Water Facilities, Health Facilities, Transport Facilities and Local Body Functioning & support are 51.6%, 34.4%, 34%, 49.2% & 42.8% respectively. The Minimum percentage for satisfaction obtained was 34% i.e. for health facility and the maximum percentage for satisfaction obtained was 51.6% i.e. for Education Facilities. Looking into the results obtained for socio economic study, APL plans to spend its CER fund accordingly. The CER Plan has been prepared and provided in the Chapter 8 of this EIA report.

4. ANTICIPATED ENVIRONMENTAL IMPACT & MITIGATION MEASURES

4.1 INTRODUCTION

This chapter deals with the environmental impacts due to various activities carried out at the project site, which could affect the various biotic and abiotic factors of the surrounding environment and suggesting mitigation measures to minimize the impact as far as possible. For understanding the impact and its severity on the environment it becomes necessary to identify all the probable sources of pollutants, type of releases and characteristics of the pollutants and quantification of the pollutants. Accordingly, Pollution Control Equipment's and mitigation measures are suggested to minimize the impacts of the project activity on the environment.

Classifying the sources, estimating the quantity of pollutant, impact of pollution & mitigating them is the most important component in the Environmental Impact Assessment process. This chapter quantifies the environmental impacts of project related activities on various receptors of environment.

The predictions estimated are superimposed on the baseline value for achieving the resultant value which signifies the overall impact. It also suggests the various mitigation measures which can be advocated to minimize the adverse impacts of the project activity.

4.2 AIR ENVIRONMENT

(Standard ToR Point 3.7)

4.2.1 CONSTRUCTION PHASE

4.2.1.1 IDENTIFICATION OF SOURCE

The project is a new activity which is to be executed within plot No L-99, MIDC Tarapur, Tehsil and District Palghar. The project plot area is 5157 sq. m. APL has obtained Consent to Establish (CTE) from Maharashtra Pollution Control Board (MPCB) having vide no Format1.0/AS(T)/UAN no. 0000223966/CE/2411000875 valid up to commissioning of the unit or up to 5 years whichever is earlier for Storage of Chemicals, Intermediates & Finish Products and Packing & Repacking activity and for Installation of the Utility, ETP, MVR, RO and ATFD system for utility and effluent treatment plant for the treatment of trade effluent generating from the plot no. L 28 & 29 (sister concern unit) which is adjacent to each other.

The proposed project activity of API Products manufacturing will be achieved by constructing structures required for process & production purpose, raw material and finished goods storage, office building block, Boiler house, Tank farm area, panel room, security cabin & ETP facility etc. which would lead to a major construction activity at site.

During construction activities dust generation due to site clearance, stockpiling, handling etc. will be the major source of air pollution.

SO₂ & NO_x will be emitted from the diesel-powered mechanical equipment like excavator, hydra and trucks etc. However, the number of such equipment's will be limited. It is therefore not expected to cause any exceedance to the NAAQ limit for these gases.

4.2.1.2 PREDICTED IMPACT

Dust emissions generally differ day to day, depending on the level of activity, specific operation and the prevailing meteorological conditions. Therefore, for predicting the quantitative value of TSPM that would be generated due to the construction activity, an emission factor from AP-42 Section 13.2.3.1 (U.S.EPA, 1995) has been used. The emission factor is E = 1.2 tons/acre/month of activity. The mentioned value is most applicable to construction operations with a) medium activity level, b) moderate silt contents and c) semi-arid climate.

The construction work would be carried out for activities mentioned above. The estimated time for completion of work would be around 18 months. The Construction activity will be carried out on an approx. area of around 4140 Sq. m. The estimated value will be Low for TSPM. The emission would be around 1.22 tons/month of the activity. Moreover, the emission would be reduced to around 90 to 95 % after implementation of appropriate control measures which are mentioned in the below section. There would be maximum 40 nos. of temporary construction workers, who may get affected by the dust pollution. Workers getting exposed to the dust generated due to the construction activity can suffer from respiratory problems and prolonged exposure to dusty environment can lead to malfunctioning of lungs.

4.2.1.3 MITIGATION MEASURES

Control measures like:

- Temporary wind barrier/metal barricades will be provided.
- Proper traffic management during loading and unloading of the construction materials,
- Regular sprinkling of water on the identified working area will be done.
- PPEs to 40 construction workers will be provided
- Stockpiles will be stored in dedicated area and shall be kept covered. Water sprays shall be used when emptying cement bags into mixer ensure minimum dust generation.
- Work Permit Systems shall be followed and records shall be maintained on site.
- Construction activity shall be done only during day hours under authorized supervision.

4.2.2 OPERATION PHASE

4.2.2.1 IDENTIFICATION OF SOURCE

D.G. Set: -

D.G. Set Capacity of 500 kVA (2 nos.) will be sufficient to cater the power requirement during power failure scenario. Stack of 5.0 m height will be provided for each D.G. Set. Since the D.G. Set will be operational only during the power failure; hence it is not considered for air dispersion modeling.

Process Emission: -

(Standard ToR Point 12.2)

The emissions generated from the manufacturing process are identified as another major source of pollutant emission. To mitigate the process emissions from manufacturing activity, the proponent will install 1 no. of Acid and 1 no. of Alkali scrubber having capacity 2000 CFM each. The scrubbed gases which will be generated from product manufacturing activities will be released through a stack of 6m (Above roof).

Fugitive Emission: -

One of the major sources of fugitive emission generation can be due to the handling, storage and transportation activity of raw materials. All raw materials & fuel will be stored in drums/tanks.

VOC Emissions: -

The sources of VOC emissions from the project would be negligible as use of solvents is not involved.

Transportation: -

The vehicle used for transporting the raw materials & finished products also contributes to the dust generation & emissions of gases like CO, NO_x due to fossil fuel burning.

4.2.2.2 PREDICTED IMPACT

For quantitative impact analysis on air quality due to expansion project activity, air dispersion modelling is performed. Criteria pollutants like PM₁₀, PM_{2.5}, SO₂, NO_x & CO generated from operation of Boiler is usually considered for air modelling simulation; but in this case due to utilization of natural gas, NO_x and CO will be emitted. AERMOD 8.2 developed by USEPA and authorized by CPCB is used for air modelling simulation which is based on steady state Gaussian plume equation.

The model options used for computation, modelling procedure, meteorological data processing and model input data is addressed as **Annexure 4.1**.

4.2.2.3 MODEL INPUT DATA

The emission factor used in the Air Dispersion Modeling for estimating the pollutants from the Boiler and Thermic Fluid Heater operations are calculated using the document (EPA) AP-42, Chapter No.1; Section no – 1.1 and Section no – 1.8. **Table No. 4.1** represents the input data required for describing the sources in the model. Biomass Briquette is a cleaner fuel and will be used as a primary fuel, while Imported Coal will be used in case of non-availability of primary fuel.

Table No. 4.1: Model Input Parameters for Boiler Stack Modeling

Sr. No.	Parameters		Stack 1
1	Source		Steam boiler of capacity 10TPH x 1 No., 6TPH x 1 No., (1 will be on standby) at plot no L-10
2	Fuel Used		Imported Coal
3	Base elevation		28
4	Stack Height		Boiler – Common stack of 30 m
5	Stack exit velocity of gas (m/s)		2.3
6	Exit Temp °C		120
7	Stack Inside Diameter (m)		0.45
8	Gas Quantity (m ³ /s)		0.3658
9	Emission Factors (g/s)	Type of Fuel / Parameter	Imported Coal
		PM ₁₀ uncontrolled	3.112
		PM ₁₀ controlled (*Dust Collector as APCD)	0.017
		NO _x	2.593
		PM _{2.5} uncontrolled	1.085
		PM _{2.5} controlled	0.008

		(*Bag filter as APCD)	
		SO ₂	2.810
		CO	1.179

**Estimated control efficiency for baghouse, 99.8% - Source AP 42 Section 1.1 External combustion sources. Table no. 1.1-9*

Based on the above model input data and emission factor, output image of the dispersion modelling describing the incremental predictive values for the selected pollutants are given in **Annexure 4.1**.

The incremental values at various monitoring stations were predicted and integrated with the baseline value for PM₁₀, PM_{2.5}, SO₂, NO_x & CO is tabulated in the below **Table No. 4.2**.

4.2.2.4 INTERPRETATION OF INCREMENTAL VALUES (Standard ToR Point 7.1)

The incremental value of the specific pollutant at the particular monitoring station is added to the baseline value of that specific pollutant measured during the monitoring period of the project. The resultant value thus calculated used for predicting the impacts of the new project on the air environment in the study area is not exceeding the NAAQ Limit.

Table No. 4.2 (a): Interpretations of the Incremental Values Using Imported Coal as Fuel

Sr. No.	Sampling Location Code & Name		PM 10 Uncontrolled			PM 10 Controlled			PM 2.5 Uncontrolled			PM 2.5 Controlled		
			BV	IV	RV	BV	IV	RV	BV	IV	RV	BV	IV	RV
1	A1	APL, Plot No. L-10	51.7	0.05	51.75	51.7	0.0003	51.7003	12.3	0.010	12.31	12.3	0.0001	12.3001
2	A2	Near Delwadi, ZP Marathi School	58.3	0.10	58.4	58.3	0.001	58.301	18.1	0.060	18.16	18.1	0.0005	18.1005
3	A3	Near Unbhat, Dandi road	62.2	0.08	62.28	62.2	0.0005	62.2005	22.2	0.010	22.21	22.2	0.0001	22.2001
4	A4	Near Kallale	55.5	0.80	56.3	55.5	0.008	55.508	23.0	0.100	23.1	23.0	0.003	23.003
5	A5	Near Umroli, palghar road	64.4	0.80	65.2	64.4	0.008	64.408	23.3	0.100	23.4	23.3	0.003	23.303
6	A6	Near Yadav Nagar	49.5	0.08	49.58	49.5	0.0005	49.5005	16.9	0.010	16.91	16.9	0.0001	16.9001
7	A7	Near kolavade, MIDC road	68.3	0.05	68.35	68.3	0.0003	68.3003	24.2	0.010	24.21	24.2	0.0001	24.2001
8	A8	Near Shree Saptashrungi Devi Mandir	59.2	0.05	59.25	59.2	0.0003	59.2003	18.2	0.010	18.21	18.2	0.0001	18.2001
NAAQ Standards			100 (24 Hourly)						60 (24 hourly)					

Table No. 4.2 (b): Interpretations of the Incremental Values Using Imported Coal as Fuel

Sr. No.	Sampling Location Code & Name		NO _x			SO ₂			CO		
			BV	IV	BV	IV	BV	IV	BV	IV	RV
1	A1	APL, Plot No. L-10	13.2	0.03	13.23	8.1	0.03	8.13	0.6	0.0002	0.6002
2	A2	Near Delwadi, ZP Marathi School	11.4	0.10	11.5	13.1	0.10	13.2	0.9	0.002	0.902
3	A3	Near Unbhat, Dandi road	17.4	0.05	17.45	18.7	0.05	18.75	0.9	0.0008	0.9008
4	A4	Near Kallale	13.6	0.80	14.4	9.5	0.80	10.3	0.9	0.001	0.901
5	A5	Near Umroli, palghar road	17.6	0.80	18.4	17.1	0.80	17.9	0.9	0.004	0.904
6	A6	Near Yadav Nagar	7.6	0.05	7.65	8.9	0.05	8.95	0.9	0.0006	0.9006
7	A7	Near kolavade, MIDC road	21.2	0.05	21.25	17.1	0.05	17.15	0.9	0.0001	0.9001
8	A8	Near Shree Saptashrunji Devi Mandir	8.5	0.03	8.53	6.5	0.05	6.55	0.8	0.0001	0.8001
NAAQ Standards			80 (24 Hourly)						4 (1 hourly)		

BV: Baseline Value, monitored at 8 locations, the value considered is 98th percentile value.

IV: Maximum Incremental Value at the receptor locations, as computed by AERMOD v 8.2,

RV: Resultant Value, cumulative concentration of baseline and incremental values.

All values are in $\mu\text{g}/\text{m}^3$, except for CO for which values are in mg/m^3

4.2.2.5 INTERPRETATION

APL will be full fill its steam requirement from the Boilers at sister concern i.e. Aarti Pharmalabs Limited, Plot no, L-10. So incremental values of fuel coal of 10 TPH & 6 TPH (Standby) Boilers Ambient air quality monitoring & dispersion modelling studies were performed for project emissions considering a worst-case scenario. The resultant concentration values were found to be within the prescribed standards. Anticipated values are presented in **Table No. 4.3 (a) & Table No. 4.3 (b)**. The project proponent proposes to use Coal as fuel for the Boilers having 30 m stack height for proper dispersion of pollutants.

The resultant concentration values were found to be within the prescribed standards.

4.2.2.6 SPECIFIC IMPACT AT PROJECT SITE

- The total number of workers in the factory premises will be around 125 nos. Approx. 3 nos. of workers will be involved in the operation of Boiler, they may be directly affected due to the operation of Boiler along with approx.10 nos. of workers from adjacent areas viz. ETP area, STP area, RO area and Hazardous Waste storage area. Also, approx. 70 nos. of workers from the manufacturing plant which is located in the close proximity of boiler house may also be directly/indirectly affected due to the operation of the same.
- Mostly the health effects associated with prolonged exposure to the particulate matter emitted from the combustion of fuel (Imp. Coal) are respiratory, pulmonary injury etc.
- Exposure to high levels of SO₂ and NO_x also might lead to respiratory problems.
- High level of Carbon monoxide decreases the oxygen carrying capacity of blood leading to serious tissue damage, or even death.
- Since the company is handling and transporting various volatile solvents, the VOC emission can have an adverse effect on the worker's health if present in higher concentration. The health effects related to VOC emission are eye, nose and throat irritation, headaches, loss of coordination, nausea, damage to liver, kidney and central nervous system etc.
- The above said air emissions in long course of time may affect the immediate surroundings, vegetation stature, physically (leaf senescence, hampered growth etc.) & biologically thus may affect the overall surrounding ecology.

Detailed mitigation measures along with stack height calculations are addressed in **Annexure 4.2**.

4.2.2.7 IMPACT MATRIX FOR AIR ENVIRONMENT

Table No. 4.4: Impact Matrix for Air Environment

Environmental Component – Air							
Aspects –			Scoring the Anticipated Impact				
1. Emissions such as (PM ₁₀ , PM _{2.5} , SO ₂ , NO _x and CO) from Boilers (6 TPH & 10 TPH) at Plot No. L-10, D.G. Set (500 kVA – 2 No.) at project site i.e. Plot No. L-99. 2. Process Emissions 3. Fugitive Emissions 4. Dust emission from transportation			No	Yes			
			1	2	3	4	
Receptor	Anticipated Impacts	Mitigation Measures	-	Insignificant	Significant	Severely Significant	
Soils in the study area	1. If the emission (uncontrolled) from fuel combustion gets dispersed in Kolavade village present at an approx. aerial distance of 1.10 km in S direction, Salwad village present at an approx. aerial distance of 1.30 km in N direction from the project site. These air pollutants can significantly distress the quality of soil by altering its physical and chemical properties and thus affecting the productivity of the soil. 2. The impacts on physicochemical properties of soil are leaching out of nutrients from the soil	1. Bag filter as APCD already provided for Boilers to control the PM emissions. 2. As per CPCB guidelines, Common stack with appropriate stack height of 30 m is provided to the steam boilers of 10 TPH X 1 no. (6 TPH X 1 no. will be on standby) which will help in dispersion of pollutants at proper height hence the impact will be substantially reduced. 3. Stack of 5 m height above roof level will be provided to each D.G. Set of 500 kVA capacity, so that the pollutants will disperse	-	✓	-	-	

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	due to acids, water retaining capacity will be reduced and soil may become saline due to formation of salts. 3. As the air might be polluted, it might also results in polluting the precipitation that falls onto the soil. If the emissions get deposited on the prevailing soil, it may affect soil pH, their ability to retain many essential nutrients, minerals and elements, such as calcium (Ca), magnesium (Mg) and potassium (K), decreases. As a result, these, minerals, nutrients and elements are transported, or leached, by water that flows through the soil, making them less available for land organisms to use.	effectively in the atmosphere at proper height which will reduce the impact substantially. 4. Periodic monitoring of the flue gas and scrubber stacks will be done to ascertain the efficiency of the APCD's provided. A dedicated cost is allotted in the EMP table for conducting periodic Environmental Monitoring. 5. VOC monitoring to be done periodically. 6. The results will be documented and submitted along with six monthly EC conditions compliance reports as per the stipulated guidelines.				
Water bodies in the study area	1. If the emission (uncontrolled) from combustion of fuel for utilities operations, in any form get deposited on the prevailing nearby water bodies (Upper Banganga River) located at an approx. aerial distance of 2.60 km in NW, lower Banganga present at approx. aerial distance of 1.93 km in Southeast direction, Ucheli creek at an aerial distance of 3.50 km in Northwest direction. These air pollutants can significantly alter the quality of these water bodies. 2. Vehicular movement release nitrogen oxides into the air. Nitrogen reacts with dust or	1. Mitigations measures no. 1 to 6 from above section of Soils in the study area will be applicable. 2. In addition, it will be ensured that transportation activity takes place only by vehicles having valid PUC certification. 3. Internal roads within the project plot will be paved to avoid dust generation. 4. The emission dispersion in the downwind direction which could be diminished by taking above said measures.	-	✓	-	-

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	dissolves into rainwater and fall onto ecosystems as reactive nitrogen deposition. This results in Eutrophication, the process of accumulation of nutrients (nitrogen) in water bodies can cause algae blooms and ultimately a loss of oxygen, and of life. As ecosystems are impacted, so is the biological diversity.					
Agricultural fields in the study area	1. Agricultural fields are located at an approximate distance of 1.15 km in West direction from the site. These air pollutants can significantly distress the quality of soil by altering its physical and chemical properties. Thus, affecting the productivity of the soil and affecting the yield. 2. If pollutant (PM, SO₂, NO_x, CO) gets deposited on the leaf surface of agricultural crops (paddy) causes' leaf senescence thereby affects the productivity of agricultural field. 3. Air pollutant such as SO₂ can damage the leaves of plants. Injury ranges from visible markings on crop leaves, appearance as necrotic lesions (dead tissue), or it can develop slowly as a yellowing or Chlorosis of the leaf. Chronic injury occurs on exposure of plants to low concentration of SO₂ & The acute injury, however, results due to absorption of lethal quantities of SO₂.	1. Mitigations measures no. 1 to 6 from above section of Soils in the study area will be applicable. 2. In addition, 2 nos. of acid/alkali scrubbers each will be used as an APCD to cater the process emissions.	-	✓	-	-

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Biotic Environment	1. High levels of SO₂ can affect the plants/ agricultural habitats. High levels of NO_x in the atmosphere can harm fish and other aquatic life when deposited on surface waters. Animals depend on oxygen that comes from the air, and when the air is contaminated, harmful gases and particulates are inhaled. The pollution that animals inhale can accumulate in their tissues over time, causing damage to their organs. 2. Dust generation will deposit on the leaves of the plants which will impact Photosynthesis activities by blocking stomata 3. In any case if the identified prevailing potential habitats within the study area get exposed to such air emissions from industrial activity & transportation then the prevailing potential habitats may be adversely affected thereby affecting the overall ecology of the study area in consideration.	1. The proposed project plot being located well within the confines of an area which already prevail industrial type of use, thus there will be no change in the land use pattern. 2. In the study area (10 km radius from the project site), based on the primary survey, 102 plant species which comprised of various habit forms viz. 11 herbs, 16 shrubs, 4 climbers, & 71 trees. Of the recorded plant species only 1 tree species falls under endangered category, 1 tree species falls under Near Threatened category & rest of were not rare or endemic. In faunal biodiversity whereas 69 bird species, 8 Butterflies, 5 Reptiles and 6 Mammals were recorded. Whereas, as per the WPA, 1972 & its amendment 2022, 1 species were listed as schedule – I and 66 species are listed as Schedule – II and remaining 2 bird species were not listed in any Schedule. Similarly, Species from Mammals, no single species was fall under schedule – I and 1 species of Reptiles was listed in schedule – I, Also Species from butterflies, no single species was fall under schedule – I. With the reference of secondary sources, 3 species of bird & 3 species of reptiles are listed in Schedule – I as per WPA, 1972 &	-	✓	-	-

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		amendment 2022. Hence, conservation related aspects are anticipated for 6 faunal species (3 Bird species & 3 Reptile species) and the Wildlife Conservation Plan are submitted to the concerned authority.				
Human habitation within the study area	1. Project is located in MIDC Tarapur which is already surrounded by several populated localities (nearest habitation is Salwad village at an approx. aerial distance of 1.30 km in North direction, then Kolavade village at an approx. aerial distance of 1.10 km in S direction and Pam Village present at an approx. aerial distance of 2.10 km in W direction) and several hospitals (TIMA Hospital at 3.52 km, Thunga Hospital at 1.80 km, TAPS Hospital at 2.89 km), schools (Govt and Private Schools), places of worship, community facilities are there in the study area. 2. Ultimately human populations are also affected. Harmful concentrations of pollutants may directly enter our drinking water, notably through ground water seepage. Equally, water quality may be deteriorated as air pollution negatively affects vegetation which helps to naturally filter our water systems.	1. Mitigation No. 1 to 6 from soils in study area will also be applicable. 2. It will be ensured that transportation activity takes place only by vehicles having valid PUC certification. 3. Roads within the project plot will be paved to avoid dust generation. 4. Clean vehicle and fuel technologies shall be adopted; these include fuel-efficient vehicles that use less oil; cleaner fuels that produce fewer emissions.	-	✓	-	-

	3. Vehicle criteria pollutants (PM2.5, CO, NOx) are the toxic air pollutant produced largely from vehicle emissions. Breathing at high concentrations leads to health effects on humans that include impaired reaction timing, headaches, nausea, vomiting, weakness, clouding of consciousness, coma, and, at high enough concentrations and long enough exposure, death.				
Monuments and Archeological Sites	No monuments are observed in the study area	-	-	-	-
<i>Note: The anticipated impacts for air, water, soil, biotic & human habitation is considered as insignificant based on the existing air emission monitoring results which display that the concentration is well below the MPCB prescribed limits. It is also evident from the baseline data results collected during the period of October, 2024 to December 2024.</i>					

Probability of Impact Occurrence

Scenarios	Chance of Occurrence	Scoring
- Air emissions coming in contact with the soils in the study area. - Air emissions coming in contact with the prevailing surface water bodies in the study area - Air emissions coming in contact with the agricultural fields in the study area. - Prevailing habitats within the study area coming in contact with air emissions. - Human habitations within the study area coming in contact with the air emissions. - Air emissions coming in contact with the monuments & archeological sites within the study area.	>90 % Chance of Occurrence	4
	50-90 % chance of Occurrence	3
	20 – 50 % chance of Occurrence	2
	<10 % chance of Occurrence	1

Chart Showing Type of Risk

Score	Type of Risk
1 – 4	Less Severe
5 – 8	Moderately Severe
9 – 12	Highly Severe
13 – 16	Extremely Severe

Impact Severity Score

Score Scenario	Scoring for Chance of Impact Occurrence	Scoring for Anticipated Impact (With Mitigation)	Overall Score for Severity of Impact (Considering Mitigation)	Scoring for Anticipated impact (Without Mitigation)	Overall score for severity of Impact (Without Mitigation)
Air emissions coming in contact with the soils in the study area.	2	1	2	3	6
Air emissions coming in contact with the prevailing surface water bodies in the study area	2	1	2	3	6
Air emissions coming in contact with the agricultural fields in the study area.	2	1	2	3	6
Prevailing habitats within the study area coming in contact with air emissions.	2	1	2	3	6
Human habitations within the study area coming in contact with the air emissions.	2	1	2	3	6
Air emissions coming in contact with the monuments & archeological sites within the study area.	1	1	1	1	1

Note: The scoring for chance of occurrence & the scoring for impact has been given taking into the terrain conditions of the study area, project

activities specific mitigation measures & without mitigation measures & subject understanding by the functional area expert.

Assessment of probable impacts of contamination of air due to project specific activities:

Taking into consideration the terrain conditions of the study area and with the project specific mitigation measures, the maximum score for overall severity of the anticipated impacts is 2 and the risk type assessed is as **Less Severe**.

Taking into consideration the terrain conditions of the study and the project specific activities without mitigation measures, the maximum score for overall severity of the anticipated impacts is 6 and the risk type assessed is as **Moderately Severe**.

4.2.2.8 MITIGATION MEASURES

Mitigation measures for the dispersion of SO₂

The prominent pollutants like PM₁₀, PM_{2.5}, NO_x, SO₂ & CO will be generated due to the fuel (Imported Coal) combustion for operation of units like boilers 10 TPH X 1 no. (6 TPH X 1 no. will be on standby) at plot no. L-10 & D. G. Sets (500 kVA x 2 Nos). Boilers have stack with 30 m height as the mitigation measures for sulphur & ash content. The mitigation measure that will be adopted is providing an adequate stack height for dispersion of pollutants.

APC equipment to control particulate matter:

Bag Filter as APCD equipment is provided to boiler to reduce Particulate Matter, which will reduce the impact substantially. The generated ash will be sent to Brick or Cement Manufacturers. MOU for ash disposal is available and same attached as **Annexure 4.3**.

Table No. 4.4: Comparison after reduction in air pollution after implementation of APCD

Stack No.	Attached to	Fuel	Pollutant	Emission factor (g/s) (Uncontrolled)	Emission factor (g/s) (Controlled)	Percent reduction in Emission rate after mitigation measures
1	Boiler	Imported Coal	PM ₁₀	3.112	0.017	99.45
2	Boiler	Imported Coal	PM _{2.5}	1.085	0.008	99.26

4.2.2.9 Scrubbing system to control process emissions

Table No. 4.5: Scrubber details

Sr. No.	Name	Capacity (CFM)	Absorption Media	Stack Height (m) above roof top
1	Scrubber 1	2000	Acid	6
2	Scrubber 2	2000	Alkali	6

4.2.3 RESULTS AND DISCUSSION

Considering all above-mentioned mitigation measures, APL will not exceed the emission NAAQ 2009 standards for PM₁₀, PM_{2.5}, SO₂, NO_x etc. due to which impact on the study area will be negligible.

4.3 WATER ENVIRONMENT

(Standard ToR Point 3.7 & 3.8)

4.3.1 CONSTRUCTION PHASE

4.3.1.1 IDENTIFICATION OF SOURCE

The APL project in consideration is a new project for manufacturing of API Products. The details regarding construction activity are mentioned in section 4.2.1.1 above.

The water during construction activity will be sourced from MIDC Tarapur / Water tankers. Waste water generated during construction phase will be mainly from construction activity &

domestic activities. Surface runoff will be generated due to the water sprinkling during construction activity. Sewage due to construction workers of 40 Nos. will be generated during construction phase of the project.

4.3.1.2 PREDICTED IMPACT

Water will be used for construction activity in the span of 3 months. The surface runoff generated may result in erosion of soil. Also, the used water generated from construction activity may pollute the water body at final discharge point. If untreated sewage is discharged directly to the surrounding, it may majorly lead to soil, water and air pollution which may cause negative health impacts on the biotic and abiotic environment.

Soil: The various changes that are brought about in the soil from sewage include physical changes like leaching, change in humus content, and porosity, etc., chemical changes like soil reaction, base exchange status, salinity, quantity and availability of nutrients like nitrogen, potash, phosphorus, etc.

Water: Releasing untreated sewage into water bodies introduces a large amount of nutrients into the water. This process, known as eutrophication, can have serious consequences like Harmful algal blooms, dead zones and fish kills etc.

Air: Unscientific disposal of sewage may generate odour and nuisance in the surrounding area. Also, may lead to increase in insects and rodents that can spread disease, contaminate food, and destroy property etc.

4.3.1.3 MITIGATION MEASURES

- Minimal quantity of wastewater will be generated during the construction phase of the project.
- Water will be used only for curing of concrete, which will be absorbed by land or get will get evaporated.
- The surface runoff will be subjected to siltation chambers.
- Toilets will be made available for construction workers working on site.

The potential negative impact is considered minor and has no long-term impact. The overall impact on water environment during construction phase due to the construction /foundation activity (required for installation of new equipment / utilities to achieved project requirement) for the project would be short-term duration and insignificant.

4.3.2 OPERATION PHASE

4.3.2.1 IDENTIFICATION OF SOURCE

During the project in operational phase, wastewater generation will be from domestic activities, manufacturing process, cooling tower blow down, scrubber systems and washing effluent. The raw water demand will be met through MIDC Tarapur. The total water requirement will be 233 CMD. The water permission is attached as an **Annexure 4.4**. The water balance considering water consumption, effluent generation, losses and recycling during the operational activities

of the project is depicted in below **Table No. 4.7 & Table No. 4.8**. Water Balance Flow Chart is shown in the below **Figure No. 4.2 & Figure No. 4.3**.

Table No. 4.6: Water Balance of Dry Season

Activities	Water Consumption (CMD)		Effluent (CMD)		Remark
	consumption	Losses	Domestic	Industrial	
Domestic	6.50	1.30	5.20	0.00	5.20 CMD sewage along with 8 CMD domestic sewage from plot no. L-28 & 29 will be treated in 15 CMD STP
Industrial Process	421.00	0.00	0.00	435.00	MVR, ATFD, ETP, PTRO & HPPTRO. Entire effluent after appropriate treatment will be reused inside the plot premises.
Equipment Washing	3.00	0.00	0.00	3.00	
Scrubber	10.00	0.00	0.00	10.00	
Cooling Tower	815.00	686.00	0.00	129.00	
Greenbelt	10.00	10.00	0.00	0.00	--
Total	1265.50	697.30	5.20	577.00	--

Table No. 4.7: Water Balance of Wet Season

Activities	Water Consumption (CMD)		Effluent (CMD)		Remark
	consumption	Losses	Domestic	Industrial	
Domestic	6.50	1.30	5.20	0.00	5.20 CMD sewage along with 8 CMD domestic sewage from plot no. L-28 & 29 will be treated in 15 CMD STP
Industrial Process	421.00	0.00	0.00	435.00	MVR, ATFD, ETP, PTRO & HPPTRO. Entire effluent after appropriate treatment will be reused inside the plot premises.
Equipment Washing	3.00	0.00	0.00	3.00	
Scrubber	10.00	0.00	0.00	10.00	
Cooling Tower makeup	815.00	686.00	0.00	129.00	
Greenbelt	0.00	0.00	0.00	0.00	--
Total	1255.50	687.30	5.20	577.00	--

4.3.2.2 PREDICTED IMPACT

If untreated sewage 13.20 CMD i.e. (5.20 Sewage from plot no L-99 + 8.0 Sewage from plot no L- 28 & 29) generated from the project activity is discharged to the Tarapur MIDC drains, it will result in the contamination or polluting the water body at final discharge point viz. releasing untreated sewage into water bodies introduces a large amount of nutrients into the water. This process, known as eutrophication, can have serious consequences like Harmful algal blooms, dead zones and fish kills etc.

The prolonged unscientific discharge of the untreated waste water (86 CMD) from industrial activities would lead to the contamination of the nearby surface water bodies, soil in the nearby vicinity by altering its physical and chemical properties, ultimately resulting in polluting the underground water table reserve through percolation from soil. The release of untreated effluent will ultimately affect the overall ecology & agricultural productivity in the surrounding area.

4.3.2.3 SPECIFIC IMPACTS AT PROJECT SITE

- The total number of workers in the factory premises will be around 125 nos. (Considering 3 working shifts).
- Around 10 nos. (Considering 3 working shifts) of workers will be involved in the operation of effluent treatment plant who may be directly affected.
- The ETP operation includes handling of chemicals, effluent handling, handling of sludge, operation of high noise generating equipment's like air blower, compressor etc.
- Mostly the health effects associated with ETP operation are head-ache, nausea, irritation, itching, respiratory disorder due to prolonged contact of chemicals etc.

4.3.2.4 IMPACT MATRIX FOR WATER ENVIRONMENT

Table No. 4.8: Water Impact Matrix

Environmental Component – Water						
Aspects -			Scoring the Anticipated Impact			
Unforeseen/deliberate release of treated effluent from industrial operations such as: Process Effluent 771 CMD (606 (Trade Effluent from plot no L-99) + 165 (Trade Effluent from plot no L- 28 & 29), Cooling Tower Blow Down, Domestic Sewage 13.20 CMD (5.20 (Sewage from plot no L-99) + 8.0 (Sewage from plot no L- 28 & 29))			No	Yes		
			1	2	3	4
Receptor	Anticipated Impacts	Mitigation Measures	-	Insignificant	Significant	Severely Significant
Soils in the study area	- If all the untreated/treated effluent from industrial activity (784.20 CMD) in whatsoever manner comes in contact with the prevailing soils in the study area, then such soils may get polluted along with ground water through percolation thereby having potentiality to indirectly affect to the nearby agricultural activity & nearby biotic environment. - Due to discharge of the untreated/treated effluent on the soil, addition of the micronutrients and heavy metals in the soil which cause deflocculating of soil	A. Effluent Treatment Scheme for Trade effluent: - The unit will be operated on Zero Liquid Discharge system. - Effluent will be segregated into two streams i.e. HCOD / HTDS and LCOD / LTDS. - For appropriate treatment of effluent, provision of MVR (Capacity – 760 CMD) followed by ATFD, Full-fledged ETP (Capacity – 820 CMD) (Primary, Secondary and Tertiary Treatment), HPPTRO (Capacity – 335 CMD), PTRO (Capacity – 85 CMD), PTRO (Capacity – 770 CMD) is made. - Around 755.55 CMD HCOD (5%) / HTDS (10%) effluent from in-house manufacturing process and around 165 CMD HCOD (5%) / HTDS (10%) effluent from sister concern at Plot No. L-28 & 29	-	✓	-	-

Chapter 4 – Anticipated Environmental Impact & Mitigation



SEEPL/EIA/D/IND/APL/001/2025-26/00

	particles and increase in the N, P and K levels of soils. Similarly, deleterious effects, such as increase in pH, sodicity and EC in soils.	after neutralization treated through MVR followed by ATFD along with 113.50 CMD HPPTRO reject. 5. Around 680 CMD condensate from MVR and ATFD and around 129 CMD LCOD (0.05%) / LTDS (0.15%) effluent from cooling tower blowdown & floor cleaning treated in the ETP comprising of Primary, Secondary and Tertiary treatment. 6. Around 757 CMD Treated effluent from ETP will be sent to PTRO System. 7. Considering 70% permeate and 30% reject from PTRO system. Around 530 CMD permeate will be recycled and reused as Cooling Tower makeup and the reject will be sent to HPPTRO system for further treatment. 8. Around 113.50 CMD HPPTRO permeate (50%) will be recycle & reuse for Cooling Tower makeup and around 113.50 HPPTRO reject (50%) will be resent to MVR for further treatment. 9. Sludge generated from primary & secondary treatment will be sent to CHWTSDF for disposal. ATFD salts will be sent to CHWTSDF for disposal. <i>As a contingency, membership will be taken with M/s Sadekar Enviro Engineers Pvt. Ltd. High COD/TDS reduction facility, MIDC Tarapur.</i> B. Treatment Scheme for Sewage: 10. STP (with MBBR technology) having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern at Plot No. L-28 & 29. 11. Treated water will be used for greenbelt development & toilet flushing and sludge will be used as manure for greenbelt development.				

Chapter 4 – Anticipated Environmental Impact & Mitigation



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		<i>Note : With reference to the Consent to Establish (CTE) obtained from Maharashtra Pollution Control Board vide no Format1.0/AS(T)/UAN No.0000223966/CE/2411000875 dated 14-11-2024, the Effluent Treatment Plant at plot no.L-99 will be utilized for the treatment of trade effluent generating from the plot no. L 28 & 29 as it is sister concern.</i>				
Water bodies in the study area	1. The prolonged unscientific discharge of the untreated waste water may lead to the contamination of the nearby surface water bodies (Upper Banganga river present at aerially 2.60 km in NW direction & Wetland mangroves along the Banganga river present at aerially 2.60 km in NW direction). 2. If untreated/treated wastewater discharge directly to waterbody which harms water quality, disrupts ecosystems, and threatens human health. It can cause oxygen depletion in waters, harm aquatic life, and spread diseases in the surrounding. 3. Due to percolation of the untreated effluent through soil cause contamination of ground water by altering it's physical & chemical parameter. Also, can result in poor drinking water quality, loss of water supply, degraded surface water systems and potential health problems in nearby areas.	1. Mitigations measures no. 1 to 11 from section of Soils in the study area will be applicable.	-	✓	-	-

Chapter 4 – Anticipated Environmental Impact & Mitigation



SEEPL/EIA/D/IND/APL/001/2025-26/00

Agricultural fields in the study area	1. If these untreated/treated effluents in any way come in contact with the agricultural fields and nearby biotic environment, then productivity of such agricultural fields, biotic environment may be adversely affected and if such crops, plants are consumed by humans or animals, health risk may increase or get deteriorated.	1. Same as above point no. 1 to 11 from section of Soils in the study area.	-	✓	-	-
Biotic Environment	1. In any case if the identified prevailing potential habitats within the 10 km radius study area from the project site get exposed to such effluent releases then such habitats may be adversely affected thereby resulting in badly affecting overall ecology of the study area in consideration.	1. In the study area (10 km radius from the project site) 102 plant species which comprised of various habit forms viz. 11 herbs, 16 shrubs, 4 climbers, & 71 trees. Of the recorded plant species only 1 tree species falls under endangered category, 1 tree species falls under Near Threatened category & rest of were not rare or endemic. In faunal biodiversity whereas 69 bird species, 8 Butterflies, 5 Reptiles and 6 Mammals were recorded. Whereas, as per the WPA, 1972 & its amendment 2022, 1 species were listed as schedule – I and 66 species are listed as Schedule – II and remaining 2 bird species were not listed in any Schedule. Similarly, Species from Mammals, no single species was fall under schedule – I and 1 species of Reptiles was listed in schedule – I, Also Species from butterflies, no single species was fall under schedule – I. With the reference of secondary sources, 3 species of bird & 3 species of reptiles were comes in Schedule – I as per WPA, 1972 & amendment 2022. Hence, conservation related aspects are anticipated for 6 faunal species (3 Bird species & 3 Reptile species). 2. Same as above point no. 1 to 11 from section of Soils in the study area.	-	✓	-	-
Human habitation within the study area	1. Ultimately human populations are also affected. If the agricultural crops consumed that was cultivated on the	1. Same as above all the mitigation measures.	-	✓	-	-

contaminated soil can pose adverse health impacts

Note: Surface water monitoring done by SEEPL at 8 different locations within 10 km study area around project site of M/s. Shrishresht Chemicals Pvt. Ltd. Ground water monitoring done by SEEPL at 8 different locations within 10 km study area around project site of M/s. Shrishresht Chemicals Pvt. Ltd.

Probability of Impact Occurrence

Scenarios	Chance of Occurrence	Scoring
- Treated effluents comes in contact with the soils in the study area. - Treated effluents comes in contact with the water prevailing surface water bodies & ground water in the study area. - Treated effluents comes in contact with the agricultural fields in the study area. - Prevailing habitats within the study area coming in contact with treated effluents. - Human habitations within the study area coming in contact treated effluent.	>90 % Chance of Occurrence	4
	50-90 % chance of Occurrence	3
	20 – 50 % chance of Occurrence	2
	<10 % chance of Occurrence	1

Chart Showing Type of Risk

Score	Type of Risk
1 – 4	Less Severe
5 – 8	Moderately Severe
9 – 12	Highly Severe
13 – 16	Extremely Severe

Impact Severity Score

Score Scenario	Scoring for Chance of Impact Occurrence	Scoring for Anticipated Impact (With Mitigation)	Overall Score for Severity of Impact (Considering Mitigation)	Scoring for Anticipated impact (Without Mitigation)	Overall score for severity of Impact (Without Mitigation)
Treated effluents comes in contact with the soils in the study area	2	1	2	3	6
Treated effluents comes in contact with the water prevailing surface water bodies & ground water in the study area	2	1	2	3	6
Treated effluents comes in contact with the agricultural fields in the study area	2	1	2	3	6
Prevailing habitats within the study area coming in contact with treated effluents	2	1	2	3	6
Human habitations within the study area coming in contact treated effluent	1	1	1	3	3

Note: The scoring for chance of occurrence & the scoring for impact has been given taking into the drainage and discharge conditions of the study area, project activities with and without specific mitigation measures & subject understanding by the functional area expert.

Assessment of probable impacts of waste water generated due to project specific activities:

Taking into consideration the ZLD treatment of the study and the project specific activities mitigation measures, the maximum score for overall severity of the anticipated impacts is **2** and the risk type assessed is as **Less Severe**.

Taking into consideration the conditions of the study and the project specific activities without mitigation measures, the maximum score for overall severity of the anticipated impacts is **3** and the risk type assessed is **6** and the risk type assessed is as **Moderately Severe**.

4.3.2.5 MITIGATION MEASURES

Treatment of HCOD/HTDS & LCOD/LTDS effluent: (Standard ToR Point 7.4 & 12.5)

A. Effluent Treatment Scheme for Trade effluent:

- The unit will be operated on Zero Liquid Discharge system.
- Effluent will be segregated into two streams i.e. HCOD / HTDS and LCOD / LTDS.
- For appropriate treatment of effluent, provision of MVR (Capacity – 760 CMD) followed by ATFD, Full-fledged ETP (Capacity – 820 CMD) (Primary, Secondary and Tertiary Treatment), HPPTRO (Capacity – 335 CMD), PTRO (Capacity – 85 CMD), PTRO (Capacity – 770 CMD) is made.
- Around 755.55 CMD HCOD (5%) / HTDS (10%) effluent from in-house manufacturing process and around 165 CMD HCOD (5%) / HTDS (10%) effluent from sister concern at Plot No. L-28 & 29 after neutralization treated through MVR followed by ATFD along with 113.50 CMD HPPTRO reject.
- Around 680 CMD condensate from MVR and ATFD and around 129 CMD LCOD (0.05%) / LTDS (0.15%) effluent from cooling tower blowdown & floor cleaning treated in the ETP comprising of Primary, Secondary and Tertiary treatment.
- Around 757 CMD Treated effluent from ETP will be sent to PTRO System.
- Considering 70% permeate and 30% reject from PTRO system. Around 530 CMD permeate will be recycled and reused as Cooling Tower makeup and the reject will be sent to HPPTRO system for further treatment.
- Around 113.50 CMD HPPTRO permeate (50%) will be recycle & reuse for Cooling Tower makeup and around 113.50 HPPTRO reject (50%) will be resent to MVR for further treatment.
- Sludge generated from primary & secondary treatment will be sent to CHWTSDf for disposal. ATFD salts will be sent to CHWTSDf for disposal.

As a contingency, membership will be taken with M/s Sadekar Enviro Engineers Pvt. Ltd. High COD/TDS reduction facility, MIDC Tarapur.

B. Treatment Scheme for Sewage:

- STP (with MBBR technology) having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern at Plot No. L-28 & 29.
- Treated water will be used for greenbelt development & toilet flushing and sludge will be used as manure for greenbelt development.

Note : With reference to the Consent to Establish (CTE) obtained from Maharashtra Pollution Control Board vide no Format1.0/AS(T)/UAN No.0000223966/CE/2411000875 dated 14-11-2024, the Effluent Treatment Plant at plot no.L-99 will be utilized for the treatment of trade effluent generating from the plot no. L 28 & 29 as it is sister concern. The copy of CTE is attached as **Annexure 1**.

ETP Scheme and Design Details: Effluent Treatment Flow

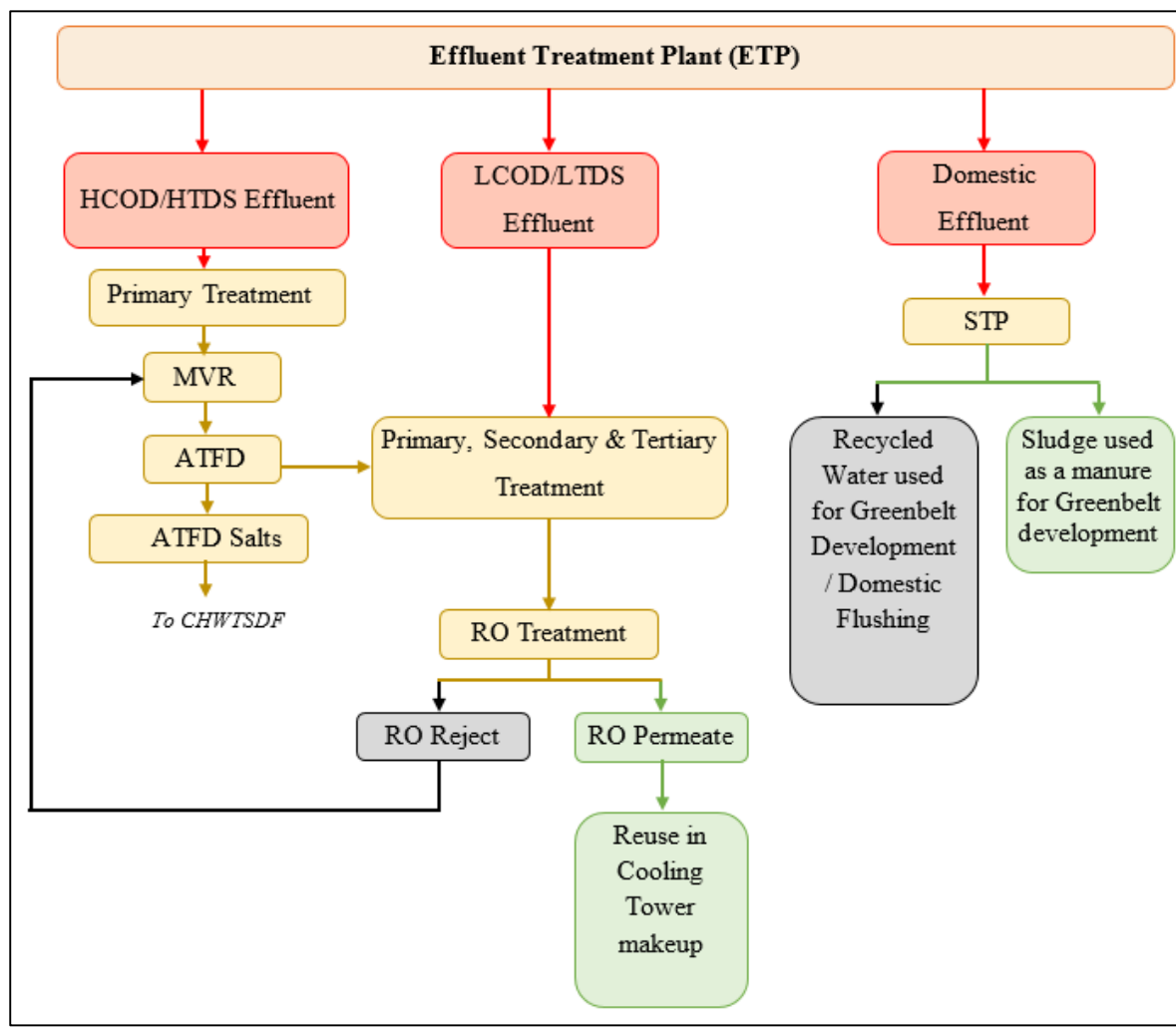


Figure No. 4.4: Flow Chart for Effluent treatment plant

ETP design Qualification

Table No. 4.9: ETP Components

Sr. no.	ETP Components	Capacities
1	Domestic Sewage Generated	13.20 m ³ /day
2	Process Effluent + Scrubber + Equipment Washing	448 m ³ /day
3	Utility Blowdown	129 m ³ /day
4	ETP (Primary + Secondary + Tertiary) Capacity	820 m ³ /day
5	MVR followed by ATFD Capacity	760 m ³ /day
6	PTRO Capacity	770 m ³ /day

Sr. no.	ETP Components	Capacities
7	PTRO Capacity HPPTRO Capacity	85 m ³ /day 335 m ³ /day

Quality of Raw Water Characteristics:

Table No. 4.10: Parameters & Quality of High COD / High TDS Stream (from Process)

Sr. No.	Parameters	Concentration	Units
1	Flow	448	CMD
2	Average Flow	22.4	m ³ /hr.
3	Operating Hours	20	Hr.
4	Chemical Oxygen Demand	<50000	mg/lit
5	Biochemical Oxygen Demand, 3 day, 27 °C	<15000	mg/lit
6	Total Dissolved Solids	<100000	mg/lit

The detailed ETP scheme and design and qualification is addressed as **Annexure 4.3**

4.3.3 INTERPRETATION

- The unit will be operated on Zero Liquid Discharge system. For appropriate treatment of effluent, provision of MVR followed by ATFD, Full-fledged ETP (Primary, Secondary and Tertiary Treatment), HPPTRO, PTRO, STP is made. Approximately 56.04% water will be reused.
- M/s. Aarti Pharmalabs Limited (Unit V-II) will not discharge any treated / untreated Domestic / Trade effluent in whatsoever manner on the prevailing soil and surface water bodies in the study area.

4.4 NOISE AND VIBRATION ENVIRONMENT

4.4.1 CONSTRUCTION PHASE

4.4.1.1 IDENTIFICATION OF SOURCE

The general noise levels during construction phase viz., due to activities like Excavation, Foundation, use of construction equipment & vehicles, air compressor and other related machinery operations may sometimes go up to 90 dB(A) at the worksites in day time. The workers in general are likely to be exposed to an equivalent noise level of more than 90 dB (A) in 8 hours shift.

The project is new activity for manufacturing of API Products. The details regarding construction activity are mentioned in section no. 4.2.1.1 above.

The noise generation will be considerable during construction activities. The impacts during construction phase are temporary and will be marginal. Necessary mitigation measures are required to be implemented during construction period.

4.4.1.2 PREDICTION OF IMPACT

The impacts due to the exposure to the high noise level generated could be such as temporary or permanent hearing loss, nuisance, mental disturbance, increase in heart rate, ill effects on the worker's performance etc. Total 40 nos. of workers will be involved in the construction activity out of which 10 nos. of workers may be directly affected due to noise generating

vehicles/equipment etc. 30 Nos. of workers may be directly/indirectly affected due to noise generated during construction activities.

Consideration of identified sources, for the current scenario can be in two modes, Stationary and Mobile.

- Stationary equipment operates in one location for one or more days at a time with either a fixed power operation (pumps, generators).
- Mobile equipment moves around the construction site with power applied in cyclic fashion such as trucks moving to and fro from the site. The time varying noise level which are converted into a single number for stationary & mobile sources are taken from the Noise Modelling software CUSTIC version 3.2 which are depicted in the below table.

Table No. 4.11: Noise Level generation from Construction Equipment

Sr. No.	Equipment	Typical Noise level in dB(A) 50ft from source
1	Metal Equipment	105
2	Power Generator	90
3	Heavy Truck	90
4	Concrete Mixer	85

Source: U.S Environmental Protection Agency, “Noise from Construction Equipment & Operations, Building Equipment and Home Appliance, “NTID300.1, December 31, 1971.

4.4.1.3 MODEL OPTIONS USED FOR COMPUTATION

- Flat terrain is assumed.
- Point source emission is computed.
- Atmospheric sound attenuation is considered.
- Barriers are not used for computation for worst case scenario.
- Solid angle of the propagation is contemplated as 2 pi.
- Temporal average is not considered.
- Simulation calculation is done at surface height.
- The isoclines are used as output interphase.
- Classic CUSTIC model (Linear sound propagation equation) is used for simulation.

MODEL INPUT DATA

Table No. 4.12: Noise Model Input Data

Sr. No.	Parameters	Typical Noise level in dB(A) 50ft from source
1	Number of Sources	4 nos.
2	Solid angle	2 pi
3	Relative Humidity	90 %
4	Air Temperature	30 °C
5	Attenuation Coefficient	0.82 dB(A)/100m

4.4.1.4 MODELING PROCEDURE

The propagation of the noise generated due to proposed project has been made by CUSTIC version 3.2. The step wise method subjected in the user manual is followed for performing the model.

4.4.1.5 INTERPRETATION

Noise negatively affects human health and well-being. Problems related to noise pollution include stress, sleep loss, distraction and a general reduction in the quality of life. The noise level dissipates as it travels the distance. The drop down in the decibels is calculated by the modelling software. The estimated noise level at the plant boundary along the four boundary corners during construction phase is tabulated in the following **Table No. 4.18**.

Table No. 4.13: Anticipated Noise Level at Plot Boundary (Construction Phase)

Sr. No.	Direction	Noise level dB(A)
1	North	70.06
2	South	56.34
3	East	49.79
4	West	65.53

The drop down of noise as it travels away from the project site during construction phase is depicted in the below **Table No. 4.19**.

Table No. 4.14: Noise Propagation in Study Area (Construction Phase)

Sr. No.	Distance (m)	Noise level dB(A)
1	100	46
2	200	40.84
3	300	37.10
4	400	34.08
5	500	31.49

The noise contour plotted by the CUSTIC 3.2 is presented below;

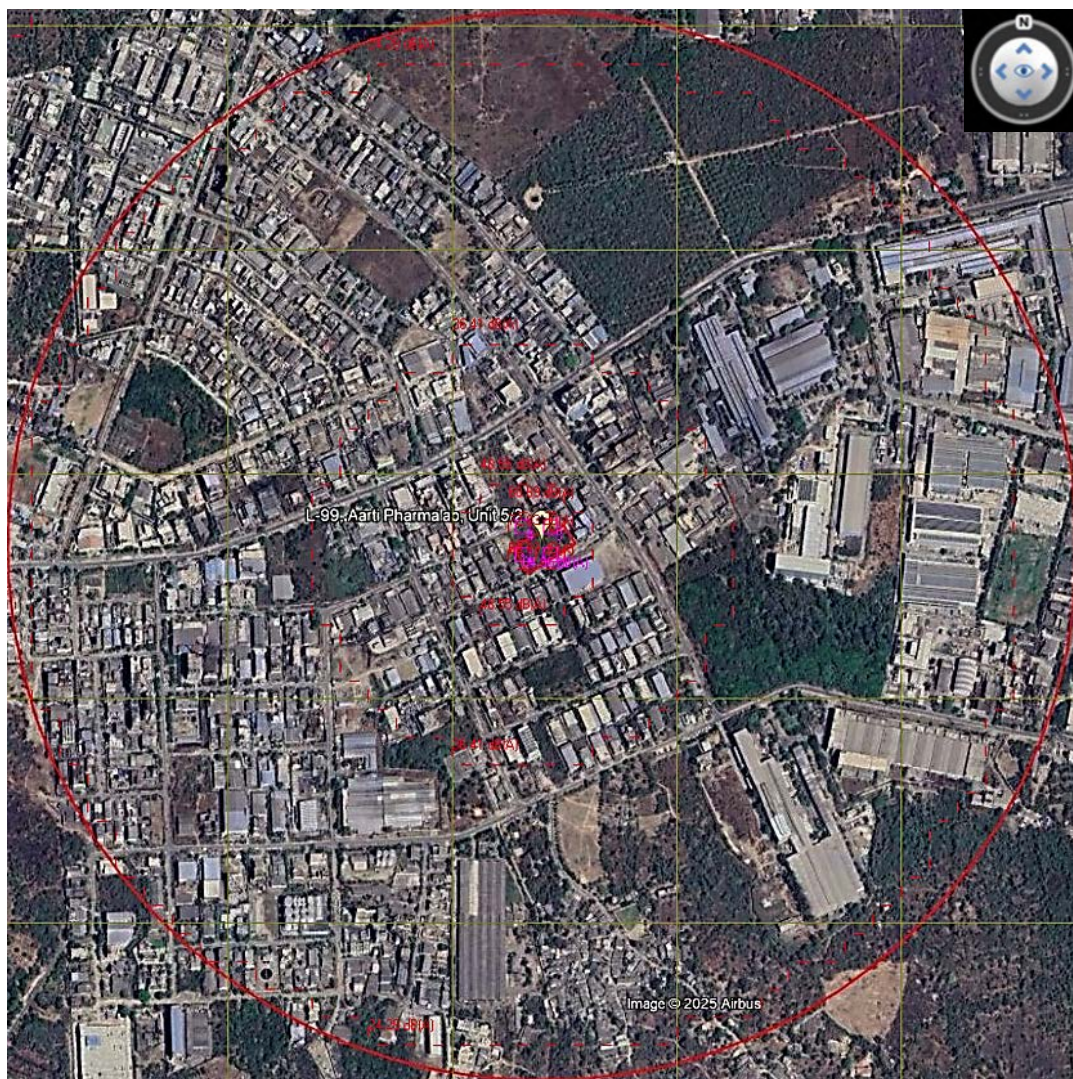


Figure No. 4.4: Noise Contour plotted by the CUSTIC 3.2 (Construction Phase)

4.4.1.6 MITIGATION MEASURES

The noise control approaches which can be implemented to curb the noise level in the construction phase are as follows.

1. Design consideration and project layout: Constructing noise barrier, such as temporary walls of piles of excavated material, between noisy activities and noise sensitive receivers. Construct temporary walled enclosure around especially noisy activities or clusters of noisy equipment.
2. Appropriate PPEs will be provided to the workers like ear muffs, ear plugs etc.
3. Implementation of proper traffic management.
4. Sequence of operations: Combining noisy operations to occur in the same time period. The total noise level formed will not be expressively greater than the level formed if the operations were completed separately.
5. Avoid night-time activities.

Thus, noise from construction would have minor negative impact. However, by implementing appropriate mitigation measures suggested above, these effects are expected to become insignificant.

4.4.2 OPERATION PHASE

4.4.2.1 IDENTIFICATION OF SOURCE

Any industrial plant in general consists of various sources of noise in cluster or single. These clusters/single sources may be housed in buildings of different dimensions made of different materials or installed in open or under sheds. Generally, the plant noise sources include Air compressors, feed pumps, condensate pumps, D.G sets, recycle pumps, production unit, air blowers, cooling etc. Predicted noise level generation during operational phase is depicted in **Table No. 4.20**.

Table 4.15: Predicted Noise Level during Operational Phase

Sr. No.	Monitoring Location	Noise in dB (A) Leq.
1	Near Utility Area	75
2	Near ETP area	70
3	Near Manufacturing Area	74
4	Near DG set area	68
OHSAS Standard (Within Premises)		90

4.4.2.2 MODEL INPUT DATA

Table 4.16: Noise Model Input Data

Sr. No.	Parameters	Typical Noise level in dB(A) 50ft from source
1	Number of Sources	4 Nos.
2	Solid angle	2 pi
3	Relative Humidity	90 %
4	Air Temperature	30 °C
5	Attenuation Coefficient	0.82 dB(A)/100m

4.4.2.3 PREDICTION OF IMPACT

In order to predict noise levels due to the plant operations, which will be contributing to the ambient noise levels, a sound propagative modeling has been carried out. For predicting the noise levels at various distances with respect to the plant site, noise levels are predicted using a user-friendly model CUSTIC 3.2. The details of which are elaborated above. The modeling parameters & procedure are explained in the above section. Some methodology is adopted for simulating the model considering 4 Nos. of point sources.

Impacts of High Noise Level on Workers during the operational phase

- Temporary / Permanent hearing loss.
- Mental disturbance.
- Increase in heart rate.
- Decreasing in workers performance due to psychiatric disorder.
- Workers developing tinnitus due to high level of noise exposure on regular basis.

4.4.2.4 INTERPRETATION

The noise level gets dissipated as it travels the distance. The drop down in the decibels is calculated by the modeling software. The estimated noise level at the plant boundary of operational phase is tabulated in the following **Table No. 4.22**.

Table No. 4.17: Anticipated Noise Level at Plot Boundary (Operational Phase)

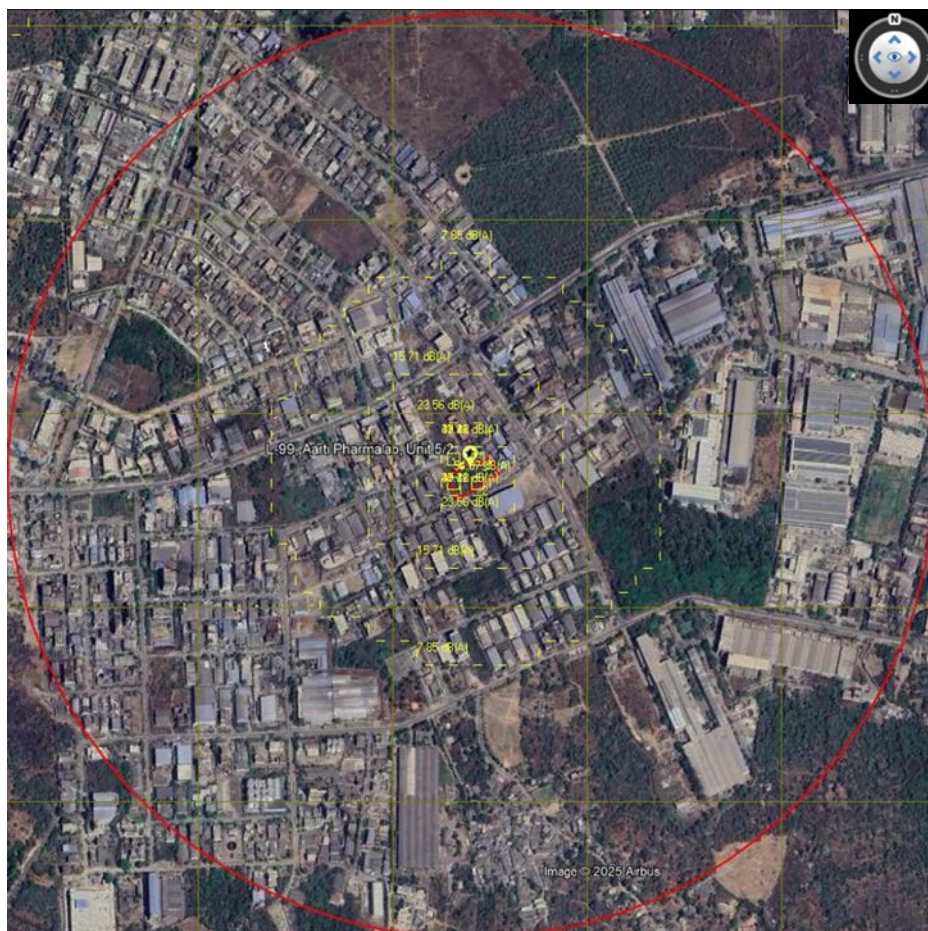
Sr. No.	Direction	Noise level dB(A)
1	North	50
2	South	53.97
3	East	26.91
4	West	48.02

The drop-down level of noise as it travels away from the project site during operational phase is depicted in the below **Table No. 4.23**.

Table No. 4.18: Drop down of Noise Level in Study Area (Operational Phase)

Sr. No.	Distance (m)	Noise level dB(A)
1	100	27.40
2	200	17.99
3	300	12.80
4	400	8.36
5	500	5.52

The noise contour plotted by the CUSTIC 3.2 is presented below,



4.4.2.6 IMPACT MATRIX FOR NOISE & VIBRATIONS

Table No. 4.19: Noise & Vibration Impact Matrix

Environmental Component – Noise & Vibration						
Aspects -			Scoring the Anticipated Impact			
Noise and vibrations form the industrial operations such as: Manufacturing process, D. G. Set (2 no. x 500 kVA) & Transportation activity			No	Yes		
			1	2	3	4
Receptor	Anticipated Impacts	Mitigation Measures	-	Insignificant	Significant	Severely Significant
Human Habitations	- Noise generation due to Operations of Utilities / Manufacturing process / Transportation activity, the noise propagation near the company boundary during operation phase may have a minor impact on health that are exposed to such noise levels may face problems like difficulty in listening, temporary headache, temporary psychological disturbance etc. - Noise generation due to Operations of Utilities / Manufacturing process/ Transportation activity, the noise propagation near the company boundary as per the model computations is anticipated to be around	- To curb the noise levels the company is recommended to develop the Greenbelt area around the boundary of the industry as it will help to minimize the noise intensity propagating out of the factory premises. - M/s. Aarti Pharmalabs Limited (Unit V-II) will be provide Total 3323 sq. m (64.43%) Greenbelt of the total plot area at site and carry out plantation with density of 2500 nos. of trees per hectare. Total 1040 nos. of trees are required to fulfill the guideline (Considering 80% survival rate) - It is ensured that noise generating machines/equipment's are placed within	-	✓	-	-

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	during operation phase 26.91 dB (A) to 53.97 dB (A) around 24 workers may have a minor impact on health that are exposed to such noise levels may face problems like difficulty in listening, temporary headache, temporary psychological disturbance etc.	enclosed area & even noise generating operations area are also carried out in enclosed areas only. 4. D.G Set of 500 kVA (2 nos.) shall be provided with an acoustic enclosure and located in an isolated place. 5. To overcome impacts from machinery operations, the grouting of these instruments/machineries shall be made free from vibration by providing shock absorbing pads and firmly mounted on the surface. 6. Regular / routine maintenance of various equipment shall be carried out. 7. Adequate PPE's will be provided to workers working within the factory premises & must work in shifts.				
Biotic Environment	1. Noise during operation phase may propagate up to important/potential habitats; Many Trees/ birds/ mammals/ reptile's area found within the study area of 10 km radius may get affected due to the noise generation from project activities.	2. Same a above point no. 1 to 7 from section of Human Habitations.	-	✓	-	-

Note: The anticipated impacts for human habitation & biotic environment is considered as insignificant based on the outcome of the noise modeling depicting that the noise traveling to the receptors (Human & Biotic) is well below the standards prescribed by the CPCB/MPCB. It is observed that the noise monitoring carried out at plant premises also does not exceed the Noise limit prescribed by CPCB.

Probability of Impact Occurrence

Scenarios	Chance of Occurrence	Scoring

- Human habitations coming in contact with the noise and vibrations generated from the project activities. - The noise & vibrations generated from the project activities reaching up to prevailing important/potential habitats within the study area.	>90 % Chance of Occurrence	4
	50-90 % chance of Occurrence	3
	20 – 50 % chance of Occurrence	2
	<10 % chance of Occurrence	1

Chart Showing Type of Risk

Score	Type of Risk
1 – 4	Less Severe
5 – 8	Moderately Severe
9 – 12	Highly Severe
13 – 16	Extremely Severe

Impact Severity Score

Score Scenario	Scoring for Chance of Impact Occurrence	Scoring for Anticipated Impact (With Mitigation)	Overall Score for Severity of Impact (Considering Mitigation)	Scoring for Anticipated impact (Without Mitigation)	Overall score for severity of Impact (Without Mitigation)
Human habitations coming in contact with the noise and vibrations generated from the project activities.	2	2	4	3	6
The noise & vibrations generated from the project activities reaching up to prevailing important/potential habitats within the study area.	1	2	2	3	3

Note: The scoring for chance of occurrence & the scoring for impact has been given taking into the terrain conditions of the study area, project activities specific mitigation measures & without mitigation measures & subject understanding by the functional area expert.

Assessment of probable impacts of noise generated due to project specific activities:

Taking into consideration management / Mitigative measures to be provided/to be adopted by the project proponent during operational phase for noise and vibration scenario, the maximum score for overall severity of the anticipated impacts is **4** and the risk type assessed is as **Less Severe**.

Taking into consideration management / and no Mitigative measures provided/adopted by the project proponent during operational phase for noise and vibration scenario, the maximum score for overall severity of the anticipated impacts is **6** and the risk type assessed is as **Moderately Severe**.

4.4.3 MITIGATION MEASURES

To reduce the noise & vibration level in the company premises following mitigation will be provided.

- Thick greenbelt or shelter belt will act as a barrier for preventing the noise propagation out of the factory premises.
- To curb the noise levels, the company has proposed to develop the green belt area over an area of 3323 Sq. m. at site.
- Anti-vibration pads to be installed for high vibration generating machines. Enclosure wherever necessary.
- Regular oiling and greasing for equipment's should be done.
- Acoustic enclosures to be provided to D.G Sets, Compressors & high noise generating equipment's.
- Workers should work in shifts to avoid the long durations of exposure to high noise level.
- Implementation of noise absorbing sheets on the walls of building/facilities hosting high noise generating equipment's/machinery.
- Isolation of the high noise generating equipment's.
- Regular/routine maintenance of various equipment's should be carried out.
- The proposed equipment's would be provided with proper enclosure, anti-vibration pads, acoustic enclosure wherever required.

4.4.4 RESULTS AND DISCUSSION

It is concluded that the impact of noise & vibration level on the nearest surrounding from the project would be insignificant since value being within prescribed limit.

4.5 HAZARDOUS AND NON - HAZARDOUS WASTE (GENERATION, STORAGE, UTILIZATION & MANAGEMENT) *(Standard ToR Point 3.7 & 7.7)*

4.5.1 CONSTRUCTION PHASE

4.5.1.1 IDENTIFICATION OF SOURCE

APL envisages manufacture of API Products. The details regarding construction activity are mentioned in section 4.2.1.1 above.

Construction activities generates solid wastes which comprises left off concrete, brick, stone aggregate, wooden piles, excavated materials, oil & grease from construction machines/vehicles etc. This may create unhealthy work condition at project site and this waste may contaminate soil at plant site temporarily.

Thus, impacts will be insignificant, reversible, restricted to the construction site for short duration only.

4.5.1.2 PREDICTION OF IMPACT

As per Technology Information, Forecasting, and Assessment Council (TIFAC), estimated waste generation during construction operations is 45 kg/m². During the construction in a built-up area of 4140 sq. m, 186 T of waste would be generated for the entire project.

During the construction phase fuel and lubricating oils will be used. There is potential for accidental spills while refilling or servicing vehicles and through the breakage due to wear and tear.

Total 40 nos. of workers will be involved in the construction activity who may be directly/indirectly affected due to waste handling during construction activities.

Construction and demolition activities release a mixture of pollutants such as PM, SO₂, CO, waste oil etc. into the environment. This may lead to some major & minor health issues like injuries during improper handling of waste, respiratory problem, irritation etc. to the construction workers.

4.5.1.3 MITIGATION MEASURES

Following are the specific mitigation measures to reduce the waste generation and its subsequent impacts during the construction activity:

- Construction waste materials shall be stored in dedicated area inside the plot premises. The waste oil will be stored in drums with proper labelling and disposed periodically to authorized recyclers as per Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016.
- As per Construction and Demolition waste management Rules, 2016 waste such as bricks, stone, gravel, concrete etc. would be utilized in the site for filling/leveling of the area, for internal road construction and bricks for greenbelt area edging and other recyclable waste such metal, plastic, wood, paper would be sold to the authorized recycler.
- Wherever materials (aggregates, sand, etc.) are more likely to generate fine airborne particles during operations, nominal wetting by water shall be practiced. Workers / labour shall be given proper air masks and helmets.
- To increase the awareness among the employee and contractors regarding generation and management of Hazardous Waste regular training & PPE's will be provided to all construction workers.

4.5.2 OPERATION PHASE

4.5.2.1 IDENTIFICATION OF SOURCE

The proposed new activity for manufacturing of API Products at proposed project will involves generation of Hazardous waste from manufacturing process, operations and also from RM storage, ETP and D.G. set operation.

4.5.2.2 PREDICTION OF IMPACT

The hazardous waste, non-hazardous waste, e-waste, battery waste & biomedical waste will be generated from manufacturing process, from RM/FG storage, ETP, D.G. set operation, Thermic Fluid Heater operation and other industrial activity. Details of the same along with its quantity & disposal methodologies are tabulated below.

Table No. 4.20: Solid Waste Generation and Disposal Method

A. Hazardous Waste

Sr. No.	Type of Waste	Category of waste	Quantity	UOM	Method of Disposal
			Total		
1.	Spent Carbon	28.3	1930	TPA	Sale to Authorized party/ Co-processing/

					Pre-processing/ CHWTSDF
2.	Spent Acid 30-40% Acetic Acid (From Paracetamol process)	36.1	12650	TPA	Sale to Authorized Party / CHWTSDF
3.	Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste.	33.1	180	TPA	Sale to Authorized Party / CHWTSDF
4.	Contaminated cotton rags or other cleaning materials	33.2	12	TPA	CHWTSDF / Co-processing
5.	Used or Spent Oil	5.1	12	TPA	Sale to Authorized Party / CHWTSDF
6.	Wastes or residues containing oil	5.2	6	TPA	CHWTSDF / Co-processing
7.	Chemical sludge from waste water treatment.	35.3	300	TPA	CHWTSDF
8.	Concentration or evaporation residues (From ATFD)	37.3	27500	TPA	CHWTSDF
9.	Discarded Asbestos	15.2	12	TPA	Sale to Authorized Party / CHWTSDF
10.	Date expired products	28.5	50	TPA	CHWTSDF
11.	Off Specification Product	28.4	50	TPA	CHWTSDF
12.	Dust from air filtration system	26.2	1.2	TPA	CHWTSDF
13.	Spent carbon or filter medium	36.2	24	TPA	Co-processing/ Pre-processing/ CHWTSDF.
<i>Schedule-I of The Hazardous and Other Wastes (Management and Trans boundary Movement) Rule, 2016.</i>					

B. Non – Hazardous Waste

Sr. No.	Particulars	Quantity	UOM	Method of Disposal
1.	STP Sludge	40	TPA	Use as manure
2.	Dry Waste : Garbage	5.5	TPA	Sale to authorized party for recycling
	Wet Waste : Food Waste	4	TPA	After composting use as manure
3.	Metal scrap (MS scrap piping, structural, Equipment, Broken Shutters, etc.)	50	TPA	Sale to authorized Recycler
4.	Wood, Wooden Box, Wooden fills cooling tower, Plywood, Pallets	10	TPA	Sale to authorized party
5.	Glass waste	5	TPA	Sale to authorized party
6.	Paper waste	5	TPA	Sale to authorized Recycler
7.	PVC fins cooling tower	15	TPA	Sale to authorized party
8.	Plastic material	0.5	TPA	Sale to authorized party

C. E – Waste

Sr. No.	Particulars	E – Waste Category	Quantity	UOM	Method of Disposal
			Total		
1.	Personal Computers (Central Processing Unit with input and output devices)	ITEW2	0.5	TPA	Sale to MPCB authorised recycler / returned to manufacturer / supplier
2.	Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)	ITEW3	0.5	TPA	
3.	Printers including cartridges	ITEW6	0.5	TPA	
4.	Telephones	ITEW12	0.1	TPA	
Reference: E- Waste (Management) Rules 2022 and its amendments					

D. Battery Waste

Particulars	Total (TPA)	Method of Disposal
Lead batteries from D.G. Sets, UPS system	1	Returned to supplier / Sale to Authorized recycler
Reference: Battery Waste Management Rules, 2022		

D. Bio – Medical Waste

Particulars	Category	Quantity (TPA)	Method disposal
Contaminated face mask, Hand Gloves, Cotton waste, bags, Micro-biological Media.	Yellow	3	To CBWTSDF
Reference: Biomedical Waste Management Rules 2016 and its amendments			

If the above-mentioned wastes are improperly stored & handled at site this may lead to environmental pollution along with negative health effect due to spillage of waste, leaching of stored waste etc.

4.5.2.3 SPECIFIC IMPACT AT PROJECT SITE

- Out of total 125 workers, around 10 nos. of workers will be engaged in handling of waste inside company premises and may be directly affected.
- Industrial waste may be toxic, ignitable, corrosive or reactive. If improperly managed, this waste can pose dangerous health and environmental consequences like the uncontrolled escape of greenhouse gases, contaminate water and soil, creating health hazards to living beings etc.
- Hazardous substances if come in contact may irritate the skin or eyes, make it difficult to breathe, cause headaches and nausea, or result in other types of illness.
- In case of improper storage, the spillage of liquid waste may lead to fall, minor to serious injury etc.

4.5.3 MITIGATION MEASURES

- Segregation of waste will be done and stored at dedicated area inside the company premises.
- Dedicated covered storage areas with impervious flooring & spillage containment facility having total area of around 217 Sq. m. will be provided for storage of hazardous waste, also dedicated separate area will be provided for storage of Non – hazardous waste and other waste.
- Training will be provided to workers for safe and scientific handling of hazardous waste.
- For workers who are handling & transporting hazardous waste, appropriate & adequate PPE's will be provided.
- To increase the awareness among the employee and contractors regarding generation and management of Hazardous Waste regular training will be provided by EHS Dept.
- Membership of CHWTSDF, Taloja is available and records will be maintained as per Hazardous Waste Rules, 2016. Copy of the same is attached as **Annexure 4.5**. For disposal of ash, the agreement (MoU) with brick manufacturer is available. Copy of the Agreement (MoU) is attached as **Annexure 4.2**.

4.5.4 RESULTS AND DISCUSSION

Considering all above mitigation measures, industry follows the Hazardous Waste Management practices as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

4.6 SOIL ENVIRONMENT

4.6.1 CONSTRUCTION PHASE

4.6.1.1 IDENTIFICATION OF SOURCE

The APL is a new project in a plot area admeasuring 5157 sq. m. The details regarding construction activity are mentioned in section 4.2.1.1 above.

The project plot is devoid of any vegetation. The top soil which will be excavated shall be used for greenbelt within the plot. So, no soil will be wasted and no harm to the environment is envisaged during construction Phase.

4.6.1.2 PREDICTION OF IMPACT

The possible adverse impacts on soil within and beyond the project plot area during the operational phase can be as under.

- The surrounding soil quality can be adversely affected only if the treated/untreated sewage effluent enters the ground through disposal/spillage/leakage.
- Accidental spillage of chemicals (raw material/product) & hazardous waste during storage, handling, gland leakage of pumps, flange leakage in pipelines has potential of soil contamination.
- Accidental spillage of chemicals (raw materials/products) & hazardous waste during transportation to & from the project site.
- Deposition of air pollutants from stack/chimney on the soils located in the downwind direction from the project site.

To overcome the above scenarios, precautionary measures have been taken, which are described below.

4.6.1.3 MITIGATION MEASURES

- The excavated top soil will be utilized for the leveling of the plot, greenbelt development, internal road construction etc. within premises. Thus, no soil will be wasted and no harm to the environment is envisaged during the construction phase.
- Control of the dust nuisance created by excavation, levelling, and transportation activities shall be carried out by water sprinkling.
- Occasional & minor fuel / chemicals spills may occur. These will not affect water or land because of appropriate flooring & presence of spill control procedures.
- To prevent soil contaminations the Toilets will be used for the sewage stream.
- Moreover, all of the Hazardous wastes will be disposed-off as per guidance of MPCB/CPCB or sold to the authorized vendors. Adequate precautions will be taken during handling of such materials as per SOPs.

4.6.2 OPERATION PHASE

4.6.2.1 IDENTIFICATION OF SOURCE

The new project is for the manufacturing of the API Products which majorly involves use of the various chemical raw materials, generation of hazardous waste, process air emissions, fuel combustion etc. The emissions/spillage from the said activities may contaminate the project site & surrounding soil.

4.6.2.2 PREDICTION OF IMPACT

The possible adverse impacts on soil within and beyond the project plot area during the operational phase can be as under:

- The surrounding soil quality can be adversely affected only if the treated/untreated sewage effluent enters the ground through disposal/spillage/leakage.
- Accidental spillage of chemicals (raw material/product) & hazardous waste during storage, handling, gland leakage of pumps, flange leakage in pipelines has potential of soil contamination.
- Accidental spillage of chemicals (raw materials/products) & hazardous waste during transportation to & from the project site.

- Deposition of air pollutants from stack/chimney on the soils located in the downwind direction from the project site.

4.6.2.3 IMPACT MATRIX FOR SOIL ENVIRONMENT

Table No. 4.26: Soil Impact Matrix

Environmental Component – Soil						
Aspects -			Scoring the Anticipated Impact			
1. Deposition of air emissions on the prevailing soils in the study area 2. Unforeseen or deliberate release of effluent on the soils in the study area 3. Accidental spillage of chemicals (raw materials/products) & hazardous wastes			No	Yes		
			1	2	3	4
Receptor	Anticipated Impacts	Mitigation Measures	-	Insignificant	Significant	Severely Significant
Soils in the study area	1. The soil type in the study area is a brownish, if the acidic emissions from the process or fuel combustion in any form precipitates and gets deposited on the prevailing soils in downwind direction within the study area. Agricultural fields are located at an approximate distance of 1.15 km in West direction from the site. These air pollutants can significantly distress the quality of soil by altering its physical and chemical properties and thus affecting the productivity of the soil.	1. Bag filters are be provided for Boiler along with adequate stacks height of 30 m (as per CPCB guideline for hot air generation is provided for proper dispersion of pollutants in the atmosphere at proper height which will reduce the impact substantially. 2. To prevent from process emission, 2 nos. of Acid scrubbers and 8 nos. of Alkali scrubbers will be installed. It is an effective air pollution control device, which effectively scrubs the emissions from the manufacturing process. Scrubber will also be provided with adequate stack height of 6 m.	-	✓	-	-

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	2. A few impacts on physicochemical properties are leaching out of nutrients from the soil due to acids, water retaining capacity will be reduced, soil may become saline due to formation of salts. 3. As the air is polluted, it also results in polluting the precipitation that fall into soil. 4. If the emissions from manufacturing activities deposits on the prevailing soil, soil may become acidic their ability to retain many essential nutrients, minerals and elements, such as calcium (Ca), magnesium (Mg) and potassium (K), decreases. As a result, these, minerals, nutrients and elements are transported, or leached, by water that flows through the soil, making them less available for land organisms to use.	3. Stack of 5.0 m height will be provided to each D.G. Set of 500 kVA capacity, so that the pollutants will disperse effectively in the atmosphere at proper height which will reduce the impact substantially. 4. Periodic and regular monitoring of the flue gas and scrubber stack will be done to ascertain the efficiency of the APCD's provided. The results will be documented and submitted along with six monthly compliance reports.				
Water bodies in the study area	2. The prevailing surface water bodies in the study area, namely Upper Banganga river (2.60 km in NW direction) & Wetland mangroves along the Banganga river (2.60 km in NW direction) may get polluted due to surface runoff from the contaminated soils (may be acidic) and if this surface runoff may percolate & in pollute the ground water.	1. Same as above point no. 1 to 4 from section of Soils in the study area. 2. Proper storm water drainage arrangements shall be made in the plot & internal storm water drain connected to MIDC drainage system.	-	✓	-	-
Agricultural fields in the study area	1. If deposition of air emissions, unforeseen or deliberate release of treated effluents, accidental spillage of hazardous wastes,	1. Same as above point no. 1 to 4 from section of Soils in the study area and point no. 1 & 2 from Water bodies in the study area.	-	✓	-	-

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	chemicals on the agricultural fields occurs then productivity of such agricultural fields may be adversely affected.	- The industry will be operated as a Zero Liquid discharge unit. - The generated effluent stream will be segregated as HCOD (5%) / HTDS (10%) and LCOD (0.05%) / LTDS (0.15%) effluent. - Around 755.55 CMD HCOD (5%) / HTDS (10%) effluent from in-house manufacturing process and around 165 CMD HCOD (5%) / HTDS (10%) effluent from sister concern at Plot No. L-28 & 29 after neutralization treated through MVR followed by ATFD along with 113.50 CMD HPPTRO reject. - Around 680 CMD condensate from MVR and ATFD and around 129 CMD LCOD (0.05%) / LTDS (0.15%) effluent from cooling tower blowdown & floor cleaning treated in the ETP comprising of Primary, Secondary and Tertiary treatment. - Around 757 CMD Treated effluent from ETP will be sent to PTRO System. - Considering 70% permeate and 30% reject from PTRO system. Around 530 CMD permeate will be recycled and reused as Cooling Tower makeup and the reject will be sent to HPPTRO system for further treatment.				

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		8. Around 113.50 CMD HPPTRO permeate (50%) will be recycle & reuse for Cooling Tower makeup and around 113.50 HPPTRO reject (50%) will be resent to MVR for further treatment. 9. Sludge generated from primary & secondary treatment will be sent to CHWTSDf for disposal. ATFD salts will be sent to CHWTSDf for disposal. <i>As a contingency, membership will be taken with M/s Sadekar Enviro Engineers Pvt. Ltd. High COD/TDS reduction facility, MIDC Tarapur.</i> 10. STP (with MBBR technology) having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern at Plot No. L-28 & 29. 11. Treated water will be used for greenbelt development & toilet flushing and sludge will be used as manure for greenbelt development.				
Biotic Environment	1. The areas with contaminated soils in the study area may render them as unfit for growth of natural vegetation and may also be unflavored by faunal species which may result in affecting the overall biotic environment near such contaminated areas.	1. In the study area (10 km radius from the project site) 102 plant species which comprised of various habit forms viz. 11 herbs, 16 shrubs, 4 climbers, & 71 trees. Of the recorded plant species only 1 tree species falls under endangered category, 1 tree species falls under Near Threatened category	-	✓	-	-

		& rest of were not rare or endemic. In faunal biodiversity whereas 69 bird species, 8 Butterflies, 5 Reptiles and 6 Mammals were recorded. Whereas, as per the WPA, 1972 & its amendment 2022, 1 species were listed as schedule – I and 66 species are listed as Schedule – II and remaining 2 bird species were not listed in any Schedule. Similarly, Species from Mammals, no single species was fall under schedule – I and 1 species of Reptiles was listed in schedule – I, Also Species from butterflies, no single species was fall under schedule – I. With the reference of secondary sources, 3 species of bird & 3 species of reptiles were comes in Schedule – I as per WPA, 1972 & amendment 2022. Hence, conservation related aspects are anticipated for 6 faunal species (3 Bird species & 3 Reptile species).				
Human habitation within the study area	1. Ultimately human populations are also affected. If the agricultural crops consumed that was cultivated on the contaminated soil can pose adverse health impacts	Same as above all the mitigation measures.	-	✓	-	-
<i>Note: Soil monitoring done by SEEPL within 10 km study area around the project site of M/s. Aarti Pharmalabs Limited (Unit V-II)</i>						

Probability of Impact Occurrence

Scenarios	Chance of Occurrence	Scoring
	>90 % Chance of Occurrence	4

- Deposition of air emissions on the prevailing soils in the study area. - Unforeseen or deliberate release of effluent. - Accidental spillage of chemicals (raw materials/products) & hazardous wastes.	50-90 % chance of Occurrence	3
	20 – 50 % chance of Occurrence	2
	<10 % chance of Occurrence	1

Chart Showing Type of Risk

Score	Type of Risk
1 – 4	Less Severe
5 – 8	Moderately Severe
9 – 12	Highly Severe
13 – 16	Extremely Severe

Impact Severity Score

Score Scenario	Scoring for Chance of Impact Occurrence	Scoring for Anticipated Impact (With Mitigation)	Overall Score for Severity of Impact (Considering Mitigation)	Scoring for Anticipated impact (Without Mitigation)	Overall score for severity of Impact (Without Mitigation)
Deposition of air emissions on the prevailing soils in the study area	2	2	4	3	6
Unforeseen or deliberate release of effluent	1	2	2	3	3
Accidental spillage of chemicals (raw materials / products) & hazardous wastes	2	2	4	3	6

Note: The scoring for chance of occurrence & the scoring for impact has been given taking into the terrain conditions of the study area, project activities specific mitigation measures & without mitigation measures & subject understanding by the functional area expert.

Assessment of probable impacts of contamination of soil due to project specific activities:

Taking into consideration management / Mitigative measures to be provided/to be adopted by the project proponent during operational phase for management of deposition of air emission on the prevailing soil & accident spillage of chemicals, the maximum score for overall severity of the anticipated impacts is **4** and the risk type assessed is as **Less Severe**.

Taking into consideration no Mitigative measures to be provided/to be adopted by the project proponent during operational phase for management of deposition of air emission on the prevailing soil & accident spillage of chemicals, the maximum score for overall severity of the anticipated impacts is **6** and the risk type assessed is as **Moderately Severe**.

4.6.3 MITIGATION MEASURES

The possible impacts listed above can be prevented or minimized by adopting certain mitigation measures as listed below.

- APL shall achieve ZLD, so no effluent will be discharged in the surrounding environment; hence soil contamination due to the said reason is not involved.
- During storage, the necessary arrangements are done to prevent the spillage accidents. The storage equipment's are checked before receiving. In case the leakage is found in later stage of storage, it is patched to prevent the spillage in the premises.
- The transportation of chemicals (raw materials/products) & hazardous waste will be mainly done by trucks/tempo however the unforeseen events of accidental spillage are not predictable which makes it difficult to install prevent control measures. However, for such instances the project proponent has developed & organized Offsite Disaster Management Plan & related Standard Operating Procedures (SOP's) to tackle any such unforeseen event.
- All raw materials & products should be stored in dedicated closed warehouses/storage areas with leak proof flooring & walls. Production area should be covered with "Acid/Alkali" proof bricks.
- The unit will have a demarcated solid waste storage area thus; there will not be any impact on soil environment due to sewage effluent disposal, chemical handling and storage, handling of hazardous wastes.
- The industry will precisely execute the day to day operations of chemical handling & carry out periodic inspection/maintenance of transfer pumps/flanges so as to avoid leakages.
- For proper dispersion of pollutants in atmosphere, stack with appropriate height will be provided as per the CPCB guidelines.
- Overall it can be said that as the project plot is located well within the precincts of the MIDC, Tarapur, there is no possibility of any adverse impact on the agricultural soils beyond the MIDC.

4.6.4 RESULTS AND DISCUSSION

It is concluded that the impact on soil from the project would be insignificant.

4.7 BIOTIC ENVIRONMENT

Nevertheless, the impacts associated with any kind of new activity on the environment cannot be completely nullified however the severity of such impacts can be minimized to a great extent with suitable mitigation measures.

4.7.1 CONSTRUCTION PHASE

4.7.1.1 ANTICIPATED IMPACT

APL envisage to setup a new manufacturing unit, located at Plot no. L-99, MIDC Tarapur. The project plot is devoid habitat since the project is located in the industrial area of Tarapur.

The new project does not involve tree cutting activity and the industrial activities are not expected to have any impact on the ecology and biodiversity. Hence, no harm to the environment & biotic habitat is envisaged.

4.7.2 OPERATION PHASE

4.7.2.1 ANTICIPATED IMPACT

Generally, the activities which may have adverse impact on the biotic environment during the project operational phase may be due to unforeseen/deliberate release of treated/untreated trade effluent, disposal of hazardous waste on the ground or in the water bodies in the study area.

The direct possible impacts from the project activities may be due to following activities:

- If untreated/treated trade effluent will be subjected to disposal on land or in water bodies within the study area that may affect the surrounding biodiversity.
- Air emissions from burning of fuel for operation of utilities like D.G set & manufacturing process related emissions if at all escapes the industrial area.
- Accidental/Unforeseen disposal of hazardous chemicals (raw materials & finished products) & hazardous wastes within the study area which may affect the biodiversity.

4.7.3 MITIGATION MEASURES

- APL will ensure that during the Construction and operational phase at no point of time in any manner untreated/treated sewage effluent will be subjected to disposal on land or in water bodies within the study area that may affect the surrounding biodiversity.
- It will be ensured that the hazardous waste is not disposed of at any other place & sent back to respective parties for disposal or authorized recyclers.
- The domestic effluent generated will be treated in separate STP. Treated sewage will be reused and recycled for greenbelt development during dry season and for flushing during wet season. Domestic sludge will be used as a manure for greenbelt development.
- The hazardous wastes generated during project operational phase will be either sold to authorized recyclers/vendors/party or will be sent to Pre-processors/ Co-processors /CHWTSDF.
- It will be ensured that the hazardous waste is not disposed of at any other place & sent back to respective parties for disposal or authorized recyclers.
- Bag filter are provided for Boilers (at Plot No. L-10) along with adequate stacks height of 30 m is provided for proper dispersion of pollutants. 2 nos. Acid/Alkali scrubbers (1nos. of Acid scrubber & 1 nos. of Alkali scrubber) along 6 m stack height above roof top will be provided for each scrubber operations to mitigate the emissions due to manufacturing activities.
- As a precautionary measure industry should ensure that at no point of time during the operational phase of the project the concentrations of air emissions should not exceed the prescribed levels.
- The transportation of chemicals (raw materials/products) & hazardous waste will be mainly done by trucks/tempo however the unforeseen events of accidental spillage are not predictable which makes it difficult to install pre-event control measures. However, for such instances the project proponent is robustly advised to develop & organize Offsite Emergency Contingency Plan & related Standard Operating Procedures to tackle any such unforeseen event.

Assessment of presence of any Endemic, Conservation Importance Species in the Study Area: In the study area (10 km radius from the project site). The proposed project activity does

not involve any sort of habitat loss also of the recorded **131 Flora species, 109 faunal species** from primary & secondary data, out of that from floral group only 3 species of trees are belonging to categories of concern as per IUCN assessment in which 1 comes under Endangered category, 1 comes under Vulnerable category and another one comes under Near threatened category. Similarly, in the faunal group only 3 species of birds, 3 species of Reptiles were listed as schedule – I as per WPA 1972 & amendment 2022; Out of all species, 105 species were listed Least Concern and 4 species were not listed in any category as per IUCN ver. 3.1. Conservation plan has been prepared for the conservation of species.

Moreover, the remaining recorded plant & animal species were extremely common for the study area and had a very wide range of presence & abundance across the entire Palghar district. So, the risk is less.

4.7.4 RESULTS AND DISCUSSION

It is concluded that, project is located well within the industrial estate declared by Government of Maharashtra hence there is no adverse impacts are anticipated on the surrounding biotic environment.

4.8 LAND ENVIRONMENT

4.8.1 IDENTIFICATION OF IMPACT

Generally, the developmental activities such as construction & development of Building/ Township/ Industrial Estate/ Special Economic Zones which involve comparatively larger areas tend to change the prevailing land use & land cover aspects directly. Also, the influx of people associated with such project activities has the potentiality of changing surrounding land use & land cover aspects by way of new settlements & thus promoting various other infrastructural activities there by making land use/land cover changes indirectly.

4.8.2 IMPACT ASSESSMENT/MITIGATION

Since the Proposed project plot is in MIDC Tarapur which already prevail industrial type of land use by virtue of which no new type of land use will be generated. Moreover, the project activity in consideration does not involve influx of people & ancillary developmental activities hence there is no possibility of change in land use/land cover aspects even indirectly.

4.9 SOCIO ECONOMIC ENVIRONMENT

4.9.1 MITIGATION AND ENVIRONMENT MANAGEMENT PLAN (EMP)

The objective is to prepare the suggestions and positive plan for mitigation measures for APL based on the findings it is indicated that there is no major considerable impact on the socio-economic aspects. The individual profiles of the participants in the study do indicate some variations. However, the overall impression is indicative of positive picture as far as socio economic impact is considered. Still it is expected that the industry owner/s should engage in social welfare, appropriate industrial activities and precautionary measures to avoid any kind of impact on the socio-cultural, environmental and economic setting.

4.9.2 SUGGESTION AND POSITIVE PLAN FOR M/S. AARTI PHARMALABS LIMITED (UNIT V-II).

- It is suggested that the industry should meticulously follow all the statutory guidelines as applicable. The industry should work to minimize its impact on Air, Water, Noise and Soil environment as much as possible by implementing suitable pollution prevention technologies and other methods.
- Over and above, any issues generated in the community due to any of the activities of the industry needs to be actively attended and intervened by the proponents. It is also expected that the regulatory agencies in these regards should keep vigilance and monitoring to keep a check on the industrial activity.
- It is envisaged that the proposed project activity will help to some improvements in the locale specific socio-economic aspects in the nearby human habitations to the MIDC area.
- Since the proposed project will be carried out within the notified industrial area and hence no impact on external human settlements is envisaged also project will not have any major impact on the local level population growth.
- The total employment of 125 nos. of people is involved; which would result in positive impact on the socio-economic status of study area.
- Better literacy rates are possible due to assumed better economic conditions of the people in the project concerned area. Better literacy means better social status and thereby improved lifestyle. This will be a positive impact due to the proposed project.
- Industry shall spend the Corporate Environmental Responsibility funds (INR 360 Lakhs – Considering 4.0% of the project cost) in the study area for the development of educational facilities, primary health care centre and public services.

4.10 ODOR

4.10.1 IDENTIFICATION OF SOURCE

In the operational phase the component which will contribute to the odor generations are working of effluent treatment plant, raw materials and chemicals handling in the industry, working emission of the solvents storage area etc. There are total 11 nos. of raw materials will be used for the manufacturing of 2 nos. of products (2000 TPM Capacity). There are some raw materials which are odor generating. From the storage drums/pipeline/reactors, domestic waste, handling of raw materials, also handling of sludge and reaction waste etc.

4.10.2 PREDICTION OF IMPACT

Exposure to odor could result in health effects ranging from none, to mild discomfort, to more serious symptoms. Some chemicals with strong odor may cause eye, nose, and throat or lung irritation.

Strong odor may cause some people to feel a burning sensation that leads to coughing, wheezing or other breathing problems.

Considering sources mentioned for odor in the above point, 10 nos. of workers may get directly affected due to operation of ETP. 80 nos. of workers may get directly/indirectly affected due to activity of manufacturing area and raw material storage area respectively. Also, 10 nos. of workers may get directly affected due to Hazardous waste storage area will be primarily

coming in contact with odor, who smell strong odor may get odor related health issues such as headaches or feel dizzy or nauseous, anxiety and disturbed stress level. Workers in open area If an odor lasts a long time or keeps occurring, it also could affect mood, anxiety and stress level.

4.10.3 MITIGATION MEASURES

(Standard ToR Point 7.6 & 12.6)

Control of VOCs and fugitive Emissions:

- Odor causing raw materials are charged in closed chambers with exhaust of chambers connected to ducting system leading to scrubbing system.
- All waste storage tanks and waste preparation and raw material storage tanks are connected to vacuum system. These off gases are connected to scrubbers.
- As a long-term measure to improve the environment, plantation of trees within factory premises and avenue plantation will be provided on the MIDC road side of the plant boundary.
- All critical vessels, pumps and reactors which have potential to generate odour is fitted with mechanical seals to prevent leakage and therefore odour.
- Based on odour generating and chemical compatibility raw materials store in dedicated areas with adequate exhaust system.
- To ensure maximum recovery of solvents and minimize the losses of solvents secondary condensers is provided to all the reactors with chilling arrangement, further this vent is connected to carbon candle filter followed by scrubbers.
- Work place monitoring will be regularly carried out and same will be followed after expansion.
- The company has implemented the said measures and also have prepared the SOPs for chemical handling.
- Supervision and maintenance: Equipment's shall be very well maintained and the company shall have well-documented preventive and predictive maintenance plan for all equipment, machines and assets.
- Good Housekeeping: Decay evaporation of odorants from stored decaying material may often lead to odor emission. Good housekeeping may eliminate the problems. Hence, SCPL must maintain good housekeeping and carry out the periodic cleaning.
- The closed feed system will be adopted by APL which will ensure fugitive emissions are not generated during charging of raw materials or packing of finished goods, The R.M. and F.G. storage areas will be free from VOC emissions.

5. ANALYSIS OF ALTERNATIVES

5.1 INTRODUCTION

(Standard ToR point 4.3)

M/s. Aarti Pharmalabs Limited (Unit V-II) is located at plot no. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. Boisar – Tarapur road is in close proximity to the MIDC internal road. Nearest Railway station is Boisar which is approximately at an aerial distance of 3.75 km. Nearest Airport is Chhatrapati Shivaji Maharaj International Airport which is approximately at an aerial distance of 78.78 km. The industrial area hosts small, medium and large-scale industrial units of various categories such as chemical, pharmaceuticals, engineering etc. manufacturing industries.

The major physical infrastructure like road, water supply is provided by Tarapur MIDC. The electricity will be supplied by MSEDCL. MIDC has developed a separate supply water scheme and water treatment to meet the requirement of industrial area.

Considering above mentioned points and availability of land required for proposed activity with lower price, no alternative site was considered.

5.2 ANALYSIS OF ALTERNATIVE SITE

The project will be carried out on MIDC plot. The Total Plot area is 5157 Sq. m. which is adequate for the proposed project. All other required facilities like utilities etc. will be accommodated at the project site. The plot is large enough to incorporate the proposed project and therefore no alternate site has been considered prior to purchasing the plot however now a justification has been prepared by comparing with other alternatives.

5.3 ANALYSIS OF ALTERNATIVE TECHNOLOGY

M/s. Aarti Pharmalabs Limited (Unit V-II) (APL) has considered best optimal technology for the production of the said products.

1. Justification for selecting the site
2. Consideration of other sites
3. Description of each alternative
4. Summary of adverse impacts of each alternative & Mitigation measure proposed for each alternative
5. Cost Benefit Analysis.
6. Conclusions.

5.4 JUSTIFICATION OF SELECTION OF THE SITE *(Standard ToR point 4.3)*

- APL is proposing a new project at the said plot with the new structure along with some new equipment. Thus, there is requirement of plant machinery, manpower requirements since it is a new project. APL is manufacturing of API Products, is located at Plot No. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506.
- The manufacturing setup requires several facilities, skilled man power, material, connectivity etc.
- Since the industry is located in Notified Industrial area cleaner and greener manufacturing techniques are mandatory in current scenario of environmental protection. Hence, such latest technologies are relatively easier to adopt and test on both Laboratory and plant scale in present facility.

- The selected project site, Plot No. L-99, Tarapur MIDC is well connected to National Highway, State Highway, International Airport, International Port (JNPT) and also having proximity to raw material availability, skilled manpower and other resources.
- Due to above reasons, the site of Plot No. L-99 in Tarapur MIDC is ideal for new project.
- Tarapur Industrial Area was classified under Critically Polluted Area (CPA) with the CEPI score of 93.69 as per NGT order vide Original Application No. 1038/2018 dated 10/07/2019. Since then multiple efforts have been taken by the MPCB by effective monitoring of the industries and imposing stringent norms like use of cleaner fuel, zero liquid discharge wherever feasible etc. to the polluting industries.
- As per data received from Gujarat Gas Limited, total 170 numbers of industries have approached for connection of PNG out of which 130 numbers have registered with Gujarat Gas Limited and from that 100 are in operation and 30 connections are yet to be provided, applications of 40 connections are under process.
- Efforts have also been taken by Tarapur Industrial Associations to improve the functioning of the existing CETP of capacity 25 MLD and have proposed a new CETP of capacity 50 MLD.
- Presently total number of industries having membership with Tarapur Environment Protection Society (TEPS) is 227 out of which 104 members of industries have achieved ZLD and 20 members have reduced the load on CETP by achieving partial discharge.
- Also additional to this, industries who unable to treat high COD / TDS effluent at own premises, M/s. Sadekar Enviro Engineers Private Limited has provided common treatment facility for HCOD/HTDS reduction having 300 CMD capacity.
- Tarapur MIDC has replaced all the old and broken drainage lines carrying effluent to the CETP.
- These efforts have reduced the pollution in Tarapur Industrial Area which is reflected in the status report published by MPCB “Monitoring, Sampling and Analysis for Ambient Air Quality, Surface Water Quality and Ground Water Quality in Critically/Severely/Other Polluted Industrial Areas of Maharashtra – for Tarapur During Pre-Monsoon season (April 2023 - June 2023)” dated June 2023, the CEPI score of June 2023 has been reduced to 62.3 from 93.69 as per the CPCB CEPI score for Tarapur Industrial Area of March 2018 and MPCB has targeted to get the CEPI score further down in the coming years.

5.5 CONSIDERATION OF OTHER SITES

- As a part of the study, several other sites were also considered.
- Major option for alternative site included Vapi Industrial area under the purview of Gujarat Industrial Development Corporation (GIDC).
- Apart from that, other sites were considered based on the availability of land in nearby notified industrial areas such as Ambarnath MIDC, Mahad MIDC, etc.
- The sites outside notified industrial areas were not considered because of **non-availability** of several resources such as **water, fuel, electricity, RM, manpower and connectivity** related obstacles.
- So, total 5 site alternatives are considered in this study.

5.6 DESCRIPTION OF EACH ALTERNATIVE

5.6.1 Tarapur Industrial Area (MIDC)

- The Infrastructure comprises **roads, water supply, street lights, drainage lines** in Tarapur Industrial Areas.
- These areas consist of a well-developed Chemical Zone, which has a Common Effluent Treatment Plant (CETP) that controls solid and liquid effluents, and common facilities such as **police station, M.S.E.B. substation, telephone exchange** etc.
- In this industrial area textile, pharmaceuticals, plastics as well as engineering units are operating.
- The industrial area is identified as Critically Polluted Area.
- There are no ecologically sensitive areas namely wildlife sanctuaries and national parks within 15 km radial distance from the project site.

5.6.2 Vapi Industrial Area (GIDC)

- Vapi industrial estate, situated in the Valsad district of the Gujarat state, was started by GIDC in the year 1967, and has spread over to 11.4 square kilometers and houses over 1400 industries, the majority of which are Small-Scale Industries (SSIs).
- About 70% of the total industries are chemical plants, mainly for chemical distillation and the production of pesticides, dyes, dye intermediaries and paints.
- The industrial area is identified as Critically Polluted Area.

5.6.3 Ambernath Industrial Area (MIDC)

- Ambernath Industrial Area falls under of one the prime preference of the entrepreneurs due to the availability of Industrial infrastructural facilities like electricity, water, and roads, 9000 HP power supply to MIDC Addl. Ambernath & 220 KVA MIDC Ambernath is provided by MSEDCL.
- There aren't any plots available at Ambernath MIDC.
- Other infrastructure like street lights, drainage lines are available along with a MSEB substation and a telephone exchange.
- The area is well connected and has Post and telegraph office, Telephone exchange, STD and ISD facilities.
- MIDC has constructed 14 km long roads in the entire area. Most of these roads are asphalted.

5.6.4 Mahad Industrial Area (MIDC)

- Mahad MIDC which is set-up near Birwadi is the small Chemical industry cluster. It houses several polymers, pharmaceutical, organic, pigments, fertilizers, aroma chemical manufacturing industries.
- Basic Infrastructure viz. good roads, Water Supply, Storm Water System, Street Lights, Common Facility Centers, Recreation, Communication Facilities, Bank, Post office, Telephone Exchange etc. are available in this area.
- The area is well connected with National Highway No. 17.
- MIDC has developed a separate water supply scheme by constructing a Dam having a capacity of 29 Million cubic meters on Savitri River. A 24 MLD Water Treatment Plant

has been constructed to meet the requirement of the industrial area. This water treatment plant has an excess capacity of 8 MLD.

- The area is surrounded by Engineering College at Lonere, Military School, Technical and other Degree College at Mahad. There are a number of Medical, Engineering, Architect and Pharmaceutical Colleges located with a radius of 120 kms from the area.

5.7 SUMMARY OF ADVERSE IMPACTS OF EACH ALTERNATIVE & MITIGATION MEASURE PROPOSED

- All the alternatives are analyzed with reference to financial, social and environmental angles. Each site comes with some advantages and some disadvantages over each other.
- Components such as **transportation distance, connectivity with major airport, port, roads and availability of skilled manpower forces, socio economic benefits** etc. are preferred for comparison and analysis.

5.7.1 Adverse impacts of site at Tarapur MIDC

- This site is located in Critically Polluted Area as identified by Central Pollution Control Board (CPCB) wherein new industrial activities are **being regulated** by the authorities.
- Proposed project may have additional impacts on the **environment, socio economic & eco biological setting** of the surrounding region etc.

5.7.1.1 Mitigation Measures

- The project will be operated as a **Zero Liquid Discharge** unit.
- Maximum amount of solid waste shall be **recycled/reused/utilized in co-processing**.
- Since the industry is located in Tarapur MIDC, 40% greenbelt of the total plot area has to be developed vide OM dated 31st October, 2019 for Compliance of additional conditions imposed to CPAs and SPAs. However, industry is providing **20.51% greenbelt area (1058 sq.m.)** as an effort to reduce the air pollution in the Tarapur MIDC area.
- Also APL will develop Greenbelt accounting to 2123 Sq. m. (41.17 % of the total plot area) in the adjoining plot no. OS-09, which will be used only for the Greenbelt development purpose. Additionally, 142 Sq. m. (2.75 % of the total plot area) greenbelt will develop between MIDC Road & project plot boundary in the South direction.
- **Solar energy** alternatives shall be implemented to reduce the consumption of fossil fuels, and electricity.
- **Rain water harvesting, solvent recovery systems** are implemented to reduce the consumption of water and raw materials.
- With full proof design, operation and maintenance of pollution control equipment it will be ensured that additional impacts on the surrounding environment are minimal.

5.7.2 Adverse impacts of site at Vapi GIDC

- **APL** is proposing a new project at the said plot with the new structure along with new equipment. Thus, there is no requirement of additional land or plant machinery, lab facility, manpower requirements since it is a new project. If the project is moved out of Tarapur MIDC, then firstly it would have significant impacts on use of new resources, pollution related impacts on different environmental attributes due to the proposed

transportation activities. Also, more capital requirement will be required make the project less feasible.

- Additional transportation will have **additional carbon footprints** and **greenhouse gas emissions** on the environment.
- Vapi Industrial area is also identified as critically polluted area as per CPCB study hence additional impacts on the environment, socio economic & eco biological setting of the surrounding region etc. will be there.
- Also, the **man movement** of managers, engineers, directors from unit to unit will be increased with additional impacts on environment.

5.7.2.1 Mitigation measures

- Use of vehicles with PUC shall be used for transportation purpose. Nearby ports shall be explored to be used for importing the raw materials **instead of JNPT** of longer distant ports. Hazira port is about 150 km from the Vapi GIDC, however availability of raw materials and quality to be explored.
- Industry to ensure that, Zero Liquid Discharge is maintained.
- Cleaner fuels such as **PNG/Biomass Briquette** shall be preferred over conventional fuels such as coal or furnace oil so as to minimize air emissions (SO₂, NO_x and PM). All the air pollution controlling measures shall be adopted to achieve the standards.
- Maximum amount of solid waste shall be recycled/reused/utilized in co-processing.
- Green belt development shall be done to maximum extent up to 40% of the total plot area to capture PM, SO₂, CO₂ and other emissions and well as noise levels.
- Solar energy alternatives to be adopted and implemented, rain water harvesting, etc. shall be implemented to reduce the consumption of fossil fuels, resources.
- With full proof design, operation and maintenance of pollution control equipment the company to ensure that additional impacts on the surrounding environment are minimal.
- The company to employ the skilled man power in this area as well. Emphasis shall be given to R&D activities in order to use latest / cleaner alternatives.

5.7.3 Adverse impacts of site at Ambernath MIDC

- **APL** is proposing a new project at the said plot with the new structure along with new equipment. Thus, there is requirement of plant machinery, lab facility, and manpower requirements since it is a new project. If the project is moved out of Tarapur MIDC, then firstly a need to transport expertise, R&D lab, technology from Tarapur to Ambernath which would have significant impacts on use of new resources, pollution related impacts on different environmental attributes due to the proposed transportation activities. Also, more capital requirement will be required make the project less feasible.
- Ambernath MIDC is in close proximity to the Matheran Eco Sensitive Zone, thus it may affect the flora and fauna of the eco – sensitive area.
- Waldhuni nallah flows adjacent to the Ambernath MIDC which further joins Ulhas river which is identified as a polluted stretch under Priority class V as identified by CPCB dated January 2018.
- Ambernath MIDC is one of the largest in Maharashtra and due to the proximity to Mumbai, Thane and MMR, this MIDC area is occupied by several industries already.

Plots are rarely available in this MIDC; hence costs are relatively higher side to make the proposed project not feasible financially.

- The mandate of 40% greenbelt and additional greenbelt for avenue plantations will no longer be required since the project will be moved outside the critically polluted area and greenbelt accounting to only 33% of the total plot area will be provided.
- If this site is selected, it will come with **additional transportation requirements** such as unit to unit transportation from Tarapur MIDC (**about 84.59 kms additional**) to Ambernath MIDC will also be increased. Additional transportation will have **additional carbon footprints** and **greenhouse gas emissions** on the environment.
- The industry will not be able to utilize the **existing resources, common facilities** (chemicals & solvents storage) and **manpower, technologies, Raw materials, R&D lab** which is present in Tarapur MIDC.
- Also, the **man movement** of managers, engineers, directors from unit to unit will be increased with additional impacts on environment.

5.7.4.1 Mitigation Measures

- Additional transportation requirements must be carried out through PUC certified vehicles only. Also, **traffic management** shall be done in order to reduce the transportation and subsequent emissions.
- The industry shall hire employees from local region and establish coordination of management so as to reduce the man movement from and to project site.
- **Greenbelt** shall be developed to capture PM, SO₂, CO₂ and other emissions and well as noise levels.

5.7.4 Adverse impacts of site at Mahad MIDC

- **APL** is proposing a new project at the said plot with the new structure along with new equipment. Thus, there is requirement of plant machinery, lab facility, and manpower requirements since it is a new project. If the project is moved out of Tarapur MIDC, then firstly a need to transport expertise, R&D lab, technology from Tarapur to Mahad which would have significant impacts on use of new resources, pollution related impacts on different environmental attributes due to the proposed transportation activities. Also, more capital requirement will be required make the project less feasible.
- Mahad is identified as **Landslide incident prone area** as per the classification of BMTPC based on SOI data sources. Also, in recent years, **flooding** situations occurred in the catchment of Savitri river which caused loss of life, property and finance.
- Mahad MIDC also has proximity to eco – sensitive villages namely Solamkond, Matwan, etc. which are in close proximity to Mahad MIDC.
- The company will not be able to utilize the **existing resources, common facilities** (chemicals & solvents storage) and **manpower, technologies, Raw materials, R&D lab** which is present in Tarapur MIDC.
- If this site is selected, it will come with **additional transportation** requirements such as unit to unit transportation from Tarapur MIDC (**about 204.46 kms. additional**) to Mahad MIDC will also be increased. Additional transportation will have additional carbon footprints and greenhouse gas emissions on the environment.
- Also, the **man movement** of managers, engineers, directors from unit to unit will be increased with additional impacts on environment.

5.7.5.1 Mitigation measures

- The project site should be selected considering the drainage pattern, hydraulic flood line, catchment area of dam, rainfall, topography etc. parameters so as to avoid any risk of damage or loss due to unforeseen events of **flood, landslide** etc.
- Cleaner fuels such as **PNG/Biomass Briquette** shall be preferred over conventional fuels such as coal or furnace oil so as to minimize air emissions (SO₂, NO_x and PM). All the air pollution controlling measures shall be adopted to achieve the standards.
- **Additional transportation** requirements must be carried out through PUC certified vehicles only. Also, traffic management shall be done in order to reduce the transportation and subsequent emissions.
- The company shall hire employees from local region and establish coordination of management so as to reduce the man movement from and to project site.
- Greenbelt shall be developed to capture PM, SO₂, CO₂ and other emissions and well as noise levels.

5.8 COST BENEFIT ANALYSIS

The cost benefit analysis has been carried out for as a method of evaluation in analysis of alternative sites for the proposed project. The sites selected are Tarapur MIDC – Maharashtra, Vapi GIDC – Gujarat, and Mahad MIDC – Maharashtra

Various attributes were identified to ascertain the costs and benefits of the project. Since the industry is new project, therefore new land acquisition or construction is required. The other most critical parameter being transportation of raw materials, manpower, R&D lab, establishment of the industry and availability of required resources.

A detailed study was done with respect to the availability and quality of raw materials was carried out, and accordingly suitable vendors were identified.

As most of the raw material required for the manufacturing of API Products is available in Tarapur MIDC and it will be procured locally. If the industry gets shifted from Tarapur MIDC, the cost of transportation of these intermediates will increase significantly and also the carbon footprint of manufacturing will also increase.

The methodology adopted for calculating costs of transportation was done considering the current fuel prices with 8% inflation in rates of fuel for a period of twenty years. The detailed list of raw materials, their source availability along with the distance of transportation, and cost for Alternative site is shown in **Cost Benefit Analysis section of Chapter 9**.

6. ENVIRONMENTAL MONITORING PROGRAM

6.1 Introduction

(Standard ToR point 7.12)

Environmental Monitoring Program is an essential tool for sustainable development. An Environmental Monitoring Program provides a delivery mechanism to address the adverse environmental impacts of a project during its execution, to enhance project benefits and to introduce standards of good practise to be adopted for all project works. An environmental monitoring program is important as it provides useful information and help to:

- Assist in detecting the development of any unwanted environmental situation and thus provides opportunities for adopting appropriate control measures.
- Monitoring & tracking the effectiveness of Environmental Management Plan & implementation of mitigation measures planned.
- Define the responsibilities of the project proponents, contractors and environmental monitors and provides means of effectively communicating environmental issues among them.
- Define monitoring mechanism and identify monitoring parameters.
- Evaluate the performance and effectiveness of mitigation measures proposed in the Environment Management Plan (EMP) and suggest improvements in management plan, if required.
- Identify training requirement at various levels.
- Identification of any significant adverse transformation in environmental condition to Plan additional mitigation measures.

6.2 Monitoring Points / Locations and Components

Environmental monitoring plan is decided considering the environmental impacts likely to occur due to operation of the project as the main scope of monitoring program is to track timely and regularly change in the environmental condition and to take timely action to protect the environment.

Table No. 6.1: Pre-Project Monitoring Parameter

Sr. No.	Components Environmental	Monitoring Points/Location
1	Ambient Air	• Ambient air quality at minimum 8 Location, including the plant premises.
2	Water & Waste Water	• Minimum 8 location of ground water and 8 location of surface water should be taken around the project site & final treated effluent.
3	Noise	• At all internal sources and outside the plant area which can be locus to the air monitoring stations. • At least 8 locations should be taken near/around the site.
4	Soil	• At least 8 locations near the Project site.

6.3 Post Project Monitoring Parameters & Frequency

(Standard ToR point 7.11)

Table No. 6.2: Post project monitoring parameters & frequency

Sr. No.	Activity / Area	Pollutant	Pollutant Characteristics	Frequency	Period	No. of samples (Per Quarter)	Sampling Cost per sample	Analysis Charges Per Sample	Estimated Cost (Quarterly)	Estimated Cost (Annual)
OPERATION PHASE										
1	Ambient Air	Air Emission	SO ₂ , NO _x , PM, CO, Benzene, Ammonia, Benzopyrene, Lead, Nickel, Arsenic, Ozone in Ambient Air	Intermittent / Periodic	As per EC condition s / As per SPCB guideline	3	10500	9500	60,000	2,40,000
2	Diesel power Generators, Scrubber stacks	Air emissions	TPM, SO ₂ , CO, NO _x from boiler, D.G. Set stacks	Intermittent / Periodic	As per EC condition s / As per SPCB guideline	4	--	--	50,000	2,00,000
3	ETP, Work Place Area, DG Set Area.	Sound	Noise Level dB (A)	Intermittent / Periodic	As per EC condition s / As per SPCB guideline	5	3,500	--	17,500	70,000
4	Effluent treatment plant	All parameters	pH, O & G, TDS, TSS, COD, BOD.	Intermittent / Periodic	As per EC condition	2	4500	--	9,000	36,000

Environmental Impact Assessment Report of New project for Manufacturing of 2000 TPM Capacity of API Products by M/s. Aarti Pharmalabs Limited (Unit V-II) at Plot no L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India 401506.

Chapter 6 – Environmental Monitoring Program



SEEPL/EIA/D/IND/APL/001/2025-26/00

Sr. No.	Activity / Area	Pollutant	Pollutant Characteristics	Frequency	Period	No. of samples (Per Quarter)	Sampling Cost per sample	Analysis Charges Per Sample	Estimated Cost (Quarterly)	Estimated Cost (Annual)
			Heavy Metals & Organic Compounds		s / As per SPCB guideline					
5	Hazardous Wastes	E.T.P sludge Distillation residue, etc.	H.W. characteristics	As per CHWTSDF	As per EC conditions / As per SPCB guideline	2	4500	--	9000	36,000
6	Work Place	Air pollutants, Heavy metals	Heavy Metals in ambient Air specific	Intermittent / Periodic	As per EC conditions / As per SPCB guideline	1	--	15000	15,000	60,000
7	Monitoring of six-monthly compliance by third party audit	--	--	--	Six Monthly / As per EC conditions / As per SPCB guideline	--	--	--	--	4,00,000
TOTAL									3,20,500	10,42,000



Environmental Impact Assessment Report of New project for Manufacturing of 2000 TPM Capacity of API Products by M/s. Aarti Pharmalabs Limited (Unit V-II) at Plot no L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India 401506.

Chapter 6 – Environmental Monitoring Program



SEEPL/EIA/D/IND/APL/001/2025-26/00

Sr. No.	Activity / Area	Pollutant	Pollutant Characteristics	Frequency	Period	No. of samples (Per Quarter)	Sampling Cost per sample	Analysis Charges Per Sample	Estimated Cost (Quarterly)	Estimated Cost (Annual)

Hence, budgetary allocation of INR 10,42,000 has been made in Environmental Management Plan



6.4 Monitoring methodologies

Monitoring of environmental samples shall be done as per the guidelines provide by MoEFCC/CPCB/SPCB. The method followed shall be recommended/standard method approved/recommended by MoEFCC/CPCB.

6.5 Documentation and Reporting

The records of the monitoring program shall be kept on regular basis for all aspects of the monitoring. Separate records for water, wastewater, air, emission, soil shall be prepared and preserved regularly. The company will install flow meter and IP cameras. Immediately upon the completion of monitoring as per the planned schedule, report shall be done & necessary documents shall be forwarded to the concern person. Methodology of monitoring (sampling & analysis) shall be prepared as separate documents; as SOP (standard Operating Procedure) wherever required. The records showing results/outcome of the monitoring programs shall be prepared as per the requirement of the schedule mentioned above. Regularly these documents & records shall be reviewed for necessary improvement of the monitoring plan/mitigation measures/environmental technologies as well as for necessary actions of environmental management cell.

6.6 Budget & Procurement schedule

On regular basis, Environment Management Cell shall inspect the necessity & availability of the materials, technologies, services & maintenance works. The cell shall make appropriate budget for the purpose. Regular record review for change in financial requirement of environment management shall be done and appropriate budgetary provisions shall be made. Along with other budgets, Budget for environmental management shall be prepared and revised regularly up on requirement. The budget shall include provisions for:

- Environmental Monitoring Program.
- Operation & Maintenance of environmental Technologies/Equipments.
- Laboratory works for Environmental management activities.
- Emergency Purchase of necessary material, equipments, tools, services, protective equipment.
- Greenbelt development.
- Social & Environmental Welfare & Awareness programs/training & Health related issues.
- Annual Environmental Audit.

6.7 Procedure for Reporting Accident/Incident and Attending the Injured Person

Procedure for Reporting Accident/Incident and Attending the Injured Person has been prepared by M/s. Aarti Pharmalabs Limited

Details are given below:

- If any accident / incident occurs, inform the same to Emergency Controller immediately by verbal/telephone or by other possible means; who will immediately contact other services like medical, fire brigade, etc.
- Give the details of accident/incident like location of accident / incident, person involved in accident/incident.
- Provide the information about accident/incident like any leakages of toxic/flammable gas or fire due to leakages of solvent or any other reasons.

- Give first aid to the injured at site as far as possible by trained first aider if required & analyse the nature of injury whether minor or major. If injury is major or serious action to hospitalize.
- Give intimation of the same to Factory Manager (Unit Head) at the earliest by verbal/ telephone or by any other possible means.
- Identify injury & accordingly send injured person to hospital for further treatment if required.
- Fill the internal accident / incident report form & submit to Unit Head immediately or at the most on following day of the occurrence of accident /incident.
- Emergency Controller shall analyse the accident / incident, suggest the remedial measures to prevent reoccurrences and contact the other safety officers for the resources.
- Recommend to the Unit Head to report the accident/ incident to various government authorities if necessary.

7. ADDITIONAL STUDIES

7.1 PUBLIC HEARING

“Public Consultation” refers to the process by which the concerns of local persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. **M/s. Aarti Pharmalabs Limited (Unit V-II) (APL)** is a new project located at Plot no. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. Now, as per the OM No. J-11011/321/2016-IA-II (A) dated 27th April, 2018 by MoEF & CC, public hearing is exempted for the industries which are located in industrial estate or parks notified prior to 14.09.2006 i.e. the EIA Notification 2006 coming into force and since the said unit is located in MIDC Tarapur, public hearing is not applicable. The document stating MIDC Tarapur as a notified industrial area is attached as **Annexure 7.1**.

7.2 QUANTITATIVE RISK ASSESSMENT *(Standard ToR point 3.11 & 7.13)*

7.2.1 INTRODUCTION

As indicated in the earlier chapter the proposed project facilitates to manufacturing of API Products. There are various types of probable hazards associated with the storage, handling & transportation of various chemicals, which are indicated in Chapter No. 2.

In order to study the risks envisaged by the activities, the following was adopted.

1. The project proponent would be manufacturing different API Products with total quantity of 2000 TPM.
2. A detailed scrutiny of various chemicals which would be stored on the site was done. All the raw materials will be stored either in bags, drums, tanks, cylinders and bottles.
3. Plot layouts showing locations of raw material storage area, fire hydrant tanks & other safety features are depicted in the plot layout discussed in the onsite emergency plan.

The raw materials will be stored according to their compatibility with other raw materials. Chemical compatibility chart has been prepared; the same will be displayed in the Raw Material Storage area. Chemical compatibility chart is given below section. Company will prepare adequate written operating instruction and fully documented operating discipline for emergency shutdown, normal operating conditions, routine shutdown etc. which will be important for maintaining satisfactory control of a unit. An extract of the Material Safety Data Sheets of the chemicals to be stored onsite has been presented in **Annexure 7.2** the same should be displayed in the Raw Material Storage area. The raw materials will be stored in dedicated area (664.39 Sq.m.) with minimum interference.

7.2.2 M.S.D.S.’s *(Standard ToR point 8.3)*

Brief M.S.D.S.s of all the chemicals and other raw materials which would be used in the manufacturing processes of products are used as reference for preparation of Quantitative Risk Assessment.

7.3 ALOHA (Aerial Locations of Hazardous Atmosphere)

A Quantitative Risk Assessment based on the software ALOHA (Aerial Locations of Hazardous Atmospheres) for chemicals storages in tanks was carried out. The criteria failure scenarios considered for ALOHA depend on the type of storage whether above ground / underground, physical state of the chemical stored, chemical properties of the chemical. Also, for raw materials other than storage in tanks Dow’s Fire & Explosive & Mond’s Toxicity Index was evaluated.

The summary of the ALOHA footprints is attached as **Annexure 7.3**.

Table No. 7.1: Details of Raw Materials Stored in Tanks

Raw Material Stored in Tanks									
Sr. No.	Name of Raw Material	Tank Capacity (liter)	No of Tanks	Quantity at any given time (T)	Capacity of transfer pump from main tank to day tank (m3/hr.)	Dyke Wall (Yes/No)	Dimension of Tank (mm) Dia. x Height	Orientation of Tank (Vertical/Horizontal)	Tank Position (Above / Underground)
1	Dimethyl Sulphate	50000	2	40000	8	Yes	4000*2000	Vertical	Above Ground
2	Hydrochloric Acid	20000	2	16000	8	Yes	3000*1500	Vertical	Above Ground
3	Caustic Soda Lye	22000	2	17600	8	Yes	3000*1500	Vertical	Above Ground
4	Acetic Anhydride	30000	1	24000	8	Yes	3000*4500	Vertical	Above Ground
5	Chloroform	10000	2	8000	8	Yes	2000*3200	Vertical	Above Ground

Table No. 7.2: ALOHA Summary Sheet

Chemical	Failure	Scenario No	Effects Considered	LOC		Distance
Dimethyl Sulphate	Leak Through broken pipe/valve	DMS - 01	Non burning Vapour Cloud	AEGL-3 (60 min)	1.6 ppm	27 m
				AEGL-2 (60 min)	0.12 ppm	104 m
				AEGL-1 (60 min)	0.024 ppm	234 m
		DMS - 02	Flammable Area of Vapour Cloud.	60% LEL	21600 Ppm	<10 m
				10% LEL	3600 Ppm	<10 m
		DMS - 05	Flammable chemical burning	Red	10.0 kW/(sq	<10 m

Chapter 7 – Additional Studies



SEEPL/EIA/D/IND/APL/001/2025-26/00

Chemical	Failure	Scenario No	Effects Considered	LOC		Distance
			as escaped from tank		m)	
				Orange	5.0 kW/(sq m)	<10 m
				Yellow	2.0 kW/(sq m)	<10 m
		DMS-06	BLEVE	Red	10.0 kW/(sq m)	72
				Orange	5.0 kW/(sq m)	111
				Yellow	2.0 kW/(sq m)	181
Hydrochloric Acid	Leak Through Pump/ Flange 10% of the Flow Rate	HCL - 1	Toxic Area of Vapour Cloud	AEGL-3 (60 min)	100 ppm	32 m
				AEGL-2 (60 min)	22 ppm	70 m
				AEGL-1 (60 min)	1.8 ppm	247 m
Acetic Anhydride	Leak Through Pump/ Flange 10% of the Flow Rate	AA - 01	Toxic Area of Vapour Cloud	AEGL-3 (60 min)	100 ppm	<10 m
				AEGL-2 (60 min)	15 ppm	27 m
				AEGL-1 (60 min)	0.5 ppm	158 m
		AA - 02	Flammable Area of Vapour Cloud.	60% LEL	16200 ppm	<10 m
				10% LEL	2700 ppm	<10 m
Chloroform	Leak Through Pump/ Flange 10%	CH – 01	Toxic Area of Vapour Cloud	AEGL-3 (60 min)	3200 ppm	18 m

Chemical	Failure	Scenario No	Effects Considered	LOC		Distance
	of the Flow Rate			AEGL-2 (60 min)	64 ppm	145 m
		CH - 02	Heavy Gas	AEGL-3 (60 min)	3200 ppm	13 m
				AEGL-2 (60 min)	64 ppm	122 m

7.3.1 INTERPRETATION

Based on the unsafe distances identified by the software output, the MCLS (maximum credible loss scenario) for the factory works out to about **8100 meters for Dimethyl sulfate**. The failure considered is leak through pump / flange 10% of the flow rate, whereas scenario considered is toxic area of vapour cloud.

Loss of Containment frequencies for Pumps

Installation (part)	G.1	G.2
	Catastrophic failure	Leak
pumps without additional provisions	$1 \times 10^{-4} \text{ y}^{-1}$	$5 \times 10^{-4} \text{ y}^{-1}$
pumps with a wrought steel containment	$5 \times 10^{-5} \text{ y}^{-1}$	$2.5 \times 10^{-4} \text{ y}^{-1}$
canned pumps	$1 \times 10^{-5} \text{ y}^{-1}$	$5 \times 10^{-5} \text{ y}^{-1}$

Reference: CPR18 E - Guideline for quantitative risk assessment

The scenario considered for assessing the impact by quantitative risk assessment was taken from CPR18 E. Prominent wind direction is from NW direction.

The probability of occurrence of the scenario is $5 \times 10^{-4} \text{ y}^{-1}$, which is very less. The Disaster Management Plan highlights the suggestive measures to be taken to avoid occurrence of such an accident.



Figure No. 7.1: Maximum Credible Loss Scenario (MCLS) for Dimethyl sulphate

Table No. 7.3: Interpretation Table

Threat zone	Toxic Level of Concern	Receptors	Effects
Red - 27 m	AEGL-3 – 1.6 ppm Susceptible individuals could experience acute health effects.	Workers working in APL	Human Effects: - "People who inhale high levels of dimethyl sulfate May cause drowsiness or dizziness. Irritation of the oral mucous membranes. May cause headache, nausea and irritation of respiratory tract, Cough. After skin contact it may cause caustic burns/corrosion of the skin. Causes skin irritation. Burns. May cause an allergic skin reaction. It contacted with eyes it can cause corrosion of the eye tissue. May cause eye irritation. Serious damage to eyes if contact persist for higher concentrations.
Orange – 104 m	AEGL-2 – 0.12 ppm Susceptible individuals could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.	APL and industry across the MIDC road in the down wind direction	
Yellow - 234 m	AEGL-1 – 0.024 ppm Susceptible individuals could experience notable discomfort, irritation, or certain asymptomatic non-sensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.	MIDC roads, industries in L part of MIDC .	

Specific Recommendation – For dimethyl sulfate

• Storage recommendations

1. Do not store with Oxidizing agents, Strong acids, Strong bases and heat sources.
2. Keep away from ignition sources.
3. Store in a dry place. Keep cool.
4. Store in a well-ventilated place.

• Handling recommendations

1. Wash hands and other exposed areas with mild soap and water before eating, drinking and when leaving work.
2. No open flames. No smoking.
3. Keep away from sources of ignition - No smoking.
4. Ensure good ventilation of the work station.
5. Wear personal protective equipment.
6. Avoid contact with skin, eyes and clothing.
7. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace.
8. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers.
9. Provide local exhaust or general room ventilation.
10. Floors, walls and other surfaces in the hazard area must be cleaned regularly.
11. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

Specific Recommendation – For Acetic anhydride

• Storage and handling recommendations

1. Store away from water, moisture.
2. Do not store with strong oxidizing agents, reducing agents, acids, bases, metal oxides
3. Avoid contact with skin, eyes and clothing
4. Wear protective eye wear, hand gloves and clothing while handling
5. Use trained staff for handling chemical

Specific Recommendation – For hydrochloric acid

• Storage and handling recommendations

1. Store in cool, clean & well-ventilated area.
2. Keep away from direct sun light.
3. Always use personal protection equipment like, Rubber hand gloves, Full body PVC suit, Face shield/Goggles.
4. Avoid contact with metals
5. Don't inhale, ingest the acid. Protect skin and eyes from contact.
6. Use trained personnel for handling the chemical.

For spills

7. Keep unnecessary people away.
8. Isolate hazard area and deny entry.
9. To avoid violent reaction, ALWAYS add material to water and NEVER water to material

10. Contain the spills. Small Acid spillage should be neutralized by using Soda Ash & or lime & Flushed with large quantity of water.
11. Ample ventilation should be provided at the place.

Specific Recommendation – For caustic lye

• Storage and handling recommendations

1. Keep in a tightly closed container/ tank.
2. Protect from physical damage.
3. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Always add the caustic to water while stirring; never the reverse.
4. Do not store with aluminum or magnesium.
5. Do not mix with acids or organic materials
6. Use trained personnel for handling the chemical.
7. Always use personal protection equipment like, Rubber hand gloves, Full body PVC suit, Face shield/Goggles.

Specific Recommendation – For chloroform

• Storage and handling recommendations

1. Store in a cool, dry well-ventilated area.
2. Avoid contact with eyes, skin, and clothing.
3. Keep container/ tank tightly closed. Store in light-resistant containers.
4. Keep away from heat, sparks and flame, electrical charges.
5. Avoid ingestion and inhalation.
6. Do not breathe gas/fumes/ vapor/spray
7. Keep away from heat, sparks, and flame.
8. Use PPE like protective eyeglasses, gloves, anti-static clothing, respirators while handling chemical.
9. Use trained staff for handling.

• Spill control

1. Absorb spill with inert material (e.g. sand or earth), then place in suitable waste container.
2. Do not absorb in any combustible material.
3. Remove all sources of ignition

• Immediate Response Actions

➤ Safety First

1. Evacuate non-essential personnel from the area.
2. Do not breathe vapours. Avoid contact with skin, eyes and clothing.
3. Ventilate spillage area. Keep upwind.
4. No flames, no sparks. Eliminate all sources of ignition.
5. Only qualified personnel equipped with suitable protective equipment may intervene.

6. Do not breathe dust/fume/gas/mist/vapours/spray.
7. Use personal protective equipment (PPE), including gloves, goggles, SCBA and respirators.
8. Contain the Spill.
9. Use non-sparking tools to place dikes or barriers around the spill to prevent spreading.
10. Apply absorbent materials like sand, earth, or commercial absorbents specifically designed for chemical spills.
11. Neutralizing Solution—dilute caustic or ammonia aqueous (2 to 5%) solution to neutralize spills or decontaminate equipment.
12. Fire Extinguishers—provide a carbon dioxide or dry chemical fire extinguisher for small fires. For large fires, use alcohol-resistant foam plus water spray or fog.

➤ **Eliminate Ignition Sources**

Turn off or remove any potential sources of ignition, including electrical equipment, open flames, and static discharge points.

➤ **Equipment and Tools**

1. Spill Kits

Ensure the availability of specific spill kits, which include absorbents, neutralizers, and protective gear.

2. Leak Sealing Equipment

Have tools and materials ready to seal the leak if it is from a ruptured tanker, such as compatible sealing compounds or patches.

➤ **Clean-Up Procedures**

1. Absorb and Collect

Use appropriate absorbent materials to soak up chemical. Collect the used absorbents in labelled, sealed containers for proper disposal.

➤ **Environmental Protection**

1. Avoid release to the environment.
2. Prevent entry to sewers and public waters.
3. Avoid discharge to atmosphere. Do not allow to enter drains or water courses.
4. Notify authorities if product enters sewers or public waters

➤ **Long-Term Measures**

1. Training and Drills

Conduct regular training sessions and emergency response drills for employees on handling DMS.

2. Spill Response Plan

Develop and maintain a comprehensive spill response plan, detailing procedures, responsibilities, and emergency contacts.

3. Inspection and Maintenance

Regularly inspect and maintain tankers and storage facilities to prevent leaks and spills.

4. Regulatory Compliance

Follow all local, state, and federal regulations regarding dimethyl sulfate handling, spill reporting, and remediation.

For Spill/ Leakage through Pump:

- A vapor suppressing foam may be used to reduce vapours. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.
- Protective Clothing: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
- Use of water spray when fighting fire may be inefficient. Small Fire: Dry chemical, CO₂, water spray or regular foam. Large Fire: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk.
- Cool containers with flooding quantities of water until well after fire is out.
- Always stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Rescue:

- Move victim to fresh air.
- Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Do not remove clothing if adhering to skin. Keep victim warm and quiet.

7.4 DOW INDEX

The DOW Index has been performed for materials which are stored in drums and bags and are flammable. DOW Index is calculated for all the chemicals in storage having N(f) = 3 and 4. The chemicals and their quantities considered for DOW Index calculation are tabulated below. Accordingly, a worst-case scenario has been considered for DOW Index calculation wherein the entire inventory is considered of Sodium Hydrosulfide as it has highest N(f) value i.e 3. Also, DOW index is calculated for HSD fuel to be used for D. G. Set operation at the time of power failure.

Table No. 7.4: Storage details of Raw Materials

Sr. No.	Fuel Name	N _f	Storage Considered	Flash Point °C	Max. Storage at any point of time (MT)
1	Theophylline Crude	2	HDPE bags	NA	119.23
2	Activated Carbon	1	HDPE bags	NA	21.48
3	Potassium Permanganate	0	HDPE Drums	NA	5.13
4	PAP	1	HDPE bags	189	175.38
5	Sodium Hydrosulfite	3	HDPE	NA	0.58

			bags		
6	Soda Ash	0	HDPE bags	NA	0.75
Total					322.55

The DOW index worksheet is attached as **Annexure 7.4**.

Table No. 7.5: DOW Index Summary Sheet

Chemical	Sodium Hydrosulfite	HSD
Storage Considered	322.55 MT	800 Lit
Maximum Quantity stored at any given point of time (MT)	322.55 MT	800 Lit
N_h	3	1
N_f	3	2
N_r	2	0
Material Factor, MF	24	10
F1 (General Process Hazard)	2.35	1.95
F2 (Special Process Hazard)	2.2	1.6
F3 (Hazard Factor)	5.17	3.12
Fire & Explosion Index	124.08	31.2
Degree of Hazard	Intermediate	Light

7.4.1 INTERPRETATION

- Out of total 6 nos. of raw material, one have N_f values ≥ 3 .
- From the calculation of Dow Fire and Explosion Index considering a worst case scenario as entire storage inventory will be Sodium Hydrosulfite. It is seen that the storage will have a Dow Index of 124.08 indicating an Intermediate Hazard Potential.
- Based on the unsafe distances identified by the DOW Index, the radius of exposure obtained for the raw material storage area is around 37.8 meters and the Area of Exposure is around 4493.5 Sq. m
- From the calculation HSD fuel storage will have Dow Fire and Explosion Index of 31.2 indicating a Light Hazard Potential.
- Based on the unsafe distances identified by the DOW Index, the radius of exposure obtained for the HSD Fuel storage area is around 9.3 meters and the Area of Exposure is around 271.7 Sq.m.

Degree of Hazard for F & EI	
F & EI Range	Degree of Hazard
1-60	Light
61-96	Moderate
97-127	Intermediate
128-158	Heavy
159-up	Severe



Figure No. 7.2: Dow F&E Index - Area of Exposures on Plot Layout

Table No. 7.6: Recommended Minimum Features According to Dow Fire and Explosion Index for RM Storage Area

Preventive & Protective Features	Fire & Explosion Index Number						Index for the present case			
	0-20	20-40	40-60	60-75	75-90	>90	124.08			
							Optional	Suggested	Feature recommended	Feature required
1) Fireproofing	1	2	2	3	4	4	-	--	--	✓
2) Water spray										
a) directional	1	2	3	3	4	4	--	--	--	✓
b) area	1	2	3	3	4	4	--	--	--	✓
c) curtain	1	1	2	2	2	4	--	--	--	✓
3) Special instrumentation										
a) temperature	1	2	3	3	4	4	--	--	--	✓
b) pressure	1	2	3	3	3	4	--	--	--	✓
c) flow control	1	2	3	4	4	4	--	--	--	✓
4) Dust, blowdown, spill control	1	1	2	3	3	4	--	--	--	✓
5) Internal examination	1	2	3	3	4	4	--	--	--	✓
6) Combustible gas monitors										
a) signal alarm	1	1	2	3	3	4	--	--	--	✓
b) actuate equipment	1	1	2	2	3	4	--	--	--	✓
7) Remote operation	1	1	2	3	3	4	--	--	--	✓
8) Diking	1	4	4	4	4	4	--	--	--	--
9) Blast & barrier walls separation	1	1	2	3	4	4	--	--	--	✓

1. Feature optional, 2. Feature suggested, 3. Feature recommended 4. Feature required

Specific Recommendation – For Sodium Hydrosulphite **Storage Location and Design**

1. Dedicated Storage Area

- Store Sodium Hydrosulfite in a dedicated, well-ventilated storage area away from other chemicals, particularly oxidizers and sources of ignition.
- The storage area should be clearly marked with appropriate warning signs.
- Avoid dust formation

2. Temperature Control

- Maintain storage temperatures below 50°C (86°F) to prevent fire.

3. Storage Containers

- Maintain air gap between stacks/pallets

- Store away from other material Use only tightly sealed drums.
- Ensure drums are made of compatible materials (usually HDPE).

4. Proper Labeling

- Clearly label each drum with “Sodium Hydrosulfite,” including hazard symbols indicating flammability and toxicity.

Handling and Safety Measures

1. Personal Protective Equipment (PPE)

- Provide appropriate PPE for workers, including flame-resistant clothing, gloves, goggles, and respirators.
- Avoid ingestion and inhalation.

2. Spill Containment

- Equip the storage area spill containment systems such as bunds or spill pallets to contain leaks or spills.
- Keep spill kits readily available for immediate response to any leaks or spills.

3. Ventilation

- Ensure adequate ventilation to prevent the accumulation of vapors.
- Use mechanical ventilation systems if necessary, to maintain air quality.

4. Fire Safety

- Fire Suppression Systems
- Equip the area with fire extinguishers rated for chemical fires (Class B).

5. Emergency Procedures

- Develop and practice emergency response plans for fire incidents.
- Train personnel in the use of fire extinguishing equipment and emergency procedures.

6. Documentation

Maintain accurate records of Sodium Hydrosulphite storage, including inventory logs, safety data sheets (SDS), and inspection reports.

Environmental Protection

1. Prevent Contamination

- Ensure that storage facilities are designed to prevent leaks and spills from contaminating soil and water sources.
- Implement regular inspections and maintenance of storage containers and facilities.

2. Emergency Response Plan

- Develop and maintain a comprehensive onsite and offsite emergency plan.

By implementing the above mentioned specific mitigation measures, the situation can be effectively managed and mitigated and the impacts of a Sodium Hydrosulphite can be minimized.

Recommendations - For Flammable Raw Material storage in Drums / Bags.

1. Workplace controls and practices

- Keep MSDS's of all Raw materials readily available
- Provide employees with hazard information and training.
- Provide eye wash fountains and emergency showers.
- Always wash at the end of the work shift.

- Where possible, transfer Sodium Hydrosulfite from bags or other containers to process containers in an enclosed system.
- Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Avoid oxidizing materials, acids, and sources of halogens. Store in cool, dry, well-ventilated location.

2. Spillage of chemicals

- Evacuate and secure control entrance to the area.
- Eliminate all ignition sources.
- Absorb liquids in dry sand or a similar material and place into sealed containers for disposal.
- Ventilate area of spill or leak.
- Use only non-sparking tools and equipment, especially when opening and closing of containers.

3. Handling and Storage

- The raw materials should be stored according to their compatibility with other raw materials.
- Company shall prepare written operating instruction and fully documented operating discipline for emergency shutdown, normal operating conditions, routine shutdown etc. which are important for maintaining satisfactory control of a unit.
- The raw materials should be stored in a dedicated area with minimum interference.
- Provision of spill kit should be provided to deal with minor spillage scenario.
- Protect against physical damage.
- Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles.
- Containers should be bonded and grounded for transfers to avoid static sparks.
- Storage and use areas should be “No Smoking” areas.
- Use non-sparking type tools and equipment, including explosion proof ventilation.
- Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed.
- Do not attempt to clean empty containers since residue is difficult to remove.
- Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

7.5 MOND'S INDEX

7.5.1 INTRODUCTION

The principle and general approach used in the DOW method of hazard evaluation have been further developed by ICI Mond Division, their revised Mond fire, explosive and toxicity index is a series of papers by Lewis (1979). The main developments made to the DOW are:

1. It covers a wider range of process and storage installation.
2. It covers the processing of chemicals with explosive properties.
3. A calculation procedure is included to allow for the off-setting effects of good design and control and safety instrumentation.
4. The procedure has been extended to cover plant layout.

5. Separate indices are calculated to access the hazards of fire, internal explosion and aerial explosion.

Most of the raw materials stored in the site are hazardous in nature. Hence appropriate Standard Operating Procedures are established by the company for ensuring the safety of the workers handling the raw materials on daily basis.

The Mond's Index worksheet is attached as **Annexure 7.5**.

Table No. 7.7 (a): Mond's Index Summary Sheet

Chemical Name	Potassium Permanganate	Sodium Hydrosulfite	Hydrochloric acid	Caustic lye
Storage	Bag	Drums	Tank	Tank
Nh (NFPA Index Number)	3	3	3	3
Th (Toxicity factor)	250	250	250	250
MAC (Maximum Allowable Concentration) ppm	Not Available	Not Available	3	Not Available
Ts (Correction factor)	125	125	125	125
F1 (General Process Hazard)	1.9	1.7	1.95	1.7
F2 (Special Process Hazard)	2.15	2.0	1.9	1.9
Toxicity Index	8.81	8.37	8.56	8.25
Degree of Hazard	Moderate	Moderate	Moderate	Moderate

7.5.2 INTERPRETATION

- 2 raw materials are having Nh values ≥ 3 which will be stored in bags/drums in storage area.
- According to the Mond's Index the toxicity is calculated for the storage of above chemicals out of which Potassium permanganate have maximum value for Mond's index i.e. 8.5 indicating **moderate** degree of Hazard. Also, other chemicals Mond's index indicate Moderate degree of Hazard.

Specific Recommendation – For Pottasium Permanganate

Storage Location and Design

1. Dedicated Storage Area

- Store in a dedicated, well-ventilated storage area as per compatibility.
- Clearly mark the storage area with appropriate hazard signs indicating the presence of toxic materials.
- Avoid contact with Acids, peroxides, formaldehyde, anti-freezing agents, all combustible organic, readily oxidizable inorganic materials including metal powders.

2. Temperature Control

- Maintain storage temperatures at a stable level, ideally below 25°C (77°F) to prevent excessive vapor pressure and degradation.
- Use cooling systems if necessary to keep the storage area within the recommended temperature range.

Storage Containers

1. Drums / Bags

- Use only tightly sealed and well-maintained drums made of compatible materials, such as stainless steel or high-density polyethylene (HDPE).
- Ensure drums are corrosion-resistant and designed for safe storage.

2. Proper Labelling

- Clearly label each drum with the names including hazard symbols indicating flammability and toxicity.

Handling and Safety Measures

1. Personal Protective Equipment (PPE)

- Provide appropriate PPE for workers, including gloves, goggles, and respirators designed for organic vapors.

2. Spill Containment

- Equip the storage area with spill containment systems such as bunds or spill pallets to contain leaks or spills.
- Keep spill kits readily available for immediate response to any leaks or spills.

3. Ventilation

- Ensure adequate ventilation to prevent the accumulation of vapors
- Use mechanical ventilation systems if necessary to maintain air quality and reduce vapor concentration.

4. Documentation

- Maintain accurate records of storage, including inventory logs, safety data sheets (SDS), and inspection reports.

Environmental Protection

1. Prevent Contamination

- Ensure that storage facilities are designed to prevent leaks and spills from contaminating soil and water sources.
- Implement regular inspections and maintenance of storage containers and facilities.

2. Emergency Response Plan

- Develop and maintain a comprehensive onsite and offsite emergency plan

Additional Recommendations

1. Odor Control

- Implement odor control measures due to the strong, unpleasant smell of volatile chemicals. This may include activated carbon filters or scrubbers in the ventilation system.

2. Waste Disposal

- Ensure proper disposal according to hazardous waste regulations.
- Do not allow leaking chemicals to enter drains or watercourses.

By implementing the above mentioned specific mitigation measures, the situation can be effectively managed and mitigated and the impacts can be minimized.

Recommendations - For Toxic Raw Material storage in Drums / Bags. For Handling and Storage:

❖ Handling:

- Ensure thorough ventilation of stores and work areas.
- Handle and open container with care.
- Closed containers should only be opened in well-ventilated areas.
- Avoid contact with the skin, eyes and clothing.
- Handle in accordance with good industrial hygiene and safety practice.
- Display 'No Smoking' or 'No Open Lights' signs.

❖ Storage:

- Segregate from acids and acid forming substances.
- Avoid extreme heat. Keep away from sources of ignition.
- No smoking

NFPA Flammability	NFPA Health	NFPA Reactivity	Compatibility Chart for APL Created by: SEEPL Last Reviewed by: SEEPL This chart is only valid for the following mixing scenario: Ambient temperature (up to 35° C) mixing of 2 chemicals in an insulated vessel that is not air tight. Storage of the mixture for less than 1 day.	ACTIVATED CARBON	PARA AMINO PHENOL	SODIUM HYDROSULFITE	SODIUM CARBONATE	THEOPHYLLINE	CATALYST E											
4	0	0	ACTIVATED CARBON	X						<table><tr><th colspan="2">LEGEND</th></tr><tr><td>X</td><td>No self reaction</td></tr><tr><td>N</td><td>Not Compatible</td></tr><tr><td>C</td><td>Caution</td></tr><tr><td>Y</td><td>Compatible</td></tr></table>	LEGEND		X	No self reaction	N	Not Compatible	C	Caution	Y	Compatible
LEGEND																				
X	No self reaction																			
N	Not Compatible																			
C	Caution																			
Y	Compatible																			
2	1	0	PARA AMINO PHENOL	Y	X															
3	3	0	SODIUM HYDROSULFITE	Y	C	X														
2	0	1	SODIUM CARBONATE	Y	Y	Y	X													
2	2	0	THEOPHYLLINE	Y	C	C	Y	X												
NA	NA	NA	CATALYST E	C	C	C	Y	C	X											

LEGEND	
X	No self reaction
N	Not Compatible
C	Caution
Y	Compatible

Figure No. 7.3: Chemical compatibility chart for raw material stored in bags and drum

7.6 EMERGENCY SHUTDOWN PROCEDURE

Procedure for Emergency Shutdown has been prepared by **M/s. Aarti Pharmalabs Limited (Unit V-II)**

7.7 DISASTER MANAGEMENT PLAN

(Standard ToR point 7.13)

The Disaster Management Plan (DMP) is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in the same order of priorities. For effective implementation of the DMP, it should be widely circulated and personnel training through rehearsals/drills should be organized. Further, the management should be able to demonstrate that its assessment of the consequences as good supporting evidence. To tackle the consequences of a major emergency inside the factory or immediate vicinity of the factory, a DMP has to be formulated and this planned emergency document is called "Disaster Management Plan".

Objectives of Disaster Management Plan (DMP)

The objective of the Industrial Disaster Management Plan is to make use of the combined resources of the plant and the outside services to achieve the following:

- Effect the rescue and medical treatment of casualties
- Safeguard other people
- Minimize damage to property and the environment
- Initially contain and ultimately bring the incident under control
- Identify any dead
- Provide for the needs of relatives
- Provide authoritative information to the news media
- Secure the safe rehabilitation of affected area
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency. In effect, it is to optimize operational efficiency to rescue rehabilitation and render medical help and to restore normalcy.

7.7.1 ONSITE EMERGENCY PLAN

(Standard ToR point 7.13)

The Onsite emergency plan is prepared based on the guidelines mentioned under Schedule 6 of the Rule 12 (1) of the Maharashtra Factories (Control of Industrial Major Accidents Hazards) Rule 2003. On-Site emergency preparedness plan has the following objectives

Safeguard lives and property at site and in its vicinity area.

1. Contain the incident and bring it under control;
2. Minimize damage to lives, property and environment;
3. Rescue and treat casualties;
4. To train the people to act efficiently and with confidence in an emergency.
5. Evacuate people to safe areas;
6. To minimize its occurrence.

7.7.1.1 NAME & ADDRESS OF THE PERSON FURNISHING THE INFORMATION

Name: Mr. Rajendra Pawar

Designation: Manager- EHS

Address: Plot no-L-99 MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506.

- Key personnel of the organization and responsibility assigned to them in case of an emergency.

- The structure of key personnel of the organization and their responsibility is stated as following.

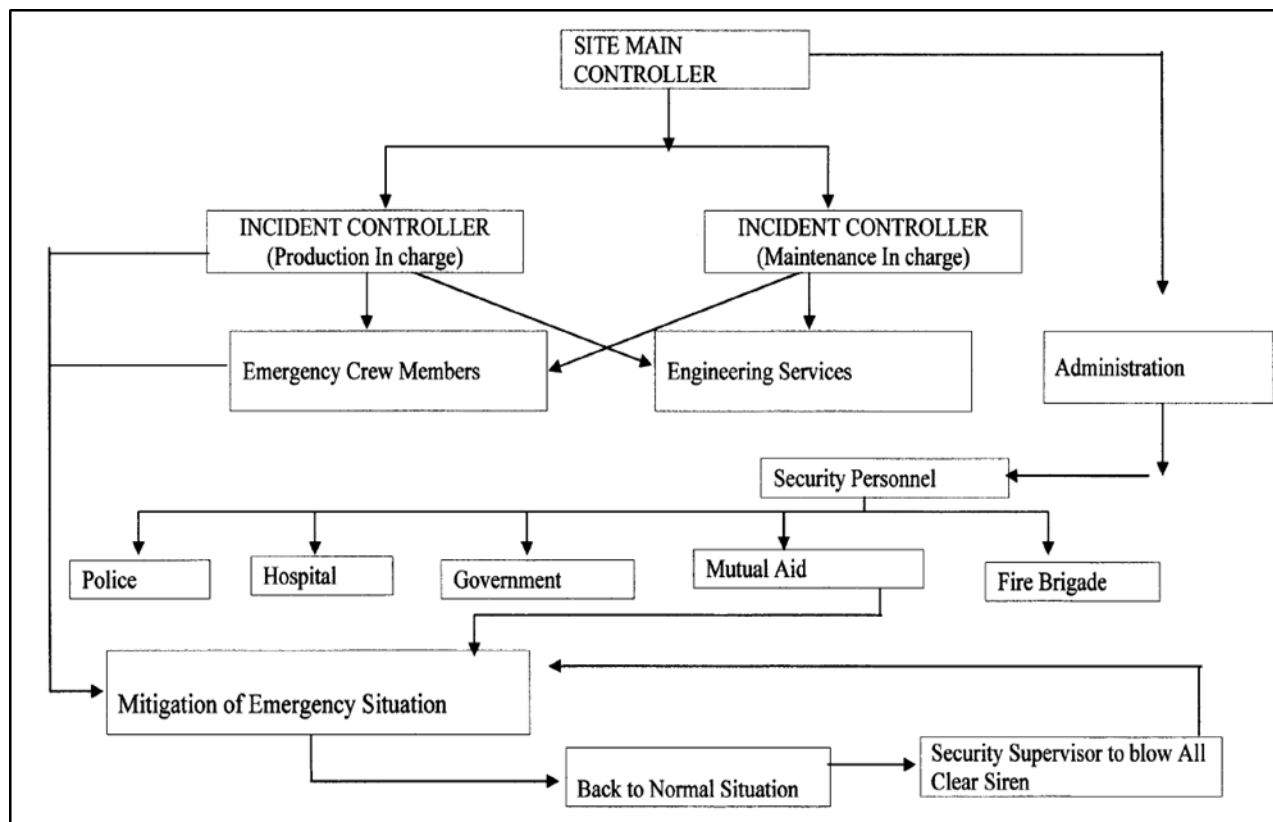


Figure No. 7.4: Key personnel of the organization and responsibility assigned

1) SITE MAIN CONTROLLER

During the onsite emergency situation, the Site Main Controller shall,

- Be overall in charge of the situation and head of firefighting team. Rush to the scene of fire and issue instructions for speedy combat.
- Direct all operations and call the external help from emergency control center.
- Relieve the incident controller of responsibility of overall main control of the event.
- In consultation with incident controller, he will take stock of the situation considering the exact place of the leakage/ fire, the time for which the leakage/ fire has occurred.
- Search for the injured and/or casualties.
- Ensure that all the key persons are called on site. Delegate any extra duty to any person depending upon the situation and his judgment.
- Withdraw the staff in case of the human life is in peril.
- Call the members of MUTUAL AID.
- Report the event to the nearest district police station, fire brigade, civil defense force, district emergency officer, factory inspectorate and other voluntary body to assist to the task.
- Arrange to call the experts/ the supplier.

- Works as liaison officer between outside fire brigade & police advice on specialized technical aspects of the materials involved and internal details of the factory.
- Give clearance signal when everything becomes normal.

M/s. Aarti Pharmedlabs Limited (Unit V-II) has established an Emergency Control Centre at the cabin of the Site Main Controller. It has external telephone, telefax and telex facility & contact number of the Incident Controller Officer, Senior Personnel etc.

2) SITE INCIDENT CONTROLLER

Quality Head QA/ Manager Production /Maintenance manager

- On arrival immediately assess the scale of emergency and decide if a major emergency exists or is likely.
- Activate the security head to report the emergency to Site Main Controller.
- Activate the On-site action plan depending on the type of emergency.
- Assume the responsibility of the Site Main Controller till the arrival of the site main controller.
- Direct the shutdown and evacuation of the plant. Identify the areas likely to be affected by the emergency.
- Call outside emergency services like fire brigade, police, members of mutual aid.
- Give advice, information as requested by the head of the Fire Brigade, Police and Mutual Aid members.
- Make available the copies of “ON SITE EMERGENCY PLAN”.
- Brief the Site Main Controller when arrives on the scene.

3) EHS TEAM

SITE INCIDENT CONTROLLER - EHS COORDINATOR

In addition to his general duties of maintaining order of administration he shall discharge following duties:

- Execute all directions and instruction of site main controller regarding.
- Calling mutual aid members.
- Specialist from the supplying company.

For efficient and successful operation of the plan statutory agencies listed below should be actively involved for guidance and help:

- Fire Brigade
- Police Authorities
- Collectorate / revenue officials
- Directorate of Industrial Safety and Health
- Maharashtra Pollution Control Board.
- District Health Authorities
- Non-Government organization
- Local News Media.
- Local Leaders.
- Supervise the duties of Security Personnel.
- If injuries and casualties does occur, then he shall obtain names and addresses of the injured and dead.

- Arrange for medical aid. Talk to the hospital and doctors. Report about the type of injury/ burn injuries and or toxic effects.
- Report to the hospital and make arrangements for likely more cases of injuries.
- In consultation with the site main controller he shall identify the antidote or any special medical procedure and report the same to hospitals.
- He shall appoint other personnel from the factory like stores/ materials department, engineering department etc. to assist him.

4) SECURITY PERSONNEL

In addition to the normal duties of maintaining security at the place of work they shall discharge following duties:

- Be in charge of Fire Fighting and rescue operations with the assistance of essential workers and key personnel till the arrival of Fire Brigade and Police. (These operations shall be under the direct supervision of Incident Controller)
- Ask the ambulance to proceed to the scene of the incident in case of serious injury.
- Remove obstruction from the road to help Fire brigade to proceed to the scene of fire.
- Restrict entry of unauthorized and untrained persons from the scene of incident. Also don't allow unauthorized persons/ vehicles to enter the premises.
- Initiate rescue operation, if required.

Major Fire/ Explosion

- On hearing the fire alarm, proceed to the incident immediately.
- Arrange to extinguish the fire with the help of trained personnel.
- Initiate rescue operations if required.
- Inform Fire brigade, if required.
- Control traffic for smooth and normal flow.
- Remove obstruction from the road to help Fire brigade to proceed to the scene.

Collapse of structure/ Serious Injury

- On being informed of the incident ask the ambulance to proceed to the scene.
- Depending on seriousness arrange to inform police personnel if instructed by Factory Manager.
- Control the flow of vehicles to and from the factory.
- Release of toxic and hazardous material
- On being informed of the incident, control the flow of traffic and direct all the vehicles away from the incident.
- Liaison with EHS Co-ordinator.

Others

- Shall report to Site Incident Controller for further instructions.
- Fire-fighting, and rescue operations.
- First aid treatment to injured persons, make arrangements for sending them to outside hospitals through company ambulance or other vehicles.

Engineering Personnel

- Electricians to ensure power supply to fire pump.
- Ensure power, water supply.

Not Affected Site Personnel

- On hearing the siren switch off the electrical supply.
- Assemble at assembly point, await further instructions.

Outside Drivers / Owner of the Vehicles

- All the truck/ tanker drivers should be instructed to move their vehicles out of the gate without obstructing the road & park the vehicle outside the main gate.

Off Duty Employees

- Employees who are on Off duty & available should immediately report to the EMERGENCY CONTROL ROOM & wait for the instructions.

Telephone Operator

- Should ensure that all the external lines are kept free.

Electricity Supply Agencies

- Cut off power supply, if necessary.
- Restore affected power supply as soon as possible.
- Attend to complaints of power breakdown and short circuits.

Any One Noticing Fire/ Gas Leak

Major Fire/ Explosion:

- Operate the nearest fire alarm or alert the personnel by shouting Fire!, Fire!!”
- Inform the Manager Production/ Shift Supervisor available who is in charge of the factory at that time about the
 - Place of Fire / Explosion
 - Extent of Fire-fighting Action taken by him
 - The material involved
 - No. of persons affected.
- Try to extinguish the fire with the help of fire extinguishers, if without risk. If he is unable to extinguish the fire, he should see that the fire does not spread to nearby area.

Collapse of Structure/ Serious Injury

- Inform the Manager Production/ Supervisor etc.
- Remove the injured person to a safe place. Take help of trained first-aiders.

Release of Toxic and Hazardous Material

- Inform the Manager Production/ Supervisor or person available who is in-charge of the factory at that time about the;
 - Place of Gas leak
 - Extent of leakage
 - Action taken by him

- The material involved
- No. of persons affected.

7.7.2 GENERAL INSTRUCTIONS & RESPONSE DURING THE ONSITE EMERGENCY SITUATION

Major Fire/ Explosion

- Operate the nearest fire alarm or alert the personnel by raising an audible alarm or by shouting Fire, Fire!!”
- Inform the site head / Shift Supervisor available who is in charge of the factory at that time about the
 - Place of Fire / Explosion
 - Extent of Firefighting Action taken by him
 - The material involved
 - No. of persons affected.
 - Try to extinguish the fire with the help of fire extinguishers, if without risk. If he is unable to extinguish the fire, he should see that the fire does not spread to nearby area.

Collapse of structure/ Serious Injury

- Inform the Manager Production / Supervisor etc.
- Remove the injured person to a safe place. Take help of trained first-aiders.

Release of toxic and hazardous material

Inform the Manager Production / Supervisor or person available who is in-charge of factory at that time about

- Place of Gas leak
- Extent of leakage
- Action taken by him
- The material involved
- No. of persons affected

Table No. 7.8: Emergency Do's and Don'ts

DO'S	DON'TS
ANY ONE NOTICING AN EMERGENCY ▪ Actuate the nearest fire alarm button and/or inform the supervisor. Get back to your normal workstation (if safe) or else report to the assembly point.	▪ DO NOT panic and avoid running all over the place and prevent others from doing so. ▪ DO NOT enter the site unless instructed if you are outside and a disaster alarm is heard.
CONTRACTOR PERSONNEL ▪ Stop work on hearing alarm and assemble at the ASSEMBLY POINT and be ready to evacuate.	▪ DO NOT enter the site until it is cleared for normal work by the Incident Controller.
SECURITY ▪ Keep the gate manned. ▪ Keep the road clear for movement of fire tenders. ▪ Control traffic at gates.	▪ DO NOT allow unauthorized visitors to enter.

VISITORS Leave the place and assemble at the assembly point.	DO NOT enter the site if emergency alarm is heard.
ALL OTHER EMPLOYEES ON SITE On hearing FIRE/ GAS RELEASE alarm Get instructions from supervisor and get back to work place (if safe).	- DO NOT panic/run. - DO NOT go to the scene of emergency unless specifically instructed by Incident Controller.

7.7.2.1 ESTABLISHMENT OF THE SAFETY COMMITTEE

M/s. Aarti Pharmalabs Limited (Unit V-II) would be having around 125 Nos. of employees after the new activity. Since the company deals with the dangerous operations as mentioned in the section 87 of the Factories Act 1948, it is mandatory for the company to establish a safety committee. The safety committee shall include a senior official, safety officer and representatives of workers & each department.

As per Maharashtra Factories RULE 73-j Safety Committee is established Functions and duties of this committee are listed below.

- Assisting and Co-operating with the management in achieving the aims and objectives outlined in the Health and Safety Policy of the occupier
- Dealing with all matters concerning health, Safety and Environment and to arrive at practice solutions to problems encountered.
- Creating safety awareness amongst entire workforce including visitors by undertaking training and promotional activities.
- Deliberating on reports of safety, Environmental and Occupational health survey, emergency plans, safety audits, risk assessment and implementation of the recommendation made in the reports.
- Carrying out health and safety survey and identify root causes of accidents and its corrective and preventive action plan.
- Looking into any complaints made on the likelihood of an imminent danger to the safety and health of the entire workforce including visitors and suggest corrective measures and preventive action,
- Reviewing the implantation of recommendations made by it.
- Safety committee tenure shall be of two years and shall meet as often as necessary but at least once in every quarter. The minutes of the meeting shall be recorded and circulated to all members before at least one working duty the schedule date of next meeting.

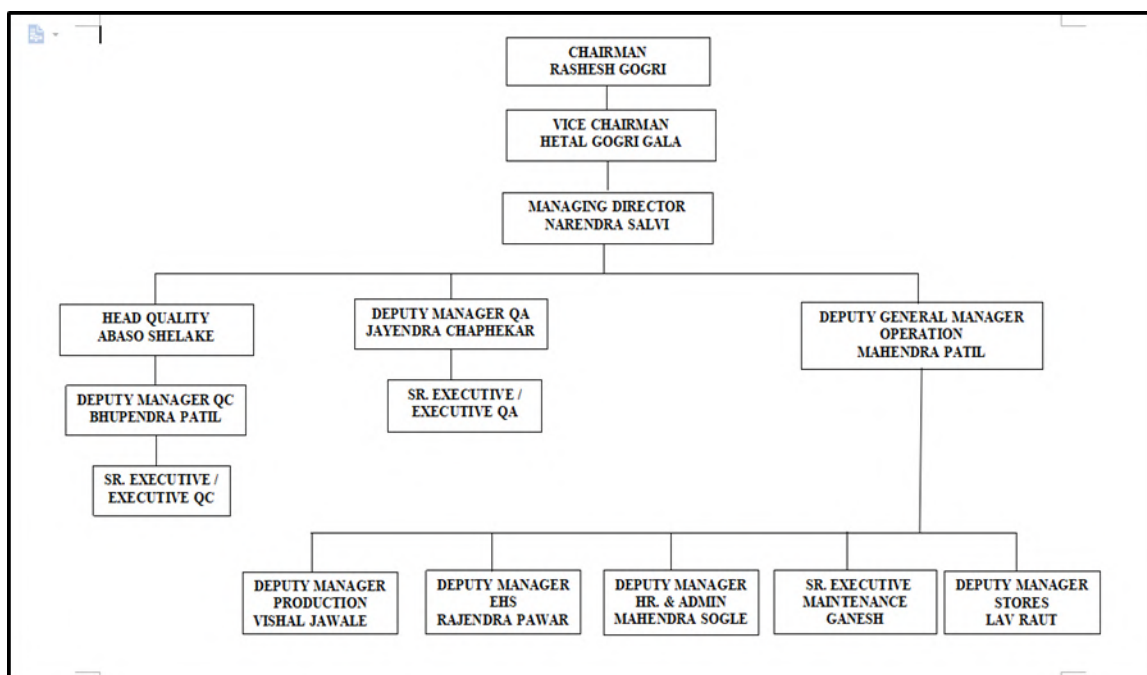


Figure No. 7.6: Safety Management Cell

7.7.2.2 OUTSIDE ORGANIZATION INVOLVEMENT IN ASSISTING DURING THE ON-SITE EMERGENCY

The Outside organization that would be involved during the On-site emergency would be fire, hospital and Police authority. This authority would be contacted when the resources provided within the factory will not fulfil the requirement.

7.7.2.3 INFORMATION ON THE PRELIMINARY HAZARD ANALYSIS

Risk Assessment have been prepared considering all possible and rare events for CCOE, Non CCOE, Raw Materials in the above section. Based on the study the Maximum Credible Scenario has been identified for the particular scenario and recommendation to reduce the effect and its occurrence has been suggested / recommended.

7.7.2.4 DETAILS ABOUT SAFETY RELATED FEATURES IN PLANT

1) Location of the Dangerous Substances

The dangerous substances are stored in a demarcated area in the plant premises. The raw materials are stored based on their compatibility with other raw materials. The raw materials whose quantities are large are stored in tanks with appropriate safety measures.

2) Seat of Key Personal

Table No. 7.9: Key personnel

Sr. No.	Designation	Seat Location	Name & Contact No.
1	Dy. General Manager	Office	Mr. Mahendra Patil

Sr. No.	Designation	Seat Location	Name & Contact No.
2	Manager-EHS	Office	Mr. Rajendra Pawar
3	Sr. Executive Maintenance Eng.	Office	Mr. Ganesh
4	Dy. Manager Quality Assurance	Office	Mr. Jayendra Chaphekar
5	Dy. Manager Store	Office	Mr. Lav Raut
6	Manager	Office	Mr. Vishal Jawale
7	Dy. Manager Q C	Office	Mr. Bhupendra Patil

3) Emergency Control Room

Emergency Control Room as marked on site plan will be focal point in case of an emergency, from where the operations to handle the emergency are directed and co-ordinate by Site Main Controller. The following information and equipment is provided at the Emergency Control Centre (ECC):

- Intercom, telephone
- Safe contained breathing apparatus
- Fire suit/gas tight goggles/gloves/helmets
- Hand tools, wind direction/velocities indicators
- Telephone directories, Manual Siren
- factory layout, site plan
- Emergency lamps/torch lights/batteries
- Plan indicating locations of hazard inventories, plant control room, sources of safety equipment, work road plan, assembly points, rescue location, vulnerable zones, and escape routes
- Emergency shut-down procedures
- Nominal roll of employees
- List of key personnel, list of essential employees, list of Emergency Co-ordinators
- Duties of key personnel
- Addresses with telephone numbers of key personnel, emergency coordinator, and essential employees
- Important addresses and telephone numbers including Government agencies, neighboring industries and sources of help, outside experts, chemical fact sheets, population details around the factory.

7.7.3 DETAILS OF SAFETY SYSTEMS IN THE PLANT PREMISES

The below section will explain about the safety features & measures adopted by M/s. Aarti Pharmalabs Limited (Unit V-II) for dealing with the onsite emergency situation.

1) ALARM / SIREN

There will totally 1 nos. of hooters located in the plant premises as marked in the layout plan.

Everyday 09:00 hours by giving an “All Clear” siren will be sounded for testing purpose.

Emergency Alarm annunciator panel is located at gate office building as marked on the site plan.

On hearing alarm the incident controller will activate the action on Disaster control plan by giving proper instructions or predetermined signals. The alarm code used in the company is explained below,

Table No. 7.10: Alarm Code

TONE OF SIREN			
Sr. No	Sirens	Indicates	Authority
01	10 sec ON & 10 Sec off for 4 times	Fire Emergency	Incident Controller
02	10 sec ON & 10 Sec off for 5 times	Toxic Emergency	Incident Controller
03	20 sec ON & 20 Sec off	Major Emergency	Incident Controller
04	1 min long continue	All clear	Site Controller

2) ASSEMBLY POINTS

Numbers of assemblies depending upon the plant location are identified wherein employees who are not directly connected with the disaster management would be assembled for safety and rescue. Emergency breathing apparatus, minimum facilities like water etc. would be organized. In view of the size of plant, different locations are earmarked as assembly points. **Three Assembly** points are identified by the company. Depending upon the location of hazard, the assembly points are to be used.

Assembly Points	Near Main Gate	1 No.
	Near emergency side	1 No.
	Near exit Gate	1 No.

3) MOCK DRILLS

The company will organize periodical mock drill / rehearsal every 6 months as per suggested format by creating an emergency situation so as to verify preparedness and awareness as well as shortcomings on the part of the person to overcome the same. Sufficient time is provided prior to mock drill to the emergency services and public for proper response to exercise and provide training also. Record the deficiencies of the system during the trial and take appropriate actions to improve the efficiency of the plan in terms of preparedness and response.

4) TRAINING

By imparting an effective training from time to time, the awareness will be kept alive all the time to ensure safety awareness, preparedness for emergency situations, good housekeeping, discipline, etc. Display of safety slogans, operative instructions and motivation for safety should will be made the part of the company's normal activities. All the persons earmarked for the emergency services will be trained to respond to the emergency. The company will be conducts internal & external training for Environment Health & safety. The training will be conducted at a documented frequency. The external training will be conducted six monthly and internal training is conducted every month.

Training will be imparted to the employees by raising siren in specific pattern. Employees will be given training of escape routes, taking shelter, protecting from toxic effects. Employees will be provided with information related to fire hazards and first aid measures.

5) EMERGENCY POWER SUPPLY

Plant facilities would be connected to Generator and is placed in an auto mode. Thus, water pumps, plant's lighting and emergency control centre, administrative building and other auxiliary services are connected to emergency power supply. In all the blocks, flame proof type emergency lamps are provided.

6) WIND SOCK

Wind sock will be provided in the company. The workers are trained in the mock drill regarding the usage of the wind sock for identifying the directions for taking shelter or identifying the area of high toxicity in case of emergency.

7) COMMUNICATION FACILITIES AVAILABLE DURING ONSITE EMERGENCY

Table No. 7.11: Communication Facilities Available During Onsite Emergency

Sr. No.	Designation	Seat Location	Name & Contact No.
1	Dy. General Manager	Office	Mr. Mahendra Patil
2	Manager (EHS)	Office	Mr. Rajendra Pawar
3	Dy. Maintenance Eng.	Office	Mr. Ganesh
4	Dy. Manager Quality Assurance	Office	Mr. Jayendra Chaphekar
5	Dy. Manager Store	Office	Mr. Lav Raut
6	Manager Production	Office	Mr. Vishal Jawale
7	Dy. Manager Q C	Office	Mr. Bhupendra Patil

8) FIRE FIGHTING FACILITIES

Firefighting equipment suitable for emergency are maintained well in each section in the plant. This would be developed according to the statutory requirements. However, fire hydrant line covering major areas will be laid. Fire alarms will be located in the bulk storage areas. The below details highlight the firefighting facilities at site.

Table No. 7.12: Fire Fighting Tank Details

Sr. No.	Description	Capacity/MOC
1	Capacity of Fire Fighting tanks	100 m ³
2	Type of tank Overhead/ Below head	Under Ground
3	Material of Construction	RCC
4	Pump Capacity of fire-fighting tank	02 nos. of 835 LPM electrical driven main pump & 01 no of diesel driven standby pump.
5	No of assembly points	3
6	No of exit points for emergency evacuation	03
7	Fire Hydrant system	Yes
8	No of fire hydrant points in the premises	30
9	Nearest fire station	MIDC fire station Tarapur

Table No. 7.13: First Aid Kit Location

Sr. No.	No. of first aid kits available	Locations where the first aid kit is available
1	1	OHC
2	1	Manufacturing Area
3	2	Boiler and ETP area

Table No. 7.14: Location and Nos. of fire hydrant points in the premises

Sr. No.	Location & Nos. of fire hydrant points in the premises	Nos. of fire hydrant points
1	Near south boundary wall	3
2	parking	1
3	Near East boundary wall	2
4	Near North boundary wall	4
5	Tank farm	1

7.7.4 FIRE EXTINGUISHER DETAILS

Total 70 nos. of Fire extinguisher will be provided out of 66 nos. will be ABC type and 4 nos. of CO₂ type. Details are given below,

Table No. 7.15: Type of fire extinguisher and Location of Fire Extinguishers

Sr. No.	Type of fire extinguisher	Location of Fire Extinguishers	Nos. of fire extinguisher
1	ABC-6 kg	Staircase A Ground floor	2
2	ABC-6 kg	Staircase A first floor	2
3	ABC-6 kg	Staircase A Second floor	2
4	ABC-6 kg	Staircase B Ground floor	2
5	ABC-6 kg	Staircase B first floor	2
6	ABC-6 kg	Staircase B Second floor	2
7	ABC-6 kg	Staircase C Ground floor	2
8	ABC-6 kg	Staircase C first floor	2
9	ABC-6 kg	Staircase C Second floor	2
10	ABC-6 kg	Workers change room (Ground floor)	2
11	ABC-6 kg	Raw material/ Finished goods store (Ground floor)	2
12	ABC-6 kg	Raw material/ Finished goods store (Ground floor)	2
13	ABC-6 kg	Raw material/ Finished goods store (Ground floor)	2
14	ABC-6 kg	Admin area (Admin building-first floor)	2
15	ABC-6 kg	Admin area (Admin building-first floor)	2
16	ABC-6 kg	Security cabin Gate no-1	2
17	ABC-6 kg	Security cabin Gate no-2	2
18	ABC-6 kg	Plant area Ground floor	2
19	ABC-6 kg	Plant area Ground floor	2
20	ABC-6 kg	Plant area first floor	2
21	ABC-6 kg	Plant area first floor	2
22	ABC-6 kg	Plant area Second floor	2

Sr. No.	Type of fire extinguisher	Location of Fire Extinguishers	Nos. of fire extinguisher
23	ABC-6 kg	Plant area Second floor	2
24	ABC-6 kg	Boiler area	2
25	CO ₂ -4.5 Kg	Tank farm	2
26	CO ₂ -4.5 Kg	Tank farm	2
27	ABC-6 kg	ETP and RO plant	2
28	ABC-6 kg	ETP and RO plant	2
29	ABC-6 kg	ETP and RO plant	2
30	ABC-6 kg	STP area	2
31	ABC-6 kg	Hazardous waste storage	2
32	ABC-6 kg	Non-hazardous waste storage	2
33	ABC-6 kg	Car parking area	2
34	ABC-6 kg	Car parking area	2
35	ABC-6 kg	D.G set area	2
Total			70

Table No. 7.16: Lightning Arrestor

Sr. No.	Location	Nos.
1	Admin building	1
2	RM/FG storage	1
3	Production building	1

Table No. 7.17: Location and Number of Smoke Detectors

Sr. No.	Location of Smoke detectors	No.
1	Raw material/Finished goods storage	14
2	Admin area	12
5	Ground floor Plant Area	55
6	First floor Plant Area	48
7	Second floor Plant Area	48

7.7.5 Type and No. of Protective and Rescue Equipment on site Maintenance Frequency

Table No. 7.18: Types and No. of Protective and Rescue Equipment's on site

Sr. No.	Type	Number	Location
1	Respiratory	10	Near Main gate
2	Non respiratory	100	Store Room

Name of PPE used	Helmets, Safety Shoes, Hand Gloves (Rubber & Leather), Safety Goggles, Respirators, Face Shields, Safety Belts, Boiler Suit, Self-Content Breathing Apparatus (SCBA)

7.7.6 FIRE WATER TANK JUSTIFICATION

The pump capacities of firefighting tanks are 171 m³ /hr for underground tank, therefore according to the discharge capacity of the pump installed, the back-up time by which the tank will be empty is calculated below,

1. For underground tank 1:

$$\begin{aligned}
 \text{Time (min)} &= [\text{Total water in firefighting tank (m}^3\text{)}] / \text{discharge capacity (m}^3\text{ /hr)} \\
 &= 150 \text{ m}^3 / 171 \text{ m}^3 \text{ /hr} \\
 &= 0.87 \text{ hrs.} \\
 &= 52 \text{ min.}
 \end{aligned}$$

Total Back up time by which the tank will be empty = 52 min.

The fire safety measures are depicted in the plot layout.

Table No. 7.19: Disaster Management Plan Budget

Sr. No.	Asset Description	Cost (INR)
1	Fire Fighting system	90,00,000/-

7.7.7 MEDICAL FACILITIES

The total number of employees in **M/s. Aarti Pharmalabs Limited (Unit V-II)** for proposed activity would be around 125 Nos. According to the Factories Act 1948 & Maharashtra Factories Rules, 1963 an Occupational Health Centre of 25 sq. m is provided in which a part time factory medical officer shall visit the factory at least twice in a week. Also, one qualified person on First Aid measures will be on duty. First aid box will be provided in every department of the company. There will be 4 nos. of First-aid Box available as per the above table & adequate people will be trained for using it. Out of which one person is always on site. Necessary specific medicines for emergency treatment of burns patients and for those affected by toxicity would be maintained. Breathing apparatus and other emergency medical equipment would be provided and maintained in the OHC.

Private medical practitioners & government hospital would be approached in case of emergency & short supply in the plant.

Names of medical personnel and medical facilities in the surrounding area would be prepared and updated which can be identified in the security office and emergency control centre. The help of nearby industrial managements would be taken under mutual aid response group agreement if required. Keeping in view the nature of the emergency, two levels of co-ordination are proposed. In the case of an On-Site Emergency, resources within the organization would be mobilized as explained in the above section and in the event of an extreme emergency; local authorities' help would be sought.

In the event of an emergency developing into an offsite emergency, local authority and District Emergency Authority (normally the Collector) would be appraised and under his supervision, the Off-Site Disaster Management Plan would be exercised. The detailed risk analysis has indicated that the pool fire effects would be felt outside the factory. Therefore, it is necessary to prepare an offsite emergency plan.

For this purpose, the offsite emergency plan has been highlighted in the below section, for the facilities that are available locally, i.e. medical, transport, personnel, rescue accommodation, voluntary organizations etc. would be mustered. Necessary rehearsals and training in the form of mock drills should be organized in consultation with the district emergency authority.

7.7.8 MUTUAL AID RESPONSE GROUP

- It is a voluntary initiative on developing ‘Mutual Aid Arrangement’ for effective emergency response.
- Industries are represented by a SHE personnel or equivalent from each industry.
- It identifies and utilizes the available resources effectively to mitigate emergency to mitigate emergency effects to minimize loss of life, property and human suffering.
- It supports various industries by sharing Technical Expertise on Chemical Safety.
- Helps in tackling emergency situations.
- It provides forum for sharing information on Hazardous Chemicals.
- Arrangements of safety training, awareness programs, seminars.
- Visual display of safety information.
- Formulate an Off-Site Emergency Plan.
- Assist government agencies in case of Off-Site Emergency.

7.8 OFF-SITE EMERGENCY PREPAREDNESS PLAN (Standard ToR point 7.13)

The off-site plan will be prepared with the help of the local district authorities. The proposed plan will be based on the following guidelines.

7.8.1 INTRODUCTION

Off-site emergency plan follows the on-site emergency plan. When the consequences of an emergency situation go beyond the plant boundaries, it becomes an off-site emergency. Offsite emergency is essentially the responsibility of the public administration. However, the factory management will provide the public administration with the technical information relating to the nature, quantum and probable consequences on the neighbouring population.

The off-site plan in detail will be based on those events, which are most likely to occur, but other less likely events, which have severe consequences, will also be considered. Incidents, which have very severe consequences yet have a small probability of occurrence, should also be considered during the preparation of the plan. However, the key feature of a good off-site emergency plan is flexibility in its application to emergencies other than those specifically included in formation of the plan.

The roles of the various parties who will be involved in the implementation of an off-site plan are described below. Depending on local arrangements, the responsibility for the off-site plan should either rest with the works managements or with the local authority. Either way, the plan should identify an emergency coordinating officer, who would take the overall command of the off-site activities. As with the on-site plan, an emergency control centre should be set up with whom the emergency coordinating officer & emergency planning officer can operate. An early decision will be required in many cases on the advice to be given to people living “within range” of the accident; in particular, whether they should be evacuated or told to go indoor. In the latter case, the decision can regularly be reviewed in the event of an escalation of the incident.

Consideration of Evacuation may include the following factors:

In the case of a major fire but without explosion risk (e.g. an oil storage tank), only houses close to the fire are likely to need evacuation, although a severe smoke hazard may require this is to be reviewed periodically.

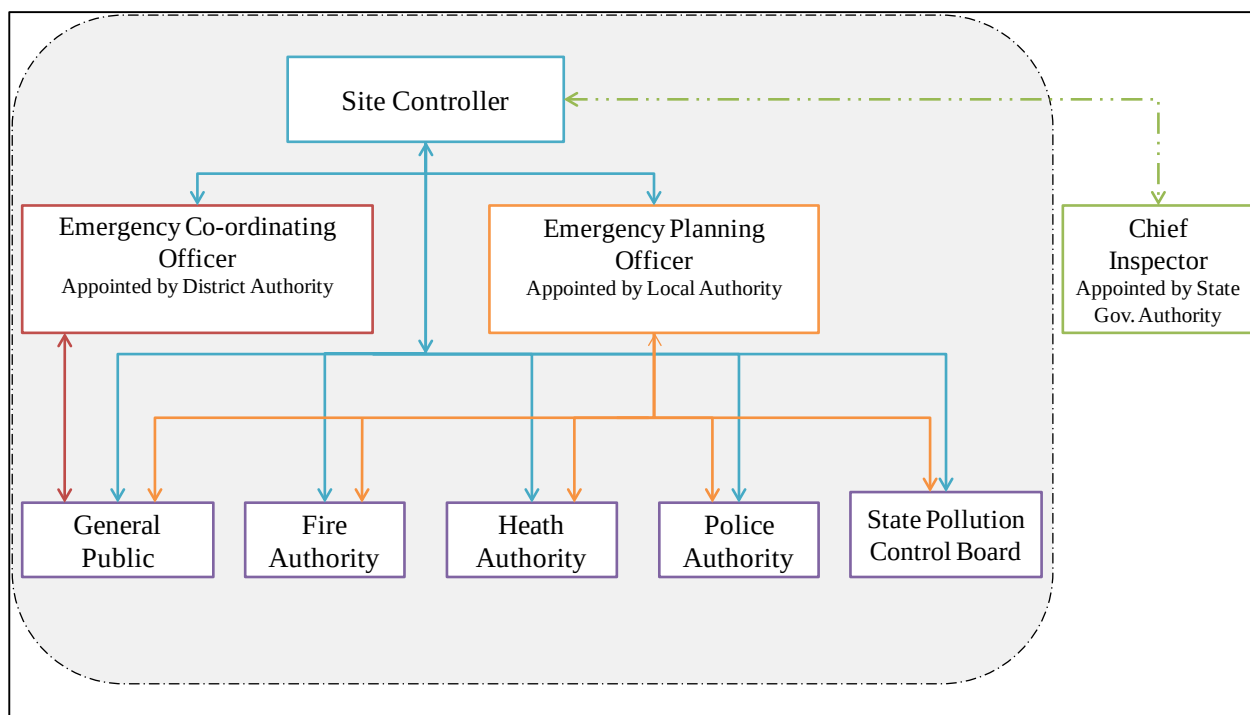


Figure No. 7.5: Offsite Emergency Plan

If a fire is escalating and in turn threatening a store of hazardous material, it might be necessary to evacuate people nearby, but only if there is time. If insufficient time exists, people should be advised to stay indoors and shield themselves from the fire for release or potential release of toxic materials, limited evacuation may be appropriate downwind if there is time. The decision would depend partly on the type of housing “at risk”. Conventional housing of solid construction with windows closed offers substantial protection from the effects of a toxic cloud, while shanty house, which can exit close to factories, offers little or no protection.

7.8.2 ROLE OF THE CHIEF INSPECTOR

Chief Inspectors are likely to want to satisfy themselves that the organization responsible for producing the off-site plan has made adequate arrangements for handling emergencies of all types including major emergencies. Chief Inspector may verify the documented procedures and evidence of exercise undertaken to test the onsite & offsite plan. The copy of the information furnished to the workers, local authority, general public & District Emergency Authority is submitted to the Chief Inspector for review. If the Chief Inspector is not satisfied with the content, he may direct the occupier to supply further information to the workers, authority, general public & District Emergency Authority as deemed necessary.

7.8.3 ROLE OF THE EMERGENCY COORDINATING OFFICER

The various emergency services will be coordinated by an emergency coordinating officer (ECO), who is designated by the District Collector. The ECO will coordinate closely with the Site Controller. Again, depending on local arrangements, for very severe incidents with major or prolonged off-site consequences, the external control should be passed on to Emergency Planning Officer of the local authority administrator.

7.8.4 ROLE OF THE LOCAL AUTHORITY

The company will enter into an agreement with the Emergency Planning Officer (EPO) of the area, within whose jurisdiction the factory is situated for the Emergency officer to take appropriate steps to inform the general public outside the factory who likely to be affected by an accident. The information in the prescribed format would be shared with the EPO by the site controller. The duty to prepare the off-site plan lies with the local authorities. The emergency planning officer (EPO) appointed should carry out his duty in preparing for a whole range of different emergencies within the local authority area. The EPO should coordinate with the site controller for ensuring that the plan is continually updated.

It is the responsibility of the EPO to ensure that all those organizations, which will be involved off site in, handling the emergency, know of their role and are able to accept it by having for example, sufficient staff and appropriate equipment to cover their particular responsibilities. Rehearsals for off-site plans are organized by the EPO.

7.8.5 ROLE OF FIRE AUTHORITIES

The control of a fire should normally be the responsibility of the senior fire brigade officer who would take over the handling of the fire from the site incident controller on arrival at the site. The senior fire brigade officer should also have a similar responsibility for other events, such as explosions and toxic release. Fire authorities in the region should be explained about the location of all stores of flammable materials, water and foam supply points, and fire-fighting equipment. They should be involved in on-site emergency rehearsals both as participants and, on occasion, as observers of exercises involving on-site personnel.

7.8.6 ROLE OF HEALTH AUTHORITIES

Health authorities including doctors, surgeons, hospitals, ambulances and similar other persons/institutions should have a vital part to play following a major accident, and they should form an integral part of the emergency plan. For major fires, injuries should be the result of the effects of thermal radiation to a varying degree and the knowledge and experience to handle this in all but extreme cases may be generally available in most hospitals. For major toxic release, the effects vary according to the chemical in question and health authorities should be apprised about the likely toxic release with treatment appropriate to such casualties. Major off-site incidents are likely to require medical equipment and facilities in addition to those available locally, and medical “mutual aid” scheme should exist to enable the assistance of neighbouring authorities to be obtained in the event of an emergency.

7.8.7 ROLE OF POLICE AUTHORITY

Formal duties of the police during an emergency include protecting life and property and controlling bystanders, evacuating the public, identifying the dead and dealing with casualties and informing relatives of dead or injured.

7.8.8 ROLE OF POLLUTION CONTROL BOARD

One receipt of information officer of the pollution control board shall proceed to the affected site. Conduct investigation including collection of data. Ensure that the spills have been contained with no further damage possible to humans and environment. Further to declare the area fit for re-entry after the decontamination is completed. In case of an environmental disaster, the pollution control board

shall, based on the contaminant released in to the environment, carry out with the help of the industry and other agencies such investigations as may be necessary to establish the degree of contamination. Arrange for suitable decontamination using resources available in the area as well as with the board.

7.8.9 EXTERNAL AGENCIES CONTACT DETAILS INVOLVED DURING EMERGENCY

Table No. 7.20: External agencies contact details involved during emergency

HOSPITAL				
Sr. No.	Name of Hospital	Address	Telephone No.	Distance
1	TIMA Hospital	MIDC Tarapur, Near Khaira Fate Boisar, Dist. Palghar.	02525278444 / 02525278666	3.41 km
2	Thunga Hospital	J-70, MIDC Tarapur, Boisar, Dist. Palghar.	02525270308 02525270309	1.75 km
3	TAPS Hospital	Tarapur road, MIDC Tarapur Boisar, Dist. Palghar.	2525264786	1.17 km
POLLICE STATION				
Sr. No.	Name of Police station	Address	Telephone No.	Distance
1	Boisar MIDC Police Station	MIDC Police station Navapur Rd, Camlin Naka, MIDC Tarapur, Boisar, Dist, Palghar	2525272444	1.18 km
2	Tarapur By-pass Police Station	MIDC Tarapur, Dist. Palghar	2525272242	7.78 km
FIRE STATION				
Sr. No.	Name of Fire station	Address	Telephone No.	Distance
1	Boisar Fire Station	Boisar Fire Station, Navapur Rd. Camlin Naka MIDC Tarapur, Boisar, Dist. Palghar	02525272000 02525272262	0.80 km
MIDC				
Sr. No.	Name of MIDC	Address	Telephone No.	Distance
1	Maharashtra Industrial Development Corporation Tarapur	MIDC Tarapur, Takinaka Navapur Rd, Boisar, Dist. Palghar	2525272389	1.44 km
MUNICIPAL CORPORATION				
Sr. No.	Name of Municipality	Address	Telephone No.	Distance
1	Palghar Municipal Council	Juna Palghar, Palghar, Maharashtra 401404	982539034	12.53 km
POLLUTION CONTROL BOARD				
Sr. No.	Name of PCD	Address	Telephone No.	Distance

1	Maharashtra Pollution Control Board, MIDC Tarapur	MPCB Tarapur, Chitralaya Boisar Tarapur Rd, Boisar, Dist. Palghar	2525273314	0.96 km

7.8.10 RESETTLEMENT & REHABILITATION DETAILS

(Standard ToR point 4.13)

The proposed project activity will be carried out at the plot of the company located at notified industrial area, MIDC Tarapur. Hence rehabilitation & resettlement aspects are not applicable in this project.

8. PROJECT BENEFITS

8.1 INTRODUCTION

M/s. Aarti Pharmalabs Limited (Unit V-II) proposes to establish a new manufacturing unit of API Products under category ‘A’. The Total production capacity is envisaged to be 2000 TPM. The proposed project is located within Notified industrial area that is Tarapur MIDC (Chemical zone). The project is located at Plot No. L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506. The proposed project is a new project. Total plot area is 5157 Sq. m. It is anticipated that the proposed activity will provide benefits to locals during both construction & operational phase thereby helping in better socio-economic aspects in the vicinity of the project.

8.2 IMPROVEMENTS IN PHYSICAL INFRASTRUCTURE

8.2.1 INFRASTRUCTURE PROPOSED IN CER ACTION PLAN

(Standard ToR point 10.1)

Since the project comes under Notified industrial area, Public Hearing (PH) was not applicable. However, for development & improvement in socio economic condition company will make provisions for fixed budgetary allocation for social commitment as a part of social responsibility. (As per MoEF&CC OM No. F. No. 22-23/2018-IA.III (Pt) dated 31st October 2019 the % of the CER may be at least 2.0 times the slabs given in the OM dated 1st May 2018 for Critically Polluted Area (CPA). Hence now 4% of the total project cost will be allocated for CER activities). The proposed capital investment for project is **INR 90 Cr.**, thus **INR 3.60 Cr.** is allocated for implementation of need based CER activities. CER action plan is addressed in table below.

8.3 IMPROVEMENTS IN SOCIAL INFRASTRUCTURE

Social infrastructure includes the construction and maintenance of facilities that supports social services like Hospitals, Schools, Public facilities and transportation. Proposed project will generate additional indirect employment due to the additional transportation requirement. **M/s. Aarti Pharmalabs Limited (Unit V-II)** would be able to contribute in development of Hospital, Schools and Public facilities in nearby vicinity as mentioned in the CER action plan.

Table No. 8.1: Need based CER plan for implementation

Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
35 Cr.	3.6 Cr.	360 Lakhs	Rural Hospital, Boisar At an aerial distance of 3.35 km in NE direction from the project site.	Rural Hospital, Boisar: - Digital ECG machine system - Ambulance - Portable fetal Doppler - Digital HB meter - Digital baby weighing scale - Hazardous Waste Dust bin - Air Conditioner - Medicine trolley - SS and MS hospital bench - Solar street light and its installation	Particulars	Price / Unit	Units	Total Amount
					Digital \ECG machine system (5 Nos.)	35000	5	175000
					Ambulance (2 No.)	900000	2	1800000
					Fetal monitor Doppler (3 Nos.)	4500	3	13500
					HB meter (4 Nos.)	2500	4	10000
					Digital baby weighing scale (5 Nos.)	7500	5	37500
					Hazardous Waste Dust bin (30 Nos.)	700	35	24500
					AC (3 Nos.)	30000	3	90000
					Medicine trolley (15 Nos.)	10000	15	150000
					SS and MS hospital bench (15 Nos.)	10000	15	150000
					Solar street light and its installation (15 Nos.)	20000	15	300000
					Rainwater harvesting system along with storage tank and its installation (1 No.)	250000	1	250000
					Semi electrical bed (10 No.)	45000	10	450000
					Total			34,50,500/-

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				- Rainwater harvesting system along with storage tank and its installation - Semi electrical bed				
			Government Hospital, Murbe at an aerial distance of 5.71 km in S direction from the project site.	Government Hospital at Murbe - Digital ECG machine system - Stethoscope - Mercury Blood pressure Apparatus - Portable Nebulization machine - Medicine trolley - Hazardous Waste Dust bin - Episiotomy scissor - Mucous extractor	Particulars	Price / Unit	Units	Total Amount
					Digital ECG machine system (5 Nos.)	35000	5	175000
					Stethoscope (10 Nos.)	1500	10	15000
					Mercury Blood pressure Apparatus (10 Nos.)	2500	10	25000
					Providing portable Nebulization machine (10 Nos.)	1200	10	12000
					Medicine trolley (15 Nos.)	10000	15	150000
					Hazardous Waste Dust bin (45 Nos.)	700	45	31500
					Episiotomy scissor (46 Nos.)	500	46	23000
					Mucous extractor (110 Nos.)	5	110	550
					AC (3 Nos.)	30000	3	90000
					Fetal monitor Doppler (5 Nos.)	4500	5	22500
					HB meter (10 Nos.)	2500	10	25000
					Digital baby weighing scale (10 Nos.)	7500	10	75000
					SS and MS hospital bench (20 Nos.)	10000	20	200000

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				• Air Conditioner • Portable fetal Doppler • Digital HB meter • Digital baby weighing scale • SS and MS hospital bench • Solar street light and its installation • Rainwater harvesting system along with storage tank and its installation • Semi electrical bed • Ambulance	Solar street light and its installation (15 Nos.) Rainwater harvesting system along with storage tank and its installation (1 No.) Semi electrical bed (15 No.) Ambulance (1 No.) Total	20000 250000 45000 900000	15 1 15 1	300000 250000 675000 900000 29,69,550/-
			TIMA Hospital at an aerial distance of 3.33 km in Southeast direction from the project site.	TIMA Hospital • Fowler bed Beds • Evox Oxygen generator machine	Particulars Fowler bed Beds (20 Nos.) Evox Oxygen generator machine (10 Nos.)	Price / Unit 9500 52900	Units 20 10	Total Amount 190000 529000

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				• Medion EP Portable X-ray machine • Dell Computers • UNI-EM ECG Machine • Repair, Renovation and painting of existing building • HP Deskjet Colour Printer • Water purifier • BPL Non-contact Thermometer • Rainwater harvesting system along with storage tank and its installation • Ambulance • Pulse Oximeter	Medion EP Portable X-ray machine (5 Nos.) Dell Computers (5 Nos.) UNI-EM ECG Machine (5 Nos.) Repair, Renovation and painting of existing building HP Deskjet Colour Printer – 5 Nos. Water purifier- 5 Nos. BPL Non-contact Thermometer – 10 Nos. Rainwater harvesting system along with storage tank and its installation (1 No.) Ambulance (1 No.) Pulse Oximetry – 10 Nos. Total	150000 30000 45000 300000 10000 23000 2500 250000 900000 1500	5 5 5 1 5 5 10 1 2 10	750000 150000 225000 300000 50000 115000 25000 250000 1800000 15000 43,99,000/-

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate				
			Thunga Hospital – Tarapur M.I.D.C. at an aerial distance of 1.80 km in East direction from the project site.	Thunga Hospital – Tarapur M.I.D.C • Digital ECG machine system • Ambulance • Portable fetal Doppler • Digital HB meter • Digital baby weighing scale • Hazardous Waste Dust bin • Air Conditioner • Medicine trolley • SS and MS hospital bench • Solar street light and its installation • Rainwater harvesting system along with					

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				storage tank and its installation Semi electrical bed				
			Anand Hospital - Orthopaedics, and Obstetrics & Gynaecology-Boisar at an aerial distance of 3.23 km in NW direction from the project site.	Anand Hospital - Orthopaedics, and Obstetrics & Gynaecology: • Digital ECG machine system • Stethoscope • Mercury Blood pressure Apparatus • Portable Nebulization machine • Medicine trolley • Hazardous Waste Dust bin • Episiotomy scissor • Mucous extractor • Air Conditioner	Particulars	Price / Unit	Units	Total Amount
					Digital ECG machine system (5 Nos.)	35000	5	175000
					Stethoscope (10 Nos.)	1500	10	15000
					Mercury Blood pressure Apparatus (10 Nos.)	2500	10	25000
					Providing portable Nebulization machine (10 Nos.)	1200	10	12000
					Medicine trolley (20 Nos.)	10000	20	200000
					Hazardous Waste Dust bin (30 Nos.)	700	30	21000
					Episiotomy scissor (20 Nos.)	500	20	10000
					Mucous extractor (50 Nos.)	5	50	250
					AC (3 Nos.)	30000	3	90000
					Fetal monitor Doppler (5 Nos.)	4500	5	22500
					HB meter (10 Nos.)	2500	10	25000
					Digital baby weighing scale (10 Nos.)	7500	10	75000
					SS and MS hospital bench (20 Nos.)	10000	20	200000
					Solar street light and its installation (20 Nos.)	20000	20	400000
					Rainwater harvesting system along with storage tank and its installation (1 No.)	250000	1	250000

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				• Portable fetal Doppler • Digital HB meter • Digital baby weighing scale • SS and MS hospital bench • Solar street light and its installation • Rainwater harvesting system along with storage tank and its installation • Semi electrical bed • Ambulance	Semi electrical bed (15 No.)	45000	15	675000
					Ambulance (2 No.)	900000	2	1800000
					Total			39,95,750/-
			Z.P School, Kumbhavali at an aerial distance of 1.10 km in West-Southwest direction from the project site.	Z.P School, Kumbhavali • Water purifier • Dell Computers • Benches	Particulars	Price / Unit	Units	Total Amount
					Water purifier- 1 Nos.	23000	2	46000
					Dell Computers - 5Nos.	30000	5	150000
					Benches - 50 Nos.	3500	50	175000
					HP Deskjet Colour Printer – 4 Nos.	10000	4	40000
					Epson Projectors – 4 Nos.	28000	4	112000

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				• HP Deskjet Colour Printer • Epson Projectors • Repair, Renovation of Existing urinals and toilets • Funds for purchase of books for library • School Bags • A4 Xerox Machine, Multi-Function • Magnetic white board • Metal Cupboard • Revolving chair for Teachers cabin and class room • Sports Kit	Repair, Renovation of Existing urinals and toilets. Funds for purchase of books for library School Bags (100 Nos.) A4 Xerox Machine, Multi-Function – 2 Nos. Magnetic white board -10 Nos. Metal Cupboard -10 Nos. Revolving chair for Teachers cabin and class room - 4 Nos. Sports Kit -10 Nos. Total	150000 30000 800 35000 8000 12500 3300 2000	1 1 100 2 10 10 15 10	150000 30000 80000 70000 80000 125000 49500 20000 11,27,500/-
			Z.P School, Bhimnagar, Boisar at an	Z.P School, Bhimnagar, Boisar	Particulars	Price / Unit	Units	Total Amount

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate						
			aerial distance of 2.85 km in West-Southwest direction from the project site.	• A4 Xerox Machine, Multi-Function • Magnetic white board • Water purifier • Epson Projectors • Math’s kit • Dell Computers • School Bags • Metal Cupboard • Revolving chair for Teachers cabin and class room • Sports Kit • Benches	A4 Xerox Machine, Multi-Function – 2 Nos.				35000	2	70000
					Magnetic white board -15 Nos.				7500	15	112500
					Water purifier- 2				25000	2	50000
					Epson Projectors –3 Nos.				30000	3	90000
					Maths kit – 25 Nos.				2000	25	50000
					Dell Computers- 5 Nos.				30000	5	150000
					School Bags (100 Nos.)				800	100	80000
					Metal Cupboard -10 Nos.				12500	10	125000
					Revolving chair for Teachers cabin and class room - 5 Nos.				3300	15	49500
					Sports Kit -10 Nos.				2000	10	20000
					Benches – 50 Nos.				4000	50	200000
					Total				997000/-		
					Z.P. Marathi School, Saravali at an aerial distance of 3.46 km in South-Southeast	Z.P. Marathi School at Saravali • Computers • Printers • Water purifier system	Particulars				Price / Unit
			Computers (10 Nos.)				35000	10	350000		
			Printers (3 Nos.)				18000	3	54000		
			Water purifier system (2 Nos.)				25000	2	50000		
			E-learning material, Smart classroom solution (3 Nos.)				100000	3	300000		

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
			direction from the project site.	• E-learning material, Smart classroom solution • Solar street light and its installation • Rainwater harvesting system and its installation • Wireless portable music Bluetooth sound • 3-seater school desk bench • Maintenance of Toilet	Solar street light and its installation (15 Nos.)	20000	15	300000
					Rainwater harvesting system and its installation (1 No.)	250000	1	250000
					Wireless portable music bluetooth sound (10 Nos.)	2500	10	25000
					Metal Cupboard -10 Nos.	12500	10	125000
					3 seater school desk bench (50 Nos.)	3500	50	175000
					Maintaince of Toilet	200000	1	200000
					Total			18,29,000/-
			Z.P. School, Kolawade Village at an aerial distance of 1.98 km in East-Southeast direction from the project site.	Z.P. School, Kolawade Village • Computers • Printers • water purifier system • Epson Projectors • E-learning material, Smart classroom solution				

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				• Solar street light and its installation • Rainwater harvesting system and its installation • School Bags • Maintenance of Toilet • First aid kit • 3-seater school desk bench	Rainwater harvesting system and its installation (1 No.)	250000	1	250000
					School Bags (100 Nos.)	800	100	80000
					Maintenance of Toilet	200000	1	200000
					Metal Cupboard -10 Nos.	12500	10	125000
					first aid kit	1250	20	25000
					3 seater school desk bench (100 Nos.)	3500	100	350000
					Total			19,56,000/-
			Z. P. School, Navapur - Primary school at an aerial distance of 3.38 km in West direction from the project site.	Z. P. School, Navapur - Primary school • Computers • Printers • Water purifier system • E-learning material, Smart classroom solution • Solar street light and its installation	Particulars	Price / Unit	Units	Total Amount
					Computers (10 Nos.)	35000	10	350000
					Printers (2 Nos.)	12000	2	24000
					Water purifier system (2 Nos.)	25000	2	50000
					Epson Projectors – 3 Nos.	30000	3	90000
					E-learning material, Smart classroom solution (3 Nos.)	100000	3	300000
					Solar street light and its installation (15 Nos.)	20000	15	300000
					Rainwater harvesting system and its installation (1 No.)	250000	1	250000
School Bags (100 Nos.)	800	100			80000			
Maintenance of Toilet	200000	1			200000			

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				- Rainwater harvesting system and its installation - Wireless portable music Bluetooth sound 3-seater school desk bench - Maintenance of Toilet	first aid kit	1250	20	25000
					Metal Cupboard -10 Nos.	12500	10	125000
					3 seater school desk bench (100 Nos.)	3500	100	350000
					Total			21,44,000/-
			Kolvade Gram Panchayat	Panchali Gram Panchayat - Installation of 60Watt solar street light - MeruJal Water ATM - Dell Computer - Stainless Steel 3-Seater Seating Bench - Chair - RCC Cement bench - Build an overhead water Tank	Particulars	Price / Unit	Units	Total Amount
					Installation of 60Watt solar street light for internal roads and road junctions - 10 Nos.	20000	10	200000
					MeruJal Water ATM – 1	200000	1	200000
					Dell Computer – 1 Nos.	30000	5	150000
					Stainless Steel 3 Seater Seating Bench	10000	5	50000
					Chair	1000	20	20000
					RCC Cement bench	4000	15	60000
					Build a Overhead water Tank	35000	1	35000
					Repairing and paining of existing structure	100000	1	100000
					Metal Cupboard -10 Nos.	12500	10	125000
					Printer	12000	2	24000
					Total			9,64,000/-

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate																																																			
				• Repairing and paining of existing structure • Printer																																																				
				Pasthal & Salgaon Gram Panchayat • Installation of 60Watt solar street light for internal roads and road junctions • MeruJal Water ATM • Dell Computer • Stainless Steel 3-Seater Seating Bench • Chair • RCC Cement bench • Build an overhead water Tank • Repairing and paining of existing structure	<table><tr><th>Particulars</th><th>Price / Unit</th><th>Units</th><th>Total Amount</th></tr><tr><td>Installation of 60Watt solar street light for internal roads and road junctions - 15 Nos.</td><td>20000</td><td>15</td><td>300000</td></tr><tr><td>MeruJal Water ATM – 1</td><td>200000</td><td>2</td><td>400000</td></tr><tr><td>Dell Computer – 1 Nos.</td><td>30000</td><td>5</td><td>150000</td></tr><tr><td>Stainless Steel 3 Seater Seating Bench</td><td>10000</td><td>10</td><td>100000</td></tr><tr><td>Chair</td><td>1000</td><td>40</td><td>40000</td></tr><tr><td>RCC Cement bench</td><td>4000</td><td>24</td><td>96000</td></tr><tr><td>Build a Overhead water Tank</td><td>30000</td><td>2</td><td>60000</td></tr><tr><td>Repairing and paining of existing structure</td><td>100000</td><td>1</td><td>100000</td></tr><tr><td>Metal Cupboard -10 Nos.</td><td>12500</td><td>10</td><td>125000</td></tr><tr><td>Printer</td><td>12000</td><td>2</td><td>24000</td></tr><tr><td colspan="3">Total</td><td>13,95,000/-</td></tr></table>				Particulars	Price / Unit	Units	Total Amount	Installation of 60Watt solar street light for internal roads and road junctions - 15 Nos.	20000	15	300000	MeruJal Water ATM – 1	200000	2	400000	Dell Computer – 1 Nos.	30000	5	150000	Stainless Steel 3 Seater Seating Bench	10000	10	100000	Chair	1000	40	40000	RCC Cement bench	4000	24	96000	Build a Overhead water Tank	30000	2	60000	Repairing and paining of existing structure	100000	1	100000	Metal Cupboard -10 Nos.	12500	10	125000	Printer	12000	2	24000	Total			13,95,000/-
Particulars	Price / Unit	Units	Total Amount																																																					
Installation of 60Watt solar street light for internal roads and road junctions - 15 Nos.	20000	15	300000																																																					
MeruJal Water ATM – 1	200000	2	400000																																																					
Dell Computer – 1 Nos.	30000	5	150000																																																					
Stainless Steel 3 Seater Seating Bench	10000	10	100000																																																					
Chair	1000	40	40000																																																					
RCC Cement bench	4000	24	96000																																																					
Build a Overhead water Tank	30000	2	60000																																																					
Repairing and paining of existing structure	100000	1	100000																																																					
Metal Cupboard -10 Nos.	12500	10	125000																																																					
Printer	12000	2	24000																																																					
Total			13,95,000/-																																																					

Chapter 8 – Project Benefits



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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				• Printer				
			Grampanchayat khairapada	Grampanchayat khairapada • Installation of 60Watt solar street light for internal roads and road junctions • MeruJal Water ATM • Dell Computer • Stainless Steel 3-Seater Seating Bench • Chair • RCC Cement bench • Build an overhead water Tank • Repairing and paining of existing structure • Printer				
					Particulars	Price / Unit	Units	Total Amount
					Installation of 60Watt solar street light for internal roads and road junctions - 15 Nos.	20000	15	300000
					MeruJal Water ATM – 1	200000	1	200000
					Dell Computer – 5 Nos.	30000	5	150000
					Stainless Steel 3 Seater Seating Bench	10000	8	80000
					Chair	1000	40	40000
					RCC Cement bench	4000	24	96000
					Build a Overhead water Tank	30000	2	60000
					Repairing and paining of existing structure	100000	1	100000
					Metal Cupboard -10 Nos.	12500	10	125000
					Printer	12000	2	24000
					Total			11,75,000/-
				Pam Grampanchayat	Pam Grampanchayat	Particulars	Price / Unit	Units

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				• Installation of 60Watt solar street light for internal roads and road junctions • MeruJal Water ATM • Dell Computer • Stainless Steel 3-Seater Seating Bench • Chair • RCC Cement bench • Build an overhead water Tank • Repairing and paining of existing structure • Printer	Installation of 60Watt solar street light for internal roads and road junctions - 15 Nos. MeruJal Water ATM – 2 Dell Computer – 5 Nos. Stainless Steel 3 Seater Seating Bench Chair RCC Cement bench Build a Overhead water Tank Repairing and paining of existing structure Metal Cupboard -10 Nos. Printer Total	20000 200000 30000 10000 1000 4000 30000 100000 12500 12000	15 2 5 10 40 24 2 1 10 2	300000 400000 150000 100000 40000 96000 60000 100000 125000 24000 13,95,000/-
			Kumbhavali Grampanchayat	Kumbhavali Grampanchayat • Installation of 60Watt solar street light for	Particulars Installation of 60Watt solar street light for internal roads and road junctions - 15 Nos. MeruJal Water ATM – 2	Price / Unit 20000 200000	Units 15 2	Total Amount 300000 400000

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				internal roads and road junctions	Dell Computer – 5 Nos.	30000	5	150000
				• MeruJal Water ATM	Stainless Steel 3 Seater Seating Bench	10000	10	100000
				• Dell Computer	Chair	1000	40	40000
				• Stainless Steel 3-Seater Seating Bench	RCC Cement bench	4000	24	96000
				• Chair	Build a Overhead water Tank	30000	2	60000
				• RCC Cement bench	Repairing and paining of existing structure	100000	1	100000
				• Build an overhead water Tank	Metal Cupboard -10 Nos.	12500	10	125000
				• Repairing and paining of existing structure	Printer	12000	3	36000
				Printer	Total			14,07,000/-
			Umroli Grampanchayat	Umroli Grampanchayat				
				• Installation of 60Watt solar street light for internal roads and road junctions	Particulars	Price / Unit	Units	Total Amount
				• MeruJal Water ATM	Installation of 60Watt solar street light for internal roads and road junctions - 5 Nos.	20000	15	300000
					MeruJal Water ATM – 1	200000	2	400000
					Dell Computer – 1 Nos.	30000	5	150000

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				• Dell Computer • Stainless Steel 3-Seater Seating Bench • Chair • RCC Cement bench • Build an overhead water Tank • Repairing and paining of existing structure Printer	Stainless Steel 3 Seater Seating Bench	10000	5	50000
					Chair	1000	40	40000
					RCC Cement bench	4000	24	96000
					Build a Overhead water Tank	30000	2	60000
					Repairing and paining of existing structure	500000	1	500000
					Metal Cupboard -10 Nos.	12500	10	125000
					Printer	12000	2	24000
					Total			17,45,000/-
			Boisar Talathi Office - Central Government Office, Sanjay Nagar Boisar, Maharashtra	Boisar Talathi Office - Central Government Office, Sanjay Nagar Boisar, Maharashtra • Installation of 60Watt solar street light for internal roads and road junctions • MeruJal Water ATM	Particulars	Price / Unit	Units	Total Amount
					Installation of 60Watt solar street light for internal roads and road junctions - 10 Nos.	20000	10	200000
					MeruJal Water ATM – 1	200000	1	200000
					Dell Computer – 5 Nos.	30000	5	150000
					Stainless Steel 3 Seater Seating Bench	10000	5	50000
					Chair	1000	50	50000
					RCC Cement bench	4000	15	60000
					Build a Overhead water Tank	35000	1	35000

Environmental Impact Assessment Report of New project for Manufacturing of 2000 TPM Capacity of API Products by M/s. Aarti Pharmalabs Limited (Unit V-II) at Plot no L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India 401506.

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Proposed Cost of Project	CER Activity Budget	Amount in Lakhs	Distance from Project site (km)	Activity	Cost Estimate			
				• Dell Computer • Stainless Steel 3-Seater Seating Bench • Chair • RCC Cement bench • Build an overhead water Tank • Repairing and paining of existing structure • Printer	Repairing and paining of existing structure	500000	1	500000
					Metal Cupboard -10 Nos.	12500	10	125000
					Printer	12000	2	24000
					Total			13,94,000/-



8.4 EMPLOYMENT DETAILS

The company will employ 125 numbers of skilled and unskilled personnel for its proposed activity. The skilled employees would be 50 numbers and unskilled employees would be 75 numbers.

8.5 OTHER TANGIBLE BENEFITS

Many of other benefits include the financial aspects due to the project. The economy of the country would be greatly benefitted by this in terms of the additional revenue generation. The employment generated would enable to prosper the standard of living of the families.

8.5.1 COST SAVING DUE TO WATER TREATMENT & RECYCLING

- **Water Recycled:** = 709.25 CMD + 3.75 CMD (RWH)
- **Cost Saving:** 713 CMD x INR 19 = INR 13,547/-
- **Total Annual Cost Saving:** INR 13,476 x 365 days = **INR 49,44,655/-**

8.5.2 COST SAVING DUE TO SOLAR

- **Number of Solar Lights will be installed within plant premises:** 35 Nos.
- **Total Cost for Installation:** 35 x INR 20,000 = INR 7,00,000/-
- **Electricity Saved:** 29.4 kWh/Day (*a 70 Watt Solar street light saves 0.84 kWh/Day of Electricity*)
- **Annual Electricity Saved:** 29.4 kWh x 300 days = 8,820 kWh
(Note: Considering 300 Sunny days as per National Building Code of India 2016)
- **Rate of Electricity:** INR 9.82/kWh
- **Cost Save Per Year:** 8,820 x 9.82 = **INR 86,613/-**
- **Rooftop solar harvesting will be installed within plant premises:** 20 kW.
- **Total Cost for Installation:** 30,00,000/-
- **Annual Electricity Saved:** 1 kW solar panel generates 5 units/Day
Hence, 20 kW will generate 100 Units/Day (100 kWh/Day)
Therefore, 100 kWh x 300 days = 30,000 kWh
- **Rate of Electricity:** INR 9.82/kWh
- **Cost Save Per Year:** 30,000 x 9.82 = **INR 2,94,600 /-**
- Total cost saved per year due to Solar installation will be **INR 3,81,213 /-** (**86,613/-** + **2,94,600 /-**).

8.6 SUMMARY OF THE OVERALL BENEFITS OF THE PROJECT

- 1) The plant is located at Notified Industrial Area & the proposed activity being executed on plot allotted by MIDC, hence no human displacement or habitat loss is envisaged.
- 2) Improvement in local specific socio-economic aspects.
- 3) Company will employ around 125 skilled and unskilled personnel for its proposed activity. The company would try to employ the local people under skilled workers and unskilled workers section to boost the economic condition of the surrounding area.
- 4) As per MoEF&CC OM No. F. No. 22-23/2018-IA.III (Pt) dated 31st October 2019 the % of the CER may be at least 2.0 times the slabs given in the OM dated 1st May 2018 for Critically Polluted Area (CPA). Hence now 4% of the total project cost will be allocated for

CER activities and need based CER activities will be implemented in consultation with District Authority.

- 5) The CER activities planned by company can be considerably very beneficial for health, education, development of poor people, welfare of women & labour and support to disabled persons etc.

Thus, a significant benefit to the socio-economic environment is likely to be created due to the proposed project and the project will help in developing the national scheme.

9. ENVIRONMENTAL COST BENEFIT ANALYSIS

9.1 COST BENEFIT ANALYSIS

(Additional ToR point 11.14)

New project bring overall improvement in surrounding locality through employment, development in infrastructures and to nation by substituting import demand as well as fulfilling export potential. These will help to improve living standard and economic growth. Various advantages and benefits anticipated from the expansion activity are as below,

- Located in MIDC Tarapur (No forest land involved).
- No R&R involved.
- No diversion of surface water body.
- No sensitive area (i.e. Tiger reserve, National Park, Wildlife Sanctuary, Protected area) within 10 km.
- No human habitation near the project boundary.
- Manpower requirement after expansion during Operation phase will be from nearby local area
- Increase in indirect employment
- Improvement in infrastructure through CER activity.

Environmental management plan will be implemented to minimize impacts below acceptable limits. From above, there will be no major disturbance in ecological or environmental status. The environmental cost benefit analysis activity mentioned in the Standard TOR of references accorded to M/s. Aarti Pharmalabs Pvt. Ltd. (Unit V-II) by the Expert Appraisal Committee with reference to the File No. IA-J-11011/55/2025-IA-II(I) dated 13/02/2025.

Table No. 9.1: Alternative Option-1 Tarapur MIDC

Location	Sr. No.	Component		Cost		Benefits
			Unit/Visit	Capital	Recurring	Annual
Tarapur MIDC	1	Cost of transportation for other raw materials	-	₹ 0.00	-	-
	2	Senior manager visits to plant	-	₹ 0.00	-	-
	3	Junior Manager visits to new plant	-	₹ 0.00	-	-
	4	Plant building, machinery, lab equipment and safety systems	-	₹ 15,00,00,000.00	-	-
	5	Land rates (Approx. INR 1222 per sq. m)	5157 sq.m.	₹ 63,01,854.00	-	-
	6	Zero Liquid Discharge System		₹ 38,57,00,000.00	₹ 46,00,00,000.00	₹ 49,18,648.75
	7	Rain water harvesting		₹ 10,00,000.00	₹ 1,00,000.00	₹ 26,006.25
	8	Solar energy alternatives	Solar Street Light = 35 Nos. Solar Panal = 20 kW	₹ 37,00,000.00	₹ 4,00,000.00	₹ 3,81,213.00
	9	Solvent recovery	-	N.A.	N.A.	N.A.
	10	Green Belt Development (Monsoon season)	-	₹ 4,00,000.00	₹ 9,10,00,000.00	₹ 69,350.00
	Total			₹ 54,71,01,854.00	₹ 55,15,00,000.00	₹ 53,95,218.00
	B/C Ratio			0.004911		

Table No. 9.2: Alternative Option-2 Vapi GIDC

Location	Sr. No.	Component		Cost		Benefits
			Unit/Visit	Capital	Recurring	Annual
Vapi GIDC	1	Cost of transportation for other raw materials	-	₹ 17,75,28,451.76	-	-
	2	Senior manager visits to plant (INR 5000/- per visit/day)	24	₹ 1,20,000.00	-	-
	3	Junior Manager visits to new plant (INR 5000/- per visit)	50	₹ 2,50,000.00	-	-
	4	Plant building, machinery, lab equipment and safety systems	-	₹ 15,00,00,000.00	-	-
	5	Land rates (Approx. INR 1400 per sq. m)	5157 sq.m.	₹ 72,19,800.00	-	-
	6	Zero Liquid Discharge System		₹ 38,57,00,000.00	₹ 46,00,00,000.00	₹ 49,18,648.75
	7	Rain water harvesting		₹ 10,00,000.00	₹ 1,00,000.00	₹ 26,006.25
	8	Solar energy alternatives	Solar Street Light = 35 Nos. Solar Panel = 20 kW	₹ 37,00,000.00	₹ 4,00,000.00	₹ 3,81,213.00
	9	Solvent recovery	-	N.A.	N.A.	N.A.
	10	Green Belt Development (Monsoon season)	-	₹ 4,00,000.00	₹ 9,10,00,000.00	₹ 69,350.00
	Total			₹ 72,59,18,251.76	₹ 55,15,00,000.00	₹ 53,95,218.00
	B/C Ratio			0.004224		

Table No. 9.3: Alternative Option-3 Ambernath MIDC

Location	Sr. No.	Component		Cost		Benefits
			Unit/Visit	Capital	Recurring	Annual
Ambernath MIDC	1	Cost of transportation for other raw materials	-	₹ 2,73,68,969.65	-	-
	2	Senior manager visits to plant (INR 1500/- per visit/day)	200	₹ 75,000.00	-	-
	3	Junior Manager visits to new plant (INR 750/- per visit)	300	₹ 60,000.00	-	-
	4	Plant building, machinery, lab equipment and safety systems	-	₹ 15,00,00,000.00	-	-
	5	Land rates (Approx. INR 1700 per sq. m)	5157 sq.m.	₹ 87,66,900.00	-	-
	6	Zero Liquid Discharge System		₹ 38,57,00,000.00	₹ 46,00,00,000.00	₹ 49,18,648.75
	7	Rain water harvesting		₹ 10,00,000.00	₹ 1,00,000.00	₹ 26,006.25
	8	Solar energy alternatives	Solar Street Light = 35 Nos. Solar Panal = 20 kW	₹ 37,00,000.00	₹ 4,00,000.00	₹ 3,81,213.00
	9	Solvent recovery	-	N.A.	N.A.	N.A.
	10	Green Belt Development (Monsoon season)	-	₹ 4,00,000.00	₹ 9,10,00,000.00	₹ 69,350.00
Total				₹ 57,74,60,869.65	₹ 55,15,00,000.00	₹ 57,70,70,869.65
B/C Ratio				0.004781		

Table No. 9.4: Alternative Option-4 Mahad MIDC

Location	Sr. No.	Component	Cost		Benefits Annual
			Unit/Visit	Capital	Recurring
Mahad MIDC	1	Cost of transportation for other raw materials	-	₹ 20,71,16,527.06	-
	2	Senior manager visits to plant (INR 5000/- per visit/day)	200	₹ 1,20,000.00	-
	3	Junior Manager visits to new plant (INR 5000/- per visit)	300	₹ 2,50,000.00	-
	4	Plant building, machinery, lab equipment and safety systems	-	₹ 15,00,00,000.00	-
	5	Land rates (Approx. INR 2000 per sq. m)	5157 sq.m.	₹ 1,03,14,000.00	-
	6	Zero Liquid Discharge System		₹ 38,57,00,000.00	₹ 46,00,00,000.00
	7	Rain water harvesting		₹ 10,00,000.00	₹ 1,00,000.00
	8	Solar energy alternatives	Solar Street Light = 35 Nos. Solar Panal = 20 kW	₹ 37,00,000.00	₹ 4,00,000.00
	9	Solvent recovery	-	N.A.	N.A.
	10	Green Belt Development (Monsoon season)	-	₹ 4,00,000.00	₹ 9,10,00,000.00
	Total			₹ 76,07,30,527.06	₹ 55,15,00,000.00
	B/C Ratio			0.003715	

Table No. 9.5: B/C ratio Alternative Options

S. N.	Alternative Options	B/C Ratio
1	Tarapur MIDC	0.004911
2	Vapi GIDC	0.004217
3	Ambernath MIDC	0.004779
4	Mahad MIDC	0.003709

9.2 CONCLUSION

As per **Table No. 9.5**, B/C ratio obtained for alternate options for establishment of proposed project in Tarapur MIDC, Vapi GIDC, Ambernath MIDC, and Mahad MIDC were obtained to be 0.004911, 0.004217, 0.004779 and 0.003709 respectively. Lowest B/C Ratio obtained for Mahad MIDC is 0.003709 & highest B/C Ratio obtained for Tarapur MIDC is 0.004911. Therefore, with reference to conducted study and the obtained result it can be concluded that Tarapur MIDC is more beneficial in establishment of the said project.

10. ENVIRONMENT MANAGEMENT PLAN

10.1 INTRODUCTION

Every industrial development is associated with the positive and negative impacts on environmental components. Though the probable negative impacts cannot be nullified completely the much-required developmental activities cannot be impeded. Environmental Impact Assessment (EIA) helps in identifying potential environmental impacts of a project activity. Based on the finding of the impact assessment, Environment Management Plan (EMP) is devised to minimize the adverse impacts and enumerate various steps to be taken for improvement of the environment. Environmental Management Plan (EMP) helps in formulation, implementation and monitoring of environmental parameters during & commissioning of project. Environment Management Plan (EMP) is the tool to ensure a safe and clean environment. A project may have identified proper mitigation measures but without a management plan to execute it, the desired results may not be obtained. The Environment Management Plan (EMP) envisages proper implementation of mitigation measures to reduce the adverse impacts arising out of the project activities.

Some of the major objectives of the EMP are:

- Ensure the project implementation with minimal impacts on all environmental components.
- Minimize the impacts on socio- economic indicators of local and adjoining regions.
- Maintain the highest level of readiness for meeting the needs of any deviation in sustainability practices.
- Systematic implementation with adequate manpower, budget and action plan for EMP.
- To demonstrate the effectiveness of EMP workability along with the project proponent's commitment.

10.2 ORGANIZATIONAL STRUCTURE FOR ENVIRONMENTAL MANAGEMENT

Organizational Chart

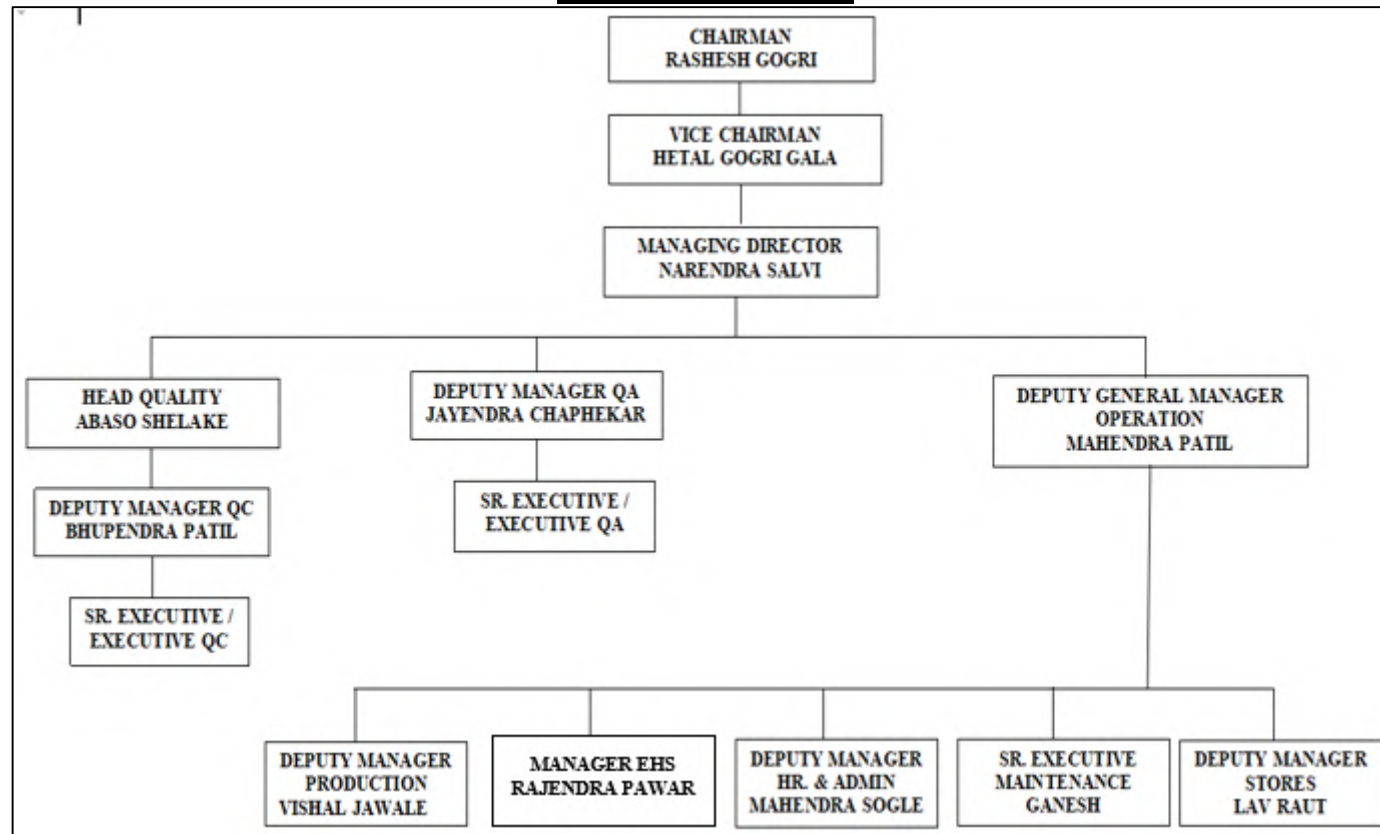


Figure No. 10.1: Schematic representation of organizational structure of environment management

10.3 DETAILS OF ENVIRONMENTAL MITIGATION MEASURES

The probable impacts identified & the mitigation measures envisaged for protection of environmental components during the construction and operational phase are as tabulated in the table below.

Table No. 10.1: Overview of probable Environmental Pollution & Mitigation Measures during Construction Phase

A) Construction Phase				
Sr. No.	Environmental Parameters	Aspect Attributes	Impact	Proposed Mitigation Measures
1.	Air Quality	Dust emissions from handling & transportation of cement / concrete / stone aggregates.	40 Nos. of Construction workers getting exposed to the dust pollution generated due to the construction activity can suffer from respiratory problems and prolonged exposure can lead to malfunctioning of lungs.	- Management for loading and unloading of the materials. - Regular sprinkling of water on the working site, avoiding Cement dust emissions, covering stockpiles. - Providing dust masks, Safety goggles to 40 workers during construction. - Creating wind barrier for controlling the dust emissions. - Managing stockpiles management (sand, gravel) by using water sprays (when emptying cement bags into mixer) will be implemented to ensure minimum dust generation. - Stockpiles will be covered. - PUC certified vehicles which are older not more than 15 years shall be used for transportation.
2.	Water Quality	Water used for construction activity mainly for concrete	Contamination of the soil at the project site.	- Proper surface water runoff management would be implemented. - Storm water drains will be constructed.

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		mixing, sprinkling, Sewage generation due to construction workers.		Settling ponds will be provided for de-gritting.
3.	Noise Quality	- Noise generated from construction equipment's / machinery like spade, shovel, dabber, drill, hammer, concrete mixer etc. - Transportation of construction materials.	The Impacts of high noise level can be temporary/permanent hearing loss, mental disturbance, increasing heart rate, affecting workers performance.	- Appropriate PPEs to 40 nos. of construction workers. (Hearing protection) - Implementation of Traffic management. - Creating wind barriers for containing noise within project boundary.
4.	Solid Waste Management	Construction wastes such as left off concrete, stone, aggregates, wooden piles, excavated material etc.	- Unhealthy Work Conditions at project site. - The nutrient in the top soil will get wasted if is not utilized for greenbelt development.	- The inert recyclable waste viz. left-over metal rods, wooden flanks, cardboards; wooden boxes will be stored in separately & sold to authorized recycler. - The inert non-recyclable wastes viz. left-over concrete debris, stones, aggregates will be used for base filling & levelling activity within plot. - The excavated soil will be used stored & used for replenishing & greenbelt maintaining activity.

5.	Safety & Health	Site Safety	Unsafe conditions at workplace compromising safety at work place	- Construction area barricading, sign boards. - Provision of mask, hand sanitizers, Reflective clothing, Safety shoes, Helmet & Glasses to workers.

Table No. 10.2: Overview of probable Environmental Pollution & Mitigation Measures during Operation Phase

B) Operational Phase				
Sr. No.	Environmental Parameters	Aspect Attributes	Impact	Mitigation Measures
1.	Air Quality	Operation of D.G Set & Gaseous emission from manufacturing process, Non-spontaneous emissions from transportation of raw materials & finished goods. VOC emission generated due to the handling and storage of the solvents & other raw materials.	- The Health effects related to particulate matter are majorly respiratory, pulmonary injury & lung cancer etc. - Exposure to SO₂ and NO_x majorly leads to respiratory problems. Carbon monoxide decreases the oxygen carrying capacity of the blood. - The health effects related to VOC emission are eye, nose and throat irritation headaches, loss of coordination and nausea, damage to liver, kidney and central nervous system etc. - The air emissions in long course of time may affect the immediate surrounding vegetation stature	- Stacks will be provided as per CPCB guidelines, so that the pollutants are dispersed effectively in the atmosphere which will reduce the impact substantially. - Process scrubbers of 2 Nos. (1 acid and 1 alkali) of 2000 CFM capacity, will provided. Stack of height 6m each above roof top will be provided to scrubbers. - Stack of 5 m height will be provided to each D.G. Set of 2 x 500 kVA capacity, so that the pollutants will disperse effectively in the atmosphere at proper height which will reduce the impact substantially. - Periodic and regular monitoring of the flue gas and scrubber stacks shall be done to ascertain the efficiency of the APCD's provided.

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			physically (leaf senescence, hampered growth etc.) & biologically thus may affect the overall surrounding ecology.	▪ The roads within the premises will be paved to avoid the dust generation from day to day vehicular activity. ▪ It will be ensured that all the vehicles used for transportation activity have a valid PUC (Pollution under Control) Certificate. ▪ 3323 sq. m. (64.43% of total plot area) of Greenbelt area will developed, Plantation will be carried out with density of 2500 nos. of trees per hectare. Out of which 1058 sq. m. will be developed inside plot premises, 2123 sq. m. will be developed at adjoining plot no. OS-09, and remaining 142 sq. m. will be developed between plot boundary & MIDC road. Total 1040 nos. of trees are required to fulfil the requirement of 64.43% of greenbelt. ▪ Greenbelt will be provided within the plant boundary will help to capture the fugitive emission. ▪ Company shall ensure that at any point of time the air emission concentration does not exceed the prescribed standards. ▪ Industry will provide adequate air flow and air exchange in plant area for comfortable working. ▪ Also, adequate exhaust will be provided in the area to control odour. ▪ Supervision and maintenance for all equipment, machines & assets.

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				- Industry to ensure that good housekeeping & carry out periodic cleaning. - Provision of Mechanical Ventilation, Protective Clothing and good industrial hygiene practise will be followed.
2.	Noise Quality	- Noise Emissions from Operation of D.G set (2 X 500 KVA) - Reactors - Ancillary Utilities (pump, compressors, centrifuge) - Transportation Activity.	The impacts of high noise level can be Temporary/Permanent hearing loss, Mental disturbance Increase in heart rate, decrease in workers performance due to psychiatric disorder, Workers developing Tinnitus due to high level of noise exposure on regular basis.	- Acoustic enclosure will be provided to D.G set for attenuation of noise level during operation. - Isolation of high intensity noise generating equipment. - Appropriate traffic management will be implemented. - Greenbelt will be developed around the company premises which will acts as a noise barrier. - Appropriate PPE will be provided to workers.
3.	Water Quality	- Effluent from manufacturing process. - Blow down from Cooling Tower & Boiler. - Domestic wastewater	Indiscriminate / accidental release / discharge of effluents if finds its way to surrounding soils, surface/ground water may lead to contamination of the same there by affecting the overall ecology & agricultural productivity. The effluent contains organic chemicals, solvents etc. and may be acidic/ alkaline in nature. Such effluent if consumed by any living organism it may prove fatal. Effluent may permanently damage land/ soil where it is discharged	A. Effluent Treatment Scheme for Trade effluent: - The unit will be operated on Zero Liquid Discharge system. - Effluent will be segregated into two streams i.e. HCOD / HTDS and LCOD / LTDS. - For appropriate treatment of effluent, provision of MVR (Capacity – 760 CMD) followed by ATFD, Full-fledged ETP (Capacity – 820 CMD) (Primary, Secondary and Tertiary Treatment), HPPTRO (Capacity – 335 CMD), PTRO (Capacity – 85 CMD), PTRO (Capacity – 770 CMD) is made.

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			which make it non-usable for any purpose	• Around 755.55 CMD HCOD (5%) / HTDS (10%) effluent from in-house manufacturing process and around 165 CMD HCOD (5%) / HTDS (10%) effluent from sister concern at Plot No. L-28 & 29 after neutralization treated through MVR followed by ATFD along with 113.50 CMD HPPTRO reject. • Around 680 CMD condensate from MVR and ATFD and around 129 CMD LCOD (0.05%) / LTDS (0.15%) effluent from cooling tower blowdown & floor cleaning treated in the ETP comprising of Primary, Secondary and Tertiary treatment. • Around 757 CMD Treated effluent from ETP will be sent to PTRO System. • Considering 70% permeate and 30% reject from PTRO system. Around 530 CMD permeate will be recycled and reused as Cooling Tower makeup and the reject will be sent to HPPTRO system for further treatment. • Around 113.50 CMD HPPTRO permeate (50%) will be recycle & reuse for Cooling Tower makeup and around 113.50 HPPTRO reject (50%) will be resent to MVR for further treatment. • Sludge generated from primary & secondary treatment will be sent to CHWTSDF for disposal.

				ATFD salts will be sent to CHWTSDF for disposal. B. Treatment Scheme for Sewage: • STP (with MBBR technology) having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern at Plot No. L-28 & 29. • Treated water will be used for greenbelt development & toilet flushing and sludge will be used as manure for greenbelt development.
4.	SWM - HW	▪ Spent Carbon ▪ Spent Acid ▪ 30-40% Acetic Acid (From Paracetamol process) ▪ Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste. ▪ Contaminated cotton rags or other cleaning materials ▪ Used or Spent Oil ▪ Wastes or residues containing oil	▪ Unscientific handling may affect the health of workers coming in direct contact with the hazardous waste and may lead to skin allergies /rashes /burns etc. ▪ Indiscriminate/accidental disposal of hazardous waste if finds its way to surrounding soils; surface/ground water may lead to contamination of the same there by affecting the overall ecology & agricultural productivity.	▪ Scientific Handling of Solid Hazardous Waste. ▪ Spent Carbon will be Sale to Authorized party/ Co-processing/Pre-processing/CHWTSDF ▪ Spent Acid 30-40% Acetic Acid, Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste, Used or Spent Oil, Discarded Asbestos will be Sale to Authorized Party / CHWTSDF ▪ All other HW will be send to CHWTSDF for disposal

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		- Chemical sludge from waste water treatment. - Concentration or evaporation residues (From ATFD) - Discarded Asbestos - Date expired products - Off Specification Product - Dust from air filtration system - Spent carbon or filter medium		
	SWM (Non –HW)	- STP Sludge - Metal scrap (MS scrap piping, structural, Equipment, Broken Shutters, etc.) - Wood, Wooden Box, Wooden fills cooling tower, Plywood, Pallets - Glass waste - Paper waste - PVC fins cooling tower	Haphazard handling & storage may lead to inadequate open space in plant premises & it may lead to rodent breeding.	Non-hazardous waste shall be disposed through local administration waste disposal system, authorized vendors & sale to recycler will be done.

Environmental Impact Assessment Report of New project for Manufacturing of 2000 TPM Capacity of API Products by M/s. Aarti Pharmalabs Limited (Unit V-II) at Plot no L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India 401506.

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		▪ Plastic material		

10.4 BUDGET FOR ENVIRONMENTAL MANAGEMENT / ENVIRONMENTAL POLLUTION CONTROL MEASURES *(Standard ToR point 7.11)*

The Proposed Capital investment of the company is envisaged to be INR 90 Crore and the proposed capital investment for Environmental Pollution Control Measures (Operation Phase) is around **INR 4001.5 Lakhs** & Recurring cost per annum is **INR 23328.7 Lakhs**. During construction phase of the project, capital investment for Environmental Pollution Control Measures is around **INR 17.8 Lakhs** & Recurring cost for the same is **INR 8.35 Lakhs**. The budgetary allocation for the environment management are as below.

10.4.1 EMP BUDGETARY ALLOCATION

The proposed budgetary allocation has been made with a view to install new pollution control devices & management of overall environment during the construction & operational phase. The basis and cost details of the EMP are as depicted in the following **Table No. 10.3** & **Table No. 10.4**.

Table No. 10.3: Cost details for environmental management (Construction phase)

(Standard ToR point 8.1)

Sr. No.	Component	Description	Proposed Mitigation Measures	Capital Cost (Lakh Rs.)	Recurring (Lakh Rs. /Annum)	Time Frame	Responsibilities
1	Air Pollution Control	Dust emissions from handling & transportation of cement/concrete/stone aggregates.	Installation of wind barriers	5.0	1.5	After EC 3 months	Project Proponent/ EHS Team
			Regular sprinkling of water on the working site.	0.8	2.15		
2	Water Pollution control	Water used for construction activity mainly for concrete mixing, sprinkling etc.	Proper surface water runoff management would be implemented. Storm water drains will be constructed. Settling ponds will be provided for de-gritting.	5.5	1.0	After EC 3 months	Project Proponent/ EHS Team
			Provision of bio-toilets during construction phase	3.0	0.3		
3	Noise Pollution Control	Noise generated from construction equipment's / machinery like spade, shovel, dabber, drill, hammer, concrete mixer etc. Transportation of construction materials.	Appropriate PPEs to 40 nos. of construction workers. (Hearing protection)	1.1	1.1	After EC 3 months	Project Proponent/ EHS Team
			Implementation of Traffic management (Traffic Safety Barricade, Loading / Unloading sign board).	0.50	0.20		
4.	Soil	Soil erosion due to construction activity	Use of silt fences and/or sand bags in areas that are susceptible to erosion	0.3	0.3	After EC 3 months	Project Proponent/ EHS Team
4	Solid Waste Management	Solid waste management in construction phase.	Disposal of solid waste through local Municipal Body.	0.3	0.3	After EC 3 months	Project Proponent/ EHS Team
			Utilization of excavated soil for greenbelt development activities within the premises	0.3	0.7		

Environmental Impact Assessment Report of New project for Manufacturing of 2000 TPM Capacity of API Products by M/s. Aarti Pharmalabs Limited (Unit V-II) at Plot no L-99, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India 401506.

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Sr. No.	Component	Description	Proposed Mitigation Measures	Capital Cost (Lakh Rs.)	Recurring (Lakh Rs. /Annum)	Time Frame	Responsibilities
5	Safety & Health	Site Safety	Construction area barricading, sign boards, etc.	1.0	0.8	After EC 3 months	Project Proponent/ EHS Team
Total				17.8	8.35	-	-

Table No. 10.4: Cost details for environmental management (Operation phase)

(Standard ToR point 7.11 & 8.1)

Sr. No.	Activity	Aspect	Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization
1	Air Pollution Control	1.Emission from HSD fired 2 nos. of D.G set having 500 kVA capacity. 2.Emissions from Transportation of raw materials & finished goods. 3.Odour sources can be continuous or intermittent, point sources (for example chimneys, stacks or building vent/exhaust pipes), area sources (for example stockpiles, ponds or open-topped tanks) or volume sources (for example, a building with many openings from which odour escapes). 4.Fugitive Emissions from material handling.	1. Installation of 1 No. of Acidic Scrubber and 1 No. of Alkali scrubbers will provided. Stack of height 6 meter each above roof top will be provided to scrubbers. 2. Stack of 5 meter height will be provided to 2 Nos. of D.G. sets each having 500 kVA capacity, so that the pollutants will disperse effectively in the atmosphere at proper height which will reduce the impact substantially. 3. Periodic and regular monitoring of the flue gas and scrubber stacks shall be done to ascertain the efficiency of the APCD's provided. 4. Industry will provide adequate air flow and air exchange in plant area for comfortable working. 5. Provision of Mechanical Ventilation, Protective Clothing and good industrial hygiene practise will be followed.	40.0	--	After EC 3 months	Project Proponent/ EHS Team
				--	1.0	After EC Regularly	
2.	Water Pollution Control	1. Effluent from manufacturing process. 2. Trade Effluent from plot no L- 28 & 29 3. Blow down from Cooling Tower. 4. Domestic Sewage from plot no L-99 along with Domestic Sewage from plot no L- 28 & 29	Proposed Effluent Treatment Scheme for trade effluent: - The unit will be operated on Zero Liquid Discharge system. - Effluent will be segregated into two streams i.e. HCOD / HTDS and LCOD / LTDS. - For appropriate treatment of effluent, provision of MVR (Capacity – 760 CMD) followed by ATFD, Full-fledged ETP (Capacity – 820 CMD) (Primary, Secondary and Tertiary Treatment), HPPTRO (Capacity – 335 CMD), PTRO (Capacity – 85 CMD), PTRO (Capacity – 770 CMD) is made. - Around 755.55 CMD HCOD (5%) / HTDS (10%) effluent from in-house manufacturing process and around 165 CMD HCOD (5%) / HTDS (10%) effluent from sister concern at Plot No. L-28 & 29 after neutralization treated through MVR followed by ATFD along with 113.50 CMD HPPTRO reject. - Around 680 CMD condensate from MVR and ATFD and around 129 CMD LCOD	3857	4600	After EC Regularly	Project Proponent/ EHS Team

Sr. No.	Activity	Aspect	Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization															
			(0.05%) / LTDS (0.15%) effluent from cooling tower blowdown & floor cleaning treated in the ETP comprising of Primary, Secondary and Tertiary treatment. • Around 757 CMD Treated effluent from ETP will be sent to PTRO System. • Considering 70% permeate and 30% reject from PTRO system. Around 530 CMD permeate will be recycled and reused as Cooling Tower makeup and the reject will be sent to HPPTRO system for further treatment. • Around 113.50 CMD HPPTRO permeate (50%) will be recycle & reuse for Cooling Tower makeup and around 113.50 HPPTRO reject (50%) will be resent to MVR for further treatment. Proposed Effluent Treatment Scheme for domestic sewage: • STP (with MBBR technology) having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern at Plot No. L-28 & 29. • Treated water will be used for greenbelt development & toilet flushing and sludge will be used as manure for greenbelt development. With above mitigations below is the SPCB Standard: <table><tr><th>Sr. no.</th><th>Parameters</th><th>SPCB standards</th></tr><tr><td>1</td><td>pH</td><td>6.0 to 8.5</td></tr><tr><td>2</td><td>BOD</td><td>30 mg/l</td></tr><tr><td>3</td><td>COD</td><td>250 mg/l</td></tr><tr><td>4</td><td>Suspended solids</td><td>100 mg/l</td></tr></table>	Sr. no.	Parameters	SPCB standards	1	pH	6.0 to 8.5	2	BOD	30 mg/l	3	COD	250 mg/l	4	Suspended solids	100 mg/l				
Sr. no.	Parameters	SPCB standards																				
1	pH	6.0 to 8.5																				
2	BOD	30 mg/l																				
3	COD	250 mg/l																				
4	Suspended solids	100 mg/l																				
3.	Noise & Vibration pollution control	Operation of Air compressors, feed pumps, condensate pumps, D.G set, recycle pumps, full fledge Zero Liquid Discharge System, ETP, Vehicular activities, etc.	1. Acoustic enclosure will be provided to 2 Nos. of 500 kVA D.G set for attenuation of noise level during operation. 2. Isolation of high intensity noise generating equipment. 3. Appropriate traffic management will be implemented. 4. Greenbelt is developed around the company premises which acts as a noise barrier. 5. Industry will maintain ambient air quality standard in respect of noise to less than 75 dB	1.0	--	After EC 3 Months	Project Proponent / EHS Team															

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Sr. No.	Activity	Aspect	Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization																										
			(A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.																														
			Regular/routine maintenance of equipment’s during operation phase.	--	0.5	After EC Regularly	Project Proponent / EHS Team																										
4.	Occupational health	During operation activity, any type of accident/physical hazard/danger to life scenario to the 125 nos. employees/workers and Visitors.	Provision of standard PPE’s, Annual health-medical check-up of all employees and provision of health insurance to workers.	2.5	--	After EC 3 Months	Project Proponent / EHS Team																										
				--	2.5	After EC Regularly	Project Proponent/ HR Team/ EHS Team																										
5.	Waste management	Generation of Hazardous Waste: <table><tr><th>Type of waste</th><th>Qty.</th></tr><tr><td>Spent Carbon (Cat. 28.3)</td><td>1930 TPA</td></tr><tr><td>Spent Acid 30-40% Acetic Acid (From Paracetamol process) (Cat. 36.1)</td><td>12650 TPA</td></tr><tr><td>Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste. (Cat. 33.1)</td><td>180 TPA</td></tr><tr><td>Contaminated cotton rags or other cleaning materials (Cat. 32.2)</td><td>12 TPA</td></tr><tr><td>Used or Spent Oil (Cat. 5.1)</td><td>12 TPA</td></tr><tr><td>Wastes or residues containing oil (Cat. 5.2)</td><td>6 TPA</td></tr><tr><td>Chemical sludge from waste water treatment. (Cat. 35.3)</td><td>300 TPA</td></tr><tr><td>Concentration or evaporation residues (From ATFD) (Cat. 37.3)</td><td>27500 TPA</td></tr><tr><td>Discarded Asbestos (Cat. 15.2)</td><td>12 TPA</td></tr><tr><td>Date expired products (Cat. 28.5)</td><td>50 TPA</td></tr><tr><td>Off Specification Product (Cat. 28.4)</td><td>50 TPA</td></tr><tr><td>Dust from air filtration system (Cat. 26.2)</td><td>1.2 TPA</td></tr></table>	Type of waste	Qty.	Spent Carbon (Cat. 28.3)	1930 TPA	Spent Acid 30-40% Acetic Acid (From Paracetamol process) (Cat. 36.1)	12650 TPA	Empty Barrels/ Drums /Containers/ liners / contaminated chemical Bottles / waste. (Cat. 33.1)	180 TPA	Contaminated cotton rags or other cleaning materials (Cat. 32.2)	12 TPA	Used or Spent Oil (Cat. 5.1)	12 TPA	Wastes or residues containing oil (Cat. 5.2)	6 TPA	Chemical sludge from waste water treatment. (Cat. 35.3)	300 TPA	Concentration or evaporation residues (From ATFD) (Cat. 37.3)	27500 TPA	Discarded Asbestos (Cat. 15.2)	12 TPA	Date expired products (Cat. 28.5)	50 TPA	Off Specification Product (Cat. 28.4)	50 TPA	Dust from air filtration system (Cat. 26.2)	1.2 TPA	- Provision of Hazardous Waste storage in dedicated area of 217.2 Sq. m. (Considering triple stack) and non- hazardous waste storage in dedicated area of 5.0 Sq. m. inside company premises. - Different types of hazardous waste will be segregated and labelled clearly with their category as per Schedule I, II, and III of the - It will be restricted to authorized personnel and have proper signage (e.g., "Hazardous Waste Storage Area"). - A provision of Hazardous waste storage for 4 to 5 days. Record Keeping & Disposal Maintain records of hazardous waste storage, transportation, and disposal. Waste will be sent only to authorize disposal facilities. - Membership with CHWTSDF is obtained for disposal of hazardous waste. - The recyclable/ recoverable wastes will be disposed to authorized vendors. - The remaining wastes will Sold to Authorized Reprocessing / Pre- Processing/ CHWTSDF facility for disposal. - Membership of Hazardous waste management system, MIDC Tarapur is vailable. - Metal scrap materials will be Sale to authorized party for recycling - STP Sludge will be used as manure for green belt development.	50.0	18700	After EC 3 Months	Project Proponent / EHS Team
Type of waste	Qty.																																
Spent Carbon (Cat. 28.3)	1930 TPA																																
Spent Acid 30-40% Acetic Acid (From Paracetamol process) (Cat. 36.1)	12650 TPA																																
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Dust from air filtration system (Cat. 26.2)	1.2 TPA																																
				--	-	After EC Regularly	Project Proponent / EHS Team																										

Sr. No.	Activity	Aspect		Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization
		Spent carbon or filter medium (Cat.36.2)	24 TPA	- Food waste (4 TPA) will be process in organic waste converter (OWC) of capacity 25 kg/hr. - E-Waste will be sale to MPCB authorized recycler / return to manufacturer /supplier. - Battery waste will be returned to supplier. - Bio-medical waste will be Disposal To CBMWTSDF.				
		<i>Schedule I of The Hazardous and Other Wastes (Management and Trans boundary Movement) Rule, 2016.</i> <i>Industry shall ensure disposal to the actual user having permissions under Rule 9 of Hazardous and Other Waste (M&TM) Rules, 2016</i> <i>#Hazardous waste will be generated and disposed from Plot No.L-99 as per SPCB CTO conditions.</i>						
		<u>Non Hazardous waste :</u> 1. Metal scrap (MS scrap piping, structural, Equipment, Broken Shutters, etc.)Contaminated glassware 2. Wood, Wooden Box, Wooden fills cooling tower, Plywood, Pallets 3. Glass Ware 4. PVC fins cooling tower 5. Plastic material 6. Paper waste 7. STP Sludge 8. Dry waste 9. Food waste						
		<u>E-Waste Category :</u>						
		Sr No	Particulars		E Waste Category			
		1	Personal Computers (Central Processing Unit with input and output devices)		ITEW2			
		2	Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)		ITEW3			
		3	Printers including cartridges		ITEW6			
		4	Telephones		ITEW12			
		<u>Battery Waste</u> Lead batteries from D.G. Sets and UPS system						
		<u>Bio-medical Waste (Yellow Category)</u>						

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Sr. No.	Activity	Aspect	Mitigation Measures	Budgetary Allocation Capital (INR Lakh)	Budgetary Allocation Recurring (INR Lakh /Annum)	Time frame	Responsibility in Organization
		Contaminated face mask, Hand Gloves, Cotton waste, bags, Micro-biological Media.					
6.	Greenbelt Development	1200 Sq. m. Area of Greenbelt to be developed at site. 2123 Sq. m Area of Greenbelt to be developed on adjoining plot No. OS-09.	Greenbelt area of 790 sq. m. (64.43% of the total plot area) required with 1040 nos. of trees (considering 80% survival rate). Trees count are considered as per the MoEFCC guideline i.e. 2500 nos. of trees per 10,000 sq. m. Industry planned to develop Greenbelt of around 1200 sq.m (23.26 % of the total plot area) at site with plantation of 332 Nos. of trees. APL will develop Greenbelt accounting to 2123 Sq. m. (41.17 % of the total plot area) at adjoining plot no. OS-09 with plantation of total 708 Nos. of trees.	4.0	9.10	Greenbelt development is in process	Admin/EHS Team
7.	Roof top Rain water harvesting	--	Installation of roof top RWH system and collected water will be reused in utilities and its maintenance.	10.0	1.0	After EC 3 months Maintenance will be regularly	Admin/EHS Team
8.	Energy conservation	Installation of	Usage of Renewable energy as an alternative will reduce power requirement by 1%.	37.0	4.0	After EC 3 months Maintenance will be regularly	Admin/EHS Team
9.	Environmental monitoring	--	Regular Environmental Monitoring	0.0	--	After EC 3 months	EHS Team
				--	6.42	After EC Regularly	EHS Team
10.	EC conditions monitoring	To comply with EC conditions	--	--	4.0	After EC Regularly 6 monthly	EHS Team
			Total	4001.5	23328.7		

10.5 ASH UTILIZATION

(Standard ToR point 7.8)

The operations of manufacturing plant and MVR–ATFD will require steam and the steam Requirement will be fulfilled from the Boilers installed at the Sister concern unit i.e. Aarti Pharmalabs Limited, Plot no. L-10. So there will be no fly ash generation at plot no. L-99. Ash from boilers at L-10 are send to Brick manufacturer for proper utilization.

10.6 USE OF RENEWABLE ENERGY

(Standard ToR point 7.7)

Power savings will be achieved by APL by provision of 35 Nos. of renewable energy source (Solar Lights) for illumination along with internal roads within project premises & solar roof top harvesting system 20 kW, as detailed under.

APL have proposed to install rooftop solar harvesting panels on admin building to the 210 Sq. m. of roof area.

01 kW solar panel requires 100 Sq. ft. of area. Area available for installation of solar panels is 210 sq. m. (2260 sq. ft.). Hence, APL will install 20 kW roof top solar panel.

Table No. 10.5: Renewable Energy Source – Solar streetlight details & respective cost details

Particulars	Details	Capital Cost (in Lakh)	Recurring Cost (in Lakh)	Electricity Saved (kWh/Day)	Rate of Electricity (INR/kWh)	Per Year Cost Saved (INR Lakh)
Installation of solar street lights for internal roads within project plot.	Number: 35 Capacity: 70 Watt Cost: INR 20,000/- per light.	7.0	1.0	$= 35 \times (70/1000) \times 12 \text{ hrs.}$ $= 29.4$	9.82	$= 9.82 \times 29.4 \times 300$ $= 0.86$

Note: 1) 70 Watt Solar Street Light saves 0.840 kWh/day of electricity.

2) Considering 300 Sunny days as per National Building Code of India 2016.

Table no. 10.6: Renewable Energy Source – Solar rooftop harvesting details & respective cost details

Particulars	Capital Cost (in Lakh)	Recurring Cost (in Lakh)	Electricity Saved (kWh/Day)	Rate of Electricity (INR/kWh)	Per Year Cost Saved (INR Lakh)
Installation of Solar Roof Top Harvesting System 20 kW	15.00	1.20	$= 20 \text{ kW} \times 5 \text{ units}$ $= 100 \text{ kWh/Day}$	9.82	$= 100 \times 9.82$ $= 2.94$

Note: 1) 1 kW solar panel saves 5 units of electricity per day.

2) Considering 300 Sunny days as per National Building Code of India 2016.

10.7 ACTION PLAN FOR GREENBELT DEVELOPMENT (Standard ToR point 7.9)

Greenbelt developed along the factory boundary helps to arrest/capture dust emissions escaping beyond the factory boundary, helps to minimize the noise intensity propagating out of the factory premises, help in carbon sequestration and also improves the aesthetics of project site.

10.7.1 DESIGN AND DEVELOPMENT OF GREENBELT

APL will develop total Greenbelt of around 3323 sq. m. (64.43% of total plot area) at project site with plantation of 1040 Nos. of trees (considering 80% survival rate), the trees count are considered as per the MoEFCC guideline i.e. 2500 nos. of trees per 10,000 sq. m. (1 hectare).

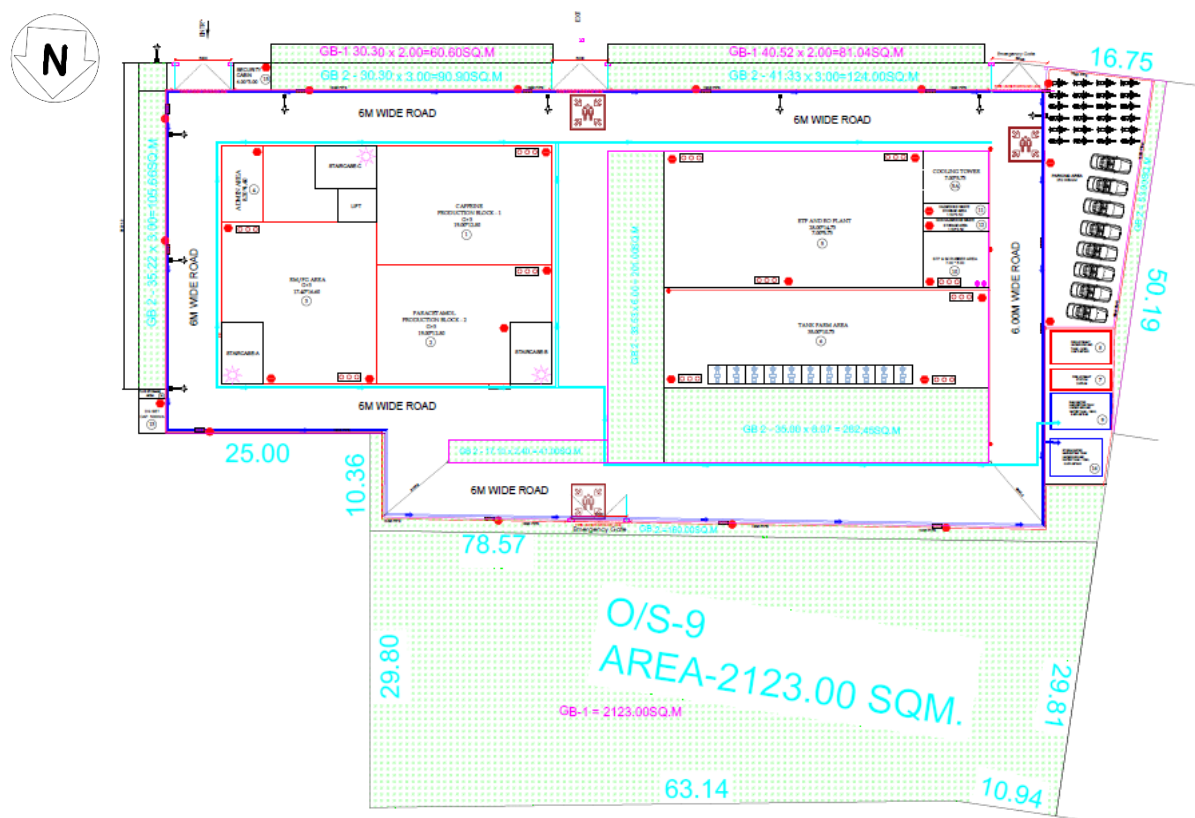


Figure No. 10.2: Project plot layout plan depicting proposed green belt

10.7.2 ACTION PLAN & ESTIMATED BUDGETARY ALLOCATION FOR PROPOSED GREENBELT DEVELOPMENT

The estimation of the costs associated with the Greenbelt development in terms of capital and recurring costs (per annum) are worked out separately and the budgetary allocations are made accordingly. The capital cost budgetary allocation is **INR 4.0 Lakhs** for the plantation of proposed species. Also, maintenance of entire Greenbelt area is considered for the estimation of recurring costs on annually basis. The detailed estimations are addressed in below tables.

Table No. 10.7: Action Plan for Greenbelt Development

ACTION PLAN FOR GREENBELT DEVELOPMENT			
Total Area of Project (Sq. m.)	5157		
Area of Greenbelt at site (Sq. m)	1058	Trees to be planted inside plot boundary (Nos.) @ 2500trees/ha along with considering 80 % of survival rate.	332

Area of Greenbelt Adjoining plot i.e. at OS-09 and between MIDC Road & project plot boundary (Sq. m)	2265	Trees to be planted inside plot boundary (Nos.) @ 2500trees/ha along with considering 80 % of survival rate.	708
Total Greenbelt area (%)	64.43	Total Nos. of Tress to be planted	1040
CAPITAL COST FOR GREENBELT AREA			
Sr. No.	Description	Cost per Unit	Capital Investment
1	Plantation of 1040 nos. of trees Transportation cost (transportation of plants to project site including loading & unloading).	200	2,08,000
2	Soil purchase @ Rs.3500/- Brass(3) (Including transportation)	3500	10,500
3	Manure (Cow dung) @ Rs.3000/- Brass(1.5) (Including transportation cost)	3000	4,500
4	Labour for Plantation and maintenance @ Rs. 600/day/ Person (5 Persons for 30 days)	600	90,000
5	Miscellaneous (Bricks, Shed, equipment's etc.)	-	40,000
Total			3,53,000
RECURRING COST FOR MAINTAINING GREENBELT AREA			
Sr. No.	Description	Recurring/Annum	
1	Watering for 8 months (240 days) for 3323 sq. m of greenbelt to be watered 10 CMD@Rs. 19/m ³ /day. So, Water charges for 10 CMD = 10 x 19 = 190 Rs. per day. Now, Cost of water for 240 days = 240 x 190 = 45,600 Rs.	45,600	
2	Caretaker 4 No. for 12 month @ 4 x 18,000/month	8,64,000	
Total			9,09,600

10.7.3 SUGGESTED PLANT SPECIES

A per CPCB guideline, a mix plantation of native, air pollution tolerant, large and medium height and higher canopy and better leaf surface area are suggested as shown in the **Table No. 10.9.** (Reference for plantation: Guidelines for developing greenbelts, CPCB, March 2000, PROBES / 75/1999-2000).

Table No. 10.8: List of Suggested Plant Species for Greenbelt Development

SUGGESTED PLANT SPECIES FOR GREENBELT AREA			
Sr. No.	Botanical Name	Common Name	No. of Trees Proposed
1.	<i>Cassia fistula</i>	Bhahava	1040
2.	<i>Terminalia arjuna</i>	Arjuna	
3.	<i>Azadirachta indica</i>	Neem	
4.	<i>Ficus religiosa</i>	Pimpal	
5.	<i>Ficus benghalensis</i>	Banyan tree	
6.	<i>Saraca asoca</i>	Sita Ashoka	
7.	<i>Pongamia pinnata</i>	Pongam Tree	
8.	<i>Polyalthia longifolia</i>	False ashoka	

9.	<i>Khaya senegalensis</i>	Khaya
10.	<i>Delonix regia</i>	Gulmohar
11.	<i>Schleichera oleosa</i>	Kusum
12.	<i>Butea monosperma</i>	Palas
13.	<i>Neolamarckia cadamba</i>	Kadam
14.	<i>Dalbergia sissoo</i>	Sisam
15.	<i>Mimusops elengi</i>	Bakul
16.	<i>Alstonia scholaris</i>	Saptaparna
Total		

10.8 ACTION PLAN FOR RAIN WATER HARVESTING MEASURES AT PLANT SITE (Standard ToR point 7.10)

Rainwater harvesting is a technique used for collecting, storing and using rainwater for various purposes. The rainwater is collected from various hard surfaces such as roof tops and/or other types of manmade above ground hard surfaces. APL plans to built-up a rain water harvesting system for collection of rain water. Average annual rainfall in Palghar District and nearby area is approx. 2396 mm. An area of 209 sq. m. is available for roof top rainwater harvesting.

Amount of Rain water that can be collected (Approx.):

= Annual rainfall (mm) X Roof Area (sq. m) X 0.9 (Run off Coefficient)

= 2396 X 209 X 0.9

= 4,50,688 L/A

= 450.68 m³/A

= 3.75 m³/day (Considering 120 days of rainfall annually)

Hence, 1 Tank of 20 KL capacity rain water harvesting storage tank will be provided. Collected water from rooftop harvesting system passed through filtration units to remove suspended impurities. The harvested water will be used during rainy season for the cooling tower makeup.

10.9 STORM WATER MANAGEMENT

In developed area like Industrial estate or company premises, impervious surface such as pavements in factory premises prevents precipitation from naturally soaking to the ground, instead of that water runs into storm drains. Managing the quantity and quality of storm water is termed, "Storm water Management."

Storm water quantity can be estimated by three methods.

1. SCS Technique: Curve number method of USDA
2. Commercial Software: Storm water management model (SWMM) or STORM
3. Rational Method.

In this section of the report rational method will be used to quantify the amount of storm water runoff per hour in the plant premises.

Rational Method

$$Q = 10 CiA$$

Q = Runoff in m³/hr

C = Coefficient of runoff

i = intensity of rainfall in mm/hr

A = Area of drainage in hectares.

Table No. 10.9: Rational method runoff coefficients

Sr. No.	Particular	Runoff Coefficient C
1	Lawns	0.05 – 0.35
2	Forest	0.05 – 0.25
3	Cultivated land	0.08 – 0.41
4	Meadow	0.1 – 0.5
5	Park, cemeteries	0.1 – 0.25
6	Unimproved areas	0.1 – 0.3
7	Pasture	0.12 – 0.62
8	Residential areas	0.3 – 0.75
9	Business areas	0.5 – 0.95
10	Industrial areas	0.5 – 0.9
11	Asphalt streets	0.7 – 0.95
12	Brick streets	0.7 – 0.85
13	Roofs	0.75 – 0.95
14	Concrete streets	0.7 – 0.95

Source: <https://www.lmnoeng.com/Hydrology/rational.php>

1. Intensity of hourly rainfall: 125 mm/hr. (Considering worst case scenario)

2. Drainage Area (sq. m.):

a. Total Plot area = **5157 sq. m**

b. Greenbelt area = **1058 sq. m**

c. Industry area = **4099 sq. m**

3. Surface runoff coefficients:

a. C = 0.9

b. C = 0.25

4. Quantity of Storm water that can be collected:

a. For Industrial area: = $10 \times C \times i \times A$
 = $10 \times 0.9 \times 125 \times 0.4099$ (in Hectare)
 = **461.14 m³/hr**

b. For Greenbelt area: = $10 \times C \times i \times A$
 = $10 \times 0.25 \times 125 \times 0.1058$ (in Hectare)
 = **33.06 m³/hr**

c. **Total Storm water** = $461.14 + 33.06$
 = **494.2 m³/h**

The maximum water that can be received during rainy season on plant premises is calculated to be **494.2 m³/hr.** The storm water drains will be connected to MIDC drains provided by MIDC Tarapur.

Manning's equation is used to calculate cross-sectional average velocity flow in open Channels

$$v = (kn / n) Rh^{2/3} S^{1/2}$$

Where,

v = cross-sectional mean velocity (m/s)

$kn = 1.486$ for English units and $kn = 1.0$ for SI units

n = Manning coefficient of roughness 0.01 (a clean and smooth channel)

R_h = hydraulic radius (m)

S = slope - or gradient - of pipe (ft/ft, m/m)

Hydraulic radius can be expressed as,

$$R_h = A / P_w$$

Where,

A = cross sectional area of flow (m)

P_w = wetted perimeter (m)

The cross-section area can be calculated as,

$$A = W \times D$$

$$= 0.6 \times 0.6$$

$$= 0.36 \text{ m}^2$$

The wetted perimeter can be calculated as,

$$P_w = W + 2D$$

$$= 0.6 + 2(0.6)$$

$$= 1.8 \text{ m}$$

$$R_h = A / P_w$$

$$= 0.36 / 1.8$$

$$= 0.2 \text{ m}$$

Slope of 1st drain exit (North) = 0.00336

Slope of 2nd drain exit (South) = 0.00835

Slope of 3rd drain exit (East) = 0.00042

Slope of 4th drain exit (West) = 0.00842

(Note – the slope is calculated for all the storm drain exist however to consider worst case scenario lesser slope is used for calculation).

The volume flow in the channel can be calculated as,

$$q = A v$$

$$q = A (kn / n) R_h^{2/3} S^{1/2}$$

Where, q = volume flow (m^3/s)

A = cross-sectional area of flow (m^2)

$$S = \text{slope} = 0.36 \times (1/0.015) (0.2)^{2/3} (0.00042)^{1/2}$$

$$= 0.16 \text{ m}^3 / \text{s}$$

$$= 605.05 \text{ m}^3/\text{hr}.$$

Conclusion:

The maximum estimated quantity of storm water to be received during rainy season is **494.2 m³/hr** and the capacity of storm water drain provided on project plot by manning's formula is **605.05 m³/hr**. hence the capacity of storm water drain is justified.

Details of storm water drainage system of plot:

Width of storm water drain = 0.6 m

Depth of storm water drain = 0.6 m

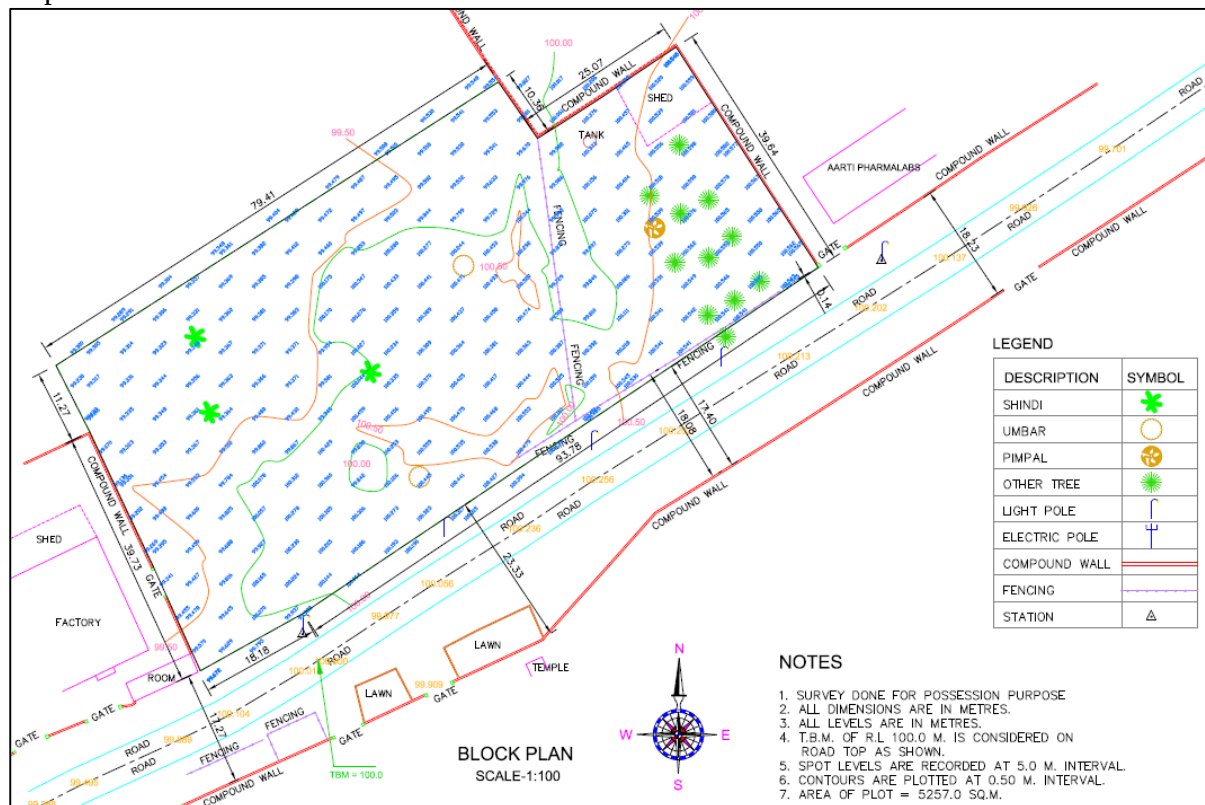


Figure No. 10.3: Contour Layout of M/s. Aarti PharmaLabs Limited (Plot no. L-99)

10.10 CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

(Standard ToR point 10.1)

Project undertaking social responsibility is not a business posture, but is the result of market economy development in some stage, is the inner demand of enterprise and self-conscious action. Social responsibility has become a new competition after the talent, technology and management, is the important variable effected enterprise sustainable development, true sustainable and build up harmonious society through undertaking social responsibility.

Since the project comes under Tarapur MIDC area, so no public hearing was carried out. For development & improvement in socio economic condition company will make provisions for fixed budgetary allocation for social commitment as a part of social responsibility.

After accomplishment of the proposed project, company is will implement the need based CER activities in consultation with the District Authority.

10.11.1 ACTION PLAN FOR CER ACTIVITY

As O.M. No. F. No. 22-65/2017-IA.III given by MoEF & CC dated 1st May 2018, **M/s. Aarti Pharmalabs Pvt. Ltd.** should allocate 4% of the project cost for implementation of need based CER activities. The proposed capital investment for project is **INR 90 Cr.**, thus **INR 3.60 Cr.** is allocated for implementation of need based CER activities.

10.11.2 IMPROVEMENTS IN SOCIAL INFRASTRUCTURE

Social infrastructure includes the construction and maintenance of facilities that supports social services like Hospitals, Schools, Public facilities and transportation. Proposed project will generate additional indirect employment due to the additional transportation requirement. **M/s. Aarti Pharmalabs Pvt. Ltd., Plot no. L-99** would be able to contribute in development of Hospital, Schools and Public facilities in nearby vicinity as mentioned in the CER action plan in **Chapter – 8, Table No. 8.1.**

10.11 OCCUPATIONAL HEALTH

(Standard ToR point 8.1)

10.12.1 PLAN & FUND ALLOCATION TO ENSURE THE OCCUPATION HEALTH AND SAFETY OF ALL CONTRACT AND CASUAL WORKERS

The objective of occupational health environment is to provide safe working environment to the employees of the company. Good occupational health management keeps workers physical conditions healthy or non-deteriorating in work environment which keeps the worker physically and psychologically sound. It results in

- High productivity
- Improved work efficiency
- Work satisfaction
- Less medical expenses toward employees thereby less recurring cost

The company has planned all the necessary control measures to prevent air pollution, water pollution and degradation of soil in the project surrounding areas. Since all the pollution control measures are planned. Minor accidents, noise, poor ventilation and accidental chemical exposure are the only possible occupational health hazards from the manufacturing activities. For the prevention of it, APL will educate the operators and workers for the safety rules, procedure and preventive measures and to use personnel protective measures.

APL has provided budgetary allocation of INR 2,50,000/- for purchase of Personal Protective Equipment's (PPEs) & INR 2,50,000/- per annum as recurring expenditure for annual medical, health check-up & other occupational safety related aspects of workers for 125 Nos. of manpower as a part of Occupational Health & Safety measures.

10.12.2 DETAILS OF EXPOSURE SPECIFIC HEALTH STATUS EVALUATION OF WORKER *(Standard ToR point 8.4)*

The company will conduct medical health check-up of workers on periodic interval of six months. The reports of the health check-ups conducted will be documented and maintained on site.

10.12 CORPORATE ENVIRONMENTAL POLICY *(Standard ToR point 9.1)*

M/s. Aarti Pharmalabs Pvt. Ltd. has framed Environment, Health and Safety policy, the same is attached as **Annexure 10.2**.

10.13.1 ENVIRONMENTAL POLICY PRESCRIBES FOR STANDARD OPERATING PROCESS/PROCEDURE TO BRING INTO FOCUS ANY INFRINGEMENT/DEVIATION/VIOLATION OF THE ENVIRONMENTAL NORMS *(Standard ToR point 9.2)*

The company will establish SOP's for use/handling/operation of various safety & hazard management features during any emergency situation. Off the various SOP's framed by the industry some are tabulated in the table below and it is attached as **Annexure 10.3** and **Annexure 10.4** respectively.

Table No. 10.10: List of SOP's

Sr. No.	Title of Standard Operating Procedure (SOP)	Annexure
1	SOP for Emergency shutdown procedure	10.3
2	SOP for Chemical Handling Protocol and Chemicals Management	10.4

10.13.2 SYSTEM OF REPORTING OF NON-COMPLIANCE /VIOLATIONS OF ENVIRONMENTAL NORMS TO THE BOARD OF DIRECTORS OF THE COMPANY AND / OR SHAREHOLDERS OR STAKEHOLDERS AT LARGE
(Standard ToR point 9.3 & 9.4)

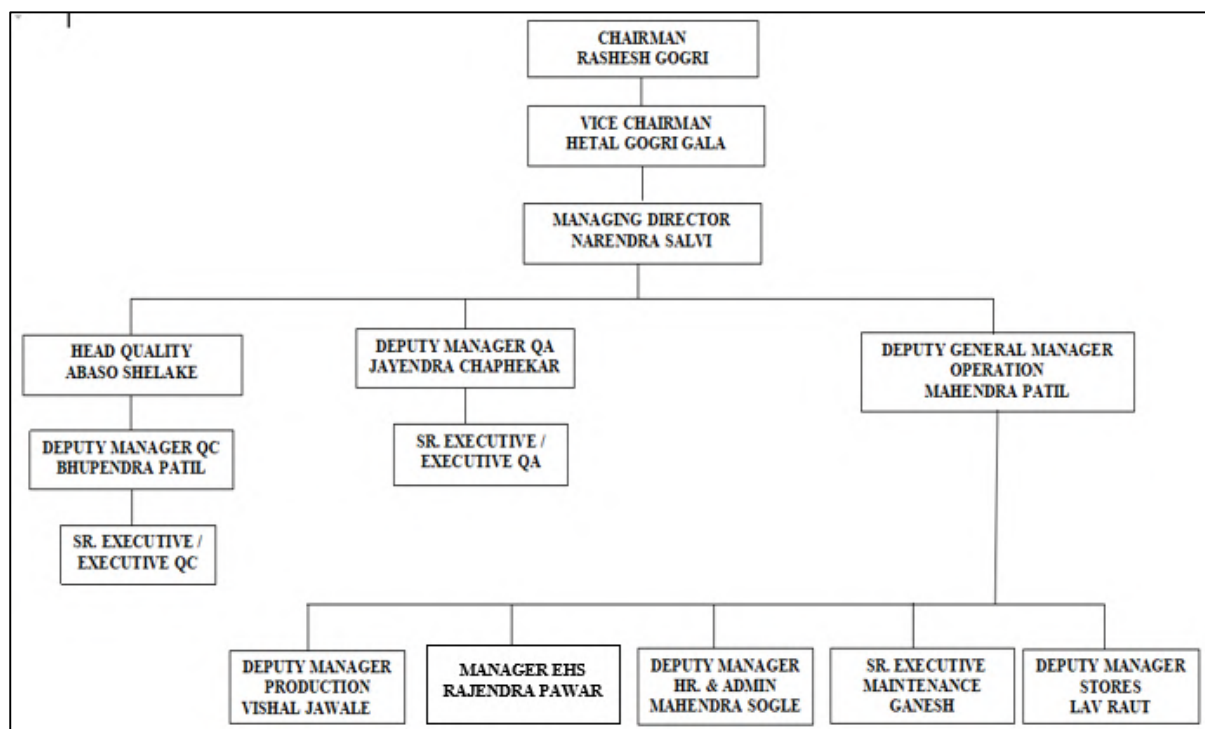


Figure No. 10.4: Schematic representation of administrative order of company to deal with environmental issues

Weekly meetings are to be conducted by the Plant head. A mechanism will be put in place, such that the respective department heads will also be able to report any grievances and problems directly to the directors, keeping open channels of communication and monthly review meetings.

11. SUMMARY AND CONCLUSION

M/s. Aarti Pharmalabs Limited (Unit V-II) (APL) is a New activity for manufacturing of 2000 TPM capacity of API Products under category ‘A’.

11.1 SALIENT FEATURES OF THE PROJECT

Table No. 11.1: Salient features of the project

Sr. No.	Components	Details
1	Name & Location of the project	New project for the manufacturing of 2000 TPM capacity API Products by M/s Aarti Pharmalabs Limited. (Unit V-II), located at Plot No. L-99 MIDC Tarapur, Taluka & District: Palghar, Maharashtra, India – 401506.
2	Details of Project Proponent	Name: Mr. Rajendra Pawar Designation: EHS Manager E-mail: rajendra.pawar@aartipharmalabs.com Contact No.: 97306 00031
3	Type of Industry	Manufacturing of API products
4	Type of Land & Status	The land is located in Tarapur MIDC therefore it is an industrial plot. Project land is owned by APL
5	Capital Investment for EMP	4001.5 Lakhs
6	Recurring Cost for EMP in Lakh /Annum	23328.7 Lakhs/Annum
7	Employment Opportunity	125 Nos.
8	Greenbelt Area	3323 m ² (64.43% of the total plot area) <i>Note:</i> • APL will develop Greenbelt accounting to 2123 Sq. m. (41.17 % of the total plot area) in the adjoining plot no. OS-09, which will be used only for the Greenbelt development purpose. • Additionally, 142 Sq. m. (2.75 % of the total plot area) greenbelt will develop between MIDC Road & project plot boundary in the South direction. • Thus the total Greenbelt to be developed by APL shall be around 3323 sq. m. accounting to 64.43% of the total plot area
9	Water Pollution Control	A. Effluent Treatment Scheme for trade effluent: • The unit will be operated on Zero Liquid Discharge system. • Effluent will be segregated into two streams i.e. HCOD / HTDS and LCOD / LTDS. • For appropriate treatment of effluent, provision of MVR (Capacity – 760 CMD) followed by ATFD, Full-fledged ETP (Capacity – 820 CMD) (Primary, Secondary and Tertiary Treatment), HPPTRO (Capacity – 335 CMD), PTRO (Capacity – 85 CMD), PTRO (Capacity – 770 CMD) is made.

		• Around 755.55 CMD HCOD (5%) / HTDS (10%) effluent from in-house manufacturing process and around 165 CMD HCOD (5%) / HTDS (10%) effluent from sister concern at Plot No. L-28 & 29 after neutralization treated through MVR followed by ATFD along with 113.50 CMD HPPTRO reject. • Around 680 CMD condensate from MVR and ATFD and around 129 CMD LCOD (0.05%) / LTDS (0.15%) effluent from cooling tower blowdown & floor cleaning treated in the ETP comprising of Primary, Secondary and Tertiary treatment. • Around 757 CMD Treated effluent from ETP will be sent to PTRO System. • Considering 70% permeate and 30% reject from PTRO system. Around 530 CMD permeate will be recycled and reused as Cooling Tower makeup and the reject will be sent to HPPTRO system for further treatment. • Around 113.50 CMD HPPTRO permeate (50%) will be recycle & reuse for Cooling Tower makeup and around 113.50 HPPTRO reject (50%) will be resent to MVR for further treatment. • Sludge generated from primary & secondary treatment will be sent to CHWTSDF for disposal. ATFD salts will be sent to CHWTSDF for disposal. <i>As a contingency, membership will be taken with M/s Sadekar Enviro Engineers Pvt. Ltd. High COD/TDS reduction facility, MIDC Tarapur.</i> B. Treatment Scheme for Sewage: • STP having capacity 15 CMD will be provided for treatment of 5.20 CMD sewage along with 8 CMD sewage from sister concern unit at Plot No. L-28 & 29. • Treated sewage will be used for greenbelt development during wet season and will be used for domestic flushing during wet season. • STP sludge will be used as manure for greenbelt development. Note : With reference to the Consent to Establish (CTE) obtained from Maharashtra Pollution Control Board vide no Format1.0/AS(T)/UAN No.0000223966/CE/2411000875 dated 14-11-2024, the Effluent Treatment Plant at plot no.L-99 will be utilized for the treatment of trade effluent generating from the plot no. L 28 & 29 as it is sister concern.
10	Flue gas emission control	2 x 500 kVA D. G. Sets with stack of 5 m height (Above roof level) each will be provided.
11	Process gas emission control	1 nos. of Acid scrubber and 1 nos. of Alkali scrubber with stack of 6 m height (Above roof top) to each will be provided
12	Hazardous waste Management	Hazardous Waste • The recyclable / recoverable wastes will be sale to authorized party.

		- The remaining waste will be sent to Pre-processing or Co-processing or CHWTSDF facility for disposal. Non-Hazardous Waste - Metal Scrap, Waste Paper Wrapping, Paper boxes and Bags, Plastic Liner and Wooden Pallet will be sale to authorised party. - STP sludge will be use as manure in Greenbelt development. Bio-Medical Waste - Soiled waste will send to CBMWTSDF for disposal.
13	Expenditure for CER activities	INR 3.6 Cr. <i>(As per OM No. F. No. 22-23/2018-IA.III (Pt) dated 31st October 2019 the % of the CER may be at least 2.0 times the slabs given in the OM dated 1st May 2018 for Critically Polluted Area (CPA). Hence, 2% of the proposed cost will be allocated for CER activities).</i>
14	Rehabilitation & Resettlement Aspects	The project will be carried out inside the Notified Industrial Area. Hence, Resettlement and Rehabilitation (R&R) are not applicable in this project.
15	Forestry/Wildlife/Conservation related aspects	General conditions of EIA Notification, 2006 are not applicable to the project. The project is located at Plot No. L-10, MIDC Tarapur, Taluka & District – Palghar, Maharashtra, India – 401506.
16	Disaster Management Plan	During emergency situation precautionary On-site emergency plan and Off-site emergency plan is provided.
17	Project monitoring parameters & frequency	During Operational phase APL will ensure post project environment monitoring as per CTE/CTO conditions.

11.2 RESULTS AND DISCUSSION

- It is concluded that the proposed project will not have any negative impact on the environment and people.
- On the other hand, it will have a positive impact by improving the socio-economic aspects with employment generation.
- Also, due to provisions and implementation of efficient environmental management systems including the proposed mitigation measures and environment management plans, the impacts associated with the project activities during the operational phase would be manageable and the project will be directly & indirectly beneficial to the surrounding communities & regions.

12. DISCLOSURE OF CONSULTANT

12.1 PROFILE OF THE COMPANY

(Standard ToR point 2.1)

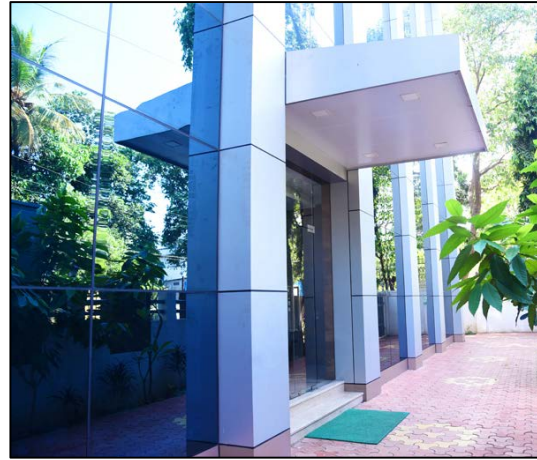
M/s Sadekar Enviro Engineers Pvt. Ltd. a dynamic Engineering Company established in the year 1998, dedicated towards Environmental Pollution Prevention & Control. Sadekar Enviro is organized under three strategic environmental pollution prevention & control activities viz. Air, Water & Hazardous Waste pre-processing facility. Recognized by Ministry of Environment, Forest & Climate Change Govt. of India. ISO/IEC, QCI NABL and QCI NABET.

SEEPL is accredited as Category-A under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors:

Table No. 12.1: Details of QCI NABET Accreditation of SEEPL

Sr. No.	Sector Description	Sector as per		Category
		NABET	MoEFCC	
1	Mining of Minerals including open cast/ underground mining	1	1 (a) (i)	A
2	Pesticide Industry and pesticide specific intermediates	17	5 (b)	A
3	Synthetic Organic Chemicals Industry	21	5 (f)	A
4	Industrial estates/ parks/ complexes/ Areas, export processing zones (EPZs), Special economic zones (SEZs), Biotech parks, Leather complexes	31	7 (c)	A
5	Ports, harbours, break waters and dredging	33	7 (e)	A
6	Common Municipal Solid Waste Management Facility (CMSWMF)	37	7 (i)	B
7	Building and construction projects	38	8 (a)	B
8	Townships and Area Development projects	39	8 (b)	B

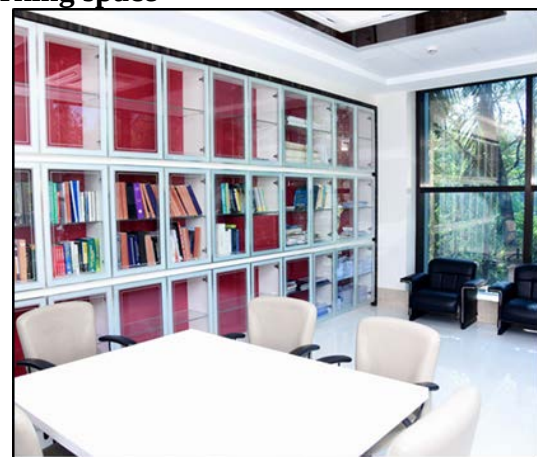
12.2 OUR FACILITIES



SEEPL Building at Thane



SEEPL Working space



SEEPL Conference room and Library



NABL Accredited Laboratory at Thane

12.3 OUR SERVICES

- Environmental Impact Assessment Study & Environmental Management Plan.
- Execution of Effluent & Sewage Treatment Plants on turnkey basis.
- Treatability & Feasibility studies for Waste Water Treatment.
- Collection & Analysis of Water, Wastewater & Hazardous Waste Samples.
- Ambient Air Quality, Stack Emission, Noise & Work Place Monitoring.
- Environmental Audit Reports Preparation & Submission to SPCB.
- Operation & Maintenance of ETP & STP.
- High COD/TDS separation facility at Tarapur MIDC (Existing: 300 KLD & Proposed 300 KLD).
- Planning, Designing, Procurement and installation of Zero liquid discharge system.
- Pre-Processing facility for Hazardous Waste at Tarapur MIDC.

12.4 OUR CLIENTS



12.5 OUR CREDENTIAL



**QUALITY COUNCIL
OF INDIA**
Creating an Ecosystem for Quality



**National Accreditation Board
for Education and Training**

Certificate of Accreditation

Sadekar Enviro Engineers Private Limited, Thane

Plot No.A 95, Road no.16, Wagle Estate, MIDC Area, Thane West, Maharashtra- 400604

*The organization is accredited as **Category-A** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors –*

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1.	Mining of minerals including open cast/ underground mining	1	1 (a) (i)	A
2.	Pesticides industry and pesticide specific intermediates	17	5 (b)	A
3.	Synthetic organic chemicals industry	21	5 (f)	A
4.	Industrial estates/ parks/ complexes/ Areas, export processing zones (EPZs), Special economic zones (SEZs), Biotech parks, Leather complexes	31	7 (c)	A
5.	Ports, harbours, break waters and dredging	33	7 (e)	A
6.	Common Municipal Solid Waste Management Facility (CMSWMF)	37	7 (i)	B
7.	Building and construction projects	38	8 (a)	B
8.	Townships and Area Development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated October 13, 2023 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/23/3018 dated November 08, 2023. The accreditation needs to be renewed before the expiry date by Sadekar Enviro Engineers Private Limited, Thane following due process of assessment.



Sr. Director, NABET
Dated: Nov 08, 2023

Certificate No.
NABET/EIA/2326/RA 0307

Valid up to
April 18, 2026

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to the QCI-NABET website.



12.6 CONTACT INFO

OUR OFFICE LOCATION:

Plot No. A-95, Road No.16, Kisan Nagar Road, MIDC Wagle Industrial Area, Thane - 400604.

BRANCH OFFICE LOCATION:

310, Dempo Towers, EDC Patto, Panaji, Goa 403001.

OUR CONTACT NUMBER:

022-25833321/22/23/24

+91 9820144125

+91 9082513893

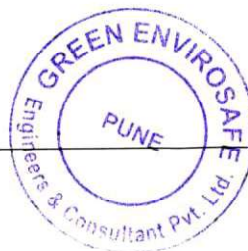
OUR CONTACT E-MAIL:

prs@sadekarenviro.com / eia@charge@sadekarenviro.com / eia@sadekarenviro.com

WEBSITE: <https://www.sadekarenviro.com/>

Recognised by Ministry of Environment and Forests (MoEF) / Central Pollution Control Board Govt. of India (CPCB)
 ISO 9001:2015, ISO 45001 : 2018 and ISO 14001 : 2015 Certified Company
TEST REPORT

Test Report No	GESEC/PRO/ST/2025-26/03/386		Report Date	21.03.2026
Sample ID -	GESEC/PRO/ST/2025-26/03/386			
Name & Address of the Customer	M/s. Aarti Pharmalabs Ltd. Plot No. L-10, MIDC Tarapur, Boisar, Tal & Dist. Palghar.			
Sample Details				
Sample Collection Date	Sample Receipt Date	Analysis Start Date	Analysis Complete Date	
16.03.2026	17.03.2026	17.03.2026	21.03.2026	
Instrument Details				
Name of Instrument	SEC/TAR/SMK/10B/8014	Date of Calibration	27.05.2025	
Certificate No	EI/FF/1290	Due Date of Calibration	26.05.2026	
Stack Details				
Stack No/ID	Stack Attached to		Sampling done by	
--	Boiler (10 Ton/Hrs.)		M/S. Shree Swami Samarth Environmental Consultant.	
Shape	Round	Fuel Used	Coal	
Diameter/ Dimensions (m)	1.3	Pressure	3.2	
Height (m)	30 mtr			
Temperature (⁰k)	443	Velocity (m/s)	7.14	
Flow Rate/Gas Volume (Nm³/Hr)	22970.64			
Parameters	Method	Unit	Limit	Result
Total Particulate Matter (TPM)	EPA METHOD 17:2017	mg/Nm ³	≤50	38.62
Sulphur Dioxide (SO ₂)	EPA METHOD 06:2017	mg/Nm ³	-	105.26
Sulphur Dioxide (SO ₂)	EPA METHOD 06:2017	Kg/day	≤407.4	58.02
Nitrogen Dioxide (NO ₂)	EPA METHOD 07 E	ppm	-	07.35
Note-				
➤ All above results are well within MPCB Limit.				



Vinod Hande
Mr. Vinod Hande
 (Technical Manager)
 Reviewed & Authorized By
 Page 1 of 1

END OF REPORT

Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
- The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not revel to third party unless required by the statutory or legal requirement.
- If on site there is no proper sampling location, source or port available the result of testing is not challenge.

Date:16.12.2025

To,
The Sarpanch / Gram Sevak
Kolawade Grampanchayat,
Tal & Dist – Palghar

Subject: Environment Clearance granted to New Project - M/s. Aarti Pharmalabs Limited, Plot No. L-99 & L-10, MIDC Tarapur on 24/11/2025

Respected Sir/Mam,

This is to inform you that the company M/s. Aarti Pharmalabs Limited located at Plot no. L-99 & L-10, MIDC Tarapur, District – Palghar, Maharashtra, India obtained Environmental Clearance (EC) for new project vide EC no. EC25A2405MH5448929N for Manufacturing of 2000 TPM of API Products at Plot no L-99 and Boilers, Utility & production of Tech Salt (Potassium Chloride containing about 0.5 % of Potassium Fluoride) of 250 TPM located at Plot No. L-10, from Ministry of Environment, Forest and Climate Change, Government of India under Schedule 5(f) of the EIA Notification, 2006 and its subsequent amendment viz. Synthetic Organic Chemicals Industry.

This letter is for your kind information.

Thank You.

Yours faithfully,

M/s. Aarti Pharmalabs Limited

Authorized Signatory



AARTI PHARMALABS LIMITED

www.aartipharmalabs.com | CIN : U24100GJ2019PLC110964 | Email : info@aartipharmalabs.com

Factory : Unit V-II, Plot No. L-99, M.I.D.C., Tarapur, Taluka & District - Palghar, PIN 401 506, Maharashtra, INDIA. T : +91 77988 82264 / +91 70309 64131
Admin Office : 204, Udyog Kshetra, 2nd Floor, Mulund - Goregaon Link Road, Mulund (W), Mumbai, PIN - 400 080, Maharashtra, INDIA, T : +91 22 67976666 | F : +91 22 25653234
Regd. Office : Plot No. 22-C/1 & 22-C/2, 1st Phase, G.I.D.C., Vapi 396 195, District - Valsad, Gujarat, INDIA T : +91 260 2400467, +91 99099 94655

Date: 16.12.2025

To,
Deputy Engineer,
MIDC Tarapur,
Tal & Dist – Palghar

Subject: Environment Clearance granted to New Project - M/s. Aarti Pharmalabs Limited, Plot No. L-99 & L-10, MIDC Tarapur on 24/11/2025

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This letter is for your kind information.

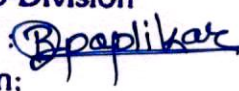
Thank You.

Yours faithfully,

M/s. Aarti Pharmalabs Limited


Authorized Signatory



Received
Drainage Sub-Division
Inward Clerk: 
MIDC Sub-Dn:
Tarapur,
Date: 17/12/2025

AARTI PHARMALABS LIMITED

www.aartipharmalabs.com | CIN : U24100GJ2019PLC110964 | Email : info@aartipharmalabs.com

Factory : Unit V-II, Plot No. L-99, M.I.D.C., Tarapur, Taluka & District - Palghar, PIN 401 506, Maharashtra, INDIA. T : +91 77988 82264 / +91 70309 64131
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Date: 16.12.2025

To,
SRO Tarapur-I,
Maharashtra Pollution Control board,
Tal & Dist – Palghar

Subject: Environment Clearance granted to New Project - M/s. Aarti Pharmalabs Limited, Plot No. L-99 & L-10, MIDC Tarapur on 24/11/2025

Respected Sir/Mam,

This is to inform you that the company M/s. Aarti Pharmalabs Limited located at Plot no. L-99 & L-10, MIDC Tarapur, District – Palghar, Maharashtra, India obtained Environmental Clearance (EC) for new project vide EC no. EC25A2405MH5448929N for Manufacturing of 2000 TPM of API Products at Plot no L-99 and Boilers, Utility & production of Tech Salt (Potassium Chloride containing about 0.5 % of Potassium Fluoride) of 250 TPM located at Plot No. L-10, from Ministry of Environment, Forest and Climate Change, Government of India under Schedule 5(f) of the EIA Notification, 2006 and its subsequent amendment viz. Synthetic Organic Chemicals Industry.

This letter is for your kind information.

Thank You.

Yours faithfully,

M/s. Aarti Pharmalabs Limited



Authorized Signatory



 17/12/25
SUB-REGIONAL OFFICE
MAHARASHTRA POLLUTION CONTROL BOARD
TARAPUR, MIDC. COLONY, BOISAR,
TALUKA & DIST. PALGHAR, PIN 401 504.

AARTI PHARMALABS LIMITED

www.aartipharmalabs.com | CIN : U24100GJ2019PLC110964 | Email : info@aartipharmalabs.com

Factory : Unit V-II, Plot No. L-99, M.I.D.C., Tarapur, Taluka & District - Palghar, PIN 401 506, Maharashtra, INDIA. T : +91 77988 82264 / +91 70309 64131
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Regd. Office : Plot No. 22-C/1 & 22-C/2, 1st Phase, G.I.D.C., Vapi 396 195, District - Valsad, Gujarat, INDIA T : +91 260 2400467, +91 99099 94655

John Crane
www.john-crane.com

द्वितीय अधिकाधिक संशोधन



॥ श्री गणेशाय नमः ॥

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५. आचार्यजी की पुत्री श्री
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MATRIMONIALS

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CITY MATRIMONIALS

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Groundwater recharge up, but 1 in 4 units depleted

Dips in Andhra, Arunachal, Assam, Kerala and Punjab

The states that reported a significant increase in their groundwater recharge were Andhra Pradesh, Arunachal Pradesh, Assam, Kerala and Punjab.

Andhra Pradesh reported a 10% increase in groundwater recharge, while Arunachal Pradesh reported a 15% increase. Assam reported a 12% increase, Kerala a 18% increase, and Punjab a 14% increase.

However, one in four states reported a decrease in groundwater recharge. These states were Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, West Bengal, and Mizoram.

The Central Water Commission (CWC) has been monitoring groundwater recharge levels across the country since 2014. The data shows that while some states have seen an increase in recharge, others have seen a decrease.

The CWC has also reported that one in four states have experienced a depletion of groundwater units. This is a cause for concern, as it indicates that groundwater levels are falling in these states.

The CWC has urged the states to take steps to replenish their groundwater levels. This includes measures such as rainwater harvesting, check dams, and artificial recharge.

The CWC has also reported that the overall groundwater recharge in the country has increased by 10% compared to the previous year. This is a positive trend, but it is important to ensure that the states that have experienced a decrease in recharge take appropriate action.

The CWC has also reported that the overall groundwater levels in the country have improved. This is a result of the increased recharge and the measures taken by the states to replenish their groundwater levels.

The CWC has also reported that the overall groundwater quality in the country has improved. This is a result of the increased recharge and the measures taken by the states to protect their groundwater resources.

The CWC has also reported that the overall groundwater sustainability in the country has improved. This is a result of the increased recharge and the measures taken by the states to ensure the long-term availability of their groundwater resources.

The CWC has also reported that the overall groundwater security in the country has improved. This is a result of the increased recharge and the measures taken by the states to ensure the safety and security of their groundwater resources.

The CWC has also reported that the overall groundwater resilience in the country has improved. This is a result of the increased recharge and the measures taken by the states to ensure the ability of their groundwater resources to withstand shocks and stresses.

The CWC has also reported that the overall groundwater adaptability in the country has improved. This is a result of the increased recharge and the measures taken by the states to ensure the ability of their groundwater resources to adjust to changing conditions.

The CWC has also reported that the overall groundwater inclusivity in the country has improved. This is a result of the increased recharge and the measures taken by the states to ensure that all stakeholders have access to their groundwater resources.

The CWC has also reported that the overall groundwater transparency in the country has improved. This is a result of the increased recharge and the measures taken by the states to ensure that all stakeholders have access to information about their groundwater resources.

The CWC has also reported that the overall groundwater

Annexure - XIV

Aarti Pharmalabs Limited, Unit-II, Plot No. L-10, MIDC Tarapur

Sr.No	Hazardous Waste Category	Monthwise Disposal Qty in MT					
		25-Oct	25-Nov	25-Dec	26-Jan	26-Feb	26-Mar
1	Process Residue and wastes(28.1)	0.00	0.00	0.00	0.00	0.00	0.00
2	Spent carbon(28.3)	9.13	17.26	8.75	9.61	9.12	0.00
3	Chemical sludge from waste water treatment(35.3)	0.00	0.00	0.00	5.99	0.00	0.00
4	Empty barrels / containers /liners contaminated with hazardouschemicals/wastes(33.1)	1.50	0.58	0.29	1.49	1.07	0.50
5	Used or spent oil(5.1)	0.00	0.00	0.00	0.00	0.00	0.00
6	Spent ion exchange resin containing toxic metals(35.2)	0.00	0.00	0.00	0.00	0.00	0.00
7	Contaminated cotton rags or other cleaning materials(33.2)	0.00	0.00	0.00	0.00	0.00	0.00
8	Wastes or residues containing oil(5.2)	0.00	0.00	0.00	0.00	0.00	0.00
9	Process waste sludge/residues containingacid,toxicmetals, organic compounds(26.1)	0.00	0.00	0.00	0.00	0.00	0.00
10	Process Residue and wastes(28.1)	9.15	8.21	9.26	15.84	9.33	9.54
11	Process residues and wastes (Sulfolane)(28.1)	0.00	0.00	0.00	0.00	0.00	0.00
12	Process residues and wastes (KF Solution neutral)(28.1)	0.00	0.00	0.00	0.00	0.00	0.00

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
Fax: 24023516
Website: <http://mpcb.gov.in>
Email: ast@mpcb.gov.in



Kalpataru Point, 2nd, 3rd
and 4th floor, Opp. Cine
Planet Cinema, Near Sion
Circle, Sion (E),
Mumbai-400022

RED/M.S.I (R58)/ Rev. RED/I.S./ (123.1)
No:- Format1.0/AS(T)/UAN No.MPCB-
CONSENT-0000269719/CO/2603001992

Date: 13/03/2026

To,
Aarti Pharmalabs Limited, Unit V-II
Plot No. L-99, MIDC Tarapur
Palghar



Sub: Grant of consent to 1st Operate under Red/MSI Category

Ref: 1. Existing Consent to Establish accorded by the Board vide No.
Format1.0/AS(T)/UAN No.0000223966/CE/2411000875 dtd: 14/11/2024:
2. Industry Request letter Dtd: 12/03/2026

Your application No.MPCB-CONSENT-0000269719 Dated 10.12.2025

For: Grant of Consent to Operate under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 and Rule 18(7) of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

- The consent to operate is granted for a period up to 28/02/2027**
- The capital investment of the project is Rs.Rs. 45.5 Crs. Crs. (As per C.A Certificate submitted by industry)**
- Consent is valid for the manufacture of:**

Sr No	Product	Maximum Quantity	UOM
Products			
1	Storage of Chemicals, Intermediates & Finish Products and Packing & Repacking activity	1000	MT/M
2	Utilisation of the Utility, ETP, MVR, RO and ATFD system	0	--NA--

[This plot no.L-99 facility will utilize for utility and effluent treatment plant for the treatment of trade effluent generating from the plot no. L 28 & 29 as it is sister concern unit which is adjacent to each other. The required steam shall be provided from Aarti Phrmalabs Limited Unit-II Plot no.L-10]

4. **Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	165	As per Schedule-I	Recycle 100% to achieve ZLD
2.	Domestic effluent	8	As per Schedule-I	On land for gardening

5. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

Sr No.	Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
1	S-1	DG Set [500 KVA]	1	As per Schedule -II

6. **Non-Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	Paper	5	MT/A	Recycle/ Reuse	Sale to authorized party
2	Corrugated Boxs	5	MT/A	Recycle/ Reuse	Sale to authorized party

7. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for Collection, Segregation, Storage, Transportation, Treatment and Disposal of hazardous waste:**

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
1	35.3 Chemical sludge from waste water treatment	25	MT/A	Incineration/Land Filling	CHWTSDF
2	5.1 Used or spent oil	0.5	MT/A	Recycle*	Sale to authorised party / CHWTSDF
3	37.3 Concentration or evaporation residues	5000	MT/A	HW for Co-Processing shall be routed through authorized pre processing/CHWTSDF	Other
4	28.1 Process Residue and wastes	10	MT/A	Land Filling/Incineration	CHWTSDF
5	33.1 Empty barrels /containers /liners contaminated with hazardous chemicals /wastes	15	MT/A	Recycle*	Sale to authorised party / CHWTSDF
6	33.2 Contaminated cotton rags or other cleaning materials	1	MT/A	Recycle/Land Filling	Sales to Authorised Party/ CHWTSDF

8. **Conditions under Batteries (Management & Handling) Rules, 2001:**

Sr No	Type of Waste	Quantity	UoM	Disposal Path
1	Battery	10.00	Nos./Y	Sale to authorized party.

Specific Conditions for used Batteries:

- The applicant shall ensure that used batteries are not disposed of in any manner other than by depositing with the authorized dealer/ manufacturer/ registered recycler/ importer/ re-conditioner or at the designated collection center.
- The applicant shall file half-yearly return in Form VIII to the M.P.C. Board.
- Bulk consumers to their user units may auction used batteries to registered recyclers only.

9. **Conditions under Plastic Waste Management Rules, 2016 (Notification dtd. 18/03/2016):**

Sr No	Type of Waste	Quantity	UoM	Disposal Path
1	Plastic Material	0.50	MTPA	Sale to authorized party.

10. **Conditions under E-Waste Management:**

Sr No	Type of Waste	Quantity	UoM	Disposal Path
1	E -Waste	1.00	MT/A	Sale to Authorised recycler

11. **Treatment and Disposal of Biomedical Waste generated to CBMWTSDf:**

Sr.No	Category	Type of Waste	Quantity not to exceed (Kg/M)	Segregation Color coding	Treatment & Disposal
1	Yellow	a) Microbiology Biotechnology and other clinical laboratory waste	125.00	Yellow colored non- chlorinated plastic bags containers	CBMWTSDf

- The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.
- This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.
- This Consent is issued subject to an order passed or may be passed by Hon'ble NGT in application no. 1038/2018 in the matter of CEPI.
- Industry shall install online continuous monitoring system as per CPCB guidelines & data to be transmitted directly from Data Logger to Board server .
- The industry shall ensure connectivity online monitoring system to MPCB server including separate energy meter for pollution control system
- M/s. Aarti Pharmalabs Limited, Unit V-II, Plot No. L-99, and its sister concern unit M/s. Aarti Pharmalabs Limited, located at Plot No- L-10, MIDC Tarapur, Tal & Dist:- Palghar shall sign bi-lateral agreement for joint and severally responsibility for the use of the Steam. If M/s. Aarti Pharmalabs Limited, located at Plot No- L-10, MIDC Tarapur, Tal & Dist:- Palghar fails to achieve the emission discharge standard prescribed in the consent, then M/s. Aarti Pharmalabs Limited., located at Plot No- L-99, MIDC Tarapur, Tal & Dist:- Palghar should stop their activities. In case of non-compliance, both units will be jointly & severally liable for the any legal action.

18. The applicant shall make an application for renewal of consent 120 days prior to date of expiry of the consent.
19. The industry shall create an Environment Cell by appointing an Environmental Engineer OR Expert for looking after day-to-day activities related to Environment OR Pollution control.

This consent is issued on the basis of information/documents submitted by the Applicant/Project Proponent, if it has been observed that the information submitted by the Applicant/Project Proponent is false, misleading or fraudulent, the Board reserves its right to revoke the consent & further legal action will be initiated against the Applicant/Project Proponent.



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Signed by: Dr Rajendra A. Rajput
Assistant Secretary (Technical)
For and on behalf of,
Maharashtra Pollution Control Board
ast@mpcb.gov.in
2026-03-13 16:03:02 IST

Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	75000.00	TXN2512003657	16/12/2025	Online Payment

Copy to:

1. Regional Officer, MPCB, Thane and Sub-Regional Officer, MPCB, Tarapur I
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB, Sion, Mumbai

SCHEDULE-I

Terms & conditions for compliance of Water Pollution Control:

1.
 - A] As per your application, you have provided Effluent Treatment Plant (ETP) of designed capacity of 200.00 CMD consisting of Primary (Collection tank, Neutralization tank, Equalization tank, Flash mixer, Primary Clarifier/Primary Settling Tank), Tertiary (Pressure sand filter, Dual media filter), Advanced treatment (Reverse osmosis, Multi effective evaporator, ATFD, MVR) for the treatment of 165 CMD of trade effluent.
 - B] The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent and recycle the entire treated effluent into the process for various purposes such as for cooling, process & Scrubbing with metering system so as to achieve Zero Liquid Discharge. There shall be no discharge on land or outside factory premises.
 - C] The effluent treatment plant for the treatment of trade effluent generating from the plot no. L 28 & 29 as it is sister concern unit which is adjacent to each other. The treated effluent shall be recycled for secondary purposes to the maximum extent and remaining shall be discharged on land for gardening within premise after confirming above standards. In no case, effluent shall find its way for gardening / outside factory premises.
 - D] The Industry shall ensure connectivity online monitoring system to the MPCB server including separate energy meter for pollution control system.
 - E] In case of contingency effluent shall be send to SEEPL High COD/High TDS Facility
2.
 - A] As per your application, you have provided Sewage Treatment Plant of designed capacity 20 CMD for the treatment of 8 CMD of sewage.
 - B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards.

Sr.No	Parameters	Standards (mg/l)	
1	Suspended Solids	Not to exceed	50
2	BOD 3 days 27°C	Not to exceed	30

- C] The treated sewage shall be recycled for secondary purposes to the maximum extent and remaining shall be discharged on land for gardening within premise after confirming above standards. In no case, sewage shall find its way for outside factory premises.
3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification there of & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.

5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

Sr. No.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling, spraying in mine pits or boiler feed	175.00
2.	Domestic purpose	18.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	214.00
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	8

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.



SCHEDULE-II

Terms & conditions for compliance of Air Pollution Control:

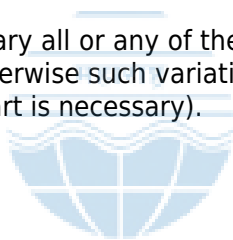
1. As per your application, you have provided the Air pollution control (APC) system and erected following stack (s) to observe the following fuel pattern:

Stack No.	Source	APC System provided/prop osed	Stack Height(in mtr)	Type of Fuel	Sulphur Content(in %)	Pollutant	Standard
S-1	DG [500 KVA]	Acoustic Enclosure Stack	9.00	Diesel 90 Kg/M	1	TPM	50 Mg/Nm ³
						SO ₂	43.2 Kg/Day

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.
3. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Parameters	Standards (unit)	
Total Particulate Matter	Not to exceed	30 mg/ Nm ³

4. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
5. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).



SCHEDULE-III

Details of Bank Guarantees:

Sr. No	Consent (C2E/C2O/C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C to O	Rs. 5.0 Lakhs	Existing	Towards compliances of consent conditions	28/02/2027	28/03/2028

****Existing BG obtained for above purpose if any, may be extended for period of validity as above.**

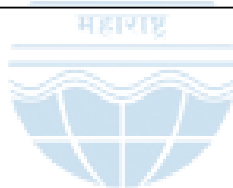
If the above Bank Guarantee is not submitted within stipulated period, then 12% interest will be levied as a penalty as per circular dtd 29/02/2024 No. BO/MPCB/AS(T)/Circular/B-240229FTS0122

BG Forfeiture History

Srno.	Consent (C2E/C2O/C2R)	Amount of BG imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
NA						

BG Return details

Srno.	Consent (C2E/C2O/C2R)	BG imposed	Purpose of BG	Amount of BG Returned
NA				



SCHEDULE-IV
General Conditions:

1. The waste generator shall.-
 - a) take steps to minimize generation of plastic waste and segregate plastic waste at source in accordance with the Plastic Waste Management Rules, 2016 or as amended from time to time.
 - b) not litter the plastic waste and ensure segregated storage of waste at source and handover segregated waste to urban local body or gram panchayat or agencies appointed by them or registered waste pickers', registered recyclers or waste collection agencies;
2. All institutional generators of plastic waste, shall segregate and store the waste generated by them in accordance with the Plastic Waste Management Rules, 2016 amendment from time to time and handover segregated wastes to authorized waste processing or disposal facilities or deposition centers either on its own or through the authorized waste collection agency.
3. All waste generators shall pay such user fee or charge as may be specified in the byelaws of the local bodies for plastic waste management such as waste collection or operation of the facility thereof, etc.;
4. Every person responsible for organizing an event in open space, which involves service of food stuff in plastic or multilayered packaging shall segregate and manage the waste generated during such events in accordance with the Plastic Waste Management Rules, 2016 amendment from time to time.
5. Consumers or bulk consumers of electrical and electronic equipment listed in Schedule I shall ensure that e-waste generated by them is channelised through collection centre or dealer of authorised producer or dismantler or recycler or through the designated take back service provider of the producer to authorised dismantler or recycler
6. Bulk consumers of electrical and electronic equipment listed in Schedule I shall maintain records of e-waste generated by them in Form-2 and make such records available for scrutiny by the concerned State Pollution Control Board
7. Consumers or bulk consumers of electrical and electronic equipment listed in Schedule I shall ensure that such end-of-life electrical and electronic equipment are not admixed with e-waste containing radioactive material as covered under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and rules made there under;
8. Bulk consumers of electrical and electronic equipment listed in Schedule I shall file annual returns in Form-3, to the concerned State Pollution Control Board on or before the 30th day of June following the financial year to which that return relates. In case of the bulk consumer with multiple offices in a State, one annual return combining information from all the offices shall be filed to the concerned State Pollution Control Board on or before the 30th day of June following the financial year to which that return relates.
9. Specific Conditions for storage, Handling and Disposal of Waste from Electrical & Electronic equipment (WEEE):
 1. **Collection of WEEE** - The applicant must provide appropriate and dedicated vehicles duly identified as per the norms for transportation of Hazardous Waste. The applicant shall obtain all the required permits for transportation of WEEE from competent authority. The applicant shall ensure the safe transport of the WEEE without any spillage during transportation.
Storage for disassembled parts: The applicant must provide appropriate storage for disassembled spare parts from WEEE. Some spare parts (e.g. motors and compressors) will contain oil and/or other fluids. Such part must be appropriately segregated and stored in containers that are secured such that oil and other fluids cannot escape from them. These containers must be stored on an area with an area with an impermeable surface and a sealed drainage system.

2. **Storage for other components and residues:** Other components and residues arising from the treatment of WEEE will need to be contained following their removal for disposal or recovery. Where they contain hazardous substances they should be stored on impermeable surface and in appropriate containers or bays with weatherproof covering. Containers should be clearly labelled to identify their contents and must be secured so that liquids, including rain water cannot enter them. Components should be segregated having regard to their eventual destinations and the compatibility of the component types. All batteries should be handled and stored having regard to the potential fire risk associated with them.
3. **Balances :** WEEE Guidelines also requires that sites for handling of WEEE have "balances to measure the weight of the segregated waste". The objective is to ensure that a record of weights can be maintained of WEEE entering a facility and components and materials leaving each site (together with their destinations). The nature of the weighing equipment should be appropriate for the type and quantity of WEEE being processed.
4. Plastic, which cannot be recycled and is hazardous in nature, is recommended to be land filled in nearby CHWTSDf.
5. Ferrous and nonferrous metal recycling facilities fall under the purview of existing environmental regulations for air, water, noise, land and soil pollution and generation of hazardous waste and the same should be followed.
6. CFCs should be either reused or incinerated in common hazardous waste Incineration facilities at CHWTSDf.
7. Waste Oil should be either reused or incinerated in common hazardous waste incineration facilities.
8. PCB's containing capacitors shall be incinerated in common hazardous waste incineration facilities at CHWTSDf.
9. Mercury recovery and lead recycling facilities from batteries fall under the Hazardous & Other Wastes (M & TM) Rules, 2016.
10. Existing environmental regulations for air; water; noise, land and soil pollution and generation of hazardous waste and the same should be followed. In case Mercury or lead recovery is very low, they can be temporarily stored at e-waste recycling facility and later disposed in TSDf.
11. The industry shall maintain records of the e-waste purchased, processed in Form-2 and shall file annual returns of its activities of previous year in Form-3 as per Rules 11(9) & 13(3)(vii) of the E-Waste(M) Rules, 2016; on or before 30th day of June of every year.
10. The Energy source for lighting purpose shall preferably be LED based
11. The PP shall harvest rainwater from roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial applications within the plant
12. Conditions for D.G. Set
 - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
 - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
 - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.

- d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
 - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
 - f) D.G. Set shall be operated only in case of power failure.
 - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
 - h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.
13. The applicant shall maintain good housekeeping.
 14. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
 15. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
 16. The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding upon you.
 17. The industry shall submit quarterly statement in respect of industries obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can be downloaded from MPCB official site).
 18. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
 19. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification No. B-29016/20/90/PCI-L dated. 18.11.2009 as amended.
 20. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government authorities.
 21. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
 22. You shall operate OCEMS installed for source emission round 'O' clock and transmit data online to CPCB and MPCB server. You shall also monitor effluent quality, stack emissions and ambient air quality monthly/quarterly. You shall conduct Dioxin Furan monitoring by third party NABL Accredited agency once in year and submit report to Sub Regional Officer.
 23. You shall ensure collection, and segregation of BMW regularly to treat and dispose Off within 48 hrs from generation.
 24. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
 25. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.

26. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous and Other Wastes (M & TM) Rules 2016, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
27. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
28. You shall not Rent, Lend, Sell, Transfer or Close Down the facility or otherwise transport the Bio Medical waste for any other purpose without obtaining prior written permission of the MPC Board.
29. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
30. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
31. The industry should not cause any nuisance in surrounding area.
32. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
33. You shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the facility premises.
34. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
35. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto
36. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
37. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
38. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions.

39. The firm shall submit to this office, the 30th day of September every year, the Environment Statement Report for the financial year ending 31st March in the prescribed FORM-V as per the provisions of Rule 14 of the Environment (Protection) (second Amendment) Rules, 1992.
40. You should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly. You shall conduct Dioxin Furan monitoring by third party NABL Accredited agency once in every year and submit report to Sub Regional Officer.
41. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
42. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
43. You shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
44. You shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
45. You shall create the Environmental Cell by appointing an Environmental Engineer and Chemist for looking after day-to-day activities related to compliance of CCA.
46. You should comply with the Hazardous and Other Wastes (M & TM) Rules, 2016 , Bio Medical Waste Management Rules,2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous and Other Wastes (M & TM) Rules, 2016 for the preceding year in Form-IV by 30th June of every year

This certificate is digitally & electronically signed.

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
Fax: 24023516
Website: <http://mpcb.gov.in>
Email: ast@mpcb.gov.in



Kalpataru Point, 2nd, 3rd and 4th floor, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai-400022

RED/M.S.I (R58)/ Rev. RED/I.S./ (123.1)
No:- Format1.0/AS(T)/UAN
No.0000283971/CE/2604002672

Date: 28/04/2026

To,
Aarti pharmlabs Limited ,Unit V-II
Plot No L-99,MIDC Tarapur
Dist.-Palghar



Sub: Grant of consent to Establish (Expansion-Part) under RED/MSI Category

Ref: Your application for grant of Consent to Operate (UAN No. MPCB-CONSENT-0000283971)

Your application No.MPCB-CONSENT-0000283971 Dated 02.04.2026

For: Grant of Consent to Establish under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 and Rule 18(7) of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

- The consent to establish is granted for a period up to commissioning of the unit or up to 5 year whichever is earlier.**
- The capital investment of the project is Rs.45.5 Crs. (As per C.A Certificate submitted by industry Existing CI is-Rs.45.5 Crs + Expansion/Increase in C.I. - Rs.45.5 Crs)**
- Consent is valid for the manufacture of:**

Sr No	Product	Maximum Quantity	UOM
Products			
1	caffeine	500	MT/A

- Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	310	As per Schedule-I	Recycle 100% to achieve ZLD
2.	Domestic effluent	8	As per Schedule-I	

5. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

Sr No.	Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
1	S-1	DG	1	As per Schedule -II
2	S-2	DG	1	As per Schedule -II
3	S-3	Acid scrubber	1	As per Schedule -II
4	S-4	Alkali scrubber	1	As per Schedule -II

6. **Non-Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	STP Sludge	10	MT/A	Use As Manure	Use As Manure
2	Dry Waste	3	MT/A	Recycle	Sale to Authorised Party for Recycling
3	Food Waste	2	MT/A	Composting	Use As Manure
4	Metal Scrap (MS Scrap Piping, Structural, Equipment, Broken Shutters etc)	25	MT/A	Recycle	Sale to Authorised Party for Recycling
5	Wood, Wooden Box, Wooden Fills Colling Tower, Plywood, Pallets	5	MT/A	Recycle	Sale to Authorised Party for Recycling
6	Glass waste	2.5	MT/A	Recycle	Sale to Authorised Party for Recycling
7	Paper Waste	2.5	MT/A	Recycle	Sale to Authorised Party for Recycling
8	PVC Fins Cooling Tower	8	MT/A	Recycle	Sale to Authorised Party for Recycling
9	Plastic Material	0.25	MT/A	Recycle	Sale to Authorised Party for Recycling
10	E Waste	1.5	MT/A	Recycle	Sale to Authorised Party for Recycling
11	Battery waste	0.5	MT/A	Recycle	Sale to Authorised Battery Recycler

7. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for Collection, Segregation, Storage, Transportation, Treatment and Disposal of hazardous waste:**

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
1	5.2 Wastes or residues containing oil	2.5	MT/A	Incineration	CHWTSDF/ Sale to authorised Party
2	36.2 Spent carbon or filter medium	12	MT/A	Incineration/Landfilling	Co Processing/CHWTSDF

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
3	28.4 Off specification products	25	MT/A	Incineration/Landfilling	CHWTSDF
4	26.2 Dust from air filtration system	0.6	MT/A	Incineration/Landfilling	CHWTSDF
5	33.1 Empty barrels /containers /liners contaminated with hazardous chemicals /wastes	75	MT/A	Recycle	CHWTSDF/ Sale to authorised Party
6	28.5 Date-expired products	25	MT/A	Incineration/Landfilling	CHWTSDF
7	Mirco Biological Waste	2.5	MT/A	Incineration	CBMWTSDf
8	15.2 Discarded asbestos	6	MT/A	Incineration/Landfilling	CHWTSDF
9	37.3 Concentration or evaporation residues	7750	MT/A	Incineration/Landfilling	CHWTSDF
10	28.3 Spent carbon	1000	MT/A	Pre Processing/ Incineration	Co Processing/CHWTSDF
11	5.1 Used or spent oil	4	MT/A	Recycle	CHWTSDF/ Sale to authorised Party
12	35.3 Chemical sludge from waste water treatment	110	MT/A	Incineration/Landfilling	CHWTSDF
13	33.2 Contaminated cotton rags or other cleaning materials	3	MT/A	Incineration	CHWTSDF

8. The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.
9. This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.
10. This Consent is issued subject to an order passed or may be passed by Hon'ble NGT in application no. 1038/2018 in the matter of CEPI.

11. Industry shall install online continuous monitoring system as per CPCB guidelines & data to be transmitted directly from Data Logger to Board server .
12. The industry shall ensure connectivity online monitoring system to MPCB server including separate energy meter for pollution control system
13. M/s. Aarti Pharmalabs Limited, Unit V-II, Plot No. L-99, and its sister concern unit M/s.Aarti Pharmalabs Limited, located at Plot No- L-10, MIDC Tarapur, Tal & Dist:- Palghar shall sign bi-lateral agreement for joint and severally responsibility for the use of the Steam. If M/s. Aarti Pharmalabs Limited, located at Plot No- L-10, MIDC Tarapur, Tal & Dist:- Palghar fails to achieve the emission discharge standard prescribed in the consent, then M/s. Aarti Pharmalabs Limited., located at Plot No- L-99, MIDC Tarapur, Tal & Dist:- Palghar should stop their activities. In case of non-compliance, both units will be jointly & severally liable for the any legal action.
14. The applicant shall comply with the conditions of the Environmental Clearance granted vide letter No. IA-J-11011/55/2025-IA-II(I) dtd: 24/11/2025
15. The industry shall create an Environment Cell by appointing an Environmental Engineer OR Expert for looking after day-to-day activities related to Environment OR Pollution control.
16. The applicant shall obtain Consent to Operate from Maharashtra Pollution Control Board before actual commencement of the Unit/Activity. (Establish)
17. The industry shall create an Environment Cell by appointing an Environmental Engineer OR Expert for looking after day-to-day activities related to Environment OR Pollution control.

This consent is issued on the basis of information/documents submitted by the Applicant/Project Proponent, if it has been observed that the information submitted by the Applicant/Project Proponent is false, misleading or fraudulent, the Board reserves its right to revoke the consent & further legal action will be initiated against the Applicant/Project Proponent.



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Signed by: Dr Rajendra A. Rajput
Assistant Secretary (Technical)
For and on behalf of,
Maharashtra Pollution Control Board
ast@mpcb.gov.in
2026-04-28 14:38:40 IST

Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	75000.00	TXN2604000407	02/04/2026	Online Payment

Copy to:

1. Regional Officer, MPCB, Thane and Sub-Regional Officer, MPCB, Tarapur I
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB, Sion, Mumbai

SCHEDULE-I

Terms & conditions for compliance of Water Pollution Control:

1. A] As per your application, you have proposed to segregate trade effluent into weak stream & strong stream and provide Effluent Treatment Plant (ETP) comprising of:
 - i) **Strong COD/TDS stream of 250 CMD** - Treatment system comprising of Primary (Collection tank, Neutralization tank, Equalization tank, Flash mixer, Primary Clarifier/Primary Settling Tank) Mechanical Vapour Re-compressor, Stripper, Reverse osmosis, Distillation column, Multi effect evaporator (1 stage), ATFD followed by Sludge treatment (Sludge thickener, Dryer mechanical). The MEE condensate is treated in weak stream ETP.
 - ii) **Weak COD/TDS stream of 60 CMD** - Treatment system comprising of Primary (Collection tank, Neutralization tank, Equalization tank, Flash mixer, Primary Clarifier/Primary Settling Tank), Secondary (Activated sludge process, Sequential batch reactor, MBR, Bio tower), Tertiary (Pressure sand filter, Activated carbon filter), Advance treatment (Reverse osmosis, Stripper, Multi Effective Evaporator (1 stage), ATFD, Mechanical Vapour Re-compressor), Sludge treatment (Sludge thickener) .
 - B] The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent and recycle the entire treated effluent into the process for various purposes such as for cooling, process & Scrubbing with metering system so as to achieve Zero Liquid Discharge. There shall be no discharge on land or outside factory premises.
 - C] The Industry shall ensure connectivity online monitoring system to the MPCB server including separate energy meter for pollution control system.
2. A] As per your application, you have provided Sewage Treatment Plant of designed capacity 25 CMD for the treatment of 8 CMD of sewage.
 - B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards.

Sr.No	Parameters	Standards (mg/l)	
1	Suspended Solids	Not to exceed	50
2	BOD 3 days 27°C	Not to exceed	30
3	COD	Not to exceed	100

C] The treated sewage shall be recycled for secondary purposes to the maximum extent and remaining shall be discharged on land for gardening within premise after confirming above standards. In no case, sewage shall find its way for gardening / outside factory premises.

3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

Sr. No.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling, spraying in mine pits or boiler feed	175.00
2.	Domestic purpose	8.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	200.00
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	3

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.

SCHEDULE-II

Terms & conditions for compliance of Air Pollution Control:

1. As per your application, you have proposed to provide the Air pollution control (APC) system and also to erect following stack (s) to observe the following fuel pattern:

Stack No.	Source	APC System provided/proposed	Stack Height(in mtr)	Type of Fuel	Sulphur Content(in %)	Pollutant	Standard
S-1	DG 500 KVA	Acoustic Enclosure	5.00	HSD 90 Kg/Day	1	TPM	50 Mg/Nm ³
						SO ₂	1.8 Kg/Day
S-2	DG 200 KVA	Acoustic Enclosure	5.00	HSD 90 Kg/Day	1	TPM	50 Mg/Nm ³
						SO ₂	1.8 Kg/Day

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.
3. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Parameters	Standards (unit)	
Total Particulate Matter	Not to exceed	30 mg/ Nm ³

4. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
5. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).

SCHEDULE-III

Details of Bank Guarantees:

Sr. No	Consent (C2E/C2O/C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C to E	500000.00	15 Days	Towards compliance of consent conditions	31.03.2031	31.10.2031

If the above Bank Guarantee is not submitted within stipulated period, then 12% interest will be levied as a penalty as per circular dtd 29/02/2024 No.

BO/MPCB/AS(T)/Circular/B-240229FTS0122

BG Forfeiture History

Srno.	Consent (C2E/C2O/C2R)	Amount of BG imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
NA						

BG Return details

Srno.	Consent (C2E/C2O/C2R)	BG imposed	Purpose of BG	Amount of BG Returned
NA				



SCHEDULE-IV
General Conditions:

1. The Energy source for lighting purpose shall preferably be LED based
2. The PP shall harvest rainwater from roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial applications within the plant
3. Conditions for D.G. Set
 - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
 - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
 - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
 - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
 - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
 - f) D.G. Set shall be operated only in case of power failure.
 - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
 - h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.
4. The applicant shall maintain good housekeeping.
5. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
6. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
7. The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding upon you.
8. The industry shall submit quarterly statement in respect of industries obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can be downloaded from MPCB official site).
9. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
10. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification No. B-29016/20/90/PCI-L dated. 18.11.2009 as amended.
11. This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.

12. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
13. You shall operate OCEMS installed for source emission round 'O' clock and transmit data online to CPCB and MPCB server. You shall also monitor effluent quality, stack emissions and ambient air quality monthly/quarterly. You shall conduct Dioxin Furan monitoring by third party NABL Accredited agency once in year and submit report to Sub Regional Officer.
14. You shall ensure collection, and segregation of BMW regularly to treat and dispose Off within 48 hrs from generation.
15. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
16. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
17. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous and Other Wastes (M & TM) Rules 2016, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
18. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
19. You shall not Rent, Lend, Sell, Transfer or Close Down the facility or otherwise transport the Bio Medical waste for any other purpose without obtaining prior written permission of the MPC Board.
20. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
21. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
22. The industry should not cause any nuisance in surrounding area.
23. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
24. You shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the facility premises.

25. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
26. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto
27. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
28. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
29. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions.
30. The firm shall submit to this office, the 30th day of September every year, the Environment Statement Report for the financial year ending 31st March in the prescribed FORM-V as per the provisions of Rule 14 of the Environment (Protection) (second Amendment) Rules, 1992.
31. You should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly. You shall conduct Dioxin Furan monitoring by third party NABL Accredited agency once in every year and submit report to Sub Regional Officer.
32. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
33. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
34. You shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
35. You shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
36. You shall create the Environmental Cell by appointing an Environmental Engineer and Chemist for looking after day-to-day activities related to compliance of CCA.

This certificate is digitally & electronically signed.
