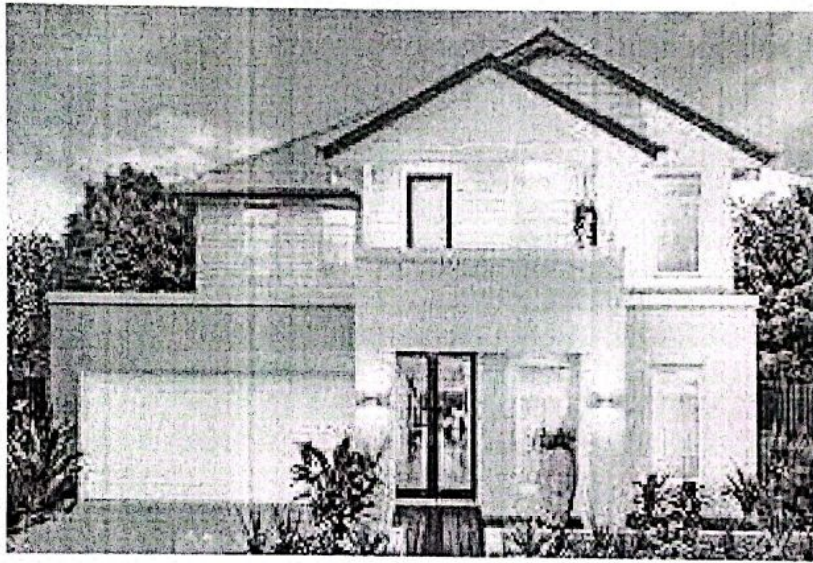


ENVIRONMENTAL IMPACT ASSESSMENT REPORT

(EIA)

**ESTABLISHMENT OF "UNIQUE CITY"
HOUSING SCHEME, MOUZA AHMAD PUR
LAMMA, WAHID BAKSHS MAHAR, TEHSIL
SADIQABAD, RAHIM YAR KHAN.**



Proponent

**Muhammad Shafique S/o Sultan Ahmad
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Rahim Yar Khan.**

Prepared by



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**Final Report
(July 2023)**

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EXECUTIVE SUMMARY

Title & Location of the Project

It is intention of Mr. Muhammad Shafique to get environmental approval for Unique City Housing Scheme, situated at Mouza Ahmad Pur Lamma, Wahid Bakshs Mahar, Tehsil Sadiqabad, Rahim Yar Khan, by submitting the Environmental Impact Assessment (EIA) Report as per direction of Environment Protection Agency for compliance of section 12 of PEPA 1997 (Amended 2012).

The project falls under Section 1, Clause H, Schedule II of IEE and EIA Regulations, 2000.

Location

Project site is located at Mouza Ahmad Pur Lamma, Wahid Bakshs Mahar, Tehsil Sadiqabad, Rahim Yar Khan.

Project Proponent

Name: Muhammad Shafique s/o Sultan Ahmad

Copy of CNIC and other relevant documents are attached.

Brief Outline of the Proposal

The subject proposed project is construction of the housing scheme under the name & style "Unique City Housing Scheme" situated at Mouza Ahmad Pur Lamma, Wahid Bakshs Mahar, Tehsil Sadiqabad, Rahim Yar Khan.. Total area of the scheme is 507-Kanal 12-Marla.

This scheme will have different sizes of plots for residential and commercial purposes. The scheme will be facilitated with wide roads, parks, school, masjid and electricity. For further details, layout map is appended.

Total estimated cost of the project is approximately **Rs.300-Million**. This project is for the betterment and advancement of the region.

Raw Material

Fired bricks and clay blocks	}	Varies
Cement composites		
Concrete		
Sand		
Stone		
Steel		
Plastic pipes		

Division of Plots	
Residential:	712-Plots
Storage and Handling of Construction Material	Constructional material will be placed within the vicinity of the scheme. Cement will be covered with polythene sheets to save from raining, however, at the same practice sand will also be covered during transportation as well as placing in scheme. Other material i.e. Bricks, Stone etc. have no need to cover.
Solid Waste	Area is reserved in housing scheme for safe disposal of Domestic waste.
Final Destination	Contract with the contractor will be made before commencement of work.
Water Requirement	
Water consumption of the project	Average daily consumption is 9000 to 9500 gallons and 35600 to 40500 gallons per day during construction & operation respectively.

	5 people per house, and total number of plots will be 712-plots. 70% approximately will be the waste water. 10-Marla is Reserved for Disposal.
Source of Drinking Water	Underground Water
Mode of Treatment	Waste Water will be treated through septic tank in individual Home. Then this water will treat in wastewater treatment facility. Detail of treatment facility is appended.
Mode of Disposal	Sewerage system is present near the housing society. Wastewater after treatment in waste water treatment plant will be channeled to nearby local sewerage system. After treatment the wastewater will be discharge into that drain.
MANPOWER	
Labour force during construction	30-35
Labour force during operation that will be sanitary workers Security Guard Watchman	Approx. 25-30
Power Requirements	
Source of Power	WAPDA
Fuel for Generator	Diesel

Major Impact

In order to identify all the activities associated with the project both during construction and operation phase with potential to cause adverse environmental impacts and harm, a through review has been conducted. Project will not have any major adverse impacts on the nearby community and environment. Overall the project will have positive impacts

on the local population and country as a whole. Moreover, area for plantation is also reserved for air purification within the project vicinity.

Summary of Environmental Impacts and Mitigation Measures

Pollutant	Constructional phase	Operational phase
Particulate matter (PM)/dust	Particulate matter will be generated during the constructional and transportation activities at the site. Due to raw material loading / unloading	During the operational phase dust will only be generated due to transportation and that impact will be outside the building on the unpaved roads or non-concreted roads.
Gaseous emissions	Flue gases will be generated due to site generators and vehicles	Flue gases can be generated due to generators and vehicles
Noise	Noise will be generated due to construction machinery and vehicles transporting materials.	Noise can be generated due to generators and vehicles transportation
Solid waste	Solid waste will be generated due to construction and domestic sources Due to sludge from septic tank	Solid waste will be generated due to domestic sources Due to sludge from septic tank treatment facility
Soil contamination	Soil will be contaminated due to leaching of oil, fuel, any stored oil.	Soil can be contaminated due to leaching of oil, fuel, any stored oil.
Waste Water	Waste water will be generated from constructional and domestic sources	Waste water will be generated from domestic sources

Health & Safety issues	Health & safety issues will be arose due to machinery handling and constructional activities	Health & safety issues can be arose due to short circuit, fire hazards etc.
Socioeconomic	Disturbance to neighbors by constructional activities	Employment opportunities

Recommendations and Mitigation Measures

Pollutant	Recommendations during constructional phase	Recommendations during operational phase
Particulate matter (PM)/dust	Sprinkling of water All construction raw material should be kept covered	Proper compaction of access roads Avoid off road travel Maintain vehicles speed Monitoring should be conducted as per EPA PEQs Rules 2001, if required
Gaseous emissions	Constructional machinery and vehicles should be tuned and maintained properly All project vehicles should be checked regularly.	Canopies should be built over generators to avoid noise pollution. PPEs should be provided to workers Generators should be maintained properly Generators will be installed in a specially constructed room. Monitoring should be conducted as per EPA PEQs Rules 2001, if required

Noise	Vehicles to carry raw materials should be operated during night time as far as possible. Ear plugs should be provided in case of heavy noise.	Ear plugs should be provided to workers in case of high noise. Monitoring should be conducted as per EPA PEQs Rules 2001, if required
Solid waste	Constructional waste should be utilize for road filling and maintenance. Domestic waste should be disposed off properly, handed over to contractor placed in bins.	Waste bins should be placed at suitable places. Domestic waste should be handed over to local contractors. Periodic cleaning of the septic tank should be done.
Soil erosion / Soil contamination	Placed sheet under generators or leaching material to avoid leaching. Less removal of vegetation or cleaning land	Placed sheet under generators or leaching material to avoid leaching. Store any hazardous waste or fuel properly at safe place. Restoration and reclamation of land will be done in case of soil erosion or removal of vegetation.
Waste Water	Waste water treatment facility should be installed to treat the waste water prior to discharge into any drain or used for agriculture purpose. Waste water from construction and domestic sources should be treated in waste water treatment	Wastewater should be treated prior to discharge into any drain or used for agriculture purpose. Wastewater from domestic sources should be treated in septic tank. Waste water after treatment should be used for irrigation

	facility before drain out or used in agriculture land.	purpose or drain out in nearby drain.
Health & Safety issues	PPEs should be provided to workers during constructional activities.	Training of workers should be conducted regarding health and safety. First aid measures should be available. Proper housekeeping should be ensured. Security guard should be present.
Socioeconomic	People should be informed in advance when work is about to start at the site. Job opportunity should be provided to local people of the area.	Community wellbeing should be considered and anticipated measures are recommended to preserve local culture and ecosystem. Job opportunities should be provided to local people of the area.

Proposed Environment Monitoring

To oversee the environment performance of the project through its lifecycle enforcing the PEQs and Environmental Monitoring Program should be formulated which ensures effective surveillance of the environment parameters at various stages of the project development and compliances with PEQs and legal obligations. Monitoring for following environment parameters is recommended.

Ambient Air Monitoring

Regular monitoring for ambient air should be conducted during construction and operation phase as per PEQs rules and report should be submitted to EPA Punjab on annually basis.

Noise

Regular monitoring for noise level should be recorded periodically during construction and during operation it should be conducted on an annual basis and report should be submitted to EPA Punjab.

Water Quality

Regular monitoring of groundwater should be conducted during construction and operation phase and report should be submitted to EPA Punjab. Record should be maintained regarding.

Schedules of Proposed Monitoring

Sr.	Parameters	Monitoring Schedule
1	Ambient Air Monitoring (NO _x CO _x SO _x VOCs PM ₁₀)	Annually
2	Noise Level	Annually
3	Water Quality	Annually

Note: Environment Monitoring data log book should be maintained by the project proponent.

Conclusion

The project is recommended for the issuance of Environmental Approval because the project proponent is willing to run the project in an environment friendly way and to adopt the Environmental Enhancement Measures.



INTRODUCTION

1.1 Purpose of the Report

Environmental Impact Assessment (EIA) report is being submitted to the Environment Protection Agency (EPA), Government of the Punjab, District Rahimyar Khan for the compliance of Section 12 for the approval of the said project.

Various aspects like environmental social, physical and other aspects of the project both during construction & operation and its regular occupancy are highlighted in this EIA report. Measures necessary to be adopted to mitigate an environmental impact on any part of the environment around are also described. All the important information is also provided as described under the format used to help decision makers, EPA Punjab in the present case, before issuing the desired Environmental Approval.

1.2 Identification of the Project

The Project falls under section 1, schedule 1 of IEE / EIA Regulations, 2000 (Amended 2012).

1.3 Project Proponent

Name: Muhammad Shafique s/o Sultan Ahmad

Copies of CNIC attached.

1.4 Nature, Size and Location of the Proposed Project

The subject proposed project is construction of the under the name & style “**Unique City Housing Scheme**” situated at Mouza Ahmad Pur Lamma, Wahid Bakshs Mahar, Tehsil Sadiqabad, Rahim Yar Khan.. Total area of the scheme is 507-Kanal 12-Marla. Total estimated cost of the project is approx. **300-Million**. The project is for the betterment and advancement of the region.

Currently the proposed site is open area and do not fall in flooding zone (not prone to flood).

This scheme will have different size of plots for residential and commercial purpose. The scheme will be facilitated with wide roads, parks, school, masjid, theme park, county club and electricity. For further details, layout maps are annexed.

1.5 Location

Project site is located at Mouza Ahmad Pur Lamma, Wahid Bakshs Mahar, Tehsil Sadiqabad, Rahim Yar Khan.

1.6 Methodology of EIA Report

For the purpose of this report, environmental and social baseline data and conditions at / around the project site has been undertaken. The methodology adopted to conduct the EIA studying includes review of layout plan, orientation session, development of data, acquisition plan, analyzing of data, review of existing data, primary and secondary data, collection survey, screening of potential environmental impact and mitigation measures and also interviews with people near the project area has been conducted to collect their opinion regarding the proposed project and after finding it has been concluded that the project will not have any major adverse impacts on the socioeconomics environmental of the existing community.

Most of the people nearby locality opined as:

Project is good for downtrodden people of the area as well as there are so many job opportunities will be generated.

The present EIA report will contains the following chapters and annexures as:

Executive Summary.

Chapter 1: Introduction of Project.

Chapter 2: Elaborate Project Description.

Chapter 3: Accompanied with Description of the Environment.

Chapter 4: Screening of Potential Environmental Impacts and Mitigation Measures.

Chapter 5: Describes the Environmental Management Plan & Monitoring Program.

Chapter 6: Discussed Stakeholder's Participation.

Chapter 7: Conclusion & Recommendation.

(2)**DESCRIPTION OF THE PROJECT****2.1. Type and Category of the Project**

The proposed project is the construction of housing scheme. The Project falls under Section 1, Clause-5 Schedule II of IEE / EIA Regulations, 2000 (Amended 2012).

2.2. Objectives of the Project

The main objectives of this project are:

- i. Betterment and Advancement of the region.
- ii. To promote integrated and balanced growth of the urban centers.
- iii. To resolve the settlement issue due to the growing population.

2.3. Consideration of Alternative Site**2.3.1 Site Alternatives**

Project proponent has considered number of sites for the construction of this project with consultation of Local Government Officials and business men. These site were also located near Rahim Yar Khan but they were rejected due to some conflicts and issues which were arising regarding the construction of the subject project.

Reasons for Rejecting Alternatives Site

The few basic reasons for rejecting the alternative sites are given below;

1. Available area of land was less than proposed project site.
2. The land was not in the possession of the proponent. Lot of conflicts can be generated by this factor.
3. Area is not suitable for development of any housing scheme.

Reasons for Selecting Proposed Project Site.

The reasons for selection of proposed site are;

1. Availability of Access Roads both in front and back.

2. Communications Facilities.
3. Availability of Electricity.
4. Basic Infrastructure.
5. Less / Few Vegetation / Plantation.
6. Absence of Fauna species at site.
7. Convenient Plan Layout.
8. Land owned by Proponent.

Obviously, environmentally sound, neat & clean environment are the other considerations for site selection. The project will also facilitate the people of the area with increasing the opportunity of employment and other related facilities. Keeping these requirements and their feasibility and other basic infrastructural requirements at the site, the selected site is ideally suited for construction of a Housing Scheme.

2.3.2 Process Alternatives

Two processes can be adopted by the developer:

1. Self-development by the owner of the houses which can result in unplanned development resulting in environmental degradation and loss of aesthetic beauty.
2. Planned development by the proponent which is scheduled and strategic development and results in virtuous, long-lasting and aesthetically beautiful design.

Scheme will be constructed and developed by the developer / proponent, which will be properly planned development. All concerns regarding ventilation, good aesthetic beauty and implementation of local government rules and design will be implemented by the developer / proponent.

2.3.3 Schedule Alternatives

Best schedules have been devised by proper planning and consultation. Proper road structures will be available for traffic movement. Heavy movement related

to construction and raw materials will be switched at night, so that it doesn't affect the day time and routine traffic movement.

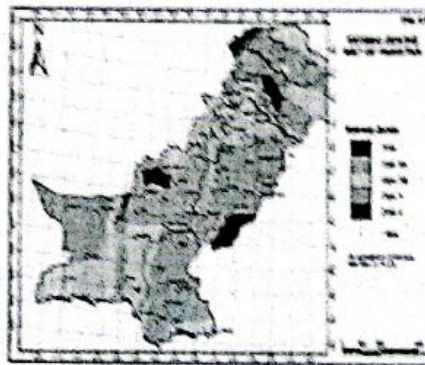
2.4 Location and Site Layout of the Project

Project site is located at Moura Ahmad Pur Lamma, Wahid Bakshs Mahar, Tehsil Sadigabad, Rahim Yar Khan..

2.5 Land use on Site

Project site is falls in brown area as per master plan of the District Government. Proposed site is an open area with few and scattered vegetation. The area is safe and not situated in the flooding zone.

Map of flooding zone areas is given below:



2.6 Road Access

Ahmad Pur Lamma Road is access road which is present at the front side of the project site.

2.7 Vegetation Features of the Project

The proposed site has few and scattered amount of vegetation that will help to avoid land clearing, mainly shrubs and grasses are present over there is scattered quality. The land is almost clear and free of dense vegetation.

Some trees are present at the boundary side, which will be preserved and they will not be cleared for the purpose of construction.

2.8 Cost and Magnitude of the Project

Total area of the scheme is **507-Kanal 12-Marla**. Total estimated cost of the project is approx. **300-Million**.

2.9 Schedule of Implementation

The initial town planning which includes layout plan and board scale design of residential area, commercial area, and car parking areas and green spaces has been done for Unique City Housing Scheme Housing Scheme.

Detailed feasibility studies and designing of the project have been completed. Necessary legal, administrative and financial formalities are being finalized. The polluting is expected to be completed within 6-8 months from the date of environmental approval. Subsequently the operational and maintenance aspects of the project will be undertaken by the proponent.

2.10 Description of the Project

The subject proposed project is construction of the housing scheme under the name & style "**Unique City Housing Scheme**" situated at Mouza Ahmad Pur Lamma, Wahid Bakshs Mahar, Tehsil Sadiqabad, Rahim Yar Khan.. Total area of the scheme is **507-Kanal 12-Marla**. Total estimated cost of the project is approx. **300-Million**. The project is for the betterment and advancement of the region.

Currently the proposed site is open area and do not fall in flooding zone (not prone to flood).

This scheme will have different size of plots for residential and commercial purposes. The scheme will be facilitated with wide roads, parks, school, masjid, theme park, county club and electricity.

As the project is in agriculture area so the functioning of the project would not be the reason of nuisance for the nearby community. Moreover, the project will pose the positive impacts in terms of employment opportunities, will creates job during construction and functioning of the project and will improve the living standards of people.

Raw Material

Fired bricks and clay blocks

Cement composites

Concrete

Sand

Stone

Steel

Plastic pipes

Varies

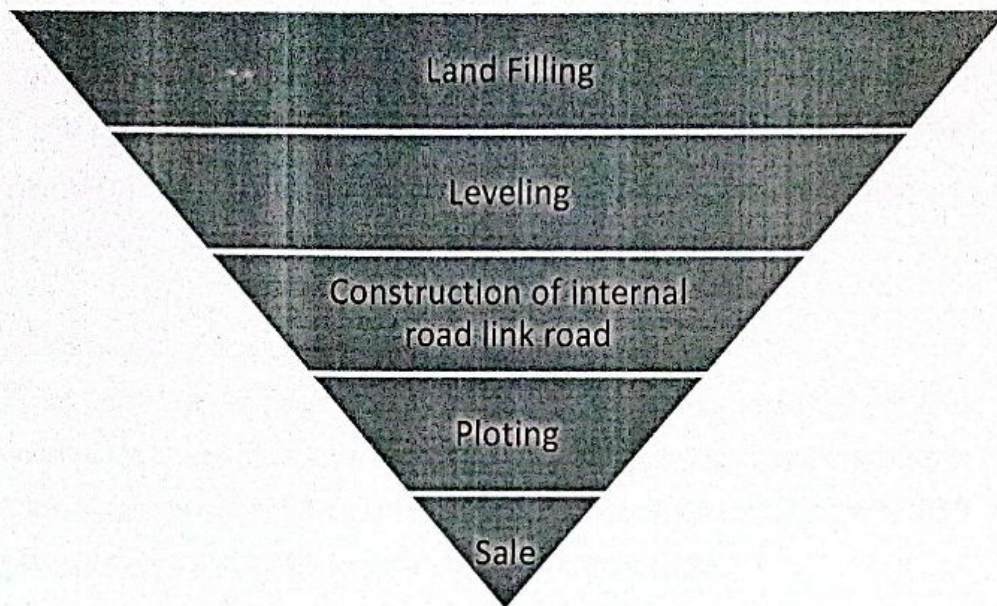
Division of Plots	
Residential:	712-Plots
Storage and Handling of Construction Material	Constructional material will be placed within the vicinity of the scheme. Cement will be covered with polythene sheets to save from raining, however, at the same practice sand will also be covered during transportation as well as placing in scheme. Other material i.e. Bricks, Stone etc. have no need to cover.
Solid Waste	Area is reserved in housing scheme for safe disposal of Domestic waste.
Final Destination	Contract with the contractor will be made before commencement of work.
Water Requirement	
Water consumption of the project	Average daily consumption is 9000 to 9500 gallons and 35600 to 40500 gallons per day during construction & operation respectively. 5 people per house, and total number of plots will be 712-plots. 70% approximately will be the waste water. 10-Marla is Reserved for Disposal.
Source of Drinking Water	Underground Water

Mode of Treatment	Waste Water will be treated through septic tank in individual Home. Then this water will treat in wastewater treatment facility. Detail of treatment facility is appended.
Mode of Disposal	Sewerage system is present near the housing society. Wastewater after treatment in waste water treatment plant will be channeled to nearby local sewerage system. After treatment the wastewater will be discharge into that drain.
MANPOWER	
Labour force during construction	30-35
Labour force during operation that will be sanitary workers Security Guard Watchman	Approx. 25-30
Power Requirements	
Source of Power	WAPDA
Fuel for Generator	Diesel

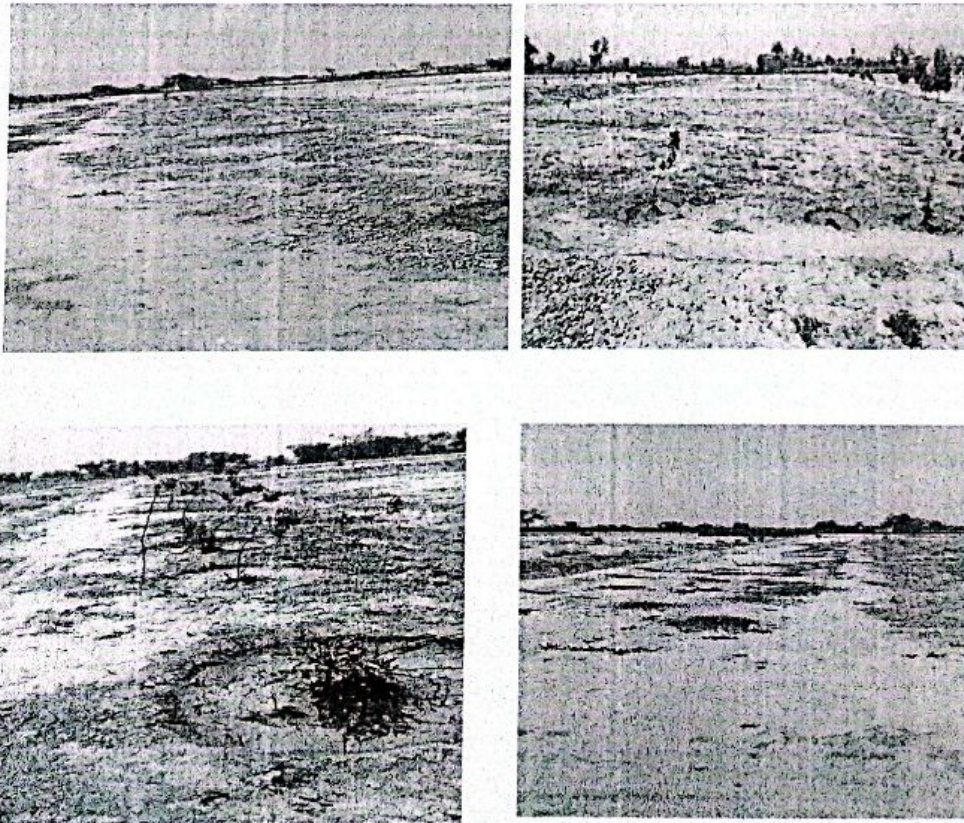
2.10.1 Size of Plots

Total residential plots are 712. These plots having area from 2-Marlas to 10-Marlas.

2.10.2 Project Process



2.10.3 Pictorial view of the project



2.10.4 Water Requirement

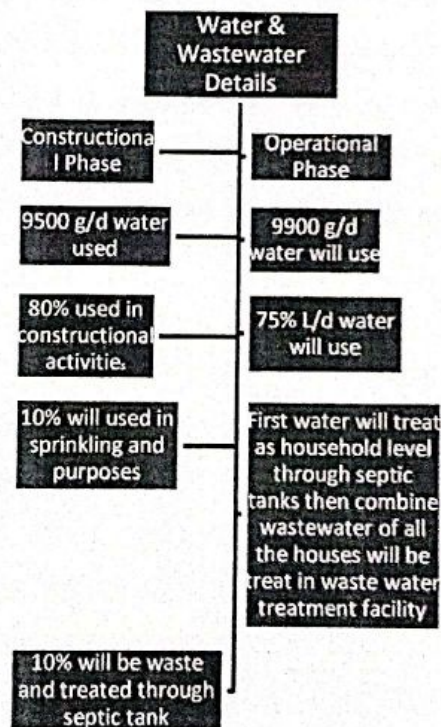
During the construction phase, 9500 gallons per day of water will be used.

There are total 712 residential plots in the proposed society with an average of 5-persons per home. After the construction of all houses, approximately 4083 gallons water per day will be required for total population of about 1500-persons of the Unique City Housing Scheme.

2.10.5 Sanitary Sewerage System

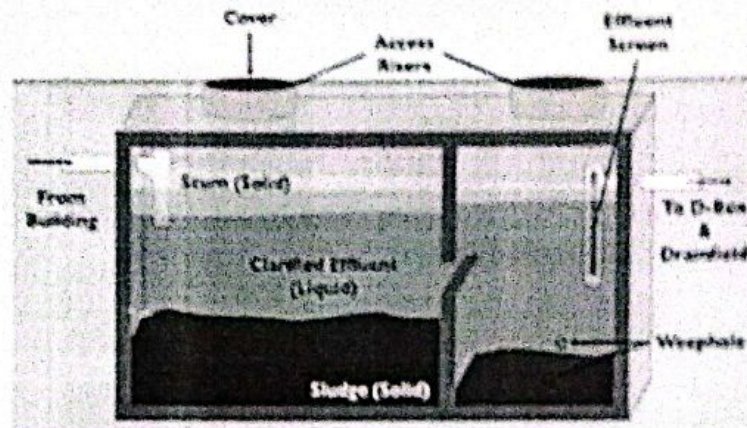
Septic Tank will be constructed at household. Waste water facility WWTP is constructed by the society. So the waste water will firstly be treated in the Septic Tank of each house and then at the society level it will again treated by WWTP as a whole and then it will be drain out in the nearest wade.

After treatment waste water will be discharge into that drain.



2.10.6 Design of Septic Tank

Septic Tank will be installed within the boundary wall of the project site. Design is given below:



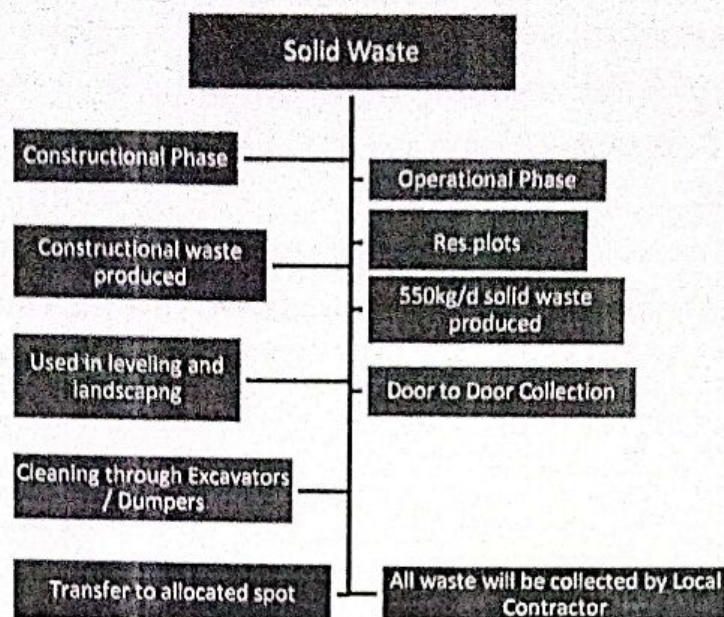
2.10.7 Waste Water Treatment Facility

In every home there is a septic tank for the treatment of water. After treatment the treated water from septic tank of individual home will be collected in wastewater treatment facility for the further treatment from where it is discharge in sewerage system. Treated water will be used in green belts of the society nearby fields from subject project. After treatment the wastewater will be discharge into drain. The detail and specification of the project in Appendix.

2.10.8 Solid Waste Management

During the construction phase, solid waste will be generated from construction activity, which will be used for refilling purposes. During the operation phase, waste effluents will primarily consist of the domestic sewage from the houses and public buildings. About 300-kg/day of domestic solid waste will be generated from the project during operation phase.

For domestic solid waste, a system of street to street garbage collection will be employed. The garbage will be collected and transported to a suitable location for final disposal.



2.10.9 Electrical Works

The design criterion for the electrical works will be in compliance with the requirements of WAPDA. Street lights will be provided and their maintenance will also be carried out by the management of the Unique City Housing Scheme Housing Scheme.

2.10.10 Other Facilities

There will be Masjid, Graveyard, commercial centers, public buildings and parks at the Unique City Housing Scheme Housing Scheme.

2.10.11 Plantation

Plantation will be done within and outside of the proposed project. A proper plantation plan has been designated for the proposed scheme.

2.11 Restoration / Rehabilitation Plan

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

On completion of the project, all measures will be taken for ensuring occupational safety, security and clean environment in the project area. Ornamental trees and flower plants will be planted on inside peripheral of the unit premises to restore the land.

2.12 Government Approvals required by the Project

Relevant Government Approvals / NOCs from Municipality, District Government etc. has been obtained and are attached.

(3)**DESCRIPTION OF ENVIRONMENT**

It presents information on existing environmental and socioeconomic conditions of the proposed project area. It discusses aspects pertaining to geology and soils, climatic conditions, hydrology, ambient air quality and noise levels as well as land use. Further, the chapter presents details related to flora and fauna as well as socio-economic environment.

3.1 Physical Environment / Resources

Environmental Impact Assessment (EIA) report provides details of physical environment.

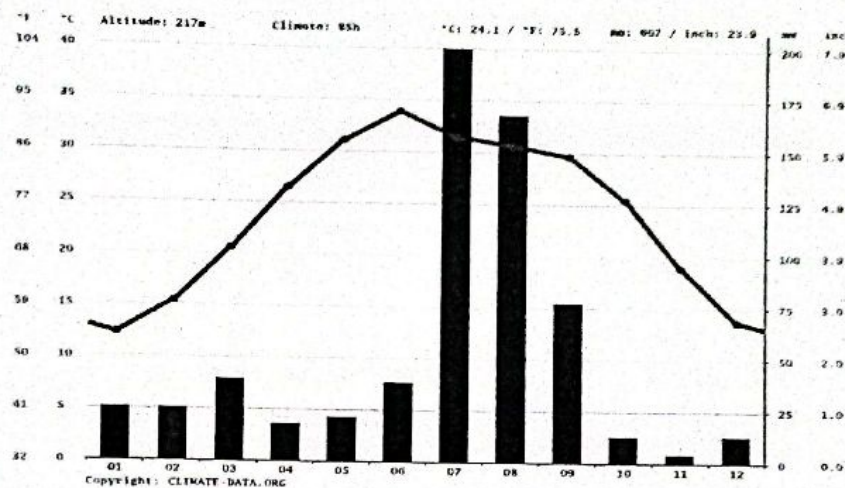
3.1.1 Topography

Topographically the project site being in the command of river Indus, exhibits the features typical of alluvial lands of the riverine origin. The wider area is a part of the flat flood plains of Indus basin with a general gradient from north to south and from west to east. The Cholistan desert merges into the eastern side of the district and is a few kilometres from the project site. According to the topographic measurement survey, the elevation of the project site is 112m. Owing to deficiency of surface water channels, the area presents a rather deserted and crusty look. Except the above-mentioned aspects, the project area does not exhibit any special physical, geological and geomorphologic features.

3.1.2 Climate

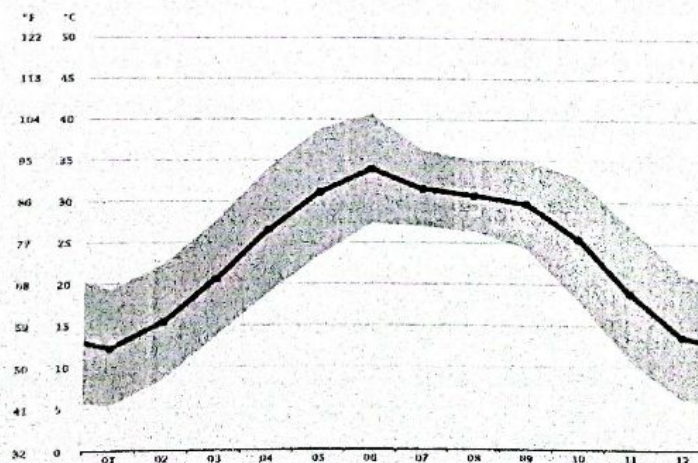
The site, being part of District Rahimyar Khan, exhibits a hot and dry climate with low rainfall like rest of the district. According to meteorological profile of Rahimyar Khan, summers are generally hot with moderate humidity, whilst winters exhibit extreme cold. Spring and autumn seasons are the most pleasant parts of the year. The mean winter temperature (December/January) ranges between 10.5°C to 14.5°C. The

mean summer temperature remains around 35°C to 37°C with spikes crossing 40°C. The mean of the maximum temperature ranges between 29-30°C and mean of the minimum from 15-16°C. Approximately 50 percent of the average annual rainfall occurs during monsoon in the months of July and August.



3.1.3 Temperature

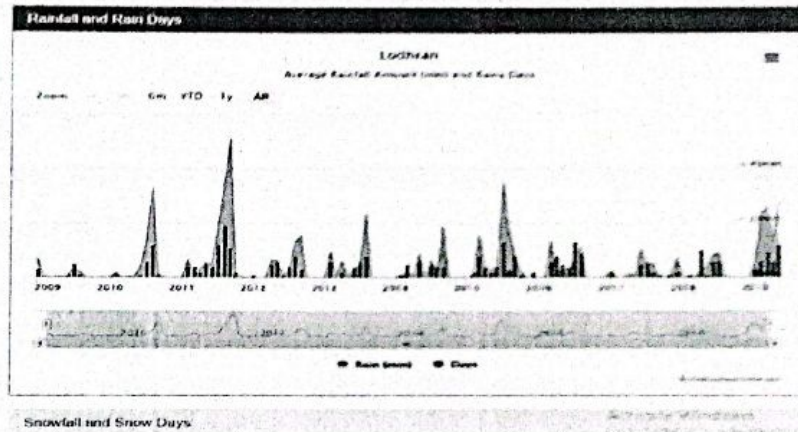
Over the course of a year, the temperature typically varies from 5°C to 30°C and is rarely below 2°C or above 42°C. At an average temperature of 30.4°C, June is the hottest month of the year. The lowest average temperatures in the year occur in January, when it is around 12.5°C.



3.1.4 Precipitation

Precipitation is the lowest in November, with an average of 2.4 mm. The greatest amount of precipitation occurs in July, with an average of 110 to 185 mm.

Between the driest and wettest months, the difference in precipitation is 125 mm. The variation in temperatures throughout the year is 22°C.



3.1.5 Air Quality

Atmospheric pollution, particularly in industrial areas has a strong impact on daily life. However, the project site is located amidst the open agricultural lands in rural settings. Because of this disposition, the air quality profile is reasonably good with a low level of airborne dust and pollutants. However, fugitive dust levels are a bit higher on and near the highly trafficked roads than the surrounding open lands. There is no contribution of pollutants to the local air from stack emissions from the local industry, brick kilns and other stationary sources, as none exists in the zone of environmental influence of the project site. At the time of visit inspection of the site, the general atmosphere at the project site was clear from particulate dust and was of good visibility. Monitoring was

conducted at the project site by using Fine Dust Sampler IPM-FDS 2.5/10 μ and Ambient Air Analyzer.

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

3.1.6 Noise Level Monitoring

Details as described below

3.1.7 Basic Environmental Conditions

During the measurement following conditions were prevailed in workplace.

3.1.8 Metrological Conditions

During the noise level monitoring weather was dry and sky was clear. Air was blowing at normal speed.

3.1.9 Monitoring Instruments

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

Name: Digital sound level meter

Model: AR824

Company: Intel Instruments plus

Frequency Range: 31.5Hz to 8kHz

3.1.10 Methodology Adopted

Noise level was monitored at four points; lab results are attached.

3.1.11 Ground Water

The Groundwater at the facility sites, like the wider area of the district, is in flux with the recharge occurring from infiltration of the river and the canal waters as well as from the surface precipitation. River Indus flows along the western side of the district and a major source of groundwater recharge in the area, particularly after heavy rainfalls and floods. Owing to the natural east to west topographical gradient, the groundwater of the region and that of the facility site per se exhibits the flow characteristics conformant to area's topography. As per water quality inspection, groundwater is of good potable and irrigable quality with no visible impurities.

3.2 Ecological Resources

Biodiversity has an important role in the functioning of the ecosystem. Human being is one of the species of the ecosystem and that species is the end user in the food chain. Fauna and flora are the important components of the ecosystem. The observed species of fauna and flora at the project site are described below.

3.2.1 Flora

Apart from some scanty trees at the project site, there are no large-scale plantations in and around the project site. The predominant species of the flora at the project site include shisham (*dalbergia sissoo*), eucalyptus, silver oak, kikar (*acacia nilotica*), jand (*prosopis spicigera*), karir (*capparis aphylla*), beri (*zizyphus jayaba*), van (*salvadora abeoides*) and akk (*calotropis hamiltonii*). Additionally, some wild varieties of self-grown grass species are found along some poorly maintained watercourses. There are no horticulture, and or wildlife parks and planned gardens near or around the project site. Some common forms of weed, bush and the self-grown endemic species of plants are found in the open agricultural lands.

3.2.2 Fauna

There is no specific fauna indigenous either to the project site or even to the wider area within the radius of influence of the project site. Similarly, there are no species of aviary, aqua, or wildlife indigenous, resident or migratory to the project site. As such, the biodiversity features of the site are insignificant. Some common forms of reptiles, mammals, and rodents are seen occasionally in the open countryside. Rarely, wild boar, jackals and fox are seen in thick plantations or sugarcane crops.

3.3 Socioeconomics Environment

"The socioeconomics environment is one the component of the regional ecosystem." The development projects can impact either negatively or positively to the regional socio-economic environment.

3.3.1 Population

According to the govt. statistics and the local / provincial govt. the estimated population of District Rahimyar Khan is approximately 4.814-Million persons.

3.3.2 Profession

Main profession of the area is Business / Trading. However, a few number of people are doing job in different institutes of govt. / private sector.

3.3.3 Education Level

Literacy rate in the area is approximately ranging from 33.1% (source: Bureau of Statistics).

3.3.4 Language

The popular language of the area is "Punjabi / Saraiki"

3.3.5 Cultural Diversity

The project site being a part of the rural countryside is devoid of any indigenous and endemic culture, customs, tradition, religious practices and the specialties. The people of Rahimyar are predominantly Muslims. Saraiki is the native language and is spoken widely in the district. However, Urdu is gaining popularity and is becoming the lingua franca, particularly amongst the youngsters and the educated youth. People generally respect "chadar" (women headgear symbolic of women respect) and chardewari (privacy), i.e. they do not mingle up with women publically and stay away from others houses and respectfully wait to be called in or the residents to come out from their houses. A reasonable proportion of womenfolk observe the purdah (veil) etiquette, i.e. they remain secluded from outsiders. However, womenfolk do participate in almost all sort of social, cultural, economic, educational, and service activities. Although Joint family system is the predominant mode of social life, yet "nucleus" or small family system is also found because of socio economic compulsions and attitudinal shifts in the youth.

3.4 Quality of Life Values

Quality of life the in the project area is standard as there are proper sanitation system and basic health facilities. Some of the important factors are discussed are below;

3.4.1 Heath and Education

Basic health & education facilities are available in the District. There are 2441 Govt. Schools and a number of private schools and some Govt Hospitals (DHQ, THQ etc) are present. People have to visit the District Rahimyar Khan for the proper health and educational facilities.

3.4.2 Compensation in Money Terms

As the project has been developed on the land of proponent and people are not getting affected from the project.

3.5 Archaeological and Historical Treasures

Archaeological or historical treasures within the project area are not available.

3.6 Lab reports of environmental analysis

Lab reports of ambient air, drinking water and noise level monitoring of project area is annexed.

(4)**SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS &
MITIGATION MEASURES**

The following chapter describes the overall possible impacts of said project on the physical, biological and socioeconomic environment due to the location, Design, during construction phase, during operation phase of the project and mitigation measures to minimize the significance of the possible impacts. The anticipated impacts related to propose housing have been assessed and mitigation measures are provided accordingly.

4.1 Assessment Criteria for Potential Impacts

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

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

4.2 Environmental Impact due to Project Location

The subject proposed project is construction of the housing scheme under the name & style of "Unique City Housing Scheme" situated at Mouza Ahmad Pur Lamma, Wahid Bakshs Mahar, Tehsil Sadiqabad, Rahim Yar Khan.. This scheme will have different plots of different size for housing and commercial purposes.

4.2.1 Impacts

Area is suitable for the development of subject scheme. So, if the proponent / Developer fulfills all the HSE conditions and Society development laws and rules than this scheme will not cause any adverse environment impacts on the society. Development of this society will increase the living standards and employments for the local people of the District. Overall the impacts of this development due to the location are positive on the local community of District Rahim Yar Khan and country.

Impact significance: Very Low or may be positive

Nature of impact: Direct

Duration: Long-Term

Timing: Operation Phase

Reversibility: NA

Likelihood: Low (unlikely),

Consequences: Very low or may be positive

4.2.2 Mitigation Measures and Recommendations:

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

4.3 Environmental Impact due to Project Design

Total area for the scheme as per site is 507-Kanal 12-Marla, which will comprise residential plots, commercial plots, parks and roads. Health & safety plan, Tree Plantation Plan, and emergency response plan will be incorporated during the design phase of the project. The main buildings are;

- Houses
- Commercial shops/Market
- Parks
- Solid waste
- Main office

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

4.3.1 Impacts

- Structural stability of the proposed houses and whole society
- Soil structure and soil bearing capacity
- Road infrastructure design
- Emergency exit in the houses as well as society for the emergency situations
- Wastewater disposal system design
- Rain water harvesting capacity of the drainage system
- Electricity hazardous

Impact significance: Moderate to High or may be negative

Nature of impact: direct

Duration: Long-term

Timing: Constructional phase & Operation phase

Reversibility: NA

Likelihood: moderate to high

Consequences: moderate to high or may be negative

4.3.2 Mitigation Measures and Recommendations:

Following are the mitigation measures and recommendations to minimize the anticipated impacts due to the project design:

- Road infrastructure should be properly designed and there should be strict application of the laws and regulations, so that traffic congestion problems may not arise.
- Emergency exit points should be designed during the designing phase and should be kept in proper working condition to use in case of any emergency.
- Wastewater disposal system should be designed and managed properly and wastewater treatment facility should be installed within the design of the housing society.
- Waste water drainage should be designed vast to bear the rain water capacity of the society.
- Electricity system should be designed safe and sound; electricity wires should be covered by thick plastic/electricity resistant covers.

- All the design should be approved from the local authority to minimize the impacts due to the design of the project.

4.4 Environmental Impact due to Construction Phase

Project site is surrounded by open land and road. So the construction of the proposed project will not have harmful impacts on the surrounding areas.

4.4.1 Impacts on Physical Environment

Impacts related to the construction phase of the subject project are discussed below:

- **Grubbing and Stripping**

Grubbing and stripping may be a minor and short-term impact on the physical environment during the construction phase. It may also be a health and safety hazard for the workers.

- **Leveling and Compaction of the Land**

Leveling and compaction of the land is also a short term and minor impact on the physical environment and it may also be a health and safety hazard for the workers.

- **Demarcation of project Building and Other Facilities**

It may also be a minor impact on the physical environment due to the subject project.

- **Generation of Dust During Loading and Unloading of construction Materials**

It is also a minor and short term impact on the physical environment and also for health and safety, which may arise during the construction phase.

- **Generation of Noise on Account of Vehicular Use and Construction Activities**

It is also a minor and short term impact on the physical environment and also for health and safety, which may arise during the construction phase.

- **Gaseous Emission due to the Vehicles and Stand by Generator (if any)**

It may also be a minor impact on the physical environment during the construction phase, if vehicles and generators are not properly tuned.

- **Local Flooding due to Over-use of Water and Leakage of Pipes**

It may be a minor and short-term impact on the physical environment if precautionary measures have not been taken.

- **Safety to Construction Workers, People in the Surrounding and Passersby**

Health and safety issues may arise during the construction phase if proper precautionary measures will not be taken.

- **Any Outbreak of Fire due to Electrical and Other Failures**

This issue may arise due to carelessness or improper management, and it may be a serious hazard which may affect the environment or may also cause the loss of property or life.

- **Solid Waste Generation due to Domestic and Construction activities**

Solid waste generation due to domestic and construction activities may be a negative impact on environment if not managed properly.

- **Wastewater Generation from the Domestic and Constructional Activities**

Wastewater generation due to domestic and construction activities may be a negative impact on environment if proper wastewater treatment and management system will not be implemented.

- **Ground Water Quality**

Ground water quality may be affected by the development if proper mitigation measures will not be implemented.

4.4.2 Impacts on Biological Environment

Impacts on Fauna and Flora

Construction will impact flora / vegetation cover and fauna present at the project site.

4.4.3 Impacts on Socio-Economics Environment

- **Security Threat**

Security threat is a major socioeconomics impact which may arise during the construction phase.

- **Impact on Land Value**

Construction of the subject project may cause positive or negative impact on the land value.

- **Loss of Public and Private Infrastructure**

Construction of the subject project may cause loss of public and private infrastructure if any, which is also a negative impacts on the socioeconomic environment.

Impact significance: Moderate to High or may be negative

Nature of impact: direct

Duration: Short-term

Timing: Construction phase

Reversibility: NA

Likelihood: moderate

Consequences: moderate

4.4.4 Mitigation Measures & Recommendations

- Precautionary measures should be adopted to save the environment from the impacts of grubbing, stripping, levelling and compaction and Health & Safety of workers should be ensured during these construction phases.
- Demarcation of project building and other facilities should be according to the laws and regulations.
- Sprinkling of water on dusty tracks is recommended to avoid the generation of dust on dusty tracks.
- Vehicles should be properly tuned to reduce the impacts of dust and noise.
- Mitigation measures should be taken to meet the PEQs at the stack of generators.
- Proper mitigation measures should be taken to reduce the noise generation during the construction activities.

- PPEs i.e. ear muffs, helmets and masks etc. should be provided to workers to ensure their health and safety during the construction activities.
- Precautionary measures should be taken to reduce the local flooding due to over-use or leakage of pipes.
- Health & Safety of construction workers, people in the surroundings and nearby must be ensured.
- Constructional waste should be used for landfilling purpose.
- Domestic solid waste should be used for landfilling purpose.
- Domestic solid waste should be kept in dust bins and should be handed over to local contractors.
- Wastewater treatment facility should be incorporated in the design of the project to treat the waste water produced due to constructional and domestic activities before the final disposal.
- Add more vegetation to restore the land by more plantations.
- Essential services like water supply, sewerage disposal and solid waste management must be in working conditions.
- Construction timings should be schedule to cause minimum disturbance to neighbors.
- Because of presence of security guards round the clock the security at the projects site will improve as well as in its vicinity. Impact will be moderate positive.
- Land value in the surrounding area will be increased due to completion of the present project. Impact will be moderate positive.
- The project does not involve dislocation of the people. There is no requirement of resettling a single person. Impact is nil.
- No moveable or immoveable property and infrastructure of public and private sectors will be lost or damage during construction and operation stages. Impact will be nil.

4.5 Environmental Impact due to Operational Phase

There will not be any significant environmental problems relating to gaseous emissions, particulate matter or noise during operation of the scheme. Environmental issues associated with operation of the proposed project could include soil contamination caused by inappropriate waste disposal, surface and ground water contamination, water consumption,

safety hazards, public health and nuisances, damage to infrastructure, and increase in noise and vehicular activity. However, the magnitude of these impacts shall be much less than those related to impacts during the construction. These impacts and the mitigation measures are discussed briefly.

4.5.1 Impacts on Physical Environment

Impacts related to the operation phase of the subject project are discussed below:

- **Groundwater quality and level**

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

- **Land utility**

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

- **Solid waste generation due to domestic activities**

Solid waste generation due to domestic activities is a long term and major of the subject project.

- **Waste water due to domestic activities**

Production of waste water due to domestic activities is a long term and major impact of the subject project.

- **Vehicular emissions**

It is also a major impact on the environment caused by the subject project.

4.5.2 Impacts on Biological Environment

- **Flora**

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

- **Fauna**

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

4.5.3 Impacts on Socio-Economic Environment

- **Security**

Because of presence of security guards round the clock the security at the project site will improve as well as in its vicinity. Impact will be moderate positive.

- **Land Value**

Land value in the surrounding area will increase due to completion of the present project. Impact will be moderate positive.

4.5.4 Resettlement Issues

- **Dislocation of Population**

The project does not involve dislocation of the people. There is no requirement of resettling a single person. Impact is nil.

- **Loss of Property / Infrastructure**

No moveable or immovable property and infrastructure of public and private sectors will be lost or damaged during construction and operation stages. Impact will be nil.

Impact significance: Moderate to High or may be negative

Nature of impact: direct

Duration: Short-term

Timing: Operational phase

Reversibility: NA

Likelihood: moderate to high

Consequences: moderate to high or may be negative

4.5.5 Mitigation Measures & Recommendations

- Solid waste bins should be regularly cleaned and solid waste must be handed over to the local contractors.
- There should be different bins for different types of solid wastes for proper segregation of solid waste.

- Wastewater treatment facility should be constructed on the reserved place to treat the domestic waste water.
- Proper plan for waste water collection should be devised.
- Proper mitigation measures should be devised to cope with the emissions generating from kitchen area.
- Properly tuned vehicles should be used and non-tuned vehicles should be banned.
- Traffic management system should be ensured.

4.6 Potential Environmental Enhancement Measures

The proposed project will be installed with all precautionary measures to enhance and safe the environment. Following necessary measures will be adopted during construction and operation.

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

- First aid facilities will be made available.
- Any possible measure will be adopted to make the project safe and environmental friendly.

4.7 Purpose of Mitigation Measures

Purpose of mitigation measures should include:

- What is the problem i.e. in terms of "Major Environmental Impacts" which may arise by the subject project activity?
- When the problem will occur and when it should be addressed?
- Where the problem should be addressed?
- And how the problem should be addressed?

The major impacts may arise by the subject project are solid waste generation due to domestic activities, waste water due to domestic activities, fire due to short circuits and other activities, health hazards. Other impacts are of minor importance. These impacts will arise during construction and operation but precautionary measures will be adopted prior to start the activity, during the activity and post activity.

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

HSE manager / environmental manager along with site manager will be appointed to access any impact that could be arisen during the both phases. He would responsible to address the problem and to mitigate it.

4.8 Ways of Achieving Mitigation Measures

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

Management shall take appropriate measures to provide pollution free and safe environment during the proposed project activity by implementing improved management practices and monitoring techniques suggested in EMP.

Unique City (Housing Scheme) will adopt such plan that will assure the minimum impact on the environment and health by implementing proper mitigation measures. Design of the project will assure the structure stability and project life in a long run.

Ravi Housing (Housing Scheme) Restoration / Reclamation or tree plantation plan to restore the project area. Maximum plantation will be done with native species within the unit, along the boundary wall and along the road side if directed by EPA. Also, in-front of main area, horticulture plan will be formulated and area for this will be kept reserved.

(5)**ENVIRONMENTAL MANAGEMENT PLAN & MONITORING PROGRAM****5.1 Purpose & Objective of EMP**

The primary objectives of the EMP are to:

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

5.2 Management Approach

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

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

5.3 Institutional Capacity

Following functionaries will be involved in the implementation of EMP:

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

5.4 Training Schedule

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

5.4.1. Training of Building Contractor

Training of building contractor & workers will be the part of the TORs regarding the construction of the scheme. TORs will be including the training and submission of reports in the following area:

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

Training regarding all other aspects of HSE will be ensured by the contractor during the construction phase.

5.4.2. Environmental Technical Assistance & Training Plan

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

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

The training modules will include air, noise and water pollution monitoring, social awareness, Environmental Laws, Punjab Environmental Quality

Standards (PEQS), Usage of personal protection equipment's and health and safety related issues on the construction site.

The HSE/Project Manager will train all workers & staff in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of Sexually Transmitted Infections (STI) HIV/AIDS and in general health and safety matters, and on the specific hazards of their work.

5.5. Responsibility of EMP

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

5.6. Summary of Impacts & Their Mitigation Measures

Summary of Environmental Impacts and Mitigation measures is present in following table:

Sr.#	ENVIRONMENTAL ISSUES/IMPACTS	MITIGATION MEASURES
PLANING, SITE SELECTION AND DESIGN STAGE		
1	Acquisition of land	Project site is the property of the proponent and there is no land ownership issue.
2	Loss of environmentally sensitive areas	Avoid utilization such patches of land.
3	Changes in traffic pattern	Prepare suitable in / out traffic plan.
4	Potential conflicts with stakeholders	Settle the issues through scoping and specific group discussions.
5	Resettlement issues	No resettlement issues.
SITE DEVELOPMENT STAGE		

1	Erosion due to stripping and site clearance	Sprinkling of water on road side
2	Generation of Dust	Careful loading and unloading of construction material is recommended. Sprinkling of water on construction site and surrounding areas is recommended.
3	Generation of Noise	Avoid using forbidden horns at the site. Do not throw heavy equipment and construction materials in haphazard manner.
4	Local flooding / ponding	Immediate repair and maintenance of water supply pipes and sewers in case of any defect will be undertaken.
5	Safety	Safety of the workers and others must be ensured. Privacy of the neighbors must not be disturbed.
6	Labor issues	Employ the local labor as far as possible.
CONSTRUCTION STAGE		
1	Minor erosion of land	Add more vegetation; restore the land by more plantations. Sprinkling of water on dusty tracks is recommended. Clearing of land should be step wise; vegetation should be removed only from the area where main building will be developed.
2	Contamination of land and water	Essential services like water supply, sewerage disposal and solid waste management must be in working condition.
3	Air Pollution (PM)	Sprinkling of water on dusty tracks is recommended. Do not throw heavy equipment and construction materials in haphazard manner.

		Prohibit idling of vehicles Workers on the site should be issued with dust masks during dry and windy conditions
4	Noise pollution	Construction should be carried out only during daytime Workers to wear ear muffs if working in noisy section
5	Traffic density	Proper signage put in place to notify neighbors of the activity and presence of heavy vehicles and to direct traffic. Presence of boards directing patrons to the site strict adherence to traffic rules. Provide adequate parking and driveways control and management of traffic through enforcement of speed limits. Provide bill boards at the site / entrance to notify motorists about the development.
6	Ecological consideration (flora & fauna)	The flora and fauna should be restored after construction by landscaping and maintenance the introduced plants.
7	Solid Waste	Excavation waste should be re-used or back filled. Waste generated should be collected by a privately constructed waste collection company. The site should have waste receptacles with bulk storage facilities at convenient point to prevent littering. Unusable construction waste, such as damaged pipes, formwork and other construction material is handed over to the local contractor.

		For wastewater treatment facility 05 Marla is reserve in housing scheme.
8	First Aid	A well-stocked first aid kit shall be maintained by qualified personnel
9	Occupational Health and Safety	Train workers on personal safety and how to handle equipment and machines Report any accidents / incidences and treat and compensate affected sanitary workers To reduce health and safety risks, effective emergency response plans will be observed during construction. Proper personal protective equipment i.e. safety shoes, helmet, goggles, respiratory equipment and gloves shall be used at all times on site. Provide first aid kits and contact points in case of injury and accidents. Form a safety and health committee to coordinate safety and health issues at workplace. Provide regular safety awareness talks and trainings.
10	Material Transportation	All fine earth materials must be enclosed during transportation to the site to prevent spillage and dusting. Trucks used for that purpose should be close properly and with tarpaulins to cover the materials. The transportation of lubricants and fuel to the construction site should only be done in the appropriate vehicles and containers, ie. Fuel tankers and sealed drums. As far as possible, transport of construction materials should be scheduled for off-peak traffic

		hours. This will reduce the risk of traffic congestion and of road accidents on the access roads to the site.
OPERATION STAGE		
1	Safety / Security concerns	Safety of the workers and others must be ensured. Privacy of the neighbors must not be disturbed.
2	Malfunction of Utilities	It is proposed to appoint maintenance engineer technicians like plumber and electrician for smooth operation of utility services.
3	Occupational Health, Safety and Environment	Regular medical check-ups are recommended to improve the working conditions and efficiency of workers. Safety of management, workers and visitors must be ensured. Observance of construction and safety codes must be ensured.
4	Noise Pollution	Workers to wear muffs if working in noisy section. Management to ensure that noise from the residents kept within reasonable levels. There should not be unnecessary honking of the involved machinery.
5	Solid Waste Management	Area for solid waste must be reserved within the subject project. The solid waste must be managed on regular basis. The domestic waste will be disposed-off in environment friendly way. Project related waste should be handed over to contractor for safe disposal / recycling.

		Waste bins should be placed at suitable places. Domestic waste should be handed over to contractors on regular basis. Proper segregation in collection of waste.
6	Ecological considerations (flora & fauna)	The flora and fauna should be restored after construction by landscaping and maintaining the introduced plants.
7	Water consumption	Avoid unnecessary toilet flushing. Promptly detect leaking taps and repair them. Turn off taps when not in use. Install water conserving taps that turn off immediately when water is not in use. Install a discharge water meter in the premises to check on total water use and for billing purpose. Install water meter for control of water use.
8	Sewage treatment and disposal	In every home there is a septic tank for the treatment of water. After treatment the treated water from septic tank of individual home will be collected in wastewater treatment facility for the further treatment from where it is discharge in sewerage system. The detail and specification of the project is given. Design of sewage system should be sound in terms of adequacy, gradient materials and standards and should connect to the proposed wastewater treatment system and should be monitored regularly to avoid leakages and spills. Regular emptying of the septic tank.

5.7. Equipment Maintenance Detail

The proponent of the subject project will maintain records for Health Safety & Environment and will hire Environment / HSE manager to check and deal with the HSE issues. The subject project will maintain medical facilities, waste water treatment facility, solid waste management facility and records for their periodic replacement and will ensure proper housekeeping and essentials facilities.

5.8. Environmental Budget

The cost required to effectively implement the mitigation measures is important for the sustainability of the Project both in the construction and operation stages of the Project. Project proponent will allocate the Environmental Budget for the Training, maintenance and management of Environment is **275-Thousand** annually that will include filling and maintenance of equipment's restoration, plantation, and strategic planning to cope with any emergency situation and formulate the disaster management plan to cope with natural disaster. Any equipment or devices failure or replacement will not be included in this budget.

ENVIRONMENTAL BUDGET	
Ambient Air Monitoring	25,000
Noise Monitoring	25,000
Water Quality Monitoring	25,000
Health & Safety	95,000
Tree Plantation / Green Belts	35,000
Solid Waste Management	25,000
Wastewater Treatment	45,000
Total	275,000

5.9. ENVIRONMENTAL MANAGEMENT PLAN FOR UNIQUE CITY (HOUSING SCHEME)

Sr. #	Environmental	Mitigation Measures to be taken during		
	Parameter / Element	Construction	Regular Operation	Responsibility
Physical Environment				
1	Waste Water	The sewage to be generated shall be discharged into the septic tank for its primary treatment and then it will drain out into sewer. Domestic / construction waste water after Treatment in septic tank will be drained into nearby local sewage drain.	The sewage to be generated shall be discharged into the household level septic tank for treatment at PEQs levels. As there will be no chemical contamination, therefore, simple oxidation may reduce its pollution lead. Sewage and other waste effluents will be handled to avoid contaminating surface and groundwater. No contaminated effluents will be released into the environment without having been treated. Monitoring will be conducted by EPA certified LAB if required.	Environmental / Project Manager

2	<i>Health & Safety</i>	Local people will be informed in advance when work is about to start in an area. This may result in people keeping young children away from work areas. Safe driving practices will be adopted, particularly while passing through settlements. Job opportunity will be provided to local people of the area. Basic health facilities will be provided to employees. Open fires will not be allowed anywhere outside the proposed site.	Basic health facilities will be provided to employees Security guards will be present round the clock. Job opportunity will be provided to the local people of the area.	Environmental / Project Manager
3	Water Supply	It shall be ensured that no activity tempers with the water supply system.	It shall be ensured that no activity tempers with the water supply system. Project proponent committed to provide safe drinking water to all workers and staff.	Environmental / Project Manager

4	Solid Wastes	Limited solids wastes from the construction activities shall be segregated and duly disposed-off. The solid redundant materials will be disposed off away from the city adequately. None of these wastes shall be accumulated on site. It shall be ensured that none of the wastes or materials of construction spread on the public roads or on the foot path or else. Construction Solid Waste will be stored in solid waste bins and will be handed over to local contractors for further treatment or final disposal and also construction waste will be used for road repairing and maintenance purpose.	Solid waste will be handed over to the local contractors after collection from houses. Solid waste bins will be placed at suitable places. Area for solid waste bins will be placed at suitable places. Area for solid waste disposal will be allocated within the subject project. Proper solid waste management system will be adopted.	Environmental / Project Manager
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5	Noise	In order to noise in the project area, vehicles to carry raw materials, shall be operated during night time as far as possible. The project construction activities don't involve any activity which may create high noise levels. Ear plugs will be provided & implemented.	In order to avoid noise in the project area, vehicles to carry domestic and commercial materials, shall be operated during night time as far as possible. No activity producing extra ordinary levels of noise will be allowed as a policy matter. Generators will be installed in a specially constructed room where its noise will be curtailed within the limiting values of the Punjab Environmental Quality Standards. Monitoring will be conducted by EPA certified LAB as per PEQs if required.	Environmental / Project Manager
6	Gaseous emissions and particulate matter / dust emission	Construction materials i.e. sand, clay and like shall be transported to the project site during night time and will be stored away from the road or foot path. They will be kept under cover to avoid any fugitive dust.	Generators should be maintained properly. Generators will be installed in a specially constructed room. Avoid off roads travels. Maintain vehicles speeds. Monitoring should be conducted as per instruction of Environment Project Agency.	Environmental / Project Manager

		Dust may generate during unloading of raw materials. All equipment, generators, and vehicles used during the project will be properly tuned and maintained in good working condition in order to minimize exhaust emissions. All project vehicles will be checked regularly to ensure that engines are in sound working condition and are not emitting smoke. Ambient air quality has been monitored by EPA certified LAB and results are incorporated within the report.	Speed for traffic movement in the scheme should be limited to avoid noise. Canopies should be built over generators to avoid noise pollution.	
7	Soil disturbance / erosion	The clearing vegetation along proposed site will be minimized as far as possible.	Maximum plantation is recommended within at outside the land subdivision and for this area is reserved. Tarpaulin sheets will be placed under generator (s), and other leaching substances.	Environmental / Project Manager

		Minor & scattered vegetation is present that include shrubs and grasses only. Control earthworks and compact loose soils. Install drainage structure properly. Landscaping on project completion. Control activities during rainy conditions. Provide soil erosion control and conservation structures / means where necessary. To the greatest extent possible, phase site clearance so as to minimize the area of exposed soil at any given time.	Land will be restored by planting indigenous plants. Landscaping on project completion.	
8	Traffic related problems	The vehicles number will be regulated in a way that no stampedes occur on the site.	The project site has additional area reserved exclusively for parking cars and motor cycles.	Environmental / Project Manager

		As far as possible, large size vehicles in very limited number may visit the project site during night time.		
9	Trash Burning	No trash burning will be allowed on the roads and streets.	No trash burning will be allowed on the roads and streets.	Environmental / Project Manager
10	Dust	The open place will be duly cleaned after sprinkling of water to avoid any dust to spread around.	Plantation will be ensured in open space to avoid dust.	Environmental / Project Manager
BIOLOGICAL ENVIRONMENT				
11	Flora & Fauna	Proposed site is devoid – off any protected species of both flora n fauna.	Awareness programs will be planned regarding the protection of flora n fauna. Species of indigenous plants will be planted at site.	Environmental / HSE Manager
SOCIOECONOMICS IMPACTS				
12	Resettlement issues	There is not any issue of resettlement due to the construction of the subject project.	There will not be any issue of resettlement due to the operation of the subject project.	Environmental / HSE Manager

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

17	Gender inequality	Women involvement in decision making process should be ensured.	Women involvement in decision making process should be ensured.	Proponent
OTHERS				
18	Environment quality enhancement measures; flowers and plants and decoration lights.	-	Flowers pot containing flowers and plants will be planted in front of the buildings to add to the improvement of the environment around. Street lights will be provided in the roads and streets.	Environmental / Project Manger
19	Staff for catering the Environmental Management Plan	-	Special staff will be recruited to implement this Environmental Management Plan on regular basis.	
20	Enhancement of aesthetic beauty of the Building and the Area.	-	All other necessary measures shall also be taken to maintain standards of cleanliness so that the building may add to the scenic / aesthetic beauty of the area around.	

(6)**STAKEHOLDERS PARTICIPATION**

The project proponent engaged an Environmental Expert Team who conducted a survey of the project site and had discussions with stakeholders and consult with the local people to evaluate the project socioeconomic impacts. People provide the massive information about the project and have positive remarks regarding the project development.

6.1 Methodology of Consultation

The team carried out public consultation at various locations around the Project Site. The stakeholder's consultation during this phase of the work targeted the project area, administrative and private offices, Govt. offices, shops, etc. near the Project Area:

- Selection of the stakeholders for consultation, reconnaissance of the project site and initial discussions with the neighboring factory workers, residents, shopkeepers, drivers etc.
- Environmental consultations and social specialists and documenting the opinions of the stakeholders expressed during the meetings etc.

Consultation was held with following:

6.1.1 Proponent

Possible impacts and mitigation measures related to the subject project were discussed with the project proponent and management. They assured to take all suggested mitigation measures to control any discrepancy arose by the project and to make the project environmental friendly.

6.1.2 The Responsible Authority

Management of the subject project is the responsible authority to take all measures prior to the activity.

6.1.3 Some other Departments & Agencies

For the impact analysis details meetings were held with the management of the subject project, local community, education institutes, health institutes, hospital and NGOs. issues were discussed that may affect the environment and also the

implementation of proposed project. All possible mitigation measures were considered and incorporated in the Environmental Management Plan.

Scoping sessions, focused group discussion and way side consultations were held with the relevant stakeholders in the area. The purpose of such consultations is to obtain the feedback from the relevant persons. Socioeconomic survey forms are annexed.

6.2 Affected & Wider Community

There is no affected community present in the radius of our study area. Team has consulted with the inhabitants of the different villages. They provided positive remarks regarding the subject project and in the favor of the subject activities for the proposed housing scheme. Stakeholders participation performer's and socioeconomic questionnaire were get filled by the inhabitants to evaluate the project socioeconomic impact.

(7)

CONCLUSION & RECOMMENDATIONS**7.1 Conclusions.**

- The EIA study reveals that the project is economically viable, socially acceptable and environment friendly.
- On completion of the project Unique City (Housing Scheme) will provide housing facility to local and general public.
- It will generate additional jobs during construction and operation phases.
- Project is environmental friendly and pollution free.
- The proponent has committed to implement the project in the environment friendly manner.
- Project proponent has ensured to install the Septic Tank to treat the domestic waste water prior to discharge into drain or use for irrigation purposes.
- Project proponent has ensured to adopt the proper solid waste management system.
- Proponent has ensured to adopt all the necessary measures to control any impact if resulting from the project.
- Project proponent has ensured to provide the safe drinking water to all workers and staff as well as in the scheme.
- Proponent of Unique City Housing Scheme intends to register the project with local government.
- Project proponent has prepared and implemented very comprehensive Emergency Preparedness and Response Standard Operating Procedures.

7.2 Recommendations

- In view of the comprehensive screening process and findings of the present study there is no need of conducting further investigations.
- Tree plantation inside and near the society is recommended.
- Septic Tank will be installed for primary treatment of waste water.

- Proper Solid Waste Management System should be followed according to direction of the Local Government.
- The untreated wastewater should not be reused for irrigating the vegetation, lawns and green belts.
- High Standard of Bio-Security and safety should be enforced during operation phase.
- Safety of the workers should be top priority for the management.
- Unique City Housing Scheme will continue to assist the local communities as a corporate / social responsibility.

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

LIST OF GLOSSARY

Mitigation	The action of Lessing in severity or intensity
Evaluated	Estimated or determine the nature, value, quality, ability, extent
Legislation	Law entitled by a legislative body
Discrepancies	A difference between conflicting facts, claims or opinion
Aspects	A distinct feature or element in a problem
Compliance	Acting according to certain accepted standards
Flora	All the plants life in a specific region
Fauna	All the animal life in a specific region
Demarcated	Separate clearly, as if a boundaries
Screening	The display of a motion picture
Substitutions	An event in which one thing is substituted for another
Regulation	An authoritative rule
Stakeholder	A person or organization with a interest
Vulnerable	Susceptible to attack
Annunciation	A formal public statement

Abbreviations

Acronym	Full Text
BHU	Basic Health Unit
BOD	Biochemical Oxygen Demand
COD	Chemical Oxygen Demand
dB	Decibel
DHQB	District Headquarters Hospital
ESRMP	Environmental, Social & Risk Management Plan
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPA-Pb	Environmental Protection Agency, Punjab
EPD	Environment Protection Department
ERS	Emergency Response System
ESH	Environmental Safety and Health
ESHU	Environmental Safety and Health Unit
GoPb	Government of the Punjab
GoPk	Government of Pakistan
IEE	Initial Environmental Examination
IWT	Indus Water Treaty
JICA	Japan International Cooperation Agency
MCH	Mother and Child Healthcare Centre
NEQS	National Environmental Quality Standards
NOC	No Objection Certificate
Pak EPA	Pakistan Environmental Protection Agency
PEPA	Punjab Environmental Protection Act
PM	Particulate Matter
PSDP	Public Sector Development Programme
RHC	Rural Health Centre
SHC	Sub Health Centre
SPM	Suspended Particulate Matter
SW	Solid Waste(s)
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
UBC	Uniform Building Code
WAPDA	Water and Power Development Authority
WHO	World Health Organization