EIA-2025

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Establishment of LPG Storage and Filling Plant by Rhino Fuels (Pvt) Ltd.

LOCATED AT

Khasra No 409, 410, Khewat No 188, Khatooni No 359 to 363
Village Bhakharay Wali Kala, Tehsil Saddar, District Gujranwala

PROJECT PROPONENT: MR. MUHAMMAD ARSLAN

SUBMITTED BY

Zoom Consultancy & Services

Lahore

LIST OF ABBREVIATIONS

CO_2	Carbon dioxide
dB(A)	A weighted decibel scale
EIA	Environmental Impact Assessment
EMMP	Environmental Management and Monitoring Plan
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
EPD	Environmental Protection Department
EPO	Environmental Protection Ordinance
IEE	Initial Environmental Examination
Ltd.	Limited
LTI	Loss Time Injury
LWI	Loss Work Injury
m^3	Cubic meter
m^3/h	Cubic meter per hour
MW	Megawatt
M/S	Messrs
NEQS	National Environmental Quality Standards
No.	Number
NOC	No Objection Certificate
NO_x	Oxides of Nitrogen
PEPC	Pakistan Environmental Protection Council
PEPA, 1997	Pakistan Environmental Protection Act, 1997

PEPA, 2012	Punjab Environmental Protection (Amendment) Act, 2012
PEPO	Pakistan Environmental Protection Ordinance
PKR	Pakistani Rupees
PM	Particulate Matter
PPEs	Personal Protective Equipment
Pvt.	Private
SMART	Self-Monitoring and Reporting
SOPs	Standard Operating Procedures
SO_x	Oxides of Sulfur
WAPDA	Water and Power Development Authority

EXECUTIVE SUMMARY

INTRODUCTION

This executive summary presents an overview of the main findings of Environmental Impact Assessment report for the construction of "LPG Storage and Filling Plant by M/S Rhino Fuels (Pvt) Ltd" at Khasra No 409, 410, Khewat No 188, Khatooni No 359 to 363 Village Bhakharay Wali Kala, Tehsil Saddar, District Gujranwala. The main objective for establishing this project is to provide seamless distribution of LPG to nearby regions. The company has intended to follow OGRA regulations and other applicable standards to ensure safety protocols for storage of LPG at the said unit. To conduct Environmental Impact Assessment, the proponent has engaged team of M/S Zoom Consultancy & Services. The main objectives of this EIA are to establish baseline environmental conditions, identify potential impacts and suggest suitable mitigation measures for the execution of the said project. This study has been accomplished in line with the provisions - guidelines and directives of Punjab Environmental Protection Agency.

This executive summary presents an overview of the main findings of the EIA Report for the aforesaid project i-e Establishment of LPG Storage and Filling Plant by Rhino Fuels (Pvt) Ltd.

PROJECT OUTLINE (Details are given in Chapter 2)

Salient features of project:

Proponent Name:	**Mr. Muhammad Arslan**
Designation	Chief Executive Officer (CEO)
Project Title:	Establishment of LPG Storage and Filling Plant by Rhino Fuels (Pvt) Ltd.
Project Location:	Khasra No 409, 410, Khewat No 188, Khatooni No 359 to 363 Village Bhakharay Wali Kala, Tehsil Saddar, District Gujranwala (32°12'04.1"N 74°05'44.4"E)
Total Area	11.75 Kanals
Source of Water	Groundwater
Cost of Project	PKR 25 million approx.

Nearest Receptor	Thakkarke Village (1.2 Km) Alipur Chatta Road (1.3 Km) Gujranwala Medical College (2.5 Km)
Source of Power:	WAPDA (65 KWH connection)
Wastewater:	Wastewater will only be generated from domestic usage.
Solid Waste Management:	To handle the waste, waste management contract with certified body will be done
Air Emissions	There will be no chances of air emissions as storage and filling will be done in said project.
Tree Plantation	At designated areas
Storage Product Details	LPG (Liquified Petroleum Gas) will be stored
Capacities	
Storage Capacity (overall)	100 MT
Storage Mechanism	2 tanks of 50 MT will be installed at the plant.
Filling approved Capacity	10 MT/day

MAJOR IMPACTS AND RECOMMENDED MITIGATION MEASURES:

Beneficial/Positive Impacts:

- The establishment of the said project will contribute to enhancing Pakistan's domestic productivity, and help diversify Pakistan's economy
- Provision of employment and stimulation of local economy.
- Provision of easy access to LPG as shortage of primary source (SNGPL)
- Will reduce the load on SNGPL

Negative Impacts:

Impacts	Mitigation measures
Construction phase	
Dust emissions	Most of the dust generating activities during construction will last for a brief period, when excavation works will be executed. Thereafter, vehicular movement will generate most of the dusts. Dusts will be

	suppressed using water bowser to spray exposed land surfaces and particularly areas likely to be disturbed by trucks and other vehicles during the construction of the factory premises. Vehicular speed limits of 20 km/h will be ensured in order to minimize dust generation. Further mitigation measures will be: • Covering haulage vehicles transporting aggregate, soil and cement • Covering onsite stockpiles of aggregate, cement, soil, etc. • Providing workers with the necessary Personal Protective Equipment (PPE) e.g. dust masks and ensure that they are worn • Operating well maintained vehicles and equipment
Wastewater	Existing toilets with septic tanks will be provided to workers during construction phase of extension of project.
Impacts of accidental spillages	• The integrity of storage facilities will be ensured • Drip pans will be made available where necessary
Safety	• Safety signage will be put in relevant places within the construction site • Reckless driving by construction workers will be prohibited and monitored. • Workers will be given PPEs such as; helmets, mask, ear-plugs/muffs, safety boots, safety goggles, safety jackets, harnesses etc. and its use was strictly enforced • Workers will be trained on regular basis regarding personal safety • Incidents will be reported directly to the concerned authority
Solid waste management	• Recycling or reuse of waste wherever possible. • Application of a good strategy to collect, remove and safely dispose of waste on daily basis to ensure a clean environment in the factory site • Integrated waste management system will be adopted for the proper management of the waste at site • At the end of the construction phase, left-over waste will be removed as per practices of area • All the idle machinery and equipment will be immediately removed from the site

	• Scrap and the debris will be removed from the site at the end of the construction stage after appropriate segregation of the material
Operation Phase	
Air Emissions, Particulate emissions and stack emissions	• Emissions from storage vehicles will be controlled by proper maintenance • Monitoring of Ambient air parameters (Particulate matter, SOx, NOx) emissions should be carried out on regular basis to ensure compliance with the PEQS. • The inspection and the maintenance of the generator (if installed)will be done on regular basis. • Plantation of indigenous trees within the premises and along the boundary.
Degradation of surface waters quality due to process water and sewage direct disposal	• Domestic type of waste water will be treated through primary treatment. • The wastewater will be disposed off in nearby drain • EPA certified laboratory will be engaged for analysis of wastewater from outlet against PEQS.
To minimize loss work injury/hazards/incidents/accidents	• Proper training will be provided for the proper process of storage and filling and personal protective equipment (PPE) will be provided. It will be ensured that the individual who has received the correct training is operating a particular machine. • Site supervisor or health and safety should be present on site • Risk Assessment will be done on daily basis • Emergency response plans will be remained active. • Monitoring cameras and sensors will be implanted at the work site • OSHA polices will be implemented on site

	• Regulation of the health and safety polices will be done on regular basis • OGRA regulations will be implemented at site to avoid any accidents • NFPA standards will also be implemented. • Regular housekeeping practices will be ensured by keeping the floor dry and during washing; proper protective equipment are being used. Restricted entry should be ensured during processing. • Training of staff in the handling. • Fire fighting equipment will be regularly monitored. • Fire fighting drills and trainings will be done regularly. • Fire extinguishers will be regularly calibrated. • Smoke detectors will be installed. • Implementation of work rotations, provision of regular work breaks. • At workplace, first aid facilities will be maintained at readily accessible places.
To minimize disturbance of communities due to noise	• There is no possibility of Noise pollution • A thick greenbelt will be developed all around the plant which will be acting as noise barrier. • All the workers will be provided with ear plugs. • All the transporters will be advised to carry out regular maintenance of their vehicles.
Solid waste management	• There will be separated bins for segregation of different type of waste • Proper waste collection system will be ensured. For this purpose, waste bins are placed inside the boundary. • The recyclable waste will be sent to waste contractors.

	• Records of generated waste should be maintained. • All non-hazardous waste that can be recycled or reused will be handed over to the contractors. • All containers of waste will be labeled properly.
Traffic	• Nighttime driving of project vehicles will be limited where possible. • Vehicles will remain confined to defined access. • The route of the vehicles will be defined and given to drivers and security system. • The road will be labeled according to the rules and regulations. • Speed limits will be maintained. • The timetable and schedule of the vehicles will be defined and the monitoring of vehicles will be done every time. • Road signage relevant to the project traffic will be placed, where necessary. • Community complaint register and other means will be adopted for the community to complain about non-adherence of traffic to speed limits, safe driving and other safety related concerns. • All vehicle drivers will be trained in community safety aspects. Drivers will be trained in responsible and safe driving practices; safe speed limits for vehicles will be followed.

ENVIRONMENTAL MANAGEMENT & MONITORING PLANS:

During construction, ambient air quality for dust level in particular noise level (tests), solid waste management and soil contamination, and community and workers' safety (visual) need to be monitored. During operation, noise level, air quality, wastewater quality and workers' safety will be monitored. Plan has been included in **Chapter-7** of this EIA Report.

CONCLUSION & RECOMMENDATION

It can be concluded that all the major and minor adverse environmental impacts from the construction/ Establishment of LPG Storage and Filling Plant by Rhino Fuels (Pvt) Ltd has been mitigated in environmental friendly manner and the Environmental Impact Assessment is being done in the light of guidelines recommended by Punjab EPA. Hence Environmental Approval may be accorded to the subject industry for construction phase.

Recommendations:

Following Recommendations are suggested:

- Enforcement of OGRA regulations strictly.
- Regular inspection from Civil defence and Rescue 1122 should be done in operational phase.
- The plant should be constructed in light of recommended clauses of OGRA and NFPA
- All the workers should be given with proper PPE's during operation phase
- All the concerns of stakeholders should be catered before construction
- EMP should be properly implemented
- The construction and installation should be completed in guidelines of accorded Environmental Approval.

LIST OF ANNEXURE

Following Documents are attached as annexure.

ANNEXURE I: PROPONENT CNC

ANNEXURE II: PROPERTY DOCUMENTS

ANNEXURE III: LAYOUT MAP

ANNEXURE IV: GLOSSARY

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INTRODUCTION

CHAPTER 1: INTRODUCTION

1.1 GENERAL

Under the dynamic leadership of the Group and strong Human Resource, Rhino Fuels (Pvt) Ltd has been constantly striving to achieve excellence and generate highest value for all of its stakeholders. The company complies with all international and national regulations for LPG Storage and filling facility.

To full fil the compliance of section 12 of PEPA, Act 1997 (amended 2012 & 2017) Zoom Consultancy & services has been engaged for conducting Environmental Impact Assessment (EIA). Said project is the Establishment of LPG Storage and Filling Plant by Rhino Fuels (Pvt) Ltd.

This Report presents the Environmental Impact Assessment (EIA) for aforesaid unit. The purpose of this study is to identify the environmental baseline i.e. physical, biological and socio-economic/cultural conditions and assess all possible impacts arising during the construction and operation phase of the project with the aim to find out appropriate measures for their mitigation, to either eliminate those impacts or to bring them to acceptable level and formulate Environmental Management Plan (EMP) for implementation of the project in environment-friendly manner.

The report provides relevant information, as required under the officially approved format, to facilitate the decision makers i.e. EPA Punjab for the issuance of Environmental Approval.

1.2 THE PROPONENT

Name	Mr. Muhammad Arslan
CNIC	34603-1969063-7
Designation	Chief Executive Officer
Address	149-A Canal View Housing Society, Lahore
Email	Muhammadarsalann596@gmail.com

1.3 THE PROJECT

1.3.1 Nature of Project

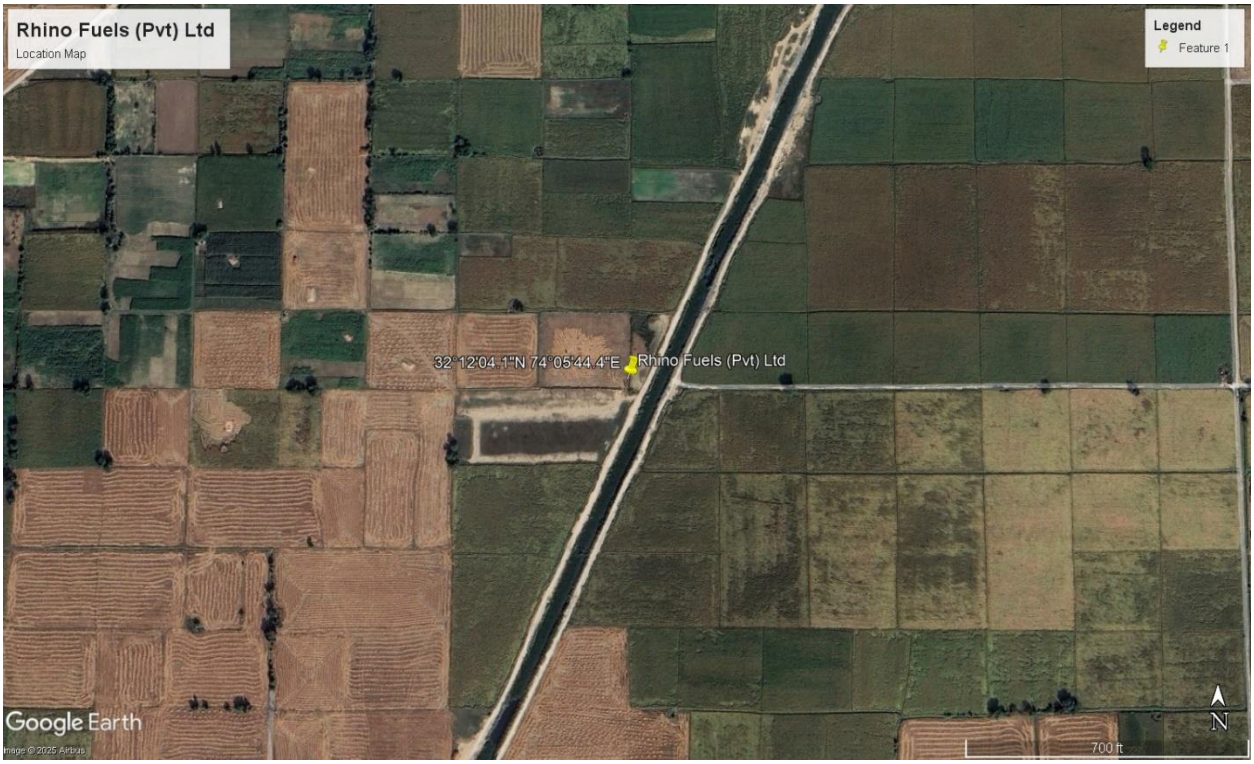
The said project is the Establishment of LPG Storage and Filling Plant by Rhino Fuels (Pvt) Ltd. Its salient features have been described later in this Chapter, Chapter 3 and briefly in Executive Summary of this EIA Report.

1.3.2 Size of Project

The total area of plot will be 11.75 Kanals and the storage capacity of unit will be 100 MT. the filing capacity of the unit will be 10 MT/day.

1.3.3 Location of Project

Said Project is located at Khasra No 409, 410, Khewat No 188, Khatooni No 359 to 363 Village Bhakharay Wali Kala, Tehsil Saddar, District Gujranwala.



1.3.4 Total area

Total area required for said project is approx. 11.75 Kanals.

1.3.5 Cost of the Project

Cost of project has been estimated at Approx. PKR 25 million.

1.4 DETAILS OF CONSULTANTS

For the preparation of the Initial Environmental Examination report of the said project, the proponent has hired the services of the environmental consultants; M/**S Zoom Consultancy & Services**. Team comprising of environmental engineers, chemical engineers, environmental experts and environmentalists has worked on this report

Environmental Compliance Studies

- Initial Environmental Examination
- Environmental Impact Assessment
- Socio-Environmental Impact Assessment
- Green House Gas Estimation
- Environmental Management Plan

1.5 PURPOSE OF REPORT

The development of any Project leads to positive and adverse changes in environmental and change in social settings of the Project Area. The intensity and level of change, however, depends upon the nature of the Project and the baseline environmental conditions of the area. The development and commencement of said project will cause minor to moderate adverse environmental and social impacts on the surrounding area. Thus, an environmental and social study is mandatory to establish the baseline conditions, evaluate the possible adverse impacts if any, and devise the mitigation measures.

Section 12 of Pakistan Environmental Protection Act, 1997 (PEPA, 1997) states ***"No proponent of a project shall commence construction or operation unless he has filed with the Provincial Agency an Initial Environmental Examination (IEE) and, where the project is likely to cause an adverse environmental effect, an Environmental Impact Assessment (EIA), and has obtained approval from the***

Provincial Agency in respect thereof." Later on, Punjab Environmental Protection Agency (Review of IEE and EIA) Regulations, 2022 provided the guidelines for categorizing the Projects. The main objectives of this EIA study were:

- 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 said project in that area.
- To identify pre-construction, construction and operation activities and to assess their impacts on environment.
- Provide assistance to the proponent for planning, designing and implementing the project in a way that would strengthen environment, improve ecological resilience, 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 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 EIA Report for submittal to the Environmental Protection Agency, Punjab for according Environmental Approval.

1.6 Structure of Report

This EIA reviews information on existing environmental attributes of the Study Area. Geological, hydrological and ecological features, air quality, noise, water quality, soils, social and economic aspects and cultural resources are included. The report predicts the probable impacts on the environment due to the said project. This EIA also proposes various environmental management measures. Details of all background environmental quality, environmental impact/pollutant generating activities, pollution sources, predicted environmental quality and related aspects have been provided in this report. The structure of the assessment report will be as follow;

- Description of the Project

- Alternatives
- Scoping & Screening
- Description of Environmental and Social Conditions
- Assessment of Environmental Impacts and Mitigation Measures
- Mitigation Measures for Identified Impacts
- Public Consultation
- Environmental Management and Monitoring Plan (EMMP)
- Recommendations and Conclusions

CHAPTER 2

SCREENING & SCOPING

CHAPTER 2

SCREENING AND SCOPING

2.1 General

This section of the study concentrates on details of the project and its salient features; such as location, site layout, objectives, selection of alternatives, cost and magnitude of operation and various phases. Inputs and discharges relevant to different phases of the project, such as electricity & materials, etc. have also been examined as a response to possible environmental concerns.

2.2 Type and Category of Project

As per Review of Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) Regulations, 2000 the Project of Establishment of Project fall in "**A (5)" Category of Schedule II i-e Oil and gas Extraction projects including Exploration, Production, Gathering systems, Separation and Storage.**

2.3 Objectives of Project

Following are the main objectives of said LPG storage and Filling unit:

1. To store LPG for nearby consumers
2. To reduce the load on natural resource SNGPL
3. To enhance the social life style of the area
4. To upgrade the socio-economic condition of the area
5. Minimization of environmental impacts by adopting best management practices.
6. To support the local economy through significant investment and upgrades to infrastructure.

2.4 Alternatives

The analysis of the alternatives is a part of the EIA process to select the best among all possible project options. The alternatives of a project are defined as the options that can

help to meet the objectives of a project by different means including alternative project sites, Environmental alternative etc. The key criteria when identifying alternatives is that they should be feasible and reasonable.

Selection of preferred alternative is based on scores of factors including cost, schedule of delivery, environmental and social impact and the cost for their redressal. The drivers that affect potential alternative options and scenarios include: availability of project sites, current technologies; design changes that need to be introduced, operational situation, capital & recurrent costs, environmental & social issues, their potential impacts, and costs of mitigation.

The details of the site alternatives and project alternatives are discussed below

2.4.1 **Site Alternatives**

No other site alternative was available to be considered as feasible option for the installation of the plant as proposed project site is owned by the M/S Rhino Fuels (Pvt) Ltd. The proposed site was selected because of the following reasons;

- The site is well connected to the other parts of the country through Alipur Chatta Road
- No human settlements displacement or relocation is associated with the project development and operation
- Operation of the aforesaid unit in the respective zone will provide job opportunities to local people and will improve their socio-economic status of the study area.
- Receptors are at safe distances

No important religious, archaeological, recreational site or ecologically/declared protected area and human settlement exists within close proximity of the selected site. In view of these facts, it can be concluded that the selected site is best suited for the project, and will not pose any adverse impact or threat on any component of the environment.

2.4.2 **Environmental alternatives**

No important environmental sensitive area, reserved forest, wild life sanctuary is present nearby the selected site. The project will not cause any impact on surface water, land or air quality of the area.

CHAPTER 3
DESCRIPTION OF PROJECT

RHINO FUELS (PVT) LTD

CHAPTER 3: DESCRIPTION OF PROJECT

This section of the study concentrates on details of the project and its salient features; such as its location, objective, site layout, cost and magnitude of operation at various phases and process employed for the subject process.

3.1 **Objectives of Project**

The main objective of this project is the Establishment of LPG Storage and Filling Plant by Rhino Fuels (Pvt) Ltd for supplying and storage of LPG as per consumer demand.

3.2 **Particulars of Project Site**

Details of location of project are provided in table below:

Table 1: Particulars of Project Site

Particulars	**Details**
Latitude	32°12'04.1"N
Longitude	74°05'44.4"E
Location Address	Khasra No 409, 410, Khewat No 188, Khatooni No 359 to 363 Village Bhakharay Wali Kala.
Tehsil	Saddar
District	Gujranwala
Nature of area	Agricultural cum industrial
Road connectivity	Alipur Chatta Road

3.3 Location and Layout of Project

3.3.1 Location of the Project

Project site is located at Khasra No 409, 410, Khewat No 188, Khatooni No 359 to 363 Village Bhakharay Wali Kala, Tehsil Saddar, District Gujranwala. Google map is given below:

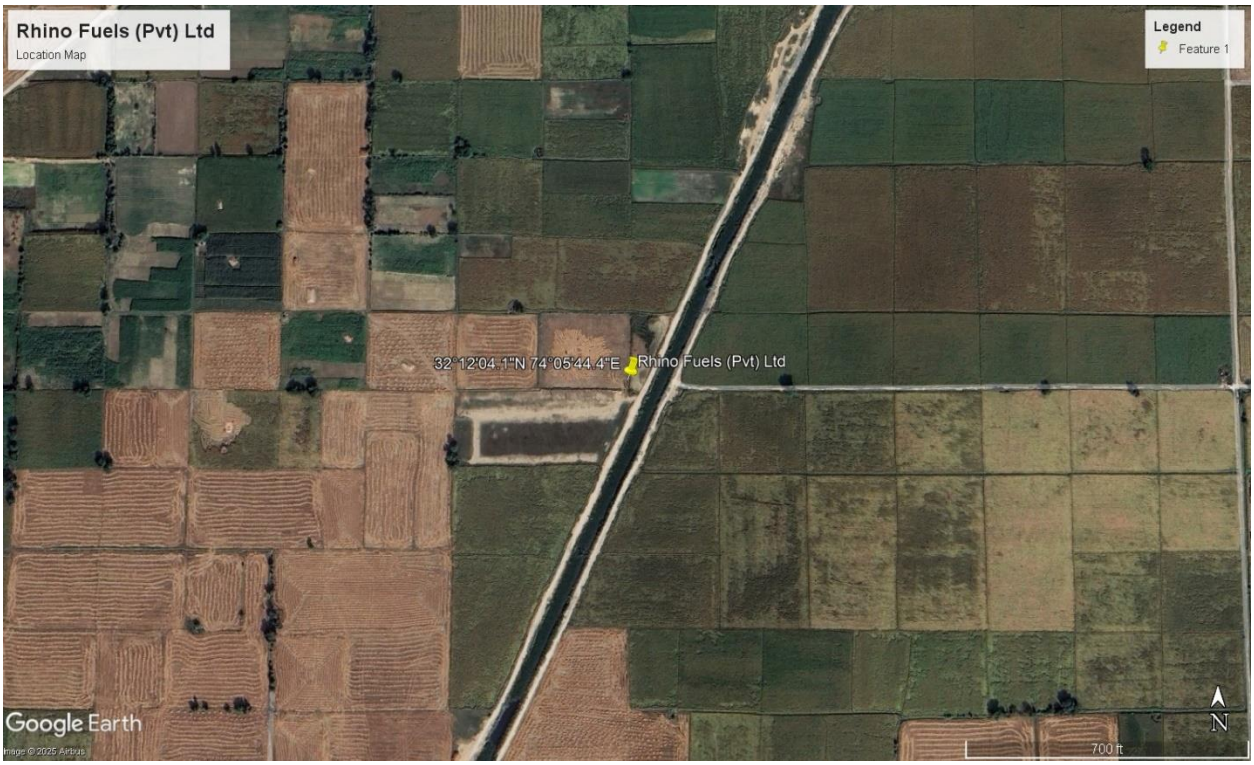


Figure 3.1 Location Map of Project Site

3.4 Nature of Area

Said area is agricultural cum industrial in nature.

3.5 Land Ownership

The land is owned by Rhino Fuels (Pvt) Ltd. Land ownership documents has been attached as **Annexure II.**

3.6 Government Approvals

Management has applied and obtained the approvals from different concerned departments. The management has obtained OGRA license for storage and filling of LPG.

3.7 Land Use on Site

The land use on the site will be industrial in nature. There is no settlement or preserved area in the proximity of the project area that could be damaged or dismantled.

3.8 Road Access

The said Project area has road accessibility as it is accessible through Alipur Chatta Road at the distance of 1.37 km from the proposed unit.

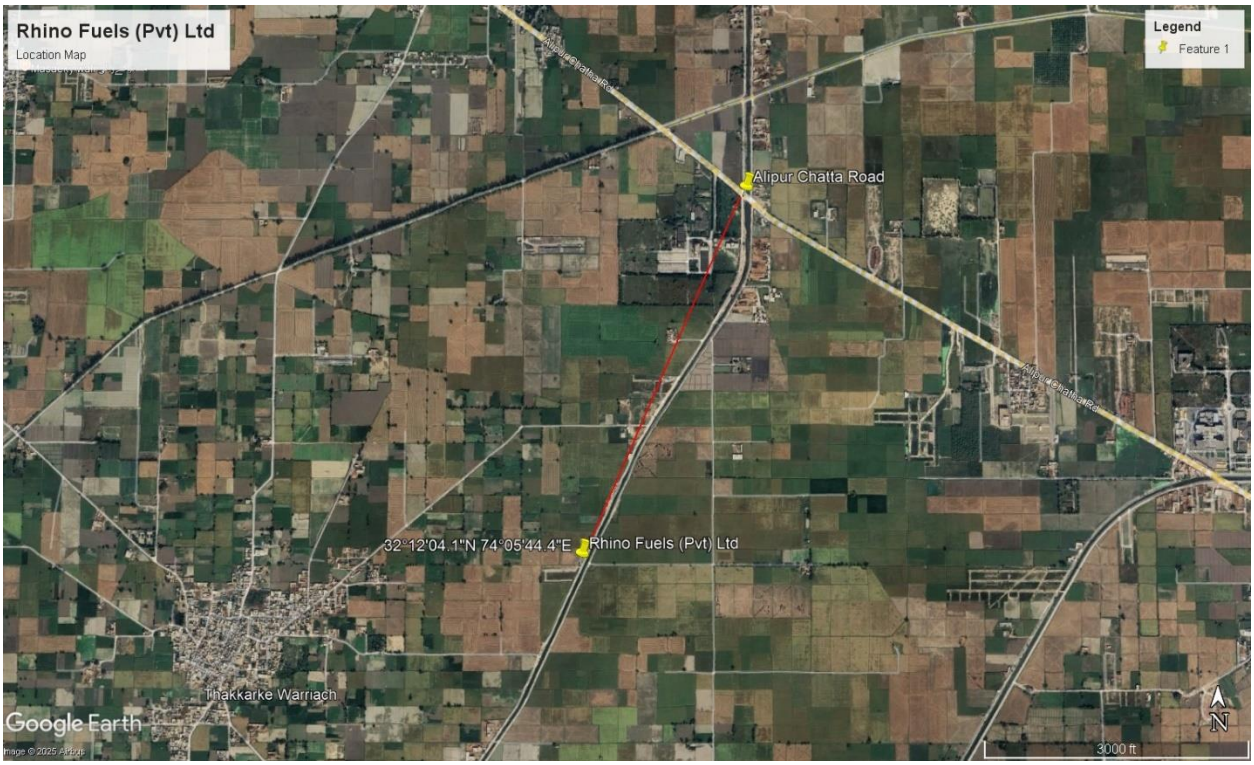


Figure 3.2 Road Access

3.9 Vegetative Features on Site

The area around the project area is industrial cum agricultural, the vegetative features of the area include; green open fields safeda, bari, neem and kikar.

3.10 Cost and Magnitude of Operation

Cost includes land cost, Building & Infrastructure cost, machinery cost, land scaping cost and running cost. Total cost of the project is PKR 25 Million (Approx.).

3.11 Schedule of Implementation

The schedule of implementation for the commencement of the civil work involved for the installation construction and operational maintenance is approximately 12 months and the detail timeline of the construction period is given in Table below:

Table 2: Timeline for Project Development

Sr. #	Activities	3 Months			3 Months			3 Months			3 Months		
		4W	4W	4W	4W	4 W	4W	4W	4W	4W	4 W	4 W	4W
1	Detailed Designing												
2	Mobilization of Contractors												
3	Lean Development Period												
4	Peak installation Period												
5	Commissioning												*
W=48 Weeks													

3.12 Description of the project:

Project description is given in details in the preceding. Additional information is provided as under:

3.12.1 Products:

The unit will be utilized for the storage of LPG. The storage Capacity of the unit will be 100 MT. Two tanks of 50 MT will be installed in the unit. The tanks and overall unit will comply by the relevant regulations and applicable clauses.

3.12.2 **Components of Unit:**

Following will be the components of the unit:

Sr. No	Components
1.	Admin Block
2.	Filling Shed Area
3.	Panel and Generator Room Area
4.	Security Room

3.12.3 **Plant Specifications:**

2 storage tanks of 50 MT will be installed at the unit for LPG storage. It will be ensured that the tanks to be Installed will be compliant to national and international standards. Following pointers will be considered strictly while constructing the unit.

1. Storage Tank and Fitting will be designed as per ASME Sec _ VIII. Div – 1
2. Boundary wall height will be 7 Feet, Block Masonry and 2 feet Barbed wire.
3. All LPG lines will be Sch – 40 SA 106 Grade B
4. All fire lines will be Sch 20 SA 106 Grade B
5. LPG fitting will be class 300
6. Water lines fitting will be class 150
7. Fire water storage capacity will be 62000 Gallons
8. Storage tank will be mounted on RCC foundation
9. Fire water pump capacity will be 500 GPM @ 125 PSI
10. Plant will be designed as per NFPA 58 guidelines
11. Fire fighting equipments will be designed as per NFPA 20 and NFPA 15 guidelines.

3.12.3.1 Storage Mechanism of LPG

Filling & Receiving Mechanism

LPG arrives through road tankers, rail wagons, or pipelines.

Product is offloaded into the storage vessels through unloading pumps/compressors.

Excess vapors are managed through vapor return lines to maintain balance and prevent venting.

Pressure & Temperature Control

Safety Valves (PSVs): Prevent over-pressurization.

Water Spray System: Keeps tank surface temperature under control in case of fire.

Earthing & Cathodic Protection: Protects against static charges and corrosion.

Insulation (for refrigerated storage): Minimizes boil-off losses.

Distribution & Supply System

Pumps/Compressors: LPG is pumped from storage vessels to bottling plants, road tankers, or pipelines.

Loading Gantries: For filling into bulk road tankers or cylinders.

Vaporizer Units: Where LPG is converted back to vapor form before supply to industries or pipelines.

Safety Mechanism

Fire Protection: Hydrant network, sprinklers, foam monitors.

Leak Detection: Gas detectors installed around storage.

Dykes & Drains: Contain spillages and prevent soil/water contamination. Emergency Shut Down (ESD): Automatic isolation in case of abnormal conditions.

3.12.3.2 Process at Rhino Fuels (Pvt) Ltd

At the said proposed project, LPG will be stored in the storage tanks, and it will be connected with filling shed to be constructed at the plant. The filling lines will be laid down by following recommended regulations to avoid any leaks and accidents. LPG will reach to the filling shed with the help of LPG pump. Vehicles will reach the facility after

thorough security and safety checks to the filling station and will be placed accordingly at the filling station. The supply of LPG will be done by automatic safety valves under pressure and once the filling will be done the vehicles will be sent out by following safety procedures.

3.13 Relocation and Rehabilitation Plan

There exists no human settlement within premises of the selected project site to be displaced as a result of the proposed project. As the selected site is located at designated industrial estate So, no restoration and rehabilitation are required.

3.14 List of Machinery

List of Machinery is as under:

Table 3: List of Machinery

Sr. No.	Machinery / Equipment
1	LPG Storage Vessels (Bullets, Spheres, Mounded Tanks)
2	Tank Fittings (level gauges, safety relief valves, pressure & temperature gauges)
3	LPG Transfer Pumps
4	LPG Compressors
5	Pipelines & Manifolds
6	Loading Gantries / Filling Bays
7	Filling Arms / Flexible Hoses
8	Flow Meters & Weighing Scales
9	Vapor Return Lines & Recovery System
10	Automatic Shut-off Valves / ESD Systems
11	Auto-Gas Dispensers (with nozzles)

14	Check Weighing Machines
15	Fire Fighting System (hydrants, sprinklers, foam monitors, water spray)
16	Gas Leak Detectors (LPG sensors)
17	PLC Control System
20	Truck/Vehicle Earthing Clamps
21	Pressure Reducing & Regulating Systems
22	Emergency Power Backup (DG Set)
23	Air Compressors
24	CCTV & Security Systems

3.15 **Amenities**

The following social amenities are present at site and the management of the waste (construction waste, solid waste and effluents) is explained in sub-sections below:

3.15.1 **Electricity Consumption**

Electricity consumption will be fulfilled by WAPDA and a backup generator.

3.1.1. **Water Resource**

During construction and operational phase ground water will be consumed. The water will be pumped from ground through turbine. Water conservation plan will be prepared. For this purpose, rain water harvesting will be done. The management will utilize rain water for the fire water storage tanks having capacity of almost 62000 Gallons.

3.15.2 **Firefighting Details**

The management of Rhino Fuels (pvt) ltd will follow the fire fighting regulations for volatile compounds as suggested by NFPA. For this purpose, fire fighting equipments will be installed on the unit. Following is the list of equipments that will be installed in the unit to avoid fire out break:

Sr. No	Equipments	Quantities
1.	Fire Monitor	04
2.	Fire Hydrant	04
3.	Fire extinguishers trolly mounted DCP 50 Kg	03
4.	Fire Extinguisher DCP 09 Kg	06
5.	Fire extinguisher CO2 5 Kg	10

3.15.3 **Management Plans**

Following management plans will be implemented to reduce the impact of the proposed activity:

3.15.4 **Air Emissions**

Air emissions will likely to be caused by the vehicles movement in the plant for filling purposes. There will be no other chance of air emissions from the proposed project. To detect leakage from the storage tanks and other equipments accident handling approach will be adopted.

3.15.5 **Wastewater Management and Disposal**

In the proposed project the wastewater will be generated from municipal activities. There will be no chance of wastewater generation as the unit will only be storage and filling of LPG. Domestic wastewater will be disposed off nearby drain after primary treatment.

3.15.6 **Waste Management**

The solid waste will be generated during the cooking in the worker's mess and will only be domestic in nature. The solid waste will be sold off to certified contractors for safe disposal.

3.15.7 **Emergency Preparedness**

Emergency response preparedness committee will be formulated consisting of heads of all departments and nominated members. Project Manager will be the head of the team who will chair the Committee. In the case of emergency, he will immediately inform the concerned authorities. HSE Manager will be responsible for on-site HSE management.

First aid facilities will be available at facility which will include; blankets, hot water bottles, sterilized dressing, snake bite kit, cotton and iodine (2% alcohol).

3.15.8 **Safety Trainings**

Skilled, semi-skilled and un-skilled staff will be provided with proper training about the work and safety practices that need to adopt during the process activities.

3.15.9 **Use of Drugs and Narcotics**

Drugs and narcotics are strictly prohibited during working hours in working area. Smoking will be only allowed during rest timings at properly isolated places.

3.15.10 **Personal Protective Equipment**

Following Personal Protective Equipment (PPEs) will be provided to the workers:

- Safety Helmet
- Coveralls
- Safety Shoes
- Dust Mask
- Safety Gloves
- Safety goggles
- Ear plugs/ muffles

CHAPTER 4
DESCRIPTION OF ENVIRONMENT

RHINO FUELS (PVT) LTD

CHAPTER 4: DESCRIPTION OF THE ENVIRONMENT

4.1 GENERAL

An environmental baseline study is intended to establish a database against which potential project impacts can be predicted and managed later. The EIA of the proposed Project covers a comprehensive description of the project area, including environmental attributes which are expected to be affected by the project, as well as, those which are not expected to be directly affected by the construction and operation of the project. The existing environmental conditions around the proposed project have been considered with respect to physical, biological and socio-economic aspects. Site visits were conducted to survey the field area and to collect environmental data on physical, biological and socioeconomic parameters. Further, consultations were held with the general public and stakeholders of the project area in order to seek the public opinion on the implementation of the proposed project

4.2 Methodology

The methodology employed to collect the baseline data and information regarding the social structure and various related parameters as discussed in sub-sections below:

4.3 Data Collection

The primary data was collected by visiting the project area and its communities in its nearby vicinity. The secondary data regarding physical parameters (topography, geology, seismology, and climate) was obtained by visiting relevant various government departments and their official websites. The biological parameters such as flora and fauna were studied by preparing a floristic list based on visual observation and fauna was studied by using opportunities approach. The species were recorded with reference to their existence in the project area. Information on wildlife fauna species (mammals, amphibians, reptiles, birds, etc.) in the assessment area was compiled based on opportunistic observation, gathering the existing information and consultation with local

experts, community members and government and Non-Government Organizations (NGOs). The socioeconomic aspects were studied and analyzed by studying detailed village profile and by conducting household surveys.

4.4 Social Survey

The purpose of social survey was to record the present condition of the people living in the project area and to assess the expected project impacts on their life, subsistence systems and socio-cultural conditions. Prior to conducting the field surveys, the following steps were taken:

- Clear boundaries of the project area were identified
- Decided the sampling procedure in order to draw a representative sample size of the target population and households
- Developed the tools for data collection i.e. questionnaires to access the socio-economic status of the area

4.5 Sampling Design

Social baseline data of the persons residing in the study area has been estimated and collected through random sampling by using pre-developed questionnaires.

4.6 Questionnaires

In order to test the validity and reliability of the proposed questionnaires, they were reviewed to assess whether questions needed to be clarified, changed or re-sequenced and then a final editing of questionnaires was conducted prior to their application in the project area.

4.7 Data Editing and Analysis

The filled questionnaires and recorded information were compiled by the same field investigators who were involved in the data collection. This was done immediately after

completing the field investigations. Data sets were processed. Analysis of the data and preparation of conclusions in the minimum possible time was done using statistical techniques of data analysis.

- **Review of Legal and Administrative Framework**

The objective of reviewing legal and administrative framework is to obtain information on all legislation pertaining project development. The Socio-Environment Team of Tti Testing Laboratories reviewed the environmental policies, national, international and provincial laws and guidelines relevant to the development of project which helped in systematic identification of impacts.

- **Baseline Conditions**

Baseline conditions refer to the existing physical, environmental and socio-economic status of the project area. On the basis of baseline information, the project interventions are assessed and mitigation measures are proposed. The baseline information also helps to indicate the specific issues to be monitored during construction and operational phases. The baseline data (physical, biological and socio-economic parameters) related to the project area is described below. Information provided is based on primary and secondary data collected by site visits, desk studies and consultation with locals respectively. This section gives the overview of the topology, geology, seismology and meteorological conditions of whole city whereas, it gives detailed information about the surface water, ground water and air quality of the project area. The detail of each parameter is discussed in sub-sections below:

4.8 PHYSICAL RESOURCES

The physical resources consist of existing land form and land use at the project site including geology, hydrology, meteorology and climatology. The pre-project condition (i.e. baseline) of these components of the physical environment is described in detail. To identify the potential impacts on the physical, biological and socio-economic environment that is likely to arise from the project activities.

4.8.1 Geography and Geology

The soil deposits at the project site belong to Chung Fun formation indicating the last glacial cycle. It was followed by the period of melting of glaciers, resulting in deposition of clay, silt and sand deposits in late Pleistocene to recent. With gradual drawl of the sea during the late territory time, shallow water and possibly deltaic deposits were laid down. It became a vast flood plain on which debris of numerous streams have mingled to load it with huge thickness of alluvial material derived from the Himalaya. Though, there is no evidence of any glaciations in the area, the series of great climatic changes during the Pleistocene period had impact on the sedimentation in physiography of this region.

4.8.2 Topography

Topography of the project area is flat. The general height of the area is approximately 226 meters above the Mean Sea Level (MSL).It runs parallel to the River Ravi on its right bank in Rachna Doab (flood plains between Ravi and Chenab) through fertile plains with lush green agriculture fields crossing several irrigation channels and water courses, drains and existing road links. On its way, road passes through several population centers and villages namely Kot Ranjeet Singh, Majoo Chak, Qila Mustafa abad, Tatly Aali, Kot Bilal, Ghumanwala, Marali Wala etc.

4.8.3 Hydrology

Groundwater from depth of 100 ft can be used for drinking and other purpose. Groundwater is the major source of water in the study area, which is extracted with the help of pumps and motors. The groundwater extracted is used to fulfill various domestic, irrigation and industrial needs. Ground water quality report of area is annexed. No surface water body is present within 10 km radius of the project site.

4.8.4 Climate

4.8.4.1 Temperature

Climate of District Gujranwala is very hot and dry in summer and cool in winter. The hottest months are April to September. The maximum and minimum temperatures are 46oC and 28oC respectively. The coldest months are December to February. During this period the temperature fluctuates between 16oC and 6oC as shown below. Temperature at the project site was 28°C

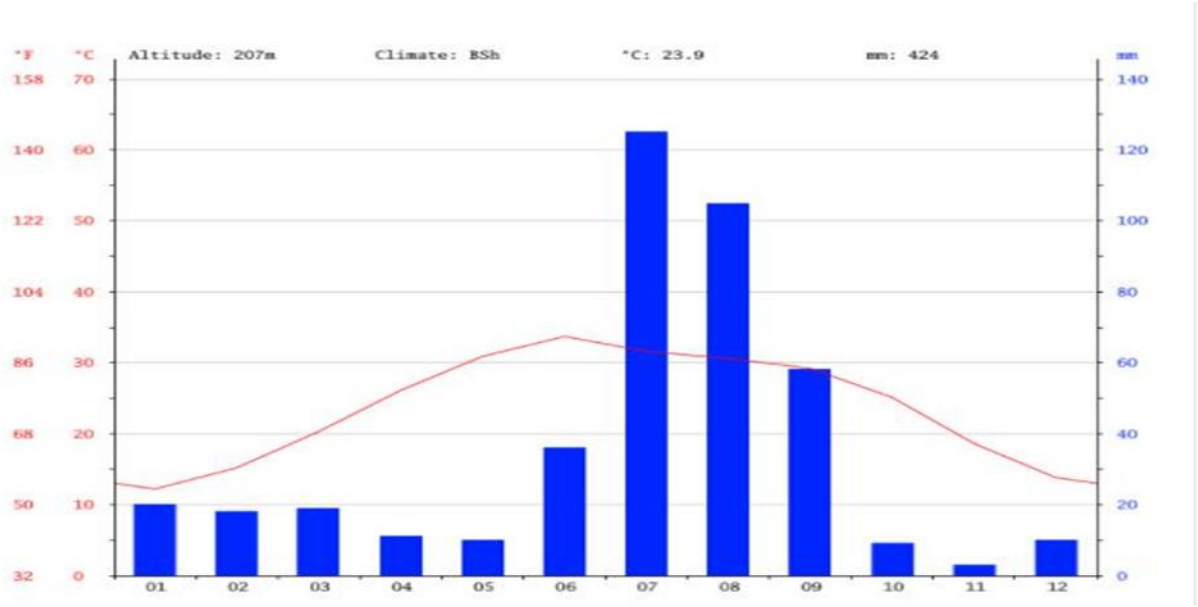


Figure 4.1 Average Temperature of the area

4.8.4.2 Rainfall

Precipitation is the lowest in November, with an average of 3 mm. The greatest amount

of precipitation occurs in July, with an average of 125 mm.

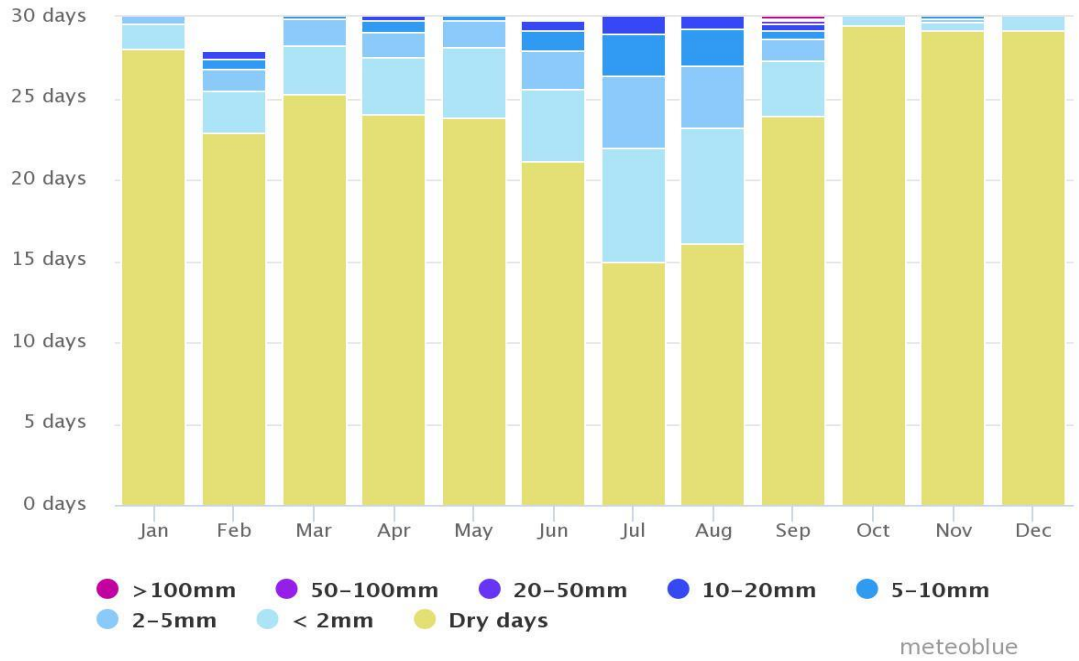


Figure 4.2: Average Annual Precipitation (Source : Meteoblue)

4.9 ECOLOGICAL ENVIRONMENT

Gujranwala is enriched with the presence of natural flora and fauna, although with the growing population and development activities, the presence of the some has been somewhat affected. They are discussed in detail below:

4.9.1 Aquatic Flora and Fauna

No aquatic ecosystem (i.e. canal, stream, river or pond) observed within or around the study area, which omits the possibility of any kind of aquatic species that may be harmed due to the establishment of proposed project.

4.9.2 Flora

The project is located in agricultural area. The project site has no vegetative cover, hence, no trees or vegetation will be removed.. The dominant tree species in study area include; Eucalyptus, Neem, and Kikar. The crops present around project site include wheat,

sugarcane and common grass. The nomenclature including common, English, local and botanical names of the flora found in the study area are presented in Table 7:

Table 4: Inventory of the Trees Present in Gujranwala District

S#	Common Name	Scientific Name
1	Neem	*Azadirachta indica*
2	Kikar	*Vachellia nilotica*
3	Safeda	*Eucalyptus globulus*

4.9.3 Fauna

For study of fauna in the project area, field guides and books were consulted. On the other hand field observations were conducted along with the interviews of local community members about the fauna of the area. The equipment used in field included cameras, binoculars and GPS device (wherever required). It is important to note that there is a number of factors which can change the findings of such survey. It may be pointed out that the pattern of seasonal migration of small birds varies depending upon each specie. During the construction activity in project area, no important biological feature will be damaged or disturbed as the project falls in industrial area.

The fauna commonly found in District Gujranwala includes; Hares, Falcon, Eagle, Quail, Starling, Jungle Pigeon, Russian Sparrow, Doves, King Fisher, Parrot, Crow and Local Sparrow.

Commonly found mammals in the area include; dogs, cats, horses, house-rats, squirrels, porcupines and bats. However, Small Indian Mongoose and Indian Palm Squirrel are also found in the District Gujranwala.

Table 5: Mammals in the Study Area

S#	Common Name	Scientific Name
1	Rat	*Rattus*
2	Bat	*Chiroptera*

3	Small Indian Mongoose	*Herpestes javanicus*
4	Indian Palm Squirrel	*Funambulus palmarum*
5	Porcupines	*Erethizon dorsatum*
6	Squirrels	*Sciuridae*

The commonly found birds species include; House Sparrow, Crow and some of them are mentioned below with scientific names:

Table 6: Birds in the Study Area

S#	Common Name	Scientific Name
1	House Sparrow	*Passer domesticus*
2	House Crow	*Corvus splenders*
3	Pigeon	*Columbidae*
4	Bulbul	*Pycno notidae*
5	Teetar	*Francolinus francolinus*
6	Parrot	*Psittaci forms*
7	Titodi	*Vanellus indicus*

In District Gujranwala reptiles such as Snakes (Cobra and Kraits), Spiny Tailed Lizard and Fringed Toed Lizard are common in the tract, but cases of snake bites are very rare, as these reptiles have been either killed by expanding urbanization or they have moved away.

Table 7: Reptiles in the Study Area

S#	Common Name	Scientific Name
1	Snake	*Serpentes*
2	Spiny Tailed Lizard	*Uromastix hardwickii*
3	Fingered Toed Lizard	*Acanthodactylus cantoris*
4	Earthworm	*Lumbricina*

The amphibians commonly seen around the project area, especially during the rainy season includes;

Table 8: Amphibians in the Study Area

S#	Common Name	Scientific Name
1	Common Frog	*Rana temporaria*
2	Indus Valley Toad	*Bufo stomaticus*

A large number of insects are present due to open fields in the project site. Few of these insects are known to cause diseases in local population. Following is a list of commonly observed insects at the site:

Table 9: Insects in Study Area

S#	Common Name	Scientific Name
1	Black Ants	*Paratracheaiognicornis*
2	Dragon Fly	*Dragon Fly*
3	House Flies	*Musca domestica*
4	Butter Flies	*Parnassiusbalucha*
5	Honey Bees	*Apismellifera*
6	Wasps	*Anagyrus pseudococci*
7	Grasshopper	*Melanoplus differentialis*
8	Mosquito	*Anophlese sp.*

No endangered species are found at the site. The area has not been identified as ecologically sensitive area by wildlife department.

4.10 Environmental Monitoring

Laboratory analysis for environmental monitoring of proposed site is done in order to check the baseline conditions and pollution load. In this connection M/S Tti Testing Laboratories which is EPA certified laboratory, was engaged to carry out environmental monitoring of wind speed, air quality, drinking water quality, noise level and particulate matter concentration in the project area.

4.10.1 Sampling Sites

Samples of water, noise and air for testing according to the testing guidelines of Punjab-EPA. It also defines number of samples as well as the number of sites from where samples were collected.

Table 10: Sampling Sites Details

Sr#	Particulars	Details
1	Number of Samples	Three (03)
2	Kind of Monitoring	Ambient Noise, Ambient Air and Ground Water
3	Sampling Sites	One (01)

4.11 SOCIO-ECONOMIC RESOURCES

This section provides collective information about the existing socio-economic and environmental condition of the project area within the AOI. The different types of socio-economic aspects were covered such as demographic profile, occupation, education and health facilities. This data helped in identifying major interventions for the development of Environmental Management and Monitoring Plan (EMMP). The study also helped to assess the positive or adverse impacts on local community.

4.11.1 Socio-Economic Profile of Study Area

This topic provides an overview of the baseline information relating to the socio-economic environment of the project area and the AOI. The socio-economic study gives information about the demographic profile, occupation, education and health facilities in the project area.

4.11.1.1 Nearby Residential Areas

The proposed project site is located Thakkarke Warriach at distance of 1.2 Km

During the survey of project area, socioenvironmental team of Zoom Consultancy & Services visited near by residential area which is in the closest to the project site.

4.11.1.2 Social and Public Amenities Available

The social and public amenities present in the area are given below:

a. Physical structures

There is no population living around the project area however, 5-10 semi pukka houses area present at distance of 1.4 km from project site. The land use on the project site is industrial. The people in this area are deprived of basic facilities like health, proper sewerage and sanitation facility, medical facilities, provision of safe drinking water, etc.

b. Religious Structure

There is no shrine, structure or any other religious infrastructure present in the said project site that could be damaged and dislocated due to the project establishment.

c. Protected Structures

There is no protected site, structure or any other social infrastructure present near project site. Changa Manga Reserved Forest is present at distance of approx. 20 km.

d. Cultural Heritage and Community Structure

Tti Testing Laboratories team also visited the study area but did not find any cultural heritage and community structure within the study area that could be impacted due to the proposed project.

4.12 Quality of Life Values

Socio-Economic Questionnaire and Environmental Checklist were used as survey tools by the Tti Testing Laboratories survey team to collect desired information. Graphical representation of results of Socio-Economic Survey is given below:

4.12.1 Occupation of Respondents

Majority of the respondents (70%) are attached with agriculture, 15% shopkeepers and remaining 15% are labors. During survey, efforts were made to interact with people representing all walks of life. The detailed graphic representation of occupational status is given below:

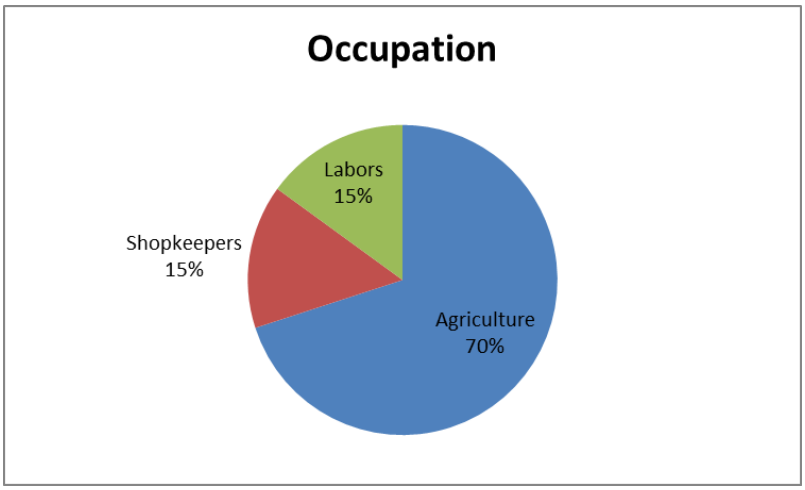


Figure 4.3 Occupation of residents

4.12.2 Literacy Rate

From survey results, it was found that 75 % of the studied population was illiterate, 15% was up to primary level, 10% studied up to middle level.

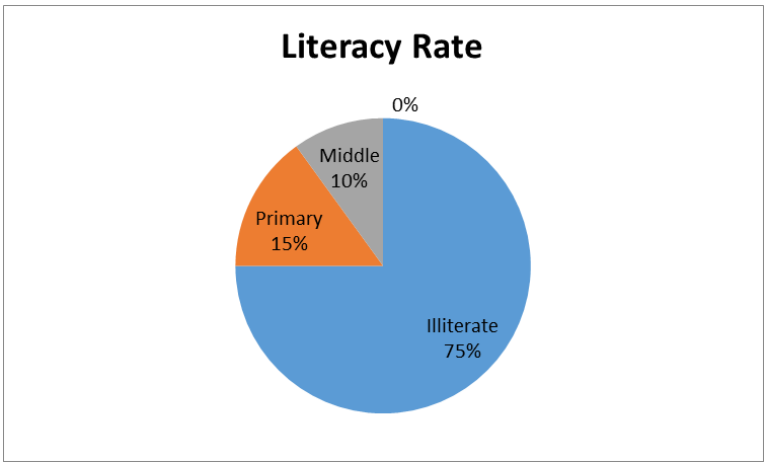


Figure 4.4 Literacy rate

4.12.3 **Industries**

After Karachi and Lahore, Gujranwala is the biggest industrial area in Pakistan. There has been a steady expansion of industries in and around District Gujranwala since independence. There are many large industrial units in the district. These units manufacture cotton, woolen and silk cloths, carpets and rugs, textile products, lather and rubber foot wears, wearing apparel, pharmaceutical goods, soap, iron and steel products, heating, plumbing and lighting equipment, hardware, miscellaneous fabricated products, agriculture machinery, engines and turbines, textile machinery, printing machinery, metal working machinery, pumps and compressors, household machinery, water generators, motor generators, transformers, electric fans, communication equipments, cycles and rickshaws. There are also a good number of printing and publishing units and body building workshops. Besides, there are units of canning and preservation of food, edible oils, beverages, metal and wood furniture, rubber products, chemicals, glass products, repair of railway equipment, toys, stationary etc.

4.12.4 **Educational facilities**

In the project area some educational institutions are found which include Allied School, Kips School, Dar-e-Arqam School and Punjab School. Overall in Gujranwala District, educational facilities are mainly being provided by the Government of Punjab, the city government and the private sector and voluntary organizations.

4.12.5 **Facilities Available**

Facilities available at the houses, shops and factories are depicted here. It shows that electricity, water supply, telecommunication, sewerage, gas supply and every other routine facility is available in study area.

CHAPTER 5

STAKEHOLDER CONSULTATION

CHAPTER 5: STAKEHOLDER CONSULTATION

5.1 GENERAL

Public consultation refers to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. According to the IEE and EIA Review Regulations, public consultation is mandatory for any socio-environmental study.

Impact assessment survey and public consultation sessions held with different stakeholder groups that may be impacted by the said project development. The consultation process was carried out in accordance with the guidelines laid by EPA. The objectives of this process were to:

- Share information with stakeholders on said project installation and operation
- To access the impacts on the physical, biological, and socio-economic environment
- Understand stakeholder concerns regarding various aspects of the project
- Understand the perceptions, assessment of social impacts and concerns of the communities of the project area
- Find out the awareness level and situation of acceptability to identify any issues for the implementation of the said project
- To invite people to express their views about the positive/negative impacts on their life styles and environment

This report includes all the comments, which were taken into account in preparing the definitive development concept for the establishment of said project. Public consultation performa is attached as Annexure of this EIA Report.

5.2 OBJECTIVES OF CONSULTATION

Public consultation plays a vital role in studying the impacts said project on stakeholders in its successful implementation and execution. It provides an opportunity to exchange

knowledge with theall stakeholders. Referring particularly to a project related to environmental assessment, involvement of public is all the more essential, as it leads to better and more acceptable decision-making. The overall objective of the consultation with the stakeholders is to help verify the environmental and social issues, besides technical ones, that have been presumed to arise and to identify those which are not known or are specific to the project. In fact, discourse with many who have thoroughly observed the site conditions in the pre-developmental phase, goes a long way in updating the knowledge and understanding.

5.3 IDENTIFICATION OF STAKEHOLDERS

All the people who are directly or indirectly affected or concerned with the project are the stakeholder. Besides the living population of the surrounding areas, some other stakeholders were identified and contacted. They are the key players including; shops owners, vendors, public offices, school, university, hospitals,. Not only published material (Both brief and comprehensive literature were obtained on request) but also noted their views and the concerns. Following stakeholders are identified for this project:

Project stakeholders include the settled families, either property owners or the tenants, businessmen (land owners, traders, shopkeepers, vandors, transporters, restuarent owners etc.), employees of the commerical entities. PAPs are of two types, for instance:

5.3.1 **Direct**

In this case, the PAPs are those who will be benefited directly by project. No disturbance on the local community is being foreseen due to the installation of the said plant.

5.3.2 **Indirect**

Indirect impact will occur on those who are living or doing business within project area of influence. Indirect respondents include;

- ✓ Government agencies responsible to deal with the project related activities
- ✓ Government Agencies directly, indirectly or widely involved in the execution and monitoring of the said project

- ✓ Workers of political, cultural, religious or social scientific bodies, directly or indirectly related

5.4 PUBLIC DISCLOSURE

Public disclosure is the outcome of all such activities where public is involved at least in the information sharing process. This is an integral part of that process so before the proponent applies for NOC to the EPA, this disclosure will be distributed properly among all stakeholder. It is the responsibility of the proponent and the consultants to display public disclosure document at prominent places where community has easy access.

5.5 CONSULTATION PROCESS

Information disclosure, public consultation and discussion regarding the various aspects of the project with the people of the area are necessary. This process is intensified during the EIA Studies, and separate rounds of public consultations were held. Surveys were carried out in order to investigate physical, biological and socio-economic resources falling within the immediate area of influence of the project. Primary data collection included:

- Data collection regarding the socio-economic condition of the study area
- Pretesting of socio-economic survey tools in the field
- To consult the locals for collection of information on biological environment

Various meeting with the stakeholders were held the following objectives:

- Share information with stakeholders on the said project and expected impacts on community in the vicinity of the project
- Understand stakeholders' concerns regarding various aspects of the project, including the existing condition of the upgrading requirements, and the likely impact of construction and operation activities
- Provide an opportunity to the public to influence the project design in a positive manner
- Obtain local and traditional knowledge, before decision making

- Increase public confidence about the proponent, reviewers and decision makers
- Reduce conflict through the early identification of controversial issues, and work through them to find acceptable solutions
- Dissemination of information through discussions, education and liaison
- Documentation of information narrated by the stakeholders and mitigation measures proposed by the stakeholders
- Incorporation of public concerns and their address in the EIA; and eliciting their comments and feedback

5.5.1 Consultation Methodology

The methodology adopted for consultations is summarized below.

5.5.1.1 Consultation Material

The main document for distribution to stakeholders during the consultations was Social Impact Assessment Interview. The filled Survey forms of stakeholders are annexed

5.5.1.2 Consultation Mechanism

Primary stakeholders were consulted during informal and formal meetings held in the project area. The consultation process was carried out in the Urdu language. During these meetings a simple, non-technical, description of the project was given, with an overview of the project's likely human and environmental impact. This was followed by an open discussion allowing participants to voice their concerns and opinions. In addition to providing communities with information on the said project, their feedback was documented during the primary stakeholder consultation. The issues and suggestions raised were recorded in field notes for analysis, and interpretation.

By reaching out to a wider segment of the population and using various communication tools such as participatory needs assessment, community consultation meetings, focus group discussions, in-depth interviews, and participatory rural appraisal EIA involved the community in active decision-making. This process will continue even after this EIA has

been submitted, as well as during future EIA in which similar tools will be used to create consensus among stakeholders on specific environmental and social issues.

Secondary stakeholder consultations were more formal as they involved government representatives and local organizations, consulted during face-to-face meetings. They were briefed on the EIA process, the project design, and the potential negative and positive impact of the project on the area's environment and communities. It was important not to raise community expectations unnecessarily or unrealistically during the stakeholder consultation meetings in order to avoid undue conflict with community's leaders or local administrators. The issues recorded in the consultation process were examined, validated, and addressed in the EIA report.

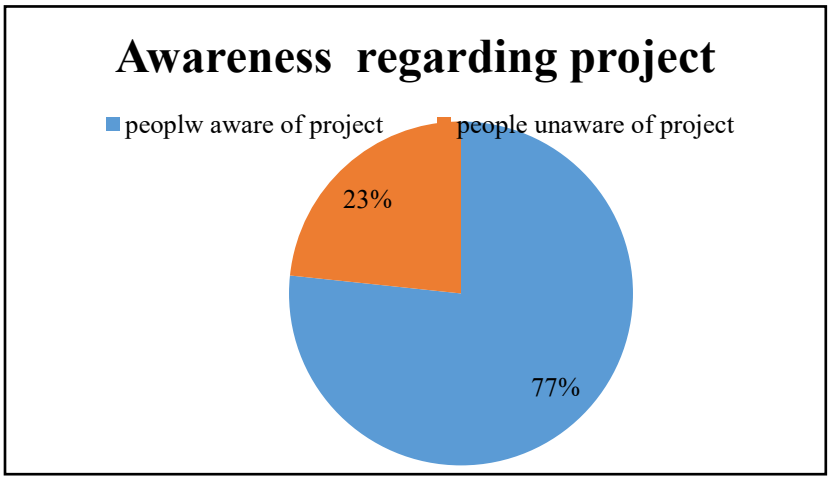
5.5.2 **Primary Stakeholders Consultation**

The community consultations were conducted with the community members outside their settlements to encourage and facilitate their participation.

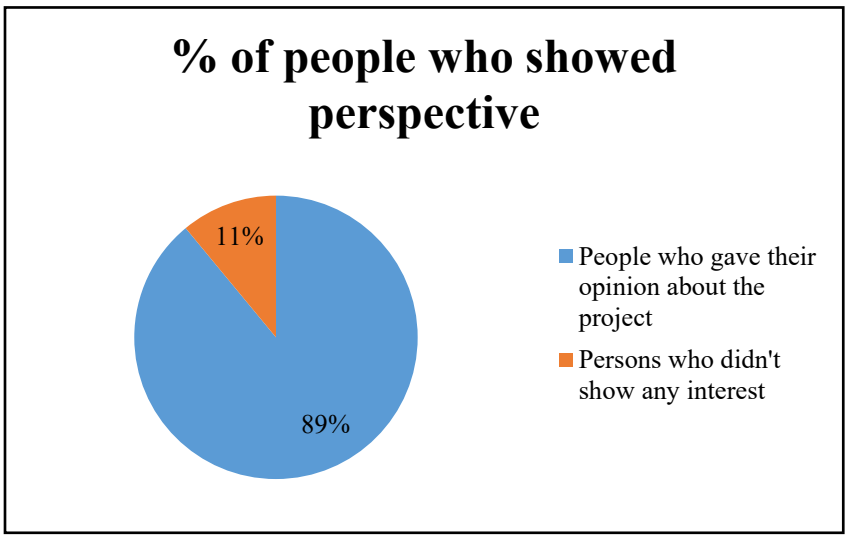
5.5.2.1 STAKEHOLDER CONCERNS AND RECOMMENDATIONS

The finding of the community consultation has been addressed in various sections of EIA. Mitigation plan has been incorporated into EMP. The summary of consultation with various stakeholders is given below

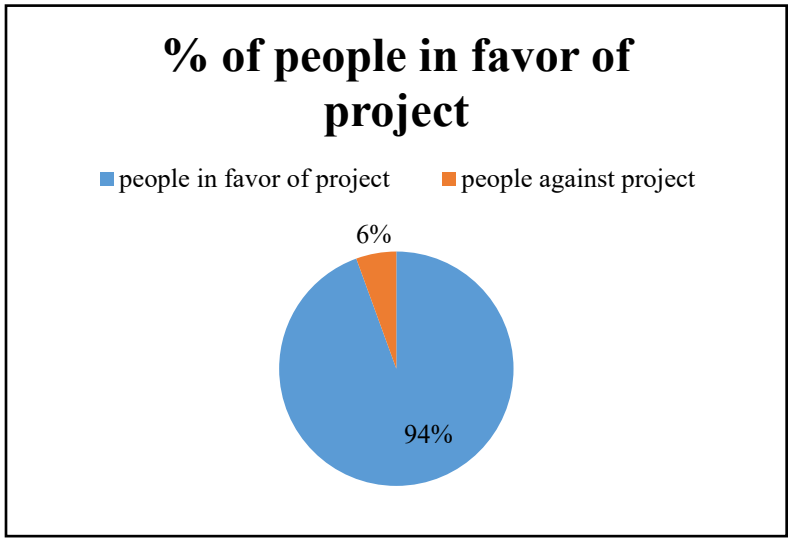
Out of total respondents of, 77% knew about the project whereas 23% were not aware of the project planning and implementation. All people were then briefed about the project.



89% commented their views about the project and 11% didn't respond.



Out of 89%, majority of the people (about 94%) favored the construction of the project keeping in view its importance and 6% people showed pessimistic views in general but mitigation measures and solutions to their concerns were provided.



Majority of people were in favor of project. They said that project will result not only in direct jobs opportunities for locals but also will enhance subsidiary business, trade, education, and agriculture and community development. The people were of the view that industry might also elevate education standards, struggle for career enhancement besides improvement in standard and quality of living in area. People were also of the

view that industry may also be instrumental in connecting the local people with major cities and will result in increase in GDP.

Very few near to 6 % only shows concerns over power house emissions, noise, wastewater and health impacts. Majority of the concerns were changed in the favor of installation after communicating the participants proper solutions and mitigation measures

5.6 STAKEHOLDERS CONSULTED

Names of consulted stakeholders are given in table below:

Table 5-1: List of consulted stakeholders

Sr. No	Stakeholder name
1.	Muhammad Naeem
2.	Farman Ali
3.	Bashir Ali
4.	Shehzad Saleem
5.	Parvez Hussain
6.	Muhammad Fayyaz
7.	Muhammad Ikhlaq
8.	Muhammad Asif
9.	Muhammad Anwar
10.	Muhammad Asad
11.	Muhammad Adeel
12.	Abdul Rehman
13.	Allah Ditta
14.	Arif Khan
15.	Basheer Hussain
16.	Ghulam Nabi

17.	Nasrullah
18.	Muhammad Aslam
19.	Hameed Ahmad
20.	Muhammad Zafar
21.	Muhammad Maqsood
22.	Muhammad Farooq

5.6.1 Secondary Stakeholders Consultation

The consultations were carried out with the local government officials and officials of the following departments:

1. District Office Environment
2. Proponent
3. Environmental Precautionar

Comments and recommendations of all government representatives are presented in table below:

S#	Participant	Designation	Concerns/Remarks
Responsible Authority			
1	Mr. Jahantab	Inspector Environment	• Environmental enhancement measures such as; Tree plantation, monitoring and safety should be ensured • HSE plan should be enforced strictly • Should work for local people benefit • Preventive measures should be adopted to avoid any unfortunate incident
Proponent			
1	Muhammad Arslan	Proponent	• Local employment will be ensured • Tree plantation will be done to make project environment friendly • HSE rules will be strictly followed.
Environmental Practitioners and Experts			
1	Dr. Muhammad Faqir Irfan	PhD. Environment Lawyer	• Health and safety arrangements must be provided

CHAPTER 6

POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

CHAPTER6: POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

6.1 GENERAL

This chapter describes the potential environmental and social impacts of the proposed activities, predicts the magnitude of the impact and assesses the significance. The main intention of this section is to provide the mitigation measures that need to be adopted wherever necessary, to reduce, minimize, or compensate for the negative impacts.

6.2 IDENTIFICATION OF POTENTIAL IMPACTS

In the first step, potential impacts of the project are identified by desktop screening exercise, using checklists during field visits for collection of baseline data, professional judgment, published literature on environmental impacts of similar projects and standard environmental guidelines. Potential impacts are also identified through discussion with project proponent, consultation with stakeholder and community to identify their concerns. The main aspects associated with potential impacts are as follows:

- Water resources
- Ambient Air Quality
- Waste discharges
- Noise pollution
- Ecology of the area, including flora and fauna
- Vehicle movement
- Socio-economic conditions
- Archaeology

6.3 CLASSIFICATION OF IMPACTS

According to the type of potential receptors, the potential impacts are classified. The following receptor categories were used.

Category of Receptor	Description
Community	People their social and cultural values, aspirations and archaeological sensitivity
Land and Soil	Land resources, soil resources
Air Quality	Ambient air quality
Water Resources	Ground and surface water resources
Ecosystem	Vegetation, wildlife and biodiversity

6.4 SCOPING CRITERIA FOR IMPACTS

The identified potential impacts of the project are evaluated on the basis of following criteria;

- The present baseline condition, the change in environmental parameters likely to be affected by the project related activities;
- Is there any impact that environmental standards or environmental guidelines applicable to the project will be breached?
- Is there a high risk of permanent, irreversible, and significant change to environmental condition due to particular project activity?
- Did the community express any concern about this aspect?

6.5 METHODOLOGY FOR IMPACT ASSESSMENT

The impact assessment methodology defines three levels of consequences (or severity) and likelihood (chance of occurrence) i.e. Low, Moderate/Medium or High. The significance of an impact is determined on the basis of the level of consequence and likelihood of the impact.

Table 6-1: Definitions of severity and likelihood of impacts

Level	**Severity of Impact (Consequence)**	**Likelihood**
High	Serious / catastrophic damage to local and regional environment Serious threat to corporate reputation/ profitability / ability to do business	High likelihood of occurrence during lifetime of operation Regular / continuous part of operations
Moderate	Measurable damage to the environment Potential to affect reputation / cost Reduced efficiency	Moderate possibility of occurrence during lifetime of operation Periodic / occasional part of operations
Low	Negligible damage to the environment No risk to business	Unlikely to occur during lifetime of operation

Table 6-2: Impact Significance Matrix

		Likelihood (Probability of occurrence)		
Impact (Consequence)		**High**	**Medium**	**Low**
	High	High	High	Medium
	Medium	High	Medium	Low
	Low	Medium	Low	Low

The prediction of impacts also includes the duration of impacts in terms of short-term or long-term, nature of impact, geographical location of the impact, reversibility of the impact. The criterion for impact assessment is illustrated in the Table

Table 6-3: Impact Assessment Criteria

Impact Characteristics	Categories
Nature of the Impact	**Direct:** The environmental parameters that are directly affecting by this project. **-Indirect:** The environmental parameters change due to the combinational effect by project and environmental impacts
Duration of the Impact	**Short term:** Lasting only till the duration of the project **Medium term:** Lasting from a few months to a year **Long term:** Lasting for a period much greater than medium term impacts
Geographical Location of the impact	**Local:** Within the area of project i.e. operation site and access roads **Regional:** Within the boundaries of the project area **National:** Within the boundaries of the country
Reversibility of the impact	**Reversible:** When a receptor resumes its pre-project condition **Irreversible:** When a receptor cannot resume its pre-project condition

6.5.1 What is the problem?

The project is about LPG storage and filling unit, namely "Establishment of LPG Storage and Filling Plant by Rhino Fuels (Pvt) Ltd". The major impact associated with the construction and operation of said industry includes solid waste management, wastewater management, noise emissions, tree plantation and fire-fighting arrangements.

6.5.2 When problem will occur and when it should be addressed?

The impacts from the said industry mainly occur during the construction and operational phase of the project. These issues include; noise generation, fugitive dust emissions, solid

waste management, wastewater disposal, top-soil removal, Health and Safety issues and change in the geographic features of the area. These all problems should be addressed on-site where they are being generated, to avoid the residual or adverse impacts. The tell the description and impacts to Government and public by reports and public hearing.

6.5.3 Where problem should be addressed?

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

6.5.4 How the problem should be addressed?

Problem should be addressed with its full detail i.e. its magnitude, possible impacts and problem, long time effect, environmental impacts, and proper mitigation measures will be provided according to the nature of the impacts/problems.

6.5.5 Ways of Achieving Mitigation Measures:

Following ways will be adopted to reduce the impacts of the said project:

6.5.5.1 Changing in Planning Design

The design of industry is developed considering environmental risk and hazards. As the area is industrial lot of industries are present there. Moreover, there is no endangered and threatened species present in the project area. Any human settlement or infrastructure was not dislocated or dismantled due to the project development. The proper roads and transportation system along with migration measures is there. The project is fare away from urban development. Not any impact will affect the urbanization. Hence, there is no need to change the design of the project.

6.5.5.2 Improved Management and Monitoring Practices

The anticipated impacts will be reduced significantly by adopting better management activities, as it will be carried out for the betterment of the society. While environmental monitoring will be conducted on the regular basis to keep the sources of the air pollution, wastewater generation, noise and public nuisances in-check. All the migration measure

and advance technology will be implanted to mitigate the impact. All the practices will meet the Punjab environmental standards and international standard like OSHA.

6.5.5.3 Compensation in Money Terms

Due to the development of the project, no tree cutting is involved, however, there is no protected or environmentally sensitive area present within 3.0 km vicinity of the project that could be impacted. Hence, no compensation in the monetary terms is required.

6.5.5.4 Replacement/Relocation/Rehabilitation

The project site is owned by the proponent and reserved for the said industry. No replacement, relocation and rehabilitation is required for the commencement of the aforesaid project.

6.6 Impact Summary

Environmental Parameters	Impact Assessment during Different Phases	
	Construction	Operational
A: Physical		
Land Resources		
Soil Erosion and Contamination	0	0
Transportation	-1t	-1 t
Solid Waste and By-Products	-1t	+1p
Land Use	NA	NA
Air Resources		
Noise Pollution	-1t	-1p
Air Emission	-2t	-1p
Dust	-1t	-1t
Water Resources		
Ground Water	-1t	-1p
Surface Water	NA	NA
Wastewater	-1t	-1p
B : Ecological		
Flora		
Tree Cutting	N/A	N/A
Fauna		
Terrestrial Fauna	N/A	N/A

C: Socio-Economic		
Employment Opportunities	+1t	+1p
Land Value Appreciation	N/A	N/A
D: Hazards		
Physical Hazards	-1t	-1p
Health and Safety	-1t	-1p
Legends: 1= Low; 2= Medium; 3= High; 4= Extremely High; NA= Not Applicable; t= Temporary; p= Permanent; app= Applicable; 0= Negligible		

6.7 IMPACTS DUE TO PROJECT LOCATION

The said project site is located in open area. As all the rules and migration procedure is applied. The project site is owned by the company. Further, the project site is devoid of any human habitation hence evacuation of the project-affected persons will not be involved in this project. Thus, no resettlement and rehabilitation issues will be involved in the said project. This project will be developed while undertaking minimum cutting for making terraces for construction while making minimum modifications in the terrain conditions and implementing environmental measures.

The topsoil removed from the site will be restored in dumps during construction period and in the post construction phase. The top soil will be spread on the unbuilt area of the plot and tree plantations and green belt development will be taken up. As the top soil removed from the site will be reused for the growth of plants, no adverse impact will be envisaged due to removal of topsoil from the site.

6.8 DESIGN PHASE

In general, the design of the said project optimized the use of best available technology in order to prevent or minimize potentially significant environmental impacts associated with the project as well as to ensure high level business and environmental performances. In pre-construction / design phase, a management system will be provided at design level for the reduction of impacts. Design of the said project will adhere to all standard technical

requirements in order to avoid adverse impacts on the environment and human health. Efficient infrastructure will be developed. Procurement of construction materials from approved dealers will be ensured.

6.9 IMPACTS ASSOCIATED WITH CONSTRUCTION PHASE

Sr. No	Aspect	Impacts	Mitigation Measures
1	Economy Improvement	During construction phase, employment opportunities for local people will be generated. Raw material will be obtained locally increasing the economic value of area.	No specified mitigation measure is required. The contract is signed with the authorized construction companies. All of labor rules will applied on them.
2	Air Quality	During construction phase, suspended particulate matter are the main pollutants during the site development activities such as leveling of land, filling activities, transportation of construction material to the project site from various places. Fugitive emissions will be observed due to vehicular movement. But it will be negligible or temporary phenomenon.	Dust emissions will be minimized through strict enforcement of onsite speed controls. The routes will be sprinkled with water regularly to reduce the amount of dust generated by construction vehicles. Construction machinery will be kept away from the walkways. All the vehicles carrying the construction material will be fully covered and well maintained.

			The inspection of the vehicles and construction machinery will do on regular basis. All vehicles and construction machinery will be properly tuned, serviced and monitored on regular basis.
3	Water Quality	During construction phase, water will be required for construction of structures, sprinkling on roads for dust suppression, domestic uses of construction workers	During this phase, water conservation practices will be given proper consideration.
4	Relocation of Utilities	The project site is already near other industries. The construction will not relocate the existing public utilities.	No mitigation measure is required.
5	Solid Waste Generation	During excavation of the site for foundation works and landscaping, solid waste will be generated. The waste consisted of metal cuttings, rejected materials, surplus material, paper bags, cement bags, empty cartons and broken glass pieces.	Recyclable material will be separated at source. The cement bags and other such items will be handed over to approve contractors on weekly basis. Other waste will be accumulated at waste area and will be taken by the municipal waste management company.

6	Noise Pollution	During construction phase, the major sources of noise will be due to operation of construction equipment. The anticipated noise will be mostly confined to the facility itself.	Several mitigation measures will be considered. For this purpose, most of the construction works will be done in day time. The advance machinery will be recommended to lower the noise and work efficiency. Proper PPEs (ears plugs and ears muffles) will be given to workers so that expose less to noise.
7	Ecology	The project site is located in industrial area. It was devoid of thick forest and vegetation.	After the construction, tree plantation will be done to act as pollution barrier as well as to enhance the aesthetic beauty of the area.
8	Worker's Health, Safety and Environment	The construction activities had the potential to pose negative impact on the health and safety of workers in case of unfavorable working conditions.	The contractor ensured that the workers and labors will be trained in safety procedures for all relevant aspects of the construction. Workers will be provided with proper safety equipment which were required on the basis of nature of the work.

			First aid kits will be kept available on the site to ensure safe working environment for the labors and workers. As per the requirement warning signs will be displayed in local language. Proper fencing will be done around the site. A safety officer will be appointed at the site for risk assessment and ensure the safety of workers.

6.10 IMPACTS ASSOCIATED WITH OPERATION PHASE

During the operation phase different type of the process will be done. The possible impacts of the process, Boiler, etc is being evaluated as down here.

In this section, the combined environmental and socio-economic impacts associated with the said process of this project in operation phase are discussed. The impacts that are discussed are as follows:

Environmental Impacts

- Air emissions
- Noise
- Traffic
- Solid waste and by-products
- Wastewater

- Resource Consumption
- Abnormal conditions
- Occupational Health and Safety

Socioeconomic Impacts

- Employment Opportunity
- Community Development

6.11 ENVIRONMENTAL IMPACTS

6.11.1 AIR EMISSIONS

POTENTIAL IMPACTS

Air emissions from the project are relatively small and specified. Fugitive dusts and emissions may result during storage which is relatively less likely to occur. Some volatile organic compounds may present due to miss-handling and unfortune events. Other potential sources for air emissions are combustion products (nitrogen oxides, sulfur dioxide, particulate matter, carbon monoxide) from standby diesel generators, boilers and combustion products from vehicles used for project activities. The chances of air emissions are from process as well which should be mitigated properly. The emissions from standby generators will be less in concentration. The emission levels depend on the type and quality of fuel and the manner in which it is burnt.

MITIGATION MEASURES

The following mitigation measures will be implemented. The proposed mitigation measures to reduce the impacts on air quality during the operation activities are:

- Fugitive emissions will be controlled by placing detectors
- Monitoring of Ambient air parameters (Particulate matter, SOx, NOx) emissions should be carried out on regular basis to ensure compliance with the PEQS.
- The inspection and the maintenance of storage tanks and lines will be done regularly to detect leaks.

- Plantation of indigenous trees within the premises and along the boundary.

RESIDUAL IMPACT

If proper mitigation measures are effectively implemented, the residual impact of the proposed activities on the area's air quality is expected to be low in terms of significance, reversible.

6.11.2 NOISE

POTENTIAL IMPACTS

The main sources of pollution from noise are during vehicle movements, operation of generator. The increased noise may be a source of disturbance to workers, But this area is closed and separated from other operational areas. So, the Noise level during operation phase of unit will be limited to specific site. Concerned staff will be working in the area with required personal protective equipment (PPE) to minimize or reduce the noise exposure.

MITIGATION MEASURES

The following mitigation measures will be undertaken in order to further reduce the noise levels:

- Effective noise suppression design and plan will be made for all noise producing equipment i.e. generator will be kept in isolation from other machines to minimize the overall cumulative noise.
- Noise barriers should be implanted
- Noise area will not be open site. The source of noise will be in closed and covered place. Where the OSH standard will be applied.
- The repairing and the small source of noise will be removed if it will possible.
- PPEs are provided to workers
- Proper tree plantation will be done
- Noise monitoring will be carried out periodically.

RESIDUAL IMPACTS

Implementation of the mitigation measures proposed above will result in negligible to no residual impact due to unit noise on the surrounding environment.

6.11.3 TRAFFIC

The operational phase of the unit will result in increased traffic. However, the impact will be minimal. Vehicles will be well maintained to prevent unnecessary exhaust emissions and drivers will be appropriately trained.

MITIGATION MEASURES

The following mitigation measure will be implemented.

- Nighttime driving of project vehicles will be limited where possible.
- Vehicles will remain confined to defined access.
- The route of the vehicles will be defined and given to drivers and security system.
- The road will be labeled according to the rules and regulations.
- Speed limits will be maintained.
- The timetable and schedule of the vehicles will be defined and the monitoring of vehicles will be done every time.
- Road signage relevant to the project traffic will be placed, where necessary.
- Community complaint register and other means will be adopted for the community to complain about non-adherence of traffic to speed limits, safe driving and other safety related concerns.
- All vehicle drivers will be trained in community safety aspects. Drivers will be trained in responsible and safe driving practices; safe speed limits for vehicles will be followed.

6.11.4 SOLID WASTE

Solid waste generated will be organic and domestic solid waste from admin block. Most of the generated waste will be recyclable. The generated domestic solid waste will be

handled as per area practices. If the waste management is not carried out properly, it can affect health of workers, pollution of soil, surface or ground water. All waste generated from the project will be managed by proposed controls. The environmental impacts will be minimized after the implementation of the proposed mitigations. All process waste will be handed over to certified contractor.

MITIGATION MEASURES

The following mitigation measures will be implemented:

GENERAL WASTE MANAGEMENT PRACTICES

During operational phase of the project, a proper waste management plan will be devised and implemented. Key elements of the waste management system will include the following:

- There will be separated bins for segregation of different type of waste
- Proper waste collection system will be ensured. For this purpose, waste bins are placed inside the boundary.
- The recyclable waste will be sent to waste contractors.
- Records of generated waste should be maintained.
- All non-hazardous waste that can be recycled or reused will be handed over to the contractors.

RESIDUAL IMPACTS

Proper implementation of the mitigation measures will minimize the residual impact from waste. Monitoring and inspection will be undertaken to ensure the implementation of mitigation measures.

6.11.5 WASTEWATER

Wastewater will be produced from domestic uses.

Mitigation Measures

- Wastewater will be treated primarily before final disposal.

- Wastewater after treatment will also be used for horticulture purposes.

RESIDUAL IMPACTS

Implementation of the proposed mitigation measures and regular monitoring is not likely to leave any significant impact of the waste water from the unit.

6.11.6 Hazardous substances

As the unit involves handling, and storage and filling of LPG, mitigation measures are required for transportation, handling and storage of hazardous substances.

Mitigation Measures

- A detailed chemical hazard assessment will be conducted
- Job hazard analyses (JHA) will be performed for all operations involving hazardous chemicals.
- Closed-loop transfer systems will be used to prevent exposure during liquid chemical handling.
- Storage areas will be designed with secondary containment, fire-rated barriers, and explosion-proof installations.
- Emergency shut-off valves and alarm systems will be installed and tested regularly.
- Standard operating procedures (SOPs) for handling, storage, and disposal of chemicals will be developed and enforced.
- Clear labeling and hazard signage will be displayed in all relevant areas.
- Worker rotation schedules will be implemented in high-exposure zones to limit individual exposure.
- Routine chemical safety audits and risk reviews will be conducted periodically.
- Appropriate personal protective equipment (PPE) such as gloves, goggles, aprons, and respirators will be provided.
- PPE selection will be based on the chemical's hazard profile as per the MSDS.
- Workers will be trained in proper PPE use, inspection, and maintenance procedures.

- Damaged or contaminated PPE will be replaced immediately and disposed of according to hazardous waste rules.
- Spill kits and absorbents will be placed in all areas where chemicals are used or stored.
- Employees will be trained in spill containment, neutralization, and clean-up techniques.
- Evacuation procedures and muster points will be established for large-scale chemical incidents.
- Emergency response drills and mock spill scenarios will be conducted regularly.
- Fire extinguishers and fire suppression systems will be installed and inspected periodically.
- Grounding and bonding procedures will be followed to control static buildup during transfers.
- Flameproof electrical fittings will be installed in hazardous areas.
- Eyewash stations and safety showers will be installed near all chemical handling zones.
- First-aid responders will be trained to manage chemical burns, inhalation, and ingestion cases.
- All incidents, near misses, and exposures will be documented and investigated.
- Corrective actions will be implemented to prevent recurrence of similar incidents.
- Regulatory bodies will be notified in case of major chemical spills or exposures.
- Hazardous waste will be segregated, labeled, and stored in compatible containers with secondary containment.
- Waste will be handed over to licensed hazardous waste disposal contractors.
- Disposal records and manifests will be maintained for regulatory compliance.

- Illegal dumping or unsafe waste practices will be strictly prohibited.
- Drivers and transport personnel will be trained in emergency response and spill control.
- Vehicles will be marked with hazard placards and carry relevant documents and permits.
- Employees will receive regular training on chemical hazards, emergency procedures, PPE, and safe practices.
- Training attendance and competency records will be maintained.
- All practices will be aligned with applicable occupational health, safety, and environmental regulations.

6.11.7 **ABNORMAL CONDITIONS**

Abnormal events might include loss of power and diesters. The unit will have its own backup power supply using diesel generator to protect against a loss of power. This site is fare from river so no changes of flood. As the project will be constructed above to the ground and high liniment so when the heavy rain occur the water flow will stand on project site.

6.11.8 **OCCUPATIONAL HEALTH AND SAFETY**

This section discusses the occupational health and safety impacts of the operation of said unit. Physical hazards may include exposure to same-level fall hazards due to slippery conditions. In a variety of situations, a worker can be exposed to lifting, carrying, and repetitive work and work posture injuries.

MITIGATION MEASURES

In order to reduce the physical hazards and other health and safety issues that may be encountered at workplace, following will be followed.

- Proper training will be provided for the proper usage of machineries and personal protective equipment (PPE) will be provided. It will be ensured that the individual who has received the correct training is operating a particular machine.

- Site supervisor or health and safety should be present on site
- Risk Assessment will be done on daily basis
- Emergency response plans will be remained active.
- Monitoring cameras and sensors will be implanted at the work site
- OSHA polices will be implemented on site
- Regulation of the health and safety polices will be done on regular basis
- Regular housekeeping practices will be ensured by keeping the floor dry and during washing; proper protective equipment are being used. Restricted entry should be ensured during washing.
- Training of staff in the handling of lifting materials.
- Timely maintenance and repair of electrical equipment will be conducted.
- Implementation of work rotations, provision of regular work breaks.
- At workplace, first aid facilities will be maintained at readily accessible places.

6.12 SOCIOECONOMIC IMPACTS

A summary of potential socio-economic impacts of the project is presented in Table below.

Table 6-4: Potential Socioeconomic impacts of the project

Impact	**Beneficial**	**Adverse**
Economic	• Employment generation • Procurement of equipment and services • Local authority business tax / rates revenue • Increase in property value	Negative economic Impacts are not anticipated
Social	• Indirect beneficial community impacts from employment	Risks of occupational and environmental health issues.

	• Provision of training to employees and workers	

By implementing the following mitigation measures, impact to community can be minimized.

- All vehicle drivers will be trained in community safety aspects.
- The company will maintain a social complaint register at the site to document all complaints received from local communities. The register will also record the measures taken to mitigate these concerns.
- It will be ensured that generators, vehicles, and other potentially noisy equipment used are in good condition. Noise from generators, vehicles and other equipment will be kept to the minimum through regular maintenance.
- Maximum number of unskilled and semi-skilled jobs will be reserved for the local communities.

6.12.1 EMPLOYMENT OPPORTUNITIES

The project is expected to have positive impact on economic condition of locals. Employment opportunities will be generated due to project activities.

Similarly, the operation of the project will create far greater number of indirect income resources for example income resource for transporters for the transportation of the raw materials, procurement of required goods from local market etc.

Overall, the project will have a positive impact on the employment opportunities of Pakistan.

6.13 POTENTIAL ENVIRONMENTAL ENHANCEMENT MEASURES

6.13.1 GREENBELT DEVELOPMENT

Apart from functioning as a pollutant sink, green belts provide other benefits like:

- Green belt helps in noise abatement for the surrounding area. Thus, it is recommended as noise barriers.

- Green belt will help to regulate the air quality
- Green belt also absolves extra heat help to maintain the change of enthalpy
- Green belt will provide natural refreshment to workers
- It will increase the ornamental beauty of the industry
- Green belt helps in achieving bio diversity by providing possible habitats for birds and animals.
- Green belts increase the aesthetic value of the site.

CHAPTER 7

ENVIRONMENTAL MANAGEMENT PLAN

RHINO FUELS (PVT) LTD

CHAPTER 7: ENVIRONMENTAL MANGEMENT AND MONITORING PLANS

7.1 GENERAL

This EIA provides the Environmental Management Plan (EMP) of the project to keep it environment benign as well as the monitoring plan to ensure the compliance of the established EMP.

Outline and key features of the EMP for construction and operations phase is presented in sub-sections below. As per the environmental legislation in Pakistan, the EMP for the operations phase, along with other documents, is to be submitted to the environmental protection agency to obtain confirmation for compliance and Environmental Approval for project operation. Even after implementation of the suggested mitigation measures, the impact may remain significant, and require regular monitoring. This section also underlies the monitoring framework for both construction and operation phases to check compliance of the EMP and to take timely actions for correction in case any accidence of significant criteria, requirements or goals are found.

7.2 OBJECTIVES OF ENVIRONMENTAL MANAGEMENT PLAN

The primary objectives of the EMP are to:

- Facilitate the implementation of the mitigation measures identified
- Define the responsibilities of the project proponent and contractor and provide a means of effective communication of environmental issues between them.
- Identify monitoring parameters in order to ensure the effectiveness of the mitigation measures
- Provide a mechanism for taking timely action in the face of unanticipated environmental situations.
- Identify training requirements at various levels.
- To apply the rules and regulation of the Punjab Environmental laws and international standards

- Making of environmental managemental polices
- Reviewing, regulating and improving of environmental policies on regular basis.

7.3 MANAGEMENT APPROACH

The organizational roles and responsibilities of the key players are summarized below:

Proponent*:* The project proponent will undertake overall responsibility for compliance with the EMP. Concerned Departments will carry out verification checks to ensure that the contractors are effectively implementing their environmental and social requirements.

Contractors*:* The contractors will implement the majority of environmental and social mitigation measures. The contractors will carry out field activities as part of the project. The contractors are subject to certain liabilities under the environmental laws of the country, and under its contract with proponent.

7.4 COMPONENTS OF THE EMP

THE EMP CONSISTS OF THE FOLLOWING:

- Management plan
- Monitoring Plan
- Communication and documentation
- Institutional capacity
- Environmental training

7.5 ENVIRONMENT MANAGEMENT PLAN

It lists all the mitigation measures identified in the EIA and the associated environmental or social aspect in line during operational phase with the administrative framework involving all the responsible implementing authorities who are required to take the planned actions/measures. It enhances project benefits by reducing its impacts and making it environmental friendly.

Table 7-1: Environmental Management Plan

Objective	Management Action	Responsibility	Time framework	Residual impact
Construction phase				
Employment Opportunities				
To promote the employment of local persons	Recruitment of local workers will be undertaken without discrimination and in accordance with company recruitment policy by contractors involved in construction	Contractor	On commencement of construction activities	Unemployed people of area will get job opportunities and their standard of living improved
To promote the use of local service providers	Local procurement of goods and services will be undertaken wherever possible and cost effective and where practicable to the project	Contractor	On commencement of construction activities	Indirect job opportunities
Safety during construction				
To ensure safety on construction site	• Safety signage will be put in relevant places within the construction site	Contractor/Environmental	On commencement of	Safety of workers will be ensured by implementing

	• Site Health and Safety officer is present • Construction drivers are subjected to public safety awareness • Reckless driving by construction workers will be prohibited and monitored • Workers will be given PPEs such as; helmets, mask, ear-plugs/muffs, safety boots, etc. and its use will be strictly enforced • Workers will be trained on the regular basis regarding personal safety • Incidents will be reported directly to the concerned authority	manager/HSE manager	construction activities	proposed mitigation measures.
Construction waste management				
To prevent the contamination of soils and water resources	• The construction site will have litter bins for waste collection	Contractor	Throughout construction stage	Waste was disposed of/reused/ recycle or resale as per practices of area.

due to inappropriate management and disposal of waste	• Recycling or reuse of waste wherever possible. • Application of a good strategy to collect, remove and safely dispose of waste on daily basis to ensure a clean environment in the factory site • Integrated waste management system will be adopted for the proper management of the waste at site • At the end of the construction phase, left-over waste will be removed by using the standard waste management procedures • All the idle machinery and equipment will be immediately removed from the site • Scrap and the debris will be removed from the site at the end of the construction stage after			

	appropriate segregation of the material • All the domestic waste produce by the worker will be given to the municipal waste management company			
Pollution control management				
To contain spillages	• Proper maintenance of construction vehicles and equipment will be undertaken • Appropriate environmental security measures including shovels and plastic bags etc will be provided to prevent accidental release to ground. • Appropriate procedures and protocols will be established and monitored for materials transport and handling whilst on the site.	Contractor	On-site establishment	Potential for accidental release of materials during transport and handling on the site should be minimized.

	• Emergency response plan will be developed for any incident.			
To manage sewage	Existing toilets will be used at site.	Contractor	On commencement of construction	Portable toilets will be cleaned properly and regularly
Protection of biodiversity				
To avoid unnecessary disturbance of and quick recovery of biodiversity in the plant site	• Avoid destruction of biodiversity outside the designated factory construction site • Minimize clearing of vegetation during construction • Surface soil excavated during construction to be placed back on the sub-soil to fast vegetation recovery • Prepare and implement an appropriate landscaping programme to help in re-	Contactor	Throughout construction phase	Although the land is industrial in nature but vegetation loss cannot be avoided, but successful restoration, improvement and long-term management of the surrounding areas and maintenance of planted trees will be provided

	vegetation of affected project areas after construction • The flora of the site will be restored at the end of the construction phase by landscaping and planting native vegetation • Defining the route for vehicles and machinery transport, defining the work area, the pathway for the worker area will also be defined and policy will form for the minimum use of outer land during construction.			
Air quality & dust management				
To minimize the dust entrainment during construction	• Regular surface wetting will be implemented on dusty sections in the factory construction site • Strict on-site speed controls will be enforced for construction vehicles	Contractor	On commencement of construction activities	Dust propagation will be limited to construction area and will not influence local community. However, workers were supplied with

	• All trucks hauling soil, sand and other loose materials will be covered • No excavation activity will be carried out during windy days • The watering of the route will be done on regular basis • Specified routes will also help to overcome the dust to evolve. • Fuel-efficient and well-maintained haulage trucks will be employed to minimize exhaust emissions • Construction workers will be sensitized on measures to reduce air pollution			dust masks especially on dry days.
Noise				
To minimize disturbance due to noise	• Loading and unloading of materials will be done carefully to reduce	Contractor	On commencement of	within PEQs

	noise disturbances to surrounding households • Residences are at a safe distance from site so no disturbance will be envisaged. • Drivers will be instructed to avoid unnecessary gunning of vehicles, hooting and buzzing. • Regular maintenance of the machinery will be done to reduce the noise • Vehicles will be tuned on regular basis • The inspection of the vehicles will be done by health and safety officer on regular interval		construction activities	
Occupational health & safety				
To ensure healthy and Secure/safe environment in the	• Management will ensure that fire extinguishers should be located in strategic and visible places	Contractor	Throughout construction phase	Record of all incidents will be maintained and reported to HSE manager.

construction site for all workers	• Health and Safety data sheet will be design and formed by Safety officer. • All vehicles and construction equipment will be under control of competent personnel • Inspection of material and harmonization to the occupational health and safety standards. • Adequate security for workers will be provided during construction • Sensitize workers to operate in teams			
Operation phase				
Wastewater management				
Degradation of surface waters quality due to process water and sewage direct disposal	• Domestic wastewater will be treated primarily • Wastewater will be disposed off in nearby drain.	Rhino Fuels (Pvt) Ltd	Throughout project life cycle	None

Air quality management				
Particulate emissions and stack emissions	• Leakage detection system will be installed to detect leaks from storage tanks and lines • Monitoring of Ambient air parameters (Particulate matter, SOx, NOx) emissions should be carried out on regular basis to ensure compliance with the PEQS. • The inspection and the maintenance of the generator will be done on regular basis. • Plantation of indigenous trees within the premises and along the boundary.	Rhino Fuels (Pvt) Ltd	Throughout operation phase	Local air quality will be virtually unaffected and will be based on PEQs
Noise & vibration				
To minimize disturbance of	• All the machinery will be installed and operated in a closed hall and from operation of machinery noise will not be a problem for the residents in the area	Rhino Fuels (Pvt) Ltd	Throughout project life cycle	Noise level will be based on PEQs

communities due to noise	nearby. Further Administration of the unit will take the precautionary measures to avoid the noise emissions. There is no possibility of Noise pollution • A thick greenbelt will be developed all around the plant which will be acting as noise barrier. • All the workers will be provided with ear plugs.			
Traffic & transport				
Increased heavy vehicles traffic both locally and nationally.	• Restricting delivery hours to reduce noise nuisance; avoid heavy truck movements in the night hours will be considered whether deliveries should be scheduled to avoid peak times to reduce congestion • Routes for the transport and speed limits will be defined for vehicles and machinery	Management of Rhino Fuels (Pvt) Ltd	Throughout project operation	The traffic has the potential to contribute to congestion and lead to complaints due to noise/vibration nuisance on a local basis. However, the study indicates that there will not be a significant impact.

HSE				
To minimize loss work injury/hazards/incidents/accidents	• Training regarding HSE should be given on the regular basis • Workers will be given PPEs such as; helmets, mask, ear-plugs/muffs, safety boots, etc. • Risk assessment will be done on daily basis by HSE officer • Permits and safety data sheets will be filled on regular basis and record will be maintained • It should be strictly enforced to wear PPEs while working • Workers will be trained on the regular basis regarding personal safety and disaster management • Incidents should be reported directly to the concerned authority	Environmental manager/HSE of Rhino Fuels (Pvt) Ltd	Throughout life cycle of project	Potential of injuries will be minimized
First aid				

To ensure safety and health	• First aid box will be available at the site • First aid training will be given to the employees on the regular basis • Numbers of all the concerned/authorized persons that will be contacted in the case of emergency will be displayed on-site	Environmental manager/HSE of Rhino Fuels (Pvt) Ltd	Throughout life cycle of project	None
Fire hazard				
To prevent any disaster	• Firefighting equipment including DCP type fire extinguisher, CO2 Type extinguisher, sand buckets, sand drums with spade and hose pipe cabinet will be installed inside the plant • All the equipment will be placed at strategic locations where the risk of out-burst of the fire is high. List of fire posts is annexed.	Environmental manager/HSE	Throughout life cycle of project	Potential of disaster will be minimized by suggested mitigation measures implementation

	• Smoking will not be permitted in the vicinity of the plant • Regular site inspection will be done to eliminate all the chances of the hazards • Checking and maintenance of the fire-fighting equipment will be carried out on the regular basis • Fire water storage tank will be constructed. • NFPA regulations will be followed.			
Hazardous Chemicals Management				
To handle, storage, transportation of hazardous chemicals	• A detailed chemical hazard assessment will be conducted for all materials handled on site. • Job hazard analyses (JHA) will be performed for all operations involving hazardous chemicals. • Engineering controls such as fume hoods, local exhaust ventilation, and gas detection systems will be installed.	Environmental manager/HSE	Throughout life cycle of project	Potential of disaster will be minimized by suggested mitigation measures implementation

	• Closed-loop transfer systems will be used to prevent exposure during liquid chemical handling. • Emergency shut-off valves and alarm systems will be installed and tested regularly. • Standard operating procedures (SOPs) for handling, storage, and disposal of chemicals will be developed and enforced. • Clear labeling and hazard signage will be displayed in all relevant areas. • Worker rotation schedules will be implemented in high-exposure zones to limit individual exposure. • Routine chemical safety audits and risk reviews will be conducted periodically. • Appropriate personal protective equipment (PPE) such as gloves, goggles, aprons, and respirators will be provided.			

	• Workers will be trained in proper PPE use, inspection, and maintenance procedures. • Damaged or contaminated PPE will be replaced immediately and disposed of according to hazardous waste rules. • Spill kits and absorbents will be placed in all areas where chemicals are used or stored. • Employees will be trained in spill containment, neutralization, and clean-up techniques. • Evacuation procedures and muster points will be established for large-scale chemical incidents. • Emergency response drills and mock spill scenarios will be conducted regularly. • Fire extinguishers and fire suppression systems will be installed and inspected periodically.			

	• Grounding and bonding procedures will be followed to control static buildup during transfers. • Flameproof electrical fittings will be installed in hazardous areas. • Eyewash stations and safety showers will be installed near all chemical handling zones. • First-aid responders will be trained to manage chemical burns, inhalation, and ingestion cases. • All incidents, near misses, and exposures will be documented and investigated. • Corrective actions will be implemented to prevent recurrence of similar incidents. • Regulatory bodies will be notified in case of major chemical spills or exposures. • Certified vehicles with proper labeling and documentation will be used for transporting LPG.			

	• Drivers and transport personnel will be trained in emergency response and spill control. • Vehicles will be marked with hazard placards and carry relevant documentation and permits. • Training attendance and competency records will be maintained. • Chemical hazard signs and labels will be displayed in local languages where required. • All practices will be aligned with applicable occupational health, safety, and environmental regulations.			
Employment				
To provide job opportunities and helping in improving living standard of people	• During this phase, skilled and unskilled labour will be required. • Employment opportunities for the un-skilled workers will therefore increase which will enhance the positive benefits for the local	Rhino Fuels (Pvt) Ltd	During construction and operation phase	Direct and indirect jobs

	people who are in dire need of income for sustenance. ✓ Indirect opportunities for employment will arise from the provision of services to the construction teams, such as sale of raw-material such as cement, bricks, sand etc., as well as food and beverages for the labour and after completion of construction phase serve as a permanent business opportunity.			

7.6 ENVIRONMENTAL MONITORING PLAN

Environmental monitoring is a vital component of the Environmental Management Plan. It is the mechanism through which the effectiveness of the environmental management Plan in protecting the environment is measured. The feedback provided by the environmental monitoring is instrumental in identifying any problem or lapse in the system under implementation and planning corrective actions.

Table 7-2: Environmental Monitoring Plan

Env. Components	Project Stage	Parameters	Instrument	Standards	Monitoring			Institutional Responsibility
					Location	Frequency	Duration	
Air	Construction	PM_{10}, SO_2, NO_2, CO, SPM ,O_3	Air Quality Monitors/Gadgets	PEQS	Project site	Twice during construction	As per approved testing method	Contractor through approved monitoring lab
	Operation	Stack emissions	Air Quality Monitors/Gadgets	PEQs	stack	Quarterly	As per approved testing method	Through approved third party/monitoring lab

Noise Levels	Construction	Noise levels on dB(A) scale	Digital Sound Meter	PEQs	Project site	Twice during construction	Reading to be taken at 15 seconds interval for 15 minutes every hour and then averaged	Contractor through approved monitoring lab
	Operation	Noise levels on dB(A) scale	Digital Sound Meter	PEQs	Project site	Quarterly	Reading to be taken at 15 seconds interval for 15 minutes every hour and then averaged	Through approved third party/monitoring lab
Wastewater	Operation	BOD, COD, TSS etc	Through approved equipments	PEQs	ETP	Monthly	As per approved testing method	Through approved third party/monitoring lab

7.7 INSTITUTIONAL CAPACITY OF THE UNIT

The organizational structure for the Environment Management Plan is outlined below:

7.7.1 Primary Responsibilities

The primary responsibility for implementing different aspects of the EMP within the company lies with the concerned departments of Rhino Fuels (Pvt) Ltd.

7.7.2 Operation Management & Control

Conducting the operational activities in environmentally sound manner will be the responsibility of the concerned Manager; for which he will be trained.

7.7.3 Supervision & Monitoring

Senior Supervisor will be responsible for all environmental issues and for the implementation of EMP.

7.7.4 Communications & Documentation

An effective mechanism to store and communicate environmental information during the project is an essential requirement of an EMP.

7.7.4.1 Meetings

As environment is multidisciplinary subject with environmentalist having a dynamic role therefore In-charge environment would be considered as integral part in both constructional and operational team. Participation of Environmental in-charge in daily morning meeting and any other special meeting is mandatory. Besides internal meeting HSE in-charge/Environment in-charge is also responsible to conduct meeting with local in keeping administration in liaison.

7.7.4.2 Changes-Record Register

A change-record register will be maintained at the site, in order to document any changes in project design. These changes will be handled through the change management mechanism.

7.8 ENVIRONMENTAL TRAINING

Environmental training will help to ensure that the requirements of the EIA and EMP are clearly understood and followed by all project personnel in the course of the project.

Table 7-3: Training Program

Target audience	Trainers	Contents	Schedule
Selected management staff	Contractors	Key finding of mitigation measure	After every five months
All personnel	HSE Officer	Mitigation measures	Monthly
Technical Staff	HSE Officer	Waste disposal or sale out status, vehicle movement restriction and other mitigation measures	After every three month
Other staff	HSE Officer	Waste disposal, resource conservation and other mitigation workers	Monthly

7.9 EQUIPMENT MAINTENANCE DETAILS

The project is about chemical manufacturing industry namely "Rhino Fuels (Pvt) Ltd". Machines in said unit will be maintained on the regular basis. Following is the maintenance details for the machines and equipments:

Task	Weekly	Monthly	Semi-Annually	Annually
Visual Inspection	✓			
Testing and Inspection		✓		
Maintenance of Machines				
Fire Mains and Nozzles				
Containers/Cylinders				
Control and Section Valves				

7.10 ENVIRONMENTAL BUDGET

Approximately PKR 1.5 million budget will be reserved for tree plantation, solid waste management, wastewater management and environmental monitoring. Monitoring tests for ambient air quality, noise and groundwater quality will also be conducted.

CHAPTER 8

CONCLUSION AND RECOMMENDATIONS

CHAPTER 8: CONCLUSION AND RECOMMENDATIONS

8.1 CONCLUSION

The report presents Environmental Impact Assessment (EIA) of the said unit. EIA of said Project is performed according to guidelines of EPA. It includes description of the project, description of the environmental baselines, potential environmental impacts and suggested mitigation measures. An implementation mechanism for mitigation measures in the form of an Environmental Management Plan is included in the study.

The performed EIA showed all anticipated impacts (both positive and negative), associated with the project. Appropriate mitigation measures as explained in the environmental study will strengthen the environment and promote sustainable development.

Based on overall assessment of the environmental impact of the project, it is concluded that the economic benefit from the project is not at the cost of environment. From the historical records and vast experience in sustainable development keeping environment as integral part of manufacturing system, Rhino Fuels (Pvt) Ltd is worthy of Environmental approval. Further the project is not likely to cause any significant adverse impact on the physical and biological environment but positive impact on social development and economic prosperity of the area, provided that suitable mitigation measures as identified in this study are implemented.

It is accordingly recommended that Environmental Approval for the project may be issued by the Punjab Environmental Protection Agency, subject to payment of the requisite scrutiny fee by the proponent of the project.

8.2 RECOMMENDATIONS

The Environmental Impact Assessment study and survey results are finally evaluated to recommend the following:

- Implementation of EMP must be given top priority.
- Proper PPEs including ear plugs, ear muffs, mufflers, goggles, gloves and shoes etc. should be provided to workers
- Train workers to use PPEs
- Advise workers to follow SOPs.
- Equipment maintenance and efficiency must be checked.
- No compromise on public health and environment should be allowed.
- OGRA and other applicable guidelines should be followed
- Wages should be distributed on time.
- Proper tree plantation plan should also be developed in order to make the unit environment friendly.
- Small waste storage bins should be installed at different corner for proper waste collection and discharge.
- Proper dispensary and first aid box should be provided for workers
- Smoking should be avoided within premises of project site and near fuel storage areas.
- The Security Guards shall also be trained to act in case of all possible emergency situations. The fire alarms can be activated to signal evacuation. At the same time, communication shall be made with hospitals, emergency services and police for urgent support.
- The proposed Environmental Management & Monitoring Plan should be implemented.
- The construction and installation should be completed in guidelines of accorded Environmental Approval.

ANNEXURE I

PROPONENT CNIC

PAKISTAN National Identity Card

ISLAMIC REPUBLIC OF PAKISTAN

Name
Muhammad Arslan

محمد ارسلان

Father Name
Muhammad Nawaz

محمد نواز

Gender	Country of Stay
M	Pakistan

Identity Number	Date of Birth
34603-1969063-7	15.01.1988

Date of Issue	Date of Expiry
03.02.2024	03.02.2034

Holder's Signature

موجودہ پتہ گھیانوالی کلاں ڈاکخانہ خاص سیالکوٹ 34603-1969063-7

مستقل پتہ گھیانوالی کلاں ڈاکخانہ خاص سیالکوٹ

[illegible]

Registrar General of Pakistan

ANNEXURE II

PROPERTY DOCUMENTS

RHINO FUELS (PVT) LTD

V433743 موضع بھکڑیوالی کلاں عوض محمد ارسلان 4069 انتقال نمبر

0128-28454720

E-STAMP

PB-GRW-F5D0E0286C0A-1

Non-Judicial

Rs 74,180/-

Seller	: Qaiser Imran [3410125759569]
Purchaser	: Muhammad Arslan etc [3460319690637]
Agent	: Ashar Ali [34101-3251699-3]
Stamp Duty Paid by	: Muhammad Arslan etc [3460319690637]
Issue Date	: 08-Nov-2024, 12:47:36 PM
Paid Through Challan	: 2024A9454773D7F3
Land DC Rate	: 4,320,000 per Acre
Structure DC Rate	: N/A
Amount in Words	: Seventy Four Thousand One Hundred and Eighty Rupees Only
Land Area & Classification	: 1.6938 Acre | Agricultural
Covered Area	: N/A
DC Location	: Gujranwala | Saddar | Qila Didar Singh | Bakrywali Kalan | 409 | Off Road

Please Write Below This Line

بیع

ضلع:	گوجرانوالہ	تحصیل:	گوجرانوالہ صدر	موضع:	بھکڑیوالی کلاں
رجسٹری نمبر:	099-2024-0017514	بہی نمبر:	1	کیفیت:	منظور شدہ
تاریخ اندراج:	11/11/2024	تاریخ فیصلہ:	14/11/2024	فرد آئی ڈی:	3377303. 23418975
کل رقبہ منتقلہ:	13-11-0 (تیرہ کنال گیارہ مرلے)	مالیت زمین:	7,318,000 /-	مالیت عمارت / ملبہ:	
[illegible]:	7,318,000 /-	قیمت بمطابق ویلیوایشن ٹیبل:			5,479,236/-

اندراج کنندہ کا نام: جہاں ندیان علی ولد محمد مالک

تصدیق کنندہ: [illegible] (سب رجسٹرار)

رجسٹری نمبر: 099-2024-0017514

ورق نمبر: 1 / 5

نقل رجسٹر حقداران زمین (مسل میعادی)

فوری تصدیق کے لیے اپنے موبائل فون سے (QR) کوڈ سکین کریں۔

موضع/گاؤں | طرف/پتی ندارد

ضلع گوجرانوالہ | تحصیل گوجرانوالہ صدر

سال 2019-20 | کتاب نمبر | ورق نمبر 13 / 13

۱	۲	۳ (الف)	۳ (ب)	۳ (ج)	۳ (د)	۳ (ہ)	۴	۵	۶	۷	۸	۹	۱۰
نمبر کھیوٹ مالک	نمبر کھتونی کاشتکار	کوائف مالک: نام مالک معہ نام والد/خاوند قوم اور سکونت	نوعیت حقوق مالک، راہن مرتہن	مشترکہ کھاتہ میں مخصوص حصہ	مخصوص رقبہ مطابق حصہ	زرعی پاس بک نمبر	نام کاشتکار معہ احوال	نمبر خسرہ معہ نام اگر کوئی ہو	رقبہ و قسم زمین کیفیت و معاوضہ میزان کھتونی کاشتکار و کھیوٹ مالک	وسائل آبپاشی معہ نام چاہ وغیرہ	لگان جو کاشتکار ادا کرتا ہے شرح اور مطالبہ	مطالبہ معہ تفصیلات مالیہ وغیرہ	کیفیت معہ 1- نام نمبر وار (اگر کوئی ہو) 2- شرح مالیہ زمین

نمبر کھیوٹ	مربع نمبر	خسرہ نمبران	خسرہ ویلیڈیشن	پیمائش	تبدیلی
188		128, 129, 1311, 1459, 1461, 1462, 1464, 1467, 1469/1, 1481, 1481/1, 409, 410, 411, 412, 413, 414	0		

میزان کل رقبہ: 13-11-0 تیرہ کنال گیارہ مرلے

کل کھیوٹ خسرہ ویلیڈیشن: 0.00

نقل مطابق اصل ہے | نام اہلکار: محمد ارسلان ولد ... نواز

34303196S 637

نام اجراء کنندہ: ... حسین ولد شہباز علی

تاریخ فرد پرنٹنگ: 16/07/2025 ... 12:48

تاریخ فرد اجراء: 16/07/2025 16 27 02

فرد آئی ڈی: 00-00-0025681399 | 0-00-00-099

کمپیوٹرائزڈ نقل، دستخط کی ضرورت نہ ہے۔

اراضی ریکارڈ سنٹر گوجرانوالہ صدر-DMM

فرد فیس: 950

ٹوکن نمبر: 1033

تاریخ ٹوکن اجراء: 16/07/2025 16:26:36

OGRA-LPG-17(1299)/24
April 16, 2025

The Chief Executive,
M/s Rhino Fuels (Pvt.) Limited,
149-A, Canal View Housing Society,
Lahore.
Ph: 0301-8614123,0322-7444894

Subject: **LICENCE FOR CONSTRUCTION OF LPG STORAGE AND FILLING PLANT**

I am directed to refer to your application alongwith other documents, received in OGRA on December 17, 2024 and to enclose herewith the licence for construction of LPG Storage and Filling Plant granted initially by the Authority for a period of two years under Rules 7 & 8(1) of LPG Rules, 2001, based on the application/documents as provided by the company, along-with the proforma of quarterly progress report, as per the condition of your licence and checklist of technical parameters / criteria (of NFPA-58) for LPG storage and filling installation, derived from NFPA-58, as prescribed in the LPG (Production & Distribution) Rules, 2001. The checklist apart from being a general guideline for the convenience of all the LPG licensees who were granted licence for construction of LPG storage and filling plant will also form the basis of inspections. However, complete details about each requirement, technical / safety parameters are given in NFPA-58 Standard (latest edition) as specified in LPG (Production & Distribution) Rules 2001, which must be complied with.

2. In case of any demonstrable reason beyond your control, you foresee inability to complete construction of works within the validity period of the licence, you will be required to apply to the Authority for extension well in time prior to the expiry of licence.

3. This issues with the approval of the Authority.

Joint Executive Director (LPG)
For and on behalf of the
Oil & Gas Regulatory Authority, Islamabad.

فوری تصدیق کے لیے QR کوڈ سکین کریں

نقل رجسٹر حقداران زمین (مسل میعادی)

موضع: جنڈیالی کلاں — طرف/پتی: ندارد — تحصیل: گوجرانوالہ صدر — ضلع: گوجرانوالہ — سال: 2019-20 — کتاب نمبر — ورق نمبر: 13 / 1

۱ نمبر کھیوٹ مالک	۲ نمبر کھتونی کاشتکار	۳ (الف) نام مالک معہ نام ولدیت/خاوند قوم اور سکونت	۳ (ج) نوعیت حقوق مالک راہن مرتہن	۳ (د) مشترکہ کھاتہ میں مخصوص حصہ	۳ (د) مخصوص رقبہ مطابق حصہ	۳ (و) زرعی پاس بک نمبر	۴ نام کاشتکار معہ احوال	۵ نمبر خسرہ معہ نام اگر کوئی ہو	۶ رقبہ و قسم زمین میزان کھتونی کاشتکار و کھیوٹ مالک	۷ وسائل آبپاشی معہ نام چاہ وغیرہ	۸ لگان جو کاشتکار ادا کرتا ہے شرح اور مطالبہ	۹ مطالبہ معہ تفصیلات	۱۰ کیفیت معہ 1- ... 2- ...
188 183	359 تا 363	محمد ارسلان ولد محمد نواز قوم جٹ گھمن ساکن دیہ حصہ (ب) قومی شناختی کارڈ نمبر 34603-1969063-7	مالک قبضہ	271/4288 حصہ منتقلہ 271/4288	6-15-136 رقبہ منتقلہ 6-15-136		باقی بدستور	قطعات 17	سالم کھاتہ 107-4-0 ایک سو سات کنال چار مرلے				نمبر 18 ... مورخہ 10.11.2015 ... AM 9:45:31 ... 17-05-2016 ... 26-05-2016 ...
		اسد محمود ولد ناصر محمود قوم گوجر چنگی ساکن دیہ حصہ (ب) قومی شناختی کارڈ نمبر 34603-2914637-5 	مالک قبضہ	271/8576 حصہ منتقلہ 271/8576	3-7-204 رقبہ منتقلہ 3-7-204								
		فائق احمد ... ولد ... خان قوم گجر ساکن ...	مالک قبضہ	271/8576	3-7-204								

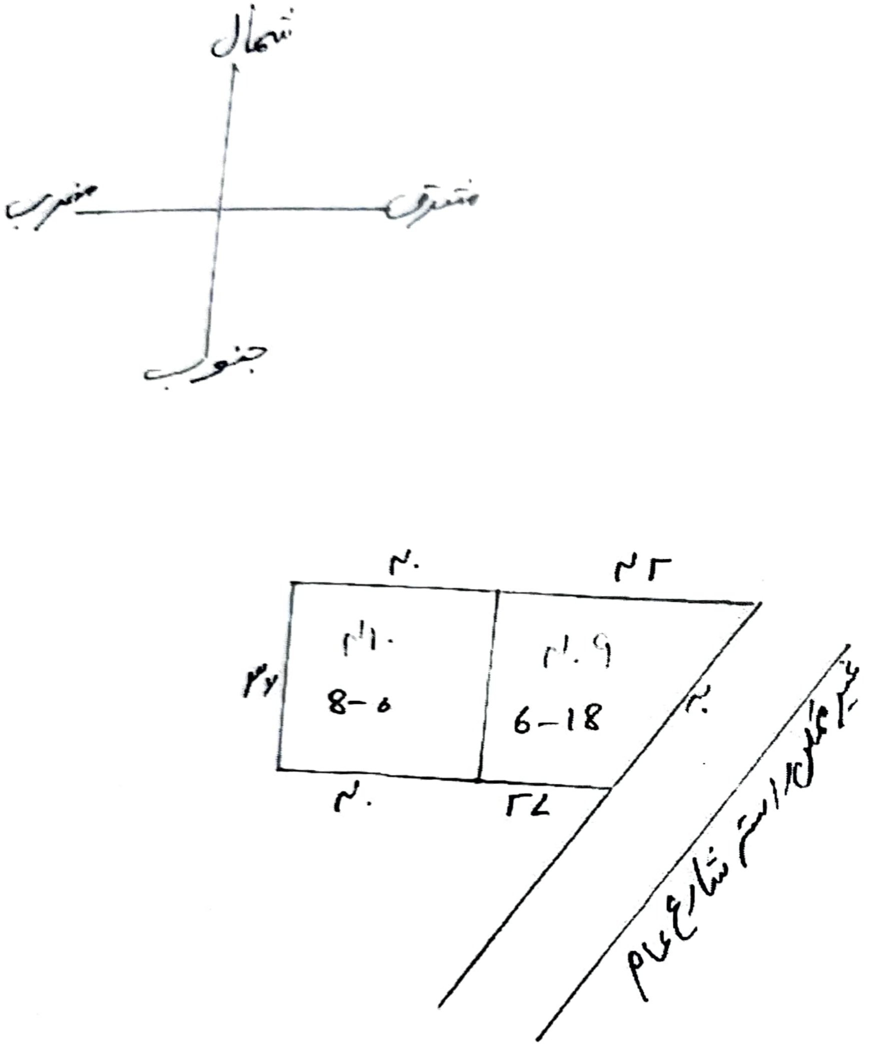
نقل مطابق اصل ہے — نام درخواست کنندہ: محمد ارسلان ولد محمد نواز — قوم: جٹ گھمن — شناختی کارڈ نمبر: 3460319690637

فرد برائے ذاتی ریکارڈ

مرتب کنندہ: مزمل حسین ولد شہباز علی
تاریخ: 16/07/2025 18:12:46
تاریخ اجراء: 16/07/2025 16:27:02

کمپیوٹرائزڈ نقل پر دستخط کی ضرورت نہیں ہے۔
اراضی ریکارڈ سنٹر گوجرانوالہ صدر-DMM
فرد فیس: 950
ٹوکن نمبر: 1033
فرد آئی ڈی: 0-00-00-099-00-00-00-00256813B
تاریخ ٹوکن اجراء: 16/07/2025 16:26:36

شجرہ پارچہ موضع حلقہ پٹواری کلاں تحصیل صدر گوجرانوالہ



جناب عالی!
نقل بغرض ذاتی ریکارڈ دیکھنے کے لیے تیار کی گئی
عکس شجرہ نمبر خسران ۱۰۹، ۱۱۰ بمعہ پیمائش کر کے مان نقل مطابق اصل درست ہے۔
تمام نمبر خسران زرعی ہیں۔

16/07/25

مزمل حسین بخاری
پٹوار حلقہ ... کلاں
تحصیل صدر گوجرانوالہ

نقل رجسٹر حقداران زمین (مسل میعادی)

موضع: بھگڑیوالی کلاں　　طرف/پتی: ندارد　　تحصیل: گوجرانوالہ صدر　　ضلع: گوجرانوالہ

سال 2019-20　کتاب نمبر　ورق نمبر 13 / 2

اراضی تصدیق کے لیے اپنے موبائل فون سے (QR) کوڈ سکین کریں

۱	۲	۳ (الف)	۳ (ج)	۳ (د)	۳ (ہ)	۳ (و)	۴	۵	۶	۷	۸	۹	۱۰
نمبر کھیوٹ ملک	نمبر کھتونی کاشتکار	کوائف مالک: نام مالک معہ نام والد/خاوند قوم اور سکونت	تولیت حقوق مالک راہن مرتہن	مشترکہ کھاتہ میں مخصوص حصہ	مخصوص رقبہ مطابق حصہ	زرعی پاس بک نمبر	نام کاشتکار معہ احوال	نمبر خسرہ ومعہ نام اگر کوئی ہو	رقبہ وقسم زمین کیفیت وار اور میزان کھتونی کاشتکار و کھیوٹ مالک	وسائل آبپاشی معہ ماہیہ چاہ وغیرہ	لگان جو کاشتکار ادا کرتا ہے شرح لگان اور مطالبہ	مطالبہ معہ تفصیلات مالیہ واجب	کیفیت معہ 1- نام نمبردار (آثار ولی پور) 2- شرح مالیہ زمین
188 مذکور	359 تا 363 مذکور	سوال(ب) قومی شناختی کارڈ نمبر 34603-3182057-7		حصہ منتقلہ 271/8576	رقبہ منتقلہ 3-7-204								حکم عدالتی بعدالت جناب ناظمہ ... صاحب سول جج گوجرانوالہ مورخہ 17-05-2016 موصولہ 26-05-2016 بحوالہ بشارت شدہ وغیرہ بنام محمودہ بیگم وغیرہ بحق ... وارثان
		باقی بدستور میزان		1873/2144 271/2144	13-11-0								

نقل مطابق اصل ہے　　نام درخواست کنندہ: محمد ارسلان ولد محمد نواز　　قوم: جٹ گھمن　　شناختی کارڈ نمبر: 3460319690637

فرد برائے ذاتی ریکارڈ

نام اجراء کنندہ: مزمل حسین ولد شبیر علی

تاریخ فرد پرنٹنگ: 16/07/2025 18:12:46

تاریخ فرد اجراء: 16/07/2025 16:27:02

فرد آئی ڈی: 00-00-099-00-00-00-0025681399

کمپیوٹرائزڈ نقل - دستخط کی ضرورت نہیں

اراضی ریکارڈ سنٹر: گوجرانوالہ صدر

فرد فیس: 950

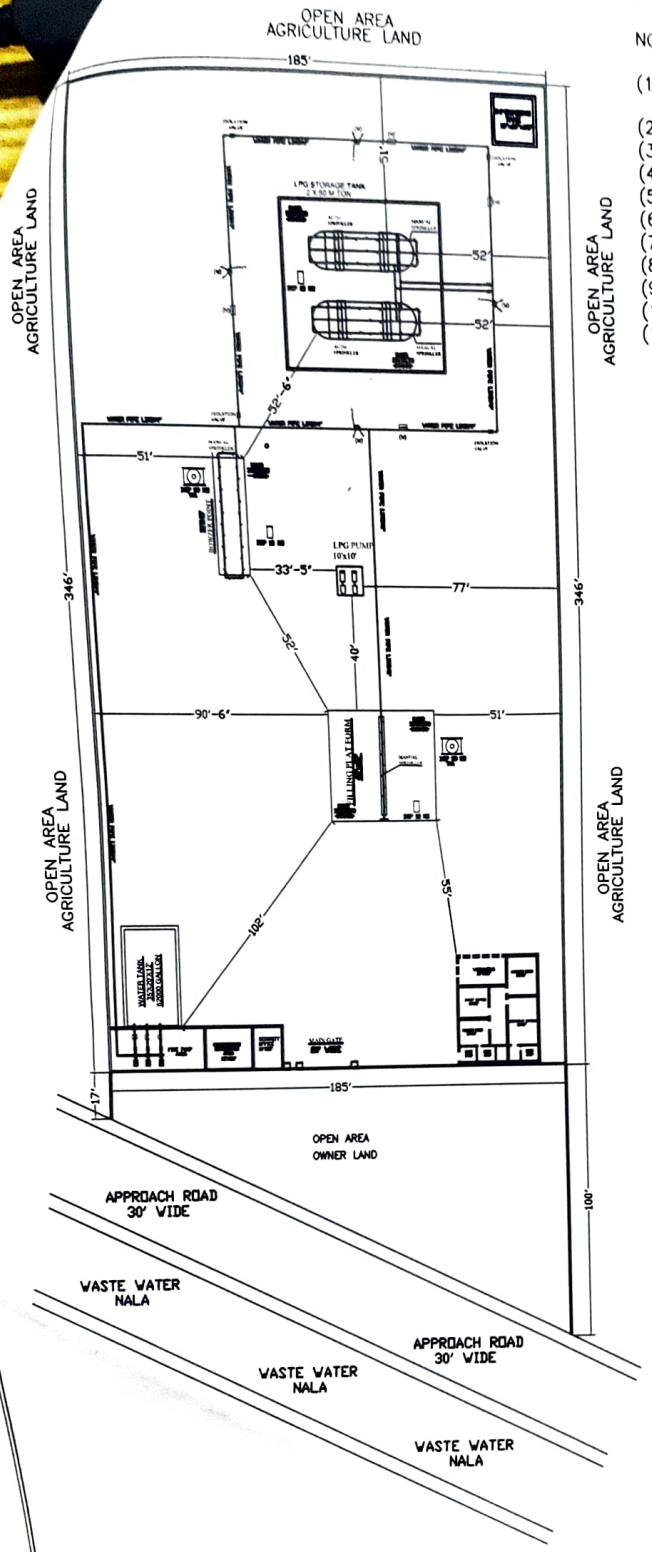
ٹوکن نمبر: 1033

بحریہ کی مہر

ANNEXURE III

LAYOUT MAP

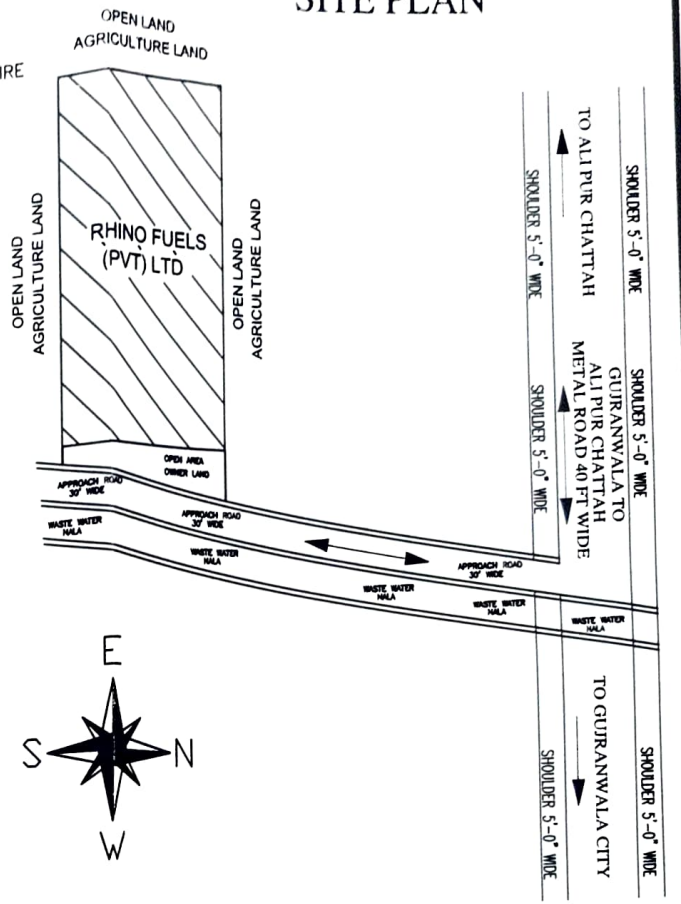
RHINO FUELS (PVT) LTD



NOTE:

(1). STORAGE TANK & FITTING ARE DESIGNED AS PER ASME SEC –VIII. DIV. I
(2). BOUNDARY WALL HEIGHT 7' BLOCK MASONRY AND 2' BARBED WIRE
(3). ALL LPG LINES ARE SCH-40 SA 106 GRADE B
(4). ALL FIRE LINES ARE SCH-20 SA 106 GRADE B.
(5). LPG FITTING ARE CLASS 300
(6). WATER LINES FITTING ARE CLASS 150
(7). FIRE WATER STORAGE CAPACITY 62000 GALLONS PLUS
(8). STORAGE TANK MOUNTED ON RCC FOUNDATION.
(9). FIRE WATER PUMP CAPACITY 500 GPM @ 125 PSI.
(10).PLANT DESIGNED ARE AS PER NFPA. 58.
(11).FIRE FIGHTING EQUIPMENT ARE AS PER NFPA 20,NFPA 15.

SITE PLAN



S.No.	Descriptions	QTY
01	Fire Monitor	04
02	Fire Hydrant	04
03	FIRE EXTINGUISHER TROLLEY MOUNTED DCP 50 KG	03
04	FIRE EXTINGUISHER DCP 09 KG	06
05	FIRE EXTINGUISHER CO2 5KG	10

SCHEDULE OF FIRE FIGHTING

S.NO.	SYMBOL	DECRIPTION	QTY.
01		EMERGENCY SHUTT OFF VALVE	3 NO
02		FIRE HYDANT	04 NO
03		FIRE MONITOR	04 NO
04		FIRE WATER PUMP 500 GPM	1 NO
05		SHOWERING PUMP 500 GPM	1 NO
06		JOCKEY PUMP	1 NO
07		MANUAL SPRINKLER	150 NO
08		AUTO SPRINKLER	50 NO
09		FIRE EXTINGUISHER DCP 09 KG	10 NO
10		TROLLY MOUNTED 50KG DCP FIRE EXTINGUISHER	03 NO
11		FIRE EXTINGUISHER CO2 5 KG	06 NO
12	M	MANUAL HOOTER	01 NO
13		EARTH PITS	11 NO
14		SAND BUCKET STAND	05 NO
15		FIRE ALAM	02 NO

LPG STORAGE AND FILLING PLANT SURFACE AREA
11.75 KANAL
(6410 SQFT)

ADMIN BLOCK COVERED AREA	= 1280 SQFT
FILLING SHED AREA	= 1680 SQFT
PANEL AND GENERATOR ROOM AREA	= 857 SQFT
SECURITY ROOM	= 150 SQFT
TOTAL COVERED AREA	= 3967 SQFT

LPG PLANT ADDRESS
VILLAGE BHAKHRAY WALI KALA
TEHSIL SADAR DISTRICT GUJRANWALA.
KHASARA NO. 409, 410.
KHEWAT NO. 188
KHATOONI NO. 359 TO 363
QITAT NO. 17

OFFICE ADDRESS
149 A CANAL VIEW HOUSING SOCIETY LAHORE.

Design: LPG CONSULTANCY SERVICES
Designer: AMIR RAZA Signature.
Date: 08/05/2025
Client Approval
Date Signature.
08/05/2025

CLIENT: RHINO FUELS (PRIVATE) LTD
Project: LPG STORAGE & FILLING PLANT (Capacity 50 X 2 = 100 M / TONS)
TITLE: LAYOUT PLAN PROPOSED
CHECKED BY: AMIR RAZA
DRAWING NO: R-GAS-01
Sheet No. 1-1
Scale
Paper Size

ANNEXURE IV

GLOSSARY

GLOSSARY

Alternatives	The evaluation of alternatives to project development in EIA (timing, location, technologies etc) including the no go, or no development action.
Ambient	Relating to the immediate surroundings of something
Contamination	Pollution
Conservation	The preservation of natural resources for use by future generations
Consultation	A process of communication with those potentially affected by a project, policy, plan or program.
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
EMP	An EMP is a site specific or project specific plan developed to ensure that appropriate environmental management practices are followed during a project's construction and operation.
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 Audits	An environmental management tool consisting of a periodic and objective evaluation of an organization and installations to assess compliance with regulatory and other requirements, as defined by audit criteria
Environmental	means an environmental study comprising collection of

Impact Assessment	data, prediction of qualitative and quantitative impacts, comparison of alternatives, evaluation of preventive, mitigatory 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
Extent/ Magnitude	The size or degree of the predicted impact
Fauna	Animal life occurring in particular region or time
Flora	plant life occurring in particular region or time
Geological	Relating to the study of the earth's physical structure and substance.
Impact	The consequence of an action or activity on the human or natural environment. Impacts may be positive, negative or neutral
Issue	A question or concern regarding an environmental impact, consequence or effect
Mitigation	Prescribed actions taken to prevent, avoid, reduce or minimize the impacts or potential adverse effects of a project
Monitoring	A combination of observation and measurement to assess the environmental and social performance of a project and its compliance with EIA/ EMP, or other approvals and regulatory conditions
Particulate Matter	A complex mixture of extremely small particles and liquid droplets that get into the air
Proponent	the person who intends to carry-out a proposed project
Sustainable development	Economic development that is conducted without depletion of natural resources.
Waste	means any material, substance, or by-product eliminated or discarded as no longer useful or required after the completion of a process

ANNEXURE V

ENVIRONMENTAL MONITORING REPORTS

RHINO FUELS (PVT) LTD

ANNEXURE VI

LICENSE FROM OGRA

TITLE OF THE LICENCE	**Licence for Construction of LPG Storage and Filling Plant**		
Validity Period	**From:** April 16, 2025 to April 15, 2027		
LICENCE NO. OGRA-LPG-17(1299)/24		**DATE:** April 16, 2025	
Granted under Rules 7 and 8 (1) of LPG (Production and Distribution) Rules, 2001			
Name of the Company:	M/s Rhino Fuels (Private) Limited		
Registration No. (Under Companies Act, 2017)	CUIN. 0277087	**Date:** December 02, 2024	**Place:** Islamabad
Name of the Chief Executive:	Mr. Muhammad Arslan		
Address:	149-A, Canal View Housing Society, Lahore.		
Contact No.	Phone	0301-8614123,0322-7444894	
	Fax	-	
	Email	-	
Proposed Nature of Works	Storage: (02 x 100) 200 MT	**Filling Capacity:** 10 MT/Day	
Area of Operations	All over the country		
Location of Plant	Khasra No. 409, 410, Khewat No. 188, Khatooni No. 359 To 363, Village Bhakhray Wali Kala, Tehsil Saddar, District Gujranwala.		

TERMS AND CONDITIONS OF THE PROVISIONAL LICENCE

i. Construction of LPG storage and filling facilities will be started only after obtaining NOCs from all concerned Federal/Provincial/Local authorities including NOC of Environment Protection Agency (EPA), strictly complying with the applicable laws clearly stating that the site is suitable for putting up LPG facility from public safety point of view. The company shall be responsible and liable for any act on its part leading to violation of any law, bye-laws or imposition of penalties by any of the above concerned departments/authorities.

ii. Construction of proposed works for the storage and filling plant shall be strictly in accordance with the LPG (Production & Distribution) Rules, 2001, as amended from time to time, the terms and conditions of this provisional licence and instructions of the Oil and Gas Regulatory Authority hereinafter referred to as the "Authority", issued from time to time, in the public interest.

iii. Issuance of this provisional licence in no manner shall establish the right of the company for any allocation of LPG quota. Company shall be fully responsible to arrange supplies of LPG on commercial basis at its own cost and risk.

iv. As soon as the construction is completed and licence from Department of Explosives is obtained, the company shall approach the Authority for appointment of 3rd party inspectors to verify the works. The Authority will appoint the 3rd party Inspector under rule 13 of LPG Rules, 2001, who shall verify technical competence of your staff and shall certify that the equipment, machinery, fittings, fixtures and installation meet the requisite safety standards. In case of any deficiency or fault, the company shall not operate the LPG storage and filling plant, even on trial run unless the deficiencies/faults are removed / rectified to the satisfaction of the Authority. The company shall pay prescribed fee to the Authority, for the purpose of such 3rd party inspection or inspections.

v. The company shall mark with conspicuous sign on the place at which the storage tanks, filling plants, etc are located for the purpose of safety and security.

vi. Purchase or sale of any specified equipment and machinery from or to any other licensee shall require prior permission in writing of the Authority.

vii. The company shall strictly comply with the prescribed standards as set out in Appendix-I of the Liquefied Petroleum Gas (Production and Distribution) Rules, 2001. Any negligence on the part of the company or non-compliance of prescribed standards by the company, causing damage or loss of life/property shall be compensated by the company in accordance with the applicable laws.

viii. Quarterly progress report on the prescribed proforma shall be submitted to the Authority on regular basis.

ix. The company shall not make any major alteration, in addition to or extension of works as given in your plans unless such alteration, addition or extension is authorized by the Authority.

x. The company shall not abandon or shift any works or portion of works without the prior approval in writing of the Authority.

xi. This licence is applicable only to the site/location of Khasra No. 409, 410, Khewat No. 188, Khatooni No. 361 To 363, Village Bhakhray Wali Kala, Tehsil Saddar District Gujranwala. Any other site development will require a fresh licence.

xii. The company shall not without the prior approval in writing of the Authority sell, assign, transfer, convey or lease his licence or his works or any interest therein in whole or in part.

xiii. The company shall not carry out any commercial activity including the LPG supply to any other LPG Marketing Company or to a consumer without a valid LPG Marketing Licence.

xiv. Grant of Marketing Licence shall only be considered after completion of works and verification by 3rd party inspectors in terms of rule 13(2) of LPG Rules, 2001 and also after obtaining licence from the Chief Inspector of Explosives.

xv. In case any information/document or undertaking provided at any stage by the licensee is found incorrect, the licence or permission granted on the basis of such information/document or undertaking shall be cancelled / revoked/ withdrawn in addition to any other legal action, penalty which the OGRA is empowered to initiate/impose under the law.

xvi. The Authority may, from time to time, issue any other instruction or instructions, which in the opinion of the Authority would be necessary to safeguard the public interest and they shall be binding on the company.

xvii. The LPG marketing companies shall ensure at least 10% inventory of 2,4,6 KGs LPG cylinders in their total metal inventory for distribution in their areas of operation. All cylinders must be manufactured as per the standards stipulated in OGRA LPG Rules, 2001 from OGRA's authorized manufacturing companies of LPG equipments, with company name and serial number embossed on them. Details of the same are to be furnished to OGRA on biannual basis.

xviii. The Company shall maintain metal inventory of 1,500 cylinders (domestic/commercial) before start of the operation, which shall be ramped upto 3,500 cylinders (or 50,000 kg of cylinders capacity elsewise), before the conduct of first periodic inspection.

xix. The Company shall ensure that in future there shall be no residential / commercial areas near its site.

xx. Any change in the Chief Executive or Directors of the company shall be reported to the Authority within fourteen (14) days of such a change.

xxi. Please convey your acceptance of the terms and conditions of this license within 15 days after which it shall be construed as acceptance of this licence and that the terms and conditions have been carefully read and understood by all managerial and operating staff of the company.

For and on behalf of Oil and Gas Regulatory Authority, Islamabad.

(Joint Executive Director)

CC:

1. The Secretary, Ministry of Energy (Petroleum Division), Government of Pakistan, Islamabad.
2. The Chairman, Federal Board of Revenue (FBR), Islamabad.
3. The Chief Secretary, Government of Punjab, Lahore.
4. The Director General, Department of Explosives, Islamabad.
5. The Deputy Commissioner, District Gujranwala.
6. The Director General, Environment Protection Agency (EPA) Punjab, Lahore.

ANNEXURE VII

GOOGLE EARTH MAP

RHINO FUELS (PVT) LTD

Rhino Fuels (Pvt) Ltd

Location Map

Legend

Feature 1

32°12'04.1"N 74°05'44.4"E Rhino Fuels (Pvt) Ltd

Google Earth

Image © 2025 Airbus

N

700 ft

ANNEXURE VIII

LAND CLEARANCE CERTIFICATE

RHINO FUELS (PVT) LTD

OFFICE OF THE DEPUTY COMMISSIONER
GUJRANWALA.

Phone No. 9200051-52
Fax No. 9200043
E-Mail. dcgujranwala@gmail.com.

No. DC/GA/PP/ 4074
Dated: - 19 .07.2025.

To,

1. The Assistant Commissioner (Sadar), Gujranwala.
2. The Divisional Forest Officer, Gujranwala.
3. The Superintendent Engineer, GEPCO Alam Chowk Circle, Gujranwala.
4. The General Manger, SNGPL, Gujranwala.
5. The Incharge Transmission Lines Officer, SNGPL, Sheikhupura Road, Gujranwala.
6. The Civil Defence Officer, Gujranwala.
7. The Deputy Director, (Environment), Gujranwala.
8. The Regional General Manager, PTCL, Lohianwala, Gujranwala.
9. The Chief Officer, District Council, Gujranwala.
10. The Executive Engineer, Road Construction Highway Division Gujranwala.

SUBJECT:- **REQUEST FOR ISSUANCE OF NOC FOR M/S RHINO FUELS (PVT) LIMITED KHASRA NO.409,410, KHEWAT NO. 188, KHATOONI NO. 359 TO 363, VILLAGE BHAKHRAY WALI KALA, TEHSIL SADAR DISTRICT GUJRANWALA.**

Please find enclosed herewith a copy of letter No.R-NOC-60/01, dated 12-07-2025 , received from **Rhino Fuels (Private) Limited**, 149-A Canal View Housing Society Lahore, Pakistan requested therein for grant of NOC to install LPG Storage and Filling Plant **BEARING KHEWAT NO.188, KHATOONI NO.359 to 363, Khasra No. 409, 410, SITUATED AT MOUZA VILLAGE BHAKHRAY WALI KALA, TEHSIL SADAR AND DISTRICT GUJRANWALA,** for examining the feasibility and report on the following points.

SR#	KEY POINTS	DEPARTMENTS
01	Ownership/ Any dispute regarding to the site/ Possession of Land	• Assistant Commissioner (Sadar), Gujranwala
02	Not located in Residential / Populated Area	• District Council, Gujranwala
03	Minimum Right of Way	• Highway Department, Gujranwala
04	The site is not located under the WAPDA High Power Transmission line.	• GEPCO, Gujranwala
05	Not located under T&T Lines / Ground cables of WAPDA/T&T/SNGPL	• Incharge Transmission Lines, SNGPL • PTCL, Gujranwala

2. Please furnish a report to this office within 07 days positively.

Additional Deputy Commissioner (General)
For Deputy Commissioner
Gujranwala.

C.C.

The CEO, Rhino Fuels (Private) Limited, 149-A Canal View Housing Society Lahore, Pakistan, for information.

CRO
For necessary action please
and report.

Assistant Commissioner
(Sadar) Gujranwala
28/07/25

Assistant Commissioner Sadar Gujranwala
Dy No. 3218
Date 28/07/25

2686