ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

ESTABLISHMENT OF

COSMETIC MANUFACTURING FACILITY BY

M/S DABUR PAKISTAN (PRIVATE) LIMITED

AT

PLOT NO. 465, SUNDAR INDUSTRIAL ESTATE,

LAHORE

May, 2025

Seal Consultancy Services, Lahore

Website: www.seal.com.pk

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ES. EXECUTIVE SUMMARY

ES. 1 PROJECT TITLE

Establishment of Cosmetic Manufacturing Facility by Dabur Pakistan (Pvt.) Limited at Plot No. 465, Sundar Industrial Estate, Lahore.

ES.2 LOCATION

Plot No. 465, Sundar Industrial Estate, Lahore

ES.3 PROPONENT

Mr. Tanveer Ahmed, Plant Head- Authorized to act as a proponent with EPA, Punjab.

ES.4 ENVIRONMENTAL CONSULTANT

M/s Seal Consultancy Services, Lahore

ES.5 OUTLINE OF THE PROJECT

ES. 5.1 Change of Business

The proposed project involves a change of business at Plot No 465, Sundar Industrial Estate as detailed in Table ES-1

Table ES-1: Change of Business Detail

	Previous	Current
Proponent	Ch. Muhammad Ilyas	Mr. Tanveer Ahmed
Designation	CEO	Plant head
Company	M/s Chaudhary Brothers	Dabur Pakistan (Private) Limited
Location	Plot No 465, Sundar Industrial Estate, Lahore	
Project Nature	Design and fabrication Workshop	Cosmetic Manufacturing of Personal Care Products including hair oil, shampoo and tooth paste.
Environmental Approval	**Construction Phase NOC (IEE)** No. DD(EIA)/EPA/F-562 (IEE) /1107/2014/1304 dated 24-07-2014, enclosed as Annexure VIII	Applying for Construction Phase NOC (EIA)
Current Status	Chaudhary Brothers completed the buildings as per approved plan. Completion Certificate issued by Board of Management Sundar Industrial Estate (BOM/SIE/CSD/318) dated 24-12-2014 is enclosed as Annexure IX.	Dabur has leased the property to establish a Manufacturing Facility by installing machinery in the existing buildings along with allied facility. (annexure X)

ES. 5.2 Description of the Project

Establishment of Cosmetic Manufacturing Facility by Dabur Pakistan (Pvt.) Limited at Plot No. 465, Sundar Industrial Estate, Lahore. ", over a land area of 42000 Sq Ft with covered land area of 22412 Sq Ft and open Land open area=20488 Sq. Ft.

The main building consists of a ground floor and two upper floors

Main Products: Hair oil (4800 Liters), Shampoo (4500 Kgs) and Toothpaste (2160 Kgs); Herbolene (600 kg) all packaged in small cases.

Estimated project cost is PKR -----Million with completion time of 6 month.

Main Manufacturing and Packing Areas:

- Hair Oil
- Shampoo
- Toothpaste
- Herbolene

Other allied facilities are, but not limited to:

- Main Offices, Site Offices
- Raw Material Store, Packing Material Store, Finished Good Stores and Dispatch area, SLES Tank.
- Electrical and Mechanical Rooms
- Laboratory
- Steam Generator (Capacity 500 kg/hr.) & Feedwater Tank (1000 ltr Capacity)
- Air Compressor 17 KW and Tank
- Chiller 40 Ton
- Water Treatment Plant, RO Plant 1000 L/Hr
- HVAC System 35 KW
- Effluent Treatment Plant (5 m3/day)
- Standby Generators (Main supply is from Wapda)
- Fuel Storage
- Mess
- Security Office/Gate Office
- Parking

ES.5.3 Type/Category

The proposed project involves manufacturing of cosmetics including hair oils, shampoo, toothpaste and herbolene. According to Punjab Environmental Protection (Review of IEE and EIA) Regulations, 2022, the Project for Cosmetic Manufacturing falls in Schedule II-B (2) requiring an Environmental Impact Assessment (EIA)

ES 5.4 Process and Technology

Hair Oil

Hair oil manufacturing by mixing of different oils and chemicals, bottles filling & capping, inkjet printing, shrink wrapping, cartooning & taping and storage.

Shampoo

Dilution of Sodium lauryl ether sulfate (**SLES**), pre-mixing of gum/carbopol preparation, mixing of various ingredients, Bulk manufacturing and storage followed by bottle filling, capping, labelling, printing, wrapping, cartooning and tapping.

Sachets filling as required

Toothpaste

Gel phase preparation, Main mixer processing – manufacturing, Storage, Tubes feeding/filling, Sealing& Cutting, Capping, Mono-cartooning, printing, wrapping, cartooning and tapping.

Herbolene Jelly

Mixing of different chemicals and then jar filling, capping bundling and shrink wrapping.

ES. 6.3 Land for Proposed Project

The proponent has legally leased 1 acre land including constructed buildings located at Plot No.465, Sundar Industrial Estate, Lahore as described above in Table ES-1.

ES. 7 MAJOR IMPACTS

The following is a summary of the expected impacts associated with the preconstruction, construction, and operating phases of the proposed expansion project:

ES 7.1 Preconstruction Phase Impacts

Project Location/Land Acquisition/Resettlement

No negative impact is expected associated with Project Location or Land acquisition as the proponent has legally leased the required land for the proposed project. No resettlement is involved. No protected or sensitive area is nearby.

On the other hand, positive impact of project location is anticipated as the project site is located in the industrial estate with all necessary amenities and infrastructure readily available.

Design

Appropriate design has positive impact as it prioritizes enhancing safety, environmental sustainability, plant integrity, maintenance efficiency and seamless operation of the proposed project while considering site's seismic zone, comply with international design standards, incorporate emergency exits, ensures an optimized layout and address other pertinent design factors. High efficiency and clean environment should be considered during all equipment selection and procurement of chemicals.

ES 7.2 Construction Phase Impacts

Noise: Hearing loss and other physical and psychological issues - Noise Caused by Construction Machinery, Construction activities, Generators, Material/Plant Machinery transportation and installation, Misuse of mobile. (No impact of Noise due to civil construction as buildings have already been constructed by the previous proponent)

Dust emissions: Health hazard – Emissions Caused by Excavation, Construction material handling and storage, Vehicles' movement on soft soil. (No dust emission expected as civil construction is complete).

Air Emissions: Health and Environment Damage - Gaseous emissions from Construction machinery, equipment, vehicles and diesel generators.

Soil Erosion: Safety Hazard - Mainly by excavation, trees removal

Soil Contamination and Water contamination – Caused by improper Solid and Liquid Waste Management; leakages of oil and fuel from poorly maintained machinery and vehicles, spillage of chemicals, oil and fuel during handling and storage.

Water Supply: Poor water quality and inadequate supply can result in health hazards and sanitation issues

Solid Waste Management – Poor waste management can lead to air pollution, water and soil contamination and disease transmission.

Wastewater Management - Improper management can cause health hazards and ecological disruptions.

Occupational Health and Safety: All Construction Activities may impact on Occupational health and safety of workers

Traffic Congestion; Safety Hazard for community- Construction Material and Plant equipment transport

Socio-economic Impacts: Positive impact through job creation and business expansion for local community.

Biological Impact: Negative impacts on the environment and ecosystems caused by the clearing of trees and vegetation.

ES 7.3 Operation Phase Impacts

Noise: Hearing Loss, physical and psychological impact, Sometimes it may cause safety hazard. Source - High Noise from Operation machinery, Emergency Generators.

Dust Emissions: Dust from unpaved land and vehicles moving at high speeds on soft soil can pose health risks to workers and contribute to environmental pollution if not effectively controlled. Dust emissions due to improper restoration.

Air Emissions: Mainly gaseous emissions and Particulates, Causing health and environmental harm, originating from the stack of diesel generators.

Poor Solid Waste Management: Soil and water contamination, along with financial losses from excessive waste in the absence of recovery or recycling measures

Poor Wastewater Management: Soil and groundwater contamination, health risks, unpleasant odors, excessive discharges into external drains, penalties, and potential business closure due to non-compliance with PEQS.

Soil Contamination and Water contamination: Soil contamination by leakages/spillages of oils and chemicals with subsequent groundwater contamination.

Occupational Health and Safety: Operation activities may lead to safety incidents and health risks. Handling and storage of chemicals, oils may also pose health and safety risks.

Traffic; Traffic congestion and Safety Risk due to transportation of raw material and end products particularly in peak traffic hours.

ES 7.4 Positive Impacts

Socio-economic Impacts: Have positive impact by creating jobs, and offering opportunities for business growth within the local community. Saving of foreign exchange through local production of cosmetics

Change of Land Use**:** A positive impact as unused land will be utilized for a productive purpose.

ES 8. RECOMMENDATIONS FOR MITIGATION MEASURES

ES 8.1 General:

- Integrate the Environmental Management Plan (EMP) into the agreement with the construction contractor.
- Incorporate safety and environmental considerations into the employee appraisal system.
- Ensure that proper workplace housekeeping is maintained.

ES 8.2 Proposed Mitigations for Construction Phase

Noise:

- Ensure use of PPEs such as ear plugs and ear muffs in areas with high noise level
- Place Sign boards in areas with loud noise levels.
- Ensure well maintained and low noise construction machinery and equipment.
- Address Noise hazards in accordance with “OSHA Standards for Construction”.
- Fit an acoustic enclosure if machine is stationary.
- Ensure to switch off all equipment when not in use.
- Keep the music volume of radio or mobile phone down
- Regular monitoring and control of Noise level.

Dust Emissions:

- Minimize dust emissions by wet suppression – Use water sprays at appropriate frequency. Use water sprinkler system.

- Cover open stockpiles of construction materials with tarpaulin. (Not required as civil construction is complete)
- Cordon off project area to minimize dust migration to nearby facilities
- Carry out Site Restoration as early as feasible.
- Provide PPEs – masks etc. to the workers

Air Emissions:

- Ensure exhaust emissions from construction machinery and equipment, Generators to comply with PEQS for exhaust emissions; Ensure maintenance of Construction machinery.
- Use power supply preferably from Wapda during Construction phase to avoid gaseous emissions from diesel generators.
- Avoid open burning of solid waste

Soil and Water Contamination:

- Ensure appropriate solid waste management
- Ensure proper wastewater management
- Conduct regular and proactive maintenance of all machinery, vehicles, and generators to ensure they remain free of leaks.
- Verify the roadworthiness and fitness of material transportation vehicles.
- Conduct daily inspections of the construction site to identify any leaks or spills of oil, fuel, or chemicals.
- Designate specific areas for vehicle washing and servicing to prevent soil contamination.

Water Supply

- Ensure sufficient supply of groundwater that meet PEQS of drinking water.
- Arrange groundwater analysis by EPA certified Lab on quartely basis.
- Avoid wastage of water.

Solid Waste Management

- Develop a comprehensive Solid Waste Management Plan and ensure its strict implementation.

Wastewater Treatment

- Install new sewerage lines at construction site and construct a septic tank for holding wastewater before disposal to external drain.

Occupational Safety and Health

- Establish and enforce procedures in compliance with Occupational Health and Safety Administration (OSHA) standards

- Provide fire extinguishers and other firefighting equipment at sensitive places.
- Provide first aid boxes at suitable locations of the site.
- Communicate safety hazards with adequate signage.
- Use SOPs of Department of Health, Govt. of Punjab for prevention and control of dengue.

Traffic

- The existing roads can accommodate the increased traffic from new developments.
- Trucks entering and leaving the mill gate should be supervised by security personnel.
- Avoid material and plant machinery transportation during peak traffic hours.

Socio-economic Impacts

- The majority of unskilled jobs should be allocated to members of the local community.

Biological Impact

- During the construction or restoration phase whenever feasible, compensate for removed trees by planting 5 trees for every one removed within the open area of the premises. Additionally, undertake extensive plantation and develop landscaped areas at the Project site.
- If there is no available space for plantation within the project site or Sundar Industrial Estate (SIE), donate trees to organizations such as the Parks & Horticulture Authority Lahore (PHA).

ES 8.3 Proposed Mitigations for Operational Phase

Noise

- Install low noise machinery
- Perform regular maintenance of machinery and promptly identify and repair faulty equipment to address noise issues.
- Ensure compliance with PEQS noise standards.
- Install acoustic enclosures for stationary equipment.
- Deploy noise barriers where necessary.
- Place Sign boards in areas with loud noise levels.
- Provide and encourage the use of hearing protection, such as earplugs, earmuffs to minimize or eliminate noise exposure when needed.
- Monitor noise level on regular basis.

Dust Emissions

- Undertake restoration as soon as possible and either develop landscapes or cover the open area with concrete pavement.
- Provide PPEs to workers and ensure their use.
- Vehicle speed within the facility should be limited to 20 km/h,
- Water spraying should be used to control dust from unpaved access roads and area

Air Emissions

- As normal power supply is from Wapda, ensure compliance of gaseous emissions from emergency generators with PEQS.
- Ensure adequate ventilation in operational areas to prevent the accumulation of oil or chemical vapors.
- Analyse gaseous emissions from standby generators by EPA certified lab on bi-annual basis and submit the validated reports to EPA Field Office.

Solid Waste Management

Implement a Solid Waste Management Plan using the waste management hierarchy of prevention, reduction, recycling and recovery with disposal as the least desirable stage.

- Dispose of solid waste through a SIEs contractor.

Wastewater Management

- Treat effluent through Effluent Treatment Plant (ETP) before disposal.
- Establish plan for wastewater minimization
- Segregate non-contaminated wastewater streams from contaminated streams·
- Monitor treated effluent quarterly to ensure compliance with the relevant PEQS.
- Spills and leakages should be promptly contained and cleaned with minimal mixing into wastewater flowing towards ETP.

Water Supply

- Ensure sufficient and clean water supply for the operation phase that meets PEQS of drinking water.
- Conserve water, Recycle process water
- Monitor ground water quality for relevant PEQS parameters.

Socio-economic Impacts

- The majority of unskilled jobs should be allocated to members of the local community. For semi-skilled positions, academically qualified individuals from the local community should be recruited and given appropriate training.

Biological Impacts

- Undertake extensive plantation and develop landscaped areas at the Project site, ensuring regular follow-up to support tree growth.

Occupational Health and Safety

- Prepare and implement operating and maintenance procedures with emphasis on occupational health and safety in accordance with OSHA standards.
- Enforce the use of PPEs relevant to the potential risk.

- Spills and leakages of oils and chemicals should be promptly contained and cleaned to avoid any safety incident.
- Conduct safety audits on regular basis.
- Arrange trainings of permanent and contractor's employees on HSE topics.
- Prepare and implement emergency preparedness and evacuation plan for each floor and all other allied facilities
- Implement fire prevention and firefighting plan. Place fire extinguishers at every sensitive location.
- Provide first aid boxes at suitable places and train staff on first-aid
- Implement SOPs of Department of Health, Govt. of Punjab for prevention and control of dengue.

ES 9. PROPOSED MONITORING

Dabur Pakistan (Private) Limited will engage third party EPA certified Lab to perform proposed monitoring according to the parameters and frequency suggested in Table ES-1 and/or advised by EPA.

Table ES-1: Environment Monitoring Plan for Construction and Operational Phases

Components	Parameters (PEQS Compliance)	Remarks	Frequency	
			Construction	Operations
Noise	Noise Level dB(A) (PEQS)	PEQS Compliance	Quarterly	Quarterly
Ambient Air Quality	CO, *SO_2, NO_x, Particulates (PM_{10}, $PM_{2.5}$) (PEQS)	PEQS For Ambient Air	Quarterly	Quarterly-
Gaseous Emissions	CO, SO_2, NO_x, Particulates	PEQS for Industrial Gaseous Emissions	Quarterly	Quarterly
Water Quality	Drinking water PEQS	PEQS for Drinking water	Quarterly	Quarterly
Effluent	Flow, T, pH, COD, BOD_5, TSS, Oil and grease	PEQS for Industrial Effluents	Quarterly	Quarterly
Trees Plantation	Visual Inspection	Environmental Sustainability	Regular Monitoring by Site Management.	

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1. INTRODUCTION

1.1 PURPOSE OF THE EIA REPORT

The preparation and submission of an Environmental Impact Assessment (EIA) Report for any development project is a legal requirement under the Punjab Environmental Protection Act, 1997 (PEPA, 1997), as amended in 2012, 2017, in accordance with Section 12 of the Act.

This report aims to seek Environmental Approval from EPA Punjab for the project titled "Establishment of Cosmetic Manufacturing Facility by Dabur Pakistan (Pvt.) Limited at Plot No. 465, Sundar Industrial Estate, Lahore." over a land area of 1 acre.

1.2 IDENTIFICATION OF PROJECT, PROPONENT AND CONSULTANT

The proposed project involves Establishment of Cosmetic Manufacturing Facility along with all allied facilities. According to Punjab Environmental Protection (Review of IEE and EIA) Regulations, 2022, the Project for Cosmetic Manufacturing falls in Schedule II-B-2 requiring an Environmental Impact Assessment (EIA):

1.2.1 Change of Business

The proposed project involves a change of business at Plot No 465, Sundar Industrial Estate as detailed in Table 1.1

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	Previous	Current
Company	M/s Chaudhary Brothers	Dabur Pakistan (Pvt.) Limited
Location	Plot No 465, Sundar Industrial Estate, Lahore	
Proponent	Ch. Muhammad Ilyas	Mr. Tanveer Ahmed
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1.2.1 Proponent

Dabur Pakistan (Pvt.) Limited has authorized Mr. Tanveer Ahmed to act as a proponent with EPA, Punjab for all the activities related to the proposed Project.

Proponent: Mr. Tanveer Ahmed
Designation: Plant Head
Phone: 03312323450
Email ID**:** Tanveer.ahmad@accppl.com
CNIC No.: 35201-3224622-7
Address: PLOT NO. 465, SUNDAR INDUSTRIAL ESTATE, LAHORE
Website: Dabur-Pakistan-ltd

1.2.2 Environmental Consultant

Seal Consultancy Services, Lahore.
Contact Person: Syed. Nihal Asghar (Director)
Contact No: 04235922295-6 / 0300-9768799
Email ID: nihalasghar@seal.com.pk; nihalasghar@gmail.com

1.3 BRIEF DESCRIPTION OF NATURE, SIZE AND LOCATION OF THE PROJECT

Establishment of Cosmetic Manufacturing Facility by Dabur Pakistan (Pvt.) Limited at Plot No. 465, Sundar Industrial Estate, Lahore. ", over a land area of I acre with covered land area of 22412 Sq Ft.

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- Electrical and Mechanical Rooms
- Laboratory
- Steam Generator (Capacity 500 kg/hr.) & Feedwater Tank (1000 ltr Capacity)
- Air Compressor 17 KW and Tank

- Chiller 40 Ton
- Water Treatment Plant, RO Plant 1000 L/Hr
- HVAC System 35 KW
- Effluent Treatment Plant (5 m3/day)
- Standby Generators (Main supply is from Wapda)
- Fuel Storage
- Mess
- Security Office/Gate Office
- Parking

1.3.1 Location and the Surroundings

The project site is located at Plot No. 465, Sundar Industrial Estate, Lahore at geographical coordinates - 31.28297 N, 74.16835 E. The location of the project is shown in Figure 1.1.

Sundar Industrial Estate is situated at Sundar Raiwind Road, very near to Raiwind Tableeghi Ijtimah Gah, and Raiwind Road.

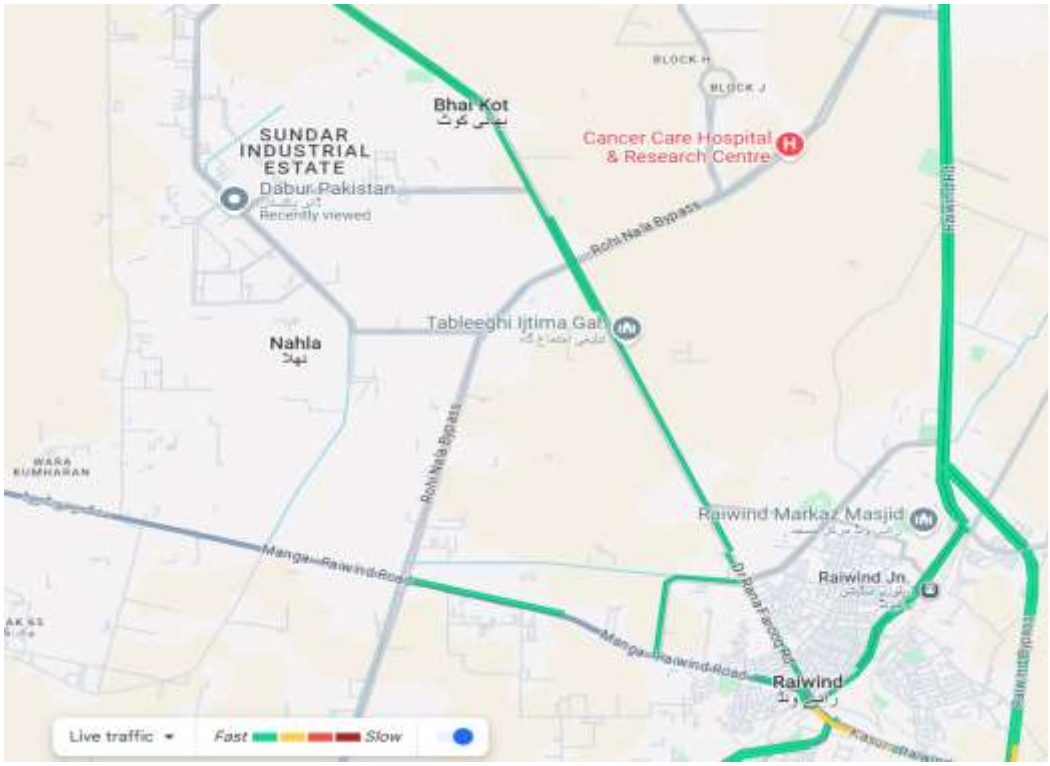

Figure 1.1 Location of Project Site

The industries in the surroundings are illustrated in Figure 1.2.

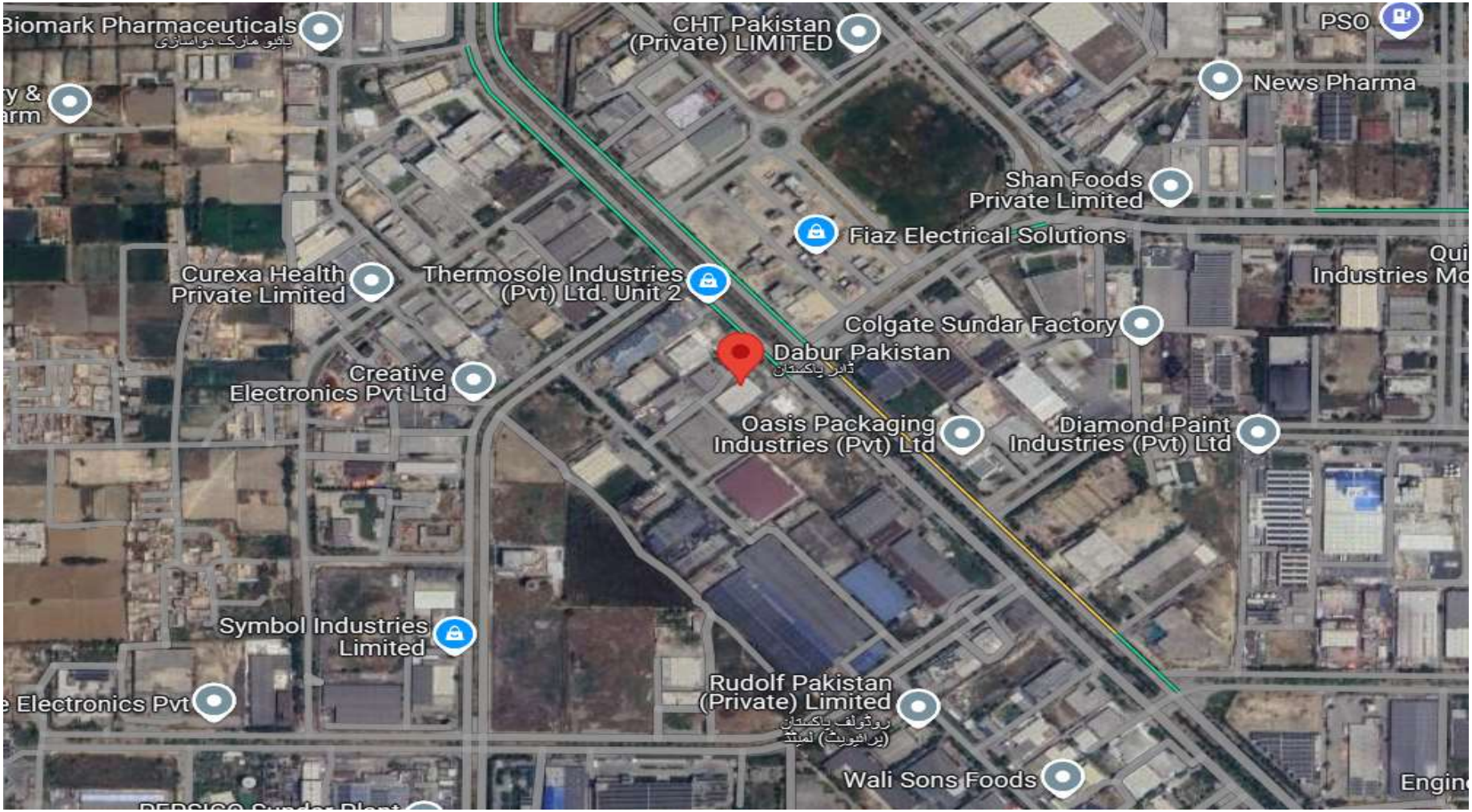

Figure 1.2: Surroundings

1.4 SCREENING (EIA OR IEE)

The screening was performed to determine whether the proposed project is required to be supported by:

- Initial Environmental Examination (IEE), Schedule I (Regulation 3), or
- Environmental Impact Assessment (EIA), Schedule II (Regulation 4)

According to Punjab Environmental Protection (Review of IEE and EIA) Regulations, 2022, the Project for Iron and steel rolling mills and Steel furnaces falls in Schedule II-B (2) requiring an Environmental Impact Assessment (EIA):

SCHEDULE II
(See Regulation 4)
List of projects requiring an EIA

B. Manufacturing and processing

2. Chemical manufacturing units, including pharmaceuticals and cosmetic

1.5 SCOPING

1.5.1 Spatial and Temporal Boundaries of Environmental Assessment

The proposed project will be constructed within the 1 acre premises of Dabur Pakistan (Pvt.) Limited. The major construction activities of the project will remain confined within the project boundaries, access roads and related infrastructure. For the physical environmental study, the spatial boundary was considered to be “Local” where the impact was limited to the local area of Sundar Industrial Estate. The Local Study Area (LSA) was established based on the zone of the Project influence, beyond which the potential environmental, cultural, and socio-economic effects of the Project are expected to be non-detectable. Some relevant information about Lahore and Raiwind cities were also included where required. In the case of the biological and socioeconomic environment, efforts were made to collect the information within two Km around the project area and even up to the region of 10 Km surrounding the proposed project where any direct or indirect impacts were envisaged.

The temporal boundaries have been defined as lasting with the life of the project. Segments of the temporal boundaries include the duration of the construction and operation phases of the Project.

1.6.2 Important Issues and Concerns raised during Consultation

During the consultation process, a wide range of concerns and potential impacts related to the project’s activities were highlighted:

- The need for a centralized Wastewater Treatment Plant serving the entire Sundar Industrial Estate was strongly emphasized.

- Compliance with OSHA standards was recommended to ensure the health and safety of mill workers, particularly concerning the handling of oils, chemicals, and vapors in enclosed operational and storage areas.
- The importance of using appropriate personal protective equipment (PPE) including ear muffs/plugs, face masks, safety shoes, goggles, and helmet was stressed.
- Academics highlighted the significance of energy conservation and the use of low-noise machinery.
- Environmentalists pointed out the limited space available for tree plantation within the project site and surrounding areas in the Sundar Industrial Estate. They proposed donating trees to the Parks & Horticulture Authority (PHA) and other relevant organizations for plantation.
- Some experts observed that contractor employees are often overlooked in safety training programs and recommended addressing this gap.
- Workers from various industries suggested that the government should establish residential colonies for laborers near the industrial estate.

1.5.3 Significant Impacts and Factors to be Determined

Key impacts and factors to be assessed include noise, dust, and gaseous emissions, occupational health and safety risks, adequate quantity and quality of water supply and wastewater disposal at the construction site, employment opportunities for the local community, traffic congestion and risk of road accidents during construction, timely post-construction site restoration, tree plantation and landscape development.

During the operational phase, significant impacts include occupational health and safety, gaseous emissions, fire-fighting and emergency preparedness, solid and liquid waste management, recruitment of human resources from the local community, compliance with PEQS, dengue control measures, and monitoring the growth of planted trees.

1.6 APPROACH ADOPTED TO CONDUCT THE STUDY

The following approach and methodology have been adopted for conducting the EIA Study:

1.6.3 Screening

As presented in Section 1.4

1.6.4 Scoping

As presented in Section 1.5

1.6.5 Review of Available Data

A review of the available technical information of the proposed project along with engineering documents including preliminary design data of the project was conducted. Published literature was also reviewed.

1.6.6 Description of Project

This includes a clarification of the purpose and rationale of the project, and an understanding of its various characteristics – including stages of development, location, and processes. Meetings with the DPPL's management were conducted to clarify the nature of the project from an environmental perspective. Preliminary analyses of the data received from the proponent were performed to identify key environmental issues that could arise from the Project.

1.6.7 Consideration of Alternatives

The consideration of alternatives ensures that the proponent has considered other feasible approaches, including alternative project locations, technologies, environment relevance, the 'no action' option, etc.

1.6.8 Environmental Baseline Survey

It includes the establishment of both the present and future state of the environment, in the absence of the project, taking into account changes resulting from natural events and other human activities. The project site was visited to collect primary data on groundwater quality, ambient air quality, noise level, and ecological species surviving in the area and the ecosystems prevalent. Preliminary socio-economic surveys including interviews of people around the site were also carried out to identify relevant environmental aspects. The tests for ambient air, groundwater were conducted by the EPA-certified laboratory M/s Solution Environmental Analytical Laboratory, and noise levels were measured using a noise meter.

1.6.9 Consultation with Stakeholders

The Stakeholders were consulted at each stage of EIA to enhance the quality and effectiveness of the EIA study. It would ensure that the experts' and general public's views were adequately taken into consideration in the decision-making process.

1.6.10 Identification of Main Aspects and Impacts

The aim is to ensure that all potentially significant environmental impacts (adverse and beneficial) against main aspects during preconstruction, construction, and operation phases have been identified.

1.6.11 Screening of Potential Environmental Impacts and Mitigation Measures

The collected data was evaluated and the relative significance of the identified impacts was assessed to allow a focus on the main adverse impacts. Mitigation involves the introduction of measures to avoid, reduce, remedy, or compensate for any significant adverse impacts.

1.6.12 Preparation of Environmental Management and Monitoring Plans

An environmental management plan (EMP) depicting the mitigation measures has been prepared and environmental monitoring plan has also been developed for the effective implementation of the EMP.

1.7 STRUCTURE OF REPORT

The EIA Study report is structured as follows.

The report begins with an executive summary. **Chapter 1** offers a project overview, including information about the proponent, consultant, and the Environmental Impact Assessment (EIA) process. **Chapter 2** outlines the relevant national and provincial legislation, regulations, and policies applicable to the project. **Chapter 3** provides a comprehensive description of the project summarizing its inputs and outputs. **Chapter 4** presents a baseline study of the project area, detailing the current physical, biological, and socio-economic conditions. **Chapter 5** outlines the consultation process conducted with stakeholders and general public. **Chapter 6** evaluates the potential impacts of the project, and propose mitigation measures to eliminate or minimize these impacts, compensate for losses, or rehabilitate the environment and includes residual impacts and defines monitoring requirements. **Chapter 7** delivers an Environmental Management Plan (EMP) and an Environmental Monitoring Plan for both the construction and operational phases of the project.

1.8 STUDY OF ALTERNATIVES

1.8.1 No Project Alternative

There's a growing consumer preference for halal and organic cosmetics.in Pakistan. Consumers are increasingly seeking products free from harmful chemicals and embracing eco-friendly packaging.

On the other hand, numerous manufacturing units operate without authorization and illegally on a large scale to meet the supply-demand gap. As a result, the public is often compelled to purchase imported products. In this context, it is essential to establish legitimate manufacturing units for cosmetics and consumer care goods that offer safe and high-quality products. This will not only cater to the growing market demand but also reduce dependency on imports, contributing to self-sufficiency and economic stability. The industry also generates employment opportunities and contributes significantly to the country's GDP.

For these reasons, the proponent has opted to establish a Manufacturing Facility of Consumer care products rather than pursuing the "No Project" alternative.

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1.8.2 Location/Site Alternative

The feasibility of establishing a Cosmetic Manufacturing Facility was assessed at multiple locations based on following selection checklist:

- No sensitive or protected area in or around the project
- Land free of any legal obligation
- Easy access to main city and intercity roads,
- Raw material supplies and skilled workforce are easily managed
- Accessibility to Big City Market
- Availability of utilities
- Available Infrastructure
- Security

The proponent preferred the proposed site because the civil structure was already completed and it is located within an established industrial estate, ensuring the computability with the surroundings along with many other benefits as outlined above.

1.8.3 Technology Alternatives

The selection of technology was primarily based on the following criteria:

- Overall Energy efficiency
- Environmental friendliness and sustainability.
- Ease of compliance with PEQS.
- Availability of skilled workforce within the country.
- Integration of automation and digital technologies
- Implementation of advanced process control systems.
- Real-time monitoring and data analytics for optimizing production processes.
- Consideration of capital expenditure (CAPEX) and operating costs.

The proposed manufacturing unit will utilize the latest technologies of Consumer care products manufacturing, adhering to international quality standards and fulfilling the requirements of the Punjab Environmental Quality Standards (PEQS).

1.8.4 Economic Alternatives

Different economic options were assessed

A. Import of consumer care products vs. local manufacturing

Pakistan has imposed new or increased regulatory duties (RD) on more than 600 imported items, as well as additional customs duty (ACD) on more than 2,000 imported goods, effective 1 July 2024, including cosmetics, taxed at an RD rate of 55% and oral hygiene products at 50%.

With imported items becoming excessively expensive, there has been a growing demand for locally produced alternatives.

B. Purchase of Land vs. Land on Lease

To minimize high CAPEX, the proponent opt to lease the land instead of purchasing it for the manufacturing facility.

1.8.5 Environment Alternatives

There is no environmentally sensitive or protected area exist in or around the proposed project site.

The proponent is committed to environmental sustainability and aims to:

- Use beneficial natural ingredients derived from plants, minerals and natural oils rather than synthetic chemicals.
- Reduce dependence on controversial materials such as palm oil
- Disclose the amount of water, in thousands of cubic metres, withdrawal, consumed in its operations and its discharge to external drains.
- Mitigate the environmental, regulatory and financial constraints and risks associated with discharge of wastewater
- Use Ecofriendly recyclable packaging
- Avoid synthetic fragrances and preservatives that can be harsh on the skin and the environment.
- Conserve water usage
- Reduce waste
- Ensure that products do not contain toxic metals like lead, mercury, arsenic, cadmium, and nickel etc.
- Identify substitutable or alternative materials less impacted by environmental and social factors
- Avoid production methods that result in water pollution, soil degradation, deforestation or loss of biodiversity
- Comply with PEQS along with Regulations on labor practices or human rights

2. LEGAL, POLICY FRAMEWORK AND GUIDELINES

2.1 GENERAL

This chapter describes the proponent's legal responsibilities in the context of Environmental and Sustainable Development, addressing the relevant current policies, legal requirements and administrative framework for conducting the EIA of the project. Establishing an efficient and effective organizational structure is essential for the successful implementation of the identified mitigation measures. Similar to other projects, the proposed Expansion Project must undergo an Environmental Assessment in compliance with the Punjab Environmental Protection Act 1997 (Amended 2012 & 2017) before implementation.

2.2 EXISTING LEGISLATION AND LEGAL FRAMEWORK

The Federal Ministry of Environment was responsible authority for policy making on environmental protection in Pakistan but after 18th Amendment in the Constitution, the Provincial Governments have taken over the subject of Environment. This EIA study has been carried out in the light of the policy guidelines of the Preparation of IEE/EIA Reports under the procedures and practices formulated by the Pak EPA and adopted by the Punjab Environmental Protection Agency (Punjab EPA).

2.2.1 Institutional Setup

2.2.1.1 Environment Protection Department, Punjab

The Punjab Government has established Environment Protection Department (EPD) administratively controlled by the Secretary, Government of Punjab. The EPD has its independent Minister. According to the provisions of the Punjab Environmental Protection (Amendment) Act, 2012, EPD has a significant role in policy making and implementation of the environmental laws in the Punjab Province.

2.2.1.2 Environmental Protection Council

The Punjab Environmental Protection Council (PEPC) is the apex decision-making body of Punjab. It was developed under the provision of Punjab Environmental Protection (Amendment) Act 2012 and headed by the Chief Minister of Punjab with other members.

2.2.1.3 Environmental Protection Agencies

Pak EPA was established at the Federal level and EPAs are established at Provincial level also. In Punjab an independent Environmental Protection Agency is constituted headed by the Director General. The purpose of EIA is to obtain Environmental Approval from the Environmental Protection Agency (EPA), Punjab in compliance with Pakistan Environmental Protection Act (PEPA) - 1997, that is now applicable having been amended by Punjab Environmental Protection (Amendment) Act 2012 and by Punjab Environment Protection (Amendment) Act 2017.

2.3 RELEVANT LEGAL / INSTITUTIONAL FRAMEWORK

The applicable laws for the environmental study of the project are briefly given below. The proponent of the project will abide by the applicable laws and regulations.

2.3.1 Pakistan Environmental Protection Order (PEPO) 1983

In 1983, the Government of Pakistan issued an Environmental Protection Ordinance (EPO) 1983. It was the first legislation promulgated for the protection of environment. According to PEPO, 1983 it was necessary to carry out IEE / EIA for all development projects, but there were no IEE / EIA regulations under that ordinance.

2.3.2 Punjab Environmental Protection Act 1997

Section 12 of the Punjab Environmental Protection Act 1997 (Amendment2017) makes it mandatory for the proponent of a project to file with the Environmental Protection Agency either an Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA), as the case may be, in respect of the project.

2.3.3 Regulations Punjab Environmental Protection (Review of IEE/EIA) Regulations 2022

Punjab Environment Protection Department notified the Punjab Environmental Protection (Review of IEE/EIA) Regulations 2022 on December 16, 2022.

Categorization of the projects for IEE and EIA is one of the main components of the Regulations. Projects have been classified based on expected degree of adverse environmental impacts. Projects type listed in Schedule I are designated as causing potentially less adverse effects, and require an IEE whereas Schedule II covers projects with potentially high adverse effects and require EIA to be conducted.

2.3.4 The Punjab Local Government Ordinance, 2001

Schedules 4 and 8 of this Ordinance pertain to environmental pollution. There are not withstanding any specific provisions, every local government may perform functions conferred by or under the Punjab Local Government Ordinance, 2001, and in performance of such functions may exercise such powers, which are necessary and appropriate. Under the ordinance, the local councils are authorized to restrict projects causing pollution to air, water or land. They may also initiate schemes for improving the environment.

2.3.5 Pakistan Penal Code, 1860

Pakistan Penal Code 1860, last amended in 2017, Chapter XIV has Sections that deal with the offences affecting the public health, safety, convenience, decency and moral.

2.3.6 The Land Acquisition Act, 1894

The Land Acquisition Act (1894) deals with the acquisition of private properties for public purposes. There are 55 sections in this Act mainly dealing with area notification, surveys, acquisition, compensation, apportionment awards, disputes resolution, penalties and exemptions.

Although quite old, this act laid out the legal basis for any property affected by a project and for compensating the effected owners of the land.

2.3.7 Labor Laws

Labor Laws include Employment of Child Act-1991; the Bonded Labor System (Abolition) Act 1992; Workmen`s Compensation Act-1923; Minimum Wages Ordinance-1961; The Industrial and Construction Employment Ordinance 1968. Pakistan has ratified 36 ILO conventions including 8 fundamental conventions. Pakistan has declared to bring national labor laws in conformity with the ILO Conventions. Further the Constitution (Eighteenth Amendment) Act, 2010 substantially changed the roles and responsibilities of federal and provincial governments including the devolution of labour administration to the provinces.

Operational activities during construction may affect occupational health of workers. Employers are required to abide by labor laws in respect of their own employees and to ensure that contractors to follow the relevant labor laws and rules relating to safety of the workforce and creating a healthy working environment. The proponent shall ensure that the labor force engaged at the project site is not exposed to any danger by monitoring the contractor's work frequently.

2.3.7.1 Employment of Children Act 2016

An Act to ban the employment of children and to limit the work of adolescents (ages 15 to 18) in specific occupations and processes, such as the transportation of passengers, goods, or mail; working with live electrical wires over 50 volts; and exposure to toxic materials.

2.3.7 Antiquity Act 1975

The Pakistan Antiquities Act of 1975 aims to safeguard physical cultural resources in Pakistan. This Act specifically protects designated "antiquities" from destruction, theft, neglect, illegal excavation, and trade. It prohibits new construction near protected antiquities and grants the Government of Pakistan (and Provincial Governments following the 18th Amendment to the Constitution) the authority to restrict excavation in areas that may contain archaeologically significant artifacts.

2.4 POLICIES FRAMEWORK

2.4.1 National Environmental Policy 2005

The National Environmental Policy (2005) provides a framework for addressing the environmental issues (particularly pollution of fresh water bodies and coastal waters, air pollution, lack of proper waste management, deforestation, loss of bio diversity, desertification etc.) confronting Pakistan. It recognizes the goals and objectives of the Pakistan National Conservation Strategy (PNCS, 1992), National Environmental Action Plans, and other existing environment related national policies, strategies, and action plans. It also provides broad guidelines to the Federal Government, Provincial Governments, federally administrated territories and local governments to address their environmental concerns and to ensure effective management of their environmental resources.

2.4.2 National Drinking Water Policy 2009

The Government of Pakistan (Ministry of Environment) formulated this policy to provide adequate quantity of safe drinking water to entire population of Pakistan. The Policy aims to reduce the incidence of death and illness caused by water-borne diseases. The policy also provides specific guidelines for increasing access to safe drinking water, protection and conservation of surface and groundwater resources, water treatment and safety, community participation, public awareness, capacity development, public private partnership, research and development, emergency preparedness and response and coordinated planning and implementation. It also enforces National Drinking Quality Standards.

2.4.3 Punjab Drinking Water Policy 2011

The “Punjab Drinking Water Policy” provides guiding principles under which the efforts of provincial and local authorities shall be planned and coordinated. To keep the policy framework in line with the aims of the Federal Government, the Government of Punjab has adopted the key principles outlined in the National Drinking Water Policy of 2009.

2.4.4 National Water Policy 2018

The objective of the National Water Policy is to take cognizance of the emerging water crisis and provide an overall policy framework and guidelines for a comprehensive plan of action. The Policy is a national framework within which the provinces can develop their master plans for sustainable development and management of water resources. The water resource is a national responsibility but irrigation and agriculture, as well as rural and urban water supply, environment and other water-related subsectors are provincial subjects.

2.4.5 Punjab Water Policy 2018

This Punjab Water Policy is a sectoral policy document at provincial level. The overall objective of Punjab's Water Policy is to provide clear policy directions to the Government of Punjab on the sustainable management and development of water from all sources of water (surface water, groundwater and rainwater), for all sub-sectors of water use (domestic, stock water, agriculture, industry, commercial and environment) and for all regions (Indus basin canal

commands and outside the canal commands) at the basin level through equitable water allocations, management and development.

2.4.6 Pakistan Biodiversity Strategy and Action Plan (2017-2030)

This document provides a framework for implementation as well as monitoring and evaluation of the National Biodiversity Strategies and Actions Plan and also provide a framework for implementation of provincial biodiversity action plans.

2.4.7 National Climate Change Policy 2012

The Policy provides a framework for addressing the issues in various sectors such as water, agriculture, forestry, coastal area, biodiversity and other vulnerable ecosystems. It ensures environmental compliance through IEE and EIA in the development process.

2.4.8 Protection of Trees and Brushwood Act (1949)

The Protection of Trees and Brushwood Act of 1949 prohibits the cutting or lopping of trees along roads and canals planted by the Forest Department unless prior permission of the Forest Department is obtained

2.4.9 Punjab Labor Policy 2018

The Punjab Labour Policy 2018 is a comprehensive policy framework introduced by the Government of Punjab, Pakistan to promote and regulate labor rights and welfare in the province. Overall, the Punjab Labour Policy 2018 aims to strengthen labor rights, promote worker welfare, and create a conducive environment for industrial and economic growth in the province.

2.4.10 National Safety Policy - (NP-02/2020)

The National Safety Policy outlines the Major Implementation Principles and make it clear that the prime responsibility for safety must rest with the person or organization responsible for facilities and activities that give rise to radiation risks. It emphasizes to establish and implement an effective integrated management system to promote a strong safety culture within the organization and ensure that senior management shall demonstrate commitment and leadership for safety and its continual improvement within the organization.

2.4.11 National Disaster Response Plan 2019

The National Disaster Response Plan is the main policy document that guides Pakistan's approach to national disaster management.

2.4.12 Punjab Women Development Policy 2018

The Punjab Women Development Policy 2018 was created by the provincial government with the intention of creating a gender-sensitive Punjab. Its objectives are to address the full spectrum of women's development issues and challenges in accordance with the spirit of the Constitution, Pakistan's international obligations, and the provincial government's pursuit of gender mainstreaming and women's empowerment in Punjab.

2.5 NATIONAL AND INTERNATIONAL GUIDELINES

2.5.1 Guidelines for the Preparation and Review of Environmental Reports 2017

The scope of this guidelines is confined to those aspects of environmental report preparation and review which are of a general nature. Most of the Sections of these guidelines apply to both IEE and to EIA.

2.5.2 Guidelines for Public Consultation 1997

Pakistan EPA`s guidelines explain objectives, stakeholders and their level of involvement; techniques for public consultation; factors for effective public consultation; consensus building and dispute resolution etc.

2.5.3 Checklists for IEE/EIA Projects: Pakistan EPA 1997

These checklists provide guidelines for preparation and review of environmental reports, and also include the Sectoral Guidelines for around 20 different sectors. The guidelines for Sector – Major Chemical and Manufacturing Plants deal with General Manufacturing Industry which may which may include facilities such as Sugar Mills. .

2.5.4 International Finance Corporation (IFC) Guidelines

IFC Environmental and Social Performance Standards (PSs): The Performance Standards are directed towards clients providing guidance on how to identify risk and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of the client in relation to project-level activities. The following are the eight standards that Client is to meet throughout the life of an investment by IFC:

- PS 1: Assessment and Management of Environmental and Social Risks and Impacts;
- PS 2: Labor and Working Conditions;

- PS 3: Resource Efficiency and Pollution Prevention;
- PS 4: Community Health, Safety and Security;
- PS 5: Land Acquisition and Involuntary Resettlement;
- PS 6: Biodiversity Conservation & Sustainable Management of Living Resources;
- PS 8: Cultural Heritage.

Performance Standard 1 applies to all projects that have environmental and social risks and impacts. Specific objectives of PS1 are:

- To identify and assess social and environmental impacts, both adverse and beneficial, in the project area of influence;
- To avoid, or where avoidance is not possible, minimize, mitigate, or compensate for adverse impacts on workers, affected communities, and the environment;
- To ensure that affected communities are appropriately engaged on issues that could potentially affect them;
- To promote improved social and environmental performance for companies through the effective use of management systems.

2.5.5 IFRS S2 Sustainability Disclosure Standard

It includes Industry-based Guidance on implementing Climate-related Disclosures. The Volume 5—Household & Personal Products deals with Sustainability Disclosures related to Cosmetic manufacturing along with other household & personal products.

2.6 PUNJAB ENVIRONMENTAL QUALITY STANDARDS (PEQS)

The Punjab Environment Department had notified the relevant PEQS in 2016 for:

- Ambient Air
- Drinking Water
- Industrial Gaseous Emissions
- Motor vehicles exhaust and noise
- Noise
- Municipal and Liquid Industrial Effluents

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3 DESCRIPTION OF PROJECT

3.1 GENERAL

This section describes brief details of the proposed Project "Establishment of Cosmetic Manufacturing Facility by Dabur Pakistan (Pvt.) Limited in Sundar Industrial Estate, Lahore

The details include the project's objectives, site location and layout, current land use, road access, and vegetation features. The project description encompasses process description, process flow chart, technology, raw materials, products, byproducts, the project cost and magnitude and implementation schedule. Rehabilitation (if any) and restoration plans are also presented

3.2 OBJECTIVES OF THE PROJECT

Main objectives of the proposed project are to:

- Establish Cosmetic Manufacturing Facility with main production lines of hair oil, shampoo and toothpaste.
- Achieve Environmental sustainability by using natural ingredients and recyclable packaging.
- Creation of employment for local community
- To comply with PEQS

3.2.1 **Change of Business**

The proposed project involves a change of business at Plot No 465, Sundar Industrial Estate as detailed in Table 3.1

Table 3.1: Change of Business Detail

	Previous	**Current**
Proponent	Ch. Muhammad Ilyas	Mr. Tanveer Ahmed
Designation	CEO	Plant Head
Company	M/s Chaudhary Brothers	Dabur Pakistan (Private) Limited (DPPL). SECP Registration is attached (Annexure VII)
Location	Plot No 465, Sundar Industrial Estate, Lahore	
Project Nature	Design and fabrication Workshop	Cosmetic Manufacturing of Personal Care Products including hair oil, shampoo and tooth paste.
Environmental Approval	**Construction Phase NOC (IEE)** No. DD(EIA)/EPA/F-562 (IEE) /1107/2014/1304 dated 24-07-2014, enclosed as Annexure VIII	**Applying for Environmental Approval (EIA)**

Current Status	Chaudhary Brothers completed the buildings as per approved plan. Completion Certificate issued by Board of Management Sundar Industrial Estate (BOM/SIE/CSD/318) dated 24-12-2014 is enclosed as Annexure IX.	Dabur has leased the property to establish a Manufacturing Facility by installing machinery in the existing buildings. (Lease documents - Annexure X)

3.3 LOCATION AND SITE LAYOUT OF THE PROJECT

The project site is located at Plot No 465 within the Sundar Industrial Estate as illustrated in Figure 1.1. The geographical location of project site is 31.28297 N, 74.16835 E.

Main Building is comprised of ground plus 2 floors.

Ground Floor; Covered Area = 14056 Sq. Ft

Layout Plan as illustrated in Figure 3.1

Ground Floor consists of the following:

- Manufacturing, Filling and Packing Areas of Hair Oil, Shampoo, Toothpaste, Herbolene
- Raw Material Store, Packing Material Store, Finished Good Stores and Dispatch area, SLES Tank.
- Main Offices, Site Offices, Conference Room
- Lab, Mess, Change Room
- Electrical and Mechanical Rooms
- Main Offices/Site Prouduction and Engineering Offices
- Air Compressor and Tank
- Steam Generator and Feedwater Tank

First Floor

Covered Area = 3100: Sq. Ft

Layout Plan: Figure 3.2

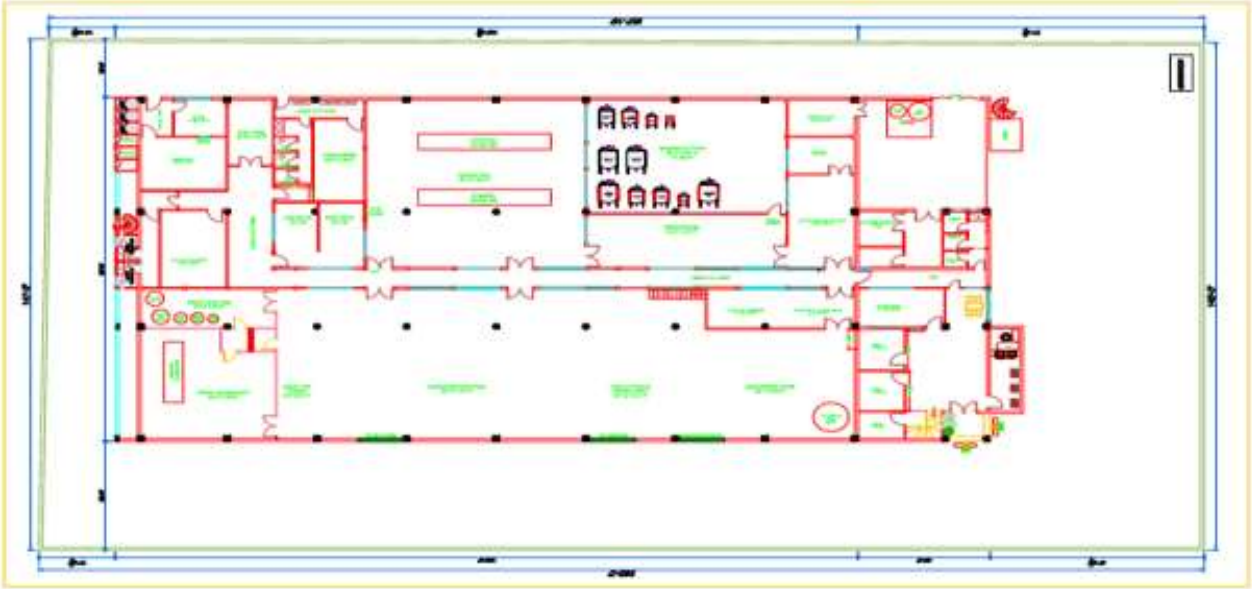
- Water Treatment Plant
- Control, sample and Document Room
- Offices, Guest Room, Guard Room
- Prayer Room
- Microbiology Block

Second Floor

Covered Area: 180 Sq. Ft

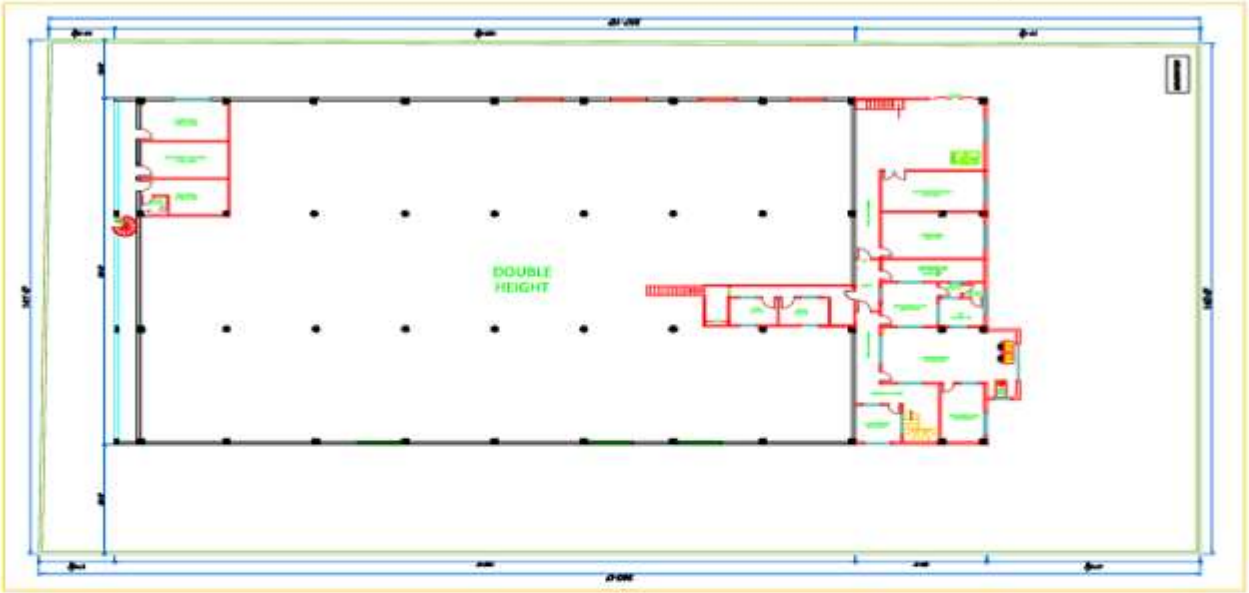
Layout Plan: Figure 3.3

Figure 3.1 Layout of Ground Floor



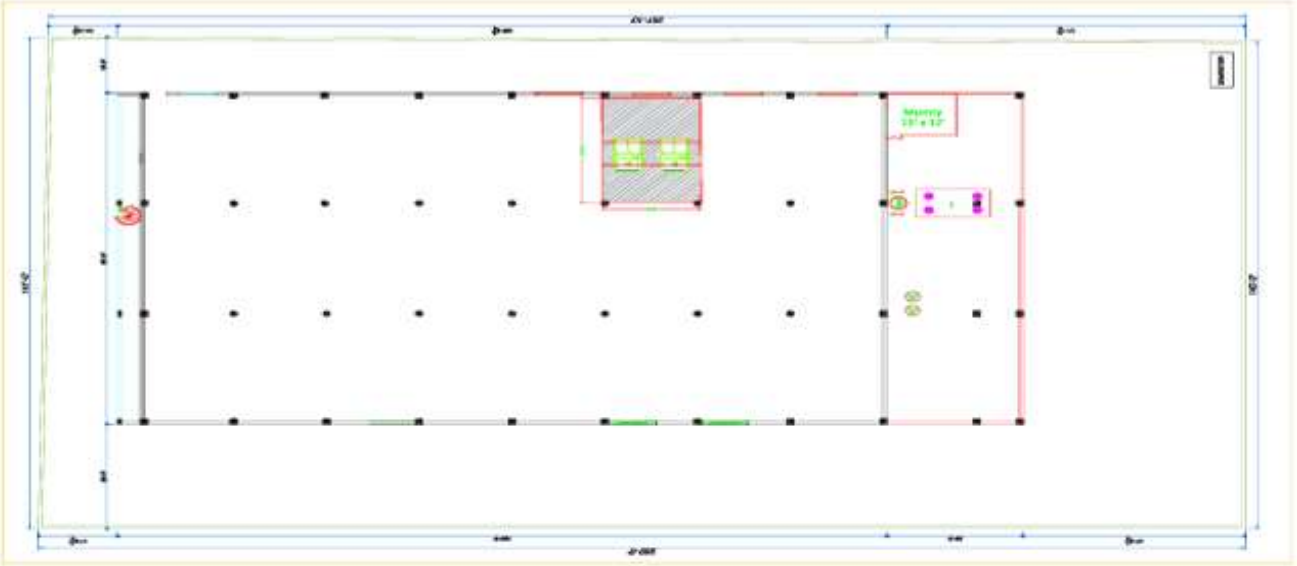
Dabur Pakistan (Pvt.) Limited		
Plot # 465 Sundar industrial estate Raiwind Lahore.		
Ground Floor	Prepared By: Azhar	Date: 05-03-2025
Prepared By: Azhar	Approved By: Tanveer	DWG : ACP/CIV/01

Figure 3.2 Layout of First Floor



Dabur Pakistan (Pvt.) Limited		
Plot # 465 Sundar industrial estate Raiwind Lahore.		
1st Floor	Prepared By: Azhar	Date: 05-03-2025
Prepared By: Azhar	Approved By: Tanveer	DWG : ACP/CIV/01

Figure 3.3 Layout of Second Floor



Dabur Pakistan (Pvt.) Limited		
Plot # 465 Sundar industrial estate Raiwind Lahore.		
Second Floor	Prepared By: Azhar	Date: 05-03-2025
Prepared By: Azhar	Approved By: Tanveer	DWG : ACP/CIV/01

3.4 LAND USE ON THE SITE

As declared above in Section 3.2, the proposed project is a change of business. The detail of business change is given in Table 3.1. The previous proponent has already completed the civil construction on Plot No. 465 of Sundar Industrial Estate as illustrated in Figure 3.2.

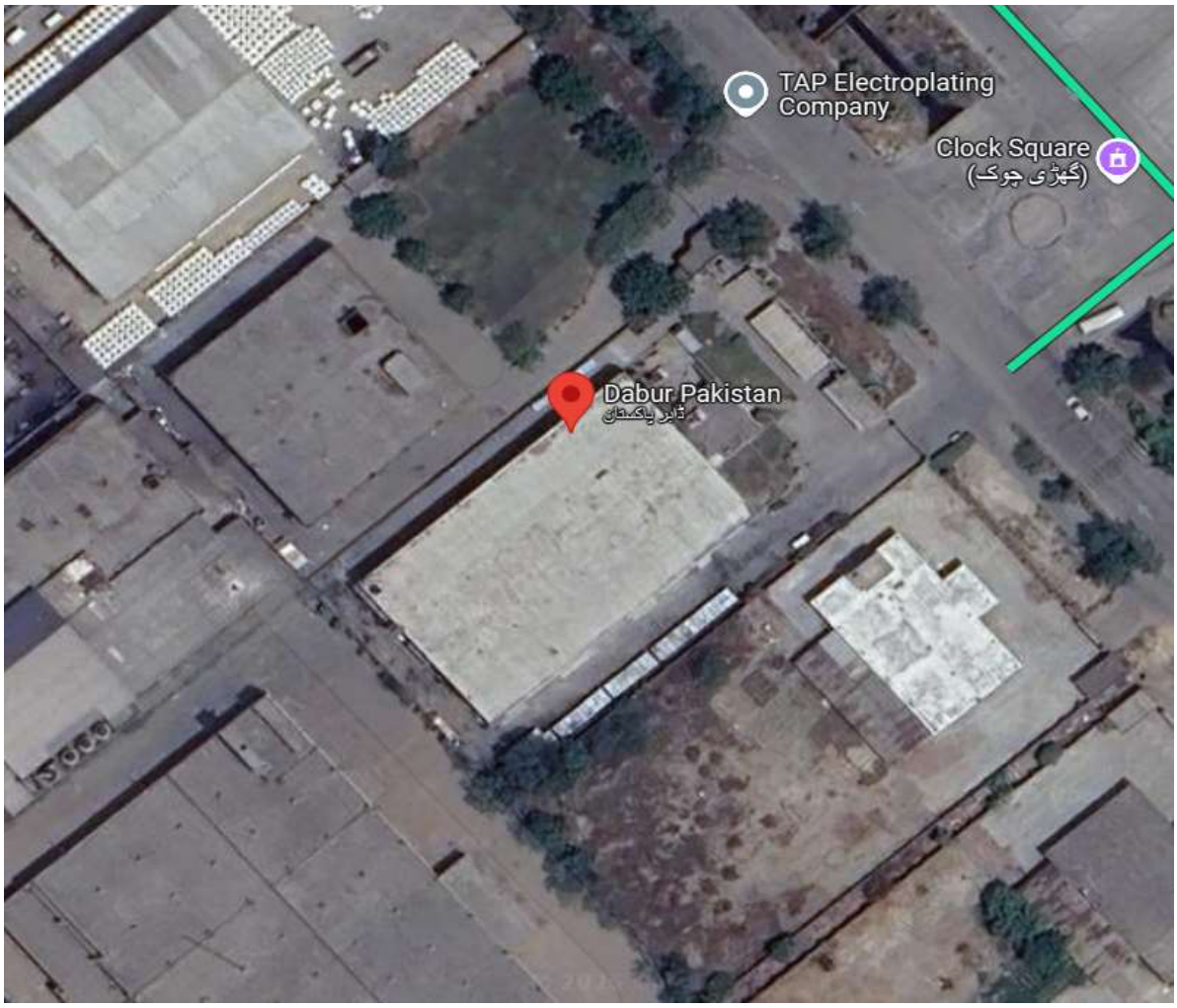


Figure 3.4 Current Land Use of Project Site

3.5 ROAD ACCESS

The project site is situated within Sundar Industrial Estate, adjacent to Sundar Raiwind Road. As shown in Figure 3.3, the Industrial Estate offers convenient access to Highway N-5 (Multan Road), Lahore Ring Road (L-20), Raiwind Road, and Manga-Raiwind Road. This strategic location within Sundar Industrial Estate ensures easy connectivity to major cities and ports across Pakistan.

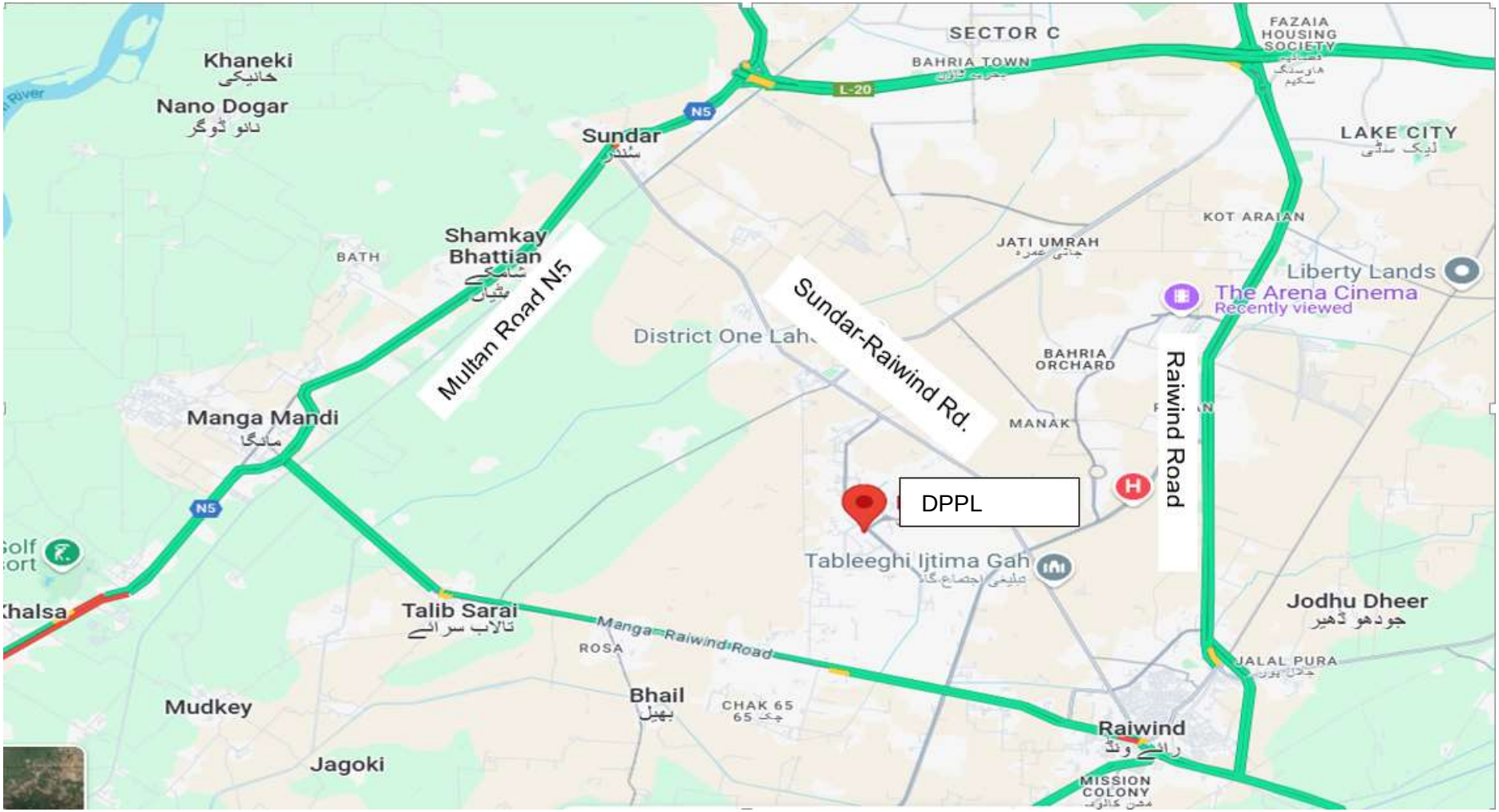


Figure 3.5 Road Access of Project Site

3.6 VEGETATION FEATURE ON SITE

The project site is a constructed area (Figure 3.2) surrounded by different industries.

3.7 COST AND MAGNITUDE OF THE PROJECT

The estimated cost of the proposed project (Mechanical, Electrical and others) is around PKR ------- Million..

The Project involves civil, electrical and mechanical activities along with the installation of diverse equipment, machinery, instrumentation and pipelines etc.

The project also includes the construction of the Family Residential Colony for the Mills' employees and installation of effluent treatment plant.

3.8 SCHEDULE OF IMPLEMENTATION

The civil construction has already been completed by the previous proponent. After obtaining environmental approval of construction phase, the proponent of proposed project will start installation of machinery and equipment of Cosmetic Manufacturing Facility and establishing the allied facilities. The expected duration for construction phase is around 6 month.

3.9 DESCRIPTION OF THE PROJECT

.3.9.1 Process Description:

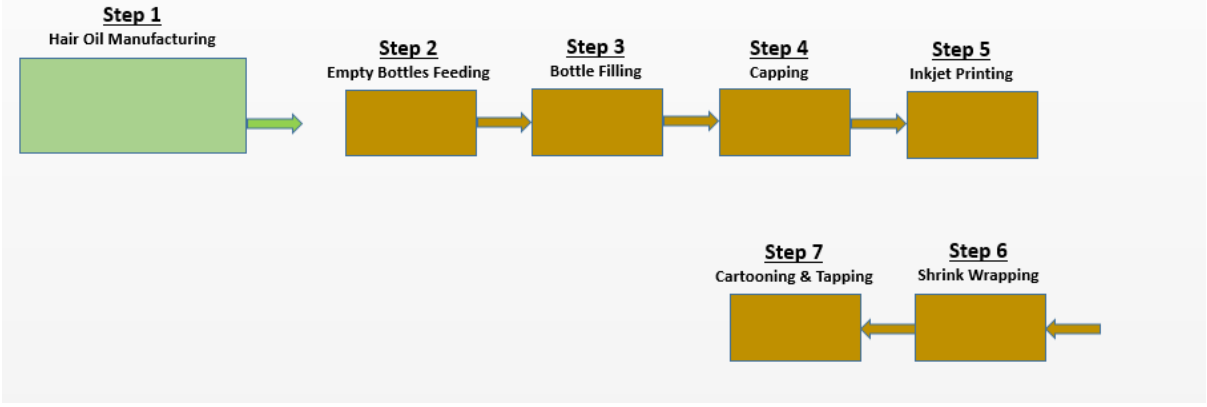
Major production lines at Dabur Pakistan (Pvt.) Ltd are:

- Hair Oil – 4800 Liters per day
- Shampoo – 4500 Kg per day
- Toothpaste – 2160 Kg per day
- Herbolene -600 Kg per day

3.9.1.1 Hair Oil Manufacturing

Hair oils are produced by mixing of various oils and some chemicals such as, but not limited to almond oil, coconut oil, Amla oil extract, till oil, virgin olive oil, paraffin, vitamins, natural fragrances etc. The flow chart of manufacturing and packaging is illustrated in Figure 3.5

Figure 3.6 Hair Oil Manufacturing & Packing Layout



3.9.1.2 Shampoo Manufacturing

Major ingredients of shampoos are, but not limited to sodium lauryl ether sulphate (SLES), carbopol, sweet almond oil, coconut oil, till oil, virgin olive oil, cetostearyl alcohol, betaine, Ethalanamide, , dimethiconol emulsion, salt. Shampoo manufacturing and packing flow charts are given in Figure 3.5 and Figure 3.6.

Figure 3.7 Shampoo Manufacturing & Packing Layout

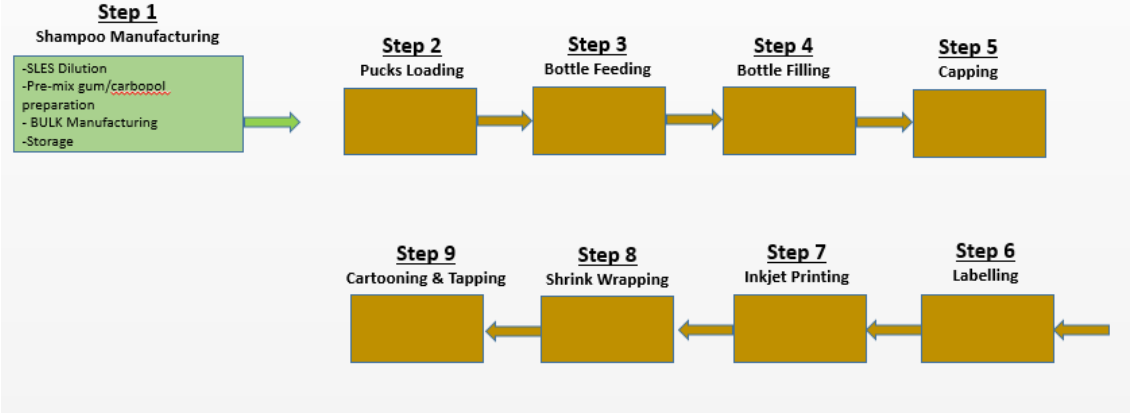
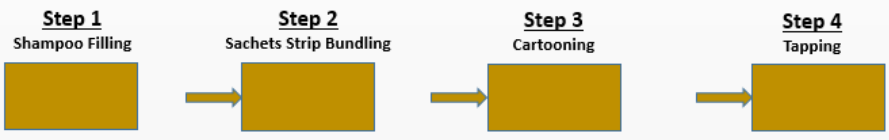


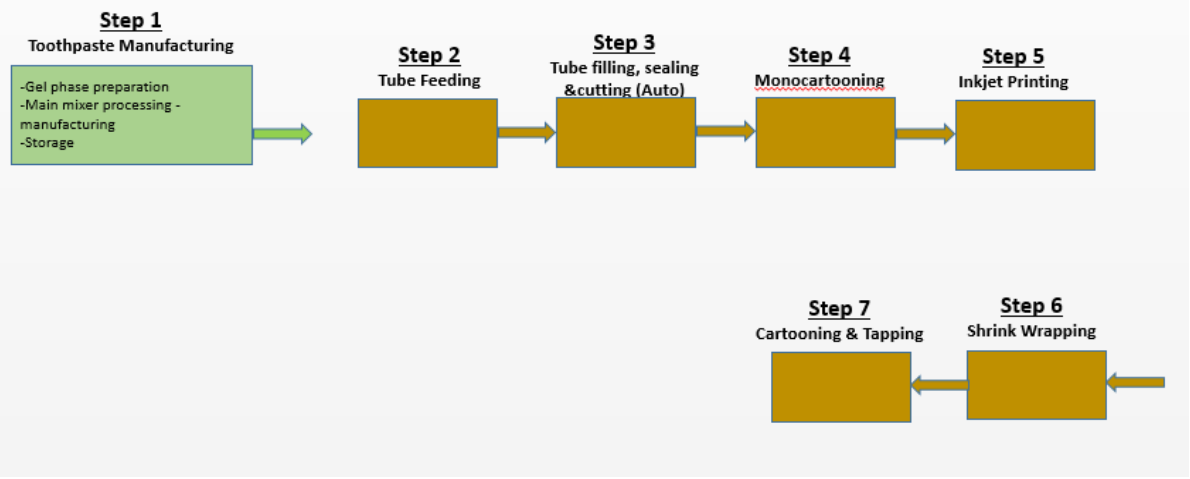
Figure 3.8 Shampoo Sachets Packing Layout



3.9.1.3 Toothpaste Manufacturing

Manufacturing process consists of gel phase preparation and main mixer processing (Figure 3.7). Main ingredients of toothpaste are Sorbitol solution, calcium carbonate precipitated,

Figure 3.9 Toothpaste Manufacturing & Packing Layout



3.9.2 Salient Features of Proposed Project of Cosmetic Manufacturing

Main features of the proposed project are summarized in Table 3.2.

Table 3. 2 Salient Features of the Proposed Project

Sr. No		
1.	**Project Name**	Establishment of Cosmetic Manufacturing Facility by M/s Dabur Pakistan (Pvt.) Limited
2.	**Location**	Plot No. 465, Sundar Industrial Estate, Raiwind, Lahore
3.	**Project Nature**	Change of Business (See detail in Table 1.1)
		Cosmetic Manufacturing of Personal Care Products including hair oil, shampoo and tooth paste
4.	**Proponent**	Proponent: Mr. Tanveer Ahmed Designation: Plant Head Phone: 03312323450 Email ID**:** Tanveer.ahmad@accppl.com CNIC No.: 35201-3224622-7 Address: PLOT NO. 465, SUNDAR INDUSTRIAL ESTATE, LAHORE Website: Dabur-Pakistan-ltd

5.	**Land**	Total land = 1 acre with covered land area of 22412 Sq Ft
6.	**Land on Lease**	Land/Buildings on Lease, Documents enclosed as Annexure X
7.	**Layout**	Attached with application
8.	**Completion Certificate by SIE/BOM**	Annexure IX
9.	**Floors and Covered area**	Ground Floor (14056 Sq Ft, 1st Floor (3100 Sq. Ft), 2nd Floor (180 Sq. Ft)
10	**Manufacturing and Packing Areas**	Hair Oil, Shampoo, Tooth Paste, Herbolene
10	**Allied facilities**	- Main Offices, Site Offices - Raw Material Store, Packing Material Store, Finished Good Stores and Dispatch area, SLES Tank. - Electrical and Mechanical Rooms - Laboratory - Steam Generator (Capacity 500 kg/hr.) & Feedwater Tank (1000 ltr Capacity) - Air Compressor 17 KW and Tank - Chiller 40 Ton - Water Treatment Plant, RO Plant 1000 L/Hr - HVAC System 35 KW - Effluent Treatment Plant (5 m3/day) - Standby Generator (Main supply is from Wapda) - Fuel Storage - Mess - Security Office/Gate Office - Parking
11	**Products and production capacity**	1. Hair Oil = 4800 Liters (800 cases) 2. Shampoo = 4500 Kgs (1000 cases) 3. Tooth Paste = 2160 Kg (300 cases 4. Herbolene = 600 Kg per day
12	**Raw materials**	Various oils and chemicals as outlined in Section 3.9.1
13	**Cost of Project**	PKR ----------Million
14	**Completion Time**	6 Months
15	**Steam Generator**	500 Kg/hr.
16	**Power Supply**	400 K.W From WAPDA 200 KVA DG set as standbby
17	**Water Supply**	From SIE supply system, Overhead Tank at Dabur = 4 Ton
18	**Watr Consumption**	Total 3-5 m3 per day during operation (Annexure XI: Water Bill)
19	**Feed water Tank**	1000 L capacity
20	**Wastewater**	3 - 5 m3 per day

21	**ETP design capacity**	5 m3 per day
22	**Treated effluent disposal**	To Sundar main drain (WASA Billing – Annexure XII)
23	**Solid Waste Generation**	Process and domestic waste:
24	**Solid waste disposal**	Process waste to be sold Domestic waste to be disposed of through Sundar waste collecting authority (Annexure XI) Sludge from ETP (during operational phase) will be disposed of through EPA Certified Contractor
25	**Services Provided by Management of SIE**	Security Services Horticulture Services Cleaning, Maint. / Solid Waste Service Water Supply O&M and Water Bill is enclosed as Annexure XI

3.9.3 List of Major Equipment and Machinery

Major machinery and equipment are listed in the following.

- Manufacturing/Mixing/ /Other Vessels
- Conveyer Belts
- Various Filling Machines
- Inkjet Printers
- Cooling Tunnels
- Various Mixers, Wrappers and Sealers
- GENSET 200 KVA, Steam Generator (500 Kg/hr)
- Dry air compressor (17 KW,), pumps,
- 38 KW HVAC
- 40 Ton Chiller
- Calibrated Equipment/instruments/machinery at Chem. Lab, Micro Lab, Instruments Room,
- Stacker 2 Ton, Hand Lifters 2 Tons
- Misc. Machinery and Equipment

Additional details can be provided if required by the Punjab EPA.

-

3.9.4 Water Consumption and Wastewater Generation

The water consumption is of two types – Process Water and Domestic Water.

Daily consumption = 3 - 5 m3 per day

Process Water

The transformation of raw materials into cosmetics consumes water. Cleaning of process vessels also require water that finally results in generation of process wastewater.

Domestic

Additionally water is also required for drinking, kitchen, cleaning floors, watering lawns, sanitation and miscellaneous purposes.

The domestic wastewater will disposed of after passing through Septic Tank.

The process wastewater will be disposed of separately after treatment through Effluent Treatment Plant (ETP).

3.9.5 **Wastewater Treatment Plant (Only for Process Wastewater)**

Design Capacity of ETP: 5 m3 per day

Treatment System: Activated Sludge Type

The proposed process Flow Diagram of ETP is illustrated in Figure 3.10.

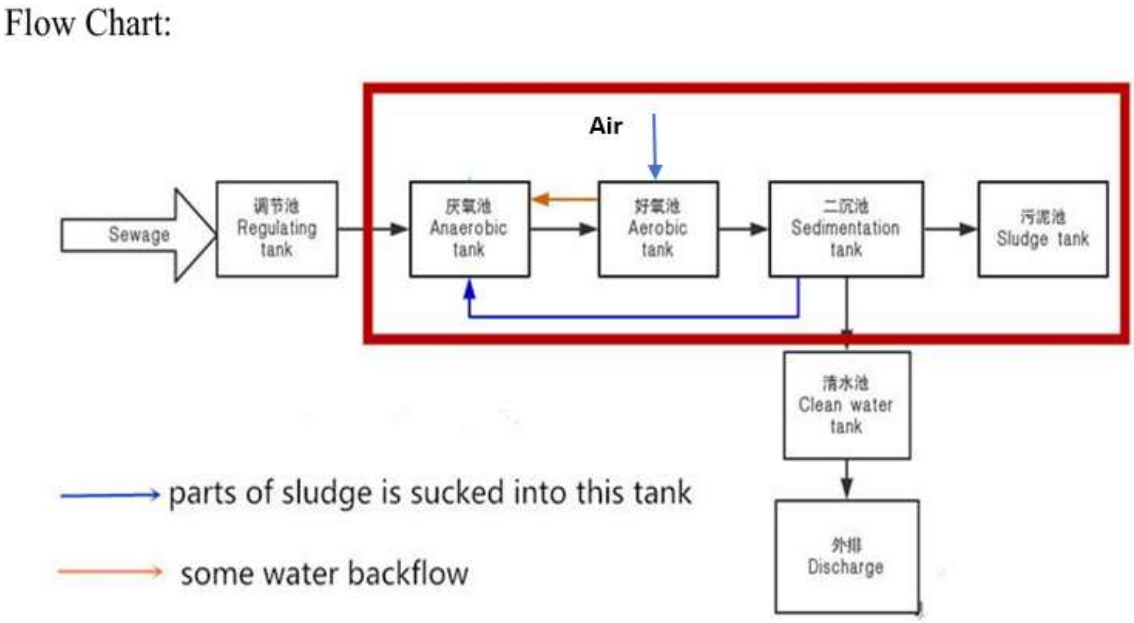


Figure 3.10 Process Flow Diagram of Effluent Treatment Plant (ETP)

3.10 RESTORATION AND REHABILITATION

The objective of the restoration and rehabilitation activities is to minimize the environmental impact of the construction and industry installation, and to ensure the site is safe, functional, and aesthetically pleasing after the work is completed.

- A clause will be included in the contract with the contractor to ensure restoration and rehabilitation of the site after completion of construction phase.

- All the temporary cabins and containers will be removed from the construction site.
-
- The construction area will be thoroughly cleaned, including the removal of material stockpiles, and proper disposal of any metal, hazardous or non-hazardous waste, debris, and residues remaining after the completion of construction.

- The excavated earth will be stored at a designated location and utilized for leveling, filling pits, and landscaping during and after the construction phase.

- Any damaged infrastructure, such as fences, roads, or utility services, will be repaired or restored to their original condition.

- Finally, the EMP Team will inspect the site to ensure proper restoration has been completed before granting clearance to the contractor for final payments.
- Landscaping and the plantation of indigenous trees will be carried out on the open land and along the boundary wherever practicable.

3.11 GOVERNMENT APPROVALS

The proponent is applying for Environmental Approval for the Construction Phase from the Punjab Environmental Protection Agency (Punjab-EPA). The SECP Certificate of Incorporation is provided in Annexure VII .

3.12 HEALTH, SAFETY AND ENVIRONMENT AT ACP Limited

ACP Management:

- Implement a written Safety and Health Policy
- Recognizes the employees' contribution to worker safety and health at their workplace;
- Defines and communicate effective worker safety goals and expectations.
- Allocates appropriate resources (funds and time) to accomplish goals
- Informs employees of hazards in their work areas.
- Review all contractor job plans for safety and health hazards, prevention, and control.
- Inform all contractors of the hazards they may encounter during their work on site

Employees:

- Know how to report an injury, illness, hazard, or concern, including near misses
- Are involved in workplace health and safety inspections and incident investigations.

- Understand the employers' responsibility in the safety and health management system.
- Know their role in Safety and Health Management System
- Are provided trainings of hazards identification, hazards prevention and control, the use of PPEs where necessary.
- Are responsible for using appropriate protective methods and equipment while working in areas where potential exposure to harmful radiation may occur.

3.12.1 Firefighting and Fire Prevention

- Sand buckets and Fireextinguishers will be placed at various sensitive locations of Manufacuring Uni during construction and operatioanl phases. Emergency evacuation plans will be developed and implemente

3.12.2 Details of PPEs

Table 3.4: Recommended PPES for Various Hazards

Protection Required	Potential Hazard	Recommended PPEs
Head Protection	Falling objects, inadequate height clearance, and overhead power cords	Helmets with or without electrical protection
Hand protection	Hazardous material, cuts or lacerations, vibrations, extreme temperatures	Synthetic or Rubber gloves, leather, insulating material etc.
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation	Safety goggles, shield protective, etc.
Hearing protection	Noise	Hearing protectors like ear plugs, ear muffs
Respiratory protection	Dust, fogs, fumes, gases, smokes, vapors, oxygen deficiency	Facemasks or air supply
Body protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration	Aprons, insulating clothing etc. of appropriate materials

Foot Protection	Chemical/Biological, Compression, Impact, Electrical shock, Extreme heat/cold, cutting tools, Slippery/wet surface, fire/explosion	Safety shoes/boots according to hazard
Fall Protection (Work at height)	Severe injury, Disability and even death	Safety harness, lanyards and other gears designed to safeguard workers from fall

3.12.3 Safety Sign Boards

Safety signboards will be installed in potentially hazardous areas on a permanent or as-needed basis, such as high-noise zones, slippery surfaces, dusty environments etc.

3.12.4 First Aid

First aid training will be provided to the contract as well as contract employees. First aid boxes will be placed at different location at workplace**.**

3.12.5 Dengue Protection

SOP for dengue protection will be strictly followed. Admin Department will ensure on daily basis that there is no stagnant warter at any place within or around the premises of DPPL project site.

4 DESCRIPTION OF ENVIRONMENT

4.1 GENERAL

This section describes the baseline conditions, which covers all the relevant information on the current status of the environment of the Project Area. Information on these aspects has been derived from the desk study of available data, field visits to the project area as well as information obtained from official websites of Government departments and other relevant agencies.

The data regarding the physical environment was collected mainly within the project surroundings. In case of the biological and socioeconomic environment, efforts were made to collect the information within one Km around the project area and even up to 10 Km where any direct or indirect impacts were envisaged.

4.2 METHODOLOGY OF CONDUCTING BASELINE STUDY

Establishing the environmental baseline includes both the present and likely further state of the environment, taking into account changes resulting from natural events and other human activities, assuming the project is not undertaken – the no action alternative.

The guiding factors for the present baseline study are the EPA's requirements for the Environmental Impact Assessment and IEE/EIA Regulations 2022, local regulations and directives. The studies were conducted by considering both primary and secondary means i.e. by sampling, monitoring, observations and field verification along with review of past relevant EIA studies and literature survey.

The data generation were formulated with interdisciplinary team discussions, criteria questions, and professional judgment.

The baseline data provides the “base line” against which severity of the future impacts can be assessed.

4.3 BASELINE PHYSICAL ENVIRONMENT

This Section examines the physical resources such as topography, geology and soil, climate, surface and groundwater resources, wastewater effluent handling, noise levels and ambient air quality of not only the Project site but also the surroundings as a whole to assess whether the project under assessment can or does have any impact on any of these parameters.

4.3.1 Topography, Geology and Soil

The project site is located in Sundar Industrial Estate, Lahore alongside Sundar Raiwind Road at a latitude of 31.28297 N and longitude of 74.16835 E, with an elevation of 204 meters. The

topography of the project site is almost flat. The area around the project site is mostly covered by artificial surfaces.

Figure 4.1: Elevation of Project Site

The alluvial plain known as Bari Doab is where Lahore City is located. A region between rivers is referred to locally as "doab," as seen in Figure 3.2. The Sutlej River borders it to the southeast, while the Ravi and Chenab rivers border it to the northwest and west.

Clayey silt, sandy silt, silty sand, lean clay, and sand make up the majority of Lahore soil. Coarse sand or gravel beds are rare. On the other hand, silty or clayey sand may contain mudstone or siltstone pebbles. Quartz, muscovite, and clinochlore make up the

Figure 4.2 Lahore City in Bari Doab

majority of the minerals found in Lahore soil, indicating that the alluvial deposit acquired sediments with metamorphic origins.

4.3.2 Seismology

Seismic zoning map of Pakistan proposed by the building code of Pakistan[8] (BCP: 2007) is shown in Figure 4.3. According to this map, Pakistan is divided in five seismic hazards zones (Zones 1, 2A, 2B, 3 and 4); Zone 1 being the lowest and Zone 4 is the highest seismic zone. Figure 3.3 shows the seismic zoning map of Pakistan. The project area falls in Zone 2A that shows a low to moderate level of seismicity. Zone 2A represents peak ground acceleration (PGA) from 0.08 to 0.16g (Table 4.1).

Table 4-1: Seismic Zones

Seismic Zone	Peak Horizontal Ground Acceleration	Zone Factor Z
1	0.05 to 0.08g	0.075
2A	0.08 to 0.16g	0.15
2B	0.16to 0.24g	0.20
3	0.24 to 0.32g	0.30
4	0.32 g	0.4
Where "g" is acceleration due to gravity		

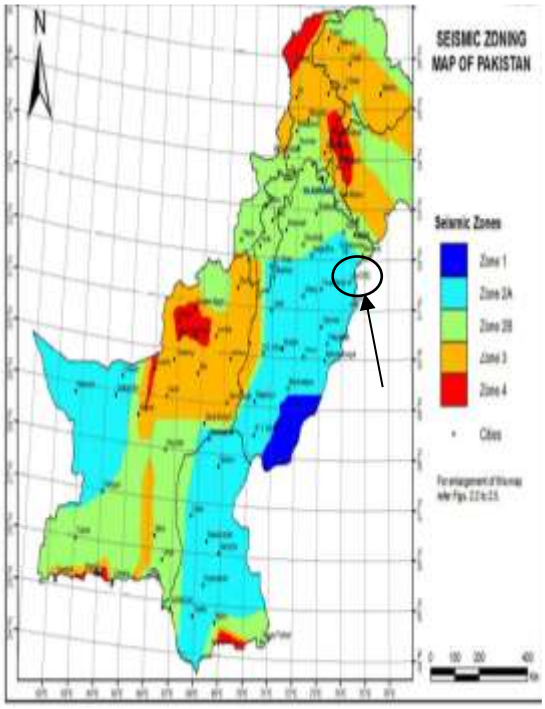


Figure 4.3 Seismic Zoning Map of Pakistan

The epicenters of low to moderate magnitude earthquakes recorded in the Punjab Plain are associated with the subsurface fractures in the basement rocks which are concealed by the thick alluvial deposits. The known main active fault near Sargodha is the Main Boundary Thrust (MBT) which passes at a distance of about 180 km towards the northeast along the Himalayan front. The project region has also been subjected to severe shaking in the past due to earthquakes in the Himalayas; these should also be taken into consideration while designing.

4.3.3 Land Use and Land Cover (LULC)

Land cover (LC) is defined as the physical properties on the land's surface for example forest, mountain and water. On the other land use (LU) is the change of LC due to the human actions and requirements such as roads and urban infrastructure. Land use and land cover (LULC) impact on the ecosystem processes, biodiversity, hydrology and climate due to human activities.

Transformation of one land-use type to another, may bring changes in surface energy, because different classes of LULC have different reflectance and evapotranspiration. Such rapid changes lead to significant changes in local climate, particularly having impacts on land surface temperature (LST) and local air temperature. The LST increases with decrease in vegetation and with increase in urban built-up and barren land.

Total area of Lahore is 1,774 square kilometers. Land classes are given in Table 4.2 whereas Table 4.3 illustrates the Land-use Distributions of Lahore in 2013, 2013 and 2023.

Table 4.2 Land Classes

Land Class	Description
Vegetation	Gardens, parks, and cultivable lands.
Urban area	Roads, buildings, and pavements etc.
Barren land	Harvested, fallow, and uncultivable land.
Water bodies	Rivers, canals, and ponds.

Table 4.3 Land-use Distributions of Lahore in 2003, 2013 and 2023

Sr. No	Land Use Classes	Area (sq.km)		
		2003	2013	2023
1	Vegetation	148.749054	316.462949	328.4721624
2	Urban area	308.6491261	314.13595	336.9702759
3	Barren land	1296.792774	1125.779011	1099.13587
4	Water bodies	20.47684918	18.316907	10.47416794

4.3.4 Climate

The project site in Lahore falls under hot long summers and mild short winters. There is a monsoon season between July and September. .June is the hottest month with average maximum temperature around 102 ºF. Over the course of the year, the temperature typically varies from *46°F* to *103°F* and is rarely below *41°F* or above *110°F*. The coldest month of the year at Lahore City is *January*, with an average low of *47°F*and high of *66°F*. Figure 3.4 shows the temperature data of Lahore.

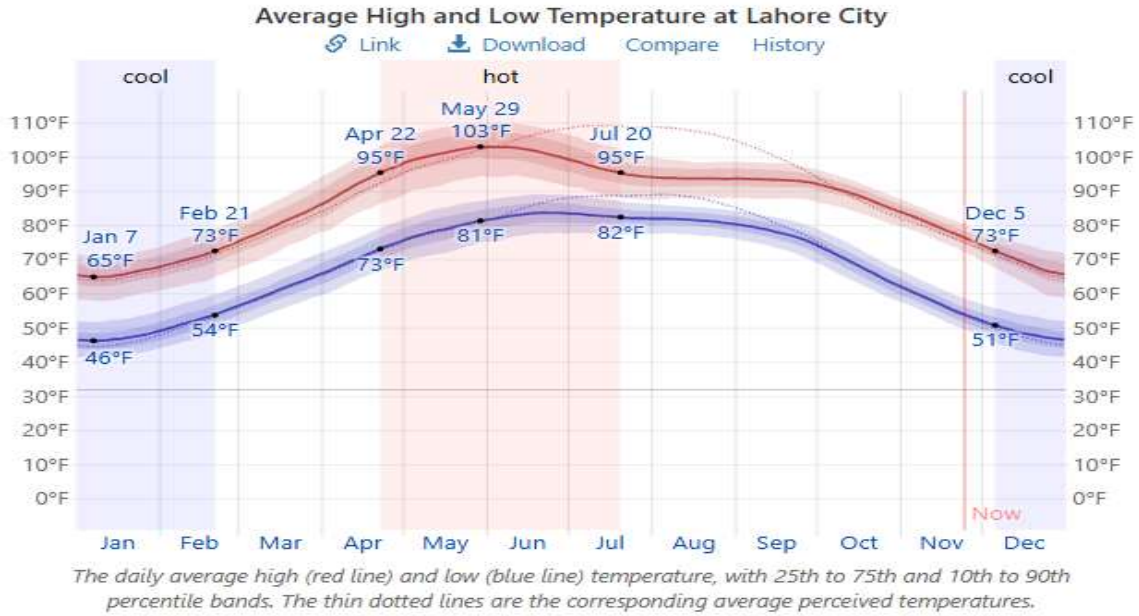


Figure 4-4: Temperature Data Lahore (Data Source: Weather Spark)

4.3.5 Rainfall

Lahore City experiences *extreme* seasonal variation in monthly rainfall. The *rainy* period of the year lasts for *9.4 months, from January 1 to October 14,* with a sliding 31-day rainfall of at least *0.5 inches*. The month with the most rain at Lahore City is *July*, with an average rainfall of *5.2 inches*. The *rainless* period of the year lasts for *2.6 months,* from *October 14 to January 1*. The month with the least rain at Lahore City is *November*, with an average rainfall *of 0.2 inches*. Figure 4.5 illustrates monthly rainfall patterns.

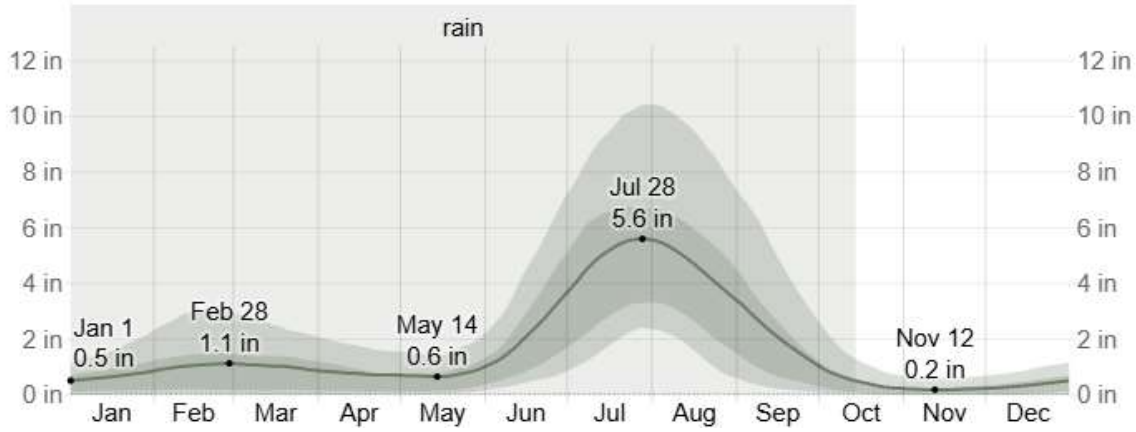


Figure 4-5: Average Monthly Rainfall of Lahore (Data Source: Weather Spark.com)

4.3.6 Humidity

Month-wise average humidity is illustrated in Figure 4.6

Figure 4-6: Average Humidity in Lahore (Data Source: Weather and Climate)

4.3.7 Wind

Throughout the year, there is a slight seasonal fluctuation in Lahore's average hourly wind speed. The 5.9 months from January 21 to July 17 are the windiest time of year, with average wind speeds above 5.3 miles per hour. With an average hourly wind speed of 6.2 miles per hour, April is the windiest month in Lahore. The 6.1-month period from July 17 to January 21 is the quieter time of year. With an average hourly wind speed of 4.3 miles per hour, September is the calmest month of the year in Lahore.

Average wind speed in Lahore are exhibited in Figure 4.7.

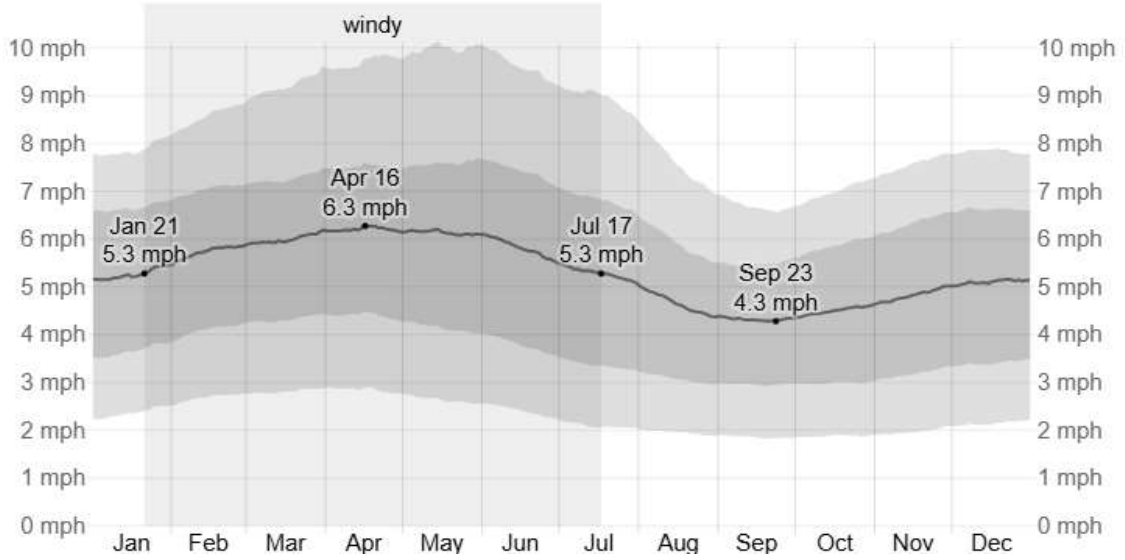


Figure 4-7 Average Wind Speed in Lahore (Data Source: Weather Spark.com)

4.3.8 Water Resources and Drains

4.3.8.1 Surface Water

No source of surface water is available near the project site.

4.3.8.2 Groundwater

The underground water is clear and healthy, and complies with PEQS of drinking water. Tube wells, and hand pumps are used to extract groundwater. Safe drinking water is normally extracted from a depth of 600 to 800 feet below ground.

4.3.8.3 Wastewater Drain

A wastewater receiving drain (Nehla Drain) is passing near the Sundar Industrial Estate. It receives wastewater from all nearby industries.

4.4 BIOLOGICAL ENVIRONMENT

4.4.1 Flora

The project site is surrounded by various industries, with only a few trees and bushes located along the green belts of the roads. No tree cutting will be required during the Construction Phase.

4.4.2 Fauna

Common birds found in neighborhood of the Project site are house crows, sparrows, pigeons, and common mynas.

Buffaloes, cows, stray dogs, feral cats, palm squirrel, frogs, house mouse and common lizards were observed in the study area. No protected species are present.

4.5 SOCIOECONOMIC ENVIRONMENT

4.5.1 Demographics

The population of Lahore was determined (Census 2023) to be at 13.004 m with 2.7% annual growth from 2017 to 2023. Gender-wise, 52.9% of the population is male, while 47.1% is female.

Table 4.4 Population of Lahore District

Name	Status	Population Census 1972-09-16	Population Census 1981-03-01	Population Census 1998-03-01	Population Census 2017-03-15	Population Census 2023-03-01
Lahore	District	2,587,621	3,544,942	6,340,114	11,119,985	13,004,135

Lahore is a city with around 40% of its inhabitants below the age of 15. There are Muslims (95.3%), Christians (4.6%), Hindus (0.02%), and others in Lahore. Major casts include Kashmiris (30%), Arain (40%), Kamboh 5%, Rajput 5%, Miscelleneous20%. The majority of people speak Punjabi (73%), followed by Urdu (21%), while Pashto, Mewati, Saraiki, Hindko, and other languages are also spoken.

4.5.2 Education

Literacy rate of Lahore District is 73%. Lahore District has 1120 schools and 63 Colleges (26 boys + 37 girls). With more colleges and institutions than any other Pakistani city, Lahore is regarded as the country's educational capital. Lahore is the prospective hyper-high-tech hub in Pakistan and the country's greatest producer of experts in the domains of science, technology, IT, engineering, medical, and other fields.

Schools and colleges are easily accessible from the project site.

4.5.3 Health Facilities

Healthcare needs are taken care of by Public as well as Private Sectors. Sharif Hospital is very near to Industrial Estate. All other major hospitals of Lahore are in easy access to ACP project site.

4.6 LAB ANALYSIS REPORTS

Baseline environmental data of the project area was monitored in December, 2024. The lab monitoring reports of noise, ambient air quality and groundwater quality are given in Annexure XIII and are summarized in the following.

4.6.1 Noise

The sound levels at center of the project area were measured continuous for 24 hr. during day (6 AM – 10 PM) and night time (10 PM -6 AM). The results are summarized in Table 4.5 and monitoring report is attached as Annexure XIII. The measured sound levels comply with PEQS for noise of Category C.

Table 4-5: Noise Levels at Project Site

Sr. No.	Location	Day Time dB(A) 6 AM -10 PM	Night Time dB(A) 10 PM – 6 AM
1.	Site	(Avg)	(Avg.)
2.	PEQS	75	65

4.6.2 Ambient Air Quality:

Monitoring was carried out for SO_2, NO_x, CO, and particulates PM_{10} and $PM_{2.5}$ for 24 hours at Project Site. The measured data are exhibited in Table 4.6. Lab analytical report is attached as Annexure XIII. Results for all parameters are well within PEQS limits for Ambient Air.

Table 4.6 Ambient Air Quality at Project Site for 24 hours

		Unit	Results	PEQS
1	Particulate Matter (PM_{10})	µg/m^3		150
2	Particulate Matter ($PM_{2.5}$)	µg/m^3		35
3	CO	µg/m^3		5
4	NOx	µg/m^3		120
5	SO2	µg/m^3		120

4.6.3 Groundwater Quality

Analysis report of groundwater by EPA certified lab is given in Annexure XIII and also illustrated below.

Table 4. 7 Groundwater Analyses Results

Sr. No	Parameters	Units	Results	PEQS
1	pH	--	7.54	6.5-8.5
2	Total Dissolved Solids (TDS)	mg/l	500	1000
3	Chloride	mg/l	284.91	250
4	Fluoride	mg/l	0.02	1.5
5	Taste	Objectionable. /Acceptable	Non-object.	Acceptable
6	Odour	Objectionable. /Acceptable	Non-object.	Acceptable.
7	Colour	TCU	0.41	15
8	Nitrate (as NO_3^-)	mg/l	0.4	50
9	Nitrite (as NO_2^-)	mg/l	0.003	3
10	Lead	mg/l	0.0001	0.05
11	Total Hardness as $CaCO_3$	mg/l	80.34	500
12	Turbidity	NTU	1	5
13	Zinc	mg/l	0.0	5
14	Aluminum	mg/l	0.04	0.2
15	Chromium	mg/l	0.0	0.050
16	Cadmium	mg/l	0.0	0.01
17	Copper	mg/l	BDL	2
18	Boron	mg/l	0.024	0.300
19	Barium	mg/l	0.039	0.700
20	Antimony	mg/l	0.0	0.020
21	Arsenic	mg/l	0.017	0.050
22	Cyanide	mg/l	0.04	0.05
23	Mercury	mg/l	BDL	0.001
24	Nickel	mg/l	0.0	0.020
25	Residual Chlorine	mg/l	0.266	0.2 – 0.5
26	Total Thermo Coliform	Number/100ml	0	0/100 ml
27	Total Coliform	Number/100ml	0	0/100 ml
28	E. coli	Number/100ml	0	0/100 ml

*BDL: below detection limit

4.7 SUITABILITY OF THE SITE

The proposed site was evaluated based on the following parameters and deemed suitable.

Table 4.8 Site Suitability

Parameters	**Current Status**
Dislocation, Resettlement, Rehabilitation, Infrastructure Clearing	Not Required
Land Legal Status	The land is legally leased by the proponent and has no legal obligations
Natural Hazards	Site is not prone to any natural hazard – flood, landslide or any other hazard
Hydrology or Waterways	Project will not alter/deteriorate surface hydrology or waterways
Sensitive or Protected area	Project site is not in or near any sensitive or protected area. There are no historical or archeological structures of any kind on or near the property.
Accessibility	The project site is conveniently accessible from all Pakistani towns and ports. The major highways including National Highway N5, Raiwind Road, Lahore Ring Road are easily accessible.
Compatibility to surroundings and Suitability	The project site is in an Industrial Estate and in neighborhood of many industries, having all the amenities needed indicating its compatibility to surroundings.

5. STAKEHOLDERS CONSULTATION

5.1 GENERAL

Any person, group or organization with an interest in the project or who can be affected directly or indirectly, negatively or positively by the project activities is a project stakeholder. There are two types of stakeholders - primary and secondary stakeholders. Primary stakeholders are those which are directly affected by the project activities and secondary stakeholders are those which are affected indirectly. Stakeholder consultation is a mean of involving the primary and secondary stakeholders in the project decision making process by getting feedback from the community and addressing their concerns.

Stakeholder consultation was therefore conducted in the project area, not only to comply with the obligation imposed by Punjab EPA for conducting EIA Study but also to improve and enhance the social and environmental design of the project and achieve the goal of sustainable development.

5.2 OBJECTIVE OF THE STAKEHOLDER'S CONSULTATION

Role of the public participation is very important in the design making process to achieve the goal of sustainable development. The major objectives of public consultation are as follows:

- Promote better understanding of the project, its objectives and its likely impacts and their management.
- Identify and address the concerns of all interested and affected parties of the project.
- Provide a mean to Identify and resolve issues before plans are finalized and development commences, thus avoiding public anger, resentment and potentially costly delays.
- Encourage transparency and inculcate trust among various stakeholders to promote cooperation and partnership with the communities and local leadership.

5.3 STAKEHOLDERS IDENTIFICATION

Identifying the stakeholders for the proposed project is crucial for its success as it helps to quantify and integrate the contributions of the various parties. Residents of neighboring communities of the project site are considered to be the primary stakeholders. Construction activities, if not properly performed, may cause damage to their health, stakeholders' crops and agriculture land. Therefore, their concerns should be incorporated into the EIA for both the construction and operational phases. Furthermore, employees involved in the operation and maintenance of the industry are at risk, if the industry is poorly designed or if inappropriate equipment or contractors are selected. Therefore, engaging DPPL personnel as stakeholders and considering their suggestions is vital to avoid equipment failure or safety incidents. Projects should always leverage the expertise and vision of environmental and social experts to meet sustainability goals.

5.4 CONSULTATION PROCESS

Based on the discussion above, the following stakeholders should be engaged:

- Local Community (living in the vicinity of project site)
- Environment & Social Experts (Public and Private Institutes/Consulting Firms/Academia)
- Grass-root stakeholder discussions

Stakeholders were consulted during informal and formal meetings held in the project area. The consultation process was carried out in Urdu and native language. During these meetings, a simple, non-technical, description of the project was presented, with the overview of the project's likely human and environmental impacts. This was followed by an open discussion allowing participants to voice their concerns and opinion. Their feedback along with their major concerns and suggestions were documented for analysis and mitigation. Focus group discussions and in-depth interviews were also conducted. The issues recorded in the consultation were examined, validated, and addressed in the EIA report.

The consultation process will continue even after the EIA report submission to create consensus among the stakeholders on specific environmental and social issues in context of the project in order to incorporate sustainability in the on-going project.

It is important not to raise community expectation unnecessarily or unrealistically during the stakeholder consultation meetings in order to avoid undue conflicts with local administration

5.5 STAKEHOLDERS FEEDBACK

The consultation with various stakeholders is summarized in Tables 5.1 and 5.2.

Table 5.1 Consultation with Stakeholders

Name	Designation	Organization	Concerns/Advice
Mr. Tanveer Ahmed	Plant Head	M/s DPPL, Lahore	- The current project is focused on promoting environmental sustainability through the use of natural ingredients and recyclable packaging. - DPPL is dedicated to adopting technologies that promote water conservation. - DPPL has already appointed an HSE Engineer to oversee the implementation of the Environmental Management Plan (EMP). - The project is strategically located within an industrial estate, benefiting
Mr. Abdul Rehman			
Mr. Akhtar Mazhar Muhammad			

			from well-established infrastructure, reliable utility supplies, and convenient access to all major cities across Pakistan.
Mr. Ali Ramzan	Environmental Practitioner	ESPAK, Lahore	- Ensure the process machinery complies with PEQS of noise - Consumers products should be based on water conservative formulations
Mrs. Maham Ayesha	Environmentalist	Lahore	- DPPL should initiate sustainability projects such rainwater harvesting by collecting rainwater from roofs of building and diverting it for reuse or recharging the groundwater.
Dr. Naveed Ramzan	Dean Engineering	UET, Lahore	- The proponent should prepare Emergency Preparedness and Evacuation Plans for every floor and provide training to the employees. - The floors should be independently equipped with firefighting equipment and first aid boxes. - The proponent must adhere to the compliance with PEQS.
Mr. Adnan Khan	Manager Environment Social Risk Management	MCB BANK LIMITED, LAHORE	- Ensure the use of PPEs - Many unauthorized companies are manufacturing cosmetic products that pose health risks to consumers. The government should take action to ban such productions. - Initiate environmental sustainability projects.
General Public			-

5.5.1 Public Consultation

Conversations were held with those who lived close to the project. Additionally, general public feedback was gathered. Below is a summary of the public consultation.

- The community appreciated that the new projects in the industrial estate would generate employment opportunities for local residents

- Many members of the local community are already associated with various activities at different factories of the Industrial Estate.

- As a general public concern, foreign cosmetic brands may contain non-halal ingredients, therefore local manufacturing is a better option.

- Local manufacturing would help conserve foreign exchange.

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Table 5.2 Consultation with General Public

Sr No	Name	ID Card Number	Comments
1	Javed Akhtar	35102-7886097-5	The project will create job opportunities Import of consumer products will decrease - Many companies are producing cosmetics under counterfeit foreign brand names, and these products are readily available in Lahore markets. - Companies must ensure that all ingredients are sourced from halal origins. - Overall, this project serves the national interest.
2	Abdul Rehman	34403-9725541-1	
3	Usman khalid	34103-8745677-1	
4	Muhammad Ashar	36303-1171770-7	
5	M Azhar Akhtar	36303-9430100-5	
6	Adeel Ilyas	53202-4295332-5	
7	Muhammad Shaid	31105-5085895-5	
8	Usman Ali	35202-1716654-7	
9	Shahbaz Masih	35102-6259818-7	
10	M. Farhan Ali	53405-0560128-5	
11	Ali Raza	35104-0445403-3	
12	Muddasir Hussian	53202-4161666-3	

6. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATIONS

6.1 GENERAL

This section addresses the Project's potential impacts on physical, biological and socio-economic environment of the area that may be encountered during preconstruction, construction and operations phases. Impacts have been predicted and assessed. Where applicable, mitigation measures have been suggested to be implemented in order to reduce the adverse impacts, if not eliminated. It is aimed to:

- Find different alternatives and ways of doing the project activities.
- Enhance the environmental and social benefits of proposal.
- Avoid, minimize and remediate adverse impacts.
- Ensure that residual adverse impacts are kept in acceptable limits

6.2 IMPACT ASSESSMENT METHODOLOGY

Based on site visits, observations, brainstorming sessions, provided data, and social interviews, significant impacts were evaluated considering both technical and regulatory concerns. A qualitative and, where possible, quantitative assessment of these anticipated impacts was conducted. Various EIA methodologies are available for impact identification, including checklists, interaction matrices, networks, and overlays. For the impact assessment of the proposed project, the Project Interaction Matrix method was utilized.

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6.2.1 Project Interaction Matrix

An interaction matrix is a two-dimensional framework in which project activities are listed along y- axis, while the x- axis includes various environmental parameters that may be affected by the proposed project activities. These parameters are grouped into categories such as Physical, Ecological, and Socioeconomic. A matrix was developed for the proposed Project which relates Project's activities with various components of the environment. The impacts were ranked with respect to their severity as under:

High negative impact	- 2	No impact	N
Low negative	-1	Low positive impact	+ 1
Insignificant impact	0	High positive impact	+2

NA Not applicable

Table 6.1 illustrates the Impact Matrix for the proposed expansion project.

Before suggesting mitigation measures, following six impacts were categorized as moderate to highly negative in severity. These impacts were considered to be significant and mainly focused in EIA.

- Air Quality
- Noise
- Health Hazard mainly due to inappropriate waste management and chemicals handling
- Safety Hazards: Handling of waste; construction and operation activities,
- Soil Contamination
- Water contamination

Table 6-1: Environmental Impact Matrix

Project Activities	*Physical*							*Ecological*			*Social and Socioeconomic*											
	Soil	Air Quality	Surface Water /Quality)	Groundwater	Water Consumption	Topography	Noise and Vibration	Natural Vegetation	Terrestrial Fauna	Reduction of Biodiversity		Living Standard of Community	Livelihood of Community	Cultural Issues	Public Safety	Employment	Traffic congestion	Occupational Health and Safety	Gender Issues		Site Aesthetic	
Preconstruction Phase																						
Project Location (Poor selection has adverse impact)	-1	-1	-1	-1	0	-1	0	-1	-1	-1		+ 1	+1	-1	-1	+1	-1	-1	-1		-1	
Design (Positive impact of appropriate design)	N	+1	+1	+1	+1	0	+1	0	N	N		N	N	N	+2	0	0	+2	N		+1	
Construction Phase																						
Contractor Mobilization	-1	-1	-1	0	0	-1	-2	-1	-1	0		0	0	-1	-2	+1	-2	-1	NA		-2	
Site Preparation	-2	-1	-1	-1	0	-1	-2	-2	-1	-1		0	0	N	0	+1	-1	-1	NA		-2	
Transportation of Construction Material	- 2	-1	-1	-1	0	-1	-1	-1	0	0		0	0	0	-2	0	-1	-1	NA		-2	

Transportation of Plant Equipment	-1	-1	0	0	0	0	-1	0	0	0		0	0	0	-1	0	-1	-1	N		-1	
	Soil	**Air Quality**	**Surface Water (Quantity/Quality)**	**Groundwater**	**Water Consumption**	**Topography**	**Noise and Vibration**	**Natural Vegetation/Trees**		**Terrestrial Fauna**	**Reduction of Biodiversity**	**Living Standard of Community**	**Livelihood of Community**	**Cultural Issues**	**Public Safety**	**Employment**	**Traffic congestion**	**Occupational Health and Safety**	**Gender Issues**		**Site Aesthetic**	
Construction of Campsites	-1	0	-1	0	0	-1	-1	-1		0	-1	+1	0	N	0	+1	0	-1	N		-1	
Excavation	-2	-2	-1	-1	0	-2	-1	-1		0	-1	N	0	N	0	+1	0	-1	N		-2	
Machinery, Generators Operation	-1	-2	-1	-1	o	0	-2	-1		0	-1	0	0	N	0	+1	0	-1	N		-1	
Construction of buildings	-1	-1	-1	0	-1	0	-1	-1		0	-1	+1	+1	N	0	+2	-1	-1	N		-1	
Installation of Plant equipment	0	-1	0	N	N	0	-1	N		N	0	0	+1	N	0	+2	0	-2	N		0	
Solid Waste disposal	-2	-1	-1	-1	N	-1	0	0		-1	0	-1	-1	N	-1	N	N	-1	N		-1	
Liquid Effluent disposal	-2	-1	-1	-2	N	-1	N	0		-1	-1	-1	-1	N	-1	N	N	-2	N		-2	
Contractor's Demobilization	-1	-1	-1	-1	0	0	-1	0		-1	-1	0	0	N	-1	-1	-1	-1	N		0	
Restoration	+2	0	0	0	0	+1	0	+1		0	+1	N	N	N	0	0	0	0	N		+2	

Project Activities	Physical							Biological				Social and Socioeconomic												
	Soil	**Air Quality**	**Surface Water**	**Groundwater**	**Noise**	**Water Consumption**		**Vegetation/Trees**		**Terrestrial Fauna**		**Living Standard of Community**	**Livelihood of Community**	Cultural Issues	Public Safety	**Public Health**	**Employment**	**Traffic congestion**	**Occupational Health and Safety**	**Gender Issues**		**Site Aesthetic**	
Operational Phase																							
Operations activities	-1	-1	0	-1	-2	-1		0		0		+2	+ 1	0	0	0	+2	0	-1	-1		+1	
Solid Waste Disposal	-1	0	-1	-1	N	N		-1		-1		-1	-1	N	N	-1	N	0	-1	N		-1	
Chemicals handling	-1	-1	-1	-1	0	0		0		0		N	N	N	0	-1	0	0	-1	NA		N	
Wastewater disposal	-1	0	0	-1	N	-1		0		0		0	0	0	N	-1	N	0	N	N		-1	
Weighted Overall	-1	-1	-1	-1	-1	-1		0		0		+1	+1	0	0	-1	+2	0	-1	0		0	

Note: Key: -2: High negative impact; -1: Low negative impact; 0: insignificant/negligible impact; +1: low positive impact; +2: High positive impact, N: no impact. NA Not applicable;

6.3 IMPACT CHARACTERIZATION

Impacts are characterized on the basis of significance, probability and prevalence of the potential impacts on the surrounding environment. Primarily, anticipated impacts have been categorized as:

- Direct or Indirect
- Positive or Negative
- Local or Widespread
- Reversible or Irreversible
- Probability (Unlikely, Likely, Certain)
- Severity (Low, Medium, High)

6.3.1 Significance of Impact

Significance of impact is assessed as low, medium and high based on Impact consequences severity and likelihood (Table 6.2), reversibility, impact duration, public concern and mainly the compliance with the EPA Rules and Regulations.

Table 6-2: Impact Assessment

Probability of Impact Occurrence		Impact Severity		
		Mild	Moderate	High
		1	2	3
Unlikely	1	Low Significance	Low Significance	Medium Significance
Likely	2	Low Significance	Medium Significance	High Significance
Certain	3	Medium Significance	High Significance	High Significance

Summary of characterization and significance is summarized in Table 6.3 and 6.4

Table 6-3: Summary of Characterization and Significance of Impacts for Construction Phase.

	Air Quality	Noise	Health Hazard	Safety Hazard	Soil Contamination	Water Contamination
Direct and indirect	Direct	Direct	Direct	Direct	Direct	Indirect
Positive and negative	Negative	Negative	Negative	Negative	Negative	Negative
Local or widespread	Local	Local	Local	Local	Local	widespread
Short- or long-term	Short	Both	Both	Short	Short	Short
Reversible or Irreversible	Reversible	Both	Both	Both	Reversible	Reversible
Severity	Moderate	Moderate	Moderate	High	Moderate	Moderate
Probability	Likely	Likely	Likely	Likely	Likely	Likely
Significance	Medium	Medium	Medium	High	Medium	Medium

Table 6-4: Summary of Characterization and Significance of Impacts for Operation Phase

	Air Quality	Noise	Health Hazard	Safety Hazard	Soil Contamination	Water Contamination
Direct and indirect	Direct	Direct	Direct	Direct	Direct	Indirect
Positive and negative	Negative	Negative	Negative	Negative	Negative	Negative
Local or widespread	Local and widespread	Local	Local	Both	Local	Widespread
Short- or long-term	Short term	Both	Both	Both	both	Long Term
Reversible or Irreversible	Reversible	Both	Both	Both	Reversible	Both
Severity	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Probability	Likely	Likely	Likely	Likely	Likely	Likely
Significance	Medium	Medium	Medium	Medium	Medium	Medium

6.4 IMPACTS ASSOCIATED WITH PROJECT LOCATION

Potential Impact:

Environmental and social impacts may arise with poor siting and improper land acquisition. Impact significance can be high.

Mitigation

Negative impacts can be mitigated by investigating following parameters:

Parameters	**Project Site**
Dislocation, Resettlement, Rehabilitation, Infrastructure Clearing	Not Required
Land Legal Status	No legal obligations or case in any court
Land ownership	Proponent legally owns project land
Natural Hazards	Site is not prone to any natural hazard – flood, landslide or any other hazard
Hydrology or Waterways	Project will not alter/deteriorate surface hydrology or waterways
Sensitive or Protected area	Project site is not in or near any sensitive or protected area. There are no historical or archeological structures of any kind on or near the property.
Accessibility	The project site is easily accessible by road (N5) and Raiwind Road for all towns and ports across Pakistan.
Compatibility to surroundings and suitability	The project site is within the Industrial Estate, having all the amenities and infrastructure needed indicating its compatibility to surroundings.
Availability of Basic Utilities and Industrial Drain	WAPDA power is available. Groundwater of sufficient quantity and appropriate quality is available. Industrial Estate has established sewerage system that is finally disposed of in Irrigation Nehla Drain.
Availability of workforce at an industry location	The required number of workers with the right skill are easily available

Residual Impact

Impacts significance pertaining to Project location will reduce to low significance

6.5 IMPACTS ASSOCIATED WITH DESIGN

Potential Impacts

Impacts that may be addressed during design phase include:

- Physical trauma associated with failure of building structure
- Energy Conservation
- Water Conservation/Water quality
- Appropriate waste disposal system
- Sustainability considerations such as rain water harvesting, use of green chemistry etc.
- Safety and health hazards – including firefighting system, emergency exits,
- Selection of Technology and equipment
- Proper Plant layout
- Infrastructure

Reduction of potential hazards is best accomplished during the design phase when the structural design, layout, technology selection and site modifications can be adapted more easily.

Impact is of High negative significance prior to mitigation.

Mitigation Measures

The following issues should be considered in the planning, siting, and design phases of a project.

- Inclusion of buffer strips or other methods of physical separation around project sites to protect the public from major hazards associated with hazardous materials incidents or process failure, as well as nuisance issues related to noise, odors, or other emissions
- Incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, wind, flooding, landslides and fire. To this end, all project structures should be designed in accordance with engineering and design criteria mandated by site-specific risks, including but not limited to seismic activity, slope stability, wind loading, and other dynamic loads·
- Application of locally regulated or internationally recognized building codes to ensure structures are designed and constructed in accordance

with sound architectural and engineering practice, including aspects of fire prevention and response

- Address the concerns relevant to lighting, sound, water quality, plant layout.
-

6.6 IMPACTS ASSOCIATED WITH CONSTRUCTION PHASE

The Impacts associated with the construction activities of the proposed project are:

- Impacts on Physical Environment
- Impacts on Biological Environment
- Socioeconomic Impacts

6.6.1 Impact on Physical Environment

6.6.1.1 Impact on Soil and Topography

Potential Impact

Soil of the Project site may be affected by earthworks including excavation, dumping of construction debris, leveling of the site; installation of water drainage channels; spillage of fuel and oil from construction machinery, transportation and storage; silt-water from concrete batching and accidental leakage of chemicals to be used.

The likely impacts of these activities may include:

- Localized changes to topography
- Soil erosion, Physical scarring of the landscape.
- Increased risk of land slippage.
- Increased sediment load in surface run off.
- Soil contamination

Mitigation Measures

- Good engineering practices will help control soil erosion.
- Excavation work should be sprayed with water.
- Spill Prevention and Response Plan for storage, use and transfer of fuel and hazardous materials should be prepared.
- Workers should be trained on spill prevention and response plan.
- Fuels, lubricants and chemicals should be stored in covered areas, underlain with impervious lining.
- Maintenance and washing of vehicles and equipment should be carried out at designated areas.

- Regular inspections should be carried out to detect leakages in construction vehicles and equipment. Their scheduled maintenance should be carried out.
- Appropriate arrangements, including shovels, plastic bags and absorbent materials, should be available near fuel storage areas.
- Document all related incidents of spillage to take corrective actions and to avoid recurrence.

Residual impacts:

The implementation of above-mentioned measures is expected to reduce the adverse effects within low range.

Monitoring requirement:

Soil of the construction site should be visually inspected for any adverse effect and its mitigation on daily basis by Contractor's Engineer/Supervisor.

6.6.1.2 Water Consumption

Potential Impact

Water during construction phase will be required mainly for domestic water consumption at the construction camp and for the construction activities.

An adverse impact on the water resources is not expected as water consumption is low and construction phase is for a short period.

Mitigation Measures:

Water supply will be from tube-well. Water conservation program will be initiated to prevent wastage of water.

Residual Impact

No residual impact is expected.

6.6.1.3 Water Quality

Potential Impact

The quality of surface and groundwater supplies may deteriorate in case pollutants mix with surface runoff during rain are carried to water resources in the vicinity, or if pollutants leach into the ground. Potential sources of pollution in such cases may include:

- Domestic waste (sanitary and kitchen discharge)
- Oil and grease from vehicles and construction machinery
- Sediments from altered land surfaces
- Spillage of fuel or chemicals on ground

Chemicals in fuel and oil can quickly move through soil and pollute groundwater. A significant impact on the groundwater will be interpreted if construction material and other pollutants are not effectively controlled.

Mitigation Measures

- Effluents from Construction camp will be diverted through sewerage channels to Septic Tank.
- Fuels, lubricants and chemicals will be stored in areas with impervious floors. The accidental spills should be handled in accordance with the relevant SOPs.
- The scheduled maintenance of vehicles and construction machinery shall be carried out to prevent fuel and oil leakages. Fueling and vehicles washing will be carried out at designated areas.
- Recently groundwater has been analyzed for various parameters which will be used as a base case.

Residual Impact

Low scale residual impact is predicted if mitigation measures are incorporated.

Monitoring Requirement

The Contractor's mechanical crew will closely monitor any leakages from vehicles and machineries on regular basis. Groundwater will be analyzed for parameters of drinking water PEQS on quarterly basis during Construction Phase.

6.6.1.4 Air Quality

Potential Impact

During the construction phase, major sources of potential impacts on air quality are:

- **Dust emissions** generated from civil work and transportation of construction material.
- Wind during construction shift the dust to neighboring area and make the situation worse.
- The movement of heavy machinery and vehicles on the dirt tracks also causes dust emissions.
- **Exhaust emissions of CO, NO_x, SO_2 and particulates** from diesel generators, construction machinery/vehicles (like batching plants, excavators, dump trucks, and other transport vehicles) can pose significant adverse impact on health and environment when the emissions are not in compliance with PEQS.

- The other construction activities which can pose occupational health hazards are welding, metal cutting and painting fumes.
- Moreover, the possibility of exhaust emissions increases when vehicles and equipment are utilized without scheduled maintenance.

Potential impact is of moderate significance.

Mitigation Measures

To make the construction activities lawful and neighbor friendly, following are the practical ways to control nuisance:

- Dampening of material and unsurfaced roads. The most effective means of reducing the dust emission is wet suppression. Use water sprays and commence landscaping as early as practicable.
- Haul trucks carrying earth, sand, aggregate, and other materials should be kept covered during transportation of materials with tarpaulin.
- Dust emission from soil piles and aggregate storage stockpiles will be reduced by covering the piles, for example with tarpaulin or thick plastic sheet.
- Restricting dust generating activities during extremely dry or windy days.
- Construction materials that are susceptible to dust formation will be transported only in securely covered trucks to prevent dust emission during transportation. Restrict vehicles speed.
- Provision of dust respirators to equipment operators and other permanent and contract employees who are exposed to dust.
- Use of vehicles, machinery and generators with high combustion efficiency. Scheduled maintenance will be carried out to meet specifications of the Manufacturer as to minimize the emissions. Do not leave machinery, vehicle or equipment running when not in use.
- (Before and during the building works, all excavations must be fenced or otherwise guarded against being a danger to the life or property.)
- Welders, painters and their co-workers should understand the hazards of material they are working with. Prolonged exposure of fumes may cause serious health complications. They should be enforced to wear PPEs. Develop SOPs for welding including relevant guidelines of OSHA.

Residual Impact

- After taking mitigation measures, impact is assessed to be of low to moderate significance.

Monitoring requirements

- Dust emission will be visually monitored on regular basis
- Ambient air quality will be checked for CO, NO_x, SO_2 and **particulates** near or at project site on quarterly basis.

6.6.1.5 Noise

Potential Impacts

The potential sources of significant noise include the construction machinery, generators at camps and construction related traffic, crushing, scaffolding and radios and mobile phones. The noise will be maximum during the day time when construction and operational activities are ongoing.

The noises loud enough to impair someone's hearing will contribute to hearing loss and accidents when can't hear the alarm.

Loud sound levels at workplace leads to unhappy workers.

Impact is of moderate significance and preventable.

Mitigation Measures:

- Noise hazards are addressed in OSHA standards for construction.
- Use low noise machinery (use of silencer and mufflers) which is properly maintained and operated.
- Fit an acoustic enclosure if machine is stationary.
- Switch off all equipment when not in use.
- For scaffolding, reduce drop from heights.
- Keep the music volume of radio or mobile phone down
- Provide sound related PPEs to the workers.

- Noise levels shall be controlled within PEQS limits as monitored near the project boundaries. For noisy areas, the workers must use hearing protective devices such as ear muffs, ear plugs.
- Place Warning Sign Boards at high sound level areas.

Residual Impact

Low residual impact is expected after taking mitigation measures however use of ear muffs or ear plugs are essential where sound levels are above the PEQS.

Monitoring requirement

Monitoring of ambient sound levels and machinery generated noise will be done by Contractor's Inspection engineer in coordination with DPPL's HSE Engineer on quarterly basis to avoid increase in noise level beyond PEQS limits.

6.6.1.6 Solid Waste Management

Potential Impacts

Solid waste during Construction Phase is classified as domestic solid waste, packaging waste, construction waste (includes cables, copper, empty containers, steel etc.) and excavated material. Other waste includes oily rags, used air and oil filters, waste fluorescent and used cartridge etc. The waste if inadequately managed, can cause health hazard and contamination of soil and groundwater.

Impact is of moderate negative significance

Mitigation Measures

- Site Waste Management Plan (SWMP) shall be prepared and implemented by the Construction Contractor that details the amount and type of waste that will be produced at construction site and how it will be reused, recycled or disposed of at a legitimate site.
- Solid waste will be segregated at the source.
- Hazardous waste will not be mixed with no-hazardous waste.
- Wastage of any useable material will be strictly controlled.

Residual Impact

Impact can be significantly reduced to low intensity provided the above-mentioned mitigations are appropriately incorporated.

Monitoring Requirements

The Contractor's site engineer will monitor and ensure the good practices of SWMP at Construction site.

6.6.1.7 Occupational Health and Safety

Occupational health and safety hazards include:

- Over exertion
- Slips and Falls
- Work on height
- Struck by objects
- Moving Machinery

- Dust
- Confined Spaces and Excavations, other site hazards such as exposure to dust, chemicals, hazardous or flammable materials, and wastes in a combination of liquid, solid, or gaseous forms
- People from the project area cannot be considered isolated from the rest of the country. They are regularly exposed to illnesses common to other populations and have similar levels of immunity.

Impact before mitigation is of high significance.

Mitigation Measures

- Enforce the use of PPEs
- Ensure the use of SOPs for work on height and in confined space and excavations.
- Manage proper housekeeping to avoid safety incidents.
- Excavation sites should be barricaded.
- Provision of appropriate warning sign boards at near work site.
- Spray water to suppress the dust as required.
- Limit vehicles' speed at 20 Km/hr. within the Industrial Estate premises.
- Prevent leakages of fuel and oil
- Ensure appropriate solid and liquid waste handling and disposal.
- Fire prevention and evacuation plans for Construction Phase should be implemented.
- Ensure first aid boxes are available at the construction site and provide first aid training to the contractor's staff.
-

Residual Impact

Impact of low to medium significance is expected after implementing mitigation measures.

6.6.1.8 Vegetation/Trees Loss

Potential Impact

During construction phase, cutting or removal of trees is not required.

Potential impact is of low significance.

Mitigation Measures

- If removal becomes essential, efforts will be made to shift the trees to other available place rather than its cutting
- Ten trees will be planted in place of every removed tree.
- Management is committed to plant native trees on the available open land where feasible.
- Landscaping will be done after construction phase
- Maintain a record of new planted trees for follow up and maintain their growth

Residual Impact

Positive impact.

Monitoring

Planting and maintaining trees will be monitored by DPPL's Admin Officer.

6.6.1.9 Impact on Fauna

Since the project site is within the premises of Industrial Estate and the buildings are already constructed, the avifauna associated with the trees in the surrounding community will not be much affected by the installation jobs. However, the heavy traffic may disturb the local fauna and pose safety risks to reptiles or stray dogs of the community.

Potential impact is of low significance.

Mitigation

- Trees plantation
- Limit vehicles speed below 20 Km per hr.

6.6.2 Socio-Economic Impacts

6.6.2.1 Land Use

Potential Impact

Positive effects are anticipated since the land use will create jobs and boost the nation's economy when in operation

Mitigation Measures

Tree Plantation

Residual Impact

Overall positive impact.

Monitoring Measures

Project Manager will ensure restoration of site by the Contractor. Admin Manager will ensure plantation of new trees and monitor their growth.

6.6.2.2 Impact on Livelihood of Local Communities

Potential Impact

The construction phase will generate employment. The project will provide the communities with the opportunity to expand their existing businesses such as restaurants, transport.

Overall, it will pose a positive impact on livelihood of local communities.

Mitigation Measures

- Local community would be preferred for employment of unskilled labor. They may also be given priority as semi-skilled and skilled workforce if they qualify the job criteria.
- Training will be provided to the unskilled local workers.
- The condition of hiring from local community will be included in the contract with the Construction contractor/s.

Residual Impact

Overall positive impact

6.6.2.3 Community Health and Safety

Potential Impact

Inappropriate management of solid waste, wastewater, emissions, and mainly noise and traffic may pose a threat to the community. However, as the construction activities will be carried out within the Industrial Estate existing premises, therefore insignificant negative impact of construction activities is expected. There will be a temporary increase in traffic due to the installation activities of the proposed development, however this will cease once the development is completed. This will involve deliveries of plant machinery and equipment etc.

The potential health impacts are low; however, the safety impact on the local community could be considered of moderate to high significance due to the the transportation of plant equipment.

Mitigation Measures

- Unauthorized entry to the construction site will be restricted and barricaded where required.
- Environment management will ensure that all waste disposal, air emissions and noise from construction activities comply with EPA rules, PEQS and Safety Standards.

- To reduce road accidents involving project vehicles during construction, avoid activities during heavy traffic at office and schools timings.
- Provision of appropriate warning sign boards at near work site and roads where necessary

Residual Impact

Impact after mitigation measure is expected to be within low-moderate significance.

6.6.2.4 Traffic Annoyance

Potential Impact

As the civil work is already completed, the transportation of plant equipment and machinery is not expected to create any major traffic congestion causing problems to the workers and the local community.

Mitigation

- Equipment and machinery will not be transported at peak working hours to avoid traffic congestion and avoid accidents.
- Vehicle speed will be limited to 20 Km/hr.

Residual Impact

The significance will be minimal after implementing the mitigation measures

Monitoring

Contractor and DPPL's Admin Department will monitor the implementation of traffic control plan for construction phase.

6.7 IMPACTS ASSOCIATED WITH OPERATIONAL PHASE

6.7.1 Impact on Physical Environment

6.7.1.1 Air Emissions

Potential Impact

As normal electrical supply will be from WAPDA, standby generators will operate only during emergency. Impact is of low significance. The raw materials such as chemicals and oils may also generate vapors causing health risks.

Mitigation

- Provide proactive maintenance of standby generators.
- Operate steam generator with design efficiency to avoid excessive CO, UHC, NOx, particulates
- Handling and storage should be conducted in accordance with the guidelines provided in their MSDS (Material Safety Data Sheets).
- Ensure proper ventilation of the Operation Areas.
- Ensure the use of PPEs

Residual Impact

Low to moderate impact

Monitoring

Gaseous emissions from stacks of standby generators should be analyzed for given parameters of PEQS on bi-annual basis. Ambient air will be monitored on bi-annual frequency.

6.7.1.2 Noise

Potential Impact

If you need to raise your voice to speak to someone 3 feet away, noise levels might be over 85 decibels.

Noise may be a problem in your workplace if you:

- Hear ringing or humming in your ears when you leave work.
- Have to shout to be heard by a coworker an arm's length away.
- Experience temporary hearing loss when leaving work.

Source of high noise is plant operation machinery, power generators, steam venting etc. Exposure to high noise levels can lead to psychological effects and physical harm. Prolonged exposure to environmental noise may result in premature death, contribute to ischemic heart disease, cause chronic high annoyance and sleep disturbances, and even lead to hearing loss.

Impact before mitigation is of moderate significance.

Mitigations

- This may be addressed by using noise barriers or noise canceling acoustic devices.
- Select the machines with low sound level. (The machinery manufacturers make considerable efforts in keeping the noise emission as low as possible while improving the speed of their machines)

- Ensure the use of ear plugs and ear muffs by the employees working near high Noise level.
- Place Warning Sign Boards at high sound level areas.

Residual Impact

Residual impact is anticipated be of low to moderate significance. However, where sound level exceeds the recommended limits, wearing ear muffs/ear plugs by the employees should be ensured.

Monitoring

Several sound-measuring instruments are available to measure the noise levels in a workspace. These include sound level meters, noise dosimeters, and octave band analyzers.

Monitoring on bi-annual basis to comply with PEQS of Noise where limits for day time (6am to 10 pm) and night time (10 pm to 6am) are 75 and 65 dB Leq respectively for industrial area.

6.7.1.3 Water Quality

Potential Impact

The quality of surface and groundwater supplies may deteriorate in case pollutants mix with surface runoff during rain are carried to water resources in the vicinity, or if pollutants leach into the ground.

Poor solid and liquid waste handling and disposal may result groundwater contamination.

Impact significance is of moderate level.

Mitigation Measures

- Effluents from Operation site will be diverted through sewerage channels to ETP.
- Fuels will be stored in areas with impervious floors.
- Chemicals spillages will be handled in accordance with the guidelines of MSDS.
- Ensure the implementation of Solid waste management Plan to avoid soil contamination.
- Recently groundwater has been analyzed for various parameters which are found to be within the PEQS limits for drinking water.

Residual Impact

Low scale residual impact is predicted if mitigation measures are incorporated.

Monitoring Requirement

Groundwater will be analyzed for parameters of drinking water PEQS on bi-annual basis during Operation Phase.

6.7.1.4 Solid Waste

Potential Impact

Improper solid waste management may cause a negative impact on environment, safety and health.

Sources of solid waste are packaging material and other domestic waste. Sludge from Septic Tank may also need proper disposal.

Potential impact is of moderate significance'

Mitigation Measures

- Develop a solid waste management plan based on waste management hierarchy of prevention, reduction, recycling, recovery using disposal as a least preferred phase.
- Dewatered sludge of Septic Tank/ETP will be disposed of through an EPA certified contractor.

Residual Impact

Expected Impact after mitigation is of low significance

6.7.1.5 Wastewater

Potential Impact

- Soil and Water contamination and health hazard can be caused by improper wastewater management.
- Low quantity of Wastewater is expected from DPPL.
- The process wastewater primarily consists of washing water used for cleaning process vessels during batch processes. Remaining wastewater will be of domestic nature originated from kitchen, washrooms etc.
- Potential impact is of moderate significance.

Mitigation Measures

- The wastewater will be disposed of to external drain after passing through Septic Tank/ETP.
- Restrict spillages or leakages of chemicals and oils mixing with wastewater.
- Minimize mixing solid waste with wastewater that increases the organic load of wastewater
- Recycle as much water as possible.
- Prevention or minimization of spills and leaks through regularly inspecting and repairing various units (pumps, conveyors, pipes, and other vessels)
- Ensure the compliance of effluent from DPPL with PEQS of Municipal and Liquid Industrial Effluent.
- The dried sludge will be disposed of through an EPA certified contractor.

Residual Impact:

Implementing mitigation measures, impact can be reduced to low significance

Monitoring Measures

- Visual inspection of soil on regular basis for any soil contamination of untreated wastewater.
- Lab analysis of treated effluent will be carried out by EPA certified lab along with submission of validated reports to EPA field office on quarterly basis.

6.7.1.6 Traffic

Potential Impact

The proposed expansion project will increase the traffic flow to and from the site during Operation Phase. This may pose adverse impact on the local road network.

Potential impact is of low to moderate significance.

Mitigation Measures

- The adjacent roads will adequately accommodate the increased traffic load associated with this development.
- Safe driving practices will be ensured by DPPL transport drivers, who will undergo training in safe driving procedures.
- Restrict vehicles speed at 20 Km per hr within Industrial Estate.

Residual Impact

Impact is of low significance.

Monitoring

Gate security will ensure the safe entry and exit of the transport to and from the site.

6.7.1.8 Tree Planation

Potential Impact

Planting native trees has a positive environmental impact and will help compensate for any disturbances to avifauna caused by construction and operational activities.

Mitigation Measures

- The management is dedicated to planting native trees and developing landscapes in the open areas within the DPPL premises. However, due to limited open space available for plantation, this may be compensated by annually donating plants to other organizations through the EPA Field Office.
- Serious efforts are required to ensure the proper growth and maintenance of the planted trees.

Residual Impact

Positive

Monitoring

Monitoring by Admin Officer for growth and maintenance of the planted trees.

6.1.7.9 Occupational Safety and Health

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Potential Impact

The most common risks for accidents are trips and falls caused by slippery floors, stairs, and elevated platforms, working in enclosures and at heights, contact with process equipment involving loose dressing, fires and explosions, leakages and spillages, etc., and Health hazards associated with gaseous emissions, high noise, exposure to hazardous chemicals, high pressure air or steam, inadequate ventilation in enclosures.

Mitigation

- Process safety management (PSM) system will be implemented
- The following plans will be prepared for each floor and implemented:
  - Emergency preparedness procedure including evacuation plan
  - Firefighting plan
- Fire-extinguishers will be placed at different locations
- Work permit system for maintenance will be already implemented in DPPL
- SOPs will be prepared for all operation and maintenance activities.
- Employees will be provided with PPEs including gloves, safety shoes, helmets, safety goggles, face masks, ear plugs/muffs
- Sign boards will be placed at risk and high noise areas
- Assembly points will be notified and rehearsals/drills will be arranged
- Proper lighting will be provided
- Safety hazards will be communicated with adequate signage,
- Spills will be quickly handled and contained,
- Adequate ventilation systems will be installed in enclosures and operation areas.
- The staff will be trained on emergency handling, firefighting and first aid.
- Inspection schedule will be prepared to check fire-extinguishers and first aid boxes on bi-monthly basis.
- First aid boxes will be placed at different locations. One worker from each shift and each floor will be trained on first aid

- SOPs for Dengue control will be implemented

Residual Impact

Residual impact can be lowered to an acceptable level by implementing mitigation measures

Monitoring Requirements

Regular safety audits

6.8 POTENTIAL ENVIRONMENTAL ENHANCEMENT MEASURES

Besides the concrete measures to be adopted as described above, the quality of the environment will further be enhanced through the running of the project in complete accordance with the 5RS Principles- Reduce, Reuse, Recycle, Refurbish and Retrofit. Good housekeeping practices will be the order of the day. The proposed project will be installed with all precautionary measures to enhance and save the environment. Following necessary measures will be adopted during construction and operation:

The sprinkling of water will be done on dusty roads and tracks. PPEs will be provided during construction and operation activities. Management Plans for solid and liquid waste along with firefighting and evacuation plans will be prepared and implemented. Machinery will be kept maintained and never be left unattended. Safety signs and boards will be placed at potential risk areas. Adequate ventilation systems will be installed at each floor to keep the ambient conditions complied with PEQS. The area will be restored at the earliest possible by developing landscapes of open areas and concrete paving of parking and washing areas. A proper tree plantation plan will be formulated to save the environment. Solid waste will be handed over to contractors and an agreement will be made. Noise will be controlled by adopting proper measures. PPEs will be provided to workers during installation and operational phase. Hygienic conditions will be ensured and proper quality will be maintained by quality control testing. Fire extinguishers will be placed at sensitive locations of each floor. First aid facilities will be made available at each floor. Every possible measure will be adopted to make the project safe and environment-friendly. Water conservation is the major potential area having improvement opportunities.

7. ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

This chapter outlines a comprehensive approach to managing and monitoring environmental issues while detailing the institutional framework and reporting mechanisms for implementing the Environmental Management Plan (EMP) during the pre-construction, construction, and operational phases of the proposed project.

The EMP has been developed with the following objectives:

- Detail the project's impacts along with proposed mitigation measures and an associated implementation schedule.
- Establish the roles and responsibilities of the project proponent, contractor, and supervisory consultants to ensure effective communication of environmental issues among all stakeholders.
- Develop a monitoring framework, including reporting frequency, auditing processes, and identification of monitoring parameters, to ensure complete and effective implementation of all mitigation measures.
- Specify the requirements for documenting EMP compliance and effectively communicating it to the relevant regulatory authorities.
- Provide an estimated cost for implementing the key actions outlined in the EMP.

7.1 MANAGEMENT APPROACH

The organizational roles and responsibilities of the Proponent and Contractor are outlines as follows:

Proponent:

The project proponent will hold overall responsibility for ensuring compliance with the EMP during construction and operational phases. Relevant Departments will carry out verification checks to confirm that the contractors are effectively accomplishing their environmental and social responsibilities during construction phase or during life time of the project when contractor workforce is hired. During the operational phase, the proponent, with support from designated staff of the HSE and Admin Departments, is responsible for overseeing the implementation of the EMP and the mitigation measures recommended in the EIA report.

Contractors:

The contractors will implement the majority of environmental and social mitigation measures within their field activities as part of the project. The contractors are subject to certain liabilities under the national laws and specific clauses outlined in their contract with the proponent. The responsibilities detailed in the EMP should be explicitly in the contractor's scope of work during the agreement. The EIA report and the Conditions of Environmental Approvals will be provided to the Contractor, along with auditable evidence.

7.2 ENVIRONMENT MANAGEMENT TEAM, ROLES AND RESPONSIBILITIES

The project proponent of M/s DPPL is committed to implementing the Environmental Management Plan (EMP) and holds the primary responsibility for ensuring compliance with EMP. The proponent has designated GM Plant to oversee overall activities involved in implementation of EMP during Construction and Operation phases.

The main personnel involved in the EMP Implementation are

- Proponent DPPL
- Production Manager
- Manager HSE
- HSE Engineer
- Admin Manager.

7.2.1 Construction Phase

The civil works (buildings) have already been completed by the previous proponent (Refer to Section 1.2). The installation of plant's new equipment and machinery will be carried out after obtaining the environmental approval.

As the EMP is included in the contract between DPPL and the contractors, it becomes the contractor's responsibility to ensure its implementation during the construction phase.

The Contractor's Site Manager will oversee all construction activities, manage the construction crew and site personnel, and ensure environmentally responsible practices. The Site Manager will coordinate with DPPL's Manager HSE and Project Engineer. The Manager HSE will be assisted by General Manager and Admin Manager to look after the environment and social aspects. For environmental monitoring, the Manager HSE will collaborate with an EPA-certified laboratory. In addition, Manager HSE will also coordinate with the EPA Punjab to ensure compliance of provisions of environmental approval of the project. Additionally, DPPL will establish an Inspection Team to conduct daily inspections and weekly/monthly audits of construction activities, with a particular focus on those related to the EMP.

The Site Engineer of the Contractor will:

- Prepare compliance reports as per schedule and will submit to DPPL Manager HSE
- Ensure the use of PPEs by the workers and train them on proper use;
- Conduct the environmental and health and safety trainings to the workers / labor.
- Provide fire extinguishers and first aid boxes at sensitive location.

7.2.2 Operational Phase

Throughout the Project operational phase, GM Plant will oversee the timely implementation of EMP and Monitoring Plan. Manager HSE is responsible to manage timely environmental

monitoring including Noise level and ambient air monitoring and lab analyses of Effluent, gaseous emissions and groundwater on quarterly basis. HSE Team and Admin Manager will assist GM in implementing EMP and provide support in implementation of Sustainability Projects

7.3 ENVIRONMENT MANAGEMENT PLAN (EMP)

Table 7.1 illustrates the overview of proposed mitigation measures for possible implications for location, design and construction and operation phases of the proposed project The responsibilities for each mitigation measures have been marked to use this Table as an EMP.

7.4 ENVIRONMENT MONITORING PLAN

Environmental monitoring is a vital component of the Environmental Management Plan. The feedback provided by the environmental monitoring is instrumental in identifying any problem or lapse in the system under implementation and planning the corrective actions.

Main objectives are:

- To provide a mechanism to determine whether the Construction contractors are carrying out the project in conformity with the EMP.
- To document the actual project impacts on physical, biological, and socioeconomic receptors, quantitatively where possible, in order to evaluate adequacy of EMP and determine the need for any improvement.
- To ensure that all the negative impacts generated during Construction and Operations activities have been mitigated to an acceptable level to meet EPA Rules and Regulations and are compliant with Punjab PEQS.

Table 7.2 presents the Monitoring Plan for Construction and Operation Phases.

Following record should be maintained:

- Periodic inspection reports of the site
- Audit reports of Environment, Energy, Safety and Health
- Record of all moderate and major spills and other incidents; investigation reports.
- Waste tracking registers keeping records of waste generation and disposal.
- Analyses reports of effluent, groundwater, Ambient air, particulates emissions and sound level survey reports
- Record of Utilities
- Employment opportunities offered to local community
- Community complaints and corrective measures taken

Table 7.1 ENVIRONMENTAL MANAGEMENT PLAN (EMP)

	Potential Impacts	Proposed Mitigation Actions	Institutional Responsibility		Monitoring/ Actions
			Mitigation	Supervision	
A	**PROJECT LOCATION**				
A.1	- Land acquisition - Resettlement/displacement ○ Environmentally sensitive or protected area - Conflict with stakeholders - Road accessibility - Natural Hazards - Compatibility to surroundings - Availability of Utilities and industrial drain -	- Land is legally owned by the proponent - No resettlement or displacement is required - There is no sensitive or protected area around the project site. - No conflict exists with the stakeholders. - Easily accessible to National Highway N5 and Raiwind Road. Convenient Road accessibility to all cities and ports. - The Project is within the premises of Industrial Estate having all the amenities and infrastructure needed indicating its compatibility to surroundings. - Site is not prone to any natural hazard – flood, landslide or any other hazard - Groundwater is of appropriate quality. - Raw materials and skilled/unskilled workforce is conveniently available. -	DPPL Admin Manager	GM Admin	Monitor and resolve any conflict with stakeholders that may arise throughout the project's lifespan

B	**DESIGN**				
B.1	- Physical trauma associated with failure of building structure - Energy Conservation - Appropriate waste disposal system - Sustainability considerations such as water conservation, use of renewable or low/No carbon fuels - Safety and health hazards – including firefighting system, emergency exits, - Selection of Technology and equipment - Proper Site layout	- All project structures are designed in accordance with engineering and design criteria mandated by site-specific risks, including but not limited to seismic activity, site seismic zones, soil bearing capacity, wind loading and other dynamic loads· - It has been ensured that the designer adheres to International Engineering Standards. - Environmental and energy conservation related considerations are also incorporated. - Water conservation will be ensured by incorporating water-management, water recirculation option. - Fire-hydrant, fire alarms, water sprinklers all have been taken into account at design phase - Provision of Emergency evacuation exits should be properly designed. - At the design stage, it is important to choose environmentally friendly technology along with equipment of minimal carbon footprints and low noise operation - Appropriate site layouts should be developed to support employees for safe and efficient operations and maintenance.	Designing Firm	Proponent	The plant project team will monitor the timely submission and review of design documents.
C	**CONSTRUCTION PHASE**				
C.1	**Soil Erosion and Soil Contamination**				

	The likely impacts of earthworks may include: - Soil erosion, Physical scarring of the landscape. - Increased risk of land slippage. - Increased sediment load in surface run off. Spillage of fuel and oil from construction machinery, transportation and storage may cause: - Soil contamination with subsequent groundwater contamination	The civil work has already completed by the previous proponent (See Section 1.2) - Good engineering practices help control soil erosion. - Water must be sprayed on soft soil to avoid dust emissions and further erosion during installation activities. - Restoration will be done as soon as feasible. - To restore the natural Landscapes, native trees will be planted and green lawns will be developed on open space. - The site's environment and natural beauty are of great interest to the management, who will take action to protect them. - Groundwater will be analysed on quarterly basis to check for any contamination	Contractor's Site Manager	Project Engineer/ HSE Engineer	Daily inspection of Construction site to check any fuel/oil leakage on the soil or leakage from vehicles or machinery or in storage area.
C.2	**Noise**				
	- Long-term exposure to Environmental noise may cause premature deaths, contribute to ischemic heart disease, chronic high	- Proper PPEs such as ear plugs and ear muffs will be provided to each employee. - Sign boards will be placed in areas with loud noise levels. - Address Noise hazards in accordance with "OSHA Standards for Construction".	Contractor's Site Engineer	HSE Engineer	Safety audits will be conducted to verify the compliance of PPEs.

	annoyance and chronic high sleep disturbance - Source of Noise during Construction phase is construction machinery and construction activities. - Use of mobile phone at work place	- An acoustic enclosure will be fitted if machine is stationary. - It will be ensured to switch off all equipment when not in use. - It will be ensured to keep the music volume of radio or mobile phone down - Only low-noise, well-maintained machinery will be permitted on the construction site.			Monitoring of noise level on quarterly basis. .
C.3	**Air Emissions**				
	Health hazard due to: - **Dust emissions** generated from civil works. - Dust emissions due to vehicles on un-metaled roads. - Dust emissions due to construction material unloading at site and improper storage - **Exhaust emissions of CO, NO_x, SO_2 UHC and particulates** from diesel generators, construction machinery/vehicles - Other construction activities which can pose occupational health	- Dust and gaseous emissions associated with civil work are not expected as it has already been completed. - The sprinkling of water will be done on roads and other dusty areas which are not yet converted to landscapes. - Enforce the use of PPEs where required. - Commence restoration as early as practicable - Limit speed limit of vehicles to 20 Km/hr. - Equipment and vehicles should be well maintained to operate at their design specifications to minimize particulate and gas emissions. - Electricity will be supplied to Construction site from Wapda. This will avoid the gaseous	Contractor's Site Manager	HSE Engineer	Quarterly monitoring of ambient air for PEQS parameters and submit the verified reports to EPA

	hazards are welding, metal cutting and painting fumes. -	emissions and noise nuisance from Diesel Generators - .			
C.4	**Water Supply**				
	- In-sufficient water supply can cause inadequate sanitation and health hazards - Poor Water Quality is also a health hazard - Wastage of water	- Sufficient Groundwater supply will be available - Prepare water conservation plan (e.g., reduce, reuse and recycle) to reduce water use and wastewater generation. - Prevent soil/water contamination from poor management of sewage, solid waste, oil spillage/leakages, vehicles' washing etc. - Groundwater/drinking water will be analyzed on quarterly basis -	Contractor's Site Engineer/HSE Engineer	Lead HSE&Q /In-charge Utilities	Monitor sufficient water supply of appropriate quality to the workers. Arrange lab analysis of water supplyby EPA certified of lab for compliance with PEQS of drinking water.
C.5	**Wastewater**				
	Inappropriate wastewater management can cause: - Soil and water contamination - Health Hazard	- Sewage from Construction site will be passed through a Septic Tank before discharge to external drain.	Contractor's Site Manager	HSE Engineer	Quarterly analysis of treated Effluent

C.6	**Solid Waste**				
	- Solid waste during Construction Phase if inadequately managed, can cause health hazard and contamination of soil and groundwater -	- Solid waste generation due to civil works is not expected as civil work is already completed. - Ensure proper house keeping - Waste to be segregated at source during equipment and machinery installation - Hazardous waste will not be mixed with non-hazardous waste. - Wastage of any useable material will be strictly controlled - Open solid waste burning is prohibited.	Contractor's Site Manager/ Contractor's Environment Engineer	Lead HSE&Q /In-charge Utilities	Daily Inspection of Construction site to ensure proper housekeeping and the use of separate bins for different type of waste
C.7	**Occupational Health and Safety**				
	Occupational safety and health hazards include: - Over exertion - Slips and Falls - Struck by objects - Moving Machinery - Work on height - Confined Spaces and Excavations - Exposure to dust, chemicals, flammable material and wastes in a	- Enforce the use of PPEs - Ensure the use of SOPs for work on height and in confined space. - Manage proper housekeeping to avoid safety incidents. - Provision of appropriate warning sign boards at near work site. - Spray water to suppress the dust as required. - Limit vehicles' speed at 20 Km/hr. within the DPPL's premises.	Contractor's Site Engineer	HSE Engineer	Safety audits

	combination of liquid, solid, or gaseous forms - Installation of Plant Equipment and Machinery	- Ensure proper maintenance of construction machinery and vehicles to minimize exhaust emissions and leakages of fuel and oil - Ensure appropriate solid and liquid waste handling and disposal. - Load testing of the cranes will be carried out before installation of Plant equipment and machinery. - Fire extinguishers will be placed at Construction site especially where welding jobs are executed - Fire prevention and evacuation plans for Construction Phase should be implemented. - Ensure first aid boxes are available at the construction site and first aid will be provided training to the contractor's staff			
D	**SOCIOECONOMIC IMPACTS**				
D.1	**Traffic**				
	Traffic congestion increases the environmental pollution, noise, stress and exhaustion and decrease the time availability for people to spend with their families - Safety Hazard	- The project site is located within Industrial Estate. The existing roads will easily handle the increase in traffic associated with this development, - . - Plant equipment and machinery will not be transported at peak working hours to avoid traffic congestion and road accidents. - Vehicle speed will be limited to 20 Km/hr.	Contractor's Site Manager/	HSE Engineer/Admin Officer	The traffic control plan will be monitored regularly.

		- Gate security guard will ensure the safe exit and entry of a vehicle to and from the road.			
D.2	**Livelihood Of Local Communities And Economic Growth**				
	Overall, positive impact is anticipated by - Creating stable Employment opportunities - Economic growth - Skill improvement of locals. - Providing the chances of business expansion	- Local community shall be given priority for employment provided they qualify the job criteria. - Child labor is not allowed	Admin Officer	Admin Manager	
E	**Biological Environment**				
E.1	Trees Removal – No trees need to be removed from the Project site	- Landscapes will be developed and tree plantation will be carried out during and after restoration.	Admin Officer	Manger Admin	Trees growth will be monitored on regular basis.
	OPERATION				
	Air Emissions				
	Uncontrolled gaseous and particulates emissions particularly from emergency diesel generators and steam	- Normal supply will be from Wapda preventing the project from gaseous emissions.	HSE Engineer	Production Manager	Gaseous emissions will be monitored

	generators may cause a negative impact.	- Carry out proactive maintenance of the standby generators - Design combustion efficiency of steam generator will be ensured			on quarterly basis
	Noise				
	Exposure to high noise levels can lead to psychological effects and physical harm including hearing loss. Source of high noise is plant operation machinery, power generators, steam venting etc.	- This may be addressed by using noise barriers or noise canceling acoustic devices. - Machines with low sound level having low sound will be installed - Use of ear plugs and ear muffs by the employees will be ensured in working areas of high Noise level. - Warning Sign Boards will be placed at high sound level areas.	HSE Engineer	Production Manager	Noise level survey will be conducted on regular basis.
	Water Supply				
	Insufficient and poor quality of water supply can cause sanitization issues and health hazard	- Sufficient water supply of appropriate quality will be ensured - Water treatment plant will be installed for supply of process water.	HSE Engineer	Production Manager	Groundwater will be analyzed by EPA certified Lab
	Solid Waste				
	Solid waste includes - Packing material	- Solid Waste Management Plan will be prepared and implemented - Segregation at the source will be carried out - -	HSE Engineer /Admin Officer	Production Manager	Auditable record will be maintained.

	- Domestic waste originated from offices, kitchen etc. - Dewatered Sludge from Septic Tank/ETP -	- Domestic waste will be disposed of through local contractor of Industrial Estate. - Hazardous waste (if any) and Dewatered sludge from treated effluent will be properly disposed of through EPA certified contractor - Open burning of solid waste is not permitted.			
	Wastewater				
	Improper Wastewater management can contaminate soil and groundwater and cause health hazard	- Mill effluent will be treated at Septic Tank/ETP before discharge to external drain in order to comply with PEQS for Industrial Effluent. - Dewatered sludge will be disposed of through EPA certified contractor.	HSE Engineer	Production Manager	Lab analysis of treated effluent will be carried out on Quarterly basis and validated reports will be submitted To EPA
	Traffic				
	After expansion, additional traffic load is anticipated on adjacent roads .	- The adjacent roads will adequately accommodate the increased traffic load associated with the supply of raw materials and deliveries of products. - Vehicles speed will be limited to 20 Km/hr. within Industrial Estate.	Admin Manager	GM Admin	Traffic Plan will be regularly monitored in accordance with guidelines of Industrial Estate management.

	Occupational Safety and Health				

	The most common risks for accidents are:
	- Trips and falls caused by slippery floors, stairs, and elevated platforms,
	- Working in enclosures and at heights,
	- Contact with process equipment involving loose dressing,
	- Fires and explosions,
	- Leakages and spillages,
	- High pressure air or steam, etc.
	
	Health hazards are associated with
	- Gaseous emissions,
	- High noise,
		- Process safety management (PSM) system will be implemented
		- Following plans will be prepared for each floor and implemented:
		  - Emergency preparedness procedure including evacuation plan
		  - Firefighting plan
		- Fire-extinguishers will be placed at different locations
		- Work permit system for maintenance will be implemented at DPPL
		- SOPs will be prepared for all operation and maintenance activities.
		- Employees will be provided with PPEs including gloves, safety shoes, helmets, safety goggles, face masks, ear plugs/muffs
		- Sign boards will be placed at risk and high noise areas
		- Assembly points will be notified and rehearsals/drills will be arranged
		- Proper lighting will be provided
		- Safety hazards will be communicated with adequate signage,
			Production Manager/Maintenance Manager/ Lead HSE&Q	Sr. GM Mill	Safety audits will be carried out.

	- Exposure to hazardous chemicals, - Inadequate ventilation in enclosures	- Spills of chemicals/oils/fuels will be quickly handled and contained in accordance with the guidelines of relevant MSDS. - Ventilation systems will be properly installed in enclosures and on each floor level to prevent the accumulation of vapors or gases. - The staff will be trained on emergency handling, firefighting and first aid. - Inspection schedule will be prepared to check fire-extinguishers and first aid boxes on bi-monthly basis. - First aid boxes will be placed at different locations. One worker from each shift will be trained on first aid - SOPs for Dengue control will be implemented -			
	New Hiring for Plant Operations				
	Positive Impact of New Hiring for Plant Operations	- New plant operators, maintenance technicians, and HSE personnel will be recruited from the neighborhood and given training in occupational health and safety and other necessary skills. - Child labor will not be allowed	Manager HR	GM HR and Admin	Auditable record will be prepared

	Tree Plantation				
	Positive impact of tree Plantation	- Tree Plantation Plan will be prepared and implemented - Extensive plantation of native trees will be carried out and landscapes will be developed on open areas.	Admin Officer	Manager Admin	Growth of planted trees will be monitored on regular basis.
	Gender Issues				
	Gender Equality Gender equality can positively impact a national development as well as a company's performance and creativity while strengthening its market and brand reputation.	- Ensure that there is no discrimination based on gender. - A safe and secure environment will be ensured for female workers - Employees will have safe, confidential ways to report gender-based issues, with clear follow-up and protection against retaliation.	Manager admin	GM Admin/Hr	Supportive workplace policies will be prepared and implemented.

Table 7.2 Environment Monitoring Plan for Construction (Installation) and Operational Phases

Components	Parameters	Standard	Frequency		Responsibility	Performed By
			Construction	Operations		Submitted to EPA
Noise	Noise Level dB(A) Survey	PEQS For Noise	Quarterly	Quarterly	HSE Engineer	**To be Performed by EPA Certified Lab and validated reports will be submitted to EPA, Punjab on quarterly basis**
Ambient Air Quality	CO, SO_2, NO_x, Particulates (PM_{10}, $PM_{2.5}$)	PEQS For Ambient Air	Quarterly	Quarterly	HSE Engineer	
Gaseous Emissions	CO, SO_2, NO_x, Particulates	EPA PEQS for Industrial Gaseous Emissions	Quarterly	Quarterly	HSE Engineer	
Water Quality	Drinking water PEQs,	PEQS/WHO for Drinking water	Quarterly	Quarterly	HSE Engineer	
Effluent	All PEQS parameters	PEQS for Industrial Effluents	Quarterly	Quarterly	HSE Engineer	
Trees Plantation	Visual Inspection	Environmental Sustainability	Regular Monitoring by Site Administration		Manager Admin	

7.5 SCHEDULE FOR IMPLEMENTATION AND ENVIRONMENTAL BUDGET

7.5.1 Schedule for Implementation

- The Civil work had been completed and the proposed project involves a change of business operations.
- New equipment and plant machinery have been ordered and are expected to be delivered soon.
- Installation is planned to start just after obtaining Environmental Approval for from EPA Punjab
- The Planned duration for is 2-3 months.
- Effluent Treatment Plant

7.5.2 Environment Budget

DPPL is committed to creating and promoting an environmentally sustainable and responsible culture and foster continuous improvement in its performance in terms of its environmental footprint. The budget proposed for effectively implement the EMP is summarized in Table 7.3.

Table 7.3 Environment Budget for EMP Implementation

Activity	Description	Cost (PKR)
Environment Monitoring Cost	Analyses of Noise, ambient air, Effluent and Water Quality	200,000
Solid Waste Disposal	Solid Waste management	400,000
HSE	PPEs etc.	600,000
Plantation Plan	Tree Plantation	100,000
Training Program	Trainings	300,000
	Grand Total	1,600,000

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7.6 PROPOSED EMP REPORTING AND REVIEWING PROCEDURE

The EMP will be incorporated into the contract between project contractor/s and DPPL. It will be a contractor's responsibility to implement the EMP during Construction Phase. However, DPPL HSE and Admin Departments will provide support to the Contractor's team whenever required to work for a common cause.

- The contractor's Site Manager will prepare periodic progress report of EMP implementation and share with HSE Engineer. After review by HSE Engineer and Admin Officer, the report will be submitted to Manager HSE.
- Manager HSE will review the report and assess the compliance with EMP and discuss the report in internal departmental meetings headed by the Proponent.
- At the completion of project construction, the Contractor will prepare the project completion report and submit to the Proponent.
- In case of non-compliance by the contractor, the Proponent will take proper action on non-compliance in accordance with a clause of contract and may recommend to make deductions from the payments to the contractor.
- Change of management plan will be implemented to incorporate any change required in the EMP during design and construction stage.
- During Operational phase, the Proponent will oversee the implementation of EMP with the support of Production, HSE and Admin Departments. The periodic progress report will be presented by Manager HSE and Admin Manager in the MR Meetings. The compliance status of the conditions of Environmental Approval will be closely monitored by Manager HSE and reported in Monthly Meetings. The compliance status will also be shared in BOD Meetings by the Proponent.

7.7 ENVIRONMENT TRAININGS

DPPL will provides periodic Environmental and HSE trainings to their permanent and Contract Employees. A comprehensive annual training calendar will be developed. Environment, Health and Safety (EHS) are considered to have a high weightage in their performance evaluation process.

7.8 GRIEVANCE REDRESS MECHANISM (GRM) SUMMARY

Key features of the GRM include:

1. **Social Complaint Register (SCR):** The contractor will maintain an SCR at project sites to document all complaints from Project Affected Persons (PAPs) and local communities.
2. **Complaint Resolution Process:**
    - Upon receiving a complaint, the contractor will record it in the SCR and attempt to resolve it within 15 days in coordination with Manager HSE and Admin Manager.
    - If the issue remains unresolved, it will escalate to the GM Plant, who will address it within another 15 days.
    - Further unresolved issues will be taken to the Company's Director if they are of serious nature, with a resolution timeframe of one month.
    - If the complainant is still dissatisfied, they have the right to pursue legal action.

3. **Documentation and Communication:** Proposed remedial actions will be documented in the SCR, along with implementation responsibilities and schedules. Complainants will be informed of the proposed and actual actions taken, and their feedback will also be recorded.
4. **Review Process:** The SCR will be reviewed in fortnightly site meetings to monitor the progress of remedial actions.

Overall, the GRM aims to provide a structured approach for addressing grievances, ensuring community concerns are managed effectively throughout the project lifecycle.

8. CONCLUSION AND RECOMMENDATIONS

8.1 CONCLUSION

The Environmental Impact Assessment (EIA) study was carried out for the Establishment of Cosmetic Manufacturing Facility by Dabur Pakistan (Pvt.) Limited in Sundar Industrial Estate, Lahore

The EIA Study confirms that the proposed project is environmentally, socially and legally viable. The proponent is committed to executing the project in an environmentally responsible manner, taking all necessary measures to mitigate potential adverse impacts. Furthermore, the project will generate employment opportunities for the local community during both the construction and operational phases.

8.2 RECOMMENDATIONS

Considering the comprehensive screening process and the findings of this study, no further investigations are deemed necessary. Overall, the project will have positive impacts on the local population and country as a whole. Therefore, it is strongly recommended to grant Environmental Approval for the establishment of the Proposed Project, provided the Proponent effectively implements the Environment Management and Monitoring Plans.

It is emphasized that:

- The Environmental Management and Monitoring Plan should be implemented with full commitments.
- Stakeholders' grievances must be addressed as a priority.
- The management should support the local community as part of its corporate social responsibility initiatives.
- Regular monitoring and maintenance of the planted trees must be ensured.
- Environmental sustainability projects should be prioritized.
- Housekeeping and proper use of personal protective equipment (PPE) must be ensured wherever necessary.
- The drinking water of required PEQS should be provided to the workers.
- Fire extinguishers and first aid boxes should be strategically positioned at multiple locations throughout the site. Suitable emergency exits should be provided on every floor level.
- Dengue prevention SOPs must be implemented effectively.
- Process Safety management in line with OSHA standards should be adopted and implemented.

ANNEXURES

ANNEXURE I: GLOSSARY

Term	Definition
Aesthetic Value	The value derived from the beauty, visual appeal, and experiential qualities of a landscape or place.
Ambient air quality	Ambient air quality refers to the quality of outdoor air in our surrounding environment.
Archaeology	The study of human history and prehistory through the excavation of sites and the analysis of artefacts and other physical remains.
Biodiversity	The variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable.
Climate.	The weather conditions prevailing in an area in general or over a long period
Conservation	Official supervision of rivers, forests, and other natural resources in order to preserve and protect them through prudent management
Construction Waste	Waste generated from the buildings and construction industry and includes material like bricks, concrete, tiles, debris, ceramics and more.
Consultant	A person who provides professional advice or services to companies for fee
Cultural Heritage	Valued objects and qualities such as historic buildings and cultural traditions that have passed from previous generations.
Demographic	A single vital or social statistic of a human population, as the number of births or deaths
Ecology	The branch of biology that deals with relations of organisms to one another and to their physical surroundings
Effluent	Liquid wastes such as sewage and liquid waste from industries
Environment	Relationship of natural world (human beings, animals and plants) with physical surroundings (air, land, water).
environmental impact assessment (EIA)	(EIA) is an analytical process that systematically examines the possible environmental consequences of the implementation of projects, programs and policies
environmental management plan	(EMP) is a site-specific plan developed to ensure that all necessary measures are identified and implemented in order to protect the environment and comply with environmental legislation.
Excavation	The act or process of digging, especially when something specifics being removed from the ground.
Fauna	The animals of a particular region, habitat, or geological period.
Flora	The plants of a particular region, habitat, or geological period.

Framework	A real or conceptual structure intended to serve as a support or guide for the building of something that expands the structure into something useful
Hazardous Waste	Waste that poses substantial or potential threats to public health or environment
Impact	The action of one object coming forcibly into contact with another.
IEE	Initial Environmental Examination
Livelihood	A set of activities involving securing the basic necessities –food, water, shelter and clothing of life.
Peak ground acceleration	Peak ground acceleration (PGA) is equal to the maximum ground acceleration that occurred during earthquake shaking at a location
Policy	A policy is a deliberate system of principles to guide decision and achieve rational outcomes
Proponent	A person who advocates a theory, proposal, or course of action.
Rehabilitation	To restore to a condition of good health, ability to work, or the like
Resettlement	The settlement of people in a different place
Resource	A stock or supply of money, materials, staff, and other assets that can be drawn on by a person or organization in order to function effectively.
Sanitation	Conditions relating to public health, especially the provision of clean drinking water and adequate sewage disposal
Seismic Hazard.	A seismic hazard is the probability that an earthquake will occur in a given geographic area, within a given window of time, and with ground motion intensity exceeding a given threshold.
Seismology	The branch of science concerned with earthquakes and related phenomena.
Stakeholder	A stakeholder is a party that has an interest in a company, and can either affect or be affected by the business. The primary stakeholders in a typical corporation are its investors, employees and customers.
Topography	Topography is the study of the shape and features of the surface of the Earth and other observable astronomical objects including planets, moons, and asteroids
Vegetation	Plants considered collectively, especially those found in a particular area or habitat.

ANNEXURE II: ABBREVIATIONS & ACRONYMS

DPPL	Dabur Pakistan (Pvt.) Limited
CO	Carbon Monoxide
CCHA	Community Controlled Hunting Area – CCHA
CSR	Corporate Social Responsibility
dB(A)	Decibel- A
ERP	Emergency Response Plan
EHS	Environmental Health & Safety
EMMP	Environmental Management and Monitoring Plan
EPA	Environmental Protection Agency
EPD	Environmental Protection Department
HSE	Health Safety & Environment
GRM	Grievance Redress Mechanism
IEE	Initial Environmental Examination
IFC	International Finance Corporation
ILO	International Labor Organization
LAA	Land Acquisition Act
LST	Land Surface Temperature
LULC	Land Use and Land Cover
MSDS	Material Safety Data Sheets
NCSW	National Commission on the Status of Women
NFPA	National Fire Protection Association
NOC	No Objection Certificate
OSHA	Occupational Safety & Health Administration
NOx	Oxides of Nitrogen
SOx	Oxides of Sulfur
PM	Particulate Matter (2.5 or 10)
PGA	Peak Ground Acceleration
PPE	Personal Protective Equipment
PEPA	Punjab Environmental Protection Act
PEPC	Punjab Environmental Protection Council
PEQS	Punjab Environmental Quality Standards
3R	Reduce, Reuse & Recycle
SEAL	Solution Environmental & Analytical Laboratory
SF	Square Foot
SOPs	Standard Operating Procedures
WHO	World Health Organization

ANNEXURE III:

LIST OF INDIVIDUALS AND ORGANIZATIONS CONSULTED ALONG WITH THEIR FEEDBACK

Consultation with Stakeholders

Name	Designation	Organization	Concerns/Advice
Mr. Tanveer Ahmed	Plant Head	M/s DPPL, Lahore	- The current project is focused on promoting environmental sustainability through the use of natural ingredients and recyclable packaging. - DPPL is dedicated to adopting technologies that promote water conservation. - DPPL has already appointed an HSE Engineer to oversee the implementation of the Environmental Management Plan (EMP). - The project is strategically located within an industrial estate, benefiting from well-established infrastructure, reliable utility supplies, and convenient access to all major cities across Pakistan.
Mr. Abdul Rehman			
Mr. Akhtar Mazhar Muhammad			
Mr. Ali Ramzan	Environmental Practitioner	ESPAK, Lahore	- Ensure the process machinery complies with PEQS of noise - Consumers products should be based on water conservative formulations
Mrs. Maham Ayesha	Environmentalist	Lahore	- DPPL should initiate sustainability projects such rainwater harvesting by collecting rainwater from roofs of building and diverting it for reuse or recharging the groundwater.
Dr. Naveed Ramzan	Dean Engineering	UET, Lahore	- The proponent should prepare Emergency Preparedness and Evacuation Plans for every floor and provide training to the employees.

			- The floors should be independently equipped with firefighting equipment and first aid boxes. - The proponent must adhere to the compliance with PEQS.
Mr. Adnan Khan	Manager Environment Social Risk Management	MCB BANK LIMITED, LAHORE	- Ensure the use of PPEs - Many unauthorized companies are manufacturing cosmetic products that pose health risks to consumers. The government should take action to ban such productions. - Initiate environmental sustainability projects.
General Public			-

ANNEXURE IV: REFERENCES

World Bank Group/IFC, "Environmental, Health, and Safety (EHS) Guidelines - General EHS Guidelines": 2007.

Hu, Y.; Raza, A.; Syed, N.R.; Acharki, S.; Ray, R.L.; Hussain, S.; Dehghanisanij, H.; Zubair, M.; Elbeltagi, A. Land Use/Land Cover Change Detection and NDVI Estimation in Pakistan's Southern Punjab Province. Sustainability 2023, 15, 3572. https://doi.org/10.3390/ su15043572

https://pakistanalmanac.com/punjab-rajanpur/#_ftnref12

Naeem, Muhammad, Ali, T, "Land Use Classification" Pakistan Geographical Review, Vol.74 (1), 61-73; 2019.

NESPAK (2007), "Building Code of Pakistan" Ministry of Housing and Works, Govt. of Pakistan

EIA Checklist

ANNEXURE V: TERMS OF REFERENCE (TOR)

PURPOSE: Terms of Reference (TOR) For Appointment of Consulting Firm for Conducting Environmental Impact Assessment (EIA) For The Project "Establishment of Cosmetic Manufacturing Facility by Dabur Pakistan (Pvt.) Limited at Plot No. 465, Sundar Industrial Estate, Lahore."

The Consultant will conduct the EIA and prepare a report in accordance with guidelines of EIA set by EPA Punjab and the Punjab Environmental Protection (Review of IEE/EIA) Regulations 2022.

The Consultant will:

- Review published literature and all relevant data/drawings provided by the Proponent, as well as collect additional pertinent information.
- Examine all applicable legislation, standards, and policies.
- Conduct a Baseline Environmental Study, including environmental monitoring of the project site by a field team from an EPA-certified laboratory.
- Engage in public consultations and hold meetings with stakeholders.
- Identify all potential positive and negative impacts of the proposed project during the pre-construction, construction, and operational phases.
- Recommend mitigation measures to eliminate or reduce negative impacts to acceptable levels.
- Prepare an Environmental Management Plan (EMP) and a Monitoring Plan.
- Finalize the EIA report in collaboration with the Plant management.
- Assist the proponent (until obtaining the NOC) with:
    - Submission of the report to the Punjab EPA for review.
    - Addressing all queries raised by the EPA following their review of the report.
    - Public Hearing

The **Consultant EIA Team** will consist of environmentalists, ecologist, sociologist (as a minimum requirement), all possessing relevant academic qualifications and experience. The team leader must have over 15 years of diversified experience and have conducted at least 10 large size industrial-level IEE and EIA studies.

Duration: Preparation of draft IEE report within 6 weeks for review of Proponent and submission of final report to EPA within 8 weeks for review of EPA, Punjab.

ANNEXURE VI: EIA TEAM

Team Members

Name	Position	Qualification
Dr. Sajid Hassan	Team Leader	PhD Combustion Engineering, Imperial College, London Diploma In "Combustion and Environment Pollution" Imperial College London BSc Chemical Engineering, UET, Lahore
Mrs. Habiba Daud	Environmentalist	BSc Environment Science, PU MSc Environment Sciences, (NUST)
Mr. Muhammad Tayyab Muzzammil	Environmentalist	BSc Environment Sciences,
Mr. Arshad Ali	Chief Chemist	BSc Chemistry (Hon) University of Punjab, Lahore
Sheikh Obaid ur Rehman	Sr. Ecologist	MSc Forestry
Mr. Naveed Sajjad Khan	Sociologist	MA Sociology, University of the Punjab

ANNEXURE VII:

SECP CERTIFICATE OF INCORPORATION

ANNEXURE VIII

ENVIRONMENTAL APPROVAL FOR PREVIOUS PROJECT AT THE PROPOSED LOCATION

ENVIRONMENT PROTECTION DEPARTMENT

Government of the Punjab
4- Lytton Road, Lahore
National Hockey Stadium, Ferozepur Road, Lahore

NO. DD(EIA)/EPA/F-562(IEE)/1107/2014/1304
Dated: 24/07/2014

To

Mr. Chaudhry Mh: Ilyas,
Chief Executive,
M/s Chaudhry Brothers,
R/o House No. 160-B, Mohallah Faisal Town
Lahore.

Subject: **DECISION OF EPA PUNJAB FOR M/S CHAUDHRY BROTHERS LOCATED AT PLOT NO. 465, SUNDER INDUSTRIAL ESTATE, LAHORE**
(Under Section 12 of PEPA-1997 (Amended-2012) read with IEE & EIA Regulations, 2000)

1. Description of Project: Design & Fabrication Workshop having total area 01-Acre.
2. Location of Project: The project is located at Plot No. 465, Sunder Industrial Estate, Sunder-Raiwind Road, Lahore.
3. Date of submission 02.07.2014.

4. After review of the Initial Environmental Examination (IEE), and other relevant record, the Environmental Protection Agency, Punjab has decided to accord approval of the above-mentioned project to safeguard environmental issues subject to the following conditions:

(i) The proponent shall install proper equipement for controlling dust and particulate matter.
(ii) The proponent shall ensure compliance of the National Environmental Quality Standards (NEQS).
(iii) Mitigation measures suggested in the IEE Report and Environmental Management Plan (EMP) shall be strictly adhered to minimize any negative impacts on soil, ground water, air and biological resources of the project area. The proponent shall depute staff to monitor compliance of EMP.
(iv) Monitoring shall be carried out during the entire period of the project activities. Monitoring reports of the whole operation shall be submitted to EPA, Punjab on monthly basis.
(v) All Rules and Regulations framed and revised under the Punjab Environmental Protection Act, 1997 (amended 2012) shall be adhered in letter and spirit.
(vi) The proponent shall not discharge untreated wastewater in a surface or sub-surface water body that may be used for drinking purpose.
(vii) The standby power generator (if required) shall be installed by adopting sound proofing techniques i.e. by installing silencer and it shall be equipped with proper smoke arrester / scrubber and stack / chimney with proper height to discharge the hot gases / smoke safely.
(viii) The proponent shall care about noise issues during project activities.
(ix) The proponent shall do proper arrangement for in house treatment for controlling any environmental pollution.
(x) The proponent shall ensure that strict and efficient health and safety measures are in place for protection of workers backed by a comprehensive emergency response system.
(xi) The proponent shall do proper landscaping of the project within three months.

P.T.O

(xii) Any environmental hazard associated with the unit if discovered later and not covered in the Environmental Management Plan, shall immediately conveyed to EPA, Punjab along with its remedial measures to cater with.

(xiii) The proponent shall plant 2000 trees of minimum height 6-7 feet especially of indigenous species on available space in SIE on available space in consultation with Punjab Industrial Estates Development & Management Company (PIDMC) within six month.

(xiv) The proponent shall convey the name of the Environmental Manager of the project along with his complete Mailing Address and Phone Numbers.

5. The proponent shall be liable for correctness and validity of the information supplied by the environmental consultant.

6. The proponent shall be liable for compliance of Sections 17 and 18 of IEE/EIA Regulations, 2000, regarding approval, confirmation of compliance, entry, inspections and monitoring.

7. Any change in the approved project shall be communicated to EPA, Punjab and shall be commenced after obtaining the approval.

8. This approval shall be treated as null and void if all or any of the conditions mentioned above, is/are not complied with. This approval does not absolve the proponent of the duty to obtain any other approval or consent that may be required under any law in force and is subjudice to legal proceedings in any legal fora / court.

9. This approval can be withdrawn at anytime without any prior notice if deem necessary in public interest.

(AMEN HANIF)
ASSISTANT DIRECTOR (EIA)
for Director General, EPA, Punjab
Ph #. 042-99232228

NO. & DATE EVEN.

A copy is forwarded for information to:

1. The Director (North) EPA, Punjab, Lahore.
2. The District Officer (Environment), Lahore. He is requested to ensure compliance of the above mentioned conditions under intimation to this office.

(AMEN HANIF)
ASSISTANT DIRECTOR (EIA)
for Director General, EPA, Punjab

ANNEXURE IX

COMPLETION CERTIFICATE ISSUED BY SUNDAR INDUSTRIAL ESTATE

BOARD OF MANAGEMENT
SUNDAR INDUSTRIAL ESTATE
COMPLETION CERTIFICATE

Certificate for Commissioning Of Industrial Unit

Ref: BOM/SIE/CSD/**318.** **Dated:** 24-12-2014

In terms of Industrial Building Regulations of Punjab Industrial Estates Development & Management Company (PIEDMC). It is certified that Industrial Unit in the name of **Chaudhry Mohammad Ilyas,** at Plot No. **465,** has completed the building as per approved plan and has fulfilled the conditions for transfer of ownership of land in the name of **Chaudhry Mohammad Ilyas.** Subject to fulfillment of the following:-

1. To clear all Dues/Payments payable to PIEDMC and BOM-SIE including all maintenance/development charges.
2. Provision of registration with Health, Environment, Safety, Security and other agencies e.g. EOBI, Social Security etc.
3. To abide by all rules/laws/conditions/policies imposed by PIEDMC/BOM-SIE from time to time.
4. Any revision/addition in factory building will start after approval from BOM-SIE.
5. Disposal of wastage (liquid & solid waste etc.) will be done according to standards as given in Industrial Building Regulation of PIEDMC.

This certificate is valid for the sole purpose of transfer of ownership of land and does not confer any other right and is not applicable for presenting to any other organization for any other purpose.

Notwithstanding issuance of this certificate, Punjab Industrial Estates Development & Management Company (PIEDMC) & Board of Management Sundar Industrial Estate (BOM-SIE) is not responsible for faithful completion of obligations of the said Industrial Unit **Chaudhry Mohammad Ilyas** towards other Parties related with this Industrial Unit in any manner.

Issued on 24-12-2014 by Board of Management-Sundar Industrial Estate.

BOARD OF MANAGEMENT ★ Sundar Company Secretary ★ SUNDAR INDUSTRIAL ESTATE

For and on behalf of
BOARD OF MANAGEMENT
SUNDAR INDUSTRIAL ESTATE
Secretary BOM-SIE

For and on behalf of
PUNJAB INDUSTRIAL ESTATES
DEVELOPMENT & MANAGEMENT
COMPANY
Company Secretary

Distribution:
1. G.M Estate (BOM-SIE)
2. Industrial Unit **Chaudhry Mohammad Ilyas,**
3. Building Control Chief Engineer – BOM-SIE
4. Customer's Master file at BOM-SIE Office.

Note: 1) The completion certificate does not certify the quality of construction work or the stability of the structure and is only limited to the completion of the building only.
2) This Completion Certificate is issued with approval by the competent authority of BOM-SIE vide approval dated: 22-12-2014

ANNEXURE X

LEASE DOCUMENTS

V385608

E-STAMP

0761-2515485

PB-LHR-27A94BBF8352A10F

Non-Judicial

Rs 500/-

Description	: AGREEMENT OR MEMORANDUM OF AN AGREEMENT - S(d)
First Party	: CHAUDHRY BROTHERS [35202-4295332-5]
Second Party	: ASIAN CONSUMER CARE PAKISTAN PRIVATE LIMITED [4200054175409]
Agent	: Abdul Rehman [35403-9725541-1]
Stamp Duty Paid by	: ASIAN CONSUMER CARE PAKISTAN PRIVATE LIMITED [4200054175409]
Issue Date	: 13-Nov-2024, 03:23:03 PM
Paid Through Challan	: 2024836784043786
Amount in Words	: Five Hundred Rupees Only

Please Write Below This Line

ADDENDUM
TO THE INDUSTRIAL RENT AGREEMENT DATED 01 OCTOBER 2022

This Addendum (the "**Addendum**") to the Agreement dated 1st October 2022 is made in Lahore on this the 13th day of November 2024 which shall come into force at once ("**Effective Date**")

By and Between

M/s. Chaudhry Brothers through its Sole Proprietor **Mr. Adeel Ilyas**, having CNIC No. 35202-4295332-5, Plot No. 465, Sundar Industrial Estate, Raiwind, Lahore, ("**Landlord**");

And

M/s. Asian Consumer Care Pakistan (Pvt) Limited, a company incorporated under the Companies Ordinance, 1984, having its registered address at D-25, Block no.5, KDA Scheme no. 5, Clifton, Karachi Pakistan, through its Chief Executive Officer, Mr. Muhammad Nauman Khan, having CNIC # 42000-5417548-9 (the "**Tenant**"), which expression shall means and include its successors and assigns.

RECITALS

WHEREAS, the Landlord and Tenant entered into the Industrial Rent Agreement dated **01 October 2022** (the "**Rent Agreement**") with respect to Plot No. 465, measuring 08 Kanals, having constructed area 17,248 sq. ft., situated at Sundar Industrial Estate, Raiwind, Lahore (the "**Existing Premises**").

AND WHEREAS, the ownership of the Property in question has transferred from Chaudhry Muhammad Ilyas to his real son, Adeel Ilyas, hence, the Landlord is legally competent to execute this Addendum and any reference to the Landlord in the Rent Agreement shall be read and treated as Mr. Adeel Ilyas.

AND WHEREAS, the Tenant is advancing a loan to the Landlord in the amount of Fourteen Million Pakistani Rupees (14,000,000/- PKR) (*the "Loan Amount"*) for construction of additional constructed area of 5,164 sq ft. (the "**Additional Premises**") for use and enjoyment by the Tenant, requiring revision of the Rent Payment Schedule and other clauses of the Rent Agreement.

NOW, through this Addendum, the Parties mutually agree to make the following amendments in the Rent Agreement: -

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1. In the first recital of the Rent Agreement, the words "having constructed area 17,248sqft" shall be substituted with the following: -

"having existing constructed area of 17,248 sq .ft. (the "Existing Premises") and additional constructed area of 5,164 sq.ft. to be completed by or before the month of February 2025 (the "Additional Premises")"

2. In the last recital of the Rent Agreement, the term of the Agreement *"Five (05) years commencing from 01 October 2022"* shall be substituted with the following: -

"Five (05) years and Four (4) months commencing from 01 October 2022 and ending on 31 January 2028"

3. In clause 9 of the Rent Agreement, the following shall be substituted: -

"9. That in consideration of use of the Existing Premises and construction and subsequent use of the Additional Premises, the Tenant shall pay the rent amount to the Landlord on quarterly basis from 01 October 2022 and the amount shall be paid in advance on or before 10th of the English calendar month as per the Payment Schedule given under the Table below:

Period	Rate per sq.ft (PKR)	Existing QTR Rent @ 17,248 sqft	Additional QTR Rent @ 5,164 sqft	Total QTR Rent @ 22,412 sqft
Oct, 2022 - Dec, 2022	38.84	2,009,737		2,009,737
Jan, 2023 - Mar, 2023	38.84	2,009,737		2,009,737
Apr, 2023 - Jun, 2023	38.84	2,009,737		2,009,737
Jul, 2023 - Sep, 2023	38.84	2,009,737		2,009,737
Oct, 2023 - Dec, 2023	42.72	2,210,711		2,210,711
Jan, 2024 - Mar, 2024	42.72	2,210,711		2,210,711
Apr, 2024 - Jun, 2024	42.72	2,210,711		2,210,711
Jul, 2024 - Sep, 2024	42.72	2,210,711		2,210,711
Oct, 2024 - Dec, 2024	47.00	2,431,782		2,431,782
Jan, 2025 - Mar, 2025	47.00	2,431,782	485,379	2,917,161
Apr, 2025 - Jun, 2025	47.00	2,431,782	728,068	3,159,850
Jul, 2025 - Sep, 2025	47.00	2,431,782	728,068	3,159,850
Oct, 2025 - Dec, 2025	51.70	2,674,960	800,875	3,475,835
Jan, 2025 - Mar, 2026	51.70	2,674,960	800,875	3,475,835
Apr, 2026 - Jun, 2026	51.70	2,674,960	800,875	3,475,835
Jul, 2026 - Sep, 2026	51.70	2,674,960	800,875	3,475,835
Oct, 2026 - Dec, 2026	56.87	2,942,456	880,963	3,823,418
Jan, 2027 - Mar, 2027	56.87	2,942,456	880,963	3,823,418
Apr, 2027 - Jun, 2027	56.87	2,942,456	880,963	3,823,418
Jul, 2027 - Sep, 2027	56.87	2,942,456	880,963	3,823,418
Oct, 2027 - Dec, 2027	62.55	3,236,701	969,059	4,205,760
Jan, 2028	62.55	1,078,900	323,020	1,401,920

Provided that for the purposes of construction of the Additional Premises, the Tenant shall give a loan to the Landlord in the amount of Fourteen Million Pakistani Rupees (14,000,000/- PKR) (the "Loan Amount"), within a period of one (1) month from the Effective Date of the Addendum to the Rent Agreement, which shall be adjusted as per the Payment Schedule given in the Table below: -

Period	Rate per sq.ft (PKR)	Existing QTR Rent @ 17,248 sqft	Additional QTR Rent @ 5,164 sqft	Total QTR Rent @ 22,412 sqft	Deduction to Settle 14M Advance after WHT
Oct, 2022 - Dec, 2022	38.84	2,009,737		2,009,737	
Jan, 2023 - Mar, 2023	38.84	2,009,737		2,009,737	
Apr, 2023 - Jun, 2023	38.84	2,009,737		2,009,737	
Jul, 2023 - Sep, 2023	38.84	2,009,737		2,009,737	
Oct, 2023 - Dec, 2023	42.72	2,210,711		2,210,711	
Jan, 2024 - Mar, 2024	42.72	2,210,711		2,210,711	
Apr, 2024 - Jun, 2024	42.72	2,210,711		2,210,711	
Jul, 2024 - Sep, 2024	42.72	2,210,711		2,210,711	
Oct, 2024 - Dec, 2024	47.00	2,431,782		2,431,782	
Jan, 2025 - Mar, 2025	47.00	2,431,782	485,379	2,917,161	(777,778)
Apr, 2025 - Jun, 2025	47.00	2,431,782	728,068	3,159,850	(1,166,667)
Jul, 2025 - Sep, 2025	47.00	2,431,782	728,068	3,159,850	(1,166,667)
Oct, 2025 - Dec, 2025	51.70	2,674,960	800,875	3,475,835	(1,166,667)
Jan, 2025 - Mar, 2026	51.70	2,674,960	800,875	3,475,835	(1,166,667)
Apr, 2026 - Jun, 2026	51.70	2,674,960	800,875	3,475,835	(1,166,667)
Jul, 2026 - Sep, 2026	51.70	2,674,960	800,875	3,475,835	(1,166,667)
Oct, 2026 - Dec, 2026	56.87	2,942,456	880,963	3,823,418	(1,166,667)
Jan, 2027 - Mar, 2027	56.87	2,942,456	880,963	3,823,418	(1,166,667)
Apr, 2027 - Jun, 2027	56.87	2,942,456	880,963	3,823,418	(1,166,667)
Jul, 2027 - Sep, 2027	56.87	2,942,456	880,963	3,823,418	(1,166,667)
Oct, 2027 - Dec, 2027	62.55	3,236,701	969,059	4,205,760	(1,166,667)
Jan, 2028	62.55	1,078,900	323,020	1,401,920	(388,889)
					(14,000,000)

E-STAMP
CONTINUATION SHEET

4. After clause 9, the following new clauses, 9A and 9B shall be inserted: -

"9A. That for construction of the Additional Premises, the Landlord shall be responsible for obtaining all necessary approvals from the competent authority and the time for completion of construction and obtaining the completion Certificate with respect to the Additional Premises shall be of the essence:

Provided that if the Landlord fails to construct or obtain the Completion Certificate of the Additional Premises within the stipulated time for use and enjoyment by the Tenant under this Agreement due to any reason, the Landlord shall be liable to refund the Loan Amount to the Tenant within One (01) Month of service of notice of default by the Tenant on the Landlord."

"9B. The Parties may revise or further amend the Payment Schedule stipulated in clause 9 by mutual consent."

5. In clause 17 of the Rent Agreement,

i. the Term of the Agreement *"Five (05) years, w.e.f. 01 October 2022 to 30 September 2027"* shall be substituted with the following: -

"Five (05) years and Four (04) months commencing from 01 October 2022 and ending on 31 January 2028"

ii. the full stop (.) at the end of the clause shall be substituted with a colon (:) and the following proviso shall be inserted:

"Provided further that the Landlord shall not terminate the Agreement till the Loan Amount stands fully settled or adjusted from the Rent Schedule in accordance with clause 9 of this Agreement."

All other terms and conditions of the Rent Agreement shall remain unchanged unless expressly altered or amended by the parties in writing.

IN WITNESS WHEREOF the Parties hereto have hereunto set and subscribed their respective hands and seals on the day, month and the year mentioned herein above.

M/s Chaudhry Brothers Ltd.:

Mr. Adeel Ilyas
(Sole Proprietor)

M/s Asian Consumer Care Pakistan (Pvt.) Ltd.:

Mr. Muhammad Nauman Khan
(Chief Executive Officer)

WITNESSES

1)

Name: Tanveer Ahmed
CNIC: 35201-3224622-7
Sign:

Name: Hasnain Hyder
CNIC: 42000-1181798-9
Sign:

2)

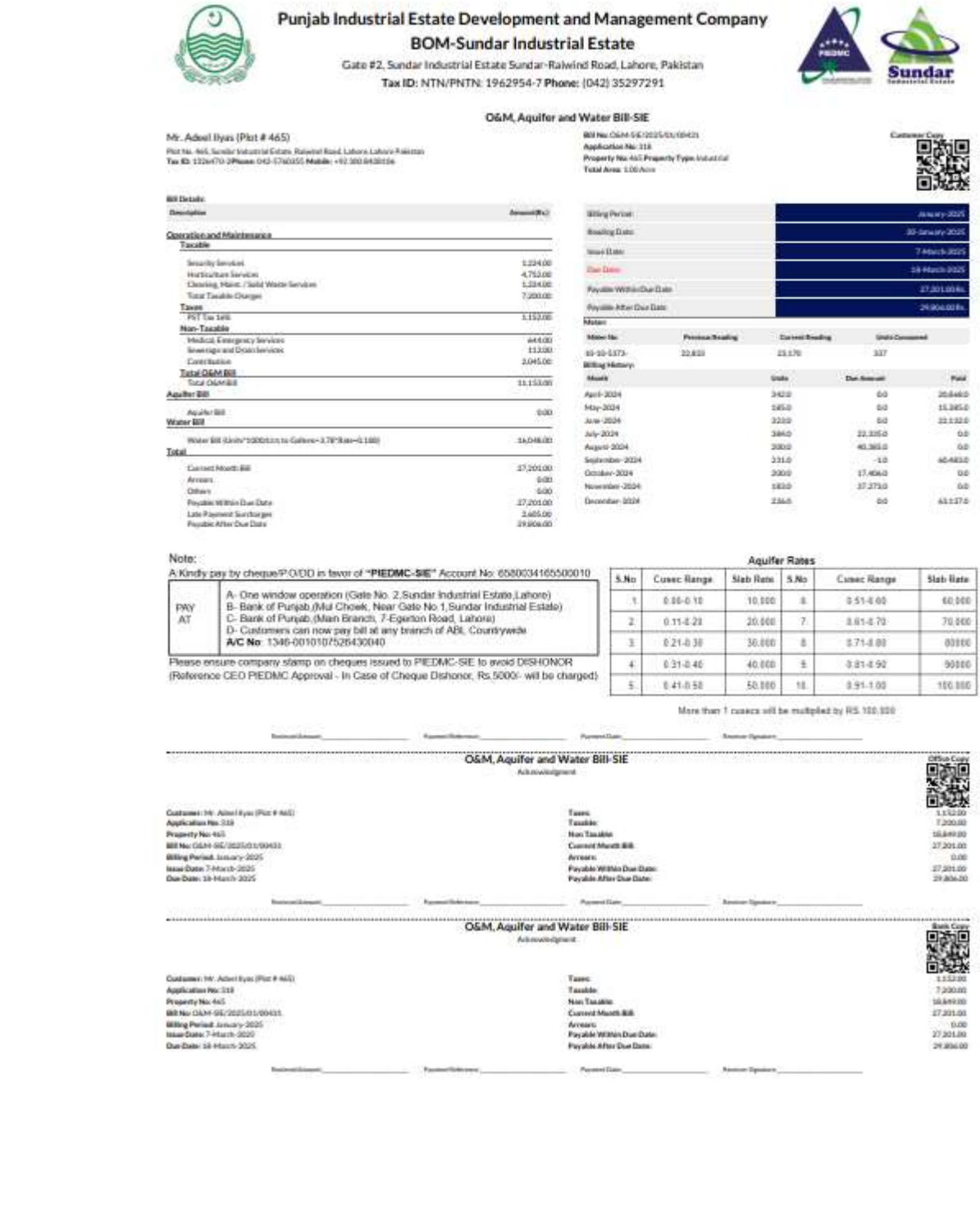
Name: Abdul Rehman
CNIC: 35403-9725541-1
Sign:

Name: M. Zakria Ullah Khan
CNIC: 42201-0624106-3
Sign:

ANNEXURE XI

O&M, WATER BILL

AND SEWAGE BILL



Punjab Industrial Estate Development and Management Company
BOM-Sundar Industrial Estate
Gate #2, Sundar Industrial Estate Sundar-Raiwind Road, Lahore, Pakistan
Tax ID: NTN/PNTN: 1962954-7 **Phone:** (042) 35297291

O&M, Aquifer and Water Bill-SIE

Mr. Adeel Ilyas (Plot # 465)
Plot No. 465, Sundar Industrial Estate, Raiwind Road, Lahore Lahore Pakistan
Tax ID: 132xx70-3 **Phone:** 042-37x0355 **Mobile:** +92 300 6438016

Bill No: O&M-SIE/2025/01/00431
Application No: 318
Property No: 465 **Property Type:** Industrial
Total Area: 1.00 Acre

Customer Copy

Bill Details:

Description	Amount(Rs.)
Operation and Maintenance	
Taxable	
Security Services	1,234.00
Horticulture Services	4,752.00
Cleaning, Maint. / Solid Waste Services	1,234.00
Total Taxable Charges	7,200.00
Taxes	
PST Tax 16%	1,152.00
Non-Taxable	
Medical, Emergency Services	444.00
Sewerage and Drain Services	113.00
Contribution	2,045.00
Total O&M Bill	
Total O&M Bill	11,153.00
Aquifer Bill	
Aquifer Bill	0.00
Water Bill	
Water Bill (Units*1000/3.11 to Gallons*3.78*Rate=0.180)	16,048.00
Total	
Current Month Bill	27,201.00
Arrears	0.00
Others	0.00
Payable Within Due Date	27,201.00
Late Payment Surcharges	2,605.00
Payable After Due Date	29,806.00

Billing Period	January-2025
Reading Date	30-January-2025
Issue Date	7-March-2025
Due Date	16-March-2025
Payable Within Due Date	27,201.00 Rs.
Payable After Due Date	29,806.00 Rs.

Meter:

Meter No.	Previous Reading	Current Reading	Units Consumed
03-10-1373-	22,833	23,170	337

Billing History:

Month	Units	Due Amount	Paid
April-2024	342.0	0.0	20,846.0
May-2024	185.0	0.0	11,285.0
June-2024	323.0	0.0	22,132.0
July-2024	364.0	22,335.0	0.0
August-2024	300.0	40,365.0	0.0
September-2024	231.0	-1.0	40,483.0
October-2024	200.0	17,406.0	0.0
November-2024	183.0	37,273.0	0.0
December-2024	236.0	0.0	63,127.0

Note:
A Kindly pay by cheque/P.O/DD in favor of **"PIEDMC-SIE"** Account No: 6580034165500010

PAY AT
A- One window operation (Gate No. 2,Sundar Industrial Estate,Lahore)
B- Bank of Punjab,(Mul Chowk, Near Gate No.1,Sundar Industrial Estate)
C- Bank of Punjab,(Main Branch, 7-Egerton Road, Lahore)
D- Customers can now pay bill at any branch of ABL Countrywide
A/C No: 1346-0010107526430040

Please ensure company stamp on cheques issued to PIEDMC-SIE to avoid DISHONOR
(Reference CEO PIEDMC Approval - In Case of Cheque Dishonor, Rs.5000/- will be charged)

Aquifer Rates

S.No	Cusec Range	Slab Rate	S.No	Cusec Range	Slab Rate
1	0.00-0.10	10,000	6	0.51-0.60	60,000
2	0.11-0.20	20,000	7	0.61-0.70	70,000
3	0.21-0.30	30,000	8	0.71-0.80	80000
4	0.31-0.40	40,000	9	0.81-0.90	90000
5	0.41-0.50	50,000	10	0.91-1.00	100,000

More than 1 cusecs will be multiplied by RS 100,000

Received Amount:_____ Payment Reference:_____ Payment Date:_____ Receiver Signature:_____

O&M, Aquifer and Water Bill-SIE
Acknowledgment

Office Copy

Customer: Mr. Adeel Ilyas (Plot # 465)
Application No: 318
Property No: 465
Bill No: O&M-SIE/2025/01/00431
Billing Period: January-2025
Issue Date: 7-March-2025
Due Date: 16-March-2025

Taxes: 1,152.00
Taxable: 7,200.00
Non Taxable: 10,849.00
Current Month Bill: 27,201.00
Arrears: 0.00
Payable Within Due Date: 27,201.00
Payable After Due Date: 29,806.00

Received Amount:_____ Payment Reference:_____ Payment Date:_____ Receiver Signature:_____

O&M, Aquifer and Water Bill-SIE
Acknowledgment

Bank Copy

Customer: Mr. Adeel Ilyas (Plot # 465)
Application No: 318
Property No: 465
Bill No: O&M-SIE/2025/01/00431
Billing Period: January-2025
Issue Date: 7-March-2025
Due Date: 16-March-2025

Taxes: 1,152.00
Taxable: 7,200.00
Non Taxable: 10,849.00
Current Month Bill: 27,201.00
Arrears: 0.00
Payable Within Due Date: 27,201.00
Payable After Due Date: 29,806.00

Received Amount:_____ Payment Reference:_____ Payment Date:_____ Receiver Signature:_____

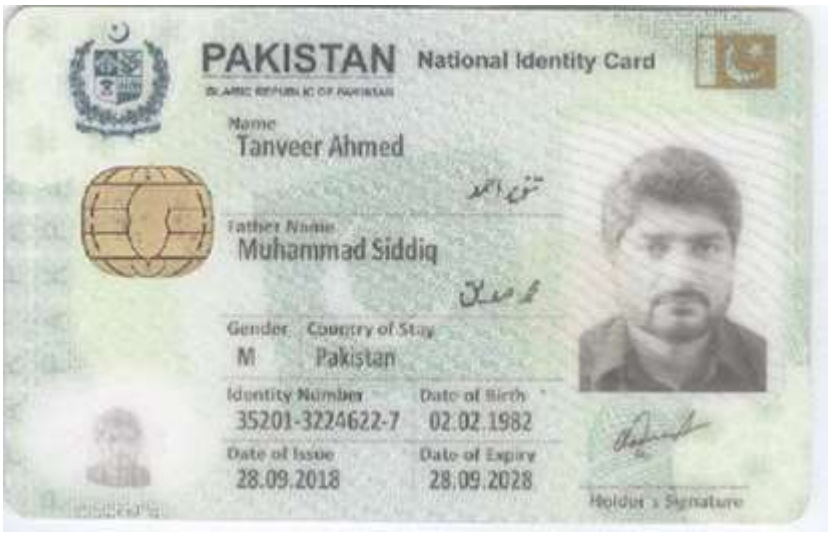
ANNEXURE XII

ENVIRONMENTAL MONITORING REPORTS

(BY EPA CERTIFIED LAB)

ANNEXURE XIV

PHOTOLOG


PAKISTAN
National Identity Card
Name
Tanveer Ahmed
Father Name
Muhammad Siddiq
Gender
M
Country of Stay
Pakistan
Identity Number
35201-3224622-7
Date of Birth
02.02.1982
Date of Issue
28.09.2018
Date of Expiry
28.09.2028
Holder's Signature


35201-3224622-7
گمشدہ کارڈ ملنے پر قریبی لیٹر بکس میں ڈال دیں