**REPUBLIC OF LEBANON**

**COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION**

# Consultancy Services For
# Additional Roads Rehabilitation in Jezzine Caza - Lot 3

**CDR Contract No. 20836**

## Additional Roads Rehabilitation in Jezzine Caza

## Environmental & Social Management Plan (ESMP)
## Addendum
## For The Rehabilitation of Remaining Roads in Jezzine Caza

**Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)**

**March 2024**


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# LIST OF ACRONYMS

| | |
|---|---|
| AASHTO | American Association of State Highway and Transportation Officials |
| ACE | Associate Consulting Engineers |
| CBD | Convention on Biological Diversity |
| CDR | Council of Development and Reconstruction |
| CO | Carbon Monoxide |
| CoM | Council of Ministers |
| EHS | Environmental, Health and Safety |
| ESMP | Environmental and Social Management Plans |
| GBV | Gender Based Violence |
| GM | Grievance Mechanism |
| IBA | Important Bird Area |
| ILO | International Labor Organization |
| LARI | Lebanese Agriculture Research Institute |
| MoE | Ministry of Environment |
| MoPWT | Ministry of Public Works and Transportation |
| NGOs | Nongovernmental Organizations |
| PIU | Project Implementation Unit |
| REP | Road and Employment Project |
| SEA | Sexual Exploitation and Abuse |
| UNFCCC | United Nations Framework Convention on Climate Change |
| VAC | Violence Against Children |
| WB | World Bank |
| WBG | World Bank Group |
| WHO | World Health Organization |

# EXECUTIVE SUMMARY – NON-TECHNICAL SUMMARY

### *ES1. Introduction*

An additional road in Jezzine Caza was selected to be rehabilitated under the Lebanese Roads and Employment Project (REP): "Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" (around 1 km).

Considering that the anticipated civil works will result in environmental and social impacts, ACE, the consultant, developed in this report a specific Environmental and Social Management Plan (ESMP) for this road. The aim is to reduce the footprint of REP's operations in concerned villages of Jezzine. This ESMP report is an addendum to the existing Bank-cleared ESMP report for Jezzine Caza of 2020 that is available on CDR Website via the following link:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

### *ES2. Existing Policies, Legal and Administrative Framework*

It should be noted that information on existing legislations, as well as other policy sections are documented in the parent ESMP for Jezzine Caza of 2020 that is available on CDR Website via the following link:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

### *ES3. Description of the Proposed Project*

As per the existing Bank-cleared ESMP report for Jezzine Caza of 2020 that is available on CDR Website via the following link:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

The parent project consisted of the rehabilitation of existing roads in the Caza of Jezzine. The total number of the roads that were rehabilitated is 2 roads with a total length of 15,492 m. All of the roads were already existing and required rehabilitation of various components, including pavement, sidewalks, drainage, safety measures, and street lighting. The selection of the roads was determined by the Cabinet of Ministers in their Meeting Number 32 dated 27/06/2019. The land acquisition did not occur during the design of any road under study. The rehabilitation activities differed for each road depending on the pavement conditions and the road rating that was defined by the consultant. These activities consisted of either pavement maintenance or overlay on existing pavement or complete removal of deteriorated pavement and constructing a new one.
The parent project also consisted of other activities beside the pavement rehabilitation works. These activities consisted of:

- Construction or improvement of drainage systems
- Construction or improvement of retaining walls
- Installing concrete safety barriers
- Marking lanes and stoppage line
- Adding adequate traffic signs for stoppage give ways as warning signs, mirrors at sharp edges, and other regulatory and warning signs
- Rehabilitating sidewalks
- Repairing street lighting
- Relocation of existing utilities as needed

The rehabilitation works of this addendum project will be undertaken to one road only located in Jezzine of the South Governorate: “Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" with an estimated total length of 1 kilometer.

The scope of works shall entail the:

1. Rehabilitation of the deteriorated existing stone wall
2. Reconstruction of the section of the road which is adjacent to the damaged stone wall

The existing stone wall lately experienced bulging and failure at different locations along its length due to mainly drainage issues and water infiltration. The mentioned stone wall is in Jezzine Caza in the South Governorate in Southern Lebanon and 60 km far from Beirut. It is located at the entrance of Jezzine city. The average height of the wall ranges between 6 and 7 meters, with 1 to 2 meters (expected) being embedded below existing ground. The total length of this wall is more than 500 meters where failure of approximately 150 meters has taken place in this wall. It is to be noted that this wall was constructed decades ago. It is worth to note that due to aforementioned failure and the associated settlement taking place in this section of Saida-Jezzine road, the 2-lane road is partially closed to the left-hand side and protected with Heavy Duty Temporary Orange Color Warning netted tape for safety purposes. Traffic has been currently diverted to 1 lane for both directions.

Based on the above, the damaged stone wall needs to be rehabilitated and a new retaining system base on piles shall be constructed.

The pavement section in the working zone area should be totally reconstructed due to the rehabilitation works of the existing wall. The pavement rehabilitation activities consist of either pavement maintenance or overlay on existing pavement or complete removal of deteriorated pavement and constructing a new one.

The proposed project also consists of other activities beside the pavement rehabilitation works. These activities consist of:

- Construction or improvement of drainage systems
- Installing concrete safety barriers
- Marking lanes and stoppage line
- Adding adequate traffic signs for stoppage give ways as warning signs, mirrors at sharp edges, and other regulatory and warning signs
- Rehabilitating sidewalks

## *ES4. Baseline Environmental and Social Conditions*

### Topography, Geology, and Water Bodies

The topographic characteristics of the proposed road that is located within Jezzine Caza are as follow:

- Saida- Jezzine Road: 1000m above sea Level
- The main geological formation within the selected road belongs to the Cretaceous period. The road crosses the formation: C2b Hammana Formation, Upper Aptian.
- Jezzine village hosts the famous Jezzine waterfall. No rivers or springs have been identified along this road.

### Climate and Meteorology

The results of Jezzine weather data conditions are used to describe the climate along this Road.
The lowest average temperature, which was 4°C was registered in January and February, while August have registered the highest average temperatures of 29°C.

Most rain events fall in the winter during the months of December and February (101 mm of precipitations). However, the driest months are July and August, with 0 mm of rain.
The wind direction with the highest frequency within the village is from the west to east with a speed of greater than 5 km/h occurring most of the times (799 h/year).

### Air Quality and Noise

The results of the long term monitoring for Lebanon simulation for $NO_2$ and $PM_{10}$ showed that $NO_2$ annual concentration at Jezzine Caza is around 25 $\mu g/m^3$ (below the WHO recommended value of 40 $\mu g/m^3$ limit) whereas the annual $PM_{10}$ is around 35 $\mu g/m^3$ (above the WHO recommended value of 20 $\mu g/m^3$ limit).

### Land Use/Land Cover

Jezzine is one of the most urbanized villages in the Caza of Jezzine. This Road mainly passes through woods and natural herbaceous vegetation, mostly coniferous and some broadleaved trees.

### Biological Environment and Ecologically Sensitive Areas

Flora: Jezzine has been known for its pine trees and its agricultural sector. Most of the Jezzine Caza is covered in natural areas. Stone pine forests extend on altitudes ranging between sea level and 1,500 m in several regions including on the sandy soil of Jezzine region.

Fauna: During site visits, no specific species along the proposed road were observed.

The Caza of Jezzine is home to remarkable natural sites such as the pine forests and the famous Jezzine waterfall and caves providing opportunities for ecotourism and summer activities for many visitors. However, none of these sites were identified along the selected road.

### Demographic Profile

No informal tented settlements were identified along the selected road.

### Economic Activities and Infrastructure

Neither shops nor hotels or any other facilities were identified along this road.

### Education

No schools were identified along this Road.

### Health Services

No hospitals or health facilities were identified along the selected Road.

### Cultural Heritage

Jezzine has been known for its tourist and religious attractions. According to the Ministry of Tourism, the Jezzine village hosts Lady of Maabour which is near the end station of the selected road.

### Summary of Baseline

No sensitive receptors (such as rivers, streams, schools, churches, hospitals, mosques, closest residential buildings and commercial shops, and other archeological features) were identified along the selected road.

## ES5. Summary of Potential Environmental and Social Impacts during Rehabilitation Phase

### Summary of Impacts during Rehabilitation Phase

| Receptor | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|
| Environmental | | | |
| Air, nearby communities and workers | Presence of explosive remnants of war (ERW) and/or unexploded ordinance (UXOs) | N | To seek official clearance letter from CDR before commencement of civil works |
| Air, nearby communities and workers | Air pollution from emissions of machinery, trucks or open burning activities<br>Refer to Annex 2 | N | Prepare and abide by **Pollution Prevention Plan** that includes:<br>Atmospheric Emissions and Dust Management Provisions (Annex 11)<br>Water the ground when extremely windy<br>Mix material in an enclosed space<br>Cover material when transporting<br>Prepare and abide by Emergency Preparedness and Response Plan (Annex 11)<br>Speed limit for project vehicles and machinery within working areas shall not exceed 20 Km/h<br>Ensure optimal traffic routes as per the Traffic Management Plan (TMP) during construction<br>Use wet suppression in the dry season, where unpaved roads, the working strip, raw material stockpiles are located <200 m from settlements |
| Air, nearby communities | Dust pollution from rehabilitation and excavation activities<br>Refer to Annex 2 | N | |
| Nearby communities and workers | Noise pollution a result of transportation or delivery of raw materials, trucks movement, concrete mixing, drilling, construction and operation of heavy vehicle movement such as excavators<br>Potential impact on:<br>Refer to Annex 2 | N | Maintenance of vehicles and machinery<br>Excavation and any other noisy activity only to be conducted during working hours<br>In the case where it is absolutely necessary to conduct some activities outside the normal working hours (i.e. at night), prior approval of the concerned municipality and CDR will be obtained<br>Set traffic speed limits in addition to speed reduction measures as per the approved TMP during construction<br>Verify drivers' behavior during construction with respect to driving speed indicated in the TMP in presence of flagmen and safety officers<br>Plan vehicle routes to avoid complaints where possible. |
| Biodiversity and sensitive habitats | Disturbance of nearby areas and animal escape through noise and vibrations | N | |
| Water resources, soil, nearby communities | Contamination of existing stormwater drainage system which might lead to contamination of groundwater from improper disposal of wastewater from workers and of wash water coming from cleaning of machines and equipment | N | Prepare and abide by **Pollution Prevention Plan** that includes:<br>Effluent Management Provisions<br>Rainwater run-off Management Provisions (Annex 11)<br>Prepare and abide by Emergency Preparedness and Response Plan (Annex 11)<br>On-site concrete pouring shall be done in a way to avoid leaching to nearby water bodies.<br>Onsite mixing of concrete shall be performed at least 40 meters away from nearby water bodies<br>Prohibit the disposal of excess concrete mix into the environment or near water bodies |

| Receptor | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|
| Water resources, soil, nearby communities | Water pollution due to accidental spill of oils and chemicals from trucks and from transportation of chemicals and oils | N | Prepare and abide by a Spill Prevention and Management Plan under Pollution Prevention Plan (Annex 11) |
| Water resources | Improper disposal of cut volume may cause contamination of water bodies in rainy weather | N | Minimize soil exposure time<br>Minimize the use of chemicals<br>Regular maintenance of vehicles<br>Prepare and abide by Waste Management Plan and Hazardous Materials Management Plan (Annex 11)<br>Prepare and abide by Emergency Preparedness and Response Plan (Annex 11)<br>Fuel, oil or hazardous materials required to be temporarily stored onsite shall be stored within secondary containment located further than 100m from a watercourse or water body<br>Fuel and hazardous chemical storage areas shall not be allowed within 30m of a minor watercourse, within 100m of a major watercourse, or where there is the potential for spilled fuel to enter groundwater<br>Keep the area free of litter and garbage and prevent random disposal of waste<br>Specific locations shall be designated for consuming food and snacks away from sensitive receptors. |
| Water resources, soil, subsoil and land | Contamination of soil and groundwater bodies from the improper disposal of solid waste generated from workers and the used materials, construction waste from excavation and drilling activities | N | Prepare and abide by Waste Management Plan (Annex 11)<br>Reuse or recycle the generated waste whenever possible<br>• Reuse of excavation materials generated during cutting and filling activities whenever possible and disposal of remaining material in controlled disposal site to be identified by the contractor in coordination with the relevant municipality<br>Prepare and abide by Emergency Preparedness and Response Plan (Annex 11)<br>Waste bins shall be located at a distance of over 100 m from any natural sensitive area or water bodies and over 500 m from any socioeconomic sensitive area |
| Energy resources | High consumption rates of electricity, fossil fuel, etc. contributing to overconsumption and depletion of fuel | N | Maintenance of the generators and trucks<br>Light in the site offices shut down during the night<br>Construction workers must be trained and provided with awareness sheets on efficient energy use<br>Machinery and equipment must be turned off when not in use |
| Water resources | High consumption rates of water for construction related activities | N | Use water in the most efficient way and reduce wastage<br>Regular site inspection to detect water leakages<br>Whenever possible, use dry-cleaning instead of |
| Water resources, soil, nearby communities | Reduction in overall ground and surface water quality due to improper disposal of | N | |

| Receptor | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|
| | construction waste | | wet cleaning<br>Training and awareness should be raised to workers concerning water usage best practices and water conservation<br>Proper disposal of construction waste |
| Water resources, soil, subsoil and land | Depletion of natural resources due to the unsustainable extraction of borrowing material (sand, aggregates, …) | N | Ensure that the borrow material are extracted from legal sites<br>Avoid agricultural lands, natural landscapes or forests to extract borrowing material |
| Biodiversity and sensitive habitats | Potential damage of existing flora<br>Potential impact on:<br>Cypress and prunus along the road<br>Refer to Annex 2 | N | Prepare and abide by **Pollution Prevention Plan (Annex 11)** In case of any tree removal, ensure that the contractor will get a permit from the MoA |
| Social | | | |
| Local workers, socio-economic activities | Creation of job opportunities for local communities | P | Workers are paid their wages in full and on time |
| Nearby communities, socio-economic activities | Local garages will benefit from the equipment oil maintenance and residents will benefit from the rent fees of the offices and the equipment parking area. | P | |
| Shop owners/renters in the nearby communities | Small snack shops and coffee stations are expected to benefit from workers buying food and drinks | P | |
| Car maintenance shop/renters/agriculture land owners | Economic Activities and its effect on the livelihood of the shop owners in the nearby communities<br>Restrictions on using or accessing the road by local communities and road users | N | Regularly inform road users and local communities in relation to changed traffic conditions or access<br>Proper installation of sign boards in culturally appropriate languages that are clear and understandable to the public<br>Timely completion of the rehabilitation activities<br>Ensure access to external GRM (public notice including GRM to be posted at relevant municipalities and on project sign boards)<br>Prepare and abide by Traffic Management Plan (Annex 11) |
| Foreign Workers | Temporary potential Labor Influx | N | Priority hiring to qualified local community<br>GM for local communities (public notice including GM to be posted at relevant municipalities and on project sign boards) |
| Foreign workers influx | Discrimination from the local community against the potential influx of foreign workers | N | Prevent discrimination at the workplace<br>Conduct awareness campaigns for the local community regarding foreign workers influx<br>Inform the local community that worker will sign code of conduct before starting the work<br>GM for local communities and all relevant stakeholders |
| Locals and foreign, skilled and unskilled | Possible unequal wage benefits between local and foreign workers | N | Ensure that all workers (locals and foreign, skilled and unskilled) shall be compensated and are contracted equally as per the scale of market price rates, have equal contractual benefits and working conditions, and have access to internal |

| Receptor | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|
| | | | GM |
| Children and minors | Possible recruitment of children who are under the legal age as workers on the site, especially in the case of the day laborers as well as forced labor | 2N | Daily registrations of workers and verification of their age to prevent child labor<br>Abide by the National Labor Law<br>Ensure the contractor is aware of the penalties that Labor Law imposes in the case of child labor<br>Oblige the contractor to strictly abide by the Labor Law through the CDR tender documents that should include prohibition of child labor<br>Ensure all workers attended awareness sessions and signed the Code of Conduct |
| Nearby communities, socio-economic activities | Disruption of local community to access services due to rehabilitation activities and temporal road closures | N | Prepare and abide by Traffic Management Plan (Annex 11)<br>Traffic shall be secured via alternative routes to reach relevant destinations in case the works imply the temporary closure of this road<br>Inform the local community about the location of detours, road blockages or diversions through public announcements and proper diversion signage<br>Ensure access to external GM (public notice including GM to be posted at relevant municipalities and on project sign boards) |
| Existing infrastructure and nearby communities | Accidental Damage of existing infrastructure or planned interruption of utilities | N | Regular coordination with relevant municipalities<br>Conducting trial pits<br>Ensure proper communication with affected communities to alert them whenever planned/accidental interruption of services happens<br>Ensure access to external GM (public notice including GM to be posted at relevant municipalities and on project sign boards) |
| Nearby communities | Potential occurrence of gender-based violence and sexual exploitation and abuse incidents and all forms of GBV incidents | N | Draft Codes of Conduct and the guidelines for a GBV and VAC Action Plan<br>Conduct training sessions for workers on Sexual Exploitation and Abuse and/or Sexual Harassment<br>All workers should understand, and sign codes of conduct written in their native language<br>Respond to the reported incidents of sexual abuse exploitation as a matter of priority<br>Regular training on gender-based aspects, internal and external GM that includes an anonymous channel for protection of complainants' identity and confidentiality<br>Availability of a GM with multiple channels to initiate a GBV complaint, which ensures confidential reporting with safe and ethical documenting of GBV cases, including Sexual Exploitation and Abuse and Sexual Harassment |

| Receptor | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|
| Nearby communities | Traffic congestion in Jezzine village due to temporal road closure | N | Prepare and abide by Traffic Management Plan (Annex 11)<br>Ensure traffic is not blocked during transportation<br>Inform residents and place signs near the working areas in culturally appropriate languages and written in clear and understandable manner<br>Ensure communities have access to GM<br>Cover transported material<br>Abide by traffic regulations<br>Operate well maintained vehicles |
| Nearby communities, socio-economic activities | Material falling from vehicles during transport may cause traffic accidents or congestion | N | |
| Health and Safety | | | |
| Workers | Accident and injuries to workers and public because of rehabilitation activities | 2N | • Contractor to develop a site-specific and detailed Public Health and Safety Plan and Occupational Health and Safety (Annex 11) to be approved by CDR before commencement of civil works.<br>• Identify all risks related to the site surroundings and planned activities as well as emergency situations. The Plan should include, at minimum:<br>• Job Hazard Analysis<br>• Work Permits<br>• Stop Work Authority<br>• Workers to wear proper safety gear (PPE)<br>• Presence of first aid kits on the construction site<br>• Inform residents and place signs near the working areas<br>• Proper management of trucks and heavy machinery entering and exiting the construction site<br>Apply Best Applicable Practices on Road Safety |
| Nearby communities | Dust generation and noise may cause health related problems for workers and disturbance to residents | N | |

Note 1: All risks, impacts and mitigation measures should be acknowledged by the awarded contractor. It is the ultimate responsibility of the contractor to identify further site-specific risks and impacts, based on the contractor's site reconnaissance and experience, and implement necessary preventative and mitigation measures which shall be approved by the Employer or his designated representative onsite prior to proceeding with actual implementation.

Note 2: During the operation phase, all Environmental, Social and Health & Safety Activities impacts and their corresponding mitigation measures shall remain the same as detailed in the existing Bank-cleared ESMP report for Jezzine Caza of 2020, that is available on CDR Website via the following link: https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf .

### *ES6. Environmental and Social Management and Monitoring Plans*

It should be noted that information on the Monitoring Plan are documented in the parent ESMP for Jezzine Caza of 2020 that is available on CDR Website via the following link: https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

### *ES7. Consultation, Disclosure and GM*

A public hearing was held at the Municipality of Jezzine on Saturday, April 29, 2023. The purpose of the hearing was to inform the stakeholders including the municipality representatives, local residents, the local NGOs and the public about the proposed project that will rehabilitate one road in Jezzine Caza and its accompanying infrastructural works including the rehabilitation of a stone wall and to take into account their concerns and feedback. A total of Twenty-Eight (28) people participated in the meeting including twelve (12) women.

The public hearing opened with a word from ACE representative who introduced the overall project and its objectives and relevant organizations including CDR. The Consultant presented a description on the rehabilitation activities, purpose of the hearing, a summary of the ESMP process, and a list of potential environmental and social issues associated with implementation of rehabilitation activities. Participants were also informed that a GM procedure has been developed for the project and were given contact information of the Project Consultant in order to inquire about it as well as the GM channels. The floor was then opened for discussion and questions. The proceedings which describe in detail the raised concerns and complaints by the participants and how all have been addressed are presented in this Addendum ESMP report.

# 1. INTRODUCTION

## 1.1 Project Background

The Lebanon REP is a World Bank (WB) funded project that aims to improve transport connectivity along select paved road sections and create short-term jobs for the Lebanese and Syrians. The REP was approved by the WB Board of Executive Directors in February 2017 and ratified by the Lebanese Parliament in October 2018.

The REP originally had three components. Following its restructuring in March 2021, a fourth component was added to address the impact of the COVID-19 on the agriculture sector.

- Roads Rehabilitation and Maintenance (US$178 million): to finance works and related consultancy services for the rehabilitation and maintenance of about 500 km of primary, secondary, and tertiary roads, including road safety and spot improvements;
- Improvement of the Ministry of Public Works and Transport's (MPWT) Road Emergency Response Capacity (US$4.5 million), especially during climate extremes;
- Capacity Building and Implementation Support (US$7.5 million): to build the capacity of Lebanese agencies in planning and managing the road sector; and
- Support to farmers engaged in crop and livestock production (US$10 million): to support continued agricultural production and vaccination of animals.

Accordingly, the REP ESMF was updated using an Addendum that can be found here https://www.cdr.gov.lb/getmedia/4254c2bd-3c63-4dfc-aeb7-dfb78eaada4f/REP-Component-4-ESMF_Vol-1_for-Disclosure_20210608.pdf.aspx

Under the first component, an additional road in Jezzine Caza was selected to be rehabilitated under the Lebanon Roads and Employment Project (REP) as per COM Decision No. 74, dated 20/05/2022.

- "Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" (around 1 km)

Considering that the anticipated civil works will result in environmental and social impacts, ACE developed in this report a specific Environmental and Social Management Plan (ESMP) for this road. The aim is to reduce the footprint of REP's operations in concerned villages of Jezzine. This ESMP report is an addendum to the existing Bank-cleared ESMP report for Jezzine Caza of 2020 that is available on CDR Website via the following link:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

## 1.2 Sub-Project Rationale

The objectives of Component 1, which is Roads Rehabilitation and Maintenance are to (1) Carry out a program of activities to rehabilitate, upgrade and maintain selected roads, including road safety and spot improvements ("Sub-projects") and (2) Provide technical assistance for the design, procurement and supervision of said Sub-projects and for preparation of Safeguards Instruments for the Project. This ESMP will only cover the rehabilitation of one additional road in Lot 3 in Jezzine Caza:

- "Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" (around 1 km)

## 1.3 Report Objectives

This Addendum to ESMP covers the envisaged rehabilitation works for one additional new road in Jezzine Caza to be rehabilitated under REP: "Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" (with a total length of around 1 km).

The main aim of this ESMP Addendum is to provide the control measures required to manage and monitor the Environmental, Social, and Occupational Health and Safety (ESOHS) risks in accordance with the Lebanese laws and WB safeguard policies (mainly OP 4.01 - Environmental Assessment) for: "Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" (around 1 km) in Jezzine Caza.

## 1.4 Methodology

This ESMP Addendum was prepared by ACE as a fulfillment of the environmental and social requirements stated in component 1 of REP.

This present report will be used as an addendum to the existing Bank-cleared ESMP report for Jezzine Caza of 2020 that is available on CDR Website via the following link:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

The methods used for setting the data collection, stakeholders' engagement, and impact assessment in this sub-project follow the same procedure adopted in the existing Bank-cleared parent ESMP report for Jezzine Caza of 2020. These methods are elaborated in Annex 1.

# 2. POLICY, LEGAL & ADMINISTRATIVE FRAMEWORK

It should be noted that information on existing legislations, as well as other policy sections are documented in the parent ESMP for Jezzine Caza of 2020 that is available on CDR Website via the following link, and no updates have been introduced to the national legal framework since then:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

# 3. DESCRIPTION OF THE PROPOSED SUB-PROJECT

As per the existing Bank-cleared ESMP report for Jezzine Caza of 2020 that is available on CDR Website via the following link:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

The parent project consisted of the rehabilitation of existing roads in the Caza of Jezzine. The total number of the roads that were rehabilitated is 2 roads with a total length of 15,492 m. All of the roads were already existing and required rehabilitation of various components, including pavement, sidewalks, drainage, safety measures, and street lighting. The selection of the roads was determined by the Cabinet of Ministers in their Meeting Number 32 dated 27/06/2019. The land acquisition did not occur during the design of any road under study. The rehabilitation activities differed for each road depending on the pavement conditions and the road rating that was defined by the consultant. These activities consisted of either pavement maintenance or overlay on existing pavement or complete removal of deteriorated pavement and constructing a new one.
The parent project also consisted of other activities beside the pavement rehabilitation works. These activities consisted of:

- Construction or improvement of drainage systems
- Construction or improvement of retaining walls
- Installing concrete safety barriers
- Marking lanes and stoppage line
- Adding adequate traffic signs for stoppage give ways as warning signs, mirrors at sharp edges, and other regulatory and warning signs
- Rehabilitating sidewalks
- Repairing street lighting
- Relocation of existing utilities as needed

This chapter covers the rehabilitation works for “Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" (around 1 km).

## 3.1 Location

The rehabilitation works of this project will be undertaken to one road only located in Jezzine of the South Governorate: “Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" with an estimated total length of 1 kilometer. Figure 3-1, shows an overview of the proposed road location along with the length of the deteriorated stone wall subject to rehabilitation.

This wall is located at the entrance of Jezzine village. The average height of the wall ranges between 6 and 7 meters, with 1 to 2 meters (expected) being embedded below existing ground. The total length of this wall is more than 500 meters where failure of approximately 150 meters has taken place. This wall lately experienced bulging, deterioration and blocks separation at different locations along its length due to mainly drainage issues and water infiltration, as shown in Figure 3-2.

It is worth to note that due to aforementioned failure and the associated settlement taking place in this section of Saida-Jezzine road, the 2-lane road is partially closed to the left-hand side and protected with Heavy Duty Temporary Orange Color Warning netted tape for safety purposes (as shown in Figure 3-3). Traffic has been currently diverted to 1 lane for both directions.

Based on the above, the damaged stone wall needs to be rehabilitated as well as the section of the road which is adjacent to this wall needs to be reconstructed.

**Figure 3-1: Overview of Location of the Road in Jezzine Caza**

**Figure 3-2: Deteriorated stone wall experiencing bulging, wall deterioration and blocks separation**

**Figure 3-3: Existing road safety measures**

## 3.2 Project Activities

### 3.2.1 Rehabilitation Works

#### 3.2.1.1 For the deteriorated stone wall

The sloped stone wall was constructed decades ago to hold the upper main road leading to Jezzine municipality. The average height of the wall ranges between 6 and 7 meters, with 1 to 2 meters (expected) being embedded below existing ground. This wall lately experienced bulging and failure at different locations along its length of around 150 m.

The rehabilitation activities consist of:
Building a new retaining system based on reinforced concrete piles in front of the existing stone wall to retain the road and stop the deterioration of the existing wall
Building a water drainage system along the existing stone wall in addition to a French drain along the existing sidewalk.
The French drain shall be a trench surrounded by geotextile membrane and filled with gravel and rock, perforated pipe that redirect surface water and ground water away from the road. It shall prevent ground and surface water from penetrating below road and damaging it.

Re-instatement of the existing stone wall

The phases for the rehabilitation activities for the deteriorated stone wall are as follows (Figure 3-4):

A- New retaining system
   a. Drilling/Excavating the piles using proper casing at required design depth (17 m, as indicated in the tender design drawings and as shown in Figure 3-4). Such activity is performed by a pile drilling machine using a flight auger at the required diameter.
   b. Preparing and installing the required reinforcing steel cage inside the bored pile hole

c. Pouring concrete inside bored pile using a concrete pump and a tremie pipe. During the concreting activity, the casing is withdrawn gradually
d. Preparing and surfacing the pile top by removing excess concrete as well as dirt in order to perform the Pile Integrity Test (PIT) for all piles.
e. Executing the reinforced concrete pile cap in a rectangular section, tying the pile heads together

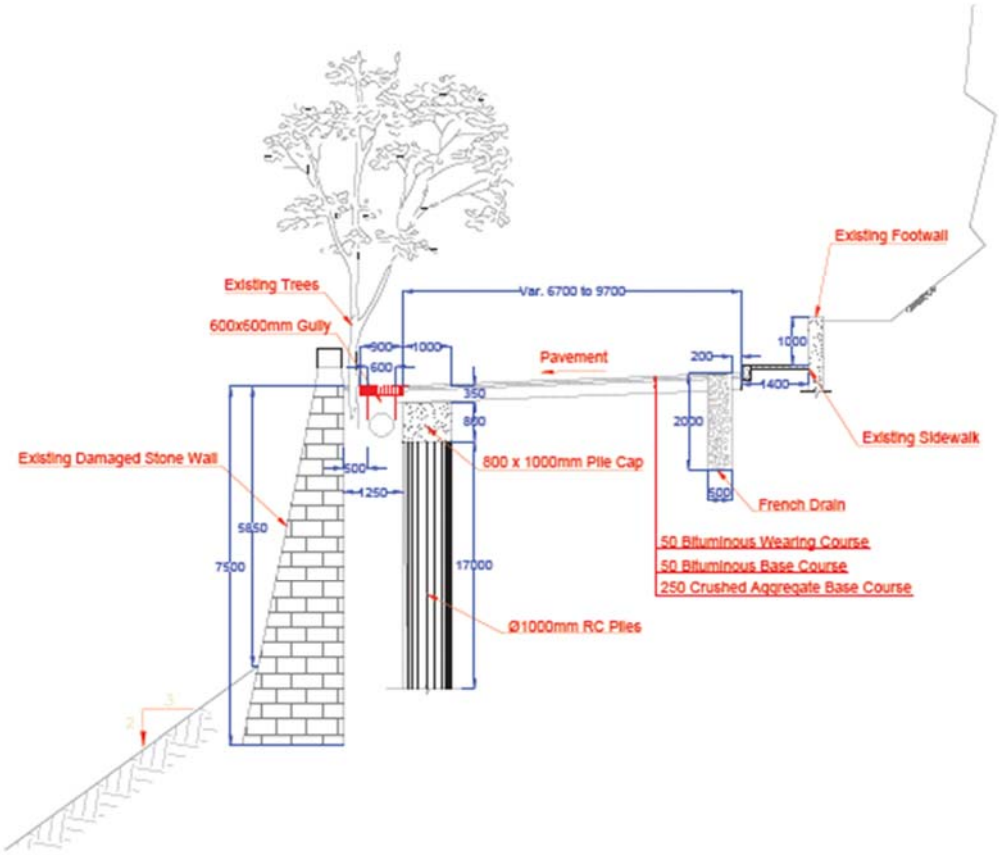
B- New water drainage system (to be connected to the existing stormwater network)

a. Building a French drain system adjacent to the existing sidewalk (on the opposite side of the road to the piles) by:
    i. Excavating the ground in a rectangular shaped trench (of 2 m) to suit the exact French drain dimensions as per the design drawings
    ii. Installing the geotextile membrane around the excavated trench
    iii. Laying the aggregate filter materials inside the trench and closing the overlap of the geotextile membrane in order to confine the aggregates and eliminate any infiltration of fine materials to the aggregates side.
b. Building a stormwater drainage system between the piling retaining system and the existing damaged stone wall, to ensure the stormwater drainage evacuation for the main road along the damaged wall, by:
    i. Excavating a trench all along the damaged wall and adjacent to the executed piles and pile cap
    ii. Laying 300mm diameter UPVC pipes along the excavated trench
    iii. Executing stormwater reinforced concrete gullies with grill covers to receive the drainage stormwater
    iv. Executing a reinforced concrete encasement for the newly laid drainage pipe for the protection of the shallow drainage system.
    v. Pouring a reinforced concrete sloped slab to cover the un-asphalted strip between the new asphalt and the existing concrete block barrier. Such slab shall be sloped to reach the newly executed stormwater drainage gullies.

C- Re-instatement of the existing stone wall

a. Installing a scaffolding system along the damaged parts of the stone wall
b. Dismantling with utmost care the damaged parts of the existing natural stone wall by the use of small cranes installed on the upper road where necessary.
c. Preparing the dismantled stones by chipping and cleaning where required
d. Preparing and cleaning the wall area to receive the newly prepared stones
e. Fixing the stones using mortar where needed

**Figure 3-4: Proposed Road Section**




### 3.2.1.2 For the road

The pavement rehabilitation activities consist of three activities depending on the condition of the pavement along the road: (1) either pavement maintenance or (2) overlay on existing pavement or (3) complete removal of deteriorated pavement and constructing a new one.

Works to be executed within this project fall under the below activities:
A- Patching
B- Milling and Overlay
C- Pavement Total Reconstruction.

The phases for the main three activities are detailed below:
A- Phases of Construction for a stretch of road that needs: Pavement Patching
A.1- Saw-cut existing pavement in a rectangular shaped area where pavement distresses are located as per tender drawings and specifications.
A.2- Remove asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.
A.3- Examine the exposed pavement structure under the removed asphalt using proper testing for base course and sub-base course layers as well as the subgrade level & material.

A.4- Remove and replace or repair under asphalt layers as per technical assessments and recommendations.
A.5- Execute asphalt layer(s) similar to surrounding asphalt thicknesses and parameters by either applying binder course asphalt layer and a wearing course asphalt layer (with prime coat & tack coat where required) or by applying directly the final wearing course after spraying prime coat over the prepared base course surface.
B- Phases of Construction for a stretch of road that needs: Milling & Overlay
B.1- Contractor to proceed with the milling activity as described in the tender document with regards to the thicknesses of existing asphalt to be milled.
B.2- New surface of asphalt obtained after milling shall be cleaned from all debris and dust with the use of mechanical road sweepers and water jets.
B.3- Tack coat will be sprayed on the newly prepared clean surface of existing asphalt.
B.4- Asphalting activity will take place using the right thickness of the new asphalt layer as per the design/tender documents. Such activity includes spreading asphalt as well as compaction of the new layer.
C- Phases of Construction for a stretch of road that needs: Pavement Total Reconstruction
C.1- Scrape and remove asphalt layer(s) to reach base course level.
C.2- Excavate and remove the sub-base and base course layers to reach subgrade level.
C.3- Prepare sub-grade surface after making sure by soil tests that reached subgrade level is suitable to receive pavement structure. If not, unsuitable material to be replaced by suitable borrow fill and compacted to reach required compaction percentage.
C.4- Execute sub-base/base course layers as per specifications and thicknesses according to tender documents. Compact sub-base/base-course layers to reach required compaction level/percentage.
C.5- Spray prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).
C.6- Spread and compact asphalt binder course layer(s) as per the thicknesses and specifications specified in tender documents.
C.7- Spray tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.
C.8- Spread and compact asphalt wearing course layer as per the required specifications and thicknesses).

The proposed project also consists of other activities beside the pavement rehabilitation works. These activities consist of:

- Installing concrete safety barriers
- Marking lanes and stoppage line
- Adding adequate traffic signs for stoppage give ways as warning signs, mirrors at sharp edges, and other regulatory and warning signs

Rehabilitating the existing sidewalk.

The details of the project activities, as well as the phases of construction for each activity of the rehabilitation works are elaborated in Annex 1.

## 3.3 Staff, Materials and Equipment

The total number of workers for the overall road/project, as well as the required main materials and equipment for the rehabilitation of the proposed road and its associated works, shall be based on the total volume of each activity as per the bill of quantities of the tender documents, as well as the independent assessment of the awarded Contractor subject to the project duration (estimated

4 months) and the planner's effort to produce a relevant program of work to cover all project activities. Therefore, the total number will be deduced accordingly. It is assumed that an estimate total number of workers shall range between 75 and 100, to be mostly hired from the local communities with a potential influx of workers.

The details of this section are elaborated in Annex 1.

## 3.4 Site Facilities

The Project site will not include any facilities on-site including site offices for Engineers and for the Contractor, laborers camps, lodging on site, containers, power generators and repair garages .

As detailed in the existing Bank-cleared parent ESMP report for Jezzine Caza of 2020 (published before); that is available on CDR Website via the following link:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

During the work implementation, the Contractor will have to rent a flat located in the Project area to serve as a Project Offices. These offices will be used by the Contractor Engineers, technical skilled workers and Supervising Consultants. The flat will be equipped with toilet, kitchen (including drinking water and appliances), lockers and other supplies needed for the daily administrative activities. It might also serve as a meeting point for all Project workers at the start and end of their shifts.

The work implementation will also require unskilled workers (laborers) needed to perform earthworks on-site. The Contractor will be encouraged to hire laborers from the local community living in the Project area in order to prevent labor influx. Yet, if not all required labor skills area is available locally in the project region, then the Contractor will be obliged to hire laborers from other regions. This may generate a potential labor influx. This option should be kept to the minimum to the extent possible by the Contractor. Hence, there will be no labor camps. During working hours, laborers will be entitled with a one-hour break on-site. Usually, every laborer brings from home his own food and drinking water. The on-site rest point will be decided by the Contractor at the time of works.

The Contractor will have to service the site with portable cabin toilet. The porta cabin will be mobile and its placement depends on the length of the work zone. Accordingly, the Contractor will have to move it based on the progress of rehabilitation works. The Contractor should link the porta cabin toilet to the existing wastewater network. In case the network is not available within the work zone, the Contractor will need to link it to a polyethylene storage tank and the Supervising Consultant shall inspect it on a regular basis and ensure the application of proper mitigation measures.

For vehicles and equipment, the Contractor will have to rent a land within the Project area. This land should be fenced and used for parking purpose only. The rented area for equipment and storage should ensure clear GRM sign and communication with surrounding communities and the municipality, with respective documentation in progress reports. The Contractor shall not perform any repair on site and is obliged to execute vehicles and equipment maintenance in a repair shop preferably located within the Project area.

# 4. DESCRIPTION OF THE ENVIRONMENT AND SOCIAL CONTEXT

This chapter presents the environmental and social baseline and settings related to “Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" (around 1 km)

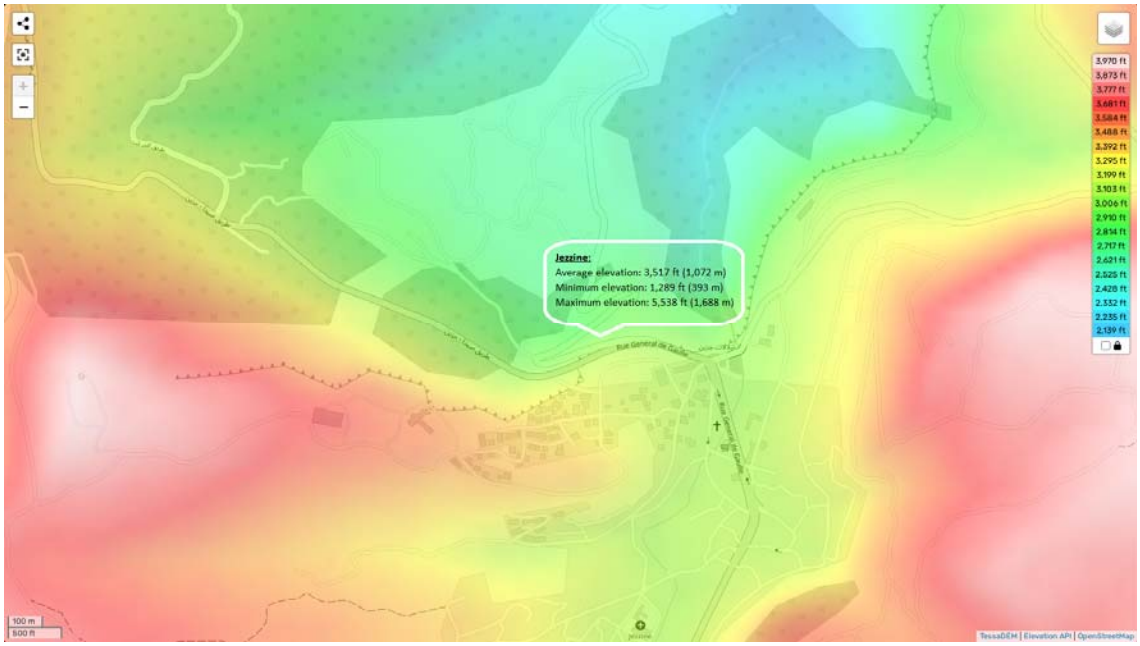
## 4.1 Physical Environment

### 4.1.1 Topography

As per the topographical surveys results, the topographic characteristics of the proposed road that is located within Jezzine Caza are as follows:

- Saida- Jezzine Road: 1000m above sea Level

**Figure 4-1: Topography Map for Jezzine**




Source: Topographic-map, website, 2023

### 4.1.2 Geology

The geological formations of the proposed road that is located within the Caza of Jezzine are presented in Annex 4 Figure 1. Based on the geological map, the main geological formation within the selected road belongs to the Cretaceous period. The road crosses the formation:
C2b Hammana Formation, Upper Aptian: Marl intercalated with marly Limestone with thick layers of Sand on top; layers of ferro-oolitic limestone sometimes overlie the sand. This formation can reach 20 meter in thickness.

### 4.1.3 ~~Hydrology~~ Water Bodies

Jezzine village hosts the famous Jezzine waterfall, which is located at around 500 m from the sub-project road and stone wall. No rivers or springs have been identified along this road. A hydrology map showing the location of the road is presented in Annex 5.

### 4.1.4 Climate and Meteorology

The results of Jezzine weather data conditions are used to describe the climate along this Road.

#### 4.1.4.1 Temperature

The lowest average temperature, which was 4°C was registered in January and February, while August had registered the highest average temperature of 29°C. (Figure 1 of Annex 6 - Meteoblue website, 2023).

#### 4.1.4.2 Precipitation

Most rain events fall in the winter during the months of February and December (101 mm of precipitations). However, the driest months are July and August, with 0 mm of rain (Figure 1 of Annex 6 - Meteoblue website, 2023). At the edge of the road, there is an existing stormwater network. During construction, the new water drainage system shall be connected to this via an existing stormwater box culvert.

#### 4.1.4.3 Wind

The wind rose indicates that the wind direction with the highest frequency within the study area is from the west to east with a speed of greater than 5 km/h occurring most of the times (799 h/year). In addition, strong winds occur during fall and winter mainly from October to January while periods of calm winds usually occur from February till September (Figure 2 of Annex 6 - Meteoblue website, 2023).

### 4.1.5 Air Quality

The results for Lebanon simulation for NO2 and PM10 are shown in Annex 7. The modelled annual concentration map showed that NO2 annual concentration at Jezzine is around 25 µg/m3 (below the WHO recommended value of 40 µg/m3 limit) whereas the annual PM10 is around 35 µg/m3 (above the WHO recommended value of 20 µg/m3 limit) (Abdallah et al., 2018).

### 4.1.6 Land Use/Land Cover

Jezzine is one of the most urbanized villages in the Caza of Jezzine.

The additional road which is the subject of this addendum to the ESMP, mainly passes through woods and natural herbaceous vegetation, mostly coniferous and some broadleaved trees. The Land Use/Land Cover (LU/LC) identified along the road are presented in LU/LC map in Annex 8.

The following land use/land cover were identified along the Road (Annex 2):

- Cypress
- Prunus
- Green vegetation

## 4.2 Biological Environment

### 4.2.1 Flora

Jezzine has been known for its pine trees and its agricultural sector (UNDP, 2018). Most of the Jezzine Caza is covered in natural areas (IDAL, 2017). Stone pine (*Pinus pinea*) forests extend on altitudes ranging between sea level and 1,500 m in several regions including on the sandy soil of Jezzine region (FAO, 2016).
As mentioned in Section 4.1.6, Cypress and Prunus trees were identified along this road.

### 4.2.2 Fauna

During site visits, no specific species along the proposed road were observed.

### 4.2.3 Ecologically Sensitive Areas

The Caza of Jezzine is home to remarkable natural sites such as the pine forests and the famous Jezzine waterfall and caves providing opportunities for ecotourism and summer activities for many visitors. However, none of these sites were identified along the selected road.

## 4.3 Socio Economic Environment

It should be noted that detailed information on the socio-economic environment of Jezzine Caza are documented in the parent ESMP for Jezzine Caza of 2020 that is available on CDR Website via the following link:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

All relevant information related to the additional road only, which is the subject of this addendum to the ESMP, are elaborated in the sections below.

**Figure 4-2: Google Satellite Image of the Road in Jezzine Caza**


### 4.3.1 Demographic Profile

No informal tented settlements were identified along the selected road.
The informal settlements that are included in Jezzine Caza are represented in Annex 9.

### 4.3.2 Economic Activities and Infrastructure

Neither shops nor hotels or any other facilities were identified along this road.
No agricultural activities were identified along this road.

### 4.3.3 Education Services

No schools were identified along this road.

### 4.3.4 Health Services

No hospitals or health facilities were identified along this road.

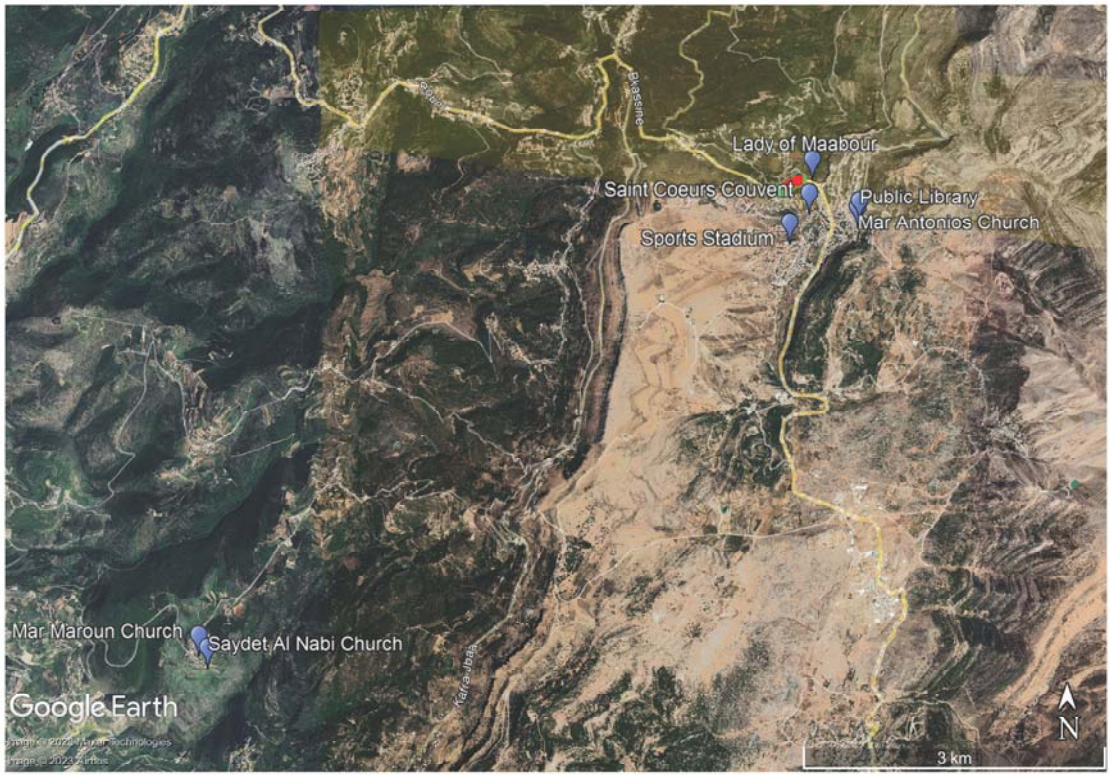
### 4.3.5 Cultural Heritage

Jezzine has been known for its tourist and religious attractions (UNDP, 2018). According to the Ministry of Tourism (2011), the Jezzine village hosts many cultural sites, including:

- Lady of Maabour
- Mar Maroun Church;

- Saydet Al Nabi Church;
- Evangelical Church;
- Mar Antonios Church;
- Saint Coeurs Convent;
- Sports Stadium;
- Public Library.

**Figure 4-3: Jezzine cultural heritage sites near the selected road**




Only the Lady of Maabour is few meters near the end station of the selected road as shown in Figures 4-3 and 4-4 .

**Figure 4-4: Location of the Lady of Maabour near the end station of the selected road**


The residential area to the right side of the road is located on the top of a so-called "Shir" (Mountain), of 10 m approximate height, around 1km driving away and 150m as the crow flies from the road. As for the village of Wadi Jezzine, located down on the left side of the road, it is approximately 1 km driving away and 300m km as the crow flies from the road.

**Figure 4-5: Photo showing the location of the Lady of Maabour near the end station of the road**

### 4.3.6 Road Sensitive Receptors

Categories considered as sensitive receptors during road rehabilitation are schools, churches, hospitals, mosques, closest residential buildings and commercial shops, and other archeological features.

No sensitive receptors along the selected road in Jezzine were identified (as shown in Figures 4-5 & 4-6).

**Figure 4-6: Photograph 1 of the road**

**Figure 4-7: Photograph 2 of the road**

# 5. ENVIRONMENTAL AND SOCIAL IMPACT ANALYSIS AND MITIGATION

This section describes the potential anticipated positive and negative environmental and social impacts associated with the rehabilitation of "Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" (around 1 km) to be executed in Jezzine Caza and proposes measures for their mitigation.

## 5.1 Assessment Methodology

The evaluation of potential environmental and social impacts was based on relevant scientific evidence, literature review and the professional judgment of the Consultant. The impact assessment approach that was applied is as follows:

- Identification of project-related activities (during both phases) and environmental aspects;
- Determination of potential impacts on the natural and man-made environment that might arise from these activities;
- Assessment and evaluation of potential impacts based on the criteria set out in the Environmental and Social Management Framework of the project.

As such, impacts will be weighted on the scale of P, 2P, O, N, 2N to signify Positive, strongly Positive, Neutral, Negative, and Strongly Negative impacts respectively.

## 5.2 Potential Positive Impacts during Rehabilitation

The rehabilitation of roads in Jezzine Caza is considered as an economic opportunity for the selected Contractor and their subcontractors. Local businesses may benefit from rehabilitation activities through selling raw materials, equipment, machinery and goods and the project will create jobs and could hire labors from the local community (Lebanese and Syrian). In addition, local garages will benefit from increased business in vehicle and equipment maintenance and residents will benefit from the rent fees of the offices and residences as well as vehicle and equipment parking area. The potential influx of workers will also increase economic activity in the area as they will likely purchase their daily requirements from the surrounding shops. This will have a ripple effect within the communities where the roads will be maintained. This impact is, however, temporary and jobs will be discontinued as soon as rehabilitation works are complete.

As such this impact on economic activity in the region is considered as a positive impact (P).

## 5.3 Impacts and Mitigation during Rehabilitation Activities

Table 5-1 presents the general positive and negative impacts that might arise from all rehabilitation activities during the execution of works.

## Table 5-1: Environmental and Social Impacts during Rehabilitation Activities

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| Environmental | | | | |
| Air, nearby communities and workers | Saw-cutting of existing pavement<br>Removing asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.<br>Removing and replacing or repair under asphalt layers<br>Milling activity<br>Cleaning of new surface of asphalt obtained after milling from all debris and dust with the use of mechanical road sweepers and water jets<br>Spreading asphalt as well as compaction of the new layer.<br>Scraping and removing asphalt layer(s) to reach base course level<br>Excavating and removing the sub-base and base course layers to reach subgrade level<br>Preparing sub-grade surface<br>Executing sub-base/base course layers<br>Compacting sub-base/base-course layers to reach required compaction level/percentage.<br>Spraying prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).<br>Spreading and compacting asphalt binder course layer(s)<br>Spraying tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.<br>Spreading and compact asphalt wearing course layer. | Presence of explosive remnants of war (ERW) and/or unexploded ordinance (UXOs) | N | To seek official clearance letter from CDR before commencement of civil works |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| Air, nearby communities and workers | Same as above | Air pollution from emissions of machinery, trucks or open burning activities<br>Refer to Annex 2 | N | Prepare and abide by **Pollution Prevention Plan** that includes:<br>**Atmospheric Emissions and Dust Management Provisions (Annex 11)**<br>Water the ground when extremely windy<br>Mix material in an enclosed space<br>Cover material when transporting<br>Prepare and abide by Emergency Preparedness and Response Plan (Annex 11)<br>Speed limit for project vehicles and machinery within working areas shall not exceed 20 Km/h<br>Ensure optimal traffic routes as per the Traffic Management Plan (TMP) during construction.<br>Use wet suppression in the dry season, where unpaved roads, the working strip, raw material stockpiles are located <200 m from settlements |
| Air, nearby communities | | Dust pollution from rehabilitation and excavation activities<br>Refer to Annex 2 | N | |
| Nearby communities and workers | | Noise pollution a result of transportation or delivery of raw materials, trucks movement, concrete mixing, drilling, construction and operation of heavy vehicle movement such as excavators<br>Refer to Annex 2 | N | Maintenance of vehicles and machinery<br>Excavation and any other noisy activity only to be conducted during working hours.<br>In the case where it is absolutely necessary to conduct some activities outside the normal working hours (i.e. at night), prior approval of the concerned municipality and CDR will be obtained<br>Set traffic speed limits in addition to speed reduction measures as per the approved TMP during construction<br>Verify drivers' behavior during construction with respect to driving speed indicated in the TMP in presence of flagmen and safety officers<br>Plan vehicle routes to avoid complaints where possible |
| Biodiversity and sensitive habitats | | Disturbance of nearby areas and animal escape through noise and vibrations | N | |
| Water resources, soil, nearby communities | Removing asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.<br>Executing asphalt layer(s) similar to surrounding asphalt thicknesses and parameters by either applying binder course asphalt layer and a wearing course asphalt layer (with prime coat & | Contamination of existing stormwater drainage system which might lead to contamination of groundwater from improper disposal of wastewater from workers and of wash water coming from cleaning of machines and equipment | N | Prepare and abide by **Pollution Prevention Plan** that includes:<br>**Effluent Management Provisions**<br>**Rainwater run-off Management Provisions (Annex 11)**<br>Prepare and abide by Emergency Preparedness and Response Plan (Annex 11)<br>On-site concrete pouring shall be done in a way to |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| | tack coat where required) or by applying directly the final wearing course after spraying prime coat over the prepared base course surface<br>Cleaning new surface of asphalt obtained after milling from all debris and dust with the use of mechanical road sweepers and water jets<br>Spraying tack coat on the newly prepared clean surface of existing asphalt<br>Spreading asphalt as well as compaction of the new layer.<br>Scraping and removing asphalt layer(s) to reach base course level<br>Excavating and removing the sub-base and base course layers to reach subgrade level<br>Spraying prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).<br>Spreading and compacting asphalt binder course layer(s)<br>Spraying tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.<br>Spreading and compacting asphalt wearing course layer<br>Installing concrete safety barriers<br>Adding adequate traffic signs for stoppage give ways as warning signs, mirrors at sharp edges, and other regulatory and warning signs<br>Rehabilitating sidewalks<br>Construction or improvement of drainage systems<br>Construction or improvement of retaining walls | | | avoid leaching to nearby water bodies.<br>Onsite mixing of concrete shall be performed at least 40 meters away from nearby water bodies<br>Prohibit the disposal of excess concrete mix into the environment or near water bodies |
| Water resources, soil, nearby communities | • Saw-cutting of existing pavement | Water pollution (Jezzine waterfall) due to accidental spill of oils and chemicals from | N | Prepare and abide by a **Spill Prevention and Management Plan** under **Pollution Prevention Plan** |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| | • Removing asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.<br>• Removing and replacing or repair under asphalt layers<br>• Milling activity<br>• Cleaning of new surface of asphalt obtained after milling from all debris and dust with the use of mechanical road sweepers and water jets<br>• Spreading asphalt as well as compaction of the new layer.<br>• Scraping and removing asphalt layer(s) to reach base course level<br>• Excavating and removing the sub-base and base course layers to reach subgrade level<br>• Preparing sub-grade surface<br>• Executing sub-base/base course layers<br>• Compacting sub-base/base-course layers to reach required compaction level/percentage.<br>• Spraying prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).<br>• Spreading and compacting asphalt binder course layer(s)<br>• Spraying tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.<br>• Spreading and compact asphalt wearing course layer. | trucks and from transportation of chemicals and oils | | **(Annex 11)**<br>Minimize soil exposure time<br>Minimize the use of chemicals<br>Regular maintenance of vehicles<br>Prepare and abide by **Waste Management Plan** and **Hazardous Materials Management Plan (Annex 11)**<br>Prepare and abide by **Emergency Preparedness and Response Plan (Annex 11)**<br><br>Fuel, oil or hazardous materials required to be temporarily stored onsite shall be stored within secondary containment located further than 100m from a watercourse or water body<br>Fuel and hazardous chemical storage areas shall not be allowed within 30m of a minor watercourse, within 100m of a major watercourse, or where there is the potential for spilled fuel to enter groundwater<br>Keep the area free of litter and garbage and prevent random disposal of waste<br>Specific locations shall be designated for consuming food and snacks away from sensitive receptors. |
| Water resources | | Improper disposal of cut volume may cause contamination of water bodies in rainy weather | N | |
| Water resources, soil, | • Removing asphalt layer within the limits | Contamination of soil and groundwater | N | Prepare and abide by **Waste Management Plan** |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| subsoil and land | of the executed saw-cut using hammer drill breaker operated by air compressor.<br>• Executing asphalt layer(s) similar to surrounding asphalt thicknesses and parameters by either applying binder course asphalt layer and a wearing course asphalt layer (with prime coat & tack coat where required) or by applying directly the final wearing course after spraying prime coat over the prepared base course surface<br>• Cleaning new surface of asphalt obtained after milling from all debris and dust with the use of mechanical road sweepers and water jets<br>• Spraying tack coat on the newly prepared clean surface of existing asphalt<br>• Spreading asphalt as well as compaction of the new layer.<br>• Scraping and removing asphalt layer(s) to reach base course level<br>• Excavating and removing the sub-base and base course layers to reach subgrade level<br>• Spraying prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).<br>• Spreading and compacting asphalt binder course layer(s)<br>• Spraying tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.<br>• Spreading and compacting asphalt | bodies from the improper disposal of solid waste generated from workers and the used materials, construction waste from excavation and drilling activities | | **(Annex 11)**<br>Reuse or recycle the generated waste whenever possible:<br>• Reuse of excavation materials generated during cutting and filling activities whenever possible and disposal of remaining material in controlled disposal site to be identified by the contractor in coordination with the relevant municipality<br>Prepare and abide by Emergency Preparedness and Response Plan (Annex 11)<br>Waste bins shall be located at a distance of over 100 m from any natural sensitive area or water bodies and over 500 m from any socioeconomic sensitive area |
| Energy resources | | High consumption rates of electricity, fossil fuel, etc. contributing to overconsumption and depletion of fuel | N | Maintenance of the generators and trucks<br>Light in the site offices shut down during the night<br>Construction workers must be trained and provided with awareness sheets on efficient energy use<br>Machinery and equipment must be turned off when not in use |
| Water resources | | High consumption rates of water for construction related activities | N | Use water in the most efficient way and reduce wastage<br>Regular site inspection to detect water leakages<br>Whenever possible, use dry-cleaning instead wet cleaning<br>Training and awareness should be raised to workers concerning water usage best practices and water conservation<br>Proper disposal of construction waste |
| Water resources, soil, nearby communities | | Reduction in overall ground and surface water quality due to improper disposal of construction waste | N | |
| Water resources, soil, subsoil and land | | Depletion of natural resources due to the unsustainable extraction of borrowing material (sand, aggregates, …) | N | Ensure that the borrow material are extracted from legal sites<br>Avoid agricultural lands, natural landscapes or forests to extract borrowing material |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| | wearing course layer<br>• Installing concrete safety barriers<br>• Adding adequate traffic signs for stoppage give ways as warning signs, mirrors at sharp edges, and other regulatory and warning signs<br>• Rehabilitating sidewalks<br>• Construction or improvement of drainage systems<br>• Construction or improvement of retaining walls | | | |
| Biodiversity and sensitive habitats | Saw-cutting of existing pavement<br>Removing asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.<br>Removing and replacing or repair under asphalt layers<br>Milling activity<br>Cleaning of new surface of asphalt obtained after milling from all debris and dust with the use of mechanical road sweepers and water jets<br>Spreading asphalt as well as compaction of the new layer.<br>Scraping and removing asphalt layer(s) to reach base course level<br>• Excavating and removing the sub-base and base course layers to reach subgrade level<br>• Preparing sub-grade surface<br>• Executing sub-base/base course layers<br>• Compacting sub-base/base-course layers to reach required compaction level/percentage. | Potential damage of existing flora<br>Potential impact on:<br>Cypress and Prunus trees<br>Refer to Annex 2 | N | Prepare and abide by **Pollution Prevention Plan (Annex 11)** In case of any tree removal, ensure that the contractor will get a permit from the MoA |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| | • Spraying prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).<br>• Spreading and compacting asphalt binder course layer(s)<br>• Spraying tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.<br>• Spreading and compact asphalt wearing course layer. | | | |
| Social | | | | |
| Local workers, socio-economic activities | Removing asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.<br>Executing asphalt layer(s) similar to surrounding asphalt thicknesses and parameters by either applying binder course asphalt layer and a wearing course asphalt layer (with prime coat & tack coat where required) or by applying directly the final wearing course after spraying prime coat over the prepared base course surface<br>Cleaning new surface of asphalt obtained after milling from all debris and dust with the use of mechanical road sweepers and water jets<br>Spraying tack coat on the newly prepared clean surface of existing asphalt<br>Spreading asphalt as well as compaction of the new layer.<br>Scraping and removing asphalt layer(s) to reach base course level<br>Excavating and removing the sub-base and base course layers to reach subgrade level<br>Spraying prime coat over the prepared and leveled surface of base course in order to receive | Creation of job opportunities for local communities | P | Workers are paid their wages in full and on time |
| Nearby communities, socio-economic activities | | Local garages will benefit from the equipment oil maintenance and residents will benefit from the rent fees of the offices and the equipment parking area. | P | |
| Shop owners/renters in the nearby communities | | Small snack shops and coffee stations are expected to benefit from workers buying food and drinks | P | |
| Car maintenance shop/renters/agriculture land owners | | Economic Activities and its effect on the livelihood of the shop owners in the nearby communities<br>Restrictions on using or accessing the road by local communities and road users | N | Regularly inform road users and local communities in relation to changed traffic conditions or access<br>Proper installation of sign boards in culturally appropriate languages that are clear and understandable to the public<br>Timely completion of the rehabilitation activities<br>Ensure access to external GRM (public notice including GRM to be posted at relevant municipalities and on project sign boards)<br>Prepare and abide by Traffic Management Plan (Annex 11) |
| Foreign Workers | | Temporary potential Labor Influx | N | Priority hiring to qualified local community<br>GM for local communities (public notice including GM to be posted at relevant municipalities and on project |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| | asphalt binder course layer(s).<br>Spreading and compacting asphalt binder course layer(s)<br>Spraying tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.<br>Spreading and compacting asphalt wearing course layer<br>Installing concrete safety barriers<br>Adding adequate traffic signs for stoppage give ways as warning signs, mirrors at sharp edges, and other regulatory and warning signs<br>Rehabilitating sidewalks<br>Construction or improvement of drainage systems<br>Construction or improvement of retaining walls | | | sign boards) |
| Foreign workers influx | Same as above | Discrimination from the local community against the potential influx of foreign workers | N | Prevent discrimination at the workplace<br>Conduct awareness campaigns for the local community regarding foreign workers influx<br>Inform the local community that worker will sign code of conduct before starting the work<br>GM for local communities and all relevant stakeholders |
| Locals and foreign, skilled and unskilled | | Possible unequal wage benefits between local and foreign workers | N | • Ensure that all workers (locals and foreign, skilled and unskilled) shall be compensated and are contracted equally as per the scale of market price rates, have equal contractual benefits and working conditions, and have access to internal GM |
| Children and minors | | • Possible recruitment of children who are under the legal age as workers on the site, especially in the case of the day laborers as well as forced labor | 2N | Daily registrations of workers and verification of their age to prevent child labor<br>Abide by the National Labor Law<br>Ensure the contractor is aware of the penalties that Labor Law imposes in the case of child labor<br>Oblige the contractor to strictly abide by the Labor Law through the CDR tender documents that should |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| | | | | include prohibition of child labor<br>Ensure all workers attended awareness sessions and signed the Code of Conduct |
| Nearby communities, socio-economic activities | Saw-cutting of existing pavement<br>Removing asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.<br>Removing and replacing or repair under asphalt layers<br>Milling activity<br>Cleaning of new surface of asphalt obtained after milling from all debris and dust with the use of mechanical road sweepers and water jets<br>Spreading asphalt as well as compaction of the new layer.<br>Scraping and removing asphalt layer(s) to reach base course level<br>Excavating and removing the sub-base and base course layers to reach subgrade level<br>Preparing sub-grade surface<br>Executing sub-base/base course layers<br>Compacting sub-base/base-course layers to reach required compaction level/percentage.<br>Spraying prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).<br>Spreading and compacting asphalt binder course layer(s)<br>Spraying tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.<br>Spreading and compact asphalt wearing course layer. | Disruption of local community to access services due to rehabilitation activities and temporal road closures | N | Prepare and abide by **Traffic Management Plan (Annex 11)**<br>Traffic shall be secured via alternative routes to reach relevant destinations in case the works imply the temporary closure of this road<br>Inform the local community about the location of detours, road blockages or diversions through public announcements and proper diversion signage<br>Ensure access to external GM (public notice including GM to be posted at relevant municipalities and on project sign boards) |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| Existing infrastructure and nearby communities | Same as above | Accidental Damage of existing infrastructure or planned interruption of utilities. | N | Regular coordination with relevant municipalities<br>Conducting trial pits<br>Ensure proper communication with affected communities to alert them whenever planned/accidental interruption of services happens.<br>Ensure access to external GM (public notice including GM to be posted at relevant municipalities and on project sign boards) |
| Nearby communities | Saw-cutting of existing pavement<br>Removing asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.<br>Removing and replacing or repair under asphalt layers<br>Milling activity<br>Cleaning of new surface of asphalt obtained after milling from all debris and dust with the use of mechanical road sweepers and water jets<br>Spreading asphalt as well as compaction of the new layer.<br>Scraping and removing asphalt layer(s) to reach base course level<br>Excavating and removing the sub-base and base course layers to reach subgrade level<br>Preparing sub-grade surface<br>Executing sub-base/base course layers<br>Compacting sub-base/base-course layers to reach required compaction level/percentage.<br>Spraying prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).<br>Spreading and compacting asphalt binder course layer(s) | Potential occurrence of gender-based violence and sexual exploitation and abuse incidents and all forms of GBV incidents | N | Draft Codes of Conduct and the guidelines for a GBV and VAC Action Plan<br>Conduct training sessions for workers on Sexual Exploitation and Abuse and/or Sexual Harassment<br>All workers should understand, and sign codes of conduct written in their native language<br>Respond to the reported incidents of sexual abuse exploitation as a matter of priority<br>Regular training on gender-based aspects, internal and external GM that includes an anonymous channel for protection of complainants' identity and confidentiality<br>Availability of a GM with multiple channels to initiate a GBV complaint, which ensures confidential reporting with safe and ethical documenting of GBV cases, including Sexual Exploitation and Abuse and Sexual Harassment |
| Nearby communities | | Traffic congestion in Jezzine village due to temporal road closure | N | Prepare and abide by **Traffic Management Plan (Annex 11)**<br>Ensure traffic is not blocked during transportation<br>Inform residents and place signs near the working areas in culturally appropriate languages and written in clear and understandable manner<br>Ensure communities have access to GM<br>Cover transported material<br>Abide by traffic regulations<br>Operate well maintained vehicles |
| Nearby communities, socio-economic activities | | Material falling from vehicles during transport may cause traffic accidents or congestion | N | |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| | Spraying tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.<br>Spreading and compact asphalt wearing course layer.<br>Executing asphalt layer(s) similar to surrounding asphalt thicknesses and parameters by either applying binder course asphalt layer and a wearing course asphalt layer (with prime coat & tack coat where required) or by applying directly the final wearing course after spraying prime coat over the prepared base course surface<br>Spraying tack coat on the newly prepared clean surface of existing asphalt<br>Installing concrete safety barriers<br>Adding adequate traffic signs for stoppage give ways as warning signs, mirrors at sharp edges, and other regulatory and warning signs<br>Rehabilitating sidewalks<br>Construction or improvement of drainage systems<br>Construction or improvement of retaining walls<br>Repairing street lighting<br>Marking lanes and stoppage line<br>Repairing street lighting<br>Replacing damaged light poles or brackets,<br>Replacing lighting luminaires or bulbs,<br>Repairing electrical wiring (directly buried or laid in pipes),<br>Adding light poles where needed,<br>Removing light poles obstructing the road and placing them at proper locations in addition to executing of other miscellaneous electrical repairs to the existing street lighting network | | | |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| Health and Safety | | | | |
| Workers | Saw-cutting of existing pavement<br>Removing asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.<br>Removing and replacing or repair under asphalt layers<br>Milling activity<br>Cleaning of new surface of asphalt obtained after milling from all debris and dust with the use of mechanical road sweepers and water jets<br>Spreading asphalt as well as compaction of the new layer.<br>Scraping and removing asphalt layer(s) to reach base course level<br>Excavating and removing the sub-base and base course layers to reach subgrade level<br>Preparing sub-grade surface<br>Executing sub-base/base course layers<br>Compacting sub-base/base-course layers to reach required compaction level/percentage.<br>Spraying prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).<br>Spreading and compacting asphalt binder course layer(s)<br>Spraying tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.<br>Spreading and compact asphalt wearing course layer.<br>Executing asphalt layer(s) similar to surrounding asphalt thicknesses and parameters by either applying binder course asphalt layer and a | Accident and injuries to workers and public because of rehabilitation activities | 2N | Contractor to develop a site-specific and detailed Public Health and Safety Plan and Occupational Health and Safety (Annex 11) to be approved by CDR before commencement of civil works.<br>Identify all risks related to the site surroundings and planned activities as well as emergency situations. The Plan should include, at minimum:<br>Job Hazard Analysis<br>Work Permits<br>Stop Work Authority<br>Workers to wear proper safety gear (PPE)<br>Presence of first aid kits on the construction site<br>Inform residents and place signs near the working areas<br>Proper management of trucks and heavy machinery entering and exiting the construction site<br>Apply Best Applicable Practices on Road Safety |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| | wearing course asphalt layer (with prime coat & tack coat where required) or by applying directly the final wearing course after spraying prime coat over the prepared base course surface<br>Spraying tack coat on the newly prepared clean surface of existing asphalt<br>Installing concrete safety barriers<br>Adding adequate traffic signs for stoppage give ways as warning signs, mirrors at sharp edges, and other regulatory and warning signs<br>Rehabilitating sidewalks<br>Construction or improvement of drainage systems<br>Construction or improvement of retaining walls<br>Marking lanes and stoppage line<br>Replacing damaged light poles or brackets,<br>Replacing lighting luminaires or bulbs,<br>Repairing electrical wiring (directly buried or laid in pipes),<br>Adding light poles where needed,<br>Removing light poles obstructing the road and placing them at proper locations in addition to executing of other miscellaneous electrical repairs to the existing street lighting network | | | |
| Nearby communities | Saw-cutting of existing pavement<br>Removing asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.<br>Removing and replacing or repair under asphalt layers<br>Milling activity<br>Cleaning of new surface of asphalt obtained after milling from all debris and dust with the use of mechanical road sweepers and water jets | Dust generation and noise may cause health related problems for workers and disturbance to residents | N | |

| Receptor | Activity Generating Impacts | Impact Description | Rating | Mitigation Measure |
|---|---|---|---|---|
| | Spreading asphalt as well as compaction of the new layer.<br>Scraping and removing asphalt layer(s) to reach base course level<br>Excavating and removing the sub-base and base course layers to reach subgrade level<br>Preparing sub-grade surface<br>Executing sub-base/base course layers<br>Compacting sub-base/base-course layers to reach required compaction level/percentage.<br>Spraying prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).<br>Spreading and compacting asphalt binder course layer(s)<br>Spraying tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.<br>Spreading and compact asphalt wearing course layer. | | | |

Note 1: All risks, impacts and mitigation measures should be acknowledged by the awarded contractor. It is the ultimate responsibility of the contractor to identify further site-specific risks and impacts, based on the contractor's site reconnaissance and experience, and implement necessary preventative and mitigation measures which shall be approved by the Employer or his designated representative onsite prior to proceeding with actual implementation.
Note 2: During the operation phase, all Environmental, Social and Health & Safety Activities impacts and their corresponding mitigation measures shall remain the same as detailed in the existing Bank-cleared ESMP report for Jezzine Caza of 2020, that is available on CDR Website via the following link: https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

# 6. ENVIRONMENTAL AND SOCIAL MONITORING PLAN

The Environmental and Social Monitoring Plan shall remain the same as detailed in the existing Bank-cleared ESMP report for Jezzine Caza of 2020, since this ESMP report is an addendum to the parent one.,
The stone wall rehabilitation and the new drainage system activities were included in the activities of "Construction or improvement of retaining walls" and "Construction or improvement of drainage systems" respectively, as per the nominations referred to in the parent ESMP, therefore, the monitoring measures shall be similar to the parent ESMP.

It should be noted that information on the Monitoring Plan are documented in the parent ESMP for Jezzine Caza of 2020 that is available on CDR Website via the following link:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf

# 7. CONSULTATION, DISCLOSURE AND GM

## 7.1 Public Consultation

The purpose of conducting public consultation is to inform the stakeholders and the local NGOs about the proposed project and the rehabilitation activities that will be executed specifically at "Saida – Jezzine main road, entrance of Jezzine including the stone wall" (around 1 km) in Jezzine Caza and to take into account their concerns and feedback. The public consultation session was held on Saturday, April 29, 2023 at the Municipality of Jezzine. The public consultation session was specific for the additional new road in Jezzine Caza which is: "Saida – Jezzine main road, entrance of Jezzine including the stone wall" to be rehabilitated under REP (the subject of this ESMP Addendum).

An announcement was prepared for this purpose and can be found in Annex 12.

In addition to the unions and municipalities, local and international NGOs were invited to the public consultation. Invitations were sent to the concerned municipalities, union of municipalities and NGOs. A sample of the invitation and the list of attendees can be found in Annex 12. NGOs may serve as advocates to reduce projects' social and environmental risks and promote good practice. A list of the NGOs who attended the Public Consultation, along with their domain of activities, is presented in Table 7-1.

**Table 7-1: List of International and Local NGOs present in the Public Consultation**

| NName of NGO | Activity |
|---|---|
| **International NGO** | |
| Caritas | CARITAS provides economic development, livelihoods, health and social care, education, service to foreign refugees, emergency and crisis intervention, environmental supervision and protection of the needy, in coordination with the Council of Catholic Patriarchs and Bishops, dioceses, and priests. |
| **Local NGO** | |
| Les Scouts du Liban | Based on a spirit of education for citizenship and service, it is open to young people without distinction of religion or social class and in loyalty to its values: fraternity, solidarity and service. It provides scout training to young boys and girls. Community service and personal growth are the pillars of their method of becoming useful citizens in tomorrow's society. |
| Mouvement des Affaires Sociales | An association at the service of community development. Through participation and dialogue, the members shall act together on social and economic issues. |
| Saint Vincent de Paul | Volunteers and members (men, women and youth) share their time and energy to make a difference in the lives of disadvantaged people. Their main objective is to provide assistance to the poorer and supply them with their most urgent needs. The Society of Saint Vincent de Paul works in varied fields: Spiritual, Social, Medical, Educational, Recreational and Development. |
| Fraternity of the Vanguards of the Virgin | The local organization, which is a secular Christian movement in the Church, works within the parish and it allows for fraternal exchange, which is the basis of the ecclesiastical segment to build the shepherding community. |

A total of 28 participants attended the session of which 12 were women (from civil organizations, technical engineers as well as public). There was no representation of vulnerable groups, including Syrian refugees, in the Consultation session.

The public consultation session opened with a word from ACE representative who introduced the overall project and its objectives and relevant organizations including CDR. The Consultant presented a description on the rehabilitation activities, purpose of the hearing, a summary of the ESMP process, and a list of potential environmental and social issues associated with implementation of rehabilitation activities. Participants were also informed that a GM procedure has been developed for the project and were given contact information of the Project Consultant in order to inquire about it as well as the GM channels. The floor was then opened for discussion and questions. The presentation made to the public hearing participants along with some photos can be found in Annex 12.

The proceedings which describe in detail the raised concerns and views by the participants and how all have been addressed are presented in the following paragraph.

- The Head of the Union of Municipalities of Jezzine as well as Head of Jezzine Municipality, introduced the team and mentioned the importance of the rehabilitation of the road along with the damaged stone wall at the entrance of Wadi Jezzine village to avoid any collapse of the existing wall and ensure safety for all road users. He also discussed with all participants

the new proposed structural design as well as the architectural design, especially the removal of the existing sidewalk and providing a new one next to the stone wall for aesthetic purposes.

- The Consultant presented the project activities and explained technically the procedure to be adopted for the execution of the reinforced concrete piles. He also detailed that the poor soil condition, as shown in the results of the geotechnical investigations conducted, led to opt for this alternative.
- One of the participants raised the issue of the potential damages that such rehabilitation works might cause to the existing drainage system due to the insufficient distribution of the water. The design and execution works shall take into consideration the capacity of the existing drainage system of Wadi Jezzine village. He also proposed to support the design team.
- A participant shared his opinion about the architectural design proposed for the balustrade and the conservation of Jezzine heritage known for its historical stones.
- The Civil society, Mouvement des Affaires Sociales, raised major concerns with regards to: the project start date, duration of works and the Traffic Management plan to be adopted during execution period since the option to close the road during summer is not possible due to the negative impacts of such works on the tourism season (July – August). The Consultant assured that no construction or rehabilitation works shall be envisaged during summer high season. One of the participants proposed to work during night hours; however, the Consultant reminded that no activities outside the normal working hours shall take place.
- The President of the Fraternity of the Vanguards of the Virgin of Jezzine, drew attention that the potential traffic diversion road should take into account the health emergencies and not causing time delay to reach the healthcare facilities.
- the director of Maria Aziz Technical Institute, also raised their concerns with regards to the potential road diversion and emphasized on the idea that this road should be safe, wide and time effective for school transportation, especially for buses.
- The Consultant confirmed to all participants that the Contractor shall secure the access and traffic movement via the selected diversion road as per the requirements of the approved TMP.
- The environmental and social expert of CDR, reminded all participants about the WB regulations that govern the rehabilitation project including the importance of the GRM channel and the safeguards.

## 7.2 Grievance Redress Mechanism (GRM)

The REP GRM has been established and is already in operation. For more information on the GM, please refer to the parent ESMP for Jezzine Caza of 2020 that is available on CDR Website via the following link:
https://www.cdr.gov.lb/CDR/media/CDR/StudiesandReports/Roads%20and%20Employment/Caza/Jezzine_Final-ESMP.pdf
To date, only 1 GRM was reported (on July 26th, 2022) and was addressed within 24 hours by the Consultant/Contractor in charge (on July 27th, 2022).

In addition, an online form has been designed using the IMPACT platform to allow citizens to share their feedback (https://cdr.impact.gov.lb/worldbankmobile/home/main?lang=en). The link was shared with concerned municipalities and NGOs during the public participation meeting. It was also clarified that for each worksite in Jezzine Road (the subject of this ESMP Addendum), a link to the form will be shared with the local communities via location-based SMS, email and social media prior to rehabilitation works. At each worksite, a QR code will also be added on the project sign

board (which already includes the project GRM) to automatically direct participants to the online form.
The GRM levels of the sub-project are the following:

- Level 1: If any person has any complaint or concern regarding the project implementation, he/she can lodge an oral or written grievance to the site engineer. In case an oral complaint is made, it should be written by the Contractor Social expert. The issue must be resolved within a maximum duration of one week.
- Level 2: If the person is not satisfied with the action of the Contractor, he/ she can send the complaint to the PIU social specialist through Phone: 01980096 ext:317, Email: GRM.REP@cdr.gov.lb or official letter registered at the CDR. The issue shall be resolved within a maximum of two weeks
- Level 3: If the person is not satisfied with the decision of the social specialist of PIU, he or she can bring the complaint to the attention of the PIU Director's Office. Once the PIU Director receives the complaint, it needs to be resolved within a maximum of two weeks.

All complaints will be individually followed up on and documented accordingly in a GRM log. The Contractor social expert will report to the Supervising Consultant expert who will report monthly to the PIU (CDR) who will, in turn, submit the consultants' monthly reports to the WB).

In addition, any incident should be recorded using an Incident Record and the details shall be entered into a register (health and safety reporting, accident reporting procedure, case of serious misconduct). All incidents, no matter their nature, should be reported to the CDR PMU and thereafter the Bank team for documentation purposes and the nature of the complaint documented should be clearly indicated. There should be immediate reporting of severe incidents (such as fatal accidents).

# 8. CONCLUSION

After evaluating the potential negative and positive impacts that might arise from the proposed project during both phases (rehabilitation and operation), it was concluded that most of the negative impacts will occur during the rehabilitation phase. These impacts are mainly related to the disruption of nearby residents from the rehabilitation activities along with some impacts on the surrounding environment such as deterioration of soil and water quality if the generated liquid waste and solid waste were not managed properly. In addition to the negative impact on the air quality that might arise as a result of rehabilitation activities especially where new pavement is proposed for the road.

On the other hand, job opportunities will be created to the local community during the rehabilitation phase. It is worth to mention that these impacts are short in term and will diminish as soon as the project is completed. As for the operational phase, the assessed socioeconomic impacts were mostly positive in nature in terms of traffic and road safety and livelihood improvement within the project area. However, on the long term the proposed project will contribute to increasing vehicular pollutant levels (CO, NOx, SOx, PM10) in the area as well as traffic related noise causing public health problems and other impacts on the environment.

However, the negative environmental, social and health & safety impacts that might arise from the rehabilitation of the proposed road in Jezzine Caza can be minimized and even eliminated through proper management and mitigation practices. The proponents of the proposed project are committed to putting in place several measures to mitigate the negative environmental and social impacts associated with the rehabilitation and operation of the proposed project. It is recommended that in addition to this commitment, the proponents shall focus on implementing the measures stated in the ESMP as well as abiding with all relevant national and international policies, standards and regulations

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# ANNEX 1: METHODOLOGY

This ESMP Addendum of the Road Routine Maintenance & Rehabilitation of Remaining Roads Project in Jezzine Caza (Lot 3) was prepared to cover rehabilitation of remaining roads of Component 1 "Roads Rehabilitation and Maintenance" during rehabilitation and to assess the likely environmental and social consequences of these activities and identify mitigation/enhancement measures. As such, the task was initiated by conducting a site visit to "Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour)" (around 1 km) in Jezzine Caza on the 31st of March, 2023 followed by a literature review in order to define the current environmental and social conditions, along with relevant local and WB legislations, guidelines, and standards. In addition, the environmental team communicated closely with the technical team in order to obtain the necessary information about the proposed rehabilitation activities, thus describing the proposed project in a thorough manner. In terms of the assessment, negative and positive impacts were identified and mitigation measures were proposed to address the negative ones. As such, an ESMP was developed and included a monitoring plan, which is needed to ensure compliance of the project with environmental and social conditions and regulations.

Based on the current institutional setup of the Roads and Employment Project, the institutional setup and the requirements for capacity development was described to ensure that project implementers have sufficient technical and human resources available to effectively undertake the environmental and social management and monitoring tasks. As for the participation of the public and concerned entities, this was done through conducting public consultation to which stakeholders and local community were invited to participate. Consultation was held on April 29, 2023 at the Municipality of Jezzine and results were included in this report.

**Project Activities**

Determining the condition of the asphalt is important to assign the proper pavement rehabilitation activities. The pavement rehabilitation activities consist of three activities: (1) either pavement maintenance or (2) overlay on existing pavement or (3) complete removal of deteriorated pavement and constructing a new one.

An estimated 60% of the works to be executed within this project fall under the activities related to the construction of the new retaining system.

As for the remaining 40% shall be for the following pavement related types of activities:
A- Patching
B- Milling and Overlay
C- Pavement Total Reconstruction.

The phases for the main three activities are as follows:
A- Phases of Construction for a stretch of road that needs: Pavement Patching
A.1- Saw-cut existing pavement in a rectangular shaped area where pavement distresses are located as per tender drawings and specifications.
A.2- Remove asphalt layer within the limits of the executed saw-cut using hammer drill breaker operated by air compressor.
A.3- Examine the exposed pavement structure under the removed asphalt using proper testing for base course and sub-base course layers as well as the subgrade level & material.
A.4- Remove and replace or repair under asphalt layers as per technical assessments and recommendations.
A.5- Execute asphalt layer(s) similar to surrounding asphalt thicknesses and parameters by either applying binder course asphalt layer and a wearing course asphalt layer (with prime coat &

tack coat where required) or by applying directly the final wearing course after spraying prime coat over the prepared base course surface.

B- Phases of Construction for a stretch of road that needs: Milling & Overlay

B.1- Contractor to proceed with the milling activity as described in the tender document with regards to the thicknesses of existing asphalt to be milled.

B.2- New surface of asphalt obtained after milling shall be cleaned from all debris and dust with the use of mechanical road sweepers and water jets.

B.3- Tack coat will be sprayed on the newly prepared clean surface of existing asphalt.

B.4- Asphalting activity will take place using the right thickness of the new asphalt layer as per the design/tender documents. Such activity includes spreading asphalt as well as compaction of the new layer.

C- Phases of Construction for a stretch of road that needs: Pavement Total Reconstruction

C.1- Scrape and remove asphalt layer(s) to reach base course level.

C.2- Excavate and remove the sub-base and base course layers to reach subgrade level.

C.3- Prepare sub-grade surface after making sure by soil tests that reached subgrade level is suitable to receive pavement structure. If not, unsuitable material to be replaced by suitable borrow fill and compacted to reach required compaction percentage.

C.4- Execute sub-base/base course layers as per specifications and thicknesses according to tender documents. Compact sub-base/base-course layers to reach required compaction level/percentage.

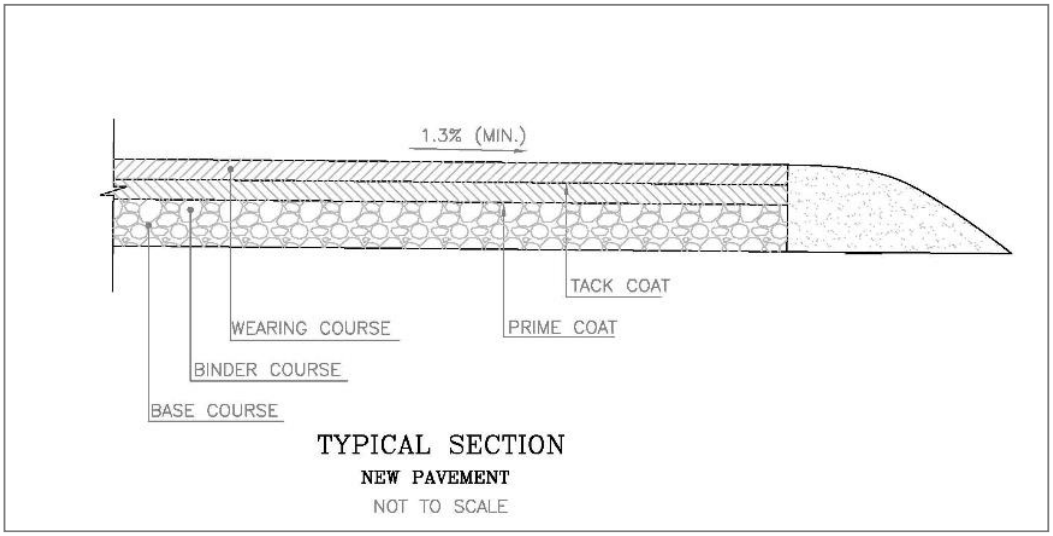
C.5- Spray prime coat over the prepared and leveled surface of base course in order to receive asphalt binder course layer(s).

C.6- Spread and compact asphalt binder course layer(s) as per the thicknesses and specifications specified in tender documents.

C.7- Spray tack coat over the newly executed asphalt binder course in order to receive asphalt wearing course layer.

C.8- Spread and compact asphalt wearing course layer as per the required specifications and thicknesses).

**Figure 1: New Pavement Cross Section Scheme**




The proposed project also consists of other activities beside the pavement rehabilitation works. These activities consist of:

The proposed project also consists of other activities beside the pavement rehabilitation works. These activities consist of:

- Installing concrete safety barriers
- Marking lanes and stoppage line
- Adding adequate traffic signs for stoppage give ways as warning signs, mirrors at sharp edges, and other regulatory and warning signs

During the execution of rehabilitation activities, this road will be temporarily closed, the traffic will be secured by the project Contractor via alternative route to reach relevant destinations. Detours and diversions were not included in the design. Therefore, before the execution of rehabilitation works, the Contractor based on the schedule of works and if needed, will secure the access and traffic movement via other alternative routes and means in coordination with the related Municipality. Accordingly, all detours will be on existing alternative roads (public domain properties) and there is no need to use or rent some land to create the detour.

As this project is a road rehabilitation project, the speed limit will be assigned based on existing road curves. The designer thus defined the best fit center line for this road, in which the existing radius of each curve could be identified and posted the speed limit that complies with the minimum radius of curvature. The applicable speed limit for most of the roads were 60 kph based on road geometry in general cases and was reduced accordingly at stretches where sharp curves were encountered in which it was reduced as much as to reach 30pkh at very sharp curves. The depth of excavations for each proposed road is not more than 15cm in roads sections, and not more than 1.5m for walls and 3 to 4m for new culverts.

## Staff, Materials & Equipment

### Site Construction Staffing

The total number of workers for the overall road/project shall be based on the total volume of each activity as per the bill of quantities of the tender documents, as well as the independent assessment of the awarded Contractor subject to the project duration and the planner's effort to produce a relevant program of work to cover all project activities. Therefore, the total number will be deduced accordingly.

As a result, the total number of labor (including equipment operators and machinery drivers) shall be in correlation with:
Volume of each type of work (quantities in Bill of Quantities BOQs)
Division of work as per the program of works to be submitted for approval by the awarded Contractor. Such program of works shall be resource loaded to cover all required activities as per the tender documents and shall reflect actual numbers of labor with regards to each activity and the time dedicated for it, as well as for the total of the Project.

Furthermore, some indicative numbers of workers and drivers are provided in Table **Error! Reference source not found.**1 and Table 2 per task and per day. All rehabilitation activities need the involvement of a certain number of workers ranging from unskilled labors to equipment drivers to foremen/engineers.

As described in Table **Error! Reference source not found.**1, the activities vary from pavement works to structural, earthworks, drainage systems and road safety. Each of such activity requires specialized/skilled resources. As shown in tables below Table **Error! Reference source not found.**1 and Table 2, the number of persons involved from engineers, technicians to workers as well as machinery drivers is variable as per the activity needed on each road. It is assumed that an estimate total number of workers shall range between 100 and 150. In addition, efforts will be

made by the contractor minimize labor influx and to equally hire local (from the same region as the project location) and foreign (refugees) workers and drivers with equal contractual benefits and working conditions. Since priority will be given to people living in the region, labor influx is not expected. If labor influx is needed, it will be as minimized as possible. It is worth to mention that the workers will sign code of conduct before starting the work and training sessions will be conducted to inform the workers about their responsibility to act ethically. The duration of the project is 4 months with a one-year liability period.

## Table 1: Number of Workers for the Different Project Activities

| # | ACTIVITIES | Site Engineer | Safety Officer | Foreman | Surveyor | Assistant Surveyor | Skilled Carpenter | Semi-skilled Carpenter | Bar Bender (Steel Fixer) | Skilled Electrician | Skilled Welder | Skilled Laborer | Semi-skilled Laborer | Laborer | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Pavement Patching | 1 | 1 | 1 | 1 | 1 | | | | | | 1 | 1 | 4 | 11 |
| 2 | Milling & Overlay | 1 | 1 | 1 | 1 | 1 | | | | | | 1 | 1 | 6 | 13 |
| 3 | Pavement Total Reconstruction | 1 | 1 | 1 | 1 | 1 | | | | | | 2 | 2 | 8 | 17 |
| 4 | Concrete Retaining Walls | 1 | 1 | 1 | | | 1 | 1 | 1 | | | | | 3 | 9 |
| 5 | Concrete Safety Barriers | 1 | 1 | 1 | | | 1 | 1 | 1 | | | | | 3 | 9 |
| 6 | Culverts & Channels | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 4 | 13 |
| 7 | Traffic Marking | 1 | 1 | | 1 | 1 | | 1 | 1 | | 1 | | 1 | 2 | 10 |
| 8 | Guardrails Fixing | 1 | 1 | 1 | 1 | 1 | | | | | | | | 2 | 7 |
| 9 | Sidewalk & Tiling | 1 | 1 | 1 | 1 | 1 | | | | | | 2 | | 4 | 11 |
| 10 | Structural Elements | 1 | 1 | 1 | | | 1 | 4 | 2 | | | | | 4 | 14 |
| 11 | Earthwork (Excavation & Backfill) | 1 | 1 | 1 | 1 | 1 | | | | | | 2 | 4 | 7 | 18 |
| 12 | Piping or Pipe Repair | 1 | 1 | 1 | | | | | | | | 1 | | 2 | 6 |

## Table 2: Number of the Machinery Drivers

| # | ACTIVITIES | MACHINERY DRIVERS | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Loader | Excavator | Motor Grader | Steel Roller | Milling Machine | Dump Truck | Water Tank Truck | Asphalt emulsion Sprayer | Asphalt Paver | Pneumatic Asphalt Roller | Mobile Crane | Guardrail Post Driving Machine | Concrete Mixer Truck | Mobile Concrete Pump | Road Marking Machine | Pick-up Truck | Pile Drilling Rig Machines | Total |
| 1 | Pavement Patching | 1 | 1 | | 2 | | 1 | 1 | 1 | 1 | 1 | | | | | | 1 | | 10 |
| 2 | Milling & Overlay | 1 | | | 1 | 1 | 3 | 1 | 1 | 1 | 1 | | | | | | 1 | | 11 |
| 3 | Pavement Total Reconstruction | 1 | 2 | 1 | 2 | 1 | 6 | 1 | 1 | 1 | 1 | | | | | | 1 | | 18 |
| 4 | Concrete Retaining Walls | | | | | | | 1 | | | | 1 | | 1 | 1 | | 1 | | 5 |
| 5 | Concrete Safety Barriers | | | | | | | 1 | | | | | | 1 | 1 | | 1 | | 4 |
| 6 | Culverts & Channels | 1 | | | | | | 1 | | | | | | 1 | | | 1 | | 4 |
| 7 | Traffic Marking | | | | | | | 1 | | | | 1 | | | | 1 | 1 | | 4 |
| 8 | Sidewalk & Tiling | | | | | | | 1 | | | | | | | | | 1 | | 2 |
| 9 | Structural Elements | | | | | | | 1 | | | | 1 | | 1 | 1 | | 1 | 2 | 7 |
| 10 | Earthwork (Excavation & Backfill) | | 2 | | 1 | | 2 | 1 | | | | | | | | | 1 | | 7 |
| 11 | Piping or Pipe Repair | | | | | | | | | | | | | | | | 1 | | 1 |

### Materials and Equipment

The required main materials and equipment for the rehabilitation of the proposed road as well as the damaged stone wall and its associated works are presented in the tables below ( and 4).

**Table 3: Materials Used during the Rehabilitation Works**

| Materials | Quantity |
|---|---|
| Aggregates (fine and coarse) | 900 cu.m |
| Asphalt mix | 350 cu.m |
| Liquid Asphalt | 2650 liters |
| Concrete mix | 170 cu.m |
| Water** | |
| Fuel** | |
| Thermoplastic Paint Material | 90 sq.m |
| Concrete New Jersey Barriers (1-sided) | 500 lm |
| Stones (for stone wall reinstatement) | 200 sq.m |
| Reinforcing Steels | 30 tons |
| Gullies | 5 |
| Rubber Bitumen | 290 sq.m |
| Cat Eyes | 45 |
| Delineators | 50 |
| Traffic Signals | 25 |

**These items could not be estimated at this stage

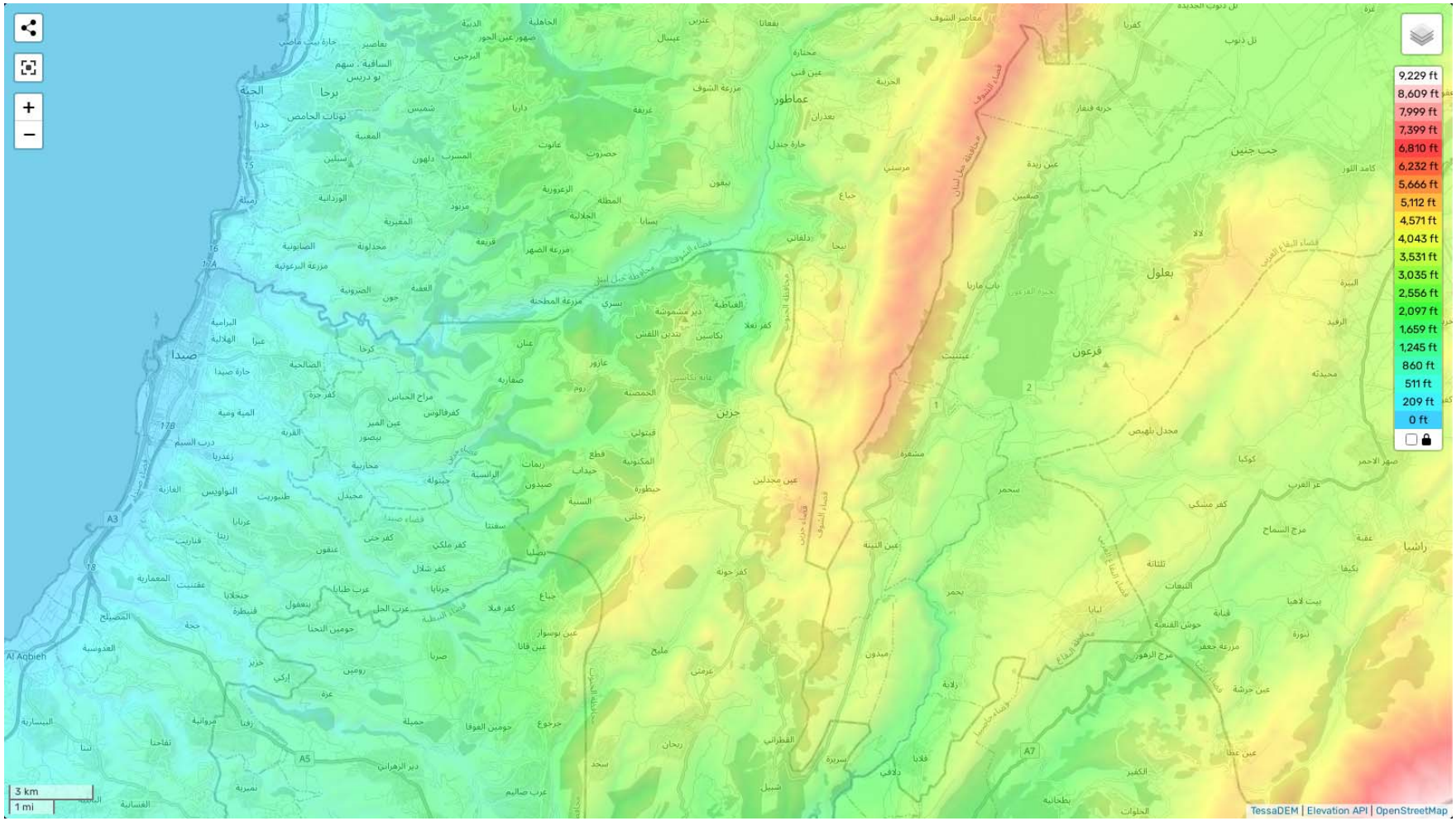
**Table 4: Equipment Used during the Rehabilitation Works**

| Equipment | Quantity |
|---|---|
| Steel-wheeled Rollers | 1 |
| Pneumatic-tyred Rollers | 1 |
| Asphalt Distributor | 1 |
| Concrete mixing trucks | 1 |
| Trucks | 3 |
| Excavators | 1 |
| Loaders | 2 |
| Asphalt Milling Machines | 1 |
| Steel Rollers | 1 |
| Motor Graders | 1 |
| Thermoplastic Road Marking Machines | 1 |
| Liquid Asphalt Spraying Tanks | 1 |
| Guardrail Post Driving Machines | 0 |
| Paver instead of Asphalt Distributors | 0 |
| Dumper Trucks instead of Trucks | 3 |
| Air Compressors | 2 |
| Asphalt Cutters | 2 |
| Pile Drilling Rig Machines | 2 |

# ANNEX 2: ENVIRONMENTAL AND SOCIOECONOMIC COMPONENTS ALONG THE ROAD

| Road Code | CAZA | Name | Natural Environment (Trees, land use, surface water …) | Infrastructure (Lighting, Phone/Electricity lines, culverts, water canals, …) | Socio-Economic (Shops, Residential areas, traffic, …) |
|---|---|---|---|---|---|
| | Jezzine | Saida - Jezzine main road, entrance of Jezzine including the stone wall (Al Maabour) | Cypress trees and prunus trees along the road | Damaged stone wall | N/A |

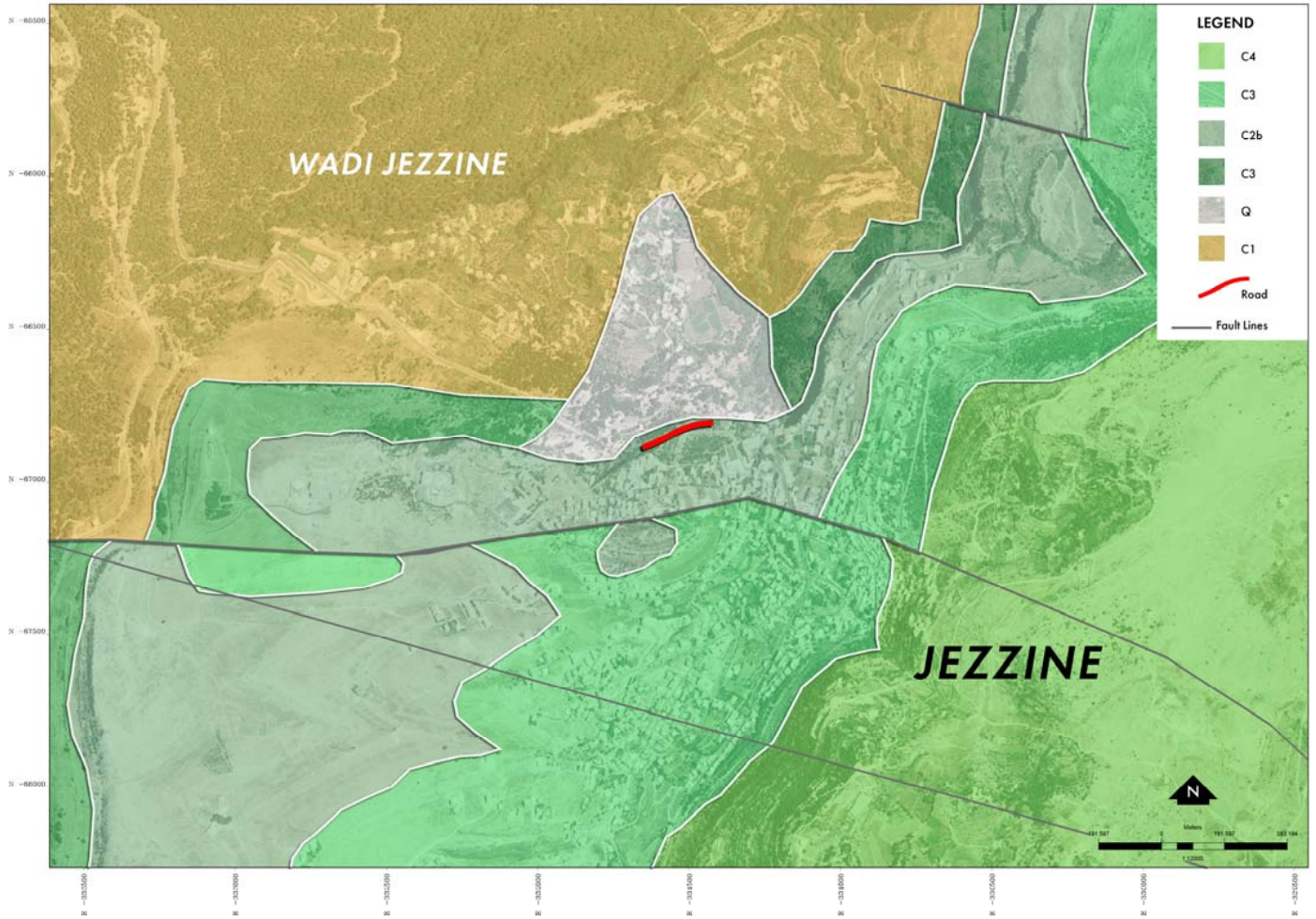
# ANNEX 3: TOPOGRAPHIC MAP OF JEZZINE CAZA




Source: Topographic-Map Website, 2023

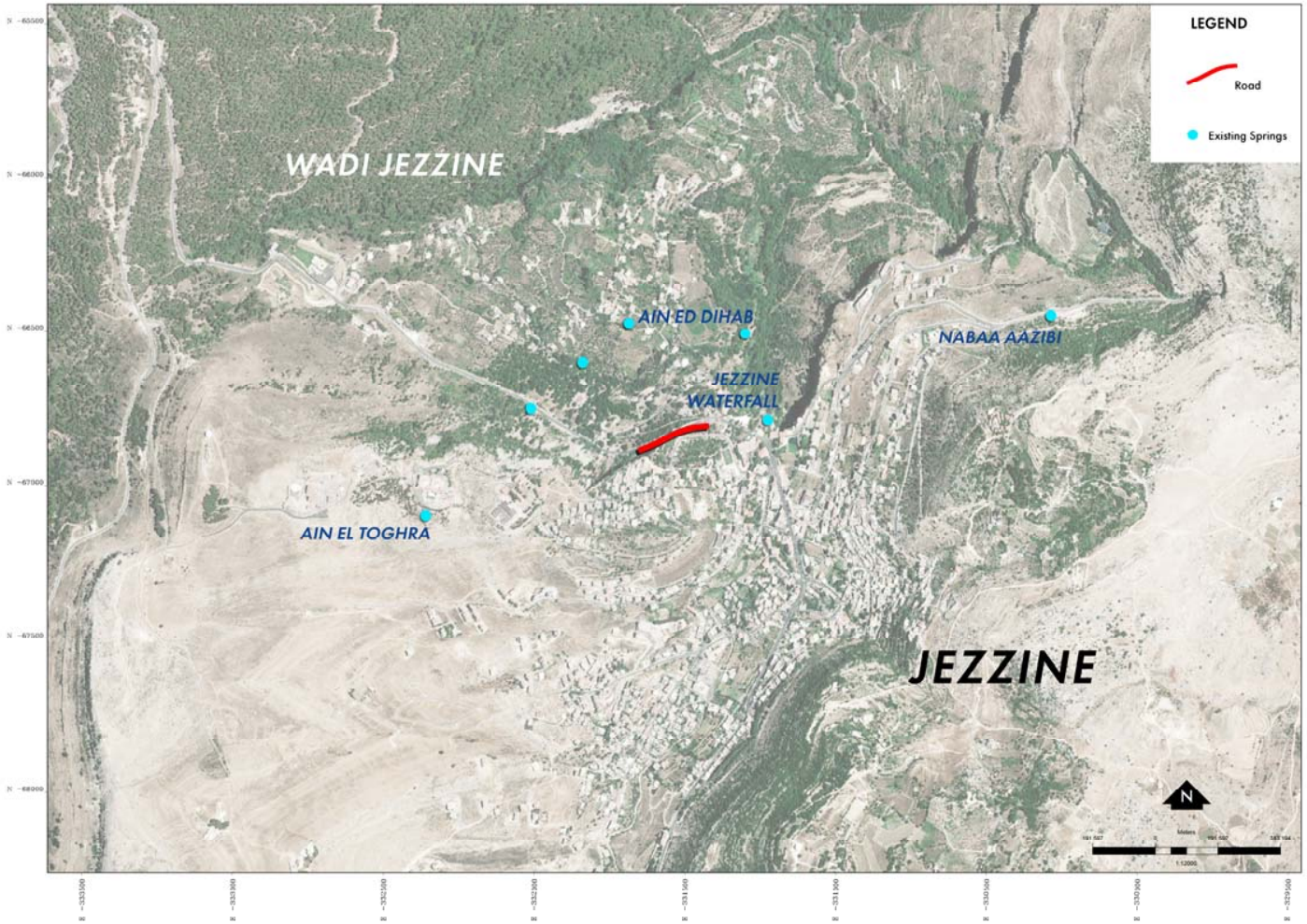
# ANNEX 4: GEOLOGY MAP

**Figure 1: Geology Map of the Road**



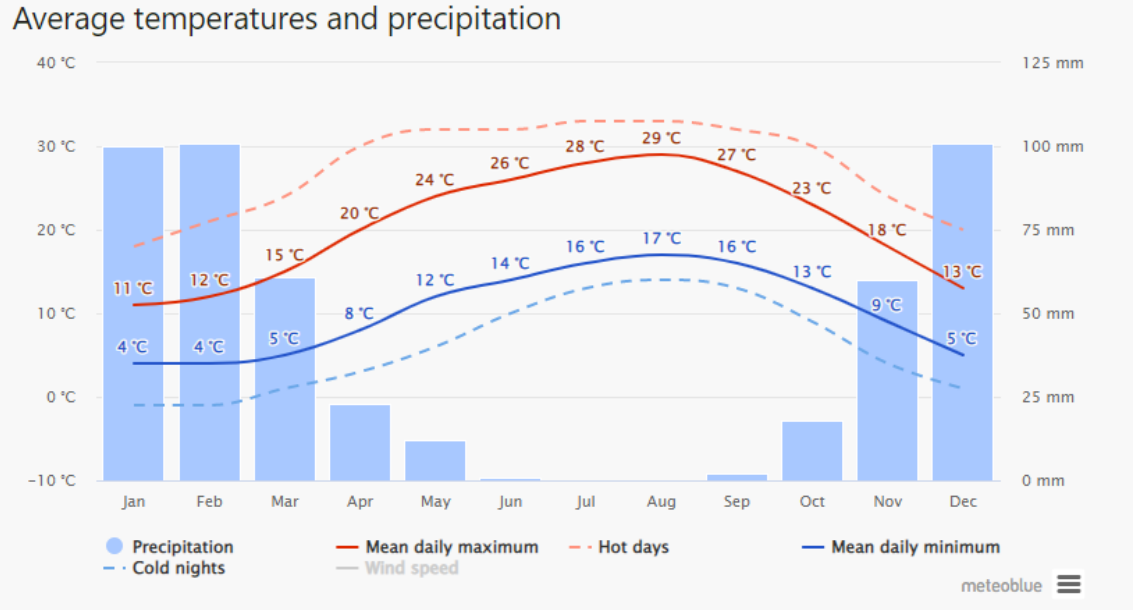
# ANNEX 5: HYDROLOGY MAP

**Figure 1: Hydrology map of the Road**



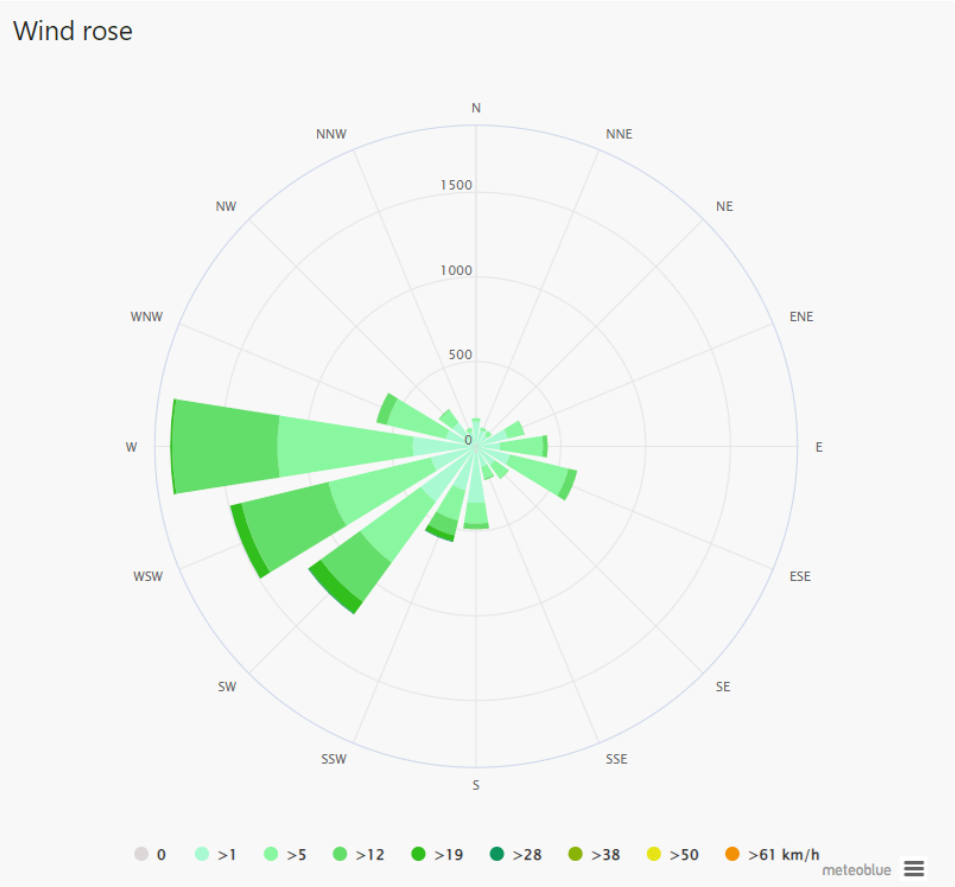
# ANNEX 6: CLIMATE DATA

**Figure 1: Climograph of Jezzine in Jezzine Caza (for the last 30 years)**




Source:https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/jezz%c3%aene_lebanon_273360

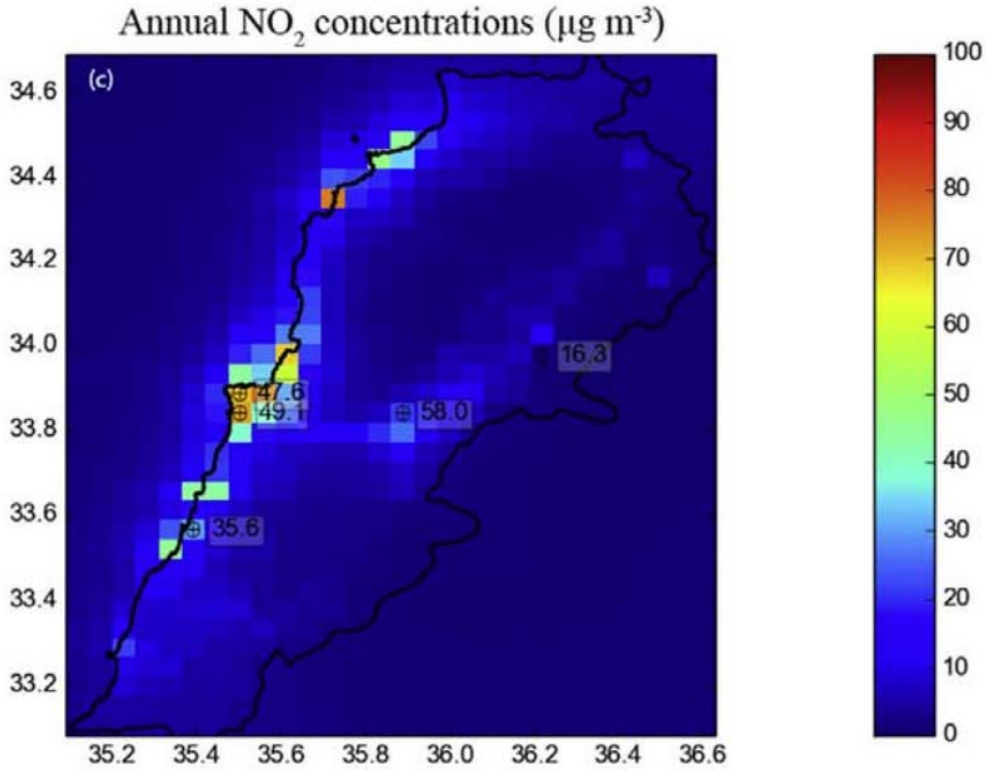
**Figure 2: Wind Rose for Jezzine in Jezzine Caza (for the last 30 years)**

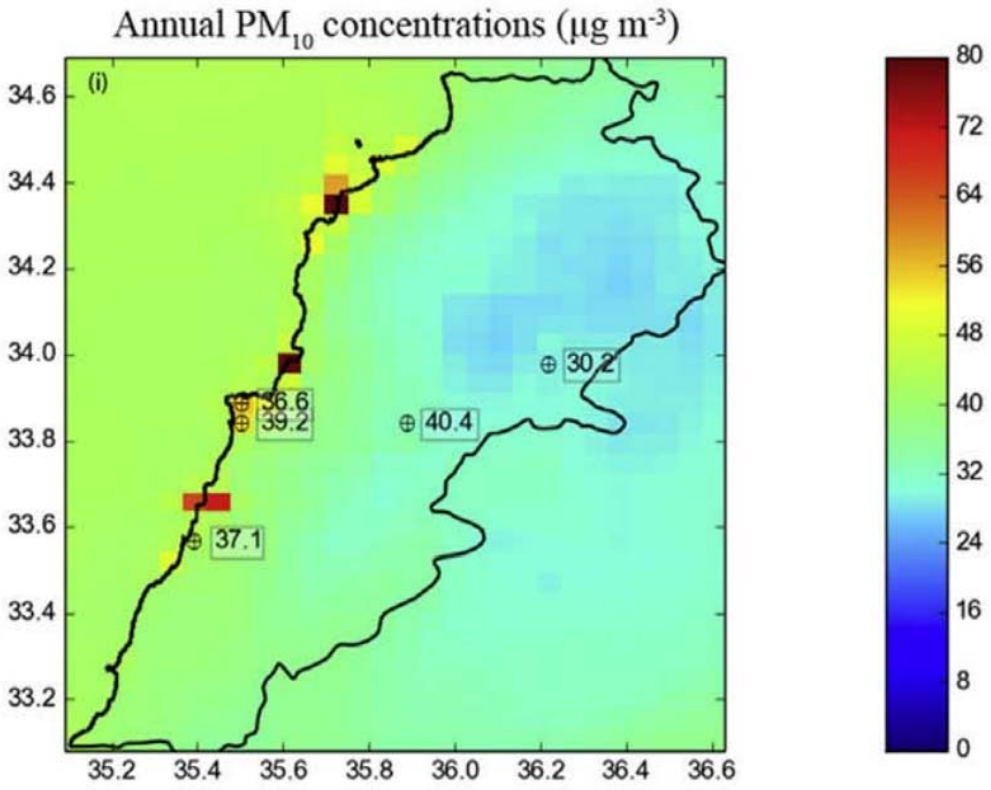



Source:https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/jezz%c3%aene_lebanon_273360

# ANNEX 7: AIR QUALITY DATA

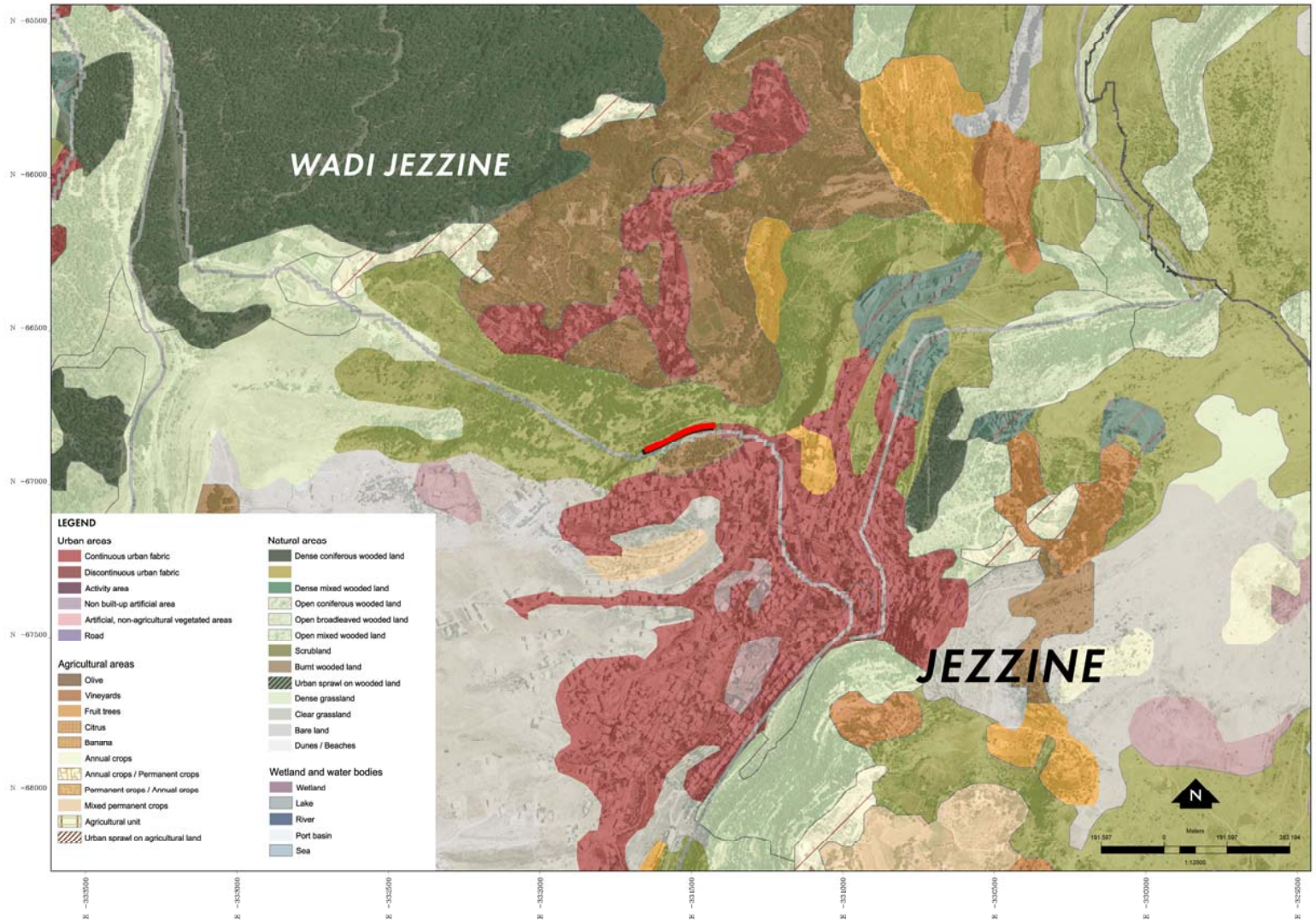
**The mean modelled annual concentrations maps for $NO_2$ and $PM_{10}$ (Source: Abdallah et al., 2018)**



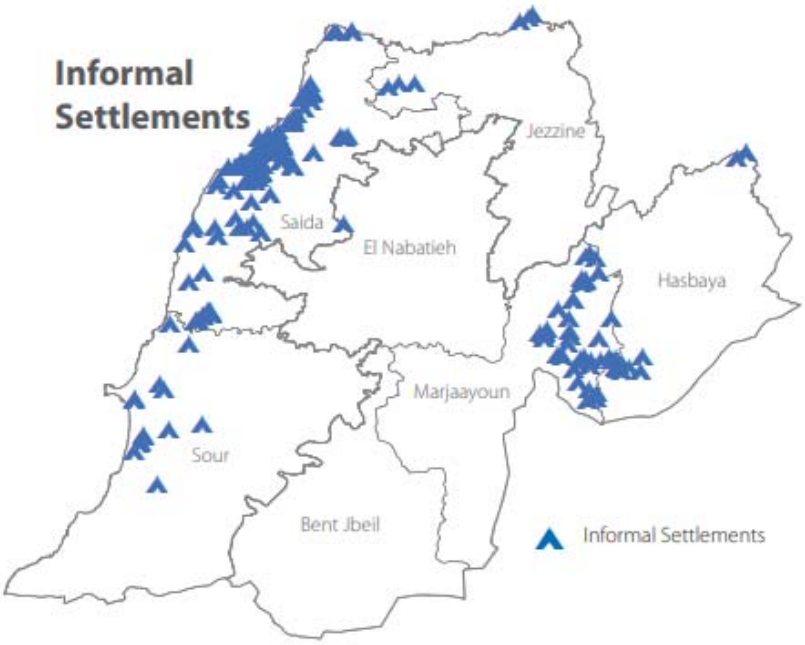

Annual PM10 concentrations (µg m-3)
(i)
34.6
34.4
34.2
34.0
33.8
33.6
33.4
33.2
35.2
35.4
35.6
35.8
36.0
36.2
36.4
36.6
30.2
36.6
39.2
40.4
37.1
80
72
64
56
48
40
32
24
16
8
0

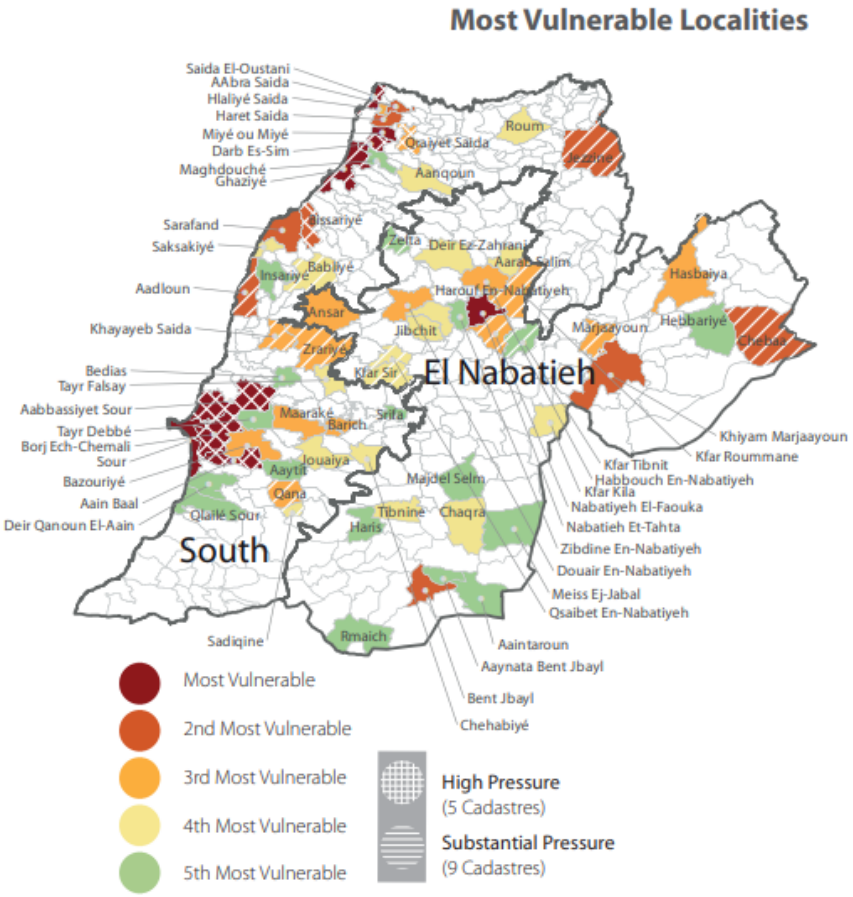
# ANNEX 8: LAND USE/LAND COVER MAP

**Figure 1: LU/LC map along the Road**



# ANNEX 9: INFORMAL SETTLEMENTS AND MOST VULNERABLE LOCALITIES




Source: OCHA, 2016

# ANNEX 10: SENSTIVE AREAS MAP

NO SENSITIVE RECEPTORS ALONG the ROAD

# ANNEX 11: PLANS AND PROCEDURES DURING REHABILITATION ACTIVITIES

**Pollution Prevention Plan**

The Contractor shall prepare and abide by a Pollution Prevention Plan to ensure that pollution to air, water or land is prevented or, where this is not possible, reduced and mitigated as far as practicable during the construction phase. The Pollution Prevention Plan will be developed for managing:

- liquid effluents
- air emissions
- noise and vibration
- fuel, oil, and chemical storage and handling
- hazardous, non-hazardous, and household waste handling, storage and final disposal
- vehicle and equipment selection and maintenance

**Effluent Management Provisions**

- No effluent shall be discharged under any condition neither into water courses or bodies including surface water bodies nor to ground surface or infiltrated into subsoils
- Install mobile porta-cabins and connect the generated wastewater from workers to the existing sewage network or to polyethylene tank
- Empty the tank in the sewer network or into nearby operational wastewater treatment plants either by municipality-owned or contracted wastewater tankers

**Rainwater run-off Management Provisions**

- Install temporary structures to prevent runoff from reaching nearby water bodies
- Remove base coarse and sand from active rehabilitation sites to prevent the transfer of suspended solids in rainwater
- All platforms where generators or hydrocarbon storage tanks are installed have an impervious layer
- Restrict excavation activities during periods of intense rainfall

**Atmospheric Emissions and Dust Management Provisions**

- Exercise care to minimize emissions of dust from its activities, including traffic, at work sites, in residential areas and on access roads.
- Stop dust generating activities during windy weather especially in residential areas
- Where it is deemed that dust is impacting or may have an impact on human, plant or animal receptors or where dust may cause sedimentation of watercourses/water bodies or unacceptable levels of soil loss, water shall be applied to the area creating the dust
- Control vehicle speeds to reduce traffic-induced dust dispersion and resuspension by setting and enforcing speed limits
- Post speed limit signs in sensitive areas
- Ensuring trucks hauling sand, dirt or other loose materials are covered (sheeting trucks)
- Cover dusty stockpiles
- Suspending topsoil stripping and replacement during strong winds
- Using a dust collection system for bulk materials unloading
- Ensure proper handling and storage of materials thus minimising the areas of stockpiled materials

- When storage, transport and handling of bulk materials is made in the open air and exposed to the wind, necessary dust abatement measures shall be implemented
- Regular maintenance of construction machinery, equipment and vehicles

**Spill Prevention and Management**

- Spill clean-up procedure to reduce the risks of accidental leakages
- Carry out all re-fuelling in designated areas with impervious surfaces and guarantee no fuel spills
- A spill collection tank must be installed under generators and specific equipment
- All chemicals shall be stored in dedicated areas on a paved or sealed floor and in tightly closed containers and be protected from adverse weather conditions
- Used oil or chemical must be stored in an appropriate area until it is collected and disposed in licensed sites
- Use of secondary containment basins for long term storage of lubricants and fuels
- Ensure that the plan is present at the construction site and that oil spill response kits are available
- Ensure proper housekeeping conditions are maintained at the oil/chemical storage areas
- Train all workers to implement this plan in case of accidental spillage

**Waste Management Plan**

This plan shall be developed and implemented by the Contractor to manage the generated waste effectively. The plan shall include the following components:

- Establish and maintain a waste register which is at the disposal of the Engineer. This register will record all waste management operations: production, collection, transport and disposal.. Waste shall be categorized according to the following definitions:
  - Non-hazardous solid waste generated at rehabilitation sites and offices includes excess fill materials from grading and excavation activities, scrap wood and metals, and small concrete spills. Other non-hazardous solid wastes include office and kitchen wastes.
  - Hazardous solid waste includes contaminated soils, oily rags, used oil filters, used oil, as well as spill cleanup materials from oil and fuel spills
- Waste shall be collected from rehabilitation sites and from offices at the same rate that it is produced
- All the waste materials generated at work sites and offices shall be segregated into domestic (organic/ paper and cardboard/ metals, glass and plastics) and hazardous waste and disposed into the color-coded containers (one for the disposal of organic waste, one for paper and cardboard and one for aluminium, glass and plastics)
- The domestic waste containers shall be emptied 2 to 3 times per week by the municipality to maintain rehabilitation sites sanitation
- Segregated recyclables shall be sent to recycling facilities in the area where possible
- Reuse of excavation materials generated during cutting and filling activities whenever possible and disposal of remaining material in controlled disposal site to be identified by the contractor in coordination with the relevant municipality
- Approval letters shall be obtained from the concerned municipalities for domestic and construction waste disposal
- Reuse or recycle the generated waste whenever possible
- Train workers on waste reduction procedures
- Provide workers with nearby sanitation facilities and inform them about their location

- The work zone shall be cleaned on a daily basis. Construction leftovers that are external to the working zone shall be removed regularly. Site housekeeping must be maintained

**Hazardous Materials Management Plan**

A Hazardous Materials Management Plan will be developed for hazardous materials that pose a potential risk to human health or the environment and include cleaning chemicals, solvents and fuels. The plan shall include the following:

- Fuel and hazardous chemicals/materials shall be stored in designated areas, except for quantities generated or required for the daily construction activities.
- All fuel and hazardous chemical storage facilities shall be located on flat or gently sloping ground and shall be contained within a bund designed to contain at least 110% of the total capacity of the storage containers plus 10% of the aggregate tank volume within the containment area or as otherwise specified by regulatory requirements. The bund walls and floor shall be constructed of concrete or other suitably impermeable material. The filling connection must be within the bund. No drain valves or other connections through the bund walls shall be permitted. Tanks shall be fitted with a gauge to allow the fill level to be monitored during refilling and preferably with a high-level alarm.
- Hydrocarbons, lubricants, paints, solvents and batteries are transported in drums to suitable waste management facilities, if available

**Emergency Preparedness and Response Plan**

An Emergency Preparedness and Response Plan (EPRP) will be developed so that the Contractor is prepared to respond to accidental and emergency situations in a manner that prevents and mitigates harm to people and the environment. The EPRP needs to be discussed and disclosed to service providers and local affected communities prior to construction. The EPRP shall cover the following emergency situations as a minimum/;

- Medical emergency
- Fire or explosion;
- Hazardous Material Spill or Release;

The EPRP will identify

- Accidents and emergency situations and the communities and individuals that may potentially be impacted
- Response procedures, provision of equipment and resources, designation of responsibilities, communication systems and channels and periodic response training

The Project will need to ensure that the Contractor shall

- Maintain fit-for-purpose Emergency Response Capability, which shall be clearly documented
- Make contingency arrangements for calling a Doctor and transporting injured persons to hospital. The telephone numbers of the emergency services and the name, address and telephone number of the Doctor and the nearest hospital shall be prominently displayed in the Contractor´s office.
- Ensure that all personnel are informed and aware of how to react in an emergency situation, and responsibilities are defined. Information and awareness training shall be documented, and available on all Project Areas
- Organize and document emergency simulation exercises within 3 months of the physical start of the works, and subsequently once every 12 months

**Traffic Management Plan**

A Traffic and Management Plan (TMP) will need to be developed by the main contractor. The TMP shall be a starting point for further discussion between the main contractor, local authorities and road agencies. The plan will include preventative measures to manage the risks from potential increases in traffic from construction activities including transportation of material and workers to and from the rehabilitation activity sites. In addition, it will include measures to protect workers and manage the risks from civilian traffic within close proximity to rehabilitation activities especially within residential areas. The TMP will be refined and updated as access routes are confirmed and the timing and type of abnormal loads become known.

The TMP shall include the following:

- Proposed program of works;
- Details of key stakeholders;
- Details regarding the proposed method of construction;
- Proposed temporary traffic control plans;
- Various traffic diversion plan layouts for various type of activities;
- Diversion signs;
- Regulatory signs;
- Informative signs;
- Analysis of impacted roads;
- Risk Assessment;
- Proposed working hours; and
- Protection of Work Zones and road users including pedestrians

**Public Health and Safety Plan**

An effective Public Health and Safety Plan for construction will need to be developed by the main contractor. It shall include at least the following components:

- Secure the site and restrict access to it
- Prohibit unattended/unauthorized public access
- No children are allowed to be present on the work site, reminding workers and community members of this in all related communications
- Install barriers with warning lights at night around excavations, material dumps or other obstructions at the rehabilitation sites
- Install warning signs for drilling and maintenance at the external part of the site and at a distance of 100 meters
- Inform residents and place proper safety and diversion signs at sensitive areas within the project area (i.e. near schools, shops hospitals and agriculture areas)
- Install pedestrian and vehicular passages near residential areas
- Accidental oil spillage shall be well controlled
- Make sure at least three sets of first aid kits are present on the construction site.
- Access to hospitals should not be impeded at any time
- Properly manage trucks and heavy machinery entering and exiting the construction site.
- Training of heavy machinery drivers about road safety
- Equip Project drivers with telephones for contacting the emergency services to enact the EPRP if necessary in case of emergency.
- Keep stakeholders informed of rehabilitation schedule and abide by assigned timing

- Manage the grievance mechanism through which community members can make complaints about project activities
- The community health and safety plan shall cross reference with other relevant management plans such as the TMP and EPRP. Local health care and emergency services shall be consulted in the development of the plan.

**Occupational Health and Safety (OHS) Plan**

In addition, the Contractor will need to develop a site-specific OHS plan to ensure the workers' health and safety against possible accidents and injuries from the various rehabilitation activities. The plan shall be reviewed by the Employer or his designated representative and shall include, inter alia, the following:

- Hazard Identification and assessment including (Physical injuries from: Traffic accidents, Falling from moving vehicles, Loss of stability and overturning of equipment, Falling from height, Hit by construction materials, Slips, trips and falls, Electrical incidents, Burns from hot works, Health problems due to: Fumes and dust, Noise and vibration, Excessive manual handling, Disease outbreaks, Asphyxiation in confined spaces and Fire)
- OHS protection measures for the identified hazards
- OHS protection measures for Unexploded Explosive Ordnance
- Prevention and precaution measures for COVID-19
- Identify the mandatory personal protective equipment (PPE) to be used including hard hats, safety boots, reflective vest as well as specific PPEs
- Identify and manage dangerous substances planned to be used on the project area
- Work Permit System for Confined Space Entry, Hot Works, Excavation, Lifting, Working at Height, Handling of Hazardous Materials, and Electrical works
- Safe Work Method Statements
- Hazard communication
- Emergency and Evacuation procedures
- Accident and incident reporting and investigation
- The Contractor shall implement mitigation measures as per the Occupational Health and Safety Plan. Measures include but not limited to:
- Personnel and visitors to rehabilitation activity areas shall be equipped with a safety helmet, safety shoes and a reflective jacket as a minimum.
- Adequate quantities of PPE shall be available on the project areas and stored properly
- Personnel shall be trained on how to use and care for PPE
- Conduct training and awareness meetings including correct use of PPE, health and safety procedures, and handling hazardous material containers and related wastes
- Ensure refreshing training session on occupational health and safety measures is conducted on a monthly basis
- Ensure that supervision, directly in charge of construction activities, fully brief and discuss with Personnel HS Tool Box Talks at the start of each work day and prior to commencing new activities. These talks shall be conducted in a language understood by the workforce. A checklist shall be utilised for this purpose. At a minimum it shall include the following: Nature of the job, associated hazards, safe working methods to be adopted and requirements of the Permit to Work
- Ensure a minimum of first-aid provisions on any work site, including: suitably stocked first-aid kits; a person, respectively an adequate number of staff appointed and trained to take charge

of first-aid arrangements and ensure that staff and workers are informed about first-aid arrangements

- Equip the project area with a communication system exclusively for the purposes of communication with the first aid services. Information on how to communicate with the first aid services shall be clearly indicated near the communications equipment
- Collaborate with local health authorities and make arrangement with an appropriate number of local doctors, and/or nurses, hospitals and ambulance services to ensure that medical staff, first aid facilities, and ambulance service are available within the project area
- Measures as per national guidelines published by WHO and Ministry of Public Health regarding COVID-19 prevention and quarantine procedures
- Workplace inspections

**Chance Finds Procedure**

The chance find procedure is a project-specific procedure that identify actions necessary if previously unknown heritage resources, particularly archaeological resources, are unexpectedly encountered during project construction phase. Chance Find Procedure will set out how chance finds associated with the project will be managed and will include the following requirements:

- Notify relevant authorities (Directorate of General of Antiquities) of found objects or sites
- Fence the area of finds or sites to avoid further disturbance
- Conduct an assessment of found objects or sites by cultural heritage experts in order to identify and implement actions consistent with the national legal requirements
- Train project personnel and project workers on chance find procedures

# ANNEX 12: PUBLIC CONSULTATION

**Announcement**

## إعلان


عدد الطرق: ١ قضاء: **جزين** طول الطرق الإجمالي: **حوالي ١ كلم**

ضمن إطار مشروع الطرق والعمالة الممّول من قبل البنك الدولي، كلّف مجلس الإنماء والإعمار المكتب الهندسي الإستشاري (ACE) للقيام بالدراسة المفصلة وإعداد ملفات تلزيم لتأهيل طرق محددّة تقع ضمن نطاق قضاء **جزين** كما هو مبين في الخريطة أعلاه.

إن المشروع سيشمل أعمال تصليح جدران دعم (مدخل جزين – المعبور) وأعمال تأهيل حوالي ١ كلم من الطرق المحاذية، حسب المتطلبات الفنية والسلامة العامة وسيتضمن أعمال تزفيت وطبقة أساس وإشارات السير كما أعمال تصليح حواجز أمان، أرصفة، أقنية ومجاري.

ووفقاً لمعايير البنك الدولي، إن المكتب الهندسي الإستشاري يقوم بإعداد خطة إدارة بيئية واجتماعية (ESMP) لهذا المشروع من أجل تحديد ومعالجة وتقليص أي آثار ضارة محتملة أثناء أعمال تنفيذ التأهيل وبالتالي سيتم عقد لقاء عام لعرض مكونات المشروع ومناقشة المواضيع البيئية والاجتماعية المتعلقة بالمشروع يوم **السبت** بتاريخ **٢٩ نيسان ٢٠٢٣** الساعة **العاشرة صباحاً** في **قاعة إجتماعات المجلس البلدي - جزين**.

شاكرين لكم تعاونكم وتجاوبكم، وآملين استمرار التعاون لكل ما فيه خدمة وصحة وسلامة الوطن والمواطن.

## Invitation Sample

المكتب الهندسي الاستشاري ايس ش.م.ل.
شركة مساهمة لبنانية وأسمالها ٣٠٠٠٠٠٠٠٠٠ مدفوع بكامله – سجل تجاري ١٦٥٢٢
Associated Consulting Engineers S.A.L.

بيروت في ١٢ نيسان ٢٠٢٣

٥٧/٠٢٣/L2102

جانب رئيس بلدية وادي جزين المحترم

**المشروع:** **تأهيل الطرق (تمويل من البنك الدولي)**
**قضاء جزين – محافظة الجنوب**

**الموضوع:** **اجتماع مشاركة عامة**

تحية طيبة وبعد،

بالإشارة الى المشروع والموضوع أعلاه، وضمن إطار مشروع الطرق والعمالة الممّول من قبل البنك الدولي، كلّف مجلس الإنماء والإعمار المكتب الهندسي الإستشاري (ACE) للقيام بالدراسة المفصلة وإعداد ملفات تلزيم لتأهيل طرق محدّدة تقع ضمن نطاق قضاء جزين.

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وعليه يسرنا أن نوجه لكم الدعوة للمشاركة في هذه الورشة راجين التكرم بتسمية مندوب من طرفكم للحضور والاتصال للتأكيد مع السيدة كارلا منصور (المكتب الهندسي الاستشاري) على هاتف رقم (٠١/٤٩٧٢٥٠ رقم فرعي ١٢٩) أو فاكس رقم (٠١/٤٩٧٥٥٠).

كما نرفق ربطاً مع هذا الكتاب إعلان لإجتماع المشاركة العامة هذا ونرجو من حضرتكم وضعه حيث ترونه مناسباً ليتمكن سكان البلدة والمعنيين من الإطلاع عليه.

إن هذه الدعوة مفتوحة لأصحاب المنفعة، ضمناً وليس حصراً: منظمات المجتمع المدني والمنظمات الغير حكومية وكافة البلديات المعنية بأعمال التأهيل.

وتفضلوا بقبول فائق الاحترام،

هشام الحاج
مدير المشروع

بلدية وادي جزين
الرئيس غسان حرفوش

**مرفقات:** إعلان الإجتماع

P.O.Box 11-3446 - Fax: 01 - 497550 - Beirut, Lebanon - Tel: 01 - 497250/1/2 - email:ace@ace-intl.com (٠١)٤٩٧٢٥٠/١/٢ ص.ب ١١-٣٤٤٦ - فاكس (٠١)٤٩٧٥٥٠ - بيروت - لبنان - تلفون:

## Attendance Sheet

جلسة مشاركة عامة - الحضور
PUBLIC HEARING - ATTENDANCE SHEET
مشروع الطرق والعمالة في لبنان
ESMP

Date: 29/04/2023
Caza: Jezzine
Venue: قاعة اجتماعات المجلس البلدي - Jezzine

| الامضاء Signature | الهاتف Telephone | الصفة Position | البلدة Town | المؤسسة Institution |
|---|---|---|---|---|
| | 03940276 | Env. and Social Expert | — | CDR - REP PMU |
| | 03/345182 | RE | — | ACE |
| | 71/889919 | Chiffaine de Groupe | Jezzine | Scouts du Liban |
| | 03 760350 | Directrice | Jezzine | M. affaires sociales |
| | 03/670498 | Vice président | Région Jezzine | Saint Vincent de Paul |
| | 78/811303 | Membre de comité | Région Jezzine | Caritas |
| | 71/956433 | Présidente | Jezzine | |
| | 70/569457 | | | |
| | 03/650669 | | | |
| | 05/978519 | | | |
| | 70/136520 | | | |
| | 03/660027 | | | |
| | | | | |
| | | | | |
| | | | | |
| | 81/680180 | | | |
| | 03 968174 | | | |
| | 71/761107 | | | |
| | 70/754889 | | | |
| | 71/391133 | | | |
| | 03/780065 | | | |

جلسة مشاركة عامة - الحضور
**PUBLIC HEARING - ATTENDANCE SHEET**
مشروع الطرق والصلة في لبنان

**ESMP**

**Date:**
**Caza:**
**Venue:**

| الامضاء Signature | الهاتف Telephone | الصفة Position | البلدة Town | المؤسسة Institution |
|---|---|---|---|---|
| | 03/570369 | مدير | جزين | م. جزين المتوسطة |
| | 03/299358 | مديرة | جزين | مديرة الابتدائية |
| | 70727579 | [redacted] | جزين | — |
| | 03/699968 | رئيس بلدية | داعي بلدية | بلدية داعي |
| | 70/397808 | Road Safety Expert | — | ACE |
| | 05 871074 | ACE DIRECTOR | — | ACE |
| | 71/989784 | | مزيرب | بلدية مزيرب |
| | ٠٧٧١٨٧٤ | | مزيرة | بلدية مزيرة |

## Public Hearing Presentation and Photos






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## 3. مراحل إعداد الخطة البيئية والإجتماعية

دراسة إطار السياسات والأطر القانونية

دراسة البيئة الطبيعية والإجتماعية في موقع المشروع

تقدير وتقييم الآثار البيئية المحتملة الناتجة عن المشروع

المشاورة العامة مع المعنيين والمهتمين بالمشروع

تحديد الإجراءات التخفيفية للآثار السلبية

تحديد وسائل الرصد والمراقبة

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## 4. وصف المشروع

### 4.1 الطريق التي سيتم إعادة تأهيلها في قضاء جزين

- مدخل جزين – المعبور

طول الطريق المذكورة أعلاه: 1 كيلومتر تقريباً

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### 4.2 موقع المشروع في قضاء جزين


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### 4.2 موقع المشروع في قضاء جزين


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### 4.3 صور عدة لموقع الأعمال على مدخل جزين

Deteriorated Road Location

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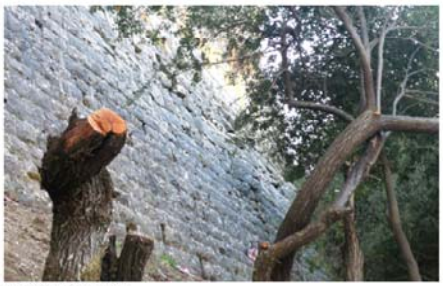
### 4.3 صور عدة لموقع الأعمال على مدخل جزين (تابع)



Deteriorated Stone Wall

13

**4.3 صور عدة لموقع الأعمال على مدخل جزين** (تابع)

Deteriorated Stone Wall

14

**4.3 صور عدة لموقع الأعمال على مدخل جزين** (تابع)

The Side Road

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## 5. ماذا يتضمن المشروع خلال مرحلة التنفيذ؟

**بناءً على الدراسات الهندسيّة، إن أعمال التأهيل المقترحة خلال مرحلة التنفيذ تضمّ التّالي حسب المتطلبات الفنية والسلامة العامة:**

- إنشاء حائط دعم جديد من خوازيق من الباطون المسلّح (Reinforced Concrete Piles) لإسناد الطريق ولوقف تدهور وضع الحائط الموجود، ثم تصليح وأعمال صيانة الحائط الحالي وإبقائه
- إنشاء رصيف بجانب الحائط الموجود + درابزين Fer Forgé للمشاة
- إنشاء قناة للمياه موجودة تحت الرصيف المذكور أعلاه (Inlet)
- إزالة الرصيف الموجود إلى جهة الشير الصخري و تحديد مكانه
- إنشاء و أعمال تزفيت للتحويلة السير أثناء تنفيذ المشروع

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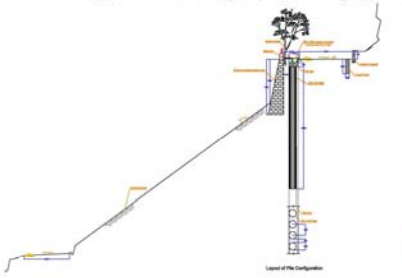
## تأمين/تأهيل جدران دعم إستنادية

- إنشاء حائط دعم جديد من خوازيق من الباطون المسلّح (Reinforced Concrete Piles) لإسناد الطريق ولوقف تدهور وضع الحائط الموجود، ثم تصليح وأعمال صيانة الحائط الحالي وإبقائه



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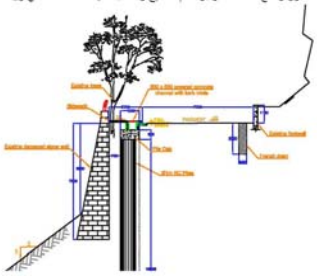
## تأمين/تأهيل جدران دعم إستنادية

- إنشاء حائط دعم جديد من خوازيق من الباطون المسلّح (Reinforced Concrete Piles) لإسناد الطريق ولوقف تدهور وضع الحائط الموجود، ثم تصليح وأعمال صيانة الحائط الحالي وإبقائه



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## تأمين/تأهيل جدران دعم إستنادية

- إنشاء رصيف بجانب الحائط الموجود + درابزين Fer Forgé للمشاة

Balustrade •

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## 5. ماذا يتضمن المشروع خلال مرحلة التنفيذ؟ (تابع)

**بناءً على الدراسات الهندسيّة، إن أعمال التأهيل المقترحة خلال مرحلة التنفيذ تضمّ التّالي حسب المتطلبات الفنية والسلامة العامة:**

- تأمين/تأهيل الطبقات الإسفلتية والأساس
- تأمين/تأهيل إشارات سير و تخطيط الطريق
- تأمين/تأهيل حواجز سلامة جانبية
- تأمين/تأهيل الأقنية والعبّارات لتصريف مياه الأمطار
- تأهيل الأرصفة الموجودة

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## 6. الآثار البيئية والإجتماعية الإيجابية للمشروع

- تقليل الإزدحام المروري وتسهيل التنقل داخل وإلى القضاء
- خلق فرص عمل لأبناء المنطقة والمساهمة في التنمية الإقتصادية المحلية
- المحافظة على السلامة العامة في الطرقات من خلال تقليل حوادث السير والإنجرافات
- تشجيع الشركات المحلية من خلال بيع المواد الخام والآلات والسلع
- إزدهار التنمية الإقتصادية والإجتماعية في المناطق الريفية
- التقليل من تلوث الهواء والغبار

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## 7. الآثار البيئية والإجتماعية السلبية المحتملة للمشروع خلال مرحلة التنفيذ

| النشاط | الأثر المحتمل |
|---|---|
| أعمال بناء أو إصلاح مجاري مياه الأمطار | أضرار على البنية التحتية |
| التخلص غير السليم من النفايات الصلبة | تلوث التربة والمياه |
| إحتمال لحالة حوادث تسرب | تلوث التربة والمياه |
| **التدابير التخفيفية** | |
| • التخلص السليم من النفايات الصلبة الناتجة عن أعمال التنفيذ | |
| • صيانة كافة الآليات بشكل دوري لمنع حوادث التسرب | |

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## 7. الآثار البيئية والاجتماعية السلبية المحتملة للمشروع خلال مرحلة التنفيذ (تابع)

| النشاط | الأثر المحتمل |
|---|---|
| حركة الآليات والمركبات | زيادة إحتمال حوادث السير |
| إنبعاثات الغبار وزيادة نسبة الضجيج | ضرر على السلامة العامة وسلامة العمال |
| **التدابير التخفيفية** | |
| • إدارة حركة المرور أثناء تنفيذ المشروع وتعيين موظف لهذه الغاية | |
| • التأكد من أن الإشارات التحذيرية وأنظمة الإضاءة ظاهرة وموجودة في الأماكن المكتظة وخاصة قرب المدارس والمستشفيات والمناطق التجارية | |
| • حصر أعمال التنفيذ خلال فترة النهار | |

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## 8. الآثار البيئية والإجتماعية السلبية المحتملة للمشروع خلال مرحلة التشغيل

| النشاط | الأثر المحتمل |
|---|---|
| زيادة حركة المرور | زيادة إحتمال حوادث السير |
| زيادة حركة التنقل على الطرق | زيادة إنبعاث ملوّثات الهواء والضجيج والإرتجاجات |
| زيادة الإنسكابات والتسريبات الناتجة عن المركبات المتنقلة | تلوّث التربة والمياه |
| **التدابير التخفيفية** | |
| • الصيانة الدورية للطرق | |
| • صيانة البنية التحتيّة مع تفادي تأثيرها على الطرق | |
| • تقليل حركة مرور الشاحنات الثقيلة بهدف المحافظة على الطريق | |

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## 9. آلية مراجعة الشكاوى

يمكن للأشخاص المعنيين الإستفسار عن معلومات إضافية أو/و تقديم أية شكوى (في حال وجودها) بالتواصل مع وحدة آلية مراجعة الشكاوى من الإثنين حتى الجمعة بين 9:00 صباحاً و15:00 بعد الظهر، عبر:

**الهاتف: 01980096 مقسم 317**

**البريد الالكتروني: GRM.REP@cdr.gov.lb**

**تسجيل كتاب رسمي لدى مجلس الانماء والاعمار**

**(العنوان: تلة السراي - رياض الصلح، بيروت – لبنان)**

كما يمكن إبداء الرأي حول تنفيذ المشروع من خلال تعبئة النموذج الموجود عبر الرابط التالي

**https://cdr.impact.gov.lb/worldbankmobile/home/main?lang=ar**

**أو عن طريق مسح هذا الباركود**

سيكون رأيك مجهول المصدر


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أسئلة ومناقشة عامة
يمكنكم إبداء رأيكم
عبر التواصل مع
المكتب الهندسي الإستشاري
هاتف: 01/497250
فاكس: 01/497550
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أو
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شكـــــراً لحضوركم
ومشاركتكم

# ANNEX 13: GRIEVANCE MECHANISM FORM AND LOG

| | |
|---|---|
| **Reference No:** | |
| **Contact Information**<br><br>**Please mark how you wish to be contacted (mail, telephone, e-mail).** | ☐ **By Post: Please provide mailing address:** _____<br>_____<br>_____<br>☐ **By Telephone:** _____<br>☐ **By E-mail** _____ |
| **Preferred Language for communication** | ☐ **Arabic**<br>☐ **English** |

| | |
|---|---|
| **Description of Incident or Grievance:** | What happened? Where did it happen? Who did it happen to? What is the result of the problem? |
| | |
| **Date of Incident/Grievance** | |
| | ☐ **One time incident/grievance (date _____)**<br>☐ **Happened more than once (how many times? _____)**<br>☐ **On-going (currently experiencing problem)** |
| **What would you like to see happen to resolve the problem?** | |
| | |

Signature: _____

Date: _____

**GM Log Book**

| Name/group of commenter/complainant | Complaint Received date | Description of Issues | Proposed Corrective Actions | Date of Response | Status | | |
|---|---|---|---|---|---|---|---|
| | | | | | Solved | Ongoing | Pending |
| | | | | | | | |
| | | | | | | | |