ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

REPORT



"EXTENSION OF ROYAL LEATHER INDUSTRIES LTD

SITUATED AT 31-KM LAHORE-SHEIKHUPURA ROAD, SHEIKHUPURA

Leads Enviro Saftey Services

Address: Office No.506,5th Floor, Gold Center, Liberty Market, Gulberg-lll,Lahore

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EXECUTIVE SUMMARY

1. Title and Location of Project

Extension of Royal Leather Industries Ltd.

2. Name of the Proponent

Mr. Agha Saiddain, S/o Agha Syed Hussain Shah
CEO

3. Name of Organization Preparing Report

Lead Enviro Safety Services (Pvt) Limited
Office #507Gold center, liberty Market gulberg111, Lahore
Phone: +92-3012981011
E-mail:info@Envirosustainability.com

4. A brief outline of proposal

The project is Extension of Royal Leather Industries Ltd. located at 31-Km Lahore-Sheikhupura Road, Sheikhupura..To fulfill the statutory requirements, Initial Environmental Examination (IEE) of the proposed project has been conducted in accordance with the Punjab Environmental Protection Act (Amended), 2022 and IEE/EIA Regulations 2000. The process of conducting environmental assessment and the results of EIA are described in this document.

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SALIENT FEATURES OF PROJECT

Proponent Name	Mr. Agha Saiddain
Project Title	Extension of Royal Leather Industries Ltd.
Project Location	31-Km Lahore-Sheikhupura Road, Sheikhupura
Consultant Name	Lead Enviro Safety Services (pvt) ltd.
Nature Of The Area	Industrial
Area Of The Project	Total Plot Area: 159,845.05 SFT
Archaeological/Historically Important Site	None within the 10 km radius
Surface Water Body	No surface water body in the form of river or canal is present near the project site
Forest Area/National Park	None
Seismicity	2A-Medium Intensity Level
Nearest Railway	Sheikhupura Railway Station
Source Of Water	Ground Water (100 ft)

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Water Requirements	200-300 Tons/day
Wastewater	Wastewater will be treated by effluent treatment plant after the treatment waste water will be discharged into drain .
Air Emissions	No air emission is likely to be released during operation of the Project, except the dust or PM to be produced during floor cleaning and other such operations, which also will not be posing any environmental threat (will not breach the safe standards). Wet suppression will be done to control dust emissions. Boiler and generator will be kept in proper enclosure. Boiler equipped with emission control technology will be used. Further tree plantation will be done to keep emissions in control.
Source Of Power	WAPDA
Solid Waste	Waste generated during construction would include mostly construction material (mainly steel and wood), empty cement bags, excavated earth and general packaging waste. A complete record of these will be kept for its use at any time. The contractor will be given due instructions for safe disposal of the wastes. However, CAL intends to integrate 3R policy in their entire process.

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5. The Major Impacts

Environmental impacts have been identified and mitigation measures are recommended within the project area of influence. The major impacts on physical, biological and social environments are described as under:

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Impacts Summary

Environmental Parameters	Impact Assessment
1. Location	+3p
2. Design	+2p
A: Physical	
Land Resources	
1. Solid Waste	-1p
2. Land Use	-1p
Air Resources	
1. Air Emission	-2t
2. Noise	-2t
Water Resources and Wastewater Management	
1. Water Resource	-1p -2p
2.Wastewater Management	-2t
B : Ecological	
Z	
1. Vegetation	+2p
Fauna	
2. Wildlife	NA
1. Transportation	+2p
2. Employment	+2p
3. Aesthetic	2p
4. Energy Consumption	-1t

- ***Legends: 1= Low; 2= Medium; 3= High; 4= Extremely High; NA= Not Applicable; t= Temporary; p= Permanent; app= Applicable; 0= Negligible***
- ***All adverse environmental impacts except natural calamities are manageable easily by implementing EMMP***

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6. Recommendations for mitigation measures

To manage the environmental and social impacts of the project, significant negative impacts and their mitigations have been covered. For the ease to understand and identify the impacts and to implement their mitigation, a mitigation plan has been developed as a ready reference for the Proponent to minimize the negative impacts or to manage activities in such a manner to avoid any adverse negative impact.

Mitigations for physical, biological and socio-economic parameters will be measured to determine compliance with standards established in EMP. The Monitoring Plan will record the inputs provided by various participants in the environmental and social management process. The air quality monitoring will permanently be conducted on monthly basis. During the operational phase solid waste management practices and wastewater disposal practices will be monitored by the concerned authority on the regular basis.

The total estimated cost for the implementation of EMMP in proposed project area is approximately 1% of the total cost of the project.

The mitigation measures will require constant information flow and consultation with the stakeholders to ensure the least adverse social-economic impact to outweigh the "no project development" scenario.

- The adverse environmental impacts can be reduced significantly by adopting best management and monitoring practices as well as by implementation EMMP with true spirit
- Proper PPEs including aprons, rubber gloves and shoes will be provided to workers
- No compromise on public health and environment will be allowed

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- Waste minimization practices will be introduced to workers by conducting lectures on spot to aware the workers about the long term benefits of the same in lieu of surrounding environment
- The generated wastewater and by-products can be used as an organic fertilizer after primary treatment
- A proper tree plantation plan is developed in order to make the process environment friendly
- Small domestic waste storage bins will be placed at different locations for proper collection and disposal of the solid waste

7. Proposed Monitoring

A comprehensive Environmental Management and Monitoring Plan (EMMP) have been prepared to effectively manage and monitor the environmental and social impacts for the development of the project. However, in the interest of commercial viability of the society, all necessary measures to keep the project and its surroundings environment neat and clean will be adopted.

The adverse environmental impacts can be reduced significantly by adopting best management and monitoring practices as well as by implementation EMMP effectively.

It is recommended that the Proponent should obtain an Environmental Approval (NOC) from the Punjab-EPA before proceeding further.

SCREENING:

The project for a Extension of Royal Leather Industries Ltd., wants to Extend the project. According to the Environmental Protection Agency, Government of the Punjab, Lahore- "List of Projects Requiring an EIA", and the project under consideration categories falls under Schedule II for IEE, category **B.** Any other project for which filing of an EIA is required by the Federal Agency under sub-regulation (2) of Regulation 5, of PEPA, Regulation,2000 requiring EIA.

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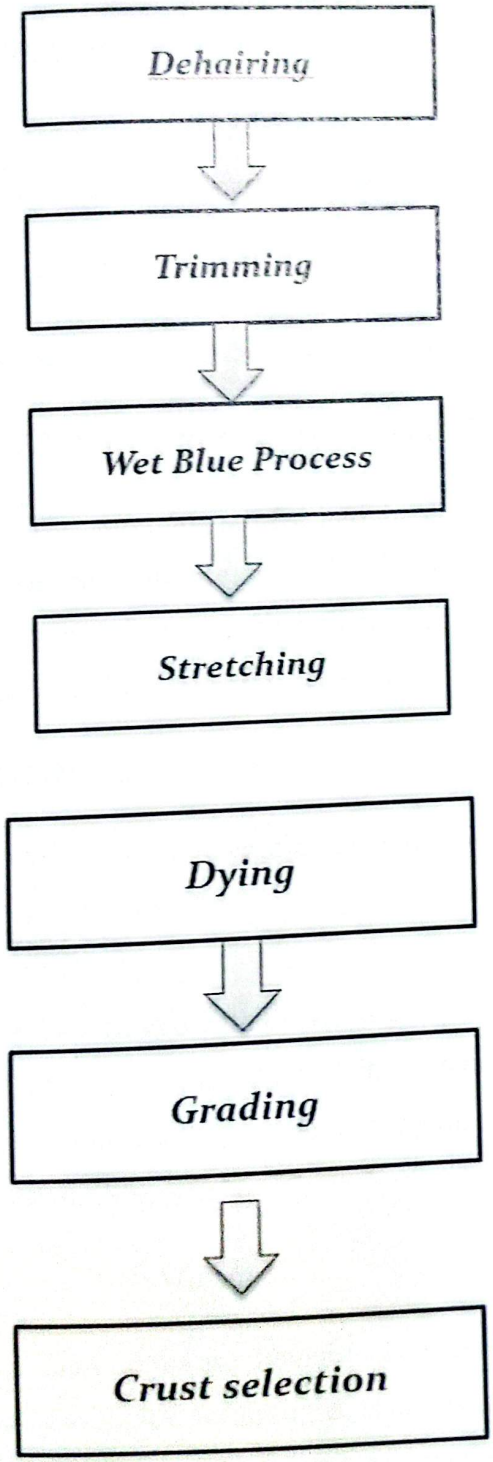
CHAPTER 1: INTRODUCTION

ERAL

The Proposed project is the Extension of Royal Leather Industries Ltd. located at 31-Km Lahore-Sheikhupura Road, Sheikhupura. Royal Leather Industries Ltd., provides its services as tanner and stitcher. RLI tans chrome free leather with complete range of finished leather such as garments leather, shoe leather, gloves leather etc. RLI is always in for custom stitching as per customer imagination or needs. Our motto is to provide quality of goods with dependable delivery at reasonable prices to our valued Customer.The total area of the proposed project is 159,845.05 SFT and the cost of the project is 130 Million. This EIA Study report has been carried out for Extension of Royal Leather Industries Ltd. who proposes to establish a leather tannery for processing of skins and hides into leather. The proposed project is very beneficial since there are abundant skins and hides for processing and the demand for leather is currently unsatiated and is still growing at unprecedented levels due to the exponential population growth among other factors.

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Process Of Project



- **The process of working of this Unit is described below**

i. DEHAIRING:

The epidermis and hairs are removed from the skin with lime and Sodium Sulphide. Dehairing is done properly by using drums.

ii. TRIMMING:

Neck and tail parts of the skin are cut down to obtain a smooth piece of skin.

iii. WET BLUE PROCESS/ CHROME TANNING

Skins after trimming are fed into the drums for 72 hours with chemicals**. It is tanned using Chromium sulphate**. It is known as wet blue because of its color derived from the chromium. It is passed from showering to make it remain wet. The 5 wet blue drums will be installed in the proposed extension.

iv. GRADING:

Wet skin is moved to grading section. On the basis of quality, the skin is graded & selected.

v. DYING:

The skin is treated with dyes, softening and filling agents to produce leather with the desired final article properties. After dying it is moved to the Buff machine for **softening**. After than it passed through the vacuum for **drying**. The 5 dying drums will be installed in the proposed extension.

vi. STRETCHING:

After dying, skins are moved to Toggel machine, where stretching is done for straighten the piece. For further **softening & straightening** of the skin it passes through the Mollisa Stake. After straightening it is moved through the Shaver for **thinning**.

vii. CRUST SELECTION:

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In this process, grading of skins will be done in which they graded on the basis of size

The proposed project shall yield following benefits:

- To maintain continuity in supply of Leather.
- It will be provided for making accessories such as bags, cloths and jackets, shoes.
- It will enhance the export capacity of country
- To help to overcome the scarcity of Leather to huge gap between demand and supply.

RPOSE OF REPORT

The main objectives of the IEE study are:

To determine and document the state of the environment of the project area to establish a baseline in order to assess the suitability of the proposed project in that area.

To identify major environmental impacts and provide mitigation measures and proposed monitoring.

Provide assistance to the proponent for planning, designing and implementing the project in a way that would eliminate or minimize the negative impact on the biophysical and socio-economic environment and maximizing the benefits to all parties in cost effective manner.

To present Mitigation and Monitoring Plan to smoothly implement the suggested mitigation measures and supervise their efficiency and effectiveness.

To provide an opportunity to the public for understanding the project and its impacts on the community and their environment in the context of sustainable development.

Prepare an IEE Report for submission in Environmental Protection Agency, Punjab for according Environmental Approval in compliance with section-12 of Punjab Environmental Protection Act- 2022

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ENTIFICATION OF PROJECT & PROPONENT

Identification of Project

The proposed project is the Extension of Royal Leather Industries Ltd. located at 31-Km Lahore-Sheikhupura Road, Sheikhupura.

Proponent

Name: Mr. Agha Saiddain

Designation: Director

ETAILS OF CONSULTANT

Leads Enviro Safety Services (Pvt.) Limited is providing their services to conduct environmental assessment for the project. LESS is an independent consulting company working in the field of water and environment. LESS also provides consulting services and sustainable solutions for infrastructure projects, industrial projects and social development projects.

The contact details for the company are given as under:

Leads Enviro Safety Services

Tel: +92 42 3545376 | Mobile: +92 3021 8310181

E-mail:info@envirosustainabilitygmail.com

Address: office No=507, Gold Lenter liberty Market,Gulberg-111 Lahore | Pakistan.

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Table 1: list of Experts

	Team Member	Position Held	Qualifications
	Shoaib Ahmad	CEO	BS (Hons.) Environmental Sciences University of Gujrat LLB From Bahauddin Zakariya University, Multan
	Muhammad Shafiyar	Manager Operations Principal Environmentalist-I	MS Environmental Sciences. University of Sialkot (UOL) BS Environmental Sciences. University of Gujrat (UOG)
3	Ammar Gondal	Environmental Geologist	BS Applied Environmental Geology BS Environmental Sciences. University of Gujrat
4	Danish Laeef	Environmentalist	BS Environmental sciences Bahaudin Zakariya University
5	Khuzaima Abbas	GIS Specialist	MS Remote Sensing & GIS University of Gujrat

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			BS Environmental Sciences, University of Gujrat (UOG)
6	AbuBakar	Environmentalist	MS Environmental Sciences University of Gujrat BS Environmental Sciences, University of Gujrat (UOG)

BRIEF DESCRIPTION OF NATURE, SIZE AND LOCATION OF PROJECT

Nature of Project: The Proposed project is the Extension of Royal Leather Industries Ltd. located at 31-Km Lahore-Sheikhupura Road, Sheikhupura. Royal Leather Industries Ltd., provides its services as tanner and stitcher. RLI tans chrome free leather with complete range of finished leather such as garments leather, shoe leather, gloves leather etc. RLI is always in for custom stitching as per customer imagination or needs. Our motto is to provide quality of goods with dependable delivery at reasonable prices to our valued Customer.

Size of Project:

- Finished Leather production per year 18 million square feet
- Finished leather goods per years 215,000 pieces

Location of Project: The proposed project is located at 31-Km Lahore-Sheikhupura Road, Sheikhupura

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figure 1: Site Location of Extension of Royal Leather Industries Ltd.

Sports

CHAPTER 2: DESCRIPTION OF THE PROJECT

This section of the study concentrates on details of the project and its salient features, such as its location, site layout, objectives, selection of alternative sites and technology, cost and magnitude of operation at various phases and process employed for the food.

PE AND CATEGORY OF PROJECT

As per Review of Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) Regulations, 2000 the proposed project falls in Schedule II "List of Projects Requiring and EIA", Category B with total cost more than Rs. 200 Million".

OJECT OBJECTIVES

The objectives of the proposed project are to

- Become fully self sufficient to meet customer needs
- Defend market share opposite an ambitious competitor & realize efficiencies of scale
- Remain competitive
- Maintain status as preferred supplier
- Maintain & increase presence in regional markets
- Create new employment opportunities as a part of the project activities scope

LTERNATIVES CONSIDERED REALISTICALLY (IN DETAILED) AND REASON FOR THEIR REJECTION

Site Alternative

- This section covers the project alternatives which were examined for the project. An analysis of the available alternatives is necessary to establish that the most suitable management and technology options will be adopted for the project, while minimizing environmental impacts. This evaluation explains the selection of appropriate option

that was required to ensure optimal results within defined set of environmental, health and safety and economic constraints.

In particular, it focuses on the following project options:

- The "Yes" or "No" Project Alternatives.
- Alternative Site Option.

The "No" Project Option

The site is selected by keeping in view of all the parameters and baseline purposed by the environmental protection department. The site is Owend by Mr Malik Abdul LAtif S O Malik Meerdin who is the CEO of Royal Leather and so it is more favorable for this project. M r Abdul Latif Give Athority to Mr Agha Saiddain for all the proceeding related environmental approval .Selected site is suitable for project because raw material is easily available at the site and there is no as such environmental impacts by the project if any then the mitigation measure is also purposed. So there is no as such reason for rejection of this project. The "No-project" option if undertaken will hinder the country from being self-reliant. From environmental point of view, this option will result in loss of opportunity in further improvement of the environmental management of the area through generation of environmental baseline data, and the mitigation and monitoring plans.

The "Yes" Project Alternative

This was considered to be a viable option. This option was considered viable as opposed to the "No" because the "Yes" project alternative implies that the project be implemented and once implemented it will lead to the efficient economical utilization of land.

- The project falls under the jurisdiction of the proponent.
- The site is accessible through Sheikhupura Road which is very well connected with other parts of the country. The site has availability of infrastructure facilities such as water supply, power, roads, social infrastructure and man power.

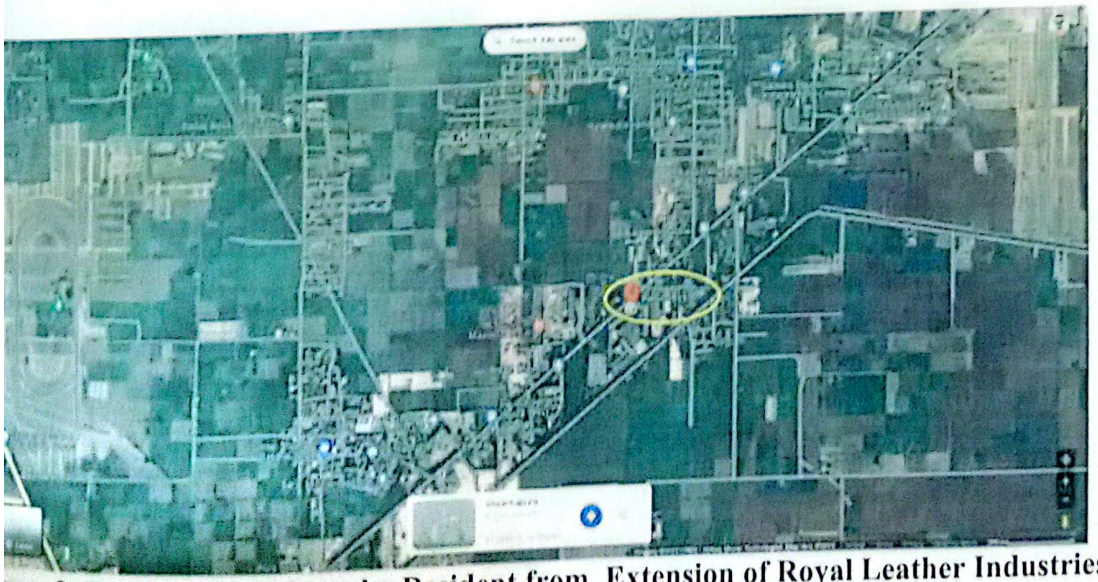
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- No national park or wildlife habitat falls within 10 km radial distance from proposed project site.
- The site is not dangerous for public safety.
- No endangered fauna/flora has been observed near the project site.
- The proposed site does not fall in any category of protected or environmentally sensitive area.

location of project is best suited for proposed activities. So no alternative for site is lyzed.

TION AND SITE LAYOUT OF THE PROJECT

Proposed project is the Extension of Royal Leather Industries Ltd. located at 31-Km ore-Sheikhupura Road, Sheikhupura



gure 2: Distance map of nearby Resident from Extension of Royal Leather Industries Ltd.

yout Map of Project is attached as Annexure.

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LAND USE ON THE SITE

The land use on the site is industrial only. The area around the project area is industrial. The main crops grown around the project area includes: rice, cotton and maize whereas cereal crops are also grown. There is no settlement, surface water body, grassland or preserved area in the proximity of the project area that could be damaged or dismantled.

ROAD ACCESS

The proposed site is accessible throug Laore-Sheikhupura Road.



Figure 3: Road Access Map ofExtension of Royal Leather Industries Ltd.

VEGETATION FEATURES OF THE SITE

The surface land in and around the project area is leveled and fertile being used for agricultural activities. No ecology sensitive receptor such as; forest or reserved area is present within 10 km vicinity that could be impacted due to the installation of project.

COST AND MAGNITUDE OF OPERATION

Total cost of the proposed project is approximately PKR 130 Million. The magnitude of operation can be estimated from the fact that designed production capacity of project is 600k sft per month.

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SCHEDULE OF IMPLEMENTATION

The management of Royal Leather Industries Ltd. takes the land for construction of building. Further new halls will be established along with offices and utilities area. Now the proponent needs to comply with all legal requirements hence EIA report is being prepared to comply with Punjab Environmental Protection Act, 2022.

DESCRITTION OF PROJECT (PROCESS FLOW CHARTS/STEPS)

The project is Sports goods unit mainly comprising of purchasing of fabric to end product with the total production capacity of 600k sft per month

Project Area

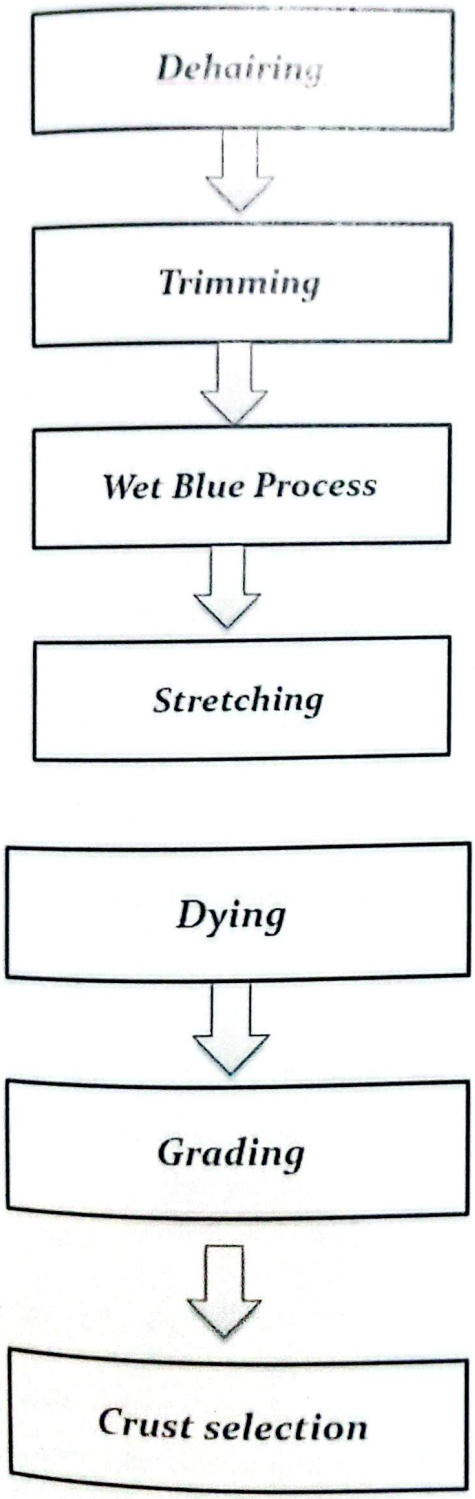
The total area of the project is 159,845.05 SFT.

Process Description

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Process Of Project



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i. DEHAIRING:

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vii. CRUST SELECTION:

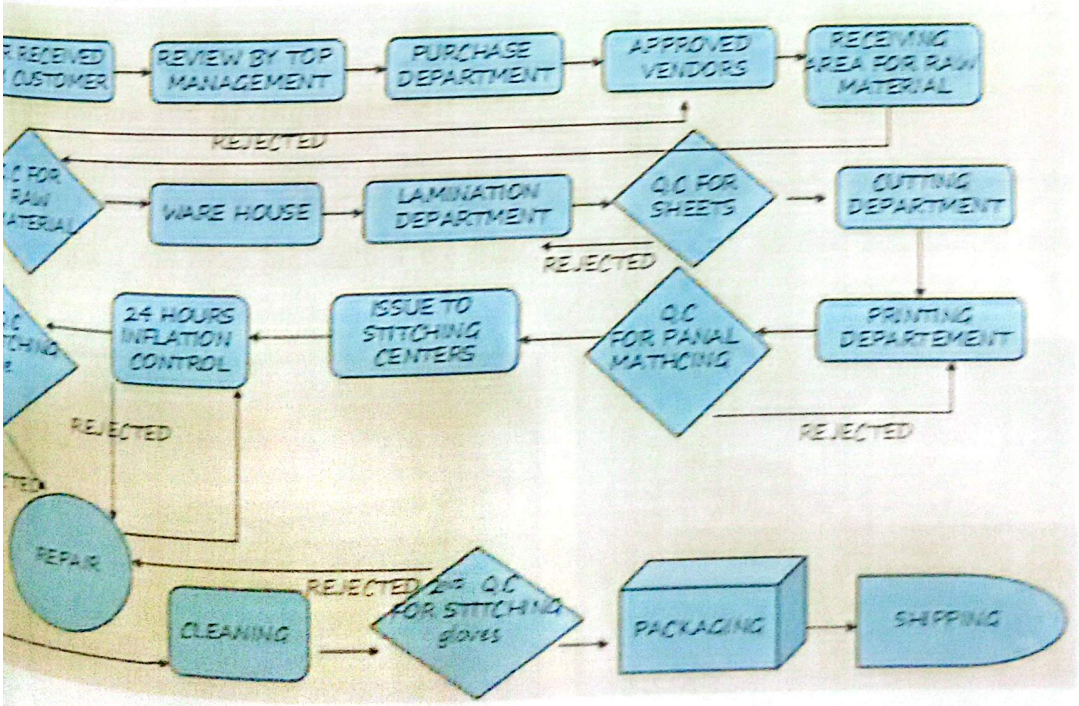
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this process, grading of skins will be done in which they graded on the basis of size

e proposed project shall yield following benefits:

- To maintain continuity in supply of Leather.
- It will be provided for making accessories such as bags, cloths and jackets, shoes.
- It will enhance the export capacity of country
- To help to overcome the scarcity of Leather to huge gap between demand and supply.

e said project involves manufacturing of textile unit to produce good quality of Sports loves, bags manufacturing etc (process given in annexure). Process flow diagram ivisionfor Extension of Royal Leather Industries Ltd. is given hereunder:



Gener al Proce ss

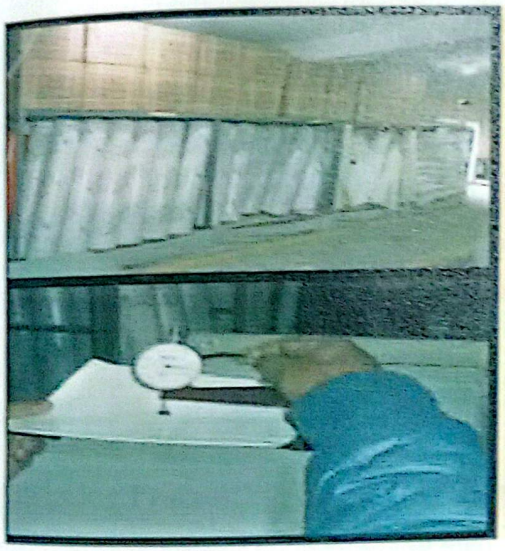
Fabri c cut parts will be purch ased from

lls. These cut parts will then be sewn in desired sports gloves. Pieces will be sewn on the ssembly line of industrial human-operated sewing machines where each place on the ssembly line is assigned a specific function and does one job and all the pieces are sewn o a Sports gloves. After that, the ball will be pressed and boxed / packed according to

design and size and will be marketed. Detailed process is described as under:

Raw material receiving and checking:

First we receiving raw material from vandor and check its quality according to our & customer requirement





Lemination and drying process:

After receiving raw material we coverd this material with plastic sheet that is called lamination and after lamination we make it dry by dryr so that lamination make pamanent





and whole this process is shown in pricture.

Cutting: First step is to cut the fabric into different sizes and shapes as per requirement. Tape cutters, loop cutters, hand cutters, panel cutters and end cutters will be used for the purpose.

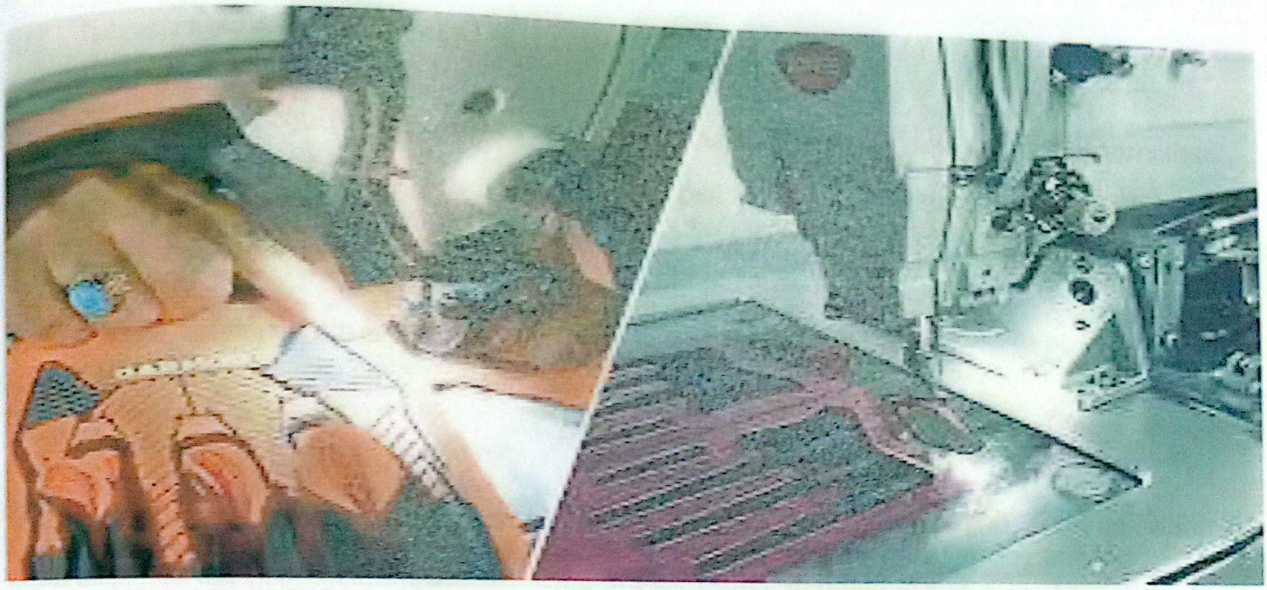


Matching Process: In this process we make sure that the color and the size of the pieces are same to each other. This process is also shown in picture

Printing Process: After matching the pieces we print all the pieces with logo of our customer. This is a vary small process and done in a controlled environment .Moreover regularly environmental testing including VOCs will be done after approval. Process picture is shown below

Stitching: Stitching is the process of joining different pieces of fabrics together. Same sizes and shapes of fabrics pieces can be joined together in a variety of manner to obtain desired styles in the Sports Gloves. Special stitching techniques; both manual and mechanical will be used for stitching to sew different pieces of fabric.

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Final inspection: After the preparation of the desire sports gloves we move it to the inspection room and a technical worker inspect it and move the towards packaging hall

Packaging& shipment: After pressing, desired shape and size is achieved in the Sports gloves. It is then packed in boxes or cartons as per specifications provided to this section. Marking of Ball will also be done in this section.

Machinery details

The machinery details are attached with the IEE report as Annexure.

Boilers

Natural Gas is being used in boiler as source fuel. 01 boilers will be installed at the project site having capacity of 6 Tons/Hr. Steam condensate produced in surface condenser is returned to boiler for steam generation.

1.1.1.2 Stand by Generators

01 stand-by generators having capacities 300 KW is installed to fulfill electricity needs.

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1.1.5 Infrastructure Requirement

The infrastructure requirement for the project mainly comprises of Environmental Infrastructure: sewage system, air pollution control technology, fire management and emergency response plan.

1.1.5.1 Basic Infrastructure Requirement

Water

Source of water would be groundwater available at the depth of 100 ft. The water requirement for the project includes drinking water, boiler makeup water and water for fire hydrants.

Wastewater

Wastewater will be treated by effluent treatment plant after the treatment waste water will be discharged into drain .

Air Emissions

No air emission is likely to be released during operation of the Project; except the dust or PM to be produced during floor cleaning and other such operations, which also will not be posing any environmental threat (will not breach the safe standards). Wet suppression will be done to control dust emissions. Boiler and generator will be kept in proper enclosure. Boiler equipped with emission control technology will be used. Further tree plantation will be done to keep emissions in control.

Noise

All the machinery will be installed and operated in a closed hall and from operation of machinery, generator and boiler noise will not be a problem for the residents in the area nearby. Further Administration of the unit will take the precautionary measures to avoid the noise emissions. There is no possibility of Noise pollution. Construction activities will however add great to the noise, but that noise will be temporary, and will be mitigated by measures as stated later.

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further trees to be planted in the farm which will act as noise absorbers and workers will use PEs whenever and wherever might be necessary.

Solid Waste

Waste generated during construction would include mostly construction material (mainly steel and wood), empty cement bags, excavated earth and general packaging waste. Waste will be stored within the site until transfer to the waste disposal site. Estimated solid waste will be 450 kg/d approximately during operation, which will comprise empty packages and domestic solid waste. Most of process waste will be recyclable while domestic waste will be handled by solid waste management contractor. For collection of solid waste dust bins will be kept in the unit premises to manage the waste. Audit for the solid waste generation will be conducted from time to time in order to figure out the main source of waste stream and to see how to manage it in future.

Fire Management

The Management ensures that:

- The Fire Safety Management needs are considered for all areas.
- Hydrants and fire extinguisher are available at site.
- Layout plan is displayed at the site.
- Fire exit is readily accessible which would not be used otherwise.
- Necessary emergency lighting system along with emergency power back up system is provided. In addition, emergency public address system arrangement and signage for emergency exit route are also provided.
- Necessary auto glow signage at all appropriate places are provided to guide the people towards exits and assembly points during the unforeseen emergency and untoward conditions.
- Training to the staff for the first aid and firefighting along with regular mock drill is made.

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Emergency Response Plan

Emergency response is determined in corresponding instructions.

- There is an evacuation plan, technical means/equipment necessary for handling small-scale emergency situations, protective and communication means (phone, fax machine) for personnel to protect themselves and call for corresponding emergency services (fire-fighting squad, ambulance).
- Every accident is registered and its causes are investigated. If necessary, remediation is also ensured.

1.2 MANPOWER

Around 250 workers will be employed during operation phase. It will include 30-40 persons of management, 150 skilled members, 50-800 semi- skilled members.

1.1 Restoration / Rehabilitation Plan

All possible precaution will be taken to prevent an untoward incident in terms of life and property losses. The demolition materials will possibly be reused and recycled. All excavated surfaces will be termite proofed.

One completion of the project, the debris will be removed from the site in order to maintain aesthetics of the project. All measures will be 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.

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CHAPTER 3:

DESCRIPTION OF THE ENVIRONMENT

This chapter describes the baseline conditions, which cover the existing Physical, ecological and socio-economic environment of the project as well as study area.

Data was collected by reviewing secondary source and field survey and previous similar studies for the subject project in the Sheikhupura city.

Physical Environment/ Resources

3.1.1 Topography:

Topographically speaking, Sheikhupura lies between the river Ravi which flows along its which flow its boundary with Sheikhupura District. The districts may be divided into two parts, a low lying or riverine area along the two bordering rivers and upland, away from the rivers. The riverine area is generally inundating during monsoon season. The water level in this area is higher than in the upland. The soil is sandy. The upland is flat plains sloping from north-west to south-west. The general height of the area is from 150 to 200 meters above the sea level.

3.1.2 Soils:

These are river transported deposits (alluvium), which are quite thick and fairly homogeneous in extent. The top soil consists of brown, soft to firm clayey silt / silty clay having slight plasticity and contents of dissolved salts. The top layer is likely to extend about 3 to 6 meter below natural ground, where it is underlain by silty fine sand/fine sand. This layer generally continues to deeper depths. These layers of silty clay and sandy gravel may also exist below 10-meter depth.

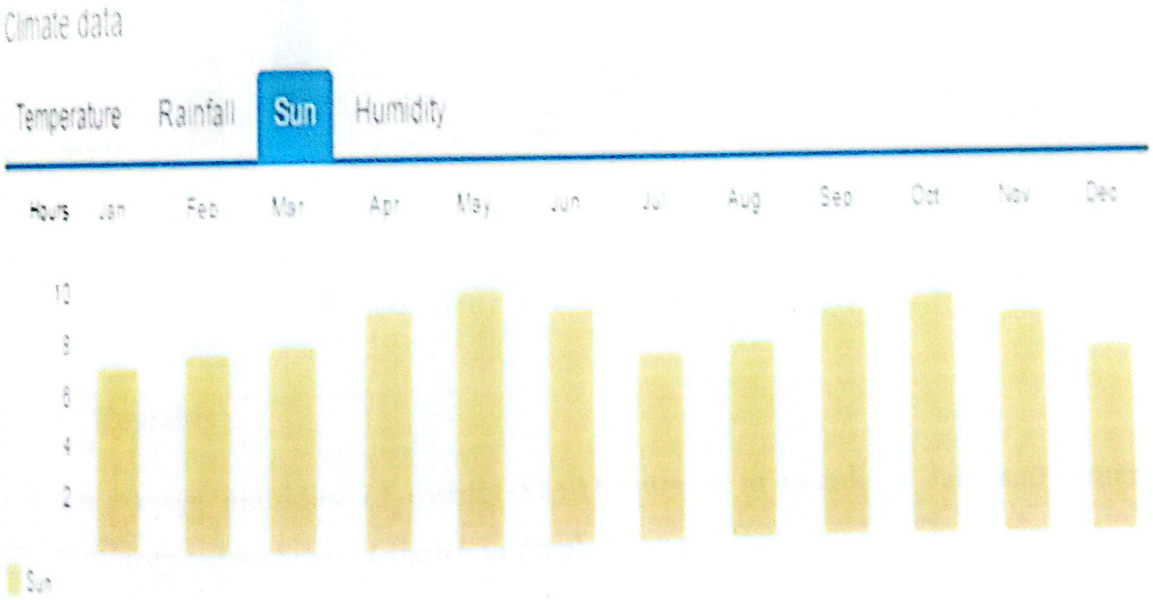
3.1.3 Climate:

Sheikhupura has extremes of climate; the summer season begins from April and continues till September. June is the hottest month. The mean maximum and minimum temperature for this month are about 45 and 27 degrees Celsius respectively. The winter seasons lasts from November to February. January is the coldest month. The mean maximum and minimum

temperatures for the coldest month are 22 and 0 degree Celsius respectively. Rainfall Towards the end of June monsoon conditions appear and during the following two and a half months the rainy season alternates with sultry weather. The winter rain falls during January, February and March ranging from 23 to 31 millimeters.

3.1.4 Temperature

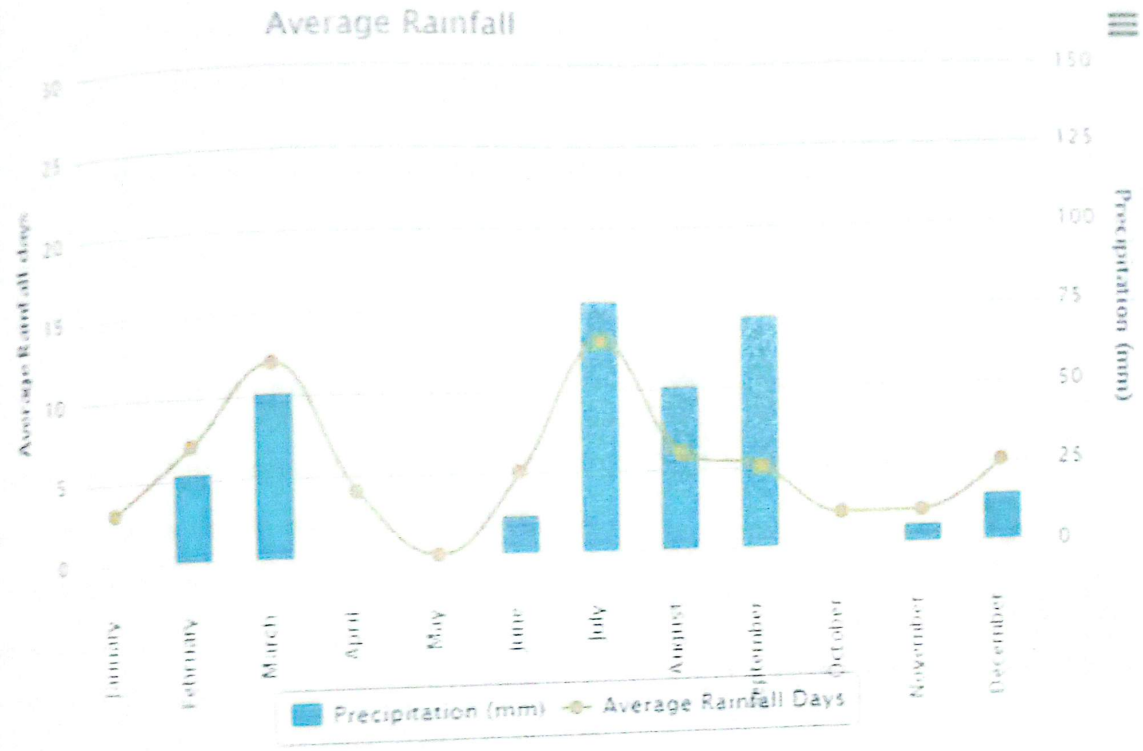
Over the course of a year, the temperature typically varies from 5°C to 30°C and is rarely below 2°Cor above 44°C.



3.1.5 Precipitation

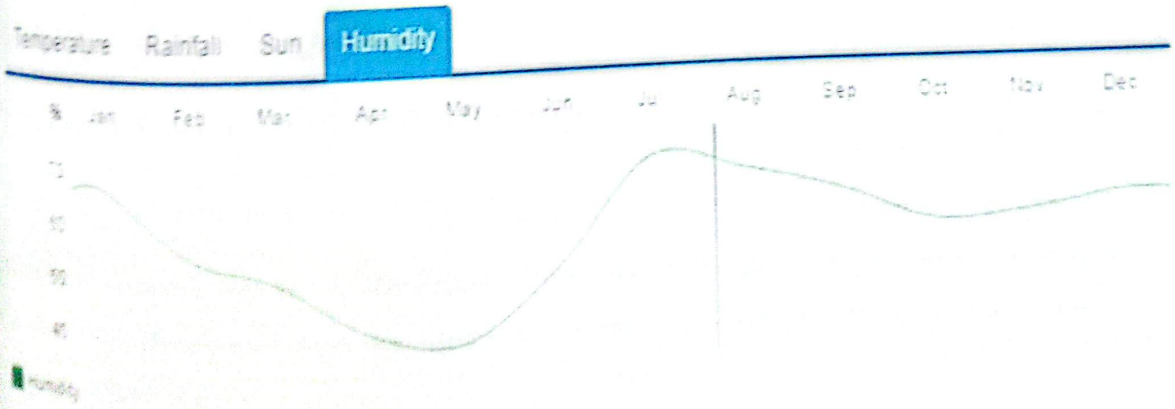
The probability that precipitation will be observed at this location varies throughout the year. Precipitation is most likely around July and September and. Precipitation is least likely around May and October.





3.1.6 Humidity:

Maximum average humidity of district Sheikhupura is in month of July and minimum humidity is observed in April as shown in graph below;



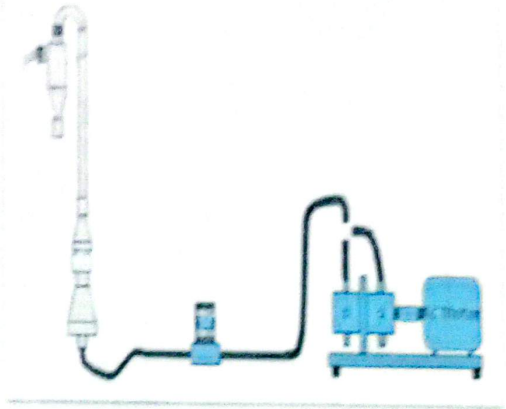
3.1 Ambient Air Quality:

The project is located in commercial area of District Sheikhupura. The major sources of air pollution in the area are surrounding industrial activities and transportation or vehicular traffic.

To record the baseline ambient air quality of the project area, monitoring was conducted at selected locations to assess the concentration of priority pollutants (Carbon monoxide, Nitrogen dioxide, Sulphur dioxide and PM10) in the air.

Instruments used for monitoring Ambient Air Quality.

Ambient air monitoring was conducted by using Lamotte Kit.



3.1.7 3.2.1 Particulate Matter (PM10)

For PM10 mini volume air sampler was used. In PM10 Sampler air is drawn into the omnidirectional inlet head at a flow rate of 20 LPM. The air is then accelerated toward the first impaction stage where particulate with aerodynamic diameters greater than 10 µm are collected (filtered out). The air stream, carrying particulate 10 microns and smaller, continues down the inlet toward the second impaction stage where particles larger than 2.5 microns are collected. Finally, particulate 2.5mm and smaller continue down the inlet where they are collected on a 46.2 mm diameter, ring supported filter media disc.

Lab results for Ambient Air Quality

PEQS: Punjab Environmental Quality Standards

3.1.8 3.2.2 Discussion of Results

The ambient air result was within the PEQS Limits during the monitoring hours. The ambient air quality was monitored before construction, the market business, industrial processes and traffic was operational.

3.1.9 *Noise Level Monitoring:*

Basic Environmental conditions:

During the measurement following conditions were prevailed on site

Metrological Conditions:

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...ring the noise level monitoring weather was dry and sky was clear. Air was blowing at ...gh speed

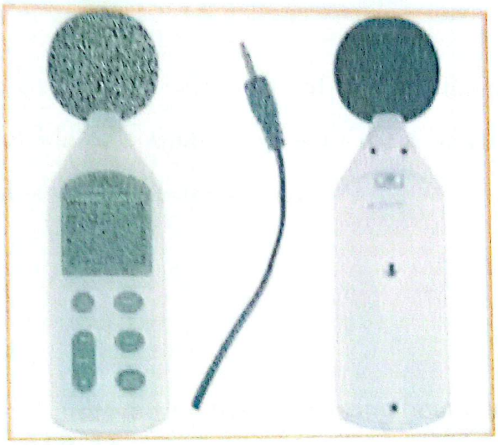
...onitoring Instrument:

...e description of the instrument used for the noise level monitoring is given below:

...ame: Digital sound level meter

...odel: AR824

...ompany: Intel Instruments plus



...eatures:

- ✓ +/-1.5 dB accuracy with 0.1 dB resolution
- ✓ A&C weighting
- ✓ Four Measurement Level Ranges
- ✓ Overall range: 30-130 dB
- ✓ Frequency Range: 31.5 Hz to 8 kHz
- ✓ AC and DC output
- ✓ Record Max values over time
- ✓ Over range indication
- ✓ Auto power off and Max Hold functions
- ✓ Utilizes 0.5"(12.7mm) condenser microphone

Calibration:

Self-calibration time: 10 sec (every turn on)

Specification:

- ✓ Display: Large 5 Digit LCD
- ✓ Resolution: 0.1 dB
- ✓ Overall Range: 30 to 130 dB "A", 35 to 130 dB "C"
- ✓ Sound Level Ranges: 30-80 dB, 50-100 dB, 60-110 dB, 80-130 dB
- ✓ Basic Accuracy: +/-1.5 dB
- ✓ Time Weighting: Fast or Slow

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- Sampling Frequency: 2/sec

Methodology adopted:

Noise level measurements were carried out in a way that monitoring round was completed one go.

Sources of Noise Pollution

Major sources of noise generation are industrial activities and vehicular traffic along the ma road. Noise levels were monitored within and outside of boundary walls of the project si Noise profile of the project site near the main road is shown in sub-section.

Lab Results for Noise level

Discussion of Results

Noise level at west boundary was higher the PEQS Limits during the monitoring hours due link road present at that side and traffic was flowing. At the time of monitoring t surrounding industries and traffic was operational.

Water Quality:

The surface water is of good for irrigation.

3.1.10 Ground water:

Underground water is available and its quality is not enough good for drinking at less depths. The residents of area mostly use ground water for drinking which is contaminated d to industrial activities in the area. Water is continuously being contaminated by the injecti of industrial wastewater through injection well in the study area.

Lab analysis results of ground water in the area:

3.1.11 Wastewater/ surface water:

Waste water will be discharged into drain after the treatment of water .the related area industrial so drainage system is available .

Surface water of the area is good for irrigation

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3.2 Population

According to the 1998 census, Sheikhupura population was 6,318,745. Mid-2006 governme
estimates put the population at somewhere around 10 million, which makes it the seco

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largest city in Pakistan, after Karachi. It is considered to be one of the 30 largest cities of the world.

Language

1. Punjabi
2. Urdu, being the national language of Pakistan is universally spoken and understood, while English is also understood and spoken by educated people. Famous singer ustad bade Ghulam Ali khan was also from Sheikhupura gharana of Indian classical music

Ecological Resources

3.1.12 Fisheries:

The project area is almost free from any commercial fishing activity. There are no lakes, even natural water ponds in the vicinity. Therefore, Fishery or any worth mentioning aquatic biology in this area is out of question.

3.1.13 Biodiversity:

Natural capital of a country mainly includes all of the country's wilderness areas and scenic landscapes, including also with their associated flora and fauna. Pakistan has a total of nine major ecological zones. The contribution of the "Natural Capital" is recognized at three distinct levels: species, genera, and communities (habitat and ecosystem) both collectively and within each level, the range or variety of the resources are referred to as the "Biological Diversity". The term has relevance for each of Pakistan's administrative units district, province, and particularly country. The more the number of species, genera, and habitats and ecosystems present within these units, the greater is said to be the biodiversity. The biodiversity of the area, with this background, is discussed as under.

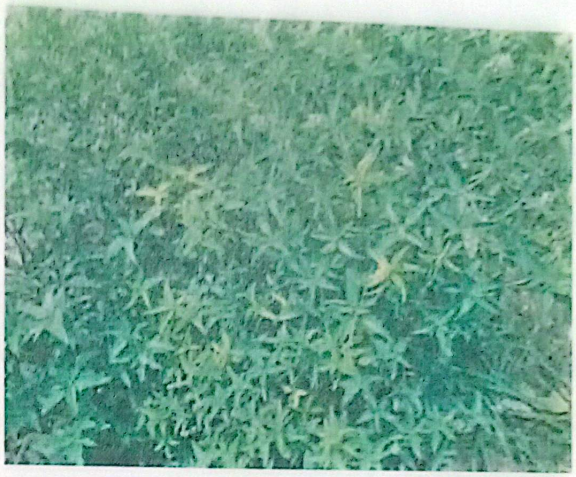
3.1.14 Flora:

Project site is free from any protected plant species. Flora of the district has been greatly modified by human agency of the old open forests of small trees and shrubs; there remains only a few Rakhs or portions of forest which are kept as gazing ground for cattle etc. Amongst trees the most important are Kikar (Acacia arbica), Shisham or Tahli (Dalbergia sissoo), Beri (Zizyphus jajaba), Toot (Morus marlaccae), Sharin (Albizzia lebbek, Dharek (Malia azerdaracb), Phulahi (Acacia modesta), and Nim (Melia indica), Piple (Ficus indica)

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are planted for shade. The growth in Rakhs is composed mainly of three kinds of trees Jand (Prosopis spicigera), Karril (Capparis aphylla), and van or Jal (Salvadora obeoides). Occasionally pelu (acacia Loucophhloca) and Farash (Tamarix articulate) are also found. Nehi (Tamarix gallio) is found on moist sandy soil along the rivers and is used for wicker-work, basket making etc.











3.1.15 *Fauna:*

Project site is free from any protected animal species. Wolf and jackal are the only wild animals of an importance. The former being met with occasionally in the low land wastes of Sheikhupura but jackal is found everywhere.

3.1.16 Forests:

An area of 13784 acres is under forest in the district. There is also linear plantation of 1604 kilometers alongside the roads/rails/canals in the district. Trees grown in the area are Kau, Phalai, Kikar and Shisham.





3.1.17 *Rare or endangered species:*

There are no game reserves or protected lands/areas or endangered or rare species either in the area in the range of 5km from the project site.

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3.1.18 Education:

Sheikhupura is having a higher literacy rate when it is compared with other cities of the country. It is made possible due to its prolific educational institutions.

3.1.19 3 Tribes & People

The principal tribes and tribes residing in Sheikhupura District are Pathan, Ansari, Bhatti, Malik, Arain, Jut, Sherwani, Safdar, Sunyare Rajput, Rehmani Mayo, Dogar, and Sheikh, the refugees from East Punjab that settled in the district largely belong to these tribes and clans. There are mueens or village artisans including Christians, blacksmiths, carpenters, potters, barbers, weavers etc. These mueens are found in all villages and are generally paid in kind at the time of each harvest.

3.1.20 Dress:

The local dress consists of a Kurta without collar covered by a waist-coat or Kurti and a loose loin cloth or trousers. A long piece of cloth called Chaddar is usually thrown over the willers. Achkan and Sherwani are worn on formal occasions by most people, but quite a large number of Muhajirs (refugees) wear these as normal dresses. In the villages, a Kurta with Tehband (sheet round of legs) and Safa on willers is the most common dress. The Pagri still carries a sign of respectability and some people in the cities while most people in the villages have this as the sole head-dress. The women's clothes are generally more colorful with popular shades of red and yellow. Women clothing consists of Shalwar, Kamiz and Dopatta or Chaddar to cover their heads and upper part of the body. Phulkari is a silk embroidered shawl often fancied by the rural women-folks. Saree is only worn by women in towns and cities on formal occasions. The most common footwear for men in the villages is shoes of rough leather usually made by the village shoemaker. Boots are worn by those living in the cities and towns while women folk-wear sandal or slippers. Purdah is very common amongst the lower, middle and upper middle-class women but rare amongst women of upper class.

3.3 Public Health/ welfare:

Though earlier very few specialist doctors were available and most of the people resorted to the adjacent city of Sheikhupura for their health care needs. But now, in Sheikhupura District

source Hospital is providing health facilities. Where as many small hospitals and clinics providing basic health services as well, in rural and urban area.

Recreational Resources and Development:

project area has not any private recreational facilities.

3.1.21 Aesthetic Values:

the general trend among the citizens of area, most of the people have low awareness environment. Even then, some people take cleanliness and neatness of the environment ily. Some people throw municipal solid wastes (MSWs) on the streets. Sense of personal nsibility to keep the environment clean as good citizens is even now lacking among a people.

3.1.22 Quality of Life Values

3.1.23 Religion

he population of Sheikhupura is over 99% Muslim.

3.1.24 Customs

he peoples are very much concerned about castes and beliefs, visiting shrines is very mmon among them.

3.1.25 3.8.3 Languages and Major Casts

Punjabi, and Urdu are spoken in the city. Main castes are chishty, Rehmani, LAK, Chadhar, ur, Tagga, Ansari, Bunn, Dulu, Sayal, Kamboh, Bhadru, Mughal, Dogar, Sanpal, Gujjar, wan, Rajput, Tajra, Hiraj and Shaikh Awan.

3.1.26 Dress

Majority of the people wear Qameez and Shalwar. English dress, shirt and Trousers are also common in Sheikhupura as well like other big cities of Pakistan.

3.1.27 Electric Supply

WAPDA power supply will be available at the site.

3.1.28 Telephone Facilities

Both Landline and Cellular telephone facilities are present in the project area.

3.1.29 Educational Facilities

No educational facility is present in the vicinity of the project area.

3.1.30 Agriculture

Major crops of the town are wheat, grain, peas, barley are the important crops of Rabi seasor while Kharif crops are cotton, sugarcane, potato, bajra, oil seeds which are shipped by ra and road to other parts of the country.

3.1.31 Site of physical, cultural heritage:

There are no documented or protected sites of archaeological, cultural, historical & religiou significance in the project area. No visible signs were observed of such sites whil conducting the field work.

3.1.32 Suitability of site

The site does not fall in environmental sensitive area and all commodities are at a suitab distance from project site as they will not impacted by the construction activities even loca will get more benefits and job opportunities. No replacement, relocation and rehabilitation a required for the development of proposed project.

IMPACTS ASSESSING

This section discusses the potential environmental impact, methodologies for impa identifications and characteristics of impacts including nature, magnitude, extent a location, timing, duration, reversibility, risk the assessment carried out in this Section based on potential impacts on overall environmental receptors within the project area.

Methodology for Impact Identification

The potential impacts due to project can be both positive (beneficial) and negative (advers depending on the resources and receptors involved along with other parameters such geographical scope (magnitude and extent), temporal scope (duration) and reversibility.

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It is anticipated that this project will have positive impacts on sectors such as the economy employment and foreign exchange earnings among others. Moreover, the project is expected to result in negative impacts of short-term duration and transient in nature.

Environmental sensitivity of the project area is described through a thorough review of the project activities and the evaluation of significance of impacts is carried out through Environmental Checklists and GIS and computer expert system. In checklists, the impacts have been given magnitude based on their severity. A detailed map of the project area developed on GIS to study the impacts on nearby environmental settings. This chapter then suggests effective mitigation strategies to help combat the adverse nature of these impacts and delivers a monitoring scheme to manage them.

Impacts Analysis and Prediction

The impacts on different environmental settings were analyzed by conducting different consultation sessions with environmental experts and individuals. Their views were recorded and incorporated in the report. The list of stakeholders and individuals consulted will be provided in the chapter of Stakeholder's Consultation.

Characterization of Impacts

Impacts were characterized on the basis of following parameters:

- **Nature**
- **Magnitude**
- **Extent**
- **Duration**
- **Spatial Boundaries**
- **Reversibility**

The impacts characterization for the project has been given in Table

Characterization of Impacts

Environmental	Impacts	Nature of Impact	Duration	Spatial Boundaries	Likelihood	Rev Risk

	Positive	Negative	Direct	Indirect	Short Term	Intermediate	Long term	Local	National	Global	Low	Moderate	High
r Resources	Nil												
Mine Drainage	Nil												
l Resources	■		■				■	■				■	
Quality		■	■		■			■			■		
ate Change	Nil												
se		■	■		■			■			■		
d waste		■	■		■			■			■		
ewater		■	■		■			■			■		
a & Fauna	■		■				■	■				■	
munity Amenity		■		■	■			■			■		
restation	■		■				■	■				■	
al Economy, Community Development and Employment	■		■			■		■				■	
settlement	Nil												
alth & Safety		■	■			■		■				■	

Impact Significance

After the evaluation of all the potential impacts, the impacts significance is be given usin Impact matrix. The impacts significance of Physical importance, Ecological importanc social importance is given using the matrix approach. The impacts significance is given base on the characterization of impacts

Significance of Environmental Impacts

Environmental Parameters	Significance
Water Resources	None
Land Resources	None
Air Quality	Require mitigation
Climate Change	None
Acid Mine Drainage	None
Noise	Require mitigation
Solid waste	Require mitigation
Wastewater	Require mitigation
Flora & Fauna	Acceptable
Community Amenity	Acceptable
Afforestation	Acceptable
Local Economy,Community Development and Employment	Acceptable
Health & Safety	Require mitigation

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CHAPTER # 04,

SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & THEIR MITIGATION MEASURES

The following chapter describes the overall possible impacts of said project on the physical, biological and socioeconomic environment due to the location, Design, during construction phase, during operation phase of the project and mitigation measures to minimize the significance of the possible impacts. The anticipated impacts related to propose under the name of Extension of Royal Leather Industries Ltd. located at 31-Km Lahore-Sheikhupura Road, Sheikhupura, have been assessed and mitigation measures provided accordingly.

4.1 Assessment of Potential Impacts

4.1.1 Assessment Criteria

The impacts were assessed in the light of criteria given as under: -

- Magnitude or degree of impact
- Time and duration of impact
- Likelihood of impact occurrence
- Sensitivity of impact
- Risk related to impact

4.2 Environmental impacts due to the project location

4.2.1 Project Location:

The subject proposed Extension of Royal Leather Industries Ltd. Located at 31-Km Lahore-Sheikhupura Road, Sheikhupura.

4.3 Impact

Subject project present in the urban area of the District Sialkot According to this area is suitable for the installation of Waste Water Treatment Plant

Nature of impact: indirect

Duration: Long-term

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Timing: Construction phase

Reversibility: NA

Likelihood: Low (unlikely),

Consequences: very low or may be positive

3.1 Mitigation measures

- proponent/Developer should build the boundary wall all around the project.
- Proponent/developers should enhance the road infrastructure within the project and main link road.
- Proponent/Developers should place all the safety and location signs and maps at the specific indemnified place.
- Proper parking arrangements should be maintain during the construction and operational phase of the development
- Location can be considered as positive impact on the community due to the facilities provided to the community.

4.4 Environmental Impacts due to the project design

The subject project is Construction of Wastewater Treatment Plantn By M/S Leather Field (PVT) Limited (Tannery Unit) Located at 31-Km Lahore-Sheikhupura Road, Sheikhupura.

The main objective of the project is to clean the waste water of the industry

- Reuse it again and again so that resources can be conserved.
- Proposed project also increases job opportunity for locals.
- Pollution level will be reduced by the WWTP plant

Following are the major Environmental impacts due to the development related to the design:

4.4.1 Impacts

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- Structural stability of the proposed project
- Soil structure and soil bearing capacity
- Emergency exit in theproposed area emergency situations
- Firefighting system
- Wastewater disposal system design
- Rain water harvesting capacity of the drainage system
- Electricity hazardous

mpact significance: moderate to high or may be negative

Nature of impact: direct

Duration: Long-term

Timing: Constructional phase & Operation phase

Reversibility: NA

Likelihood: moderate to high

Consequences: moderate to high or may be negative

Mitigation measures and recommendations

Following are the mitigation measures and recommendation to minimize the anticipated impacts

- Design of Waste Water Treatment plant is approved
- Road infrastructure should be according to the laws and regulations
- Firefighting system should be design for the emergency situations
- Waste water drainage should be design vast to bear the rain water
- Electricity system should be design safe and sound, electricity wires should be covered by thick plastic/electricity resistant covers.

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4 Environmental impacts during the construction phase

The subject project is Extension of Royal Leather Industries Ltd. Located at 31-Km Lahore-Sheikhupura Road, Sheikhupura.

- The main objective of the project is to clean the waste water of the industry
- Reuse it again and again so that resources can be conserved.
- Proposed project also increases job opportunity for locals.
- Pollution level will be reduced by the WWTP plant.

Environmental impacts during the constructional phase are following

Construction Stage Impacts

Extension of Royal Leather Industries Ltd. Located at 31-Km Lahore-Sheikhupura Road, Sheikhupura. during the construction phase may cause the following anticipated impacts/vulnerabilities on the environment:

Impacts on Physical Environments

- Grubbing and stripping
- Leveling and compaction of the land
- Demarcation of project building and other facilities
- Generation of dust during loading and unloading of construction materials.
- Generation of noise on account of vehicular use and construction activities.
- Gaseous emission due to the vehicles and stand by generator (if any)
- Local flooding due to over-use of water and leakage of pipes.
- Safety of construction workers, people in the surroundings and passersby.
- Any outbreak of fire due to electrical and other failures.
- Solid waste generation due to domestic and construction activities.
- Wastewater generation from the domestic and constructional activities
- Ground water quality affects due to the development

4.6 Impacts on Biological Environments

- The project site is devoid of any significant vegetative cover. Only few plants are present. Nil impact is envisaged.

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- The fauna including wildlife species do not exist at the project site. The impact will be nil.

4.7 Impacts on Socio-economic Environments

- Because of presence of security guards round the clock the security at the project site will improve as well as in its vicinity. Impact will be moderate positive.
- Land value in the surrounding area will increase due to completion of the present project. Impact will be moderate positive.
- The project does not involve dislocation of the people. There is no requirement of resettling a single person. Impact is nil.
- No movable or immovable property and infrastructure of public and private sectors will be lost or damaged during construction and operation stages. Impact will be nil.

4.8 Operation Stage

Following points must be implemented during the operation stage.

- Keep water supply, sewerage disposal and electric supply in working condition.
- Wastewater will pass through Septic tanks Then it will be disposed in existing nearby sewer drain
- Solid wastes and sweepings will be stored in properly placed bins and handed over to contractors.
- Keeps the firefighting arrangements in working condition at all times at oil storage area. Contacts of fire brigades are displayed at prominent places in the project's building.

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otential Environmental Enhancement Measures

e proposed project will be installed with all precautionary measures to enhance and safe e environment. Following necessary measures will be adopted during construction and eration:

- Sprinkling of water will be done on dusty road and tracks
- PPEs will be provided during construction activity
- Constructional waste and domestic solid waste will be disposed-off or utilized properly
- Local people will be informed in advance when work is about to start in an area
- Machinery will never be left unattended
- Efforts should also be made to discuss traffic conditions so that regular traffic is not disturbed. Transporters engaged for the project would be forced to adhere to the load specifications of the access road. No overloading would be allowed in any case.
- Safety signs and boards will be placed during construction
- Air pollution controlling devices will be installed within the project during operation
- Machinery will be kept maintained
- Waste water will be treated through waste treatment plant that will be installed within the industry
- Proper SOPs will be followed with proper schedule along with the HSE conditions
- Area will be restored with native plants. A proper tree plantation plan will be formulated to save the environment
- Solid waste will be handed over to contractors and agreement will be made.
- Noise will be controlled by adopting proper measures
- PPEs will be provided to workers during working
- Firefighting equipment's and system will be installed
- Safety signs will be placed at all locations where required
- Hygienic conditions will be ensured and proper quality will be maintained by quality control testing.
- First aid facilities will be made available

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- Any possible measure will be adopted to make the project safe and environmentally friendly.

4.0 Planning, Site Selection and Design Stage

4.10.1 Land Use Planning

The present plot was empty for long time. Construction of the project will provide the optimum use of this resource.

4.10.2 Presence of Hazardous Conditions

The site is free of any natural and man-made hazardous conditions to cause any negative impact.

4.10.3 Environmentally Sensitive Areas

The area is essentially commercial. Therefore, environmentally sensitive localities do not exist.

4.10.4 Disturbance to other Site Users

The site is not used by others as it is the property of Extension of Royal Leather Industries Ltd. Located at 31-Km Lahore-Sheikhupura Road, Sheikhupura.

4.10.5 Availability of Essential Services

Water supply, drainage and sewerage disposal systems are present at proposed site.

4.10.6 Water Supply

Water is needed for cleaning, fire protection and for drinking purpose. Minimum one day's reserve will be kept at the project site. Water will be tested for chemical and bacterial contamination.

4.10.7 Storm Water Drainage

Storm water run of will be directed into drains.

4.10.8 Waste Water

Waste water will be treated in septic tanks and then directed to drains.

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4.9 Communication Infrastructure

The project site is well served by road network.

4.10 Availability of Construction Materials

The contractors either provide the construction materials like cement, steel and bricks at the site on as required basis or these are procured by the proponent. All the construction materials are locally available.

4.10.11 Skilled and Unskilled Labor

These workers are available at economical rates all the time. The project provides the jobs to the local residents as well as to those from the suburban areas.

Extensive operational & maintenance training will be imparted to staff through well-defined training program before and during system commissioning.

4.10.12 Extraction of Ground Water

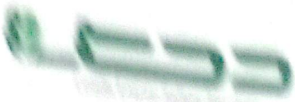
The water requirement will be fulfilled by ware house.

4.10.13 Traffic Issues

Vehicle access is required especially for transportation. The site is well served with the road network. Heavy traffic will be allowed only during tight time during construction phase. The traffic issues at any stage of project life cycle will not arise.

4.11 Operation Stage

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Minor Impacts

These are of minor intensity. The mitigation of the minor impacts routine and limited action are required.

Moderate Impacts

The impacts need specific and additional mitigation measures.

Major Impacts

The impacts have severe adverse impact. These are unbearable. All possible preventive or multiple control measures are adopted to minimize their intensity and duration.

Impacts on Physical Environments

Groundwater Quality and Level

The proposed project would not affect the quality and level of groundwater. Projected impact is

Land Utility

It will increase significantly since the project has been planned to be constructed on the existing unused area.

Purpose of Mitigation measures

Purpose of mitigation measures should include:

- **What is the problem i.e. in terms of "major environmental impacts" which may arise by the subject project activity?**

- When the problem will occur and when it should be addressed
- Where the problem should be addressed
- And how the problem should be addressed

The major impacts may arise by the subject project, particulate matter, dust, noise, solid waste, and waste water. Other impacts are of minor importance. These impacts will arise during construction and operation but precautionary measures will be adopted prior to start the activity, during the activity and post activity.

Any impact that would arise due to the subject project activity will be addressed on site. Trainings will be conducted on site prior to start work while other precautionary measures will also be adopted to make the project safe and environmentally friendly.

ESE manager/environmental manager along with site manager will be appointed to assess ny impact that could be arisen during both phases. He would be responsible to address the roblem and to mitigate it.

4.3 Ways of achieving mitigation measure

By adopting proper mitigation measures, any anticipated major or minor environmental impacts could be controlled or mitigated. The detail of impacts and mitigation measures have been discussed previous chapters.

Extension of Royal Leather Industries Ltd. Located at 31-Km Lahore-Sheikhupura Road, Sheikhupura. shall take appropriate measures to provide pollution free and safe environment during the proposed project activity by implementing improved management practices and monitoring techniques suggested in EMP.

Extension of Royal Leather Industries Ltd. Located at 31-Km Lahore-Sheikhupura Road, Sheikhupura. will adopt such plan that will assure the minimum impact on the environment and health by implementing proper mitigation measures. Design of the plant will assure the structure stability and plant life in a long run.

Ware house will develop Restoration/ reclamation or tree planation plan to restore the project area. Maximum Plantation will be done with native species within the unit, along the boundary wall and along the road side if directed by EPA. Also, in-front of main area, horticulture plan will be formulated and area for this will be kept reserved.

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CHAPTER # 05,

ENVIRONMENTAL MANAGEMENT PLAN & MONITORING PROGRAM

5.1 Purpose and Objectives of the EMP:

The primary objectives of the EMP are to:

- Facilitate the implementation of the mitigation measures identified in the IEE
- Define the responsibilities of the project proponent.
- Define a monitoring mechanism and identify monitoring parameters in order to:
- Ensure the complete implementation of all mitigation measures
- Ensure the effectiveness of the mitigation measures
- Provide a mechanism for taking timely action in the face of unanticipated
- Identify training requirements at various levels.

5.2 Management Approach:

The overall responsibility for compliance with the environmental management plan rests with the project proponent.

A certain degree of redundancy is inevitable across all management levels, but this is in order to ensure that compliance with the environmental management plan is crosschecked.

5.3 Institutional capacity

Following functionaries will be involved in the implementation of EMP:

- Project Proponent
- HSE/Project Manager
- In-Charge Administration
- Supervisor of project
- Environmental Engineer

Training for the management/contractors/engineers and workers on environmental aspects of the project will be arranged. It will be imparted by a team of experienced trainers.

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raining of building contractor

ing of building contractor & workers will be the part of the TORs regarding the truction of the project. The provisions given in EIA Report*Chapter 5Screening otential Environmental Impacts & Their Mitigation Measures* will be followed.

Rs will be including the training and submission of reports in the following area:

1. Handling of Machineries in a safe way
2. Use of PPEs
3. Maintenance of vehicles and submission of Environmental Monitoring Reports
4. Maintenance of Water Consumption records
5. Testing of water and waste water and submission of Environmental Monitoring Reports
6. Placement of safety signs/boards during construction
7. Sprinkling of water on the roads and dusty tracks
8. Monitoring of generator emissions

raining regarding all other aspects of HSE will be ensured by the contractor during the nstruction phase.

4 Responsibility of EMP

Overall responsibility for implementation of EMP will be that of project proponent. He will appoint a HSE/Project Manager of relevant qualification. HSE/Project Manager will act as Environmental Manager and will manage the all HSE condition at the PEQS.

Implementation of EMMP

e implementation of EMMP should be carefully coordinated with the design and ructional program of the project. This will ensure the implementation of relevant mitigation sures at the appropriate project stages. It will also ensure that adequate resources are

...ly allocated to achieve the desired results. This EMMP has been prepared to satisfy the ...ement of "IEE and EIA Regulations, 2000".

...Environmental Budget

...environmental budget of the project has been given in Table 5-1

Table 5-1 Environmental Budget Breakdown

Item/Activity		Quantity (No.s)	Budget (PKR)	Description
Plantation Campaign		100	20,000/-	Cost includes plantation and maintenance up to 5 years
Cost of EMMP		-	95,000/-	Installation + Operational Phases
Environmental Monitoring	Air Quality Monitoring	01	10,000	01 sample @ 10,000/- per sample
	Noise Level Monitoring	02	15,000	02 samples @ 7,500/- per sample
	Drinking Water Quality Monitoring	01	10,000/-	01 sample @ 10,000/- per sample
Miscellaneous			50,000/-	Lump sum
Total Environmental and Social Management Cost			**200,000/-**	

...3 Environment Management Team

...llowing functionaries will be involved in the implementation of EMMP:

- The project Proponent as owners of the EMMP.
- Project contractor(s) as executors of the EMMP during installation and operational phase of the project.
- Operational & Maintenance (O&M) and the Health, Safety and Environment team of the project as an executor of the EMMP during the installation and operational phase of the project.

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Table 5-2: List of Individuals and their Responsibilities

...gnation	Responsibilities
Manager	• Direct operations at the site. • He will act as team lead. • Interact with other executives, mine staff and community residents. • Effectively motivate staff to follow protocols and to work productively. • Look after the Health and Safety Related issues. • Responsible for scheduling staff and ensuring that supplies are stocked. • He will play a direct role in developing business goals for the mine they run, and he will help to produce a business plan to ensure that those goals are met.
Accountant	• Proper management of the funds for the CSR. • Development of fund proposal for environment related expenses. • Ensuring the smooth transaction of funds for environmental related projects/activities. • He will prepare the yearly budget. • Taking minutes in meetings and other administrative duties. • During his shift timings, he will be responsible to look into smooth functioning of the process in environmentally sustainable way. • He will be responsible to rectify any problem regarding environmental matter in collaboration with concerned authorities. • Prepare reports on different events and incidents. • He will report all matters regarding E.M. to the manager.

- ***Environmental Practitioners and Experts***

...me	Post	Qualification
...ikat Zafar	HSE Manager	MPhil Environmental Sciences (NEBOSH)
...ma Iqbal	HSE Officer	MPhil Environmental Sciences

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bzar	Senior Environmentalist	BS Environmental Sciences
bad	Senior Environmental Officer	MPhil Environmental Sciences
es	HSE Officer	BS Environmental Sciences
sa Shakeel	Environmentalist	BS Environmental Sciences
Husnain	Environmentalist	BS Environmental Sciences

, Proponent Environment Management Team

kaal Zafar	**HSE Manager**
ama Iqbal	**HSE Officer**
Abuzar	**Senior Environmentalist**

Table 5.1 Impacts and Mitigation Measures

Serial	Environmental Issues/ Impacts	Mitigation Measures
PLAN NING, SITE SELECTION AND DESIGN STAGE		
1	Observance of administrative and legal formalities	Project proponent has obtained someNOCs like approval for disposal ofliquid waste and some are in process
2	Acquisition of land	The proposed land is the property of the project proponent.

3	Loss of environmentally sensitive areas	There is no any sensitive area near the project site however the project proponent will achieve the PEQS at the boundary wall of the subject project to avoid the environmental impacts on the surrounding area
4	Changes in traffic Pattern	Prepare suitable in out traffic plans
5	Potential conflicts with stakeholders	There is no any conflict at the current stage of the project. It is recommended to Settle the issues through scoping and specific group discussions.
6	Resettlement issues	No resettlement issues
SITE DEVELOPMENT AGEST		
1	Erosion due to stripping and site clearance	Sprinkling of water on road side
2	Generation of dust	Careful loading and unloading of construction materials is recommended. Sprinkling of water on construction site and surrounding areas is recommended.

3	Generation of noise	□Avoid suing forbidden horns at the site. □Do not throw heavy equipment and construction materials in haphazard manner.
4	Local flooding/ponding	Immediate repair and maintenance of water supply pipes and sewers in case of any defect will be undertaken.
5	Outbreak of fire	Firefighting equipment must be maintained at the site in good working condition.
6	Safety	Safety of the workers and others must be ensured. Privacy of the neighbors must not be disturbed.
7	Labor issues	Employ the local labor as far as possible
CONSTRUCTION STAGE		
1	Minor erosion of land	□Add more vegetation, restore the land by more plantation □ Sprinkling of water on dusty tracks is recommended
2	Contamination of land and water	Essential services like water supply, sewerage disposal and solid waste management must working condition.

3	Impacts of dust, noise and flue gases on neighbors	Schedule construction timings to cause minimum disturbance to neighbors.
OPERATION STAGE		
1	Contamination of land and water sources	Continuous vigilance on maintenance of services Tarpaulin sheets must be placed to avoid leaching of oil into ground
2	Fire breakouts	Firefighting equipment must be kept in working condition at specific area
3	Safety security concerns	Safety of the workers and others must be ensured Privacy of the neighbors will not be disturbed.
4	Malfunction of utilities	It is proposed to appoint maintenance engineer with technicians like plumber and electrician for smooth operation of utility services.

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5	Occupational Health, Safety and Environment	□Regular medical check-ups are recommended to improve the working condition and efficiency of workers. Safety of management, workers and visitors must be ensured. Observance construction and safety codes must be ensured.
6	Production of Solid Waste	Area for solid waste must be reserved within the subject project. The solid waste must be managed on regular basis. The domestic waste must be disposed off.

5.5 Environmental Technical Assistance and Training Plan

In order to raise the level of professional and managerial staff, there is a need to upg their knowledge in the related areas. HSE/Project Manager should play a key role ir respect and arrange the training programs.

HSE/Project Manager will provide training to staff and workers about the best environn management practices at the construction site and affective implementation of the EMP.

The training modules will include air, noise and water pollution monitoring, awareness, Environmental Laws, Punjab Environmental Quality Standards (PEQS),

Usage of personal protection equipment's, and health and safety related issues construction site.

The HSE/Project Manager will train all workers & staff in basic sanitation and heal issues (e.g., how to avoid malaria and transmission of Sexually Transmitted Infection

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DS and in general health and safety matters, and on the specific hazards of their work. should also consist of basic hazard awareness, site specific hazards, safe work s, and emergency procedures for fire, evacuation.

roject Manager will arrange Training on monthly or quarterly basis regarding health & hygiene, firefighting and first aid.

mary of Environmental Impacts and Mitigation measures is present in following table in of Environmental Management Plan:

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Table 5.2 ENVIRONMENTAL MANAGEMENT PLAN

Serial No	EnvironmentalParameter/ Element	Mitigation measure to be taken during:		Responsibility
		Construction	Regular operations	
		Physical Environment		
1	Waste water	The sewage to be generated shall be discharged into the WWTF for its treatment and then it will drain into nearby drain Domestic/construction waste water after Treatment in septic tank will be drained into nearby local sewage drain. Periodic cleaning of the WWTF is Recommended	The sewage to be generated shall be discharged into the WWTF for treatment at PEQS levels. As there will be no chemical contamination,.therefore, simple oxidation may reduce its pollution load. Road cuttings to lay sewer shall be done after due permission from the concerned authority. Sewage and other waste effluents will be handled to avoid contaminating surface and groundwater. No contaminated effluents will be released into the environment without having been treated. Monitoring will be conducted by EPA certified lab if required	Environmental/Project Manager

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-	safety	advance when work is about to start in an area. This may result in people keeping young children away from work areas. Safe driving practices will be adopted, particularly while passing throughsettlements Job opportunity will be provided to localpeople of the area Basic health facilities will be provided toemployees	beinstalled. Basic health facilities will be provided to Employees Security guards will be present Job opportunity will be provided to local people of the area	Manager
3 -	Water supply	It shall be ensured that no activitytempers with the water supply system.	It shall be ensured that no activity temperswith the water supply system.Project proponent committed to provide safe drinking water to all workers and staff	Environmental ProjectManager

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4	Solid wastes	Limited solid wastes from the construction activities shall be segregated and duly disposed of. The solid redundant materials will be disposed of away from the city adequately. None of these wastes shall be accumulated on site. It shall be ensured that none of the wastes or materials of construction spread on the public roads or on the foot path or else. Construction Solid waste will be stored in solid waste bins and will be handed over to FDA Solid waste management division, and also, construction waste will be used for road repairing and maintenance purpose.	Solid waste will be handed over to the local Government after collection from houses. Solid waste bins will be placed at suitable places Area for solid waste disposal will be allocated within the subject project Sludge will be replaced on regular basis. Proper solid waste management system will be adopted.	Environmental/Project Manager
5	Noise	In order to avoid noise in the	In order to avoid noise in the project	Environmental/Project

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		project area. vehicles to carry raw materials, shall be operated during night time as far as possible. The project construction activities don't involve any activity which may create high noise levels. Ear plugs will be provided & implemented.	area. vehicles to carry domestic and commercial materials, shall be operated during night as far as possible. No activity producing extra ordinary levels of noise will be allowed as a policy matter. Generators will be installed in a specially constructed room where its noise will be curtailed within the limiting values of the	Manager
6	Gaseous emissions and particulatematter/ dust emissions	Construction materials i.e. sand, clay and like shall be transported to the project site during night time and will be stored away from the road or foot path. They will be kept under cover to avoid any fugitive dust. Dust may generate during unloading of raw materials. All equipment, generators, and vehicles used during the project will	Diesel fired generator shall cater for emergency situation only. Their exhaust will be emitted through an adequately fabricated stack. Scrubbers/dust collection system will be installed at the stack of generator if required. Monitoring will be conducted as per PEQS if required	Environmental/Project Manager

		be properly tuned and maintained in good working condition in order to minimize exhaust emissions. All project vehicles will be checked emitting smoke. Ambient air quality has been monitored by EPA certified Lab and results are incorporated within the report.		
7	Soil erosion	The clearing of vegetation along proposed site will be minimized as far as possible. Minor & scattered vegetation is present that include shrubs and grasses only. Open fires will not be allowed anywhere outside the proposed site. Fuel-wood and shrubs will not be used as fuel during project activities.	Maximum plantation is recommended within at outside the land subdivision and for this area is reserved. Tarpaulin sheets will be placed under generator (s), and other leaching substances. Land will be restored by planting indigenous plants	Environmental/Project Manager
8	Traffic related	The vehicles number will be regulated	The project site has additional area	Environmental Project

	Problems	in a way that no stampedes occur on the site. As far as possible, large size vehicles in very limited number may visit the project site during night time.	reserved exclusively for parking cars and motor cycles. No vehicle or motor cycle will be allowed to be parked in the front of the road and project as well.	
9	Trash burning	No trash burning will be allowed in or oust side the unit building.	No trash burning will be allowed on the roads and streets.	Environmental/Project Manager
10	Dust	The open place in front of the building will be duly cleaned after sprinkling of water to avoid any dust to spread around.	Plantation will be ensured in open space to avoid dust.	Environmental/Project Manager
BIOLOGICAL ENVIRONMENT				
11	Fauna and Flora	Proposed site is devoid - off any protected species of both fauna & flora	Awareness programs will be planned regarding the protection of fauna & flora. Species of Indigenous plants will be planted at site.	Environmental/Project Manager
SOCIOECONOMIC IMPACTS				
12	Resettlement Issues	There is no any issue of resettlement due to the construction of the subject	There will not be any issue of resettlement due to the operation of the subject project.	Environmental/Project Manager

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13	Change in Cultural Language	Maximum employment of Local people is recommended to preserve the local cultural language. It will help in communication with the local people to resolve any emerging issue near the project area	Maximum employment of Local people is recommended to preserve the local cultural language. It will help in communication with the local people to resolve any emerging issue near the project area	proponent
14	Education	School and colleges exist in the area. The project proponent will initiate an educational awareness program.	School and colleges exist in the area. The project proponent is committed to initiate an educational awareness program	proponent
15	Health	Heath facility already exists near the project site at the distance of about 1-km. The project proponent should provide first aid facilities at site and also social security and medical checkups of the workers.	Heath facility already exists near the project site at the distance of about 1- km. The project proponent is committed to provide first aid facilities at site and also social security and medical checkups of the workers.	proponent
16	Culture, Norms of the area	Maximum local employment should be ensured to preserve the culture of the Area	Maximum local employment should be ensured to preserve the culture of the Area	proponent

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5.6 Monitoring Plan

Proponent will ensure overall monitoring the project so that all intended activities may take place in accordance with environmental assessment.

5.7 Training Plan

Training for the management/contractors/engineers and workers on environmental aspects of the project will be arranged. It will be imparted by a team of experienced trainers.

5.8 Need for Disaster Management and Emergency Response System

In order to cope up with the possible hazards it is imperative to prepare the Disaster Management Plan and rehearse it frequently. To evaluate effectiveness of the system preparedness exercises and drills should be undertaken frequently. Small courses should be run to train the relevant persons about their actions during emergency. The administration staff need be familiar with the firefighting procedures and equipment.

5.9 Components of Fire Management Plan

5.9.1 Background Information

The likely causes of the breakout of fire are short-circuiting of electricity, throwing of cigarette, combustible materials catching fire and damaged gas pipes.

5.9.2 Immediate / First Line Actions

The occupants must evacuate the building using the stairs, ramps & lobby and emergency exits. Evacuation plan should be hoisted at many places. Evacuation of building should be completed within 2/3 minutes time.

5.9.3 Calling the Fire Brigades

The contacts (telephones, call and fax numbers) of local fire brigades should be boldl written at each floor on the notice boards so that any person may call them for immediat assistance. Information about the firefighting facilities in the nearby urban centers should als be handy all the time.



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5.8 Medical Aid

information be immediately passed to the nearby medical hospitals and centers for recovery of the wounded persons. First aid boxes should be kept at suitable places. Some of the employees should obtain formal training about medical first aid

5.9 Fire Fighting Procedures

- To ensure availability of adequate water for firefighting purpose dedicated water tank should be earmarked.
- It should be ensured that during firefighting operation enough space is available for movement of vehicles and personnel.
- In addition to the above the firefighting personnel from Fire Brigade Department should be in possession of the required pieces of equipment like fire man suit, fire blankets, Fire torch special for looking in smoke, gloves (rubber & canvas), goggles, helmets plastic, gum boots, gasmasks, Oxygen cylinder breathing apparatus, fireman axe, shovel, first aid box (complete), ladder, metal detector.
- Regular monitoring of all the significant environmental issues is essential to check the compliance status of EMP. The main objective of the monitoring will be;
- To verify the results of the environmental study with respects to the proposed project.
- To estimate the trends of concentrated values of the issues, which have been identified as critical and then planning the mitigating measures.
- To assess the efficiency of pollution control mechanism.

To ensure that any additional parameters, other than those identified in the EIA Report, do not turn critical after the commissioning of said project.

5.10 Aim of Monitoring

The aim of monitoring is to oversee the environmental performance of the project through its lifecycle enforcing the PEQS. Timely implementation of mitigation measures leads to sustainable environmental management of the project.



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5.10 Environmental Monitoring Plan

- The monitoring will be carried out in accordance with PEQS.
- Monitoring program will be undertaken for compliance of mitigation measures.
- Monitoring for various parameters will be done during construction, commissioning and operation stages.

5.11 Performance Indicators

The performance indicators – parameters having significant impact on physical, biological and socio-economic environments will be evaluated. These are given below:

- **Ambient Air Quality**
  PM10, CO, NOx, HC and SO2
- **Water Quality**
  TDS, TSS, COD, oil and grease, chloride, lead, zinc and cadmium
- **Noise Levels**
- **Soil Quality**
  Lead, chromium, cadmium hydrocarbons
- Tree plantation

5.12 Environmental Monitoring Cell (EMC)

EMC of the project will undertake monitoring of the Safety, Health and Environmental Aspects. It will ensure implementation of EIA Report and apprise the General management of the project on fortnightly basis.

5.13 Environmental Technical Assistance and Training Plan

In order to raise the level of professional and managerial staff, there is a need to upgrade their knowledge in the related areas. Environment/HSE/Project Manager should play a key role in this respect and arrange the training programs.

Environment/HSE/Project Manager will provide training to staff and workers about the best environmental management practices at the construction site and affective implementation of the EMP.



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The training modules will include air, noise and water pollution monitoring, s awareness, Environmental Laws, Punjab Environmental Quality Standards (PEQS), Usa personal protection equipment's, and health and safety related issues on the construction

The Environment/HSE/Project Manager will train all workers & staff in basic sanitatio health care issues (e.g., how to avoid malaria and transmission of Sexually Transm infections (STI) HIV/AIDS and in general health and safety matters, and on the sp hazards of their work. Training should also consist of basic hazard awareness, site sp hazards, safe work practices, and emergency procedures for fire, evacuation.

Environment/HSE/Project Manager will arrange Training on monthly or quarterly regarding health & safety, hygiene, firefighting and first aid.

5.14 Monitoring of Quality

The EMC will arrange monitoring of the quality of air, water, noise and waste wa quarterly or monthly basis from any EPA Certified/approved laboratory if required.

5.14.1 Monitoring Stages/Plan

Monitoring Stages

Monitoring of environmental parameters need to be carried out during the following st addition to post-project period:

- Construction Stage
- Operation Stage

5.15 Monitoring Plan

Following aspects need to be monitored during construction and operation stages:

- Air quality
- Water quality
- Noise level
- Management of utility services including water supply, sewerage di electric supply and solid wastes.

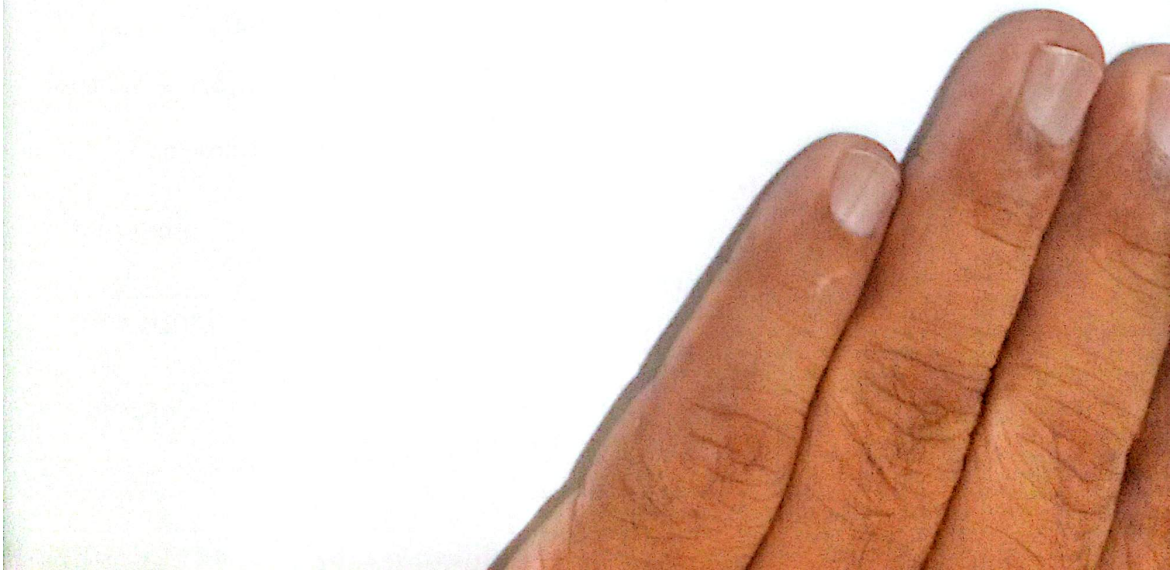
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EPA Certified conducted the monitoring for environmental parameters for Noise level at proposed Waste water Treatment Plant at different locations, and Ambient Air, Waste water and results for those are incorporated within this report.

5.16 Summary of Impacts and their mitigation measures

5.17 Equipment Maintenance Detail

The proponent of the subject project will maintain records for Health Safety & Environme and will hire Environment/HSE manager to check and deal with the HSE issues. The subje project will maintain medical facilities, firefighting Equipment's as fire buckets, fire hydra and fire extinguishers and records for their periodic fillings or replacement and will ensu proper housekeeping and essentials facilities.



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Chapter# 06.

INVOLVEMENT OF STAKEHOLDER/ PUBLIC CONSULTATION

6.1 EIA and Public Consultation Process

Consultation with stakeholders is an important tool through which people with interest in the project (stakeholders) influence and share control over development initiatives and decisions and resources that affect them. It is a tool for managing two-way communications between the project sponsors and concerned public. The goal is to improve decision - making and build understanding by actively involving individuals, groups and organizations which have a stake in the project. Their involvement increases project's long-term viability and enhances benefits to locally affected people and stakeholders.

Stakeholder participation in planning and management of the social and environmental issues assists in reducing the concerns of stakeholders and hence increases public acceptance towards development programs. Consultation process entitles the stakeholders with opportunities to participate in key decisions that will affect their lives. Therefore, detailed public consultation meetings were arranged at different levels of the planning process. For this purpose periodic consultation meetings were held with various project stakeholders. Different aspects and impacts of the proposed project were highlighted regarding their impacts on the physical, biological, and socio-economic environment of the project area. Stakeholders' trepidations regarding various aspects like existing environment, and impacts of the project on the surrounding environment were emphasized and have been added to this EIA report.

6.2 Proponent

Mr. Qaiser Mahmood Cheema S/o Choudhry Muhammad Hussain Cheema R/o House No.5, Zafar Ali Road, Sialkot Cantt, Tehsil & Distict Sialkot

- **Proponent Environment Management Team**

Mr. Mekaal	**HSE Manager**
Usama Iqbal	**HSE Officer**
M Abuzar	**Senior Environmentalist**

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Objectives of the Public Stakeholders Consultation

Public consultation plays a vital role in studying stakeholders' perspectives regarding the project and henceforth the successful implementation and execution of the proposed project. Public involvement is a compulsory feature of Environmental Impact Assessment, which leads to improved and acceptable decision-making. The primary objective of the stakeholders' consultations was to learn and know the apprehensions, concerns, and opinions of the key stakeholders over environmental implications of the project activities from public perception. The consultation sessions also served as a source of firsthand information about the users and the beneficiaries' expectations from the project. Dialogue with the stakeholders and recording their concerns at appropriate stages of the project would help to tailor the project in line with stakeholders' aspirations and so increases the likelihood for public acceptance of the project and its subcomponents. It also helps to develop and maintain communication links between the project proponents and stakeholders, providing opportunities to the public to influence the project design in a positive manner. This ensures that the views and concerns of the stakeholders are incorporated into the project design and implementation with the objectives of reducing or offsetting negative impacts and enhancing benefits of the proposed project.

6.4 Methodology

6.4.1 Responsible Authority

The consultation process began with the identification of the most pertinent stakeholde Identification of the stakeholders for the proposed project plays a crucial role in developm and also assists in quantifying the role of different stakeholders involved. Impacts identi by the stakeholders are measured through matrix method and mitigation measures proposed according to the intensity of the identified impacts. Efforts were made to ide the relevant stakeholders through a systematic process based on the nature and degree of actual and perceived stakes related to the project.

6.4.2 Issues Discussed with the stakeholders

Following issues were discussed during the stakeholder consultation meetings:

- Concerns, apprehensions, and views of the community and the stakeholders project activities relating to design, construction and operational aspects.



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probable adverse impacts of the project activities on various components of the environment i.e., physical, biological, and social components

possible remedies for the concerns and apprehensions, how the concerns can be effectively addressed?

location of any specific personal or site related concerns

- How the project operations can happen in accordance with user/beneficiaries' expectations?
- Beneficial factors and involvement opportunities of the local people in the set of activities of project during construction and operational phases.
- Material's transport management during construction and operational phase of the project.
- Management of water, wastewater and solid waste during construction and operational phase of the project.
- Natural hazards, associated risks and precautionary measures.
- Traffic issues subjected to activities during different phases of the project.

5Environmental Practitioners and Expert

According to the EIA rules and regulations this report will be compiled and submitted to the Environment Protection Department (EPD) and after the review on the report this report will be disseminated to the public. This dissemination and information sharing exercise will then be followed by public participation through print media in which the public will be requested for their reviews. The copies of the report will be placed in the EPA for comments from the public which will be incorporated in the report. As per rules and regulations, Environment Protection Department will hold a public hearing at the proposed project site.

➢ ***Environmental Practitioners and Experts***

Name	Post	Qualification
Mekaal Zafar	HSE Manager	MPhil Environmental Sciences (NEBOSH)
Usama Iqbal	HSE Officer	MPhil Environmental Sciences
M Abuzar	Senior Environmentalist	BS Environmental Sciences

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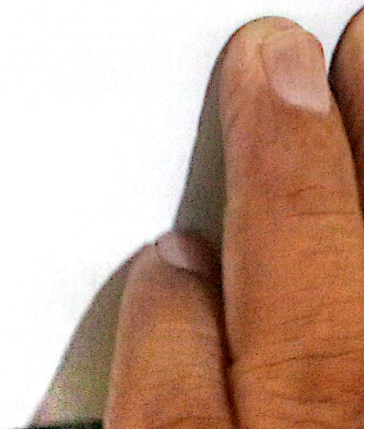
Iqra Zahid	Senior Environmental Officer	MPhil Environmental Sciences
M Haris	HSE Officer	BS Environmental Sciences
Ramsha Shakeel	Environmentalist	BS Environmental Sciences
Amir Husnain	Environmentalist	BS Environmental Sciences

6.6 Government approvals required by the project:

Project proponent will get NOCs from all concerned departments after the environmenta approval from EPA. Copy of each NOC will be submitted to EPA prior to operation of th project.

6.7 Affected and Wider Community

There is no population present in the safe radius of the site that's why community will not b disturbed due to project operation. Although the opportunity of employment will increase the project will approve



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CHAPTER # 07,

ASSESSING IMPACTS

al

ion provides the analysis of the potential impacts during preconstruction/design, ion and operational phases of the proposed project on the physical, biological and nomic environment of the project area. Inaddition, it also describes the measures mitigate the project's potential environmental impacts. Environmental sensitivity of ect area is described through a sensitivity map and evaluation of significance of is carried out through environmental impact matrices

luation of Identified Impacts

dology adopted for the identification, evaluation and analysis of environmental s by the proposed project is "Matrix Method and Significance Rating of Impacts".

vironmental impact Matrices

environmental impact matrices have been developed to evaluate magnitude of the cts of various project activities on different environmental settings for construction and ation phases and are shown in **Tables** respectively.

Matrix method helps in identifying the potential temporal & spatial impact and ens the project for environmental and social soundness. Each project activity is ened separately with regard to its construction and operation phases according to various physical, ecological and social parameters. These impacts are aracterized on the basis of extent, timing, magnitude, reversibility, probability, ture and duration. Table 7.1 shows the characterization of impacts.



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Table 7.1 Environmental impact Evaluation Matrix during Construction

	VEC/ VSE	VEC/ VSE Rating	Establishment and Functioning of Construction Camps workshops etc.	Excavation Operation of burrow and quarry Areas.	Transportation of construction Materials and Equipment's	Open storage of Construction materials, fuels etc.	Operation of Concrete	Functioning of Power generators	Land Acquisitions	Solid & Liquid waste management etc.	In S
Components	Air Quality and dust	0.10	-3	-3	-2	-2	-3	-2	0	-1	-1.
	Soil Erosion & contamination	0.05	-2	-2	-3	-2	-3	-1	0	-3	-0.8
	Ground	0.10	-3	-2	-2	-2	-2	-1	0	-2	-1.4

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	water Qualiy												
	Noise	0.10	-3	-4	-2	0	-3	-3	0	-1	-1.6		
	Flora	0.12	-1	-2	-2	-1	-1	0	0	-1	-1.0		
Bi physical environmente	Fauna	0.06	-2	-2	-2	-1	-2	-2	-2	-2	-0.9		
Socioeconomic Environment	Traffic management	0.20	-3	-3	-4	-3	-2	-1	0	-2	-3.6		
	Social and cultural l conflict	0.07	-3	0	-1	-1	-1	-1	-4	-2	-0.9		

Environmental Impact Evaluation Matrix during Operational Phase

Components	Valued Ecological components	VECs Rating	Activities			Impa Score
			Movement of Vehicles	Vehicles Emission	Damping of solid waste in drain	
Biophysical Environment	Flora	0.05	0	-2	0	-0.10
	Fauna	0.05	-3	0	0	-0.15
	Noise and Vibration	0.10	-3	0	0	-0.30
	Drainage	0.20	-2	0	-3	-1.0
Socio Economic Environment	Road Safety	0.20	-4	0	-4	-1.60
	Economic Activity	0.15	3	0	0	0.45

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Environmental Impact Evaluation Matrix during Operational Phase

	Components	Valued Ecological components	VECs Rating	Activities			
				Movement of Vehicles	Vehicles Emission	Dumping of solid waste in drain	I... S...
	Biophysical Environment	Flora	0.05	0	-2	0	-0.
		Fauna	0.05	-3	0	0	-0.
		Noise and Vibration	0.10	-3	0	0	-0.
		Drainage	0.20	-2	0	-3	-1.

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Socio Economic Environment	*Road Safety*	0.20	-4	0	-4	
	Economic Activity	0.15	3	0	0	
	Traffic Management	0.25	4	0	-3	
Legend	+Positive	0	No impact	2	*Minor impact*	4
	-Negative	1	Negligible impact	3	*Moderate impact*	

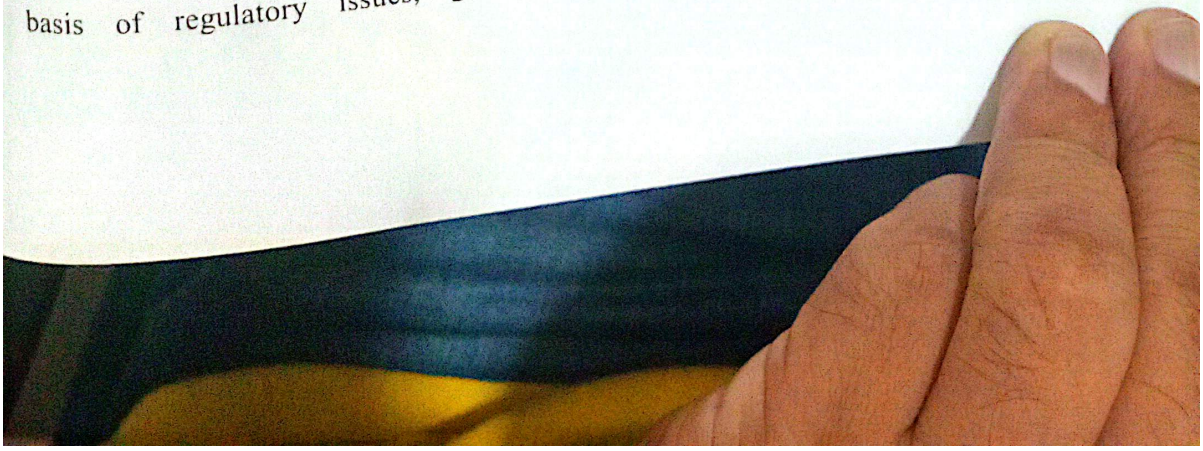
Short Term	Neghgible	No Change	Very Unlikely	Indirect	Temporary
Medium Term	Low	Reversible	Unlikely	Direct	Permanent
Long Term	Medium	Slowly Reversible	Likely		
Multi-year and Permanent Impact	High	Irreversible	Certain		

Characterization of Impacts

dition to assigning the numerical values to each marked box in the Matrix, plus r minus (-) sign are used to show whether an impact is beneficial or adverse. weighted matrix was applied to the environmental components listed on the y-axis st the activities of the proposed project listed on the x-axis prior to ation measures. In this process, numerical values were assigned from 0 to 1 for ysical environment and socio-economic environment to indicate the significance he affected environmental and social components. These numerical values were multiplied with the individual project activity rating/values and all added to get verall impact score. This impact score gives the relative significance of impacts a specific component. The highest impact score gives the level of significance of impact.

1 Identification of VECs

physical and human environments that, if altered by the project, would be of cern to regulatory agencies, indigenous community, resource managers, scientists, keholders, and/or the general public. VECs are typically selected for assessment on basis of regulatory issues, guidelines, and requirements; consultation with



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agencies, the public, stakeholder groups, field reconnaissance, and the professional judgment of the Study Team.

Significance Rating of Impacts

The significance of the impacts was defined based on the result of a combination of ratings. Each identified impact was analyzed individually according to a number of criteria including descriptions of their extent, timing, magnitude, reversibility, probability, nature and duration. Taking into account these criteria, potential impact was classified as either:

Low: The impact which has a slight influence on the natural and socio-economic environment;

- Medium: The impact which can be eliminated mitigated after applying the appropriate mitigation measures; and

- High: an impact, which, if not mitigated, could stop the project from proceeding.

Delineation of Project Corridor of Impact (COI)

It is a limit which identifies the area where direct and indirect impacts of the project activities are envisaged like existence of forests, game reserves, wetlands, archaeological sites etc. The limit for COI for the proposed project is taken as 250 meter radius for collection of baseline information, impacts assessment and mitigation measures of physical, ecological as well as social resources. As the location of construction/contractor camps, vehicles, equipment yard, material quarry areas and access tracks have not been defined yet, so impacts evaluated due to these facilities in this section will be of generic nature



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Purpose of Mitigation Measure

basic purpose of mitigation measures is to reduce the impacts of the establishment to posed Extension of Royal Leather Industries Ltd. Located at 31-Km Lahore-Sheikhupura d, Sheikhupura. On the socio-environment up to the maximum possible extent. The gation measures are suggested based on the following parameters:

What is the problem?

proposed project is the Extension of Royal Leather Industries Ltd. Located at 31-Km ore-Sheikhupura Road, Sheikhupura.The nature of the land is industrial land having ve vegetation such as Neem, Beri, Kikar and Safeda. The project and study area is fertile, led and agricultural land. In addition, to the noise and fugitive dust emissions during the elopment phase solid waste management and disposal issues may arise along with tewater disposal issues. The major impact associated with the operation of Waste Water tment Plantincludes the management of the solid waste and by-products, wastewater, ogical hazards, chemical and physical hazards during process.

When problem will occur and when it should be addressed?

impacts from the Extension of Royal Leather Industries Ltd. Located at 31-Km Lahore-khupura Road, Sheikhupura. will occur during the development and operation due to the work involved and the people residing in the project area. These issues included; noise ration, fugitive dust emissions, solid waste management, wastewater disposal, top-soil oval, Health and Safety issues and change in the geographic features of the area. These all lems should be addressed on-site where they are being generated, to avoid the residual or rse impacts.

Where problem should be addressed?

problem will be generated from site development and operation of the unit. So, it should ddressed on source i.e. at site within the same timeframe.

How the problem should be addressed?

ier mitigations measures will be provided according to the nature of the acts/problems. For example, against dust emissions sprinkling of water may be done on

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gular basis, for solid waste proper solid waste management and disposal practices may be dopted, to manage liquid waste proper treatment may be made before discharging into the eceiving body.

.6 Ways of Achieving Mitigation Measures?

ollowing ways will be adopted to reduce the impacts of the quarrying:

.6.1 Changing in Planning Design

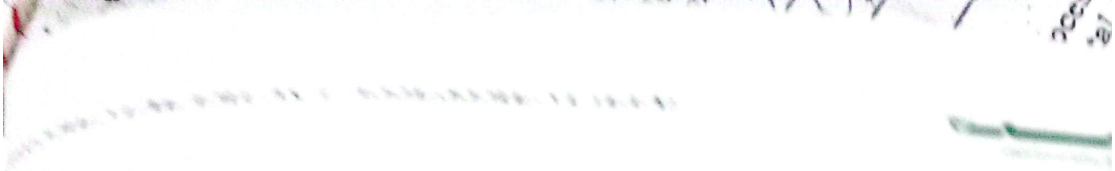
or the process, industrial land is selected. The process selected for construction of Waste Water Treatment Plant.Project is the controlled system where physical, biological and hemical hazards are controlled or managed effectively. The chances of the biologica contamination are reduced significantly. There is no endangered and threatened specie present in the project area that could be impacted due to the installation of the facility Moreover, there isn't any human settlement or infra-structure that will be dislocated dismantled due to the proposed project development. No adverse impact is therefore beir envisaged due to the installation of the facility in the proposed location as the proce employed is controlled as for the management of the wastewater a septic tank will installed and for the management of the solid waste and by-products a proper wa management plan will be formulated. Hence, there is no need to change the design of proje

8.6.2 Improved Management and Monitoring Practices

The anticipated impacts had been reduced significantly by adopting better managem activities, as it will be carried out for betterment of the society. While environme monitoring will be conducted on the regular basis to keep the sources of the wastew generation, solid waste management, by-product management, noise and public nuisance check. Following practices that need to be adopted to reduce the impact significantly:

a. Compensation in Money Terms

Due to the construction of the facility, the vegetation present on-site will be removed and geography/landscape of the area will be slightly changed on the permanent basis, howe there is no protected or environmentally sensitive area present within 10.0 km vicinity of project that could be impacted due to the installation of the Waste Water Treatment P project Hence, no compensation in the monetary terms will be required. However, for



of the one tree from the fenced area 3-5 trees will be planted as the compens
the facility boundary.

placement Relocation Rehabilitation

posed project is located in industrial area. There is no sensitive area, popula
e source is present which could be impacted due to the installation of the facili
ment, relocation and rehabilitation are required because construction and oper

8

CHAPTER NO # 09
CONCLUSION AND RECOMMENDATIONS

CONCLUSIONS

EIA study there are many problems related to the management of waste in our world day. Households and industries produce don't care enough yet to reduce this problem. This e has a dramatic impact on the ecological system. Inefficient or flawed waste nagement systems can lead to the spread of diseases.

oreover, burning waste leads to an emission of greenhouse gases which contributes to obal warming. In order to mitigate this problem, waste management must be developed rther to a place where almost every material can be recycled. Moreover, we have to raise e awareness of people to change their behavior in daily life.

eople should be convinced to use things longer than they do in current times. People replace hings that are actually working through things that are trendier.

We have to get to a place where reusing stuff is the trendiest thing on earth and buying new stuff is dodgy in order to solve the waste problem.

The impacts of subject unit in area will be insignificant, provided the generic mitigation measures proposed in this report are implemented. In areas where project site may have a significant impact, additional mitigation measures are given to reduce impacts to as low as reasonably possible.

9.2 Recommendations:

The present EIA report is enough to meet the administrative and legal framework. Therefore, the environmental approval may be accorded for the present project.

- In view of the comprehensive screening process and findings of the present study there is no need of conducting further investigations.
- Energy efficient system will be installed.
- Solid waste will be managed properly.
- Enhanced Tree plantation is recommended within and outside the boundary wall.
- The untreated wastewater will not be drained out without having been treated.

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- Local Labor should be hired and will be benefited from the subject project
- High standards of bio-security and safety will be enforced during operation stage.
- Safety of the workers will be top priority for the management.
- PPEs will be provided and implemented.
- Fire Fighting equipment & system should be installed at appropriate places 2q
- Safety signs & boards will be displayed.
- Smoking will not be allowed during working hours.
- Machinery should never be left abandoned.
- Medical checkups & first aid will be provided.
- Trainings will be provided to workers.
- Proper housekeeping will be ensured.
- The project manager will continue to assist the local communities as a corporate/social responsibility.

The present EIA report is enough to meet the administrative and legal framework. Therefore, the environmental approval may be accorded for the present project.

Hence, all the necessary recommended mitigation measures will be adopted and implemented further to cope with any negative impact generating from the project process in order to protect the environment and health.



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1.0 Introduction

Safety Services has been asked to submit the technical proposal for this project legal requirements under Pakistan Environmental Protection Act 1997 (amended

npletion of EIA

2. Environmental Impact Analysis

ent is required to prepare an environmental assessment study and get approval prior to commencement of the project.

3. Responsibility of Consultant

ltant would undertake surveys, conduct studies, consult with the community and ıe EIA report. The EIA should cover all likely construction and operation activities include, but not to be limited to, an assessment of the environmental and social elating to the land.

wing tasks shall be conducted for the completion of work.

Procedure of Environmental Assessment

ıe award of work of Environmental Assessment study, consultant will carry out ng activities:

a. Kick of meeting with client to collect the requisite information regarding project i.e. Design reports, drawings, feasibility study, topographic survey etc. Site topographical surveys and underground reservoir survey reports will be shared by client.
b. Site survey and environmental monitoring of groundwater, noise, wastewater and ambient air quality.
c. Socioeconomic survey of the area.
d. Secondary data collection from district department (Forest, drainage, meteorological)



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e. Assessment of environmental and socioeconomic project and mitigation measures

f. Preparation of environmental management and monitoring plan.

g. Environmental assessment report preparation and submission to client for review and comments if any.

h. Follow up of case in EPA till its final Environmental Approval

Responsibilities of the Client

Responsibilities of the Client

I. Provision of necessary documents and studies about the features and description of the project.

II. Provision of copy of the geotechnical study including seismic study.

III. Site topographical surveys and underground reservoir survey reports.

IV. Basic data for quantification of solid waste, water use, wastewater and its safe disposal.

V. Detail of each commercial activity and its expected magnitude. VI. Provision of review fee for EPD.

VI. Health and safety plan. B) Securing NOC and Approval from Govt. Departments.

B) Securing NOC and Approval from Govt. Departments

a. Consultant will prepare and submit a complete final Environmental Assessment report to the client along with requisite documents provided by the proponent for onward submission to EPA Punjab for securing NOC.

b. Consultant, as required by environmental law, will submit the report along with bank draft of review fee in the name DG EPA, application, affidavit and undertaking provided by the client.

c. After the approval of Environmental report, a notice for the commit Pharmaceutical unit of experts for the proposed project will be issued by EPA Punjab to the client.

d. After commit of experts, NOC is issued to the client.

e. Consultant will facilitate the client till the issuance of NOC by concerned Government Department from EPA Punjab



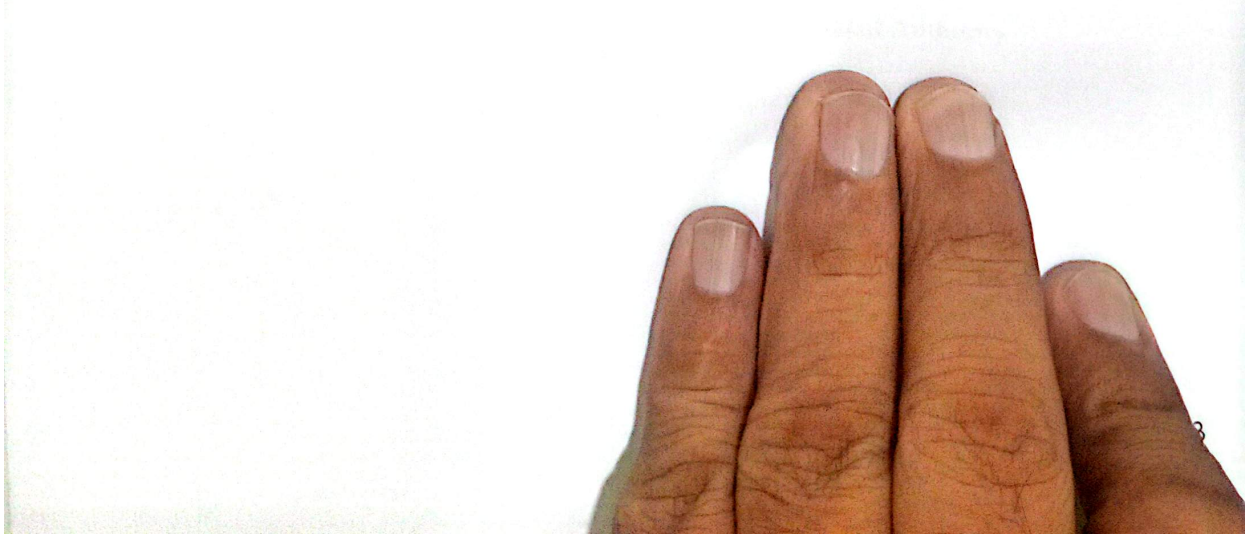
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Glossary

- **Ambient:** relating to the immediate surroundings of something
- **Base line:** Conditions prevailing at the time of study or before initiation of any project
- **Baseline:** Conditions prevailing at the time of study or before initiation of any project
- **Discharge:** means spilling, leaking, pumping, depositing, seeping, releasing, flowing out, pouring, emitting, emptying or dumping
- **Effluent:** means any material in solid, liquid or gaseous form or combination thereof being discharged from industrial activity or any other source and includes a slurry, suspension or vapor
- **Environment budget**: Monitory assets reserve for environmental activity.
- **Environment:** means air, water and land; all layers of the atmosphere; all organic and inorganic matter and living organisms; the ecosystem and ecological relationships; buildings, structures, roads, facilities and works; all social and economic conditions affecting community life; and the inter-relationships between any of the factors mentioned
- **Environmental Impact Assessment:** means an environmental study comprising collection of data, prediction of qualitative and quantitative impacts, comparison of alternatives, evaluation of preventive, migratory and compensatory measures, formulation of environmental management and training plans and monitoring arrangements, and framing of recommendations and such other components as may be prescribed
- **Fauna:** Animal life occurring in particular region or time.
- **Flora:** plant life occurring in particular region or time.
- **Human Settlement:** A cluster of at least 50 houses.
- **Initial Environmental Examination:** means a preliminary environmental review of the reasonably foreseeable qualitative and quantitative impacts on the environment of a proposed project to determine whether it is likely to cause an environmental effect for requiring preparation of an environmental impact assessment
- **National Environmental Quality Standards:** means the permissible standards for emission of air pollutants and noise and for discharge of effluent and waste
- **Nuisance:** A person, thing or circumstances causing inconvenience or annoyance.
- **pH:** negative log of hydrogen concentration:

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- **Poultry Project:** means poultry related activities like hatcheries, poultry farm, poultry control shed, poultry premises or any other poultry project notified as such.
- **Poultry:** including the species such as chicken, turkey, quail, and pheasant.
- **Proponent:** the person who intends to carry-out a proposed project.
- **Sustainability:** means such developments that meet the needs of the present generation without compromising the ability of future generations to meet their needs
- **Waste:** means any material, substance, or by-product eliminated or discarded as no longer useful or required after the completion of a process



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