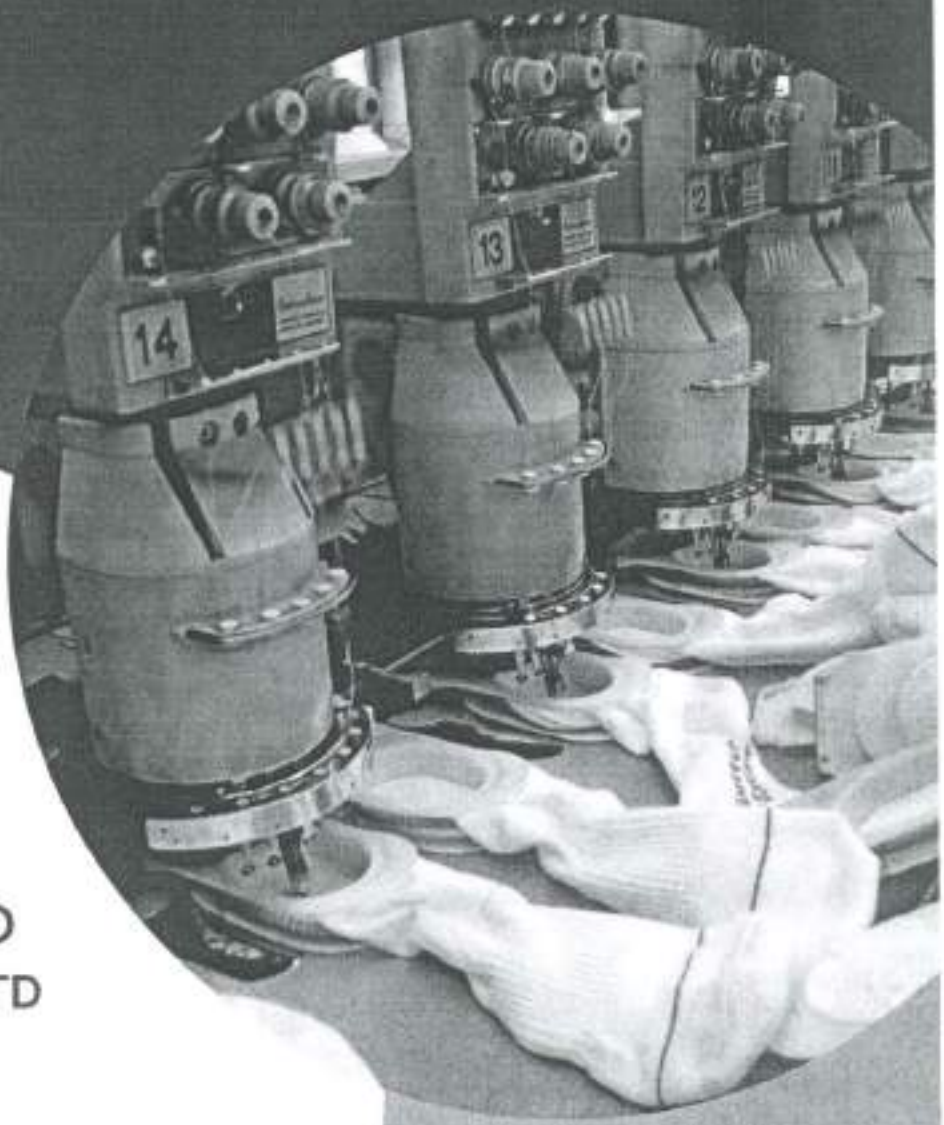
ENVIRONMENTAL IMPACT ASSESSMENT

SOCKS MANUFACTURING UNIT

2025



PREPARED FOR

M/S AIMS HOSIERY LIMITED

PREPARED BY

PAK GREEN ENVIRO ENGINEERING (PVT.) LTD

PAK GREEN

ENVIRO-ENGINEERING (PVT.) LTD.

TABLE OF CONTENTS

PROJECT SUMMARY

Section	Parameter	Details
1. Project Identification	Name of Project / M/S	Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited
	Project Location	Quaid-e-Azam Industrial Park, Sheikhupura.
	Geographical Coordinates	Latitude: 31°44'29.87"N Longitude: 74° 3'0.69"E
2. Proponent Information	Proponent Name	Mr. Ahsan Iqbal Chaudhry
	CNIC	35202-2821343-9
	Proponent Address	House No. 82-A Phase 8 Ex Park view DHA Lahore.
3. Project Overview	Total Project Cost	Rs. 02 billion
	Project type	Proposed Establishment
	Project Description	The project involves manufacturing of socks, including knitting, dyeing, washing, and finishing, with the installation of Effluent Treatment Plant (ETP).
	Project Capacity	The total production capacity is 400,000 dozen per month.
	Land Area and Ownership	4.54Acres – Lease
	Allied Facilities	Utilities block (power, water, and air systems), administrative offices, workers' welfare amenities, and parking area.
	Types of Waste	Solid waste, liquid waste, and ETP sludge

4. Waste Management	Estimated Waste Generation	Approximately 10 kg/ day per person
	Waste Handling Measures	Source segregation, appropriate interim storage, and final disposal
5. Wastewater Management	Treatment Method	Primary, Secondary, Tertiary Treatment
	Final Disposal Plan	Effluent Treatment Plant
6. Rainwater Harvesting	Harvesting Infrastructure	Pits and Storage Tanks
	Collection Source	Rooftop
	Implementation Status	Planned
7. Plantation & Green Development	Proposed Green Area	10 % - 15 % of Allocated Area
	Tree Types and Numbers	Neem, Sheesham, Kikar
8. CSR & Community Welfare	CSR Budget	2% - 3% of Total Project Cost
	Activities	• Health & Safety • Environment & Sustainability

EXECUTIVE SUMMARY

This report presents the Environmental Impact Assessment (EIA) conducted for the establishment of socks manufacturing Unit by Mr. Ahsan Iqbal Chaudhry, located at Quaid-e-Azam Industrial Park, Sheikhupura, Pakistan. The project involves the construction and operation of a modern facility for the manufacturing of high-quality socks, incorporating processes such as knitting, dyeing, washing, pressing, and packing, along with the installation of an Effluent Treatment Plant (ETP) to ensure compliance with environmental standards.

The EIA has been undertaken to evaluate potential environmental impacts associated with the project's construction and operational phases and to propose appropriate mitigation measures in accordance with the Pakistan Environmental Protection Act, 1997 (amended 2012) and the Punjab Environmental Protection (Review of IEE/EIA) Regulations, 2000. The project aims to develop an environmentally responsible industrial facility that promotes sustainable production, ensures regulatory compliance, and minimizes adverse environmental impacts. In addition to supporting industrial development, the project will generate employment opportunities, strengthen the local economy, and contribute to the industrial and economic growth of Pakistan.

Project Overview

The proposed project involves the construction of a Socks Manufacturing Unit by Mr. Ahsan Iqbal Chaudhry at Quaid-e-Azam Industrial Park, Sheikhupura, on an industrial plot of 4.54 acres. The facility will include knitting, dyeing, washing, pressing, and packing sections, as well as administrative offices, storage areas, and utility blocks. The project aims to establish a modern and environmentally compliant socks manufacturing unit that promotes industrial development and regional economic growth. Key infrastructure will include parking areas, internal roads, water supply systems, an Effluent Treatment Plant (ETP), power backup, and security arrangements to ensure safe and sustainable operations. With an investment of PKR 2 billion and a production capacity of 400,000 dozen socks per month, the project is designed for operational efficiency, regulatory compliance, and long-term sustainability within Sheikhupura's industrial framework.

Project Proponent and Consultant

The project proponent, Mr. Ahsan Iqbal Chaudhry, has appointed Pak Green Enviro-Engineering Pvt. Ltd. as the environmental consultant to conduct the Environmental Impact Assessment (EIA) and obtain the necessary No Objection Certificate (NOC) from the Environmental Protection Department. The consultant possesses extensive experience in environmental assessment, impact analysis, and preparation of Environmental Management Plans (EMP) in accordance with the Pakistan Environmental Protection Act (PEPA), 1997, and Schedule II of the Pakistan Environmental Quality Standards (PEQS).

Name and Details of Proponent

Proponent	Ahsan Iqbal Chaudhry
Designation	CEO
CNIC	35202-2821343-9
Residence	House No. 82-A Phase 8 Ex Park view DHA Lahore.

CNIC and other relevant documents are attached in **annexure.**

Lahore office:	**Pak Green Laboratory (EPA Certified), 46 M, Gulberg III, Lahore.**
Contact:	+92-4235441444, +92-303-4442334
Email:	info@pakgreen.pk

Project Objective

The primary objective of the proposed Socks Manufacturing Unit is to facilitate the large-scale production of high-quality socks. The project aims to meet the increasing market demand for durable and affordable hosiery products, improve production efficiency through modern technology, and strengthen the company's competitiveness in the textile and apparel industry.

Site Description and Environmental Setting

The proposed project site is located at Quaid-e-Azam Industrial Park, Sheikhupura, within an industrially designated area covering 4.54 acres. The land has a stable, flat topography

suitable for industrial construction and is well-connected to major roads, allowing convenient transportation of raw materials and finished products.

Air Quality: Ambient air quality in the area is generally within permissible limits; however, vehicular movement and nearby industrial activity may cause slight variations. During construction, activities such as excavation, material handling, and movement of vehicles may generate dust and particulate matter, which will be minimized through regular water sprinkling, covered material storage, and dust barriers.

Noise Levels: Existing noise levels in the industrial park are moderate, consistent with an industrial environment. Construction machinery and operational equipment may temporarily increase noise levels, which will be mitigated through use of low-noise machinery, daytime work scheduling, and installation of acoustic insulation in noise-prone areas.

Water Resources: The project will utilize both industrial park water supply and groundwater to meet operational needs. A rainwater harvesting system will be installed to collect rooftop runoff for non-potable uses such as floor washing and landscaping. Wastewater generated from dyeing and washing operations will be treated through an on-site Effluent Treatment Plant (ETP) to ensure compliance with PEQS standards before discharge.

Ecology: The project site, being within a planned industrial estate, has minimal natural vegetation and negligible wildlife. No protected species or ecologically sensitive habitats were observed in or around the project area.

Environmental Impacts and Mitigation Measures

Air Quality Impacts: Dust emissions during construction will be controlled through water spraying, material covering, and vehicle maintenance. During operation, stack filters and controlled fuel use will reduce emissions from boilers and generators.

Noise Impacts: Noise will be managed through daytime operation, soundproof enclosures, and routine equipment maintenance to limit acoustic disturbances to acceptable industrial levels.

Solid Waste Management: A dedicated waste storage area will enable segregation of recyclable, organic, and hazardous waste. Disposal and recycling will be handled by licensed waste contractors in accordance with local regulations.

Water and Sanitation: Rainwater harvesting will be used for non-potable applications. Wastewater from dyeing and washing will be routed to the ETP, ensuring no untreated discharge into stormwater drains or soil.

Health and Safety Protocols: Workers will be provided with personal protective equipment (PPE), occupational safety training, and access to first aid facilities. The site will include firefighting systems, alarm systems, and emergency exits to ensure workplace safety.

Green Spaces and Landscaping: Although the site has limited greenery, landscaped green areas will be developed along boundaries and open spaces. Native, low-maintenance plant species will be used to enhance site aesthetics and air quality.

Stakeholder Engagement and Public Consultation

A stakeholder engagement exercise was carried out involving nearby industries, workers, local community representatives, and the industrial park management. The consultation aimed to share project details, identify environmental concerns, and collect feedback. Key concerns raised included:

- Dust and noise during construction
- Proper waste and effluent management
- Traffic and parking arrangements for employees and suppliers

Response and Mitigation: These concerns have been addressed in the Environmental Management Plan (EMP), which includes dust suppression, regulated working hours, waste management protocols, and dedicated parking areas within the site. Stakeholders expressed strong support for the project, acknowledging its potential for employment generation, industrial development, and economic contribution to the region.

Environmental Management and Monitoring Plan (EMMP)

- **Institutional Capacity and Training:** Project engineers, supervisors, and staff will receive training in environmental protection, waste management, and emergency response procedures.

- **Equipment Maintenance:** All construction and operational machinery will undergo regular maintenance to reduce emissions, noise, and energy consumption.
- **Budget Allocation:** A dedicated environmental management budget will cover waste disposal, monitoring, PPE procurement, green area maintenance, and training programs.

Monitoring Schedule:

- **Air and Noise Monitoring:** Monthly during construction; bi-annually during operation
- **Water Quality Monitoring:** Monthly for groundwater, ETP effluent, and rainwater harvesting systems
- **Solid Waste and Green Area Inspection:** Bi-monthly inspections to ensure proper disposal and landscape upkeep

CHAPTER-1: INTRODUCTION

1.1 Purpose of the Report

This section outlines the central objective of the Environmental Impact Assessment (EIA) report, which is to evaluate the potential environmental impacts associated with the proposed establishment of a Socks Manufacturing Unit by Mr. Ahsan Iqbal Chaudhry at Quaid-e-Azam Industrial Park, Sheikhupura. The primary purpose of this EIA is to ensure full compliance with the Pakistan Environmental Protection Act (PEPA), 1997, and the relevant Punjab Environmental Protection regulations. The report identifies potential environmental risks and recommends appropriate mitigation and management measures to ensure environmentally responsible planning, construction, and operation of the proposed project. This assessment adheres to the following applicable environmental regulations and procedural guidelines:

- Evaluates key environmental aspects of the project, including physical, biological, and socio-economic conditions.
- Assesses baseline parameters and identifies potential impacts during construction and operation phases.
- Recommends mitigation measures and outlines an Environmental Management Plan (EMP).
- Ensures compliance with relevant national environmental laws and regulatory requirements.

1.2 Identification of Project and Proponent

This section introduces the project titled "Establishment of Socks Manufacturing Unit with knitting, dyeing, washing, pressing, and packing and ETP installation" by Mr. Ahsan Iqbal Chaudhry", located at Quaid-e-Azam Industrial Park, Sheikhupura. The project involves the development of a modern industrial facility over an area of approximately 4.54 acres, designed to support socks production activities. The facility will comprise essential infrastructure such as fire safety systems, parking spaces, water supply, Effluent Treatment Plant (ETP), and power backup systems will be incorporated to ensure efficient, safe, and environmentally compliant operations.

1.3 Project Proponent

Proponent: Ahsan Iqbal Chaudhry

Address: House No. 82-A Phase 8 Ex Park view DHA Lahore.

1.4 Details of Consultant

Name of Consultancy: Pak Green Enviro-Engineering (Pvt.) Ltd.

Address: 46-M, Gulberg III, Lahore.

Contact: 042-35441444, 0303-4442335

1.5 Nature, Size and Location of the Proposed Project

The following section highlights the physical characteristics of the proposed project. The development will be constructed on an area of approximately 4.54 acres within the Quaid-e-Azam Industrial Park, Sheikhupura. The project is industrial in nature and involves the manufacturing, dyeing, washing, pressing, and packing of socks. The facility will include production halls, administrative offices, storage areas, and utility blocks, designed for efficient and sustainable operation. The total estimated project cost is PKR 2 billion, with a production capacity of approximately 400,000 dozen socks per month. Major facilities of the project will include:

Table 1.1: Major Features of the project

Parameter	Details
Total Area	4.54 acres
Floors	Ground Floor and 1st Floor
Use	Industrial (Manufacturing, Dyeing, Washing, Pressing, and Packing of Socks)
Estimated Cost	PKR 2 billion
Production Capacity	400,000 dozen socks per month

1.5.1 Project Location

The project site is located at Quaid-e-Azam Industrial Park, Sheikhupura, Punjab, Pakistan.

1.5.2 Land Coordinates

The geographical coordinates are;

Latitude: 31°44'29.87"N

Longitude: 74° 3'0.69"E

1.5.3 Google Map

Figure 01: Google Earth Map of the Project site

1.6 Extent of the Study

The extent of the study includes a thorough review of project plans, physical inspection of the site, collection of baseline environmental data, impact analysis, stakeholder consultation, and formulation of mitigation strategies. It also involves examining relevant environmental regulations and best practices for sustainable construction and operation.

1.7 Structural Methodology

A structured methodology was followed in the preparation of the EIA report, which includes:

Table 1.2: Structural methodology of EIA of the project

Step	Description
Regulatory Document Review	Studied relevant laws, PEQS, building by laws, and previous and EIA reports for similar urban projects
Site Visit	Visited the proposed site to assess land use, accessibility, utilities, and surroundings
Environmental Baseline Study	Gathered data on air quality, noise levels, soil, water availability, and vegetation at the site
Stakeholder Engagement	Consulted local residents, business owners, and municipal bodies for concerns and suggestions
Impact Identification & Evaluation	Assessed environmental impacts using qualitative tools and expert input
Preparation of EMP	Designed mitigation measures, monitoring plans, and institutional roles to minimize identified impacts

1.8 Labor Force

Table 1.3: Labor Force

Phase	Estimated Workforce
Construction	25-30 Persons
Operational	40-50 Persons

This construction is anticipated to significantly contribute to meet growing market demand, improve efficiency, and enhance competitiveness in the Manufacturing Unit.

TABLE OF CONTENTS

PROJECT SUMMARY

Section	Parameter	Details
1. Project Identification	Name of Project / M/S	Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited
	Project Location	Quaid-e-Azam Industrial Park, Sheikhupura.
	Geographical Coordinates	Latitude: 31°44'29.87"N Longitude: 74° 3'0.69"E
2. Proponent Information	Proponent Name	Mr. Ahsan Iqbal Chaudhry
	CNIC	35202-2821343-9
	Proponent Address	House No. 82-A Phase 8 Ex Park view DHA Lahore.
3. Project Overview	Total Project Cost	Rs. 02 billion
	Project type	Proposed Establishment
	Project Description	The project involves manufacturing of socks, including knitting, dyeing, washing, and finishing, with the installation of Effluent Treatment Plant (ETP).
	Project Capacity	The total production capacity is 400,000 dozen per month.
	Land Area and Ownership	4.54Acres – Lease
	Allied Facilities	Utilities block (power, water, and air systems), administrative offices, workers' welfare amenities, and parking area.
	Types of Waste	Solid waste, liquid waste, and ETP sludge

4. Waste Management	Estimated Waste Generation	Approximately 10 kg/ day per person
	Waste Handling Measures	Source segregation, appropriate interim storage, and final disposal
5. Wastewater Management	Treatment Method	Primary, Secondary, Tertiary Treatment
	Final Disposal Plan	Effluent Treatment Plant
6. Rainwater Harvesting	Harvesting Infrastructure	Pits and Storage Tanks
	Collection Source	Rooftop
	Implementation Status	Planned
7. Plantation & Green Development	Proposed Green Area	10 % - 15 % of Allocated Area
	Tree Types and Numbers	Neem, Sheesham, Kikar
8. CSR & Community Welfare	CSR Budget	2% - 3% of Total Project Cost
	Activities	• Health & Safety • Environment & Sustainability

EXECUTIVE SUMMARY

This report presents the Environmental Impact Assessment (EIA) conducted for the establishment of socks manufacturing Unit by Mr. Ahsan Iqbal Chaudhry, located at Quaid-e-Azam Industrial Park, Sheikhupura, Pakistan. The project involves the construction and operation of a modern facility for the manufacturing of high-quality socks, incorporating processes such as knitting, dyeing, washing, pressing, and packing, along with the installation of an Effluent Treatment Plant (ETP) to ensure compliance with environmental standards.

The EIA has been undertaken to evaluate potential environmental impacts associated with the project's construction and operational phases and to propose appropriate mitigation measures in accordance with the Pakistan Environmental Protection Act, 1997 (amended 2012) and the Punjab Environmental Protection (Review of IEE/EIA) Regulations, 2000. The project aims to develop an environmentally responsible industrial facility that promotes sustainable production, ensures regulatory compliance, and minimizes adverse environmental impacts. In addition to supporting industrial development, the project will generate employment opportunities, strengthen the local economy, and contribute to the industrial and economic growth of Pakistan.

Project Overview

The proposed project involves the construction of a Socks Manufacturing Unit by Mr. Ahsan Iqbal Chaudhry at Quaid-e-Azam Industrial Park, Sheikhupura, on an industrial plot of 4.54 acres. The facility will include knitting, dyeing, washing, pressing, and packing sections, as well as administrative offices, storage areas, and utility blocks. The project aims to establish a modern and environmentally compliant socks manufacturing unit that promotes industrial development and regional economic growth. Key infrastructure will include parking areas, internal roads, water supply systems, an Effluent Treatment Plant (ETP), power backup, and security arrangements to ensure safe and sustainable operations. With an investment of PKR 2 billion and a production capacity of 400,000 dozen socks per month, the project is designed for operational efficiency, regulatory compliance, and long-term sustainability within Sheikhupura's industrial framework.

Project Proponent and Consultant

The project proponent, Mr. Ahsan Iqbal Chaudhry, has appointed Pak Green Enviro-Engineering Pvt. Ltd. as the environmental consultant to conduct the Environmental Impact Assessment (EIA) and obtain the necessary No Objection Certificate (NOC) from the Environmental Protection Department. The consultant possesses extensive experience in environmental assessment, impact analysis, and preparation of Environmental Management Plans (EMP) in accordance with the Pakistan Environmental Protection Act (PEPA), 1997, and Schedule II of the Pakistan Environmental Quality Standards (PEQS).

Name and Details of Proponent

Proponent	Ahsan Iqbal Chaudhry
Designation	CEO
CNIC	35202-2821343-9
Residence	House No. 82-A Phase 8 Ex Park view DHA Lahore.

CNIC and other relevant documents are attached in **annexure.**

Lahore office:	**Pak Green Laboratory (EPA Certified), 46 M, Gulberg III, Lahore.**
Contact:	+92-4235441444, +92-303-4442334
Email:	info@pakgreen.pk

Project Objective

The primary objective of the proposed Socks Manufacturing Unit is to facilitate the large-scale production of high-quality socks. The project aims to meet the increasing market demand for durable and affordable hosiery products, improve production efficiency through modern technology, and strengthen the company's competitiveness in the textile and apparel industry.

Site Description and Environmental Setting

The proposed project site is located at Quaid-e-Azam Industrial Park, Sheikhupura, within an industrially designated area covering 4.54 acres. The land has a stable, flat topography

suitable for industrial construction and is well-connected to major roads, allowing convenient transportation of raw materials and finished products.

Air Quality: Ambient air quality in the area is generally within permissible limits; however, vehicular movement and nearby industrial activity may cause slight variations. During construction, activities such as excavation, material handling, and movement of vehicles may generate dust and particulate matter, which will be minimized through regular water sprinkling, covered material storage, and dust barriers.

Noise Levels: Existing noise levels in the industrial park are moderate, consistent with an industrial environment. Construction machinery and operational equipment may temporarily increase noise levels, which will be mitigated through use of low-noise machinery, daytime work scheduling, and installation of acoustic insulation in noise-prone areas.

Water Resources: The project will utilize both industrial park water supply and groundwater to meet operational needs. A rainwater harvesting system will be installed to collect rooftop runoff for non-potable uses such as floor washing and landscaping. Wastewater generated from dyeing and washing operations will be treated through an on-site Effluent Treatment Plant (ETP) to ensure compliance with PEQS standards before discharge.

Ecology: The project site, being within a planned industrial estate, has minimal natural vegetation and negligible wildlife. No protected species or ecologically sensitive habitats were observed in or around the project area.

Environmental Impacts and Mitigation Measures

Air Quality Impacts: Dust emissions during construction will be controlled through water spraying, material covering, and vehicle maintenance. During operation, stack filters and controlled fuel use will reduce emissions from boilers and generators.

Noise Impacts: Noise will be managed through daytime operation, soundproof enclosures, and routine equipment maintenance to limit acoustic disturbances to acceptable industrial levels.

Solid Waste Management: A dedicated waste storage area will enable segregation of recyclable, organic, and hazardous waste. Disposal and recycling will be handled by licensed waste contractors in accordance with local regulations.

Water and Sanitation: Rainwater harvesting will be used for non-potable applications. Wastewater from dyeing and washing will be routed to the ETP, ensuring no untreated discharge into stormwater drains or soil.

Health and Safety Protocols: Workers will be provided with personal protective equipment (PPE), occupational safety training, and access to first aid facilities. The site will include firefighting systems, alarm systems, and emergency exits to ensure workplace safety.

Green Spaces and Landscaping: Although the site has limited greenery, landscaped green areas will be developed along boundaries and open spaces. Native, low-maintenance plant species will be used to enhance site aesthetics and air quality.

Stakeholder Engagement and Public Consultation

A stakeholder engagement exercise was carried out involving nearby industries, workers, local community representatives, and the industrial park management. The consultation aimed to share project details, identify environmental concerns, and collect feedback. Key concerns raised included:

- Dust and noise during construction
- Proper waste and effluent management
- Traffic and parking arrangements for employees and suppliers

Response and Mitigation: These concerns have been addressed in the Environmental Management Plan (EMP), which includes dust suppression, regulated working hours, waste management protocols, and dedicated parking areas within the site. Stakeholders expressed strong support for the project, acknowledging its potential for employment generation, industrial development, and economic contribution to the region.

Environmental Management and Monitoring Plan (EMMP)

- **Institutional Capacity and Training:** Project engineers, supervisors, and staff will receive training in environmental protection, waste management, and emergency response procedures.

- **Equipment Maintenance:** All construction and operational machinery will undergo regular maintenance to reduce emissions, noise, and energy consumption.
- **Budget Allocation:** A dedicated environmental management budget will cover waste disposal, monitoring, PPE procurement, green area maintenance, and training programs.

Monitoring Schedule:

- **Air and Noise Monitoring:** Monthly during construction; bi-annually during operation
- **Water Quality Monitoring:** Monthly for groundwater, ETP effluent, and rainwater harvesting systems
- **Solid Waste and Green Area Inspection:** Bi-monthly inspections to ensure proper disposal and landscape upkeep

CHAPTER-1: INTRODUCTION

1.1 Purpose of the Report

This section outlines the central objective of the Environmental Impact Assessment (EIA) report, which is to evaluate the potential environmental impacts associated with the proposed establishment of a Socks Manufacturing Unit by Mr. Ahsan Iqbal Chaudhry at Quaid-e-Azam Industrial Park, Sheikhupura. The primary purpose of this EIA is to ensure full compliance with the Pakistan Environmental Protection Act (PEPA), 1997, and the relevant Punjab Environmental Protection regulations. The report identifies potential environmental risks and recommends appropriate mitigation and management measures to ensure environmentally responsible planning, construction, and operation of the proposed project. This assessment adheres to the following applicable environmental regulations and procedural guidelines:

- Evaluates key environmental aspects of the project, including physical, biological, and socio-economic conditions.
- Assesses baseline parameters and identifies potential impacts during construction and operation phases.
- Recommends mitigation measures and outlines an Environmental Management Plan (EMP).
- Ensures compliance with relevant national environmental laws and regulatory requirements.

1.2 Identification of Project and Proponent

This section introduces the project titled "Establishment of Socks Manufacturing Unit with knitting, dyeing, washing, pressing, and packing and ETP installation" by Mr. Ahsan Iqbal Chaudhry", located at Quaid-e-Azam Industrial Park, Sheikhupura. The project involves the development of a modern industrial facility over an area of approximately 4.54 acres, designed to support socks production activities. The facility will comprise essential infrastructure such as fire safety systems, parking spaces, water supply, Effluent Treatment Plant (ETP), and power backup systems will be incorporated to ensure efficient, safe, and environmentally compliant operations.

1.3 Project Proponent

Proponent: Ahsan Iqbal Chaudhry

Address: House No. 82-A Phase 8 Ex Park view DHA Lahore.

1.4 Details of Consultant

Name of Consultancy: Pak Green Enviro-Engineering (Pvt.) Ltd.

Address: 46-M, Gulberg III, Lahore.

Contact: 042-35441444, 0303-4442335

1.5 Nature, Size and Location of the Proposed Project

The following section highlights the physical characteristics of the proposed project. The development will be constructed on an area of approximately 4.54 acres within the Quaid-e-Azam Industrial Park, Sheikhupura. The project is industrial in nature and involves the manufacturing, dyeing, washing, pressing, and packing of socks. The facility will include production halls, administrative offices, storage areas, and utility blocks, designed for efficient and sustainable operation. The total estimated project cost is PKR 2 billion, with a production capacity of approximately 400,000 dozen socks per month. Major facilities of the project will include:

Table 1.1: Major Features of the project

Parameter	Details
Total Area	4.54 acres
Floors	Ground Floor and 1st Floor
Use	Industrial (Manufacturing, Dyeing, Washing, Pressing, and Packing of Socks)
Estimated Cost	PKR 2 billion
Production Capacity	400,000 dozen socks per month

1.5.1 Project Location

The project site is located at Quaid-e-Azam Industrial Park, Sheikhupura, Punjab, Pakistan.

1.5.2 Land Coordinates

The geographical coordinates are;

Latitude: 31°44'29.87"N

Longitude: 74° 3'0.69"E

1.5.3 Google Map

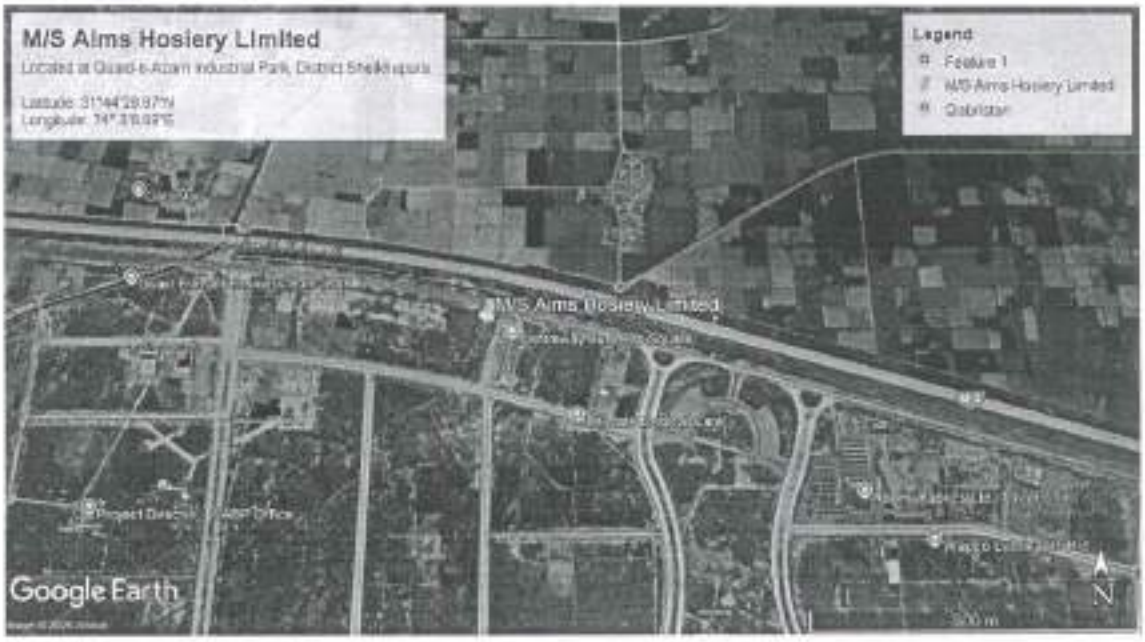


Figure 01: Google Earth Map of the Project site

1.6 Extent of the Study

The extent of the study includes a thorough review of project plans, physical inspection of the site, collection of baseline environmental data, impact analysis, stakeholder consultation, and formulation of mitigation strategies. It also involves examining relevant environmental regulations and best practices for sustainable construction and operation.

1.7 Structural Methodology

A structured methodology was followed in the preparation of the EIA report, which includes:

Table 1.2: Structural methodology of EIA of the project

Step	Description
Regulatory Document Review	Studied relevant laws, PEQS, building by laws, and previous and EIA reports for similar urban projects
Site Visit	Visited the proposed site to assess land use, accessibility, utilities, and surroundings
Environmental Baseline Study	Gathered data on air quality, noise levels, soil, water availability, and vegetation at the site
Stakeholder Engagement	Consulted local residents, business owners, and municipal bodies for concerns and suggestions
Impact Identification & Evaluation	Assessed environmental impacts using qualitative tools and expert input
Preparation of EMP	Designed mitigation measures, monitoring plans, and institutional roles to minimize identified impacts

1.8 Labor Force

Table 1.3: Labor Force

Phase	Estimated Workforce
Construction	25-30 Persons
Operational	40-50 Persons

This construction is anticipated to significantly contribute to meet growing market demand, improve efficiency, and enhance competitiveness in the Manufacturing Unit.

SCREENING

Regulatory Basis for Screening

Environmental Screening is a preliminary assessment step used to determine the level of environmental review a proposed project must undergo, as per the provisions of the **Pakistan Environmental Protection Act (PEPA), 1997 (Amended 2022),** and the Pakistan Environmental Protection Agency (Review of Initial Environmental Examination and Environmental Impact Assessment) Regulations, 2000 (Amended 2022). The main objective of screening is to classify the project into one of two categories:

- **Schedule I** projects, which require an **Initial Environmental Examination (IEE).**
- **Schedule II** projects, which require a more comprehensive **Environmental Impact Assessment (EIA).**

The classification is based on the nature, size, and location of the project and its potential environmental impacts.

Screening Determination for the Proposed Project

After a detailed review of the proposed project characteristics, it is determined that the Establishment of the Socks Manufacturing Unit by Aims Hosiery Limited falls under Schedule II, specifically under the following category:

Schedule II, Category B (Textile and Apparel Manufacturing), Clause 3: *"Textile processing, dyeing, printing, finishing, and related industries."*

Furthermore, since the project involves dyeing and washing operations, installation of an Effluent Treatment Plant (ETP), and management of chemical and solid waste, it qualifies under Schedule II due to its potential environmental impacts related to water use, effluent discharge, and air emissions.

Justification for EIA Requirement

Scale of Operation

The proposed socks manufacturing unit by M/S Aims Hosiery Limited will operate on a medium to large industrial scale, designed for high-volume production to meet both domestic demand and potential export markets. The facility will cover approximately

4.54 acres, housing multiple production lines for knitting, dyeing, washing, pressing, and packing of socks.

The operational layout incorporates dedicated areas for raw material storage, dyeing and finishing, quality control, and packaging, ensuring smooth workflow and segregation of process zones. The unit will run in multiple shifts to achieve a monthly production capacity of 400,000 dozen socks, supported by automated and semi-automated machinery to maintain efficiency and product quality.

Utilities including electricity, water supply via deep borewells, and an on-site Effluent Treatment Plant (ETP) will ensure compliance with environmental standards (PEQS) and proper wastewater management. Noise and dust control measures, as well as green belts around the facility, have been integrated into the design to minimize environmental impact.

The scale of operations involves handling large volumes of dyes, chemicals, and packaging materials, managed through organized storage and inventory systems. With robust operational planning, the facility is structured to be a high-throughput, environmentally compliant, and occupationally safe industrial unit capable of supporting sustained growth in the hosiery sector.

Resource Utilization

The proposed Socks Manufacturing Unit will rely on the efficient and sustainable use of key resources throughout its lifecycle, including water, energy, raw materials, human capital, infrastructure, and land. Proper management of these resources is essential to maintain production efficiency, ensure product quality, and comply with environmental and occupational regulations.

Water will be a critical input, primarily used in dyeing, washing, and finishing processes, as well as for boilers, cooling systems, and domestic consumption (drinking, sanitation, and cleaning). To promote water conservation, the facility will install flow meters, water-efficient fixtures, and an Effluent Treatment Plant (ETP) for wastewater treatment. Treated water will be reused for non-critical activities such as floor washing, toilet flushing, and green belt irrigation, aligning with sustainable resource management practices.

Energy will be required for operating knitting machines, dyeing units, compressors, boilers, HVAC systems, and lighting. The main energy supply will be sourced from LESCO/WAPDA, with diesel generators serving as a backup. To minimize energy consumption and carbon footprint, the project will incorporate energy-efficient motors, LED lighting, automation systems, and rooftop solar panels to partially offset grid dependency.

Raw materials such as yarn, dyes, chemicals, and packaging materials will be procured from certified suppliers and stored in well-ventilated, designated areas to prevent spoilage or contamination.

Human resources will include skilled and semi-skilled workers such as machine operators, dyeing experts, quality control staff, maintenance technicians, and administrative personnel. Training programs will be conducted regularly on industrial safety, machine handling, chemical management, and environmental awareness. Strict adherence to Occupational Health and Safety (OHS) protocols will ensure a safe and efficient working environment.

Land and infrastructure will be utilized efficiently within the 4.54-acre industrial plot, featuring purpose-built facilities such as production halls, dyeing and washing sections, ETP, administrative block, storage areas, parking spaces, and staff amenities. The layout has been designed for smooth material flow, operational efficiency, and compliance with local building codes, fire safety standards, and environmental regulations.

Waste Generation

The proposed socks manufacturing project will generate various types of waste during both construction and operational phases.

During the **construction phase**, expected waste will include excavated soil, concrete debris, packaging materials, wooden pallets, metallic scrap, and insulation waste. Temporary worker facilities may produce domestic solid waste, such as food waste, paper, and plastic. Small quantities of hazardous waste, such as used oils, paint containers, and fuel residues, may also be generated. Improper handling of these wastes could lead to soil and water contamination; hence appropriate waste segregation and disposal measures will be implemented.

During the **operational phase**, waste streams will primarily consist of general solid waste, wastewater, and chemical waste. General waste will include fabric cuttings, yarn residues, packaging materials, and office waste (paper, cardboard, plastics). Wastewater from dyeing and washing operations will contain dyes, detergents, and suspended solids, requiring proper treatment through the Effluent Treatment Plant (ETP) before discharge. The ETP sludge will be handled as hazardous waste and disposed of through EPA-approved contractors.

A comprehensive waste management plan will be implemented emphasizing reduction, reuse, and recycling. Waste will be segregated at source, hazardous waste will be stored in dedicated labelled zones, and all disposal activities will follow Punjab Environmental Quality Standards (PEQS). Periodic staff training and waste audits will ensure compliance and continuous improvement in environmental performance.

Location Considerations

Although the proposed site is located within Quaid-e-Azam Industrial Park, Sheikhupura, a designated industrial estate, the cumulative environmental impacts arising from existing and upcoming industries in the vicinity must be carefully considered. The concentration of multiple manufacturing units within the same industrial zone can place collective pressure on shared infrastructure, utilities, and the local environment. These pressures include increased heavy vehicle traffic, higher electricity and natural gas demand, stress on stormwater and drainage systems, and potential cumulative air and water emissions.

The internal road network of the industrial park may face congestion and accelerated deterioration due to the movement of construction vehicles, delivery trucks, and finished goods transport once the socks manufacturing unit becomes fully operational. Likewise, the combined noise levels generated by multiple industrial operations, including generators, compressors, and material handling equipment, could affect the overall acoustic environment of the area.

Furthermore, the aggregate discharge of wastewater and solid waste from multiple industrial units could challenge the park's drainage and waste management infrastructure. Without effective coordination and regulatory oversight, there is a risk of untreated or partially treated effluents being released into nearby drainage channels or

open lands, potentially impacting surface and groundwater quality. Given that the proposed project includes dyeing and washing processes, careful management of wastewater and chemical residues is essential to prevent cumulative pollution.

To mitigate these cumulative effects, the EIA for the Socks Manufacturing Unit will not only assess the project's direct environmental impacts but also evaluate the combined influence of neighbouring industries. This assessment will include a review of total emissions, effluent volumes, waste generation, and overall utility consumption within the industrial park. Based on the findings, site-specific and cooperative mitigation measures will be proposed such as coordinated transport scheduling, installation of stormwater retention and treatment systems, implementation of efficient emission control technologies, and collaboration with the industrial park management for shared ETP facilities and centralized waste disposal services.

By adopting these measures, the project will operate in an environmentally responsible and sustainable manner, ensuring compliance with the **Pakistan Environmental Protection Act (PEPA) 1997, Punjab Environmental Quality Standards (PEQS)**, and the **Punjab Industrial Estate Development and Management Company (PIEDMC)** environmental management framework.

Legal and Regulatory Compliance

Under **Schedule II of the EIA Regulations (2000)**, textile Industry units with significant water use, effluent discharge, and chemical handling are **legally required** to conduct an EIA prior to construction and operation. The EIA ensures compliance with:

- Punjab Environmental Quality Standards (PEQS)
- Water quality and effluent discharge limits
- Waste management protocols

Public and Occupational Safety

The operation of knitting, dyeing, washing, and finishing machinery in the proposed socks manufacturing unit involves the use of pressurized equipment, heat processes, and various dyes and chemicals, which may pose potential health and safety risks to workers. These risks include exposure to chemical vapours, heat stress, accidental spills, and mechanical injuries during equipment operation and maintenance. Additionally, noise

from machinery and vehicular movement related to material transport and logistics could contribute to the overall noise levels within the industrial park.

This report will evaluate these potential occupational and environmental risks in detail and recommend a comprehensive set of mitigation and management measures. These will include the provision of personal protective equipment (PPE), chemical safety protocols, machine guarding, emergency response training, and regular safety audits. Furthermore, the EIA will propose noise control measures, such as the use of low-noise machinery, acoustic insulation, and restricted work hours for high-noise activities.

Through the implementation of these measures, the project aims to maintain a safe and compliant working environment, safeguard employee health, and minimize any adverse impact on the surrounding industrial and community settings.

Regulatory Consultation and Confirmation

The need for conducting a full EIA for this project was confirmed through a formal screening process in consultation with the Punjab Environmental Protection Agency (Punjab-EPA). The regulatory authority confirmed that the project falls under Schedule II and must follow the complete procedure under the EIA Regulations 2000 (Amended 2022).

Accordingly, this EIA report has been prepared in compliance with:

- Section 12 of the PEPA 1997 (Amended 2022)
- Rule 4 and Rule 5 of the EIA/IEE Regulations 2000 (Amended 2022)
- Terms of Reference (TORs) provided or accepted by the Punjab-EPA for projects of this type and scale.

Summary of Screening Outcome

Table 1.5: Summary of Screening Outcome

Parameter	Description
Project Type	Establishment of Socks Manufacturing Unit

Activity Nature	Textile Processing, Dyeing, Washing, and Packaging
Schedule Classification	Schedule II
Regulatory Clause	Category B, Clause 3 (Textile Processing, Dyeing, and Finishing Units)
Screening Decision	Requires Full Environmental Impact Assessment (EIA)

This screening outcome has guided the preparation of the full Environmental Impact Assessment report that follows, including baseline studies, impact analysis, mitigation planning, and stakeholder engagement strategies.

SCOPING

Scoping is a critical component of the Environmental Impact Assessment (EIA) process, aimed at identifying key environmental and social concerns that must be addressed. It establishes the spatial and temporal boundaries, identifies major concerns raised by stakeholders, and defines the significant impacts and factors to be examined during the study.

Spatial and Temporal Boundaries of Environmental Assessment

The **spatial boundaries** of this project encompass multiple zones of influence. The primary zone is the project site itself, covering a total area of 4.54 acres within the Quaid-e-Azam Industrial Park, Sheikhupura. This includes the main socks manufacturing facility with knitting, dyeing, washing, pressing, and packing sections, along with storage areas, administrative blocks, internal roads, parking spaces, and the Effluent Treatment Plant (ETP). The secondary zone includes nearby industrial units and access roads within a 1-2 km radius that may experience indirect effects such as increased traffic, noise, and emissions. The tertiary zone extends to broader environmental receptors, including groundwater resources, stormwater drainage systems, and regional transport networks, which may face cumulative impacts over the long term.

The **temporal boundaries** of this assessment cover all stages of the project lifecycle. The pre-construction phase involves site clearing, leveling, and setup of temporary facilities. The construction phase includes civil works, structural development, and installation of machinery, which may cause short-term impacts such as dust generation, noise, and localized disturbances. The operational phase, being the most critical, involves continuous production activities, including dyeing, washing, and finishing processes that generate solid waste, effluents, and emissions while consuming significant water and energy resources. Although decommissioning is not expected in the near future, this EIA also takes into account potential future closure activities such as equipment dismantling, ETP deactivation, and safe disposal of waste to ensure a comprehensive environmental evaluation.

Important Issues and Concerns Raised During Consultation

During stakeholder consultations for the proposed Socks Manufacturing Unit with an on-site ETP at Quaid-e-Azam Industrial

Park, Sheikhupura, several important concerns and suggestions were raised. Stakeholders emphasized the need for an efficient Effluent Treatment Plant (ETP) to ensure compliance with National Environmental Quality Standards (PEQS) and to prevent contamination of nearby drainage systems or surface water bodies. Representatives from the industrial park management and logistics sector highlighted the importance of maintaining smooth internal road access and effective traffic management, particularly for heavy vehicles transporting raw materials and finished goods during peak hours.

Neighbouring industrial units expressed concerns about potential air emissions, dyeing odours, and operational noise, urging the project management to adopt appropriate emission control and noise mitigation measures. Worker representatives stressed the importance of implementing strong occupational health and safety (OHS) protocols, ensuring the mandatory use of PPE, and maintaining emergency preparedness systems such as fire alarms, safety drills, and first aid facilities during both the construction and operational phases.

Overall, stakeholders showed support for the project, acknowledging its potential to generate local employment and contribute to regional industrial growth, provided that all environmental safeguards and safety measures are strictly implemented.

Significant Impacts and Factors to be Determined

The proposed socks manufacturing unit is expected to have certain environmental and social impacts that require careful assessment. A primary concern is water usage, as the facility will consume significant amounts of water for dyeing, washing, and finishing processes. Ensuring sustainable water sourcing and implementing water conservation measures will be essential. Another important consideration is the generation of wastewater from dyeing and washing operations, which must be treated to meet Pakistan Environmental Quality Standards (PEQS). Accordingly, the design, capacity, and operational efficiency of the on-site Effluent Treatment Plant (ETP) must be carefully planned and monitored to ensure effective treatment and safe discharge or reuse.

Wastewater Generation and Treatment

The socks manufacturing process, particularly the dyeing and washing stages, will generate substantial volumes of wastewater containing dyes, detergents, suspended solids, and organic loads (BOD/COD). To manage this, an Effluent Treatment Plant (ETP)

will be installed as an integral part of the project. The ETP will be designed to meet National Environmental Quality Standards (PEQS), incorporating primary, secondary, and tertiary treatment units. Regular monitoring of key parameters such as BOD, COD, TSS, pH, and colour will be conducted to ensure compliance. The resulting ETP sludge will be properly dewatered, dried, and disposed of through licensed waste contractors in an environmentally safe manner.

Air Emissions and Ambient Air Quality

Air emissions are expected during both the construction and operational phases. During construction, dust from site leveling, material handling, and machinery operation may temporarily degrade local air quality. During operations, emissions will primarily arise from standby diesel generators, boilers, and dyeing processes, potentially releasing SO_2, NO_x, CO, VOCs, and particulate matter (PM_{10} and $PM_{2.5}$). Control measures will include the use of low-sulphur fuel, installation of stack filters or scrubbers, and regular maintenance of combustion equipment. Additionally, the development of a green belt around the facility perimeter will help improve air quality and act as a natural buffer.

Noise Pollution and Acoustic Impact

Noise generation will occur from construction machinery, textile machines, compressors, pumps, and transport vehicles. Prolonged exposure may affect workers' health and the surrounding industrial environment. To minimize impacts, high-noise equipment will be enclosed with soundproof covers, operations will be limited to daytime hours, and PPE such as earmuffs will be provided to staff. Periodic noise monitoring will be carried out to ensure compliance with Pakistan Environmental Quality Standards (PEQS) for noise.

Solid and Hazardous Waste Management

The project will generate solid waste in the form of fabric trimmings, packaging materials (cartons, plastic), sludge from the ETP, and general office waste. Some wastes, such as chemical containers, dye residues, and oily rags, will be classified as hazardous. A structured waste segregation system will be implemented at source, with clearly labelled storage areas for recyclable, non-recyclable, and hazardous wastes. All hazardous waste will be handled and disposed of through registered contractors, while recyclable materials will be supplied to authorized recyclers. Waste generation and disposal records will be maintained for audit and compliance purposes.

Energy Consumption and Climate Considerations

Energy demand will be significant due to dyeing, washing, drying, pressing, and lighting operations. The facility will primarily rely on the national grid (LESCO) with diesel generators for backup. To reduce emissions and operational costs, energy-efficient motors, LED lighting, and variable frequency drives (VFDs) will be used. The project also aims to integrate solar panels for partial energy supply and conduct periodic energy audits to monitor and improve efficiency.

Occupational Health and Safety (OHS)

Given the use of chemicals, high-temperature dyeing equipment, and mechanical machinery, a strong OHS management system will be implemented. Workers will be trained in chemical handling, machine safety, and emergency response. The use of PPE (gloves, masks, goggles, ear protection) will be mandatory, and the facility will be equipped with fire alarms, extinguishers, first aid stations, and emergency evacuation routes. All safety measures will align with ILO, ISO 45001, and local labour safety standards.

Socio-Economic Impacts

The project is expected to generate substantial socio-economic benefits for the region. It will create direct employment for skilled and unskilled workers in production, maintenance, logistics, and administration, and indirect jobs in transport, packaging, and raw material supply chains. The project will contribute to local economic development, promote industrial growth, and enhance export potential for Pakistan's textile sector. Corporate Social Responsibility (CSR) initiatives such as skill development programs, worker welfare schemes, and community engagement will be incorporated to strengthen relations with the surrounding community and ensure inclusive growth.

CHAPTER-2: DESCRIPTION OF THE PROJECT

2.1 Title of Project

Proposed Establishment of Socks Manufacturing Unit by Mr. Ahsan Iqbal Chaudhry

2.2 Objectives of the Project

The primary objective of the project is to develop the site into a modern, well-equipped socks manufacturing facility that complies with national industrial and environmental standards. Located on a 4.54-acre industrial plot, the project aims to:

Socio-Economic Benefits: The project will generate substantial employment opportunities for both skilled and unskilled local labor during the construction and operational phases. It will contribute to the economic growth of Sheikhupura by promoting industrial development, supporting ancillary industries such as packaging, logistics, and maintenance services, and enhancing local livelihoods.

Efficient Industrial Land Use: The project ensures the optimal utilization of designated industrial land within the Quaid-e-Azam Industrial Park, minimizing the need for additional land conversion or greenfield development. The facility will feature purpose-built areas for knitting, dyeing, washing, pressing, packing, quality control, warehousing, and administration strengthening the region's textile and garment manufacturing capacity.

Sustainable Infrastructure: The project aims to establish a technologically advanced and environmentally responsible socks manufacturing facility by incorporating energy-efficient machinery, rainwater harvesting systems, and a dedicated Effluent Treatment Plant (ETP). These measures will ensure operational efficiency, resource conservation, and compliance with PEQS, aligning with long-term sustainability goals.

Support Textile Sector Growth: By enhancing domestic production capacity, the project will help reduce reliance on imported hosiery products, promote local value addition, and support Pakistan's textile export competitiveness. The facility is designed for scalability and diversification, enabling continuous innovation in product design and quality.

Promote Sustainable Industrial Development: Through responsible planning, modern infrastructure, and strict environmental safeguards, the project demonstrates a strong

commitment to sustainable industrialization and economic resilience, fully aligning with Pakistan's Vision 2030 and national industrial development priorities.

2.3 Location and Site Layout of Project

2.3.1 Location

The project is located at Quaid-e-Azam Industrial Park, Sheikhupura, within a designated industrial estate developed and managed under the Punjab Industrial Estates Development and Management Company (PIEDMC). The site lies in a well-planned industrial zone equipped with essential infrastructure such as internal roads, electricity, gas, and water supply, ensuring a suitable environment for sustainable industrial operations.

Project land coordinates are as follows:

Latitude: 31°44'29.87"N

Longitude: 74° 3'0.69"E

North ----------Main Road

South ---------- Open Land

East ---------- Covered Area

West ----------Open Land

2.3.2 Location and Site Layout of the Project

The proposed Socks Manufacturing Unit is located within an industrial-designated plot in Quaid-e-Azam Industrial Park, Sheikhupura. The site has been selected to ensure compatibility with surrounding industrial land uses, efficient infrastructure connectivity, and compliance with all zoning and environmental regulations. The total plot area of the project has been systematically planned to optimize land use, ensure smooth internal movement, and maintain segregation between production, utility, administrative, and support areas. The layout emphasizes process flow efficiency, worker safety, and environmental sustainability.

Overall Layout Planning

The site layout has been developed in accordance with industrial planning principles and the PIEDMC guidelines. The building footprint is oriented to maximize natural light and ventilation while leaving adequate open spaces for internal circulation, landscaping, and green areas. The facility is enclosed with a perimeter boundary wall and security-controlled gates to manage vehicle and personnel entry. The main entrance faces the internal industrial road, ensuring direct and convenient access for transport vehicles and employees. The layout is divided into several functional zones as described below:

Knitting Section: The knitting section is located in center within the main production block to ensure smooth and efficient material flow throughout the manufacturing process. It houses multiple circular knitting machines that are systematically arranged in well-planned rows to optimize space utilization and operational efficiency. The section is directly connected to the yarn storage area, minimizing internal transport and handling time between raw material input and fabric formation. To maintain a clean and comfortable working environment, the area is equipped with adequate ventilation and dust control systems, ensuring both worker safety and product quality.

Dyeing Section: The dyeing section is strategically positioned adjacent to the knitting area to ensure a streamlined process flow and efficient transfer of semi-finished fabric for further processing. It is equipped with modern dyeing machines, a colour preparation area, and automated chemical dosing systems to maintain precision and consistency in colour formulation. The floors and drainage systems in this section are constructed using acid- and alkali-resistant materials to withstand exposure to dyes and chemicals, ensuring durability and safety. All effluents generated during dyeing operations are collected through a closed drainage network and routed directly to the Effluent Treatment Plant (ETP) for proper treatment in full compliance with environmental standards.

Washing Section: The washing section is located immediately next to the dyeing area to maintain seamless continuity of wet processing operations and minimize material handling time. It houses washing and rinsing machines equipped with controlled water supply systems to ensure efficient cleaning of dyed fabrics. The section is designed with proper floor gradients and drainage, allowing smooth collection of wastewaters, which is channeled directly through dedicated pipelines to the Effluent Treatment Plant (ETP)

collection tank for proper treatment before discharge, thereby ensuring full compliance with environmental and operational standards.

Drying and Pressing Section: The finishing section is situated immediately after the washing area to ensure a smooth and efficient transition between processes. It is equipped with hydro-extractors, tumble dryers, and pressing machines to remove moisture and achieve the required finish for the socks. The area is designed with a ventilation and exhaust system fitted with lint filters to maintain air quality and prevent lint accumulation. This section ensures that all products are properly dried, pressed, and finished before being transferred to the packing area for labelling and shipment.

Packing and Storage Area: The packing and dispatch area is strategically located near the exit gate to facilitate efficient product dispatch and smooth logistics operations. It includes inspection tables, labeling stations, sealing units, and automated packing lines to ensure quality and consistency in final packaging. A finished goods warehouse is situated adjacent to the packing hall for temporary storage before shipment. The internal layout has been designed to optimize material movement, minimizing cross-traffic between raw materials and finished goods, thereby ensuring operational efficiency, safety, and hygiene within the facility.

Raw Material and Yarn Store: The raw material and chemical storage area is positioned close to the knitting hall to facilitate smooth and efficient transfer of inputs to the production section. It is designed to maintain controlled temperature and humidity conditions to preserve the quality of yarn and other raw materials. The storage facility includes segregated sections for dyes, chemicals, and auxiliaries, each equipped with proper safety labelling, ventilation, and spill containment arrangements in accordance with industrial safety standards. This setup ensures safe handling, minimizes contamination risks, and supports efficient material management throughout the manufacturing process.

Effluent Treatment Plant (ETP): The Effluent Treatment Plant (ETP) is strategically installed at the rear end (south-west corner) of the project site to ensure efficient wastewater management. It is specifically designed to treat all process wastewater generated from dyeing, washing, and other manufacturing activities. The system

comprises a screening chamber, equalization tank, chemical dosing unit, aeration tank, clarifier, and sludge drying beds, ensuring comprehensive treatment before discharge. The ETP is located at a lower elevation to facilitate gravity-based flow of wastewater, minimizing the need for pumping and ensuring smooth hydraulic operation. This setup ensures that the treated effluent meets Punjab Environmental Quality Standards (PEQS) prior to final disposal into the industrial drainage system.

Administrative Block: The administration and security block is located near the main entrance of the facility to provide convenient access for visitors and administrative staff. This section comprises offices, meeting rooms, a reception area, and a security control unit, all designed to support the smooth management and coordination of plant operations. The block is strategically separated from the main production zones to maintain safety, reduce noise exposure, and prevent interference with manufacturing activities. Its location also facilitates effective monitoring of entry and exits points, ensuring controlled access and overall site security.

Utility Block: The utility block houses essential service infrastructure, including the generator room, electrical panel room, air compressor room, and water storage tanks. It is strategically located away from the main production areas to minimize the transmission of noise and vibrations to sensitive manufacturing zones. The section is equipped with acoustic enclosures, safety barriers, and proper ventilation systems to ensure safe and efficient operation of all utilities. This placement supports uninterrupted power, air, and water supply to the entire facility while maintaining a safe and controlled environment.

Labor Facilities: The worker welfare block includes essential amenities such as a canteen, washrooms, changing rooms, and a designated rest area to ensure employee comfort and wellbeing. It is conveniently located near the production halls to provide easy access for workers while maintaining separation from manufacturing zones to uphold hygiene and safety standards. The facility is designed in accordance with worker welfare and occupational health regulations, providing clean, ventilated, and safe spaces that support productivity and overall workplace satisfaction.k.

Parking and Internal Roads: The parking and internal circulation area is designed to ensure smooth and organized movement throughout the facility. Adequate parking spaces are provided near the main gate for cars, motorbikes, and delivery trucks. The internal road network allows for the safe and efficient transport of raw materials and finished goods between different sections of the plant. Additionally, clearly marked pedestrian pathways and vehicle routes are incorporated to promote safe circulation and prevent any risk of accidents or congestion within the premises.

Greenbelt and Landscaping: Approximately 10–15% of the total plot area has been reserved for green landscaping and plantation, contributing to environmental sustainability and improved site aesthetics. Green belts and landscaped strips are developed along the boundary walls and in the vicinity of the Effluent Treatment Plant (ETP) to enhance the microclimate and reduce dust dispersion. The selected plant species are native, drought-resistant, and pollution-tolerant, ensuring low maintenance requirements while supporting ecological balance and visual appeal within the industrial setting.

2.4 Land Use on the Site

The land selected for the proposed socks manufacturing unit is entirely designated as industrial and has been officially allotted for manufacturing purposes by the relevant authorities within the Quaid-e-Azam Industrial Park, Sheikhupura. There are no residential, commercial, or agricultural activities present on or near the project site, ensuring minimal potential for land-use conflicts. The proposed facility is fully consistent with the zoning regulations and industrial land-use policies established by PIEDMC. The project also adheres to all relevant development, environmental, and safety guidelines set forth for the Quaid-e-Azam Industrial Park.

2.5 Road Access

The project site at Quaid-e-Azam Industrial Park, Sheikhupura benefits from excellent transportation and logistical connectivity through a well-developed internal road network that links directly to the M-2 Motorway and Sheikhupura-Lahore Road. This strategic location ensures the efficient movement of raw materials and finished products to and from the facility. The site design will incorporate dedicated access points for heavy vehicles and separate entry routes for staff and visitors, ensuring safe, organized, and

uninterrupted traffic flow during both the construction and operational phases of the project.

2.6 Vegetation Features of the Site

The project site is primarily vacant industrial land with no notable natural vegetation or tree cover. Only a few scattered wild grasses and shrubs are present along the plot boundaries, and no protected or ecologically significant plant species are found within or near the area. Being located within the Industrial Park, the land has already been designated for industrial use and shows minimal natural habitat features. Following construction, the proponent intends to develop green belts, landscaped areas, and plantation zones around the socks manufacturing facility to enhance the visual appeal, minimize dust dispersion, and improve microclimatic and air quality conditions, in accordance with the environmental management and sustainability objectives of PIEDMC.

2.7 Cost and Magnitude of Operation

The total estimated cost of the proposed socks manufacturing unit is PKR 2 billion, encompassing expenses related to civil construction, procurement and installation of machinery (including knitting, dyeing, washing, finishing, and packing units), utility infrastructure, Effluent Treatment Plant (ETP) installation, and site development. The facility is designed to operate in multiple shifts, employing a substantial workforce of skilled, semi-skilled, and unskilled labor. This investment will not only generate employment opportunities but also significantly contribute to the industrial and economic growth of the Industrial Park.

2.8 Schedule of Implementation

The implementation of the project is planned in phases, with estimated time period.

Table 2.1: Schedule Plan for the project

Phase	Activities	Timeline
Phase I	Site preparation, boundary wall construction, utility setup	Months 1-3
Phase II	Civil construction and machinery installation	Months 4-9

Phase III	ETP setup, testing, and commissioning	Months 10-11
Phase IV	Trial production and full-scale operation	Month 12 onwards

2.9 Description of The Project

The project involves the construction of a socks manufacturing facility designed to support large-scale production using modern textile technology. The production process will include raw material handling, knitting, linking, washing, drying, finishing, and packaging operations. The facility will be equipped with advanced knitting and stitching machinery, quality control units, HVAC and ventilation systems, and energy-efficient utilities to ensure smooth, safe, and sustainable operations. An on-site Effluent Treatment Plant (ETP) will be installed to treat all process and washing wastewater, ensuring full compliance with PEQS prior to discharge.

Project Activities and Key Components

Raw Material Handling and Storage: The project involves industrial-scale socks manufacturing, supported by an on-site Effluent Treatment Plant (ETP), water filtration system, and other essential utilities. Raw materials such as yarn, elastic, dyes, and chemicals will be stored in designated storage areas under safe and organized conditions. Materials will be handled using mechanical aids to prevent damage or contamination, and waste from storage or handling will be properly segregated and disposed of.

Production and Processing: The production process will include knitting, linking, washing, dyeing, drying, pressing, finishing, and packaging. Automated knitting and stitching machines will be used to ensure high precision and consistency. Dyeing and washing sections will operate under controlled conditions to optimize resource use and minimize wastewater generation. Regular quality checks will be conducted at each stage to ensure compliance with industry standards.

Effluent Treatment and Wastewater Management: An on-site Effluent Treatment Plant (ETP) will treat wastewater generated from dyeing and washing activities. The system will include primary, secondary, and tertiary treatment units to remove colour, suspended solids, and chemical residues. Treated water will meet PEQS standards before being reused for non-process purposes or safely discharged.

Energy and Utility Management: The facility will utilize boilers, compressors, HVAC systems, and standby generators to maintain consistent operations. Energy efficiency will be achieved through modern machinery, LED lighting, and automated control systems. Plans for solar power integration will be considered to reduce dependency on conventional energy sources and minimize the carbon footprint.

Packaging and Distribution: Finished socks will be pressed, labelled, and packed in eco-friendly materials such as cartons and poly bags. Products will be stored in a controlled warehouse before being distributed through organized transport channels. The logistics system will ensure timely and safe delivery to both domestic and export markets.

Waste Management & Recycling: Solid and liquid wastes including fabric scraps, rejected pieces, packaging waste, ETP sludge, and chemical residues will be properly segregated at source. Non-hazardous materials such as cardboard and plastics will be sent for recycling, while hazardous waste will be handled and disposed of through licensed waste management contractors in compliance with environmental regulations.

Process Flow

Figure 2.1: Processed Flow Chart of the Project

Main Process in Socks Manufacturing Unit

Step 1: Customer Order & Planning

The process starts when customer requirements are received, including product design, size, colour, yarn type, and quantity. Based on these details, production planning and job cards are prepared to schedule operations and allocate resources efficiently.

Step 2: Yarn Procurement

According to the order, either greige (undyed) or pre-dyed yarn is procured from approved suppliers. Upon arrival, the yarn is inspected for count, strength, and colour uniformity before being approved for production.

Step 3: Knitting

The selected yarn is fed into automatic circular knitting machines. The machines are programmed to knit socks according to the required size, pattern, and design. Operators continuously monitor the knitting process to maintain product quality.

Step 4: Overlock / Linking

After knitting, the socks are taken to overlock or linking machines where the open toe ends are stitched together. This process ensures the socks have a proper finish, comfort, and durability.

Step 5: Pretreatment (for Greige Yarn)

Socks made from greige yarn undergo pretreatment to remove oil, wax, or dirt. This step ensures better dye absorption and uniform colour during subsequent processing.

Step 6: Dyeing

Pretreated socks are dyed in dyeing machines according to customer colour specifications. The process involves the controlled addition of dyes and chemicals to achieve consistent and vibrant colours.

Step 7: Washing

After dyeing, the socks are thoroughly washed to remove any unfixed dye, residual chemicals, and impurities. This step improves softness and enhances colour fastness.

Step 8: Hydro Extraction

The washed socks are placed in a hydro extractor, which uses centrifugal action to remove excess water. This reduces drying time and energy consumption in the next stage.

Step 9: Drying

The semi-dried socks are further dried in hot-air dryers under controlled temperature and humidity. The process ensures proper drying without affecting fabric quality.

Step 10: Pressing / Finishing

Once dried, the socks are pressed using automatic pressing or steam machines to achieve a smooth and uniform appearance. Finishing treatments may also be applied to improve softness or elasticity.

Step 11: Inspection

All finished socks undergo visual and physical inspection for quality parameters such as colour, size, shape, and stitching accuracy. Defective pieces are removed or sent for rework.

Step 12: Packing

The inspected socks are paired, labelled, and packed as per customer specifications. Packaging materials such as polybags, tags, and cartons are used according to brand requirements.

Step 13: Dispatch

Finally, the packed products are dispatched to customers or distribution points as per delivery schedules. Relevant documents such as invoices and packing lists are prepared for shipment.

Step 14: Waste Management

Throughout the process, waste materials such as yarn scraps, packaging waste, and wastewater from dyeing and washing are generated. These are properly managed through waste segregation and treatment in the Effluent Treatment Plant (ETP) to ensure compliance with environmental standards.

2.9.1 Water Requirements

The estimated water requirement is projected to range between 400 to 500 cubic meters per day, depending on process efficiency and production scale. Water will be primarily consumed in dyeing, washing, and rinsing operations, with additional usage for boiler feed, cooling, and domestic needs of the workforce.

Water Usage Breakdown

Water will be utilized in the project mainly for production processes, fabric dyeing and washing, equipment cleaning, sanitation, and utility operations. Efficient water management practices, including flow monitoring, recycling of treated water from the ETP, and the installation of low-flow fixtures, will be implemented to ensure optimized consumption and sustainable use of resources.

Water Consumption Distribution - Socks Manufacturing Unit (Knitting, Dyeing, Washing, Pressing, Packing & ETP)

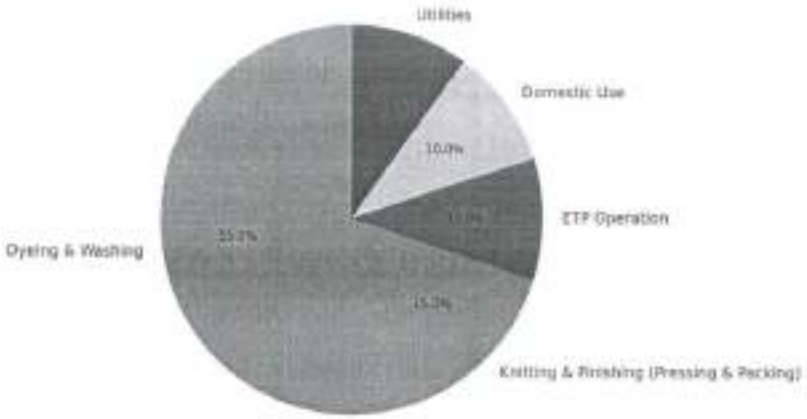


Figure 2.1: Water Usage at project site

2.9.2 Wastewater Treatment

Approximately 60–70% of the total water used in the socks manufacturing processes including knitting, dyeing, washing, rinsing, and finishing operations will be converted into wastewater. This wastewater will primarily contain dyes, detergents, suspended solids, and minor organic loads generated during the washing and dyeing stages. The wastewater will be treated on-site through the Effluent Treatment Plant (ETP) designed with primary, secondary, and tertiary treatment stages to ensure complete removal of color, solids, and chemical contaminants. The treated effluent will then be safely discharged into the industrial drainage network of Industrial Park, Sheikhupura, in full compliance with the Punjab Environmental Quality Standards (PEQS). It will be strictly ensured that no untreated or partially treated wastewater is released at any stage of the project lifecycle, maintaining environmental integrity and regulatory compliance.

2.9.3 Solid Waste Management

Solid waste will primarily be generated during the operational phase of the socks manufacturing facility and will include fabric trimmings, yarn waste, packaging materials, rejected or defective socks, dyeing residues, sludge from the Effluent Treatment Plant, maintenance waste, and general office waste. All solid waste will be segregated at source into recyclable and non-recyclable categories. Recyclable materials such as paper, cardboard, plastic cones, and fabric remnants will be collected separately and handed over to authorized recyclers. ETP sludge will be dewatered and disposed of safely through licensed waste contractors in compliance with environmental regulations. Non-recyclable waste will be stored in covered bins and transferred to the designated municipal or industrial waste disposal site approved by the relevant authority. Proper recordkeeping, labelling, and housekeeping practices will be maintained to ensure environmentally sound and compliant waste management throughout the operational lifecycle of the project.

Solid Waste Management Plan

The following measures will be implemented:

Table 2.2: Categorizing Solid and Liquid Waste Management

Waste Type	Source	Proposed Management
Solid Waste		
Fabric Scraps and Yarn Waste	Generated during knitting, trimming, and finishing operations	Segregated and stored separately; recyclable fabric waste handed over to authorized recyclers or textile reuse vendors
Packaging Waste	Raw material unpacking, labelling, and secondary packing of finished socks	Collected in separate bins and sold to authorized recyclers for reuse or recycling
Production Rejects / Defective Socks	Knitting and finishing processes	Segregated and disposed of through approved industrial solid waste disposal system
Maintenance Waste	Used machine parts, oily rags, and worn-out components from equipment maintenance	Collected in labelled containers and handed over to licensed hazardous waste contractors
Office Waste	Paper, plastic, and food wrappers from administrative and staff areas	Collected in designated bins and transferred to municipal waste collection system
ETP Sludge	Effluent Treatment Plant (ETP) operation	Dewatered in sludge drying beds, dried sludge stored in secured area, and disposed of through licensed hazardous waste handlers
Liquid Waste		

Process Wastewater	Generated from dyeing, washing, and rinsing operations	Collected through closed drainage and treated in on-site ETP before safe discharge into industrial drainage network
RO Reject Water	Reverse Osmosis (RO) water treatment unit	Reused in non-critical processes (e.g., floor washing, gardening) or discharged as per PEQS after ensuring compliance

2.9.4 Allocated Green Area

Approximately 10–15% of the total plot area has been designated for green landscaping and plantation within the project premises. Green zones are strategically distributed along the boundary walls, administrative block, and near the Effluent Treatment Plant to enhance site aesthetics and promote environmental sustainability.

2.9.5 Parking Area

A dedicated parking zone will be developed within the project premises to accommodate cars, motorcycles, and delivery trucks, ensuring safe and efficient vehicle circulation. The parking area will be strategically located near the main entrance for easy access while maintaining smooth internal traffic flow. Clearly marked vehicle lanes and pedestrian pathways will be provided to minimize congestion and enhance safety. Adequate space will also be reserved for loading and unloading operations, ensuring that transport activities do not interfere with production or administrative functions.

2.10 Occupational Health and Safety

All the methods and procedures for machinery handling will be displayed and implemented at the project site. Health and safety rules for workers has been maintained.

Personal Protective Equipment:

Following PPEs is available for the workers in the proposed unit:

- Ear Plugs
- Ear muffs

- Safety Boots
- Safety Gloves
- Safety Belt
- Helmet
- Goggles

Table 2.3: Types of PPEs used during operational phase and Operational activities.

Protection	Occupational Hazards	PPEs
Head Protection	Risk of impact from moving machine parts, material handling, or accidental falls	Industrial safety helmets
Hand Protection	Exposure to hot surfaces (pressing), dyes and chemicals (dyeing), cuts during fabric handling and maintenance	Nitrile or rubber gloves, heat-resistant gloves, cut-resistant gloves
Eye and Face Protection	Splashing of dyes and chemicals, lint or dust particles during knitting and finishing	Safety goggles or face shields
Hearing Protection	Continuous noise from knitting machines, compressors, and dryers	Ear plugs or ear muffs
Respiratory Protection	Exposure to lint, dust, and chemical vapours in dyeing and finishing areas	Dust masks or respirators
Body Protection	Contact with dyes, detergents, heat from dryers and presses, or sharp edges of machinery	Aprons, chemical-resistant clothing, cotton overalls
Foot Protection	Risk of slipping on wet floors in washing/dyeing areas and impact from heavy materials	Non-slip, steel-toe safety shoes

Fire Protection System

An addressable fire protection system with detection and alarm annunciation and other installations etc. would be provided to protect against any fire hazards. Fire buckets and fire extinguishers will be installed at all sensitive places within the unit.

Emergency Exits: Emergency exit points will be available for easy evacuation in case of any emergency.

Security: The proposed industry will be constructed along with the presence of security guards round the clock which will improve the security of the project site and also in its vicinity.

Personal protective equipment: Workers will be provided with dust mask, ear plug, ear muffs, safety boots, safety gloves, safety belt, helmet and goggles etc. during the working hours to ensure personnel health & safety. Implementation of PPEs will be ensured by the proponent for the proposed project also.

Power sources and transmission: Power requirements for the project will be fulfilled by the WAPDA.

Table 2.4: Detailed Plan of Fire Protection System

Component	Description
Fire Extinguishers	Portable extinguishers (CO_2, Dry Chemical, Foam) placed at key risk points
Fire Alarm System	Addressable fire alarm panels with heat or smoke detectors and manual call points
Smoke & Heat Detectors	Installed in production, warehouse, and utility areas for early fire detection
Fire Hydrant System	External and internal hydrants connected to overhead and underground tanks
Fire Water Storage Tank	Dedicated water storage (as per fire code) for firefighting purposes

Automatic Sprinkler System	Installed in critical zones like formulation, storage, and packaging areas
Emergency Exit Routes	Clearly marked, illuminated escape routes with panic bars and exit signs
Fire Doors	Fire-rated doors in corridors and fire zones to contain fire spread
Public Address System (PA)	Integrated with fire alarms for emergency evacuation announcements
Fire Hose Reels	Installed at multiple accessible points with adequate hose length
Emergency Power Backup	Generator or UPS for fire alarm and emergency lighting systems
Fire Safety Signage	Visual instructions and hazard signs across the facility
Fire Drill & Training	Regular mock drills and staff training in fire response and extinguisher use

2.11 Restoration and Rehabilitation Plan

During the construction phase, efforts will be made to minimize land disturbance. Any temporarily used areas will be restored to pre-construction condition. Post-construction, the site will be rehabilitated through paving, landscaping, and greening measures. Waste management protocols, including disposal of construction debris and plantation drives, will be adopted to enhance the ecological profile of the site. All measures are undertaken for ensuring occupational safety, security and clean environment in the project area. Ornamental trees and flower plants will be planted on inside peripheral of the unit premises to restore the land.

2.12 Government Approvals Required by the Project

All the necessary approvals and clearances from relevant authorities will be obtained following the formal approval of the Environmental Impact Assessment (EIA) by the

Environmental Protection Agency (EPA) Punjab. The EPA's clearance serves as a prerequisite, demonstrating that the project has met the environmental compliance requirements set forth under national and provincial environmental laws. Once this approval is secured, the project proponent will proceed to obtain the remaining permissions required for construction, utilities, operations, safety compliance, and other regulatory aspects. This stepwise process ensures that all aspects of the project are aligned with legal, environmental, and technical standards before execution begins.

RAINWATER HARVESTING SYSTEM

Introduction

Rainwater harvesting (RWH) system will be installed at the project site located in the as an environmentally sustainable measure. The system is designed to capture rainwater from rooftop surfaces and paved areas, which will then be directed into recharge or percolation pits constructed on-site. This setup will help in managing stormwater efficiently, reducing surface runoff, lowering the risk of localized flooding, and contributing to the recharge of the groundwater table especially suitable considering the site's soil conditions.

System Design and Components

The RWH system for the project will rely on rainwater percolation pits instead of conventional underground tanks. The system is strategically planned around the facility's layout to ensure efficient collection and groundwater recharge.

1. Catchment Area

The primary catchment will be the roof surface of the production block, admin block, and ancillary structures. Additionally, paved driveways and internal roads will serve as secondary catchment areas.

2. Rainwater Conveyance Network

Rainwater from these surfaces will be collected through PVC downpipes, open channels, and grates installed at road edges. These will direct the flow toward pre-defined collection sumps before reaching the pits.

3. Filtration Chamber

Before water enters the recharge pits, it will pass through a settling and filtration chamber where coarse debris, silt, and floating materials will be removed. The filtration unit will include:

- A sediment trap
- Gravel and coarse sand layers

- Optionally, activated carbon for organic matter removal

4. Recharge Pits

The site will include multiple recharge pits, each approximately 1.5-2 meters in diameter and 2.5-3 meters deep, depending on the local infiltration rate. Each pit will be filled with a layer of boulders, gravels, and sand to filter water and facilitate gradual percolation into the subsoil. These pits will be located near corners of buildings, open plots, and in landscaped zones to maximize rainwater infiltration.

5. Overflow and Drainage Provision

In case of excess rainfall, overflow outlets from each pit will be connected to stormwater drainage lines leading to municipal drains to prevent waterlogging.

Water Quality and Suitability

Rainwater used for groundwater recharge will not require disinfection but must be filtered to remove:

- Suspended solids
- Leaves, plastic, silt
- Hydrocarbon traces from paved surfaces

Since the water is not intended for direct human use, it will be monitored quarterly for basic parameters (pH, TDS, turbidity) to ensure soil and aquifer health.

Operation and Maintenance Plan

Regular maintenance is critical for RWH pit efficiency. The following plan will be adopted:

- **Pre-Monsoon Cleaning:** All rooftop surfaces, drainage lines, and filters will be cleaned before each rainy season.
- **Filter Maintenance:** Gravel or sand filters will be cleaned every **2 months** during monsoon.
- **Pit Inspection:** Recharge pits will be inspected **monthly** for sediment accumulation and structural integrity.
- **Debris Removal:** Surface grates and channels will be cleared weekly to prevent clogging.

The **EHS officer** will be responsible for ensuring maintenance is conducted and records are updated accordingly.

Benefits of the Pit-Based RWH System

- **Groundwater Recharge:** Helps maintain the local aquifer level, especially in an industrial zone where extraction may be high.
- **Flood Control:** Reduces surface runoff, especially during monsoon, minimizing the risk of waterlogging on-site.
- **Compliance:** Aligns with environmental regulations and demonstrates commitment to sustainable practices.
- **Low Cost and Maintenance:** Compared to storage tanks, pits are economical and simpler to maintain.
- **Eco-Friendly Image:** Enhances corporate responsibility by integrating nature-based solutions into industrial planning.

CHAPTER-3: DESCRIPTION OF ENVIRONMENT

This chapter presents a comprehensive overview of the existing environmental conditions in and around the project area located in Sheikhupura. The environmental baseline serves as the reference point to assess potential impacts of the proposed project. The description encompasses physical, biological, and socio-economic components of the environment of Sheikhupura.

3.1 Physical Environment

This section describes the physical characteristics of the environment in and around the project area. Understanding the physical environment is critical for evaluating the potential impacts of the proposed project and identifying effective mitigation measures.

3.1.1 Topography and Geography

The project site is located within the industrial area of Sheikhupura District, Punjab. The terrain at the site is predominantly flat and stable, making it highly suitable for industrial construction and associated infrastructure development. The area lies at an elevation of approximately 200-220 meters above sea level, characteristic of the alluvial plains of the Punjab region, which provide firm soil conditions ideal for industrial foundations and utilities.

The site is not located in any hilly, erosion-prone, or landslide-susceptible zone. The surrounding land features gentle natural slopes that facilitate the smooth flow of surface runoff. The stormwater drainage from the site will follow the natural topography and will be integrated into the planned industrial drainage system to ensure proper disposal without causing waterlogging or soil erosion.

Overall, the flat terrain, stable soil conditions, and well-connected drainage network enhance the site's suitability for safe and sustainable industrial operations in Sheikhupura. These favourable topographical and geotechnical conditions contribute to the structural stability of the proposed facility and ensure long-term operational reliability.

3.1.2 Geology and Soil

The project site at Sheikhupura, Punjab lies within the central alluvial plains of the Indus Basin, which are geologically composed of recent to sub-recent alluvial deposits consisting of interbedded layers of sand, silt, and clay. The area features a flat and stable terrain, making it highly suitable for industrial development and structural construction.

The soils in this region are primarily derived from river-borne alluvium, characterized by good drainage and moderate permeability. They provide a strong foundation base due to their compact nature and consistent stratification. The soils are generally fertile but exhibit low to moderate organic content, typical of intensively cultivated plains.

The **subsoil profile** at the project location generally consists of:

- **Topsoil:** Sandy loam to silty clay loam with moderate fertility and good drainage characteristics.
- **Subsoil:** Moderately compacted silt and clay layers with good load-bearing capacity, suitable for supporting industrial structures and infrastructure.

Table 3.1: Soil Characteristics of the Project Area

Parameter	Description
Soil Type	Sandy loam to silty clay loam derived from alluvial deposits
Colour	Light brown to yellowish-brown
Texture	Medium-grained with occasional fine particles
Permeability	Moderate to moderately high, allowing good drainage
pH Range	7.2 – 8.0 (slightly alkaline, typical of Punjab plains)

Organic Matter	Low to moderate due to intensive agricultural use
Suitability for Construction	Excellent load-bearing capacity with minimal settlement risk; stable for industrial foundations

3.1.3 Climate

Sheikhupura lies within the semi-arid region of the Punjab Plains, characterized by hot summers, mild winters, and moderate rainfall, primarily occurring during the monsoon season (July to September). The area experiences high temperatures in summer, often exceeding 40°C, while winter temperatures may drop to around 5-7°C. Annual average rainfall ranges between 500-700 mm, with most precipitation concentrated in a few months.

This climatic pattern influences construction scheduling, dust control, and water management practices at the project site. During the dry summer months, dust suppression measures are essential, while construction activities must be carefully planned around the monsoon season to avoid delays and ensure proper drainage management.

Table 3.2: Climatic Conditions of Industrial Park, Sheikhupura

Parameter	Value / Range	Remarks
Annual Temperature	5°C (min in winter) to 45°C (max in summer)	Peak temperatures occur in May and June, while January is the coldest month
Average Rainfall	500-700 mm/year	Majority of rainfall occurs during the monsoon season (July-September)
Relative Humidity	35% - 80%	Humidity levels increase significantly during monsoon months

Wind Pattern	Predominantly from northwest to southeast	Affects dust dispersion, heat exchange, and natural ventilation
Evaporation Rate	Moderate to high	Influenced by intense solar radiation and high summer temperatures

Extreme weather events like dust storms, heatwaves, and heavy monsoon rains are occasionally observed during peak seasons.

3.1.4 Air Quality

Air quality in the project area is influenced by:

- Minor emissions from the proposed socks manufacturing unit, primarily from heating, power generation, and occasional material handling.
- Vehicular emissions along the access roads and surrounding transport routes.
- Dust generated from unpaved roads and nearby construction activities.
- Minor emissions from small-scale industrial units in the vicinity.

Although specific baseline data for the project site may not be available, air quality in industrial estate generally remains within **PEQS limits** in industrial and peri-urban areas, except during periods of high dust or construction activity.

Table 3.3: Indicative Ambient Air Quality Parameters

Parameter	PEQS Limit ($\mu g/m^3$)	Expected Range ($\mu g/m^3$)	Source / Remarks
PM_{10}	150 (24-hr avg)	60-120	Dust from raw material handling & industrial activity
$PM_{2.5}$	35 (24-hr avg)	25-50	Fine particulate from combustion & processes
NO_2	80	15-35	Combustion from boilers/generators, minimal traffic

SO_2	120	05-20	Boiler emissions (if using fossil fuels)
CO	5 (mg/m^3)	0.5-02	Combustion from generators or vehicles
VOCs*	200 ($\mu g/m^3$)	20-80	From dyes used in knitting & dyeing processes

3.1.5 Noise Environment

Primary Noise Sources:

- Operation of knitting, dyeing, washing, and pressing machines inside the factory
- Generators or boilers used for power and heating
- Vehicular movement of raw materials and finished products within the industrial park
- Minor contribution from nearby industrial units during peak working hours

Noise Assessment:

- Noise levels are expected to remain within PEQS limits for industrial zones (75 dB(A) daytime, 70 dB(A) nighttime)
- Slight fluctuations may occur during peak operational hours or when heavy machinery is in use
- Implementation of noise control measures such as machine enclosures, mufflers on generators, and proper scheduling of material handling can further reduce impacts

Table 3.4: Indicative Ambient Noise Levels

Location Type	Daytime dB(A)	PEQS Limit (Industrial Zone)	Nighttime dB(A)	PEQS Limit (Industrial Zone)

Factory Premises	65-72	75	55-62	70
Internal Industrial Roads	60-68	75	50-60	70
Nearby Residential Periphery	50-58	55	40-48	45

3.1.6 Surface Water Resources

The project site does not have any major perennial surface water bodies in the immediate vicinity. However:

- Stormwater drains and seasonal channels (nullahs) are present and integrated into the industrial park's drainage system.
- Surface water is not used directly for industrial operations or domestic purposes within the industrial park.
- Water quality in nearby drains may be influenced by runoff from roads, adjacent industrial units, and the general industrial estate.
- The installation of an Effluent Treatment Plant (ETP) in the proposed facility will ensure treated wastewater meets PEQS standards before discharge, minimizing any impact on the local drainage network.

3.1.7 Groundwater Resources

Groundwater is the primary source of water for both industrial and domestic purposes. It is accessed through borewells and deep tube wells.

- **Depth to Water Table:** Typically ranges from 100 to 180 feet (30-55 meters), depending on seasonal fluctuations.
- **Recharge Sources:** Mainly from rainwater infiltration, stormwater collection within the industrial estate, and local aquifer recharge.
- **Water Quality:** Generally suitable for industrial operations, with minor concerns regarding hardness, Total Dissolved Solids (TDS), and occasional trace minerals, which can be treated as needed.

- The project will ensure efficient water use and adopt recycling/reuse measures within the facility to minimize groundwater extraction and maintain sustainability.

Table 3.5: Groundwater Quality Indicators

Parameter	Expected Range / Value	PEQS Limit
pH	7.0 – 8.2	6.5 – 8.5
Total Dissolved Solids (TDS)	400 – 900 mg/L	<1,000 mg/L
Nitrates (NO_3^-)	8 – 25 mg/L	<50 mg/L
Chlorides	35 – 110 mg/L	<250 mg/L
Hardness (as $CaCO_3$)	180 – 350 mg/L	500 mg/L (general guidance)

3.1.8 Meteorology and Climate

The project site falls within a sub-tropical semi-arid zone, characterized by hot summers, mild to cool winters, and moderate monsoon rainfall. These meteorological conditions are important for:

- Air quality management and pollutant dispersion, particularly from dyeing, washing, and boiler emissions
- Planning of construction activities to avoid extreme heat or heavy rainfall periods
- Operational risk assessments, including water demand management, stormwater drainage, and heat-sensitive processes

Climatic Overview:

- **Summer Temperatures:** 35-45°C
- **Winter Temperatures:** 05-20°C
- **Average Annual Rainfall:** ~600-700 mm, mostly during monsoon season

Table 3.6: Monthly Average Temperature in Sheikhupura

Month	Average Max (°C)	Average Min (°C)
January	19	5
April	34	17
June	41	27
August	36	25
October	32	16
December	21	7

- **Hottest months:** June to July, with temperatures reaching up to 41-42°C
- **Coldest months:** December to January, with temperatures dropping to around 5-7°C
- **Monsoon season:** July to August, with the highest rainfall during this period
- Rainfall events may occasionally cause temporary congestion in stormwater drains

Table 3.7: Average Monthly Rainfall

Month	Average Rainfall (mm)
January	20
March	35
July	90
August	110
October	25
December	15

3.1.9 Humidity, Wind, and Evaporation

- **Relative Humidity:** 30%-75%, with higher values during the monsoon season (July-August)
- **Prevailing Winds:** Predominantly from Northwest to Southeast, influencing pollutant dispersion and ventilation planning
- **Average Wind Speed:** 08-12 km/h, with occasional gusts up to 25-30 km/h

- **Evaporation Rate:** Moderate to high, which may affect water management, cooling processes, and stormwater runoff

3.2 Hydrological Environment

Surface Water

- **Surface Water:** No major natural water bodies are present in the immediate vicinity of the project site.
- **Drainage System:** Stormwater is managed through engineered culverts and the industrial estate's integrated drainage network.
- **Water Supply:** The project does not rely on canals, rivers, or other surface water sources for industrial or domestic operations.

Groundwater

- **Primary Water Source:** Groundwater accessed through deep bore wells within the industrial park.
- **Depth to Water Table:** Typically ranges from 100-180 feet (30-55 meters), depending on seasonal variations.
- **Water Quality:** Generally suitable for industrial and process use, with minor treatment such as RO or softening applied as needed for dyeing and washing operations.

Table 3.8: Groundwater Characteristics

Parameter	Expected Range / Typical Value	PEQS Limit
pH	7.0-8.2	6.5-8.5
Total Dissolved Solids (TDS)	350-900 mg/L	<1,000 mg/L
Nitrates (NO_3^-)	08-25 mg/L	<50 mg/L
Chlorides	35-110 mg/L	<250 mg/L
Hardness (as $CaCO_3$)	150-300 mg/L	500 mg/L (guideline)

3.3 Ecological Environment

Flora

- The project site is located within a designated industrial zone and has minimal natural vegetation.
- Landscaping plans will incorporate native, drought-tolerant, and low-maintenance plant species to enhance aesthetics and contribute to local biodiversity.

Table 3.9: Major Flora present in project site

Category	Species Name
Trees	Neem, Sheesham, Mulberry
Shrubs	Phulai, Ber, Hibiscus
Landscaping	Ornamental flowering plants, ground cover, and rooftop greenery

Fauna

- Limited presence of small mammals, birds, and reptiles typical of an industrial zone.
- No endangered, threatened, or protected species have been reported within the project area.
- Implementation of landscaping with native vegetation may provide additional habitats for small local fauna.

Table 3.10: Major Fauna of the project site

Category	Species Name
Mammals	Hare, Mongoose, Rats
Birds	Sparrows, Pigeons, Mynas, Doves
Reptiles	Lizards, Common non-venomous Snakes

- The project area has **low ecological sensitivity** due to its location within a designated industrial zone.
- Development of **greenbelts and landscaped areas** with native plant species

- Dust suppression measures during construction and operational phases
- Waste management and **recycling practices** to minimize impacts on local flora and fauna.

3.4 Socioeconomic Environment

Demographics and Economy

The surrounding settlements are moderately populated, with households primarily involved in small-scale businesses and industrial labour. Residents are mainly engaged in:

- Small-scale commerce and retail activities
- Daily wage labour and industrial support services
- Transport, logistics, and local service provision

Table 3.11: Types of Occupation

Occupation Type	Approx. %
Skilled and Unskilled Labor	50%
Retail, Commerce, and Services	20%
Industrial Support/Transport	15%
Government/Private Jobs	15%

Utilities and Infrastructure

- **Power Supply:** Provided by Lahore Electric Supply Company (LESCO) / estate's industrial electricity network
- **Gas Supply:** Available via SNGPL pipeline (for process or heating if required)
- **Water Supply:** Groundwater via deep borewells, with RO or softening treatment for process and domestic use
- **Road Access:** Excellent connectivity to G.T. Road and M-2 motorway through internal industrial estate roads
- **Health and Education Facilities:** Accessible within 5-10 km, including basic health units, clinics, and schools for staff and local community

3.5 Aesthetic and Cultural Environment

The project site is not situated within or adjacent to any protected heritage sites, scenic landscapes, or culturally significant zones. Furthermore, there are no mosques, shrines, temples, or other religious or cultural structures within or immediately surrounding the project boundaries. Therefore, the proposed development will not pose any risk or disturbance to cultural, historical, or religious heritage features.

Table 3.12: Cultural Characteristics

Feature	Presence	Remarks
Scenic Landscape	Limited	Located within a developed industrial zone with modified surroundings
Heritage Sites	None nearby	No known archaeological or cultural heritage sites within the vicinity
Mosques	Yes (~1-2 km)	Used by industrial workers and nearby community; not affected by project activities
Graveyards	Yes (~2-3 km)	Located outside the project influence area; no expected impact

Cultural Considerations

The project area has been developed primarily for industrial and commercial activities. As such, the site and its surrounding environment do not possess any notable cultural, historical, or archaeological significance.

- No protected heritage sites, monuments, or archaeological remains have been identified within or near the project boundary. Similarly, there are no shrines, temples, or culturally sensitive structures in the immediate vicinity that could be affected by construction or operational activities.
- The local community in the nearby settlements follows traditional Punjabi cultural practices, with strong social cohesion and respect for religious observances. Mosques located approximately 1-2 km from the project site cater to the daily and weekly religious needs of workers and residents.

The project will ensure that:

- **Religious and cultural practices** of local communities are respected at all stages.
- **Work schedules** avoid disturbance during prayer times and local religious events.
- **Community access routes** to mosques and cultural facilities remain open during construction.

Overall, the project is expected to have no adverse cultural impacts, and all necessary measures will be taken to maintain harmony with the local social and cultural environment.

CHAPTER-4: CONSIDERATION OF ALTERNATIVES

4.1 Introduction

The selection of an appropriate site is a vital aspect of environmental planning and sustainable industrial development. This section evaluates the site selection process for the proposed project. The site was chosen after assessing multiple factors to ensure minimal environmental and socio-economic impacts. Key selection criteria included availability of industrial infrastructure, access to utilities (power, gas, and water), regulatory compliance, environmental safety, and economic viability.

The Industrial Park is a designated industrial zone ensuring compatibility with land use policies. The location provides excellent connectivity, adequate utilities, and controlled environmental conditions, making it ideal for establishing a low-impact, resource-efficient socks manufacturing facility.

4.2 Site Selection Criteria

The following criteria were adopted for selecting a feasible and environmentally sustainable site:

- **Location within an Industrial Zone:** Preference for a designated industrial area to ensure compatibility with surrounding land uses and availability of pre-established utility networks.
- **Logistic & Transportation:** Reduced transportation costs by selecting a site near raw material suppliers and distribution channels.
- **Infrastructure Availability:** Access to road networks, power supply by Lahore Electric Supply Company (LESCO), natural gas (SNGPL), and water supply.
- **Cost Efficiency:** Avoiding excessive expenses associated with land acquisition and infrastructure development.
- **Availability of Land Area:** Adequate land required for construction, production, storage, utilities, and future expansion.
- **Environmental Compliance:** Potential for proper waste management, ETP installation, and minimal impact on sensitive receptors.

4.3 Site Rejection Criteria

During the site selection process, certain locations were eliminated from consideration based on their inability to meet key environmental, social, and economic requirements. Several factors led to the exclusion of alternative sites from consideration:

- **Presence in Residential Areas:** Sites located near densely populated residential or agricultural zones were rejected to avoid conflicts and pollution-related risks.
- **Ecological Sensitivity:** Proximity to wetlands, natural habitats, protected forests, or flood-prone areas disqualified certain locations.
- **Inadequate Infrastructure:** Sites without proper access to utilities, transportation, or drainage infrastructure were deemed infeasible.
- **Land Ownership Disputes:** Legal or ownership complications led to the rejection of private land options.

4.4 Evaluation of Alternative Sites

As this land was already allocated to the proponent and falls within a government-approved industrial estate, no alternative sites were considered. The location offers access to essential infrastructure, including roads, utilities, and drainage, and complies with zoning regulations. Given these factors, the selected site was deemed most appropriate in terms of environmental compatibility, operational feasibility, and regulatory alignment.

4.5 Economic Alternatives

The economic viability of potential sites was evaluated to ensure the long-term sustainability of the proposed project. Different site options were compared to identify the most cost-effective and feasible location, supporting efficient operations and overall project success. Economic factors were key in assessing the viability of each site:

- **Cost of Land Acquisition:** Quaid-e-Azam Industrial Park offered competitive land rates with full ownership and transfer rights, reducing acquisition delays.
- **Construction and Operational Costs:** Availability of utilities reduced the need for expensive independent installations. Proximity to workforce and market centers reduces ongoing logistics costs.

- **Logistical Efficiency:** Well-developed road networks within the estate reduce travel time and fuel expenses.

4.6 Environmental Alternatives

During the site selection process, potential environmental impacts were carefully evaluated for each alternative location. The assessment focused on the following key factors:

- **Air and Noise Pollution:** Alternative sites near residential areas posed higher risk of air and noise pollution complaints.
- **Effluent Management:** The selected site allows effective installation of an ETP and discharge compliance through estate-managed drainage systems.
- **Waste Disposal:** The estate offers designated industrial waste collection systems, reducing the risk of improper disposal.
- **Ecological Preservation:** No flora, fauna, or environmentally sensitive areas are located near the selected site, minimizing ecological disruption.

4.7 Justification for Selected Site

The proposed site for the construction of the socks manufacturing unit has been carefully selected based on a combination of technical, economic, and environmental considerations that support the project's overall feasibility and long-term sustainability. Strategically located within the legally designated Industrial Park, the site ensures full compliance with zoning regulations and industrial land-use policies, thereby minimizing the risk of legal or regulatory challenges during project execution or operation.

From an environmental perspective, the site is considered to have low ecological sensitivity, which significantly reduces the potential for adverse impacts on the surrounding environment. Moreover, the availability of existing infrastructure for industrial waste disposal, effluent discharge, and utility connections strengthens the project's ability to maintain high environmental and operational standards throughout its lifecycle.

The availability of essential utilities such as electricity (LESCO), natural gas (SNGPL), groundwater supply through deep bore wells, and excellent transportation access within

the Industrial Park provides major operational advantages for the proposed Socks Manufacturing Unit. These established infrastructure facilities minimize project implementation delays, reduce capital and operational costs, and significantly enhance the efficiency and cost-effectiveness of industrial operations.

From an economic perspective, the selected site provides cost-effective development and infrastructure advantages, ensuring the long-term financial sustainability of the Socks Manufacturing Unit. Its strategic location near major transport corridors, including the G.T. Road and M-2 Motorway, offers excellent connectivity for the transportation of raw materials and finished products, thereby enhancing overall logistical efficiency and operational performance.

Moreover, the site is located within the Industrial Park, Sheikhupura, which is managed by PIEDMC. The authority actively promotes industrial development through streamlined approval processes, infrastructure support, and potential incentives, making this location highly suitable for establishing the proposed Socks Manufacturing Unit.

CHAPTER-5: SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

The screening of potential environmental impacts is a critical step in assessing whether the proposed construction and operation of the Socks Manufacturing Unit is likely to result in significant environmental effects. This process helps determine the scope of the environmental assessment and the necessary mitigation measures to ensure sustainable and compliant project development.

Water resources may be impacted through wastewater generation from dyeing and washing processes. These impacts will be mitigated by installing a modern Effluent Treatment Plant (ETP), promoting reuse and recycling of treated water, and monitoring groundwater extraction to ensure sustainable use. Noise generated by machinery, generators, and transport vehicles will be managed through the use of noise-dampening equipment, maintaining perimeter noise barriers, and restricting high-noise activities to daytime hours.

Solid waste, including process scrap, packaging materials, and domestic waste, will be handled through segregation, recycling programs, and safe disposal according to municipal and industrial guidelines. Socio-economic impacts, such as increased traffic and temporary construction-related disruptions, will be mitigated by careful scheduling of construction activities, creating employment opportunities for the local workforce, and ensuring safe access to nearby community facilities.

Given that the site is within a designated industrial zone, ecological impacts are expected to be minimal. Nonetheless, the project will develop green belts and landscaped areas using native, low-maintenance plant species to enhance biodiversity and provide habitat for small local fauna. Overall, this comprehensive screening and implementation of mitigation measures will ensure that the socks manufacturing unit operates in an environmentally sustainable, socially responsible, and regulatory-compliant manner.

5.1 Identification of Potential Environmental Impacts

This section outlines the potential environmental impacts of the proposed project, covering air, water, soil, noise, waste, chemical handling, occupational health, energy use,

ecology, and the local community. Early identification allows for effective mitigation to ensure sustainable and responsible project development.

Potential impacts are categorized into Construction Phase and Operational Phase:

5.1.1 Construction Phase Impacts

During construction, activities such as excavation, concrete works, machinery installation, and utility infrastructure development may lead to the following environmental concerns:

Table 5.1: Construction Phase Environmental Impacts

Environmental Aspect	Potential Impact	Level of Exposure
Air Quality	Dust from site clearing, material handling, and transport	Moderate – High
Noise Pollution	Operation of construction machinery, vehicles, and equipment	Moderate
Soil Quality	Spills of fuel, lubricants, or chemicals during construction	Low – Moderate
Water Quality	Runoff from construction areas, wastewater from temporary facilities	Moderate
Solid Waste	Construction debris, packaging, and leftover materials	Moderate
Occupational Hazards	Injuries from equipment, falling objects, slips, and heat stress	High
Traffic Disruption	Movement of construction vehicles and delivery trucks	Low – Moderate
Visual Intrusion	Dust, temporary structures, and site clutter during construction	Low

5.1.2 Operational Phase Impacts

The socks manufacturing unit's operations, including yarn handling, knitting, dyeing, washing, pressing, packing, and effluent treatment, may lead to ongoing interactions with the surrounding environment.

Table 5.2: Operational Phase Environmental Impacts

Environmental Aspect	Potential Impact	Level of Exposure
Air Quality	Dust from yarn handling, knitting, dyeing, washing, and emissions from generators	Low – Moderate
Noise Pollution	Machinery operation (knitting machines, dyeing, washing, pressing) and transport vehicles	Moderate
Wastewater	Effluent from dyeing, washing, and equipment cleaning	Moderate – High
Solid Waste	Process scrap, defective socks, packaging materials, and ETP sludge	Moderate
Chemical Handling	Dyes, detergents, and other process chemicals used in washing and finishing	Moderate
Energy Consumption	Electricity for machinery, HVAC, lighting, and auxiliary systems	High
Water Resources	Water used in washing, dyeing, cooling, and RO treatment	High
Occupational Health	Worker exposure to dust, noise, wet floors, and chemicals	Moderate – High

5.2 Leopold Matrix for Aims Hosiery Limited

The Leopold Matrix is a tool used to systematically assess the potential environmental impacts of project activities. It evaluates the interaction between project actions and environmental components, helping to identify significant impacts and prioritize mitigation measures.

For the Aims Hosiery Socks Manufacturing Unit, the Leopold Matrix considers the main project activities such as site preparation, construction, machinery installation, knitting, dyeing, washing, pressing, packing, and ETP operation, and their potential impacts on various environmental factors including air, water, soil, noise, ecology, socio-economics, and occupational health.

Table 5.3: Leopold Matrix of Construction & Operational Phase

Environmental Parameter	Construction Impact	Operational Impact
Air Quality	-4 x 4 = -16	-3 x 4 = -12
Noise Pollution	-5 x 5 = -25	-4 x 5 = -20
Water Quality	-3 x 5 = -15	-6 x 7 = -42
Soil Quality	-2 x 3 = -6	-2 x 3 = -6
Solid Waste	-4 x 5 = -20	-5 x 6 = -30
Energy Use	-3 x 4 = -12	-8 x 9 = -72
Occupational Health & Safety	-5 x 6 = -30	-6 x 7 = -42
Positive Impact (ETP/Greenbelt)	+6 x 8 = +48	+8 x 9 = +72

5.3 Proposed Mitigation Measures

To minimize potential environmental impacts during both construction and operational phases, the following mitigation measures will be implemented:

Table 5.4: Construction Phase Mitigation

Aspect	Mitigation Measures	Monitoring Frequency
Air Quality	Regular water sprinkling, covering material transport trucks, proper maintenance of vehicles	Daily
Noise	Use of low-noise machinery, scheduling high-noise activities during daytime, providing ear protection to workers	Weekly

Soil Contamination	Designated spill-control zones, use of impermeable surfaces for fuel/chemical storage	Weekly
Water Quality	Provision of temporary drainage pits, proper stormwater management, training workers on wastewater handling	Bi-weekly
Solid Waste	Segregation of construction waste, reuse where possible, provision of bins, disposal through licensed contractors	Weekly
Health & Safety	Mandatory use of PPE, regular safety briefings/toolbox talks, availability of first-aid kits on site	Daily
Traffic	Scheduling deliveries during off-peak hours, use of flagmen, proper signage around site	Daily
Visual Aesthetics	Site fencing, keeping storage areas organized, dust control, landscaping and greening after construction	Weekly

Table 5.5: Operational Phase Mitigation

Aspect	Mitigation Measures	Monitoring Frequency
Air Quality	Installation of emission filters, regular servicing of machinery, periodic emissions testing	Monthly
Noise	Use of low-noise motors, regular maintenance, soundproofing where required	Monthly
Effluent Discharge	Operation of ETP as per PEQS, regular effluent monitoring, reuse of treated water for cleaning or landscaping	Weekly

Solid Waste	Segregation, recycling or reuse where possible, disposal through certified contractors	Weekly
Chemical Handling	Safe storage with barriers or labels, staff training, use of MSDS, periodic emergency drills	Monthly
Worker Safety	Provision of PPE, clear safety signage, emergency alarms, ongoing training sessions	Weekly
Water Usage	Installation of low-flow nozzles, timely leak repairs, monitoring via flow meters	Monthly
Energy Efficiency	Use of energy-efficient lighting and motors, load monitoring, feasibility study for solar energy	Monthly
Community Impact	Feedback system for complaints, controlling noise and light emissions, maintaining clean and organized site boundaries	As needed

The proposed Aims Hosiery Socks Manufacturing Unit may lead to several environmental impacts during both construction and operational phases. However, by implementing effective mitigation measures, including the installation of a dedicated Effluent Treatment Plant (ETP), adherence to PEQS standards, and adoption of best environmental and operational practices, these impacts can be effectively minimized, ensuring sustainable and compliant project operations.

Through proactive environmental management, regular monitoring, and engagement with stakeholders, the project can support industrial growth while ensuring environmental sustainability, worker safety, and minimal impact on the surrounding community within the Quaid-e-Azam Industrial Park.

CHAPTER-6: ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM

6.1 Purpose and Objectives of EMP

The Environmental Management Plan (EMP) is designed to transform the findings of the EIA into an enforceable, practical framework. The main objectives of the EMP for the proposed manufacturing unit are:

- To protect air, water, soil, and both public and worker health throughout construction and operational phases of the project.
- To ensure full compliance with the Pakistan Environmental Quality Standards (PEQS, 1997) and the regulations of Quaid-e-Azam Industrial Park, Sheikhupura.
- To define roles, responsibilities, and timelines for the effective implementation of environmental mitigation and monitoring measures.
- To establish a framework for continuous improvement through regular audits, performance reviews, and adaptive management.
- To develop in-house capacity and awareness for sustained environmental performance during both construction and operations.

6.2 Description of Proposed Mitigation Actions

The Environmental Management and Monitoring Program (EMMP) for the proposed Aims Hosiery Socks Manufacturing Unit is designed to ensure that all potential environmental impacts identified during the EIA are effectively mitigated, monitored, and managed throughout the project's lifecycle. The EMMP provides a framework for the design, construction, and operational phases, ensuring compliance with Pakistan Environmental Quality Standards (PEQS), relevant industrial estate regulations, and national environmental legislation. It also emphasizes the adoption of best industrial practices, worker health and safety protocols, and environmentally responsible operational procedures to maintain sustainable and efficient production.

6.2.1 Mitigation during Design Phase

During the design stage, preventive environmental measures have been integrated to minimize risks during construction and operation of the Socks Manufacturing Unit.

Dedicated storage areas for dyes and chemicals, along with an on-site Effluent Treatment Plant (ETP), ensure safe handling and proper wastewater management in compliance with PEQS. The facility layout has been carefully planned to include controlled ventilation systems, which help disperse air pollutants effectively, maintain indoor air quality, and protect worker health. The design also ensures proper drainage networks to manage stormwater and wastewater, and clearly separates clean and process zones to reduce the risk of contamination. Fire-safe exits and secure storage facilities for chemicals and dyes are incorporated to enhance operational safety and emergency preparedness.

To address environmental aesthetics and community concerns, the design includes noise-buffer zones to minimize sound propagation from machinery and operations. Green belts and landscaping have been planned around the facility to reduce visual impact, improve microclimate conditions, and contribute to the overall environmental sustainability of the industrial unit. These design interventions collectively establish a foundation for environmentally responsible operations, ensuring that both ecological and human health considerations are embedded into the project from the outset.

6.2.2 Mitigation during Construction Phase

During construction, environmental mitigation will focus on minimizing air, soil, and noise pollution while ensuring worker health and safety. Dust control will be achieved through regular water sprinkling, and materials will be transported using covered vehicles. Construction machinery will be properly maintained to reduce emissions and noise, and high-noise activities will be restricted to daytime hours. Designated waste collection areas will be established, and all construction waste will be managed through licensed contractors approved by the industrial estate authorities. Temporary sanitation facilities, PPE for workers, site-specific safety signage, and first aid kits will be provided to address occupational hazards. Regular training sessions and toolbox talks will ensure that workers remain aware of environmental and safety protocols throughout the construction period.

6.2.3 Mitigation during Operational Phase

During the operational phase, mitigation strategies will focus on managing environmental and occupational risks associated with socks manufacturing, including

dyeing, washing, finishing, chemical handling, effluent discharge, and solid waste generation. The on-site Effluent Treatment Plant (ETP) will be regularly maintained and monitored to ensure treated water meets PEQS before reuse or safe disposal. Air emissions from generators, HVAC systems, and dyeing operations will be controlled through proper filtration, regular maintenance, and operational best practices. All dyes, detergents, and chemicals will be handled and stored according to safety guidelines, with barrier zones and secure storage areas to prevent spills or accidents. Solid and hazardous waste will be segregated and disposed of via licensed contractors in compliance with regulations.

To ensure worker safety and environmental compliance, a comprehensive Occupational Health and Safety (OHS) program will be implemented, including mandatory PPE usage, training on chemical handling, and emergency response drills. Environmental monitoring of wastewater parameters, dust, and noise levels will be conducted regularly, and a dedicated EHS team will oversee documentation, compliance reporting, and continuous improvement. The facility will also track energy and water usage efficiency to optimize operations and reduce the environmental footprint.

6.3 Management Approaches

The project proponent will hold primary responsibility for implementing and enforcing the Environmental Management Plan (EMP). A structured framework will be applied to integrate environmental controls into design, procurement, and operational processes. A dedicated Environment, Health and Safety (EHS) Unit will report directly to senior management, ensuring accountability. Responsibilities will be clearly assigned across contractors, supervisors, and environmental consultants to guarantee continuous monitoring, compliance, and verification of all mitigation measures.

6.4 Institutional Capacity & Responsibilities

Table 6.1: Institutional Capacity

Institution / Role	Responsibility
Project Proponent	Allocate resources, oversee implementation, and ensure overall compliance with EMP

Environmental Consultant	Prepare the EMP, conduct site audits, and provide regular reporting
Civil/Construction Contractor	Implement environmental mitigation measures during construction activities
Site Manager	Monitor daily operations, enforce PPE use, and ensure adherence to safety protocols
Monitoring Team	Conduct regular monitoring of air quality, water quality, noise, and solid waste
Industrial Estate Authority / EPA	Review EIA and EMP, inspect compliance, and provide regulatory guidance
ETP Operator	Operate and maintain the Effluent Treatment Plant, ensuring treated water meets PEQS
HSE Officer	Implement occupational health and safety measures, provide training, and manage emergency preparedness

6.5 Training Schedule

A comprehensive training program has been developed to ensure that all personnel involved in the Socks Manufacturing Unit are equipped with the knowledge and skills necessary to maintain environmental compliance, workplace safety, and operational efficiency. At the start of the project, all staff, contractors, and site supervisors will undergo induction training covering the Environmental Management Plan (EMP), relevant environmental regulations, and PEQS standards. Construction workers and equipment operators will receive regular training on the safe handling and operation of machinery, proper use of personal protective equipment (PPE), and adherence to site-specific safety and environmental protocols.

Table 6.2: Training Schedule

Training Module	Target Group	Authority
EMP Induction and Legal Compliance	All site personnel	Environmental Consultant
Safe Handling of Dyes and Chemicals	Production and Quality Control staff	HSE Officer

Personal Protective Equipment (PPE)	Production and Lab Workers	HSE Officer
Fire Drills and Emergency Response	All employees	Industrial Estate Fire Department
Environmental Housekeeping Practices	Janitorial and Waste Management staff	HSE Officer
Monitoring and Record-Keeping	ETP and Quality Control Staff	External Lab Consultant

6.5.1 Training for Building Contractors

Contractors will undergo mandatory induction training in accordance with the project's Terms of Reference (ToRs). During the construction phase of the socks manufacturing unit, strict environmental and safety measures will be enforced to ensure responsible site management. Workers will be trained and supervised in the safe operation of construction machinery to prevent accidents and equipment-related hazards. Regular maintenance of vehicles and emission checks will be conducted to minimize air pollution and ensure compliance with PEQS.

Water consumption will be monitored to prevent wastage and promote resource efficiency. The use of Personal Protective Equipment (PPE) will be mandatory for all personnel, supported by comprehensive site safety protocols to reduce occupational risks. Effective spill control measures, routine dust suppression practices such as water sprinkling, and proper waste segregation will mitigate environmental contamination. Clear warning signs and safety barriers will be installed at critical locations to guide workers, restrict unauthorized access, and enhance overall safety and environmental performance on the construction site.

6.6 Responsibility for EMP Implementation

The overall responsibility for the implementation of the Environmental Management Plan (EMP) lies with the project proponent. As the primary entity overseeing the development and operation of the socks manufacturing unit, the proponent is accountable for ensuring that all environmental safeguards, regulatory requirements,

and mitigation measures outlined in the EMP are effectively applied throughout the project lifecycle.

To ensure successful execution, a dedicated Environment, Health and Safety (EHS) Manager will be appointed to supervise all environmental compliance activities, coordinate with contractors and subcontractors, and serve as a liaison with relevant regulatory authorities, including the Industrial Park management and environmental agencies. The EHS Manager will ensure that environmental responsibilities are incorporated into all contractual agreements, construction protocols, and operational procedures.

During the construction phase, the civil contractor and site supervisor will be jointly responsible for implementing mitigation measures such as dust suppression, waste segregation, noise control, and safety signage, under the direct oversight of the EHS Manager. Regular inspections, site audits, and progress reviews will be conducted to ensure timely and effective implementation of EMP measures.

In the operational phase, plant managers, production supervisors, and ETP operators will conduct routine monitoring, record-keeping, and corrective actions related to air emissions, wastewater treatment, chemical and dye handling, and solid waste management. The EHS Manager will coordinate environmental and safety training programs, prepare compliance reports, and ensure that all monitoring data including effluent quality, noise levels, and air emissions are collected and analysed in accordance with PEQS standards.

Through a system of shared responsibilities, structured reporting, and periodic environmental audits, the EMP will serve as a comprehensive framework to guide sustainable, safe, and legally compliant operations throughout the life of the socks manufacturing project.

6.7 Environmental Technical Assistance and Training Plan

The environmental training program for the proposed project will focus on key areas to ensure safe, compliant, and sustainable operations. Training will cover pollution control measures for air, noise, water, and solid waste to minimize environmental impacts during

both construction and operational phases. Special emphasis will be placed on the safe handling, storage, and disposal of dyes, chemicals, and other process materials in line with safety protocols. The program will also address occupational health and safety measures, ensuring adherence to recognized industrial standards to protect all employees.

Additionally, training will include the monitoring and analysis of environmental indicators such as wastewater quality, emissions, and the performance of the Effluent Treatment Plant (ETP). Comprehensive awareness modules will educate workers on safe chemical handling, spill prevention, and workplace safety practices, fostering a culture of environmental responsibility and operational safety throughout the facility.

6.8 Environmental Mitigation and Monitoring Plan (EMMP)

1. Air Quality Management

- **Impacts:** Dust and emissions from construction machinery, material handling, and solvent/dye vapours during production.
- **Mitigation:** Use covered storage for chemicals and dyes, implement dust suppression measures, and regularly monitor air quality for particulate matter and VOCs.

Table 6.3: Air Quality Management

Parameter	Method	Frequency	Responsible
PM_{10}, $PM_{2.5}$	Ambient sampling	Monthly	Environmental Firm
VOCs, NOx, SO_2	Stack room sampling	Monthly	EHS Team

2. Noise Pollution

- **Sources:** Compressors, HVAC systems, packaging machinery.
- **Mitigation:** Acoustic enclosures, equipment servicing, PPE.

Table 6.4: Noise Control Measures

Source	Control Measures	Frequency	Responsible

HVAC, Compressors	Noise barriers, maintenance	Weekly	EHS Officer
Lab and Production Area	PPE, signage	Weekly	Site Supervisor

3. Water Resource Protection

- **Impacts:** Effluents from production, lab wastewater.
- **Mitigation:** On-site ETP with monthly BOD and COD monitoring.

Table 6.5: Water Resource Protection

Parameter	Method	Frequency	Responsible
BOD, COD, pH	ETP outlet testing	Monthly	Environmental Lab

4. Solid & Hazardous Waste

- **Waste:** Dye residues, washing effluent sludge, packaging rejects, and process-related solid waste
- **Mitigation:** Proper segregation, EPA-approved disposal.

Table 6.6: Solid and Hazardous Waste

Parameter	Method	Frequency	Responsible
Waste logs	Physical records	Monthly	QA and EHS Department

5. Occupational Health & Safety (OHS)

Occupational Health and Safety (OHS) measures are critical to minimize risks associated with machinery operation, slips, trips, falls, exposure to chemicals, and prolonged noise or heat during both construction and production phases. All personnel will be provided with mandatory Personal Protective Equipment (PPE), including gloves, masks, helmets, and ear protection. Comprehensive safety training and regular toolbox talks will be conducted to ensure awareness of potential hazards and safe work practices. The facility will implement site-specific safety protocols, maintain emergency response plans, and

install clear signage and restricted access zones in high-risk areas to safeguard worker health and ensure a safe working environment throughout the project lifecycle.

Table 6.7: Occupational Health & Safety

Hazard	Mitigation Measures	Frequency	Responsible
Chemical and dye exposure	Proper storage, PPE, safe handling procedures, MSDS	Daily	HSE Officer
Machinery and equipment injuries	Lockout-tagout procedures, emergency stop systems	Weekly	Site Supervisor
Noise exposure	Earplugs, acoustic barriers, restricted work hours	Weekly	EHS Manager
Waste and spill hazards	Spill kits, proper segregation, routine cleanup	Daily	EHS Officer

6.8 Summary of Impacts and Mitigation Measures

This section provides a consolidated summary of the potential environmental and occupational impacts associated with the construction and operation of the project, along with the corresponding mitigation measures. It highlights key areas such as air quality, noise, water and soil management, solid and hazardous waste, chemical handling, energy and water use, and occupational health and safety. For each identified impact, specific mitigation strategies have been proposed to minimize risks, ensure regulatory compliance with PEQS, and promote sustainable and environmentally responsible operations throughout the project lifecycle.

Table 6.8: Impact Mitigation and Measures

Environmental Aspect	Potential Impacts	Mitigation Measures
Site Layout	Site clearance, traffic congestion	Defined zoning, green belts, designated loading/unloading areas

Wastewater Management	Effluent from washing and dyeing processes	On-site ETP, PEQS-compliant discharge or reuse for cleaning and landscaping
Air Emissions	Dust from material handling and dyeing	Dust suppression, covered storage, ventilation systems
Noise Pollution	High noise from machinery and material handling	Acoustic barriers, daytime-only work, PPE for workers
Solid and Hazardous Waste	Packaging rejects, dye containers, chemical waste	Proper segregation, labelled storage, disposal via licensed contractors
Energy Consumption	High energy demand for knitting, washing, and finishing	Energy-efficient motors, LED lighting, regular maintenance
Water Usage	Significant water use in washing and finishing	Flow restrictors, reuse of treated water for cleaning and landscaping
Health & Safety	Exposure to chemicals, slips, and fire hazards	Fire drills, MSDS guidelines, PPE, spill response plan, training

6.9 ENVIRONMENTAL MANAGEMENT PLAN for "Aims Hosiery Limited"

A. Construction Phase Plan

Table 6.9: Environmental Management Plan for Construction Phase

Environmental Aspect	Potential Impacts	Mitigation Measures	Mitigation Activity	Frequency	Responsibility
Air Quality	Dust generation from fabric cutting, transport, and construction activities	Water sprinkling, covered transport, well-maintained vehicles	Regular water spraying, use of covered trucks, maintain equipment	Daily	Site Supervisor
Noise Pollution	Noise from stitching, knitting, compressors, and transport vehicles	Install silencers, restrict work to daytime, provide ear protection	Maintenance of machines, distribution of earplugs	Weekly	HSE Officer
Soil Contamination	Leakage of oils, dyes, or lubricants from machinery or storage	Designated impermeable storage zones, proper waste handling	Inspect for leaks, follow safe storage protocols	Weekly	HSE Officer

Water Quality	Effluent from washing/dyeing contaminating surface or groundwater	On-site ETP operation, PEQS compliance, no discharge to open drains	Routine ETP maintenance and water quality testing	Weekly	HSE Officer
Solid Waste	Fabric scraps, packaging material, and general waste	Waste segregation, reuse/recycling, contractor disposal	Collect and dispose of waste through licensed vendors	Twice Weekly	Waste Management Vendor
Hazardous Waste	Dyes, chemicals, and oily waste from machinery	Labelled storage, disposal via EPA-approved contractor	Maintain hazardous waste register and disposal records	Weekly	HSE Officer
Health & Safety	Risk of injury, heat stress, slips, or exposure to dyes	Mandatory PPE, safety signage, first-aid kits	Toolbox talks, emergency preparedness drills	Daily	HSE Officer
Traffic and Logistics	Increased vehicle movement during raw material delivery	Designated loading/unloading zones, route management	Supervised entry/exit of vehicles	As Needed	Site Manager

Resource Consumption	Excessive use of water and electricity	Install flow restrictors, adopt energy-efficient motors	Monitor consumption and maintain logs	Weekly	Site Supervisor
Cultural or Archaeological Resources	Accidental discovery during excavation	Stop work immediately, inform authorities	Awareness training for workers	As Needed	Site Manager

B. Operational Phase Plan

Table 6.10: Environmental Management Plan for Operational Phase

Environmental Aspect	Potential Impacts	Mitigation Measures	Mitigation Activity	Frequency	Responsibility
Air Quality	Emissions from standby generators, and transport vehicles	Use low-emission generators, regular vehicle maintenance, install filters on exhausts	Periodic inspection and testing of emissions for PM, NO_2, SO_2, and CO	Monthly	Environmental Officer
Noise Pollution	Noise from knitting, stitching machines, compressors, and generators	Install acoustic enclosures and silencers, restrict operations to daytime, provide ear protection	Maintain acoustic panels and silencers, conduct noise level monitoring	Monthly	Site Manager
Water Quality	Contamination from washing, dyeing, or floor cleaning activities	Operate and maintain ETP, ensure no discharge to open drains, comply with PEQS	Regular testing of treated water for BOD, COD, TSS, and pH	Weekly	Environmental Consultant
Water Consumption	High usage in washing, cooling, and cleaning processes	Install flow restrictors, reuse treated water for	Daily water flow monitoring and	Daily	Utilities Supervisor

		utilities, repair leaks promptly	maintenance of usage logbook		
Solid Waste	Fabric scraps, packaging material, and general office waste	Segregate recyclable and non-recyclable waste, coordinate with certified recyclers	Collect and dispose of waste through approved vendor, maintain records	Weekly	Waste Handling Contractor
Hazardous Waste	Waste oil, dyes, used filters, and chemical residues	Store in labelled containers, ensure disposal via EPA-approved contractor	Maintain hazardous waste inventory and disposal certificates	Monthly	HSE Officer
Chemical Handling	Risk of spills, exposure to dyes, and flammable materials	Provide MSDS, proper ventilation, PPE use, and spill containment kits	Conduct regular chemical safety training and inspect storage areas	Monthly	HSE Officer
Occupational Health & Safety	Injuries from machinery, heat stress, and exposure to chemicals	Provide PPE, fire safety systems, first-aid kits, and safety drills	Routine inspections, enforce SOPs, conduct training sessions	Weekly	HSE Officer

CHAPTER-7: STAKEHOLDER'S CONSULTATION

7.1 Introduction

Stakeholder consultation forms an essential component of the Environmental Impact Assessment (EIA) process for the proposed Socks Manufacturing Unit by M/S Aims Hosiery Limited. A series of consultations were conducted with key stakeholders, including local residents, nearby business owners, industrial estate management, and representatives from relevant government departments. The objective of these consultations was to gather valuable insights and feedback regarding the potential social, economic, and environmental impacts of the project. Stakeholders were encouraged to express their views, raise concerns, and offer suggestions to enhance the project's environmental performance and community compatibility. The consultation process ensured transparency, promoted mutual understanding, and helped integrate community expectations into the project's planning and environmental management framework.

7.2 Methodology of Consultation Of M/S Aims Hosiery Limited

The EIA team for the proposed Socks Manufacturing Unit by M/S Aims Hosiery Limited conducted stakeholder consultations through group meetings, individual discussions, and on-site interactions. A structured questionnaire was designed to collect detailed feedback from stakeholders regarding the anticipated environmental, social, and economic effects of the project. The primary objective was to engage nearby communities and obtain their opinions on the establishment of the manufacturing facility, including potential benefits such as employment opportunities and concerns related to pollution, noise, or traffic.

Consultations were held with a diverse group of stakeholders, including local residents, business owners, industrial estate representatives, and officials from relevant government departments. Public discussions were organized at accessible locations within and around the Industrial Park to ensure broad participation. Additionally, reconnaissance visits were conducted by the EIA team to understand the local environmental conditions, existing infrastructure, and community dynamics, ensuring that stakeholder feedback was accurately integrated into the Environmental Impact Assessment process.

7.3 Stakeholder Identification

A three-tier framework was adopted for stakeholder identification to ensure comprehensive engagement at all relevant administrative and community levels. Stakeholders were categorized based on their potential interaction and influence concerning the proposed Socks Manufacturing Unit by M/S Aims Hosiery Limited. At the provincial level, key institutions such as the Environmental Protection Agency (EPA), the Industries Department, and the Labor and Human Resource Department were identified for regulatory coordination. At the district level, consultations involved local government authorities, including the District Administration and municipal representatives, to address infrastructure and compliance aspects.

At the local level, stakeholders such as nearby residents, shopkeepers, industrial workers, and representatives of educational and healthcare institutions were consulted to understand community perspectives and expectations. These consultations were conducted as an ongoing process throughout the project lifecycle, ensuring that stakeholder input was continuously reflected in decision-making and environmental management practices. Regular communication and feedback sessions were emphasized to maintain transparency, build trust, and address concerns proactively.

7.4 Proponent's Environmental Management Team

M/S Aims Hosiery Limited management assured that all necessary environmental mitigation measures would be effectively implemented to minimize potential impacts during both the construction and operational phases of the proposed socks manufacturing unit. The proponent's Environmental Management Team will be responsible for supervising the implementation of these measures, ensuring full compliance with environmental standards and regulatory requirements. Additionally, the management committed to maintaining the visual and environmental aesthetics of the surrounding area, addressing community concerns, and promoting sustainable industrial practices to prevent any form of environmental degradation.

7.4.1 Responsible Authority

The responsibility for overseeing the implementation of the proposed mitigation measures lies with the management of M/S Aims Hosiery Limited. The company is committed to complying with all applicable environmental regulations and ensuring that

the operations of the proposed socks manufacturing unit minimize impacts on the surrounding community and environment.

7.4.2 Other Departments and Agencies

For the impact analysis, detailed meetings were held with local community leaders, educational institutions, health facilities, and NGOs. These discussions helped identify key issues related to the project and its potential effects. All relevant concerns were incorporated into the Environmental Management Plan to ensure a holistic approach to mitigating the project's impacts. For the impact analysis, detailed consultations were conducted with local community leaders, nearby businesses, educational institutions, and relevant stakeholders within the industrial zone. These discussions helped identify key concerns related to the proposed socks manufacturing unit and its potential social, economic, and environmental effects. All feedback and issues raised were systematically incorporated into the Environmental Management Plan to ensure a comprehensive and effective strategy for mitigating the project's impacts.

7.4.3 Environmental Practitioner and Expert

The environmental consultancy team conducted site visits and engaged with stakeholders from communities surrounding the proposed socks manufacturing unit. Information was collected on potential socio-economic impacts, with feedback obtained from a range of local professionals, including business owners, shopkeepers, educators, and healthcare providers. Consultations also included women from the local community, although some were hesitant to share personal information due to social and cultural constraints.

7.4.4 Affected and Wider Community

No specific community within the study area is expected to be directly impacted by the proposed socks manufacturing unit. Consultations with local residents indicated a generally positive perception of the project. Stakeholders highlighted potential benefits, including employment opportunities and local economic development, while stressing the importance of implementing mitigation measures to protect the environment and maintain community well-being.

7.4.5 Consultation Findings

The outcomes of the stakeholder consultation meetings indicate strong overall support for the proposed socks manufacturing unit by M/S Aims Hosiery Limited. Local community members expressed positive feedback, highlighting the project's potential to generate employment, support local businesses, and contribute to socio-economic development in the area. Many stakeholders also noted that the project could improve local infrastructure, enhance social mobility, and increase the prominence of the industrial zone.

At the same time, some concerns were raised regarding potential environmental impacts, particularly related to the visual aesthetics and overall environmental quality of the surrounding area. Certain participants expressed apprehension about possible effects on the landscape and local environment. In response, the project proponent assured stakeholders that comprehensive mitigation measures including land management, greenbelt development, and maintenance of the site's aesthetics would be implemented to minimize environmental impacts and preserve the area's visual and ecological quality.

7.5 Stakeholder Feedback

The responses from stakeholders, summarized below, provide a more detailed picture of their views:

7.5.1 Sample Size

20 sample size was selected by the Team of consultants for conducting the socioeconomic survey. Women were also consulted for the said survey; some of their names are mentioned in the above list of respondents while most of them were not willing to give personal information.

7.5.2 Statistical Analysis

Two Different statistical software excel and SPSS have been used for the statistical analysis of the data collected during the visit of study site villages through questionnaires.

7.5.3 Results and Discussion

Gender

The consultations involved 20 respondents, including both male and female participants.

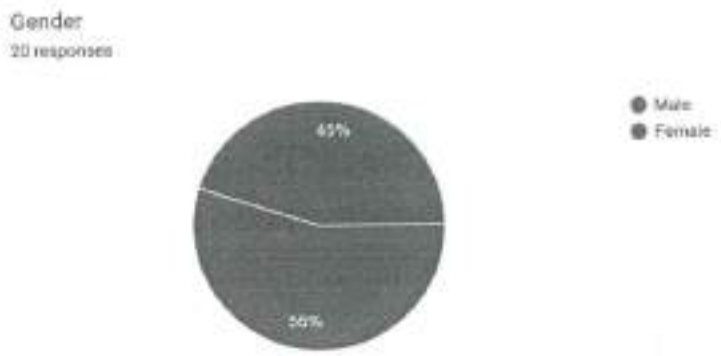


Figure 7.1: Gender of the Respondents

7.6 Project Support and Importance

The majority of the respondents, both male and female, expressed strong support for the proposed project. Most agreed that the construction of the facility would increase the importance of the area, contributing to its overall growth and development. Participants were optimistic about the project's potential to raise the profile of the local community and enhance its standing within the region. The support for the project reflected a shared belief that it would bring significant benefits to the community.

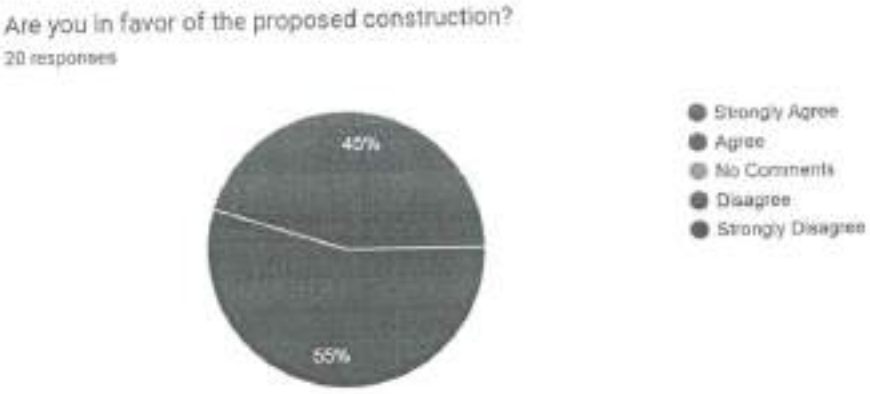


Figure 7.2: Respondents in favor of the Project

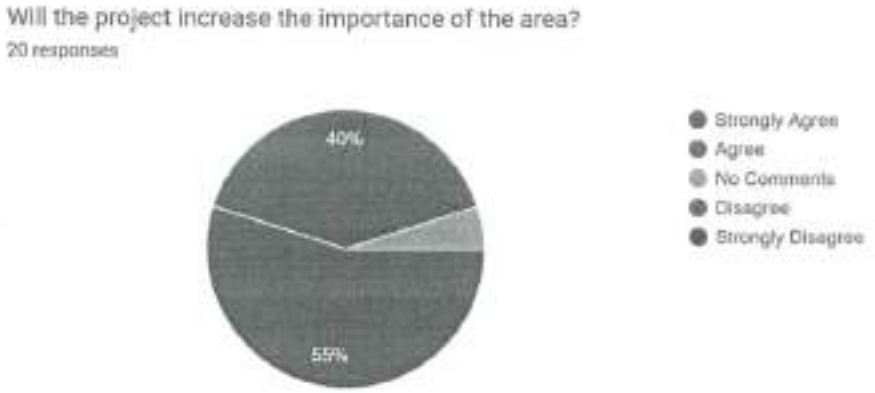


Figure 7.3: Respondents' Views on the Impact of the Project on the Importance of the Area

7.6.1 Improvement of Living Standards

While many respondents believed that the project would improve the living standards of the area, a few raised concerns. Approximately, respondents strongly agreed or agreed that the project would result in better infrastructure, more employment opportunities, and improved services, which could enhance the overall quality of life. However, individuals disagreed, possibly due to concerns over potential negative environmental impacts or uncertainties about the project's long-term benefits. Despite these reservations, the majority of the community seemed confident that the project would lead to better economic prospects.

Figure 7.4: Respondents' Views on the Impact of the Project on the living standards of Area

7.6.2 Environmental Impact Concerns

When asked about the environmental impact of the project, responses were varied. 16 respondents strongly disagreed and few disagreed that the project would have any negative effect on the environment, few showed concern regarding its potential to disrupt area's aesthetic value. 2 responders were neutral and given no comments.

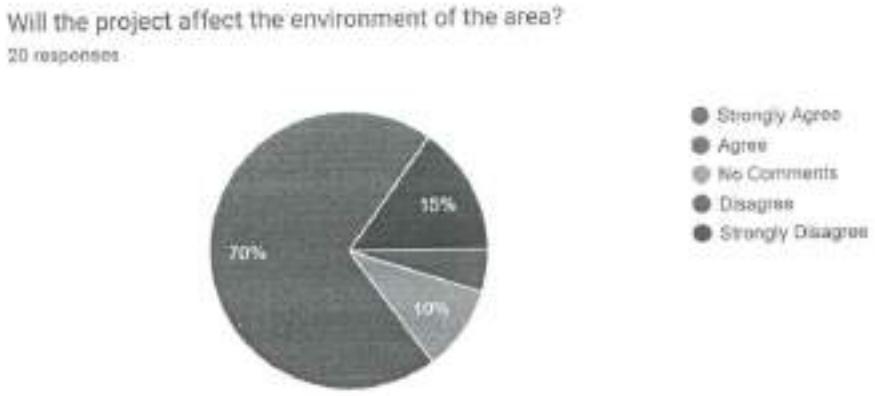


Figure 7.5: Respondents' Views on the Impact of the Project on the Environment of Area

7.6.3 Satisfaction with the Project

In terms of satisfaction, a substantial number of participants expressed their contentment with the project and its potential benefits. 18 respondents indicated their approval, citing the job creation and economic growth the project would bring. Their positive outlook on the project reflected their anticipation of tangible improvements in their community. However, 2 individuals, were neutral regarding the project satisfaction.

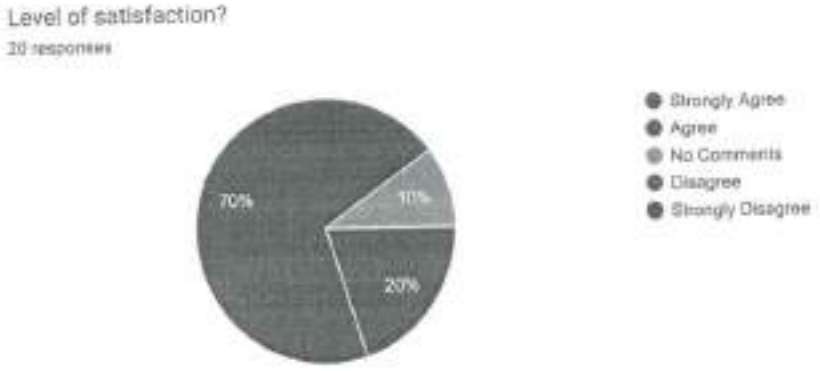


Figure 7.6: Respondents' Level of Satisfaction Regarding the Proposed Project

The stakeholder consultation process for the proposed Socks Manufacturing Unit by M/S Aims Hosiery Limited revealed strong overall support for the project from the local community and other relevant stakeholders. Participants recognized the potential socio-economic benefits, including job creation, enhanced local business opportunities, and improved infrastructure within and around the industrial park. Many stakeholders emphasized that the project could contribute to overall economic growth, raise living standards, and provide employment opportunities for both skilled and unskilled labour in the surrounding areas.

While the general perception of the project was positive, some environmental concerns were raised during consultations. These primarily related to potential impacts on local air quality, noise levels, water resources, and the visual aesthetics of the area. Community members expressed a desire for the project to be developed responsibly, without compromising the environmental quality or creating adverse effects on the surrounding neighbourhoods.

In response, M/S Aims Hosiery Limited has committed to implementing a comprehensive set of mitigation measures as part of the Environmental Management Plan (EMP). These include dust suppression, wastewater treatment through an on-site Effluent Treatment Plant (ETP), solid and hazardous waste management, noise control measures, and landscaping with green belts to maintain the site's visual appeal.

The consultation process highlighted the importance of maintaining an ongoing dialogue with stakeholders throughout the project lifecycle. Regular engagement, transparency in decision-making, and timely responsiveness to emerging concerns will ensure that the project continues to receive community support while safeguarding environmental and social well-being. This approach underscores the company's commitment to sustainable industrial development and responsible environmental stewardship.

CHAPTER-8: CONCLUSION AND RECOMMENDATIONS

8.1 Conclusion

The Environmental Impact Assessment (EIA) conducted for the proposed Socks Manufacturing Unit by M/S Aims Hosiery Limited, provides a detailed evaluation of the potential environmental, ecological, and socio-economic impacts associated with the project. The assessment examined baseline environmental conditions, identified sensitive receptors, and analysed potential impacts during the design, construction, and operational phases.

The study indicates that while the project may generate impacts such as dust and air emissions, wastewater from washing and dyeing processes, noise from machinery, and solid waste, these impacts can be effectively managed through a comprehensive Environmental Management Plan (EMP). The project's location within a designated industrial estate reduces risks to sensitive ecological areas and nearby residential communities, while the existing infrastructure ensures that environmental pressures remain manageable.

The proposed unit is expected to deliver substantial economic benefits, including the creation of employment opportunities, support for local businesses, and overall contribution to the industrial growth of the region. The socio-economic environment is likely to benefit from improved livelihoods, skill development, and community engagement initiatives integrated into the project's corporate social responsibility framework.

Baseline environmental data confirm that the selected site is suitable for the socks manufacturing unit, provided strict implementation of mitigation measures and monitoring protocols is maintained. Features such as designated wastewater treatment through an on-site ETP, solid waste management, and green belt development further enhance environmental sustainability and reduce pollution potential.

In conclusion, with the adoption of the proposed mitigation and monitoring strategies, the project can be implemented without causing significant adverse environmental impacts, ensuring sustainable industrial development, regulatory compliance, and long-term community benefits.

8.2 Recommendations

To ensure the sustainable development of the proposed Socks Manufacturing Unit by M/S Aims Hosiery Limited and to effectively mitigate potential environmental and social impacts, the following recommendations are proposed. These measures are designed to promote long-term environmental protection, ensure compliance with relevant regulations, and support responsible corporate practices.

1. Strict Implementation of the EMP

The Environmental Management Plan (EMP) must be implemented in its entirety across all project phases design, construction, and operation. This includes executing all proposed mitigation measures, monitoring protocols, and safety procedures. The project proponent should ensure that contractors and sub-contractors are fully aware of their environmental obligations. Routine site inspections, internal environmental audits, and third-party verifications should be scheduled regularly to confirm that the EMP measures are being applied consistently and effectively.

2. Continuous Environmental Monitoring

A robust environmental monitoring program must be established and maintained throughout the lifecycle of the project. Parameters such as ambient air quality, noise levels, wastewater discharge, energy use, and solid waste handling should be routinely monitored, and records must be maintained. Any deviation from Pakistan Environmental Quality Standards (PEQS) or approved thresholds should be addressed through corrective action plans. Regular monitoring reports should be submitted to the relevant authorities to ensure transparency and accountability.

3. Stakeholder Engagement

Proactive engagement with local communities, neighbouring industries, regulatory authorities, and other stakeholders should be maintained throughout the project lifecycle. Implementing a grievance redressal mechanism and a structured community feedback system will help identify concerns early and allow for timely adjustments to project operations. Transparent and continuous communication will build trust, ensure

social acceptance, and promote long-term cooperation, particularly within industrial zones like Quaid-e-Azam Industrial Park, Sheikhupura.

4. Waste Management Optimization

Effective waste management is critical for the proposed socks manufacturing unit. The project should implement strict segregation of waste at the source into hazardous, non-hazardous, recyclable, and general streams. Priority should be given to the principles of reduction, reuse, and recycling (3Rs) to minimize environmental impact. Hazardous waste, including leftover dyes, chemical containers, and sludge from the Effluent Treatment Plant (ETP), must be handled and disposed of through licensed vendors in accordance with applicable regulations. Detailed records of waste generation, handling, and disposal should be maintained and regularly reviewed to ensure compliance and accountability.

5. Water Resource Conservation

Given the high-water demand in socks manufacturing, especially for washing, dyeing, and finishing processes, water conservation should be a key priority. The on-site Effluent Treatment Plant (ETP) should be fully operational, and treated water should be reused for non-critical applications such as floor washing and landscaping to reduce freshwater consumption. Water-efficient fixtures and flow monitoring systems should be installed to optimize usage, and regular water audits should be conducted to identify opportunities for further conservation and efficiency improvements.

6. Emergency Preparedness

An Environmental Emergency Response Plan should be developed and periodically updated to address potential incidents, including chemical spills, dye or solvent leaks, fire hazards, or ETP malfunctions. All staff must be trained on emergency procedures, first-aid, and evacuation drills. The facility should be equipped with appropriate spill containment kits, fire-fighting equipment, alarms, and clearly marked emergency exits. Coordination with local emergency services, fire departments, and nearby medical facilities should also be established to ensure prompt response in case of any incidents.

7. Periodic EMP Review and Updates

The EMP should be treated as a dynamic document and reviewed periodically, at least once a year, to assess its effectiveness and relevance. Updates should reflect changes in regulations, operational practices, or environmental conditions. Insights from audits, incidents, or stakeholder feedback should inform revisions. Where applicable, the adoption of improved environmental technologies, such as advanced dust suppression systems or energy-efficient equipment, should be considered to enhance sustainability and compliance.

8. Capacity Building

Ongoing training programs should be provided for all personnel, including management, operational staff, and contractors. Training should cover environmental awareness, regulatory compliance, chemical handling, ETP operations, and proper waste management practices. Refresher sessions should be conducted at least twice a year, with all training activities properly documented. This approach will embed environmental responsibility into the organizational culture and ensure consistent adherence to best practices throughout the project lifecycle.

Annexure

TORs

TERM OF REFERENCES (TORS)

TO CONDUCT THE ENVIRONMENTAL IMPACT ASSESSMENT STUDY FOR

M/S AIMS HOSIERY LIMITED

LOCATED AT

Quaid-e-Azam Industrial Park, District Sheikhupura.

TERM OF REFERNCES

These terms of references are being submitted for the subject EIA study under Schedule II, Category B (Textile and Apparel Manufacturing), Clause 3: "Textile processing, dyeing, printing, finishing, and related industries" of policy and procedure for the filing, review and approval of environmental assessment. These TORs of EIA have been prepared by the environmental consultants, in consultation with the project proponent.

INTRODUCTION OF PROJECT:

The Subject project **establishment of pharmaceutical company Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation by Aims Hosiery Limited.** The project involves the construction of a five-story commercial building, including a basement and ground floor. The building has been designed to accommodate retail outlets, offices and businesses facilities, to provide a modern and efficient space. The project site is located at Quaid-e-Azam Industrial Park, District Sheikhupura.

The total area of the project site is **4.54 Acres**, with a total estimated cost of **PKR 02 billion**. This EIA is being submitted in compliance with **Section 12 of the Pakistan Environmental Protection Act (PEPA), 1997 (Amended 2022)**, to ensure that the expansion is carried out in an environmentally responsible and sustainable manner.

Name & Address of proponent

- **Name:** Mr. Ahsan Iqbal Chaudhry
- **Address: Quaid-e-Azam Industrial Park, District Sheikhupurak.**
- **CNIC:** 35202-2821343-9

M/S Aims Hosiery Limited has appointed the Pak Green Enviro-Engineering (Pvt) Ltd as the Consultant for the subject project to conduct the EIA. M/S Pak Green Enviro-Engineering (Pvt) Ltd will be called as "Consultant" **M/S Aims Hosiery Limited"** as the "Client".

Objective of the EIA study

The Objective of study includes Compliance of section 12 of PEPA 1997 (Amended 2012) & NEQS/ PEQS.

Purpose of the EIA

The key objectives of the EIA are to:

- Document the ecological and socioeconomic baseline conditions of the study area and the affected communities
- Inform and obtain input from stakeholders, (e.g., governmental authorities, the public, and indigenous communities) and capture their relevant issues and concerns
- Assess in detail the environmental, social, and health impacts that would result from the Project
- Identify environmental and social mitigation measures to address the impacts identified
- Develop the EMPs as discussed above, based on the mitigation measures developed in the EIA
- Meet the requirements or recommendations of the applicable national Environmental Laws and Guidelines

Scope of Services

1. Review of existing regulatory framework
    - 1.1 Laws and Regulations
    - 1.2 National and International Guidelines and Policy
    - 1.3 Guidelines of Labor & Human Resource Department
    - 1.4 Punjab Local Government Ordinance
2. Methodology for carrying out this study
    - 2.1 Project Description
    - 2.2 Site Selection
    - 2.3 Project Alternatives
3. Process Description
    - 3.1. Detailed review of the processes
    - 3.2 Design Parameters
    - 3.3 Details related to Plant and Equipment's
4. Environmental profile of the environmental study area
    - 4.1 Climatology
    - 4.2 Geographical features
    - 4.3 Geological and Hydrological features
    - 4.4.4 Historical review

4.4.5 Land Use

4.4.6 Ecology, i.e. Flora and Fauna etc.

4.5. Analysis of EPA required environmental parameters

4.5.1 Sampling for Air, Water, and Noise Level

4.5.2 Investigate Socio-Economic and Socio-Environmental aspects and cultural values within and around the operating facility

4.5.3 Cultural and Social Values

4.5.4 Interviews from different groups

4.6 Development activities and Waste Management

4.7 Identify and evaluate major environmental impacts

4.8 Identify mitigation measures and develop Environmental Management and Monitoring plan

4.9 Conclusions based on the study conducted for this EIA

4.10 1-2 Site Visits for data acquisition

4.11 Environmental Monitoring plan

4.12 Preparation of Lab Analysis Report

4.13 Preparation of Environmental Management Plan EMP

4.14 Briefing & Presentation to the Expert Committee in the EPA Punjab.

4.15 Reply to technical Environmental Objections/Review

4.16 Presentation in the office of DG EPA, Punjab (if required)

CLIENT RESPONSIBILITY

- Proponent will be responsible to nominate a senior officer as Coordinator who will be responsible for all coordination activities as required by the Consultants and to whom the Consultants will refer for information and assistance. All correspondence between the Consultants and the CLIENT will be routed through the coordinator
- Consultants will require free access to all relevant information available with the Client
- The report developed for the CLIENT shall be the property of the CLIENT and the Consultants shall adhere to confidentiality morally as well as legally.
- Client will provide relevant documents as:
    - Signed application on company letter head
    - Pay Order in favor of DG EPA as review fee 30,000/-
    - Undertaking on Stamp Paper as per EPA Format
    - Affidavit on Stamp Paper as per EPA Format
    - Copy of CNIC of proponent
    - Duly filled and Sign Schedule IV
    - Details of firefighting Equipment's
    - Layout Maps of the project
    - Other NOCS/Certificates from other concerned departments (if any)
    - Any other relevant documents/details required by the consultant.

Signatures: _____

Environmental Consultant
Pak Green Enviro-Engineering
Pvt. Ltd.

Signatures: _____

Client: Mr. Ahsan Iqbal Chaudhry
CNIC # 35202-2821343-9
M/S Aims Hosiery Limited

Annexure

Lab Monitoring Reports

PGG/IMS/FF/063	Rev. #03	Rev date: 16-06-25

Report Limitation: "This report is not valid for any Court Cases, Environmental Protection Orders, Compliance Reports for Operational Phase Approvals, or any regulatory action under Punjab Environmental Protection (Smog Prevention and Control) Rules, 2023, etc."

TEST REPORT

Ref #: PGG/LAB/2025-7195/NL

Issue date: 29-Oct-25

Name of Industry/Client:	Aims Hosiery Limited
Site Location:	Quaid-e-Azam Industrial Park, Sheikhupura.
Nature of Monitoring:	Noise Level
Monitoring By:	Pak Green Laboratories
Monitoring Time:	Real Time
Monitoring Instrument:	Land TEK SL 5868-P
Monitoring Date:	23-Oct-25

Results:

Sr. No.	Locations	Equivalent Noise Level dB (A)
1.	Point-01: East Side	59.4
2.	Point-02: West Side	58.1
3.	Point-03: North Side	57.9
4.	Point-04: South Side	60.5
PEQS (Day Time Commercial Area)		65 dB(A)

End of Report

PEQS: Punjab Environmental Quality Standards
dB (A) Leq: Time weighted average of the level of sound in decibel on scale A, which is relatable to human hearing
Remarks: Noise level at all points are in compliance with PEQs Limit.
Terms & Conditions:

- Analysis was conducted on the request of project proponent for IEE/EIA Baseline study.
- This report should be reproduced pas a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client.
- The left-over sample (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for any negotiations.

Field. Analyst	Chief Analyst	Laboratory Incharge
	Muhammad Raza Ullah	Mian Iftikhar Ahmed

PAK GREEN ENGINEERING (Pvt.) Ltd.
(Environmental Laboratories Division)
ISO/IEC 17025:2017 Accredited Testing Lab, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018
Head Office: 46-M, Gulberg III, Lahore-Pakistan. Ph: +92-42-35441444 Cell: 0303-4442334
EPA Certified

PGG/IMS/FF/159	Rev.#01	Rev date: 16-06-25

Report Limitation: "This report is not valid for any Court Cases, Environmental Protection Orders, Compliance Reports for Operational Plans Approvals, or any regulatory action under Punjab Environmental Protection (Smog Prevention and Control) Rules, 2023. etc.

TEST REPORT

Ref #: PGL/LAB/2025-7194/GW

Issue date: 29-Oct-25

Name of Industry/Client:	Aima Hosiery Limited
Site Location:	Quaid-e-Azam Industrial Park, Sheikhupura.
Nature of Sample:	Ground Water
Sampling By:	Pak Green Laboratories
Sample Source:	Motor Pump
Date of sampling:	23-Oct-25
Sample Receiving Date:	23-Oct-25
Testing Facility:	Pak Green Laboratories
Date of Completion of Analysis:	23-Oct-25 to 29-Jul-25
Env. Conditions during Analysis:	Temperature: 23.0-24.2°C Humidity: RH=43.8-52.8%

Results:

Sr. No.	Parameters	Unit	WHO	PEQS	Method / Technique	Results
1.	Taste	-	Non-Objectionable / Acceptable	Non-Objectionable / Acceptable	APHA-2160 C	Non-Objectionable
2.	Odor	-	Non-Objectionable / Acceptable	Non-Objectionable / Acceptable	APHA-2150 B	Non-Objectionable
3.	Color	TCU	≤ 15	≤ 15	APHA-2120 C	0.000
4.	Turbidity	NTU	< 5	< 5	APHA-2130 B	0.25
5.	Total Hardness^	mg/L	-	<500	APHA-2340 C	70
6.	Total Dissolved Solids^	mg/L	< 1000	< 1000	APHA-2540 C	550
7.	pH^	-	6.5-8.5	6.5-8.5	APHA-4500-H^+ B	7.860 at 23.0°C
8.	Chloride (Cl^-) ^	mg/L	250	< 250	APHA-4500-Cl^- B	30
9.	Electrical Conductivity (EC)^	µS/cm	-	-	APHA-2510 B	875
10.	Sodium (Na)^	mg/L	-	-	APHA-3111 B	77.5264

End of Report

PEQS: Punjab Environmental Quality Standards WHO: World Health Organization ^PNAC Accredited

Remarks: All Parameters are in compliance with the PEQS Limit.

Terms & Conditions:

- Analysis was conducted on the request of project proponent for IEE/EIA Baseline study.
- This report should be reproduced as a whole and not in parts.
- The Sampling was done as per the sampling and preservation protocol method APHA 1060-B&C
- The responsibility of the ethical use of the results reported in this report lies with the client.
- The leftover sample (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for any negotiations.
- Dually calibrated instruments were used during monitoring and testing activities.

Lab. Analyst	Chief Analyst	Laboratory Incharge
	Muhammad Raza Ullah	Mian Mukhtar Ahmed

PAK GREEN ENGINEERING (Pvt.) Ltd.
(Environmental Laboratories Division)
ISO/IEC 17025:2017 Accredited Testing Lab, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018
Head Office: 46-M, Gulberg III, Lahore-Pakistan. Ph: +92-42-35441444 Cell: 0303-4442334

EPA Certified

Report Limitation: "This report is not valid for any Court Cases, Environmental Protection Orders, Compliance Reports for Operational Phase Approvals, or any regulatory action under Punjab Environmental Protection (Smog Prevention and Control) Rules, 2023, etc."

TEST REPORT

Ref #: PGG/LAB/2025-7193/AA

Issue date: 29-Oct-25

Name of Industry/Client:	Aims Hosiery Limited
Site Location:	Quaid-e-Azam Industrial Park, Sheikhupura.
Nature of Monitoring:	Ambient Air
Monitoring By:	Pak Green Laboratories
Monitoring Instrument:	AQMS
Monitoring Date:	23-Oct-25 to 24-Oct-25

Results:

Parameters	CO	NO	NO_2	SO_2
	mg/m³	µg/m³	µg/m³	µg/m³
Methodology	Non-Dispersive Infrared Absorption (NDIR)	Reduced Pressure Chemiluminescence (CLD)	Reduced Pressure Chemiluminescence (CLD)	UV fluorescence (UVF)
Results	1.95	11.67	36.96	48.84
PEQS for Ambient Air	05 8-Hrs	40 24-Hrs	80 24-Hrs	120 24-Hrs

End of Report

PEQS: Punjab Environmental Quality Standards

Remarks: All parameters are in compliance with PEQS Limit.

Terms & Conditions:

- Analysis was conducted on the request of project proponent for IEE/EIA Baseline study.
- This report should be reproduced pas a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client
- The left-over sample (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.
- The report is not valid for any negotiations

Field. Analyst	Chief Analyst	Laboratory Incharge
	Muhammad Raza Ullah	Mian Iftikhar Ahmad

Pak Green Engineering (Pvt) Ltd. 46-M, Gulberg-III, Lahore Pakistan

Annexure

CNIC's of Proponent and Witnesses

Proponent

PAKISTAN National Identity Card

Name
Ahsan Iqbal Chaudhry

احسن اقبال چوہدری

Father Name
Zafar Iqbal Chaudhry

ظفر اقبال چوہدری

Gender	Country of Stay
M	Pakistan

Identity Number	Date of Birth
35202-2821343-9	17.12.1974

Date of Issue	Date of Expiry
21.07.2023	21.07.2033

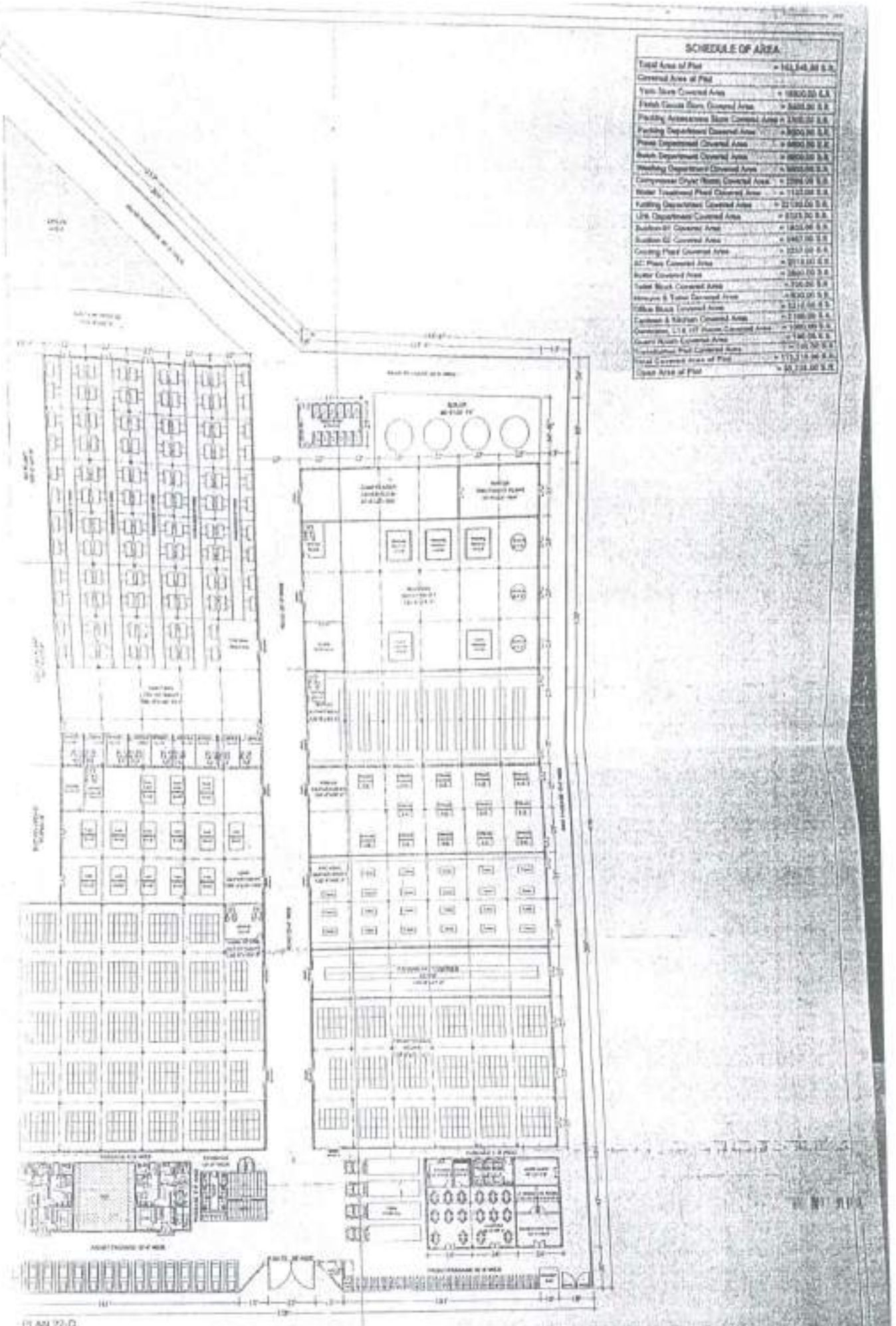
Holder's Signature

35202-2821343-9

گمشدہ کارڈ ملنے پر قریبی لیٹر بکس میں ڈال دیں

Annexure

Layout Plan & Google Earth



PLAN 22-D

Client: M/s. Alma Hosiery Limited	Title: Master Plan 22-D	Issue No.	Issue Date:	Rev. Date:	General Notes:
Project: Design of Factory at Quad-e-Azam Business Park	Designed By:	Drawn By:	Checked By:	Scale: As Shown	


M/S Aims Hosiery Limited
Located at Quaid-e-Azam Industrial Park, District Sheikhupura.
Latitude: 31°44'29.87"N
Longitude: 74° 3'0.69"E
Legend
Feature 1
M/S Aims Hosiery Limited
Qabristan
Qabristan
Quaid E Azam Business Park (QABP)
M/S Aims Hosiery Limited
Centreway Business Square
M-2
Ultimate Medical Care
Project Director - QABP Office
Room Fabrics Ltd (Towel Unit)
Wapco Lubricants Pvt
Google Earth
Image © 2025 Airbus
N
800 m

Annexure

SECP Document

A072615

SECP

SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN

COMPANY REGISTRATION OFFICE
LAHORE

CERTIFICATE OF INCORPORATION

[Under section 16 of the Companies Act, 2017 (XIX of 2017)]

Corporate Universal Identification No. 0149218

I hereby certify that AIMS HOSIERY LIMITED is this day incorporated under the Companies Act, 2017 (XIX of 2017) and that the company is limited by shares.

Given under my hand at Lahore this Twelfth day of March, Two Thousand and Twenty.

Incorporation fee Rs.50,500/- only

(MUHAMMAD KUMAIL NADEEM)
Assistant Registrar

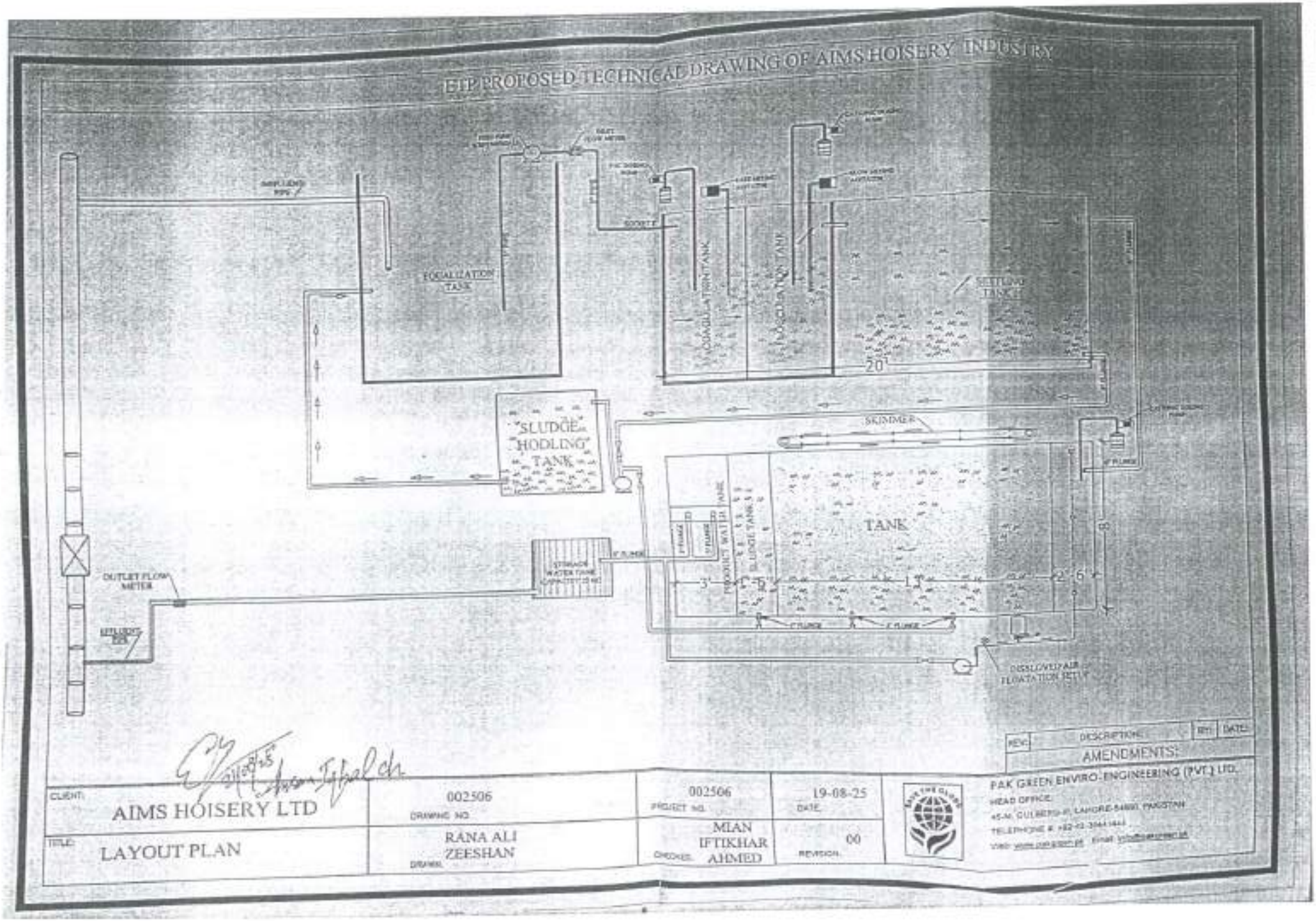
No. ARL 18193

Dated: 12/3/2020

Annexure

ETP Drawing

ETP PROPOSED TECHNICAL DRAWING OF AIMS HOISERY INDUSTRY



CLIENT: AIMS HOISERY LTD	002506 DRAWING NO.	002506 PROJECT NO.	19-08-25 DATE	PAK GREEN ENVIRO-ENGINEERING (PVT.) LTD. HEAD OFFICE: 45-M, GULBERG-III, LAHORE-54660, PAKISTAN TELEPHONE # +92-42-3941-1441 Web: www.pakgreen.pk Email: info@pakgreen.pk
TITLE: LAYOUT PLAN	RANA ALI ZEESHAN DRAWN	MIAN IFTIKHAR AHMED CHECKED	00 REVISION	

REV.	DESCRIPTION	BY	DATE
	AMENDMENTS:		

Annexure

Allotment Letter

PUNJAB INDUSTRIAL ESTATES
DEVELOPMENT AND MANAGEMENT COMPANY
A Company set up under Section 42 of the Companies Ordinance, 1984 (now Companies Act, 2017)

PIEDMC/QABP/0216/6657
March 24, 2025

M/s. Aims Hosiery Ltd,
Through its CEO, Mr. Ahsan Iqbal Chaudhry,
82-A, Phase-8, (Ex Part view), DHA Lahore.

PROVISIONAL ALLOTMENT LETTER

In pursuance of the approval of Zone Enterprise Entry Application conveyed to you vide our letter no. PIE/QABPSEZ/0342 dated 12-02-2025, it is notified that Plot No. 22-D measuring 4.54 Acres situated in Quaid-e-Azam Business Park (QABP), Sheikhupura has been provisionally allotted to M/s. Aims Hosiery Ltd.

The provisional allotment is subject to following terms and conditions:

1) You shall pay remaining balance amount of **Rs. 98,192,800/-** as per the payment plan (attached herewith) within due dates. First installment shall be payable within four months from the date of the zone enterprise entry letter as mentioned above i.e. before **12-06-2025**.

2) You shall collectively deposit post-dated cheques for the installments as per the payment plan in the name of Punjab Industrial Estates Development and Management Company.

3) Any collection charges charged by bank and exchange gain/loss in case of foreign exchange payments will be borne by the Allottee.

4) You shall ensure that sufficient funds are available in your account on the day of presenting the cheque to ensure cheque's clearing. In case the cheque is bounced, there shall be legal repercussions including cancellation of plots.

5) If it is found that there is any change (increase or decrease) in the area of the Plots, the price of the Plots will be adjusted accordingly as per the rate on which Plots was purchased.

6) All the terms & conditions stated in the SEZ Act, 2012, SEZ Rules, 2013, SEZ Zone Enterprise Admission and Sale, Lease and Sub-Lease of Plot Regulations, 2021 and Building Bye laws of PIEDMC shall be binding.

7) All terms & conditions mentioned in the above mentioned Zone Enterprise Entry Application approval letter shall remain binding.

8) Kindly note that all duties, charges, taxes etc., imposed by the Federal/Provincial/City Government(s) from time to time shall be borne by the Allottee.

9) You shall pay within due dates all operational and maintenance charges or any other charge or fee duly notified by PIEDMC, local authority, or Government from time to time.

10) You shall not re-sell/ rent and/ or transfer in anyway whatsoever, plot(s) or any portion thereof, or rights therein, to any party without execution of final Sale Deed.

Aims Hosiery Ltd.
Ahsan Iqbal Chaudhry
Director & Chief Executive Officer

11) You shall commence construction of the project within six (06) months and assume regular operations within twenty-four (24) months of the zone approval or such period as allowed by the competent authority;

12) Sale Deed shall be executed only after you have completed the project and performed business operations for at least six months;

13) You shall not use the plot or any part thereof or the buildings and superstructure raised thereon or plant or machinery or other equipment installed thereon for any purpose other than those approved in the Zone Enterprise Entry Application;

14) You shall not create any encumbrance on the Plot without written approval of the PIEDMC;

15) Any violation of the above conditions, terms & conditions stated in the SEZ Act 2012, SEZ Rules 2013, SEZ Zone Enterprise Admission and Sale, Lease and Sub-Lease of Plot Regulations, 2021 and Building Bye Laws of PIEDMC may result in cancellation and subsequent re-possession of the plot;

16) In case of cancellation of plot, PIEDMC shall refund the deposited amount against price of plot after deducting 5% of the deposited amount as service charge and after recovery of any other outstanding liability.

17) In case of cancellation of the Plot(s) for any reason whatsoever, any structure existing thereon shall stand transferred to and become the property of PIEDMC.

18) If by reasons of Force Majeure, PIEDMC is wholly or substantially unable to carry out its functions/obligations, you shall not be entitled to claim any rights or benefits against PIEDMC.

In case, you agree to the above conditions, please sign the part below and return one original to the undersigned within 15 days.

M.A. Saeed 21/3/25

Muhammad Ahmad Saeed
Company Secretary

I, Ahsan Iqbal Chaudhry, CNIC No. 35202-2821343-9 am duly authorized by M/s. Aims Hosiery Limited to convey acceptance of the terms and conditions of this Provisional Allotment Letter.

I enclose resolution of the Board of Directors accepting the terms and conditions of the provisional Allotment Letter.

Signature

Dated: 31-3-2025

Designation: Director & Chief Executive Officer

Seal of the Company: Aims Hosiery Ltd. Ahsan Iqbal Chaudhry

Annexure

Wastewater Undertaking

AIMS HOSIERY
LIMITED

22 KM, Ferozpur Road, Rohi Nala, Lahore,
54000, Pakistan

Tel. No.: 0304-1111681
Email: Info@aimshosiery.com

UNDERTAKING

I, **Ahsan Iqbal Chaudhry** S/o **Zafar Iqbal Chaudhry,** R/o **House No.82-A Phase 8 Ex Park View DHA Lahore,** proponent of Establishment of Socks Manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation under the name of **M/S Aims Hosiery Limited,** located at Quaid-e-Azam Industrial Park, Sheikhupura, hereby undertake that all wastewater generated from our facility shall be managed in compliance with the environmental regulations of Quaid-e-Azam Industrial Park, and the Punjab Environmental Protection Agency (EPA) for the collection, treatment, and safe disposal of industrial wastewater. Our unit will ensure that all wastewater is discharged only through the designated drainage system of the estate and that no untreated effluent is released outside the premises. We are fully committed to comply with all environmental standards.

Mr. Ahsan Iqbal Chaudhry
CNIC#: 35202-2821343-9
Cell#: 0300-8430797
M/S Aims Hosiery Limited

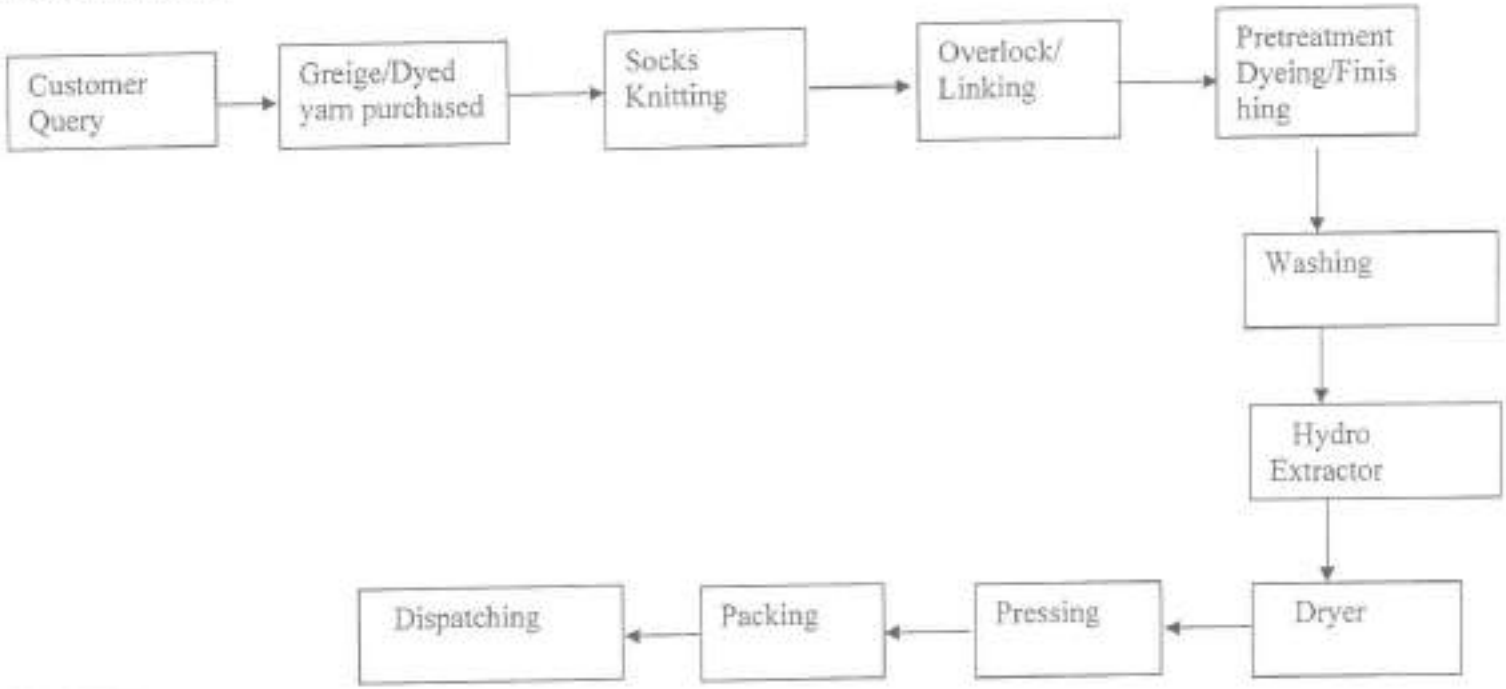
Annexure

Process Flow

AIMS HOSIERY LIMITED

PROCESS FLOW CHART

PFC-QMS-23-01
Date of Issue:10-01-2023

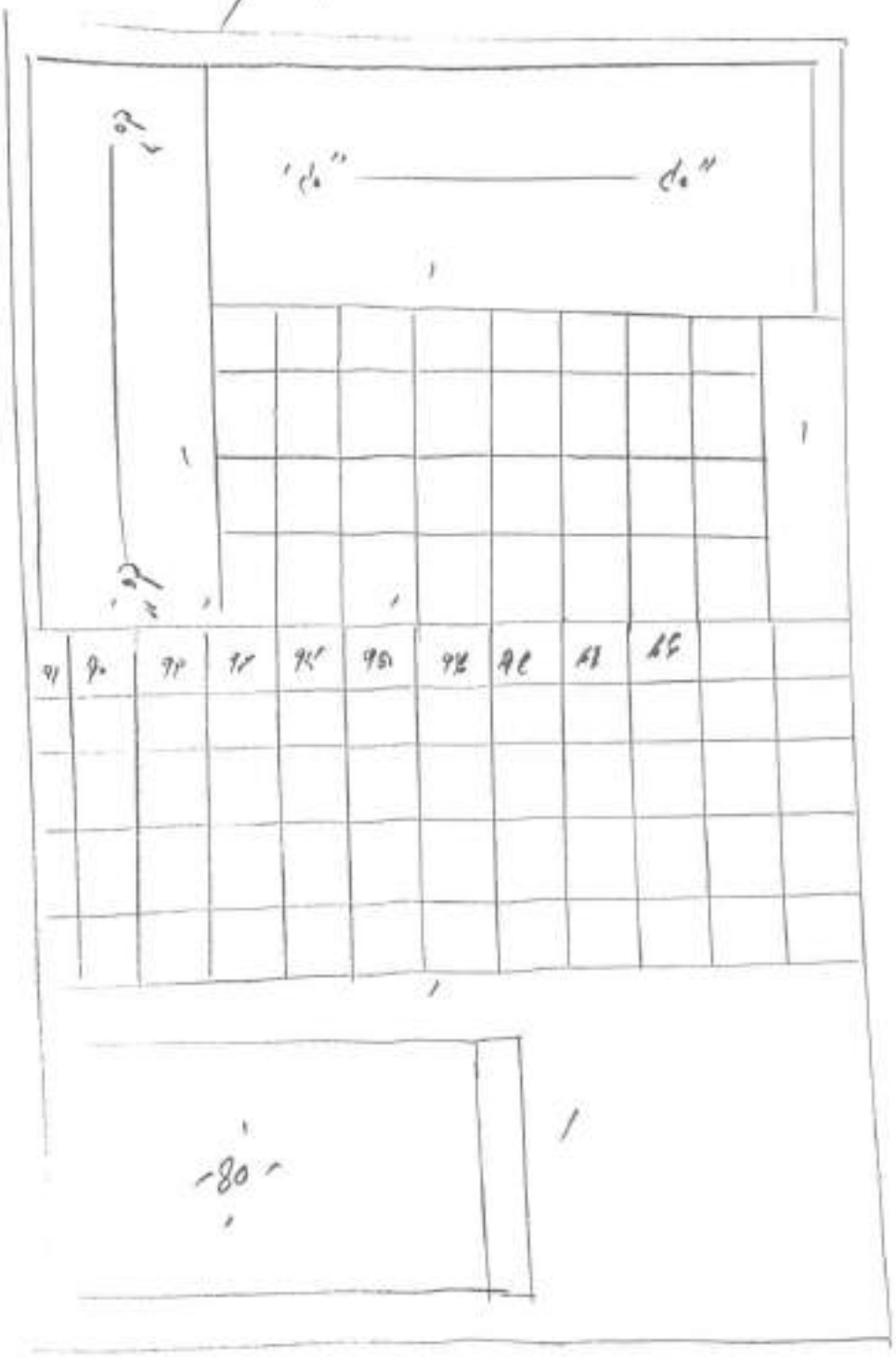


Aims Hosiery Ltd.

Annexure

Aks Shajra

عکس شجرہ



جنوب

مغرب — مشرق

شمال

Annexure

Stakeholders' participation Performa

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Adnan Ali

Residence: Bhawwala

Gender: ☐ M ☑ F

Qualification: F.Sc

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☑	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☐	☑	☐	☐	☐
Will the project affect the environment of the area?	☐	☑	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Manawala

Residence: Farooqabad

Gender: ☐ M ☑ F

Qualification: Matric

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☐	☑	☐	☐	☐
Will the project help to improve the living standards of the area?	☑	☐	☐	☐	☐
Will the project affect the environment of the area?	☐	☑	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Saleem Shah

Residence: Middle

Gender: M F

Qualification: BS

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☑	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☑	☐	☐	☐	☐
Will the project affect the environment of the area?	☑	☐	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Saima

Residence: Khanwala

Gender: M F

Qualification: BS English

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☑	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☐	☑	☐	☐	☐
Will the project affect the environment of the area?	☑	☐	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: [illegible]

Residence: Mundike

Gender: [M] [F]

Qualification: FSC

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☐	☑	☐	☐	☐
Will the project help to improve the living standards of the area?	☑	☐	☐	☐	☐
Will the project affect the environment of the area?	☑	☐	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Sam Ahmed

Residence: Kot Abdul Malik

Gender: ☑ M ☐ F

Qualification: BS

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☐	☑	☐	☐	☐
Will the project help to improve the living standards of the area?	☑	☐	☐	☐	☐
Will the project affect the environment of the area?	☑	☐	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: M Nuved

Residence: Bhainsola

Gender: ☑ M ☐ F

Qualification: FSc

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☑	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☐	☑	☐	☐	☐
Will the project affect the environment of the area?	☑	☐	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Wale Muhammad

Residence: Marawala

Gender: [M] [F]

Qualification: FSC

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☑	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☑	☐	☐	☐	☐
Will the project affect the environment of the area?	☑	☐	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Sunair

Residence: Khangah Dogran

Gender: ✓ M ☐ F

Qualification: Matric

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	✓	☐	☐	☐	☐
Will the project increase the importance of the area?	☐	✓	☐	☐	☐
Will the project help to improve the living standards of the area?	✓	☐	☐	☐	☐
Will the project affect the environment of the area?	✓	☐	☐	☐	☐
Level of satisfaction?	✓	☐	☐	☐	☐

[signature]

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: M. Umer

Residence: Faroqyabad

Gender: [M] [F]

Qualification: FSC

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☐	☐	☐	☐	☐
Will the project increase the importance of the area?	☐	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☐	☐	☐	☐	☐
Will the project affect the environment of the area?	☐	☐	☐	☐	☐
Level of satisfaction?	☐	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Sohail Abdullah

Residence: Manenwala

Gender: ☑ M ☐ F

Qualification: FSC

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☑	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☑	☐	☐	☐	☐
Will the project affect the environment of the area?	☑	☐	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Nayeel Hosiery

Residence: Kala Shah Kaku

Gender: ☒ M ☐ F

Qualification: BS

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☐	☐	☐	☐	☐
Will the project increase the importance of the area?	☐	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☐	☐	☐	☐	☐
Will the project affect the environment of the area?	☐	☐	☐	☐	☐
Level of satisfaction?	☐	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Mian Umais

Residence: Faroogabad

Gender: ☑ M ☐ F

Qualification: FSc

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☑	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☑	☐	☐	☐	☐
Will the project affect the environment of the area?	☐	☑	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Mehtab Ali

Residence: Jandiala Sher Khan

Gender: ☑ M ☐ F

Qualification: FSC

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☐	☑	☐	☐	☐
Will the project help to improve the living standards of the area?	☐	☑	☐	☐	☐
Will the project affect the environment of the area?	☑	☐	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Imran

Residence: Khangah Dogran

Gender: ✓ M F

Qualification: BS

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	✓ ☐	☐	☐	☐	☐
Will the project increase the importance of the area?	✓ ☐	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	✓ ☐	☐	☐	☐	☐
Will the project affect the environment of the area?	✓ ☐	☐	☐	☐	☐
Level of satisfaction?	✓ ☐	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: M. Aman

Residence: Bhaiwala

Gender: M F

Qualification: FSC

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☐	☐	☐	☐	☐
Will the project increase the importance of the area?	☐	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☐	☐	☐	☐	☐
Will the project affect the environment of the area?	☐	☐	☐	☐	☐
Level of satisfaction?	☐	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Farooqabad

Residence: Mandiki

Gender: [M] [F]

Qualification: Matric

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☐	☐	☐	☐	☐
Will the project increase the importance of the area?	☐	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☐	☐	☐	☐	☐
Will the project affect the environment of the area?	☐	☐	☐	☐	☐
Level of satisfaction?	☐	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: M) Fawad

Residence: Kala Shah Kaku

Gender: M F

Qualification: I Sc

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☐	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☐	☐	☐	☐	☐
Will the project affect the environment of the area?	☐	☐	☐	☐	☐
Level of satisfaction?	☐	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Umair Ahmad

Residence: Manarwala

Gender: ☑ M ☐ F

Qualification: Matric

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☑	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☑	☐	☐	☐	☐
Will the project affect the environment of the area?	☐	☐	☐	☐	☐
Level of satisfaction?	☑	☐	☐	☐	☐

Signature of Interviewer

Public Consultation/ Stakeholder Participation Regarding EIA

"Establishment of socks manufacturing Unit with Knitting, Dyeing, Washing, Pressing, Packing and ETP Installation M/S Aims Hosiery Limited"

Located near Quaid-e-Azam, Industrial Park Sheikhupura, District Sheikhupura

Name: Irfan Shah

Residence: Kharoka Dogran

Gender: ☑ M ☐ F

Qualification:

REMARKS

	Strongly agree	Agree	No comments	Disagree	Strongly disagree
Are you in favor of the proposed construction?	☑	☐	☐	☐	☐
Will the project increase the importance of the area?	☑	☐	☐	☐	☐
Will the project help to improve the living standards of the area?	☑	☐	☐	☐	☐
Will the project affect the environment of the area?	☑	☐	☐	☐	☐
Level of satisfaction?	☐	☐	☐	☐	☐

Signature of Interviewer