

GEREDE PV PROJECT

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

KALİ ENERJİ
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LIST OF ABBREVIATIONS

Abbr.	
AC	Alternating Current
AFAD	Disaster and Emergency Management Directorate
Aol	Area of Influence
CA	Contracting Authority
CAPEX	Fixed Investment Cost (Capital Expenditures)
CLO	Community Liaison Officer
DC	Direct Current
DMI	State Meteorological Affairs
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
EMRA	Republic of Türkiye Energy Market Regulatory Authority
ENPV	Economic Net Present Value
ESMP	Environmental and Social Management Plan
EU	European Union
EUR	Euro
FIRR	Financial Internal Rate of Return
FNPV	Financial Net Present Value
FTE	Full-time equivalents
GDP	Gross Domestic Product
GIS	Geographic Information System
GRM	Grievance Redress Mechanism
ILBANK	The General Directorate of Bank of Provinces
kWe	Kilo Watt Electric
kWh	Kilo Watt Hour
kWp	Kilo Watt Peak
LCOE	Levelized cost of energy
MGM	General Directorate of Meteorological Affairs
MoENR	Ministry of Energy and Natural Resources
MW	Mega Watt
MWe	Mega Watt Electric
MWh	Mega Watt Hour
MWp	Mega Watt Peak
Nbhd	Neighbourhood
O&M	Operation and Maintenance
OP	Operational Program
PMU	Project Management Unit of ILBANK
PPP	Public-Private Partnership
PPM	Parts Per Million
PV	Photovoltaic
QA	Quality Assurance
SCP	Sustainable Cities Program
SEP	Stakeholder Engagement Plan
SPP	Solar Power Plant

Abbr.	
TA	Technical Assistance
ToR	Terms of Reference
TEDAŞ	Turkey Electricity Distribution Inc.
TEİAŞ	Turkey Electricity Transmission Inc.
TTK	Türkiye Taş Kömürü İşletmesi- Türkiye Hard Coal Cooperation
TUBITAK	Scientific and Technological Research Council of Turkey
TURKSTAT	Turkish Statistical Institute
TUIK	Turkish Statistical Institute
WB	World Bank

1. EXECUTIVE SUMMARY

Bolu Province Solar Power Plant project is being designed within Gerede Municipality with a capacity of 1.196,82kWp / 990 kWe for the Project. Project will be carried out belongs to the Project Owner and there is no need for land acquisition within the scope of the Project.

The Project is one of the sub-projects under the Sustainable Cities Project-II - Additional Financing (SCP-II-AF) by World Bank financing to support sustainable development in cities in Turkey.

The investments to be realized under the Project will be in compliance with both the Environmental Legislation of the Republic of Turkey and the WB Safeguard Policies. ILBANK will act as the financial intermediary to ensure compliance with relevant WB policies and procedures. All Turkish environmental approvals, licenses and permits are required to be obtained under the project and should be submitted as an annex to the report.

There are potential risks related to the use of maintenance oils for vehicles and machinery during both the construction and operation phases. To prevent any negative impacts on soil quality, it is crucial to ensure that proper handling and containment measures are in place for chemicals and hazardous materials used on-site. Inadequate management of generated wastes, such as fuel oil from vehicles and machinery, could lead to soil contamination and degradation. However in light of the absence of fuel oil or comparable storage facilities at the project site, the likelihood of spill-related accidents is not foreseen.

During the construction phase of the solar power plant project, there is a potential for dust emissions from machinery mobilization activities. To manage potential dust emissions during machinery mobilization, dust control measures will be implemented. These measures may include the use of water sprays, dust screens, and other dust suppression techniques to minimize the dispersion of airborne particles. Regular monitoring will be conducted to ensure compliance with the air quality standards and to promptly address any issues that may arise.

There is an expected emission of air pollutants resulting from the simultaneous operation of construction machinery during the project activities in the project area. These emissions arise from the use of diesel fuel in the machinery and equipment used on-site, and the impact area of the exhaust emissions is limited to the immediate activity area where the construction works will take place. To assess the potential impact, the mass flow rates for air emissions from the construction machinery has not been calculated since there will be no excavation and only heavy machinery will be a small-scale crane, an excavator and a truck.

To ensure ongoing adherence to environmental standards, it is recommended to implement best practices for machinery maintenance and operational procedures. Additionally, regular monitoring and inspection should be conducted throughout the construction and operational phases of the solar power plant project to confirm that emission rates remain within acceptable limits. During the operation of machinery and assembling works within the scope of the project, noise is expected to be generated. It is essential to recognize that noise emissions can have potential negative impacts on workers, local residents, and animals in the surrounding area of the project site.

To ensure the well-being of the local community and prevent any potential disturbances, night operations will not be conducted on the project site. In the event of any noise-related grievances, immediate action will be taken to address the concerns and implement preventive measures.

The water demand for suppression of dust generated in the project area due to the construction works will be met using Bolu or Gerede Municipality's Water Trucks and the

infrastructure of the municipality will be used for water supply. During the construction, potable water and the water used in dust suppression will be supplied from the water supply network in the district.

Since there will be a limited number of personnel activities in the project area for both construction and operation phases, no negative effects or stress are expected in groundwater and surface water resources, thus no calculations in this respect is included in economic analysis. It is probable that municipal wastes (solid waste and wastewater) will be generated from the personnel to be employed during the activities to be carried out within the scope of the project. In addition, it is possible to generate waste arising from the activities to be carried out within the scope of construction activities (use of construction equipment, assembly works, etc.) and during the maintenance and repair works during the operation phase.

During the construction phase of the project, petroleum-based products, such as lubricants, hydraulic fluids or fuels, may result in the potential for release into the environment during storage, transportation or use in equipment. Additionally, contaminated / oily fabrics, cloths and filters, contaminated packaging materials, toner cartridges, paint residues, fluorescent tubes, cleaning cloths and filters, hazardous insulating materials and pressurized tubes are other hazardous wastes that are likely to be generated.

The ratio of recyclable packaging waste is in metropolitan cities in Türkiye as follows. 48 kg/P-year paper and board, 14 kg/P-year plastic, 6 kg/P-year nylon, 8 kg/P-year metal, 8 kg/P-year glass, in total 84 kg/P-year¹.

$$\begin{aligned} & \text{Daily Amount of Packaging Waste to be Generated} \\ &= 5 \text{ person} \times \frac{84 \text{ kg}}{\text{person} \times \text{year}} \times \frac{1 \text{ year}}{365 \text{ day}} \cong \frac{2.3 \text{ kg}}{\text{day}} \end{aligned}$$

Packaging wastes made of plastic, metal, glass, paper and board, composite and similar materials should be collected separately from other wastes and given to Packaging Waste Collection, Segregation and Recovery Facilities licensed by the MoEUCC.

Hazardous wastes that are likely to be generated during the construction phase will be collected separately in specific vessels / containers at the construction site and stored in a specific area that is established on the concrete floor. The waste generated should be temporarily stored at their source in line with the criteria set based on their types. The temporarily stored waste will be labeled with the phrase 'hazardous or non-hazardous waste' as well as the waste code, the amount of waste stored and the date of storage.

These wastes will be delivered to licensed disposal / recycling facilities with separate waste codes. Hazardous wastes will be transported by licensed vehicles within the scope of the "Communiqué on the Waste Transportation by Road".

During the construction phase, workers may be exposed to a range of hazards, such as exposure to noise, dust, heat, hazardous chemicals, working at height, working with electrical equipment's, working with small cranes etc. All employees who work at height need suitable training in working on different pieces of equipment, and such work must be planned appropriately. Safety approaches and precautions should be adopted, such as: Where practical, avoid the need to work at height. Sites should always be planned to manage plant and pedestrian interface where physical barriers and suitable segregation is in place. Managers and Site supervisor on construction sites must effectively manage the site so that workers can move around it safely. Risks should always be reported and sorted to reduce the chances of injury. In civil engineering, strikes to services are common. The strikes happen when excavation is undertaken without adequately checking the ground for existing services. Consequently, incidents can easily be avoided by using technology such as CAT and Genny

¹ Solid Waste Management and Recovery, Environmental Protection and Packaging Waste Recovery and Recycling Foundation (ÇEVKO) Publications

scanning equipment to scan an area and foresee potential services and prevent service strikes.

Employees will receive adequate information about job descriptions, responsibilities and risks that may threaten occupational health and safety. Employees will be provided with the necessary personal protective equipment that meet national and international standards as well as information on work and occupational safety provided through regular training.

2. PROJECT DESCRIPTION

Solar Power Plant project in Bolu Province is designed with a capacity of 1.196,82 kWp / 990 kWe within the Municipality of Gerede. Planned Solar Power Plant will be equipped with 545 Wp MonoPerc Half-Cut modules with 30° tilt, 0° azimuth angle. The plant will meet the energy of more than 350 households with 1.576,00 kWh/year of electrical energy production. Project area will be on 17.600,00 m² of land in Sofular Village, Gerede, parcel no:386, block no:0. The entire project area belongs to the municipality and no expropriation has been made. The transmission line to be established for SPP is 300 meters and passes through the SPP site. Therefore, there is no need for expropriation. Project area and the project parcel are given below in **Hata! Başvuru kaynağı bulunamadı..**



Figure 2-1 Project Area

As per WB O.P. 4.01, projects are classified in categories A, B or C depending on the severity of their potential impacts on the environment. The Project is specified as Category B project, with resulting in minimum or no environmental and social issues. Accordingly, an Environmental and Social Management Plan (ESMP) was prepared for the Project in order to avoid, reduce and mitigate the environmental and social impacts of the Project and to plan the participation of the project stakeholders in the process. Except for ESMP, Project Identification Document (PID) is prepared for the Project. Moreover, according to the Turkish EIA Regulation published in the Official Gazette dated 29.07.2022 and numbered 31907 this project is

considered as out of scope. Status of national EIA process is given in Figure 8-2 and Figure 8-3

Since the construction works for the Project will be carried out in an area close to the neighborhood center, it is foreseen that no accommodation will be established for the employees at the project site. However, containers can be placed on the project site for those who will work on the project to rest, eat and also for sanitary facilities. These containers will meet standards for worker accommodation prepared by International Finance Corporation (IFC) and European Bank for Reconstruction and Development (EBRD) and approved by the WB². The time schedule of the project is given in **Hata! Başvuru kaynağı bulunamadı.** below.

No	Year	2023	2024															
	Month	11	12	1	2	3	4	5	6	7	8	9	10	11	12			
Gerede SPP																		
	Preparation of Tender Documents and Finalization of Tender																	
	SPP Main Material Orders - Equipment Arrival to the Site																	
	Equipment Installation																	
	Facility Provisional Acceptance																	
	Third Party Controlling																	
	Defects Liability Period																	

Table 2-1 Time Schedule of the Project

It is expected to implement the tender in the period between December 2023 and February 2024, main material orders and equipment installation period between March 2024 and June 2024. It is anticipated that the project will serve the public for 30 years.

Ownership of the project area belongs to the project owner and there is no need for any land acquisition/expropriation within the scope of the project.

Project plays a pivotal role in advancing the transition to renewable energy, addressing the critical need to mitigate climate change. By harnessing solar energy, it substantially reduces greenhouse gas emissions and aligns with global efforts to combat environmental degradation.

Moreover, the Solar Power Plant contributes significantly to energy independence and security in the region. With its capacity to generate 1.576.000,00 kWh/year of electricity, it reduces dependence on external energy sources, thereby enhancing the stability of the local grid and ensuring a consistent energy supply.

Environmental stewardship is another critical aspect of this project. It reduces air pollution and carbon emissions associated with conventional energy sources, while also demonstrating a

² "Workers' accommodation: processes and standards A guidance note by IFC and the EBRD." Retrieved from <https://documents1.worldbank.org/curated/en/604561468170043490/pdf/602530WP0worke10Box358316B01PUBLIC1.pdf>, accessed on November 21, 2023.

commitment to responsible land use. The project adheres to international environmental standards and includes an Environmental and Social Management Plan (ESMP), underscoring its dedication to sustainable practices.

3. LEGAL AND INSTUTIONAL FRAMEWORK –

3.1. National Legislation

Table 3-1 presents the summary of national laws and regulations aiming to minimize the potential environmental and social impacts that may arise during the construction and operation activities of the Project.

Table 3-1. National Environmental and Social Legal and Policy Framework

National Environmental, Legal and Political Framework	
Environmental Impact Assessment	
Environmental Law	Law No: 2872; Date of Ratification: 1983
Regulation on Environmental Impact Assessment	Official Gazette No. 31907 dated 29 July, 2022
Environmental Permit and License Regulation	Official Gazette No. 29115 dated 10 September 2014
Water	
Groundwater Law	Law No: 167, Date of Ratification: 1960
Water Pollution Control Regulation	Official Gazette No. 25687 dated 31 December 2004
Regulation on the Monitoring of Surface and Groundwater	Official Gazette No. 28910 dated 29 December 2012
Regulation on Water Intended for Human Consumption	Official Gazette No. 25730 dated 17 January 2005
Air	
Regulation on Air Quality Assessment and Management	Official Gazette No. 26898 dated 06 June 2008
Exhaust Gas Emission Control Regulation	Official Gazette No. 30004 dated 11 March 2017
Regulation on Control of Exhaust Gas	Official Gazette No. 30004 dated 11 March 2017
Soil	
Soil Conservation and Land Use Law and Applicable Regulation	Official Gazette No. 25880 dated 03 July 2005
Regulation on Control of Soil Pollution and Point Source Contaminated Lands	Official Gazette No. 27605 dated 08 June 2010
Noise	
Regulation on the Ambient Noise Emission Caused by Equipment Used Outdoors	Official Gazette No. 26392 dated 30 December 2006
Regulation on Assessment and Management of Environmental Noise	Official Gazette No. 27601 dated 04 June 2010
Energy Efficiency	
Energy Efficiency Law	Official Gazette No. 5627 dated 2 May 2007
Waste	
Waste Management Regulation	Official Gazette No. 29314 dated 02 April 2015
Regulation on the Control of Waste Electrical and Electronic Equipment	Official Gazette No. 28300 dated 22 May 2012
Regulation on the Control of Excavation Soil, Construction and Demolition Wastes	Official Gazette No. 25406 dated 18 March 2004
Packaging Waste Control Regulation	Official Gazette No. 30283 dated 27 December 2017

National Environmental, Legal and Political Framework	
Medical Waste Control Regulation	Official Gazette No. 29959 dated 25 January 2017
Regulation on the Control of Waste Batteries and Accumulators	Official Gazette No. 25569 dated 31 August 2004
Medical Waste Control Regulation	Official Gazette No. 29959 dated 25 January 2017
Regulation on the Management of Waste Oils	Official Gazette No. 30985 dated 21 December 2019
Waste Vegetable Oil Control Regulation	Official Gazette No. 29378 dated 06 June 2015
Regulation on the Control of End-of-life Tires	Official Gazette No. 26357 dated 25 November 2006
Communiqué on the Transport of Wastes by Road	Official Gazette No. 29301 dated 20 March 2015
Zero Waste Regulation	Official Gazette No. 30829 dated 12 July 2019
Nature Conservation	
Forestry Law	Official Gazette No:6831 dated 05 June 1986
National Social Legal and Policy Framework	
Community Health and Safety	
Public Health Law	Law No: 1593, Date of Ratification: 1930
Health and Safety Signs Regulation	Official Gazette No. 28762 dated 11 September 2013
Highway Traffic Regulations	Official Gazette No 23053 dated 18 August 1997
Labor and Working Conditions	
Occupational Health and Safety Law	Law No: 6331, Date of Ratification: 2012
Regulation on Contractors and Sub-contractors,	Official Gazette No. 27010 dated 27 September 2008
Labor Law (No. 4857)	Official Gazette No. 25134 dated 10 June 2003
Law on Trade Unions and Collective Bargaining Agreements	Official Gazette No. 28460 dated 7 November 2012
First Aid Regulation	Official Gazette No. 29429 dated 29 July 2015
Regulation on Health and Safety Requirements for the Use of Work Equipment	Official Gazette No. 28628 dated 25 April 2013
Regulation on Procedures and Principles of Occupational Health and Safety Training of Employees	Official Gazette No. 28648 dated 15 May 2013
Stakeholder Engagement	
Laws on Right to Information (No. 4982)	Official Gazette No. 29186 dated November 25, 2014

3.2. International Standards

WB governs projects and activities by the Safeguard Policies to assure that they are conducted in an environmentally, financially and socially sound manner. Safeguard Policies include Environmental and Social Assessments and other instruments that address adverse environmental and social effects of projects as well as their prevention, reduction and mitigation. These policies are expanded in the “World Bank Operations Manual” that provides further guidance on the Operational Policies (OP) and compilation.

The World Bank Group's (WBG) General Environmental, Health and Safety (EHS) Guidelines should be adopted for this project. For this reason, this project will meet the relevant requirements of EHS Guidelines. If national regulations differ from the levels and measures presented in EHS Guidelines, the more stringent one will apply.

Türkiye is a signatory to many international agreements, including the:

- Stockholm Convention on Organic Pollutants,
- Convention on Long-range Trans-Boundary Air Pollution (CRLTAP),

- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade,
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal,
- Kyoto Protocol regarding to the United Nations Framework Convention on Climate Change,
- Montreal Protocol on Substances that Deplete the Ozone Layer,
- Barcelona Convention for the Protection of Marine Environment and the Coastal Region of the Mediterranean,
- Vienna Convention for the Protection of the Ozone Layer,
- Protocol on Environmental Protection to the Antarctic Treaty,
- ILO Conventions;
 - ILO Convention on Forced Labor,
 - ILO Convention on Freedom of Association and Protection of the Right to Organize,
 - ILO Convention on Right to Organize and Collective Bargaining,
 - ILO Convention on Equal Remuneration,
 - ILO Convention on Abolition of Forced Labor,
 - ILO Convention on Discrimination (Employment and Occupation),
 - ILO Convention on Minimum Age,
 - ILO Convention on Worst Forms of Child Labor,
- Paris Agreement.

4. E&S SCREENING

In accordance with the Environmental Impact Assessment Regulation (29.07.2022/31907) and World Bank Operational Policies (WB OP's), the proposed solar power plant project on Gereede Municipality land will be evaluated for its environmental and social impacts.

The solar power plant falls under the category of solar power plants listed in Annex-1 and Annex-2 of the Environmental Impact Assessment Regulation. However, since the installed power is below 1 MWm, it is considered to be outside the scope of the Environmental Impact Assessment Regulation.

In order to comprehensively address any potential environmental and social risks and impacts associated with the project, an Environmental and Social Management plan will be developed, aligned with the World Bank Environmental and Social Safeguard Policies. The plan will be prepared if deemed necessary based on the findings of the environmental and social checklist for the project.

WB governs projects and activities by the Safeguard Policies to assure that they are conducted in an environmentally, financially and socially sound manner. Safeguard Policies include Environmental and Social Assessments and other instruments that address adverse environmental and social effects of projects as well as their prevention, reduction and mitigation. These policies are expanded in the "World Bank Operations Manual" that provides further guidance on the Operational Policies (OP) and compilation. The following Operational Policies are triggered for this project and included within the framework of environmental and social assessment;

Environmental Assessment Policy (OP 4.01)

The purpose of this policy is;

- To ensure the projects proposed for Bank financing are environmentally and socially sound and sustainable,
- To inform decision-makers about the nature of environmental and social risks, and
- To increase transparency and involvement of decision-makers in the decision-making process.

For the purposes of the WB O.P. 4.01, projects are classified in categories A, B or C depending on the severity of their potential impacts on the environment:

Category A projects; projects with impacts which could potentially result in significant and diverse environmental and/or social impacts and issues in the future and which could not be easily identified at the time of classification.

Category B projects; projects with environmental and/or social impacts that are specific to the location of the facility and/or with impacts that could be easily identified and prevented.

Category C projects; projects resulting in minimum or no environmental and social issues.

FI projects; financial intermediation activities.

This Environmental and Social Management Plan has been prepared by the Project Owner for the investments defined and outlined within the scope of the Project as required by the WB OPs.

The operational policies listed above were determined considering the scope of the project as well as the geographical, natural and demographic structure of the region. Upon the assessment, the project category was regarded as Category B.

Natural Habitats (OP 4.04);

- If the potential impact of a subproject on natural habitats is significant or if the impact is on critical natural habitats, the top priority will be to tackle the problem by identifying a new location. If this is not possible, appropriate mitigation measures will be adopted for the relevant circumstances.
- The construction works under the project will not affect critical habitats as there is no critical habitat in its immediate vicinity. The project area is a natural habitat, construction works may affect natural habitats.

Physical Cultural Resources (OP 4.11);

- Buried properties (e.g. tombs or mounds) can be identified during project-related studies during land preparation.

Involuntary Resettlement (OP 4.12);

- Involuntary resettlement may cause severe long-term hardship, impoverishment, and environmental damage unless appropriate measures are carefully planned and carried out.
- For these reasons, the overall objectives of the Bank's policy on involuntary resettlement are the following:
 - Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
 - Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.

The Project has been evaluated according to the Involuntary Resettlement Policy and no land acquisition is required under the Project.

The World Bank Group's (WBG) General Environmental, Health and Safety (EHS) Guidelines should be adopted for this project. For this reason, this project will meet the relevant requirements of EHS Guidelines. If national regulations differ from the levels and measures presented in EHS Guidelines, the more stringent one will apply.

5. BASELINE

5.1. Project Area

Gerede is a district in Bolu Province in the Black Sea region of Turkey. Bolu is surrounded by Bolu and Düzce to the north, Sakarya to the northwest, Bilecik and Eskişehir to the southwest, Ankara to the south, Çankırı to the east and Karabük to the northeast. Gerede Municipality, plans to establish a project area in the vicinity of Sofular Village. The project area belongs to Gerede Municipality and the project area covers an area of 17.600,00 m². Closest settlement to Project area is situated at a distance of 250 meters. Additionally, there is a dormitory and a university 935 meters and 1270 meters away from the project area, respectively. The Area of Influence (AoI) is taken as the project area and its vicinity (100 m). Settlements and other locations that may be affected by the project are given in the Figure 5-1 below. **Hata! Başvuru kaynağı bulunamadı.**

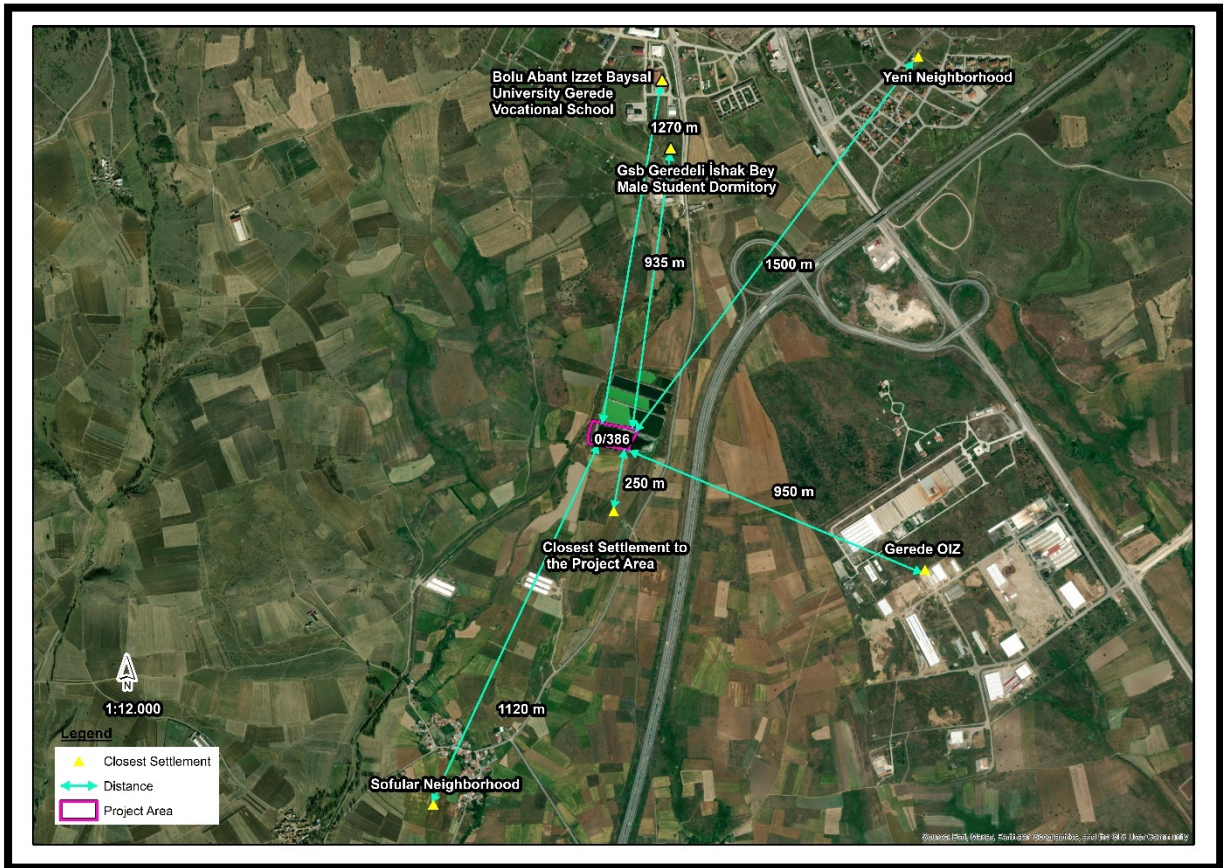


Figure 5-1 Closest Settlements to the Project Area

According to sunshine duration and radiation data measured by TSMS (Turkish State Meteorological Service) from 1971 to 2000, Turkey's annual mean total sunshine hours are 2573 (daily mean is 7 h) and mean total radiation is 1474 KWh/m²-year (daily 4 KWh/m²). Bolu's annual mean total sunshine hours are 1983 (daily mean is 5,4 h) and mean total radiation is 1311 KWh/m²-year (daily 3,6 KWh/m²). The inclination of the solar panels, set at 30 degrees, is determined as the optimum tilt for Turkey. This specific angle ensures that the panels can harness the maximum benefit from the varying solar elevations throughout the year, even when fixed at a constant angle. The Project area, located in the western regions of

Gerede district, shows direct normal irradiation of approximately 1592.3 kWh/m² and Gerede district, located eastern regions of Bolu province, shows direct normal irradiation of approximately 1571.0 kWh/m². The project area and its surroundings are seen as the region with the highest irradiation in Gerede district.

According to the Corine Land Cover Data, the project area, which consists of one parcel, consists of Constantly irrigated lands. Agricultural areas, pastures and industrial sites are seen in the immediate vicinity of the project area. There are no national or international protected areas in or near the project area. The map showing land use and habitats in the project area and its surrounding is given in Figure 5-2 below.

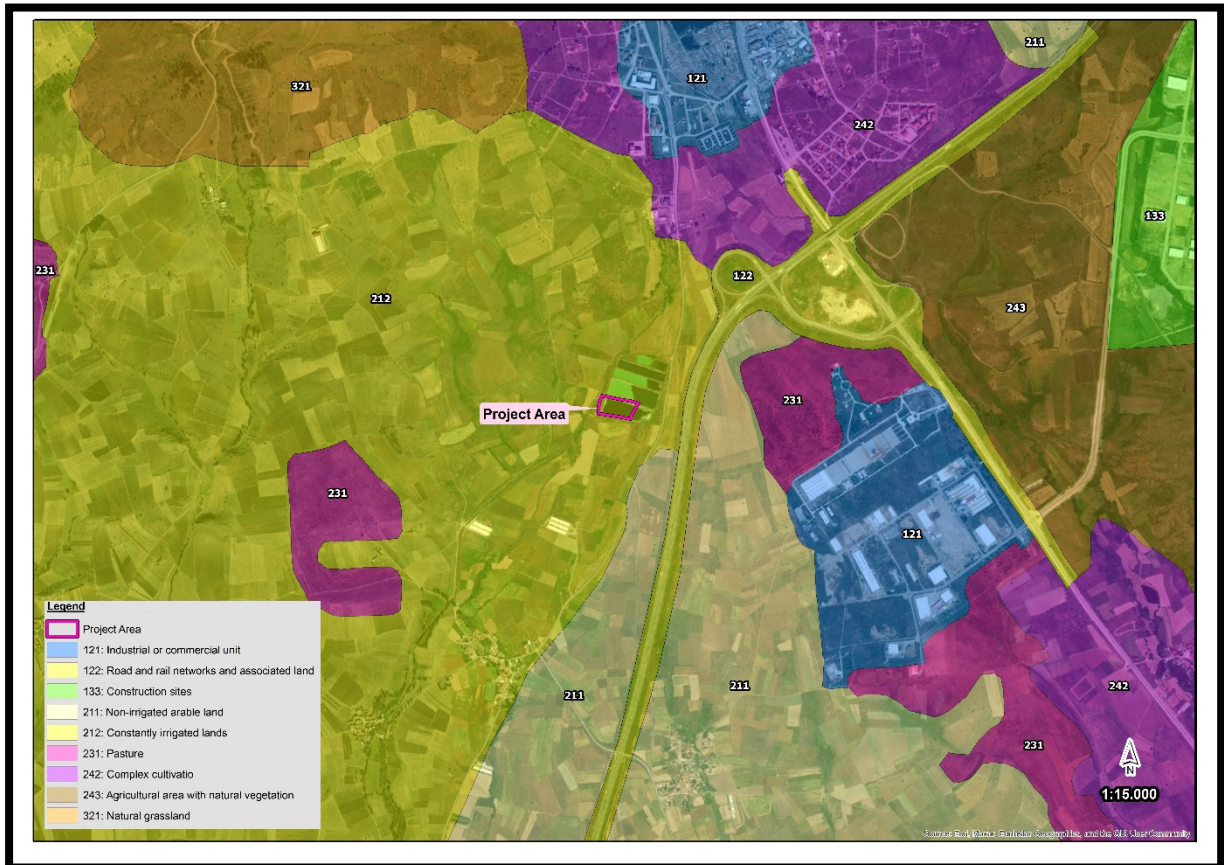


Figure 5-2 Habitats and Land Use in the Project Area

According to the results of the population registration system as of 2022, there are a total of 172 people, 91 men and 81 women, in the Sofular Village of Gerede district, where the project area is located.

The nearest house to the project area is 250 meters away and closest settlement area is 1.220 meters away. There is Gsb Geredeli İshak Bey Male Student Dormitory 950 meters north of the project area and Bolu Abant İzzet Baysal University Gerede Vocational School 1270 meters north of the project area.

Natural and Cultural Resources

The immediate vicinity of the project area does not contain any notable natural or cultural resources.

5.2. Project Land Use Rights

As per the information obtained from Gerede Municipality, the land in question is under the exclusive ownership of Gerede Municipality. Therefore, there is no need for any land expropriation or acquisition procedures, as the land is already the property of the Municipality.

5.3. Socioeconomic Situation

Due to the unavailability of detailed socioeconomic statistics specific to Gerede District, the analysis has been extended to include Bolu Province, offering a broader perspective that reflects the overall conditions in the region. Demographic statistical data of Bolu Province is given in Table 5-1 below.

Table 5-1 Demographic statistical data of Bolu Province

	Total Population	Net Migration Rate	Household Population	Median Age
2021	320.014	13,55	2,88	37,1
2022	320.824	4,77	2,83	37,5

5.3.1. Bolu

Bolu's economy is multifaceted, relying on agriculture, trade, industry, and services. Animal husbandry, particularly in the poultry sector, plays a vital role, contributing significantly to white meat production in Turkey. The industrial landscape consists mostly of small and medium-sized enterprises, focusing on various sectors like food, forestry, furniture, leather, glass, electrical equipment, coal, weaving, clothing, and cement. While the central city houses most industrial facilities, districts like Seben, Dörtdivan, Kıbrısık, and Göynük primarily depend on agriculture and lack substantial industries. Gerede specializes in leatherworking, while Mudurnu excels in chipboard production, tahini, halva, and poultry. Mengen's industry centers around forest products, and Yeniçağa's economy thrives on transportation.

In 2022, Bolu's top animal products included poultry meat, milk, red meat, fish, and honey, which significantly contribute to the local and national economies.

The district situated in the eastern part of Bolu Province encompasses an area of approximately 1,059 km², with a population of 34,646. Traditional crafts like copperwork, leather manufacturing, blacksmithing, and carpentry underpin the local economy. The district boasts historical landmarks such as Asar Castle, Keçi Castle, Kiliseli Han, and various mosques and shrines.

The northern highlands, particularly in the Esentepe and Arkut Mountains, offer excellent recreational opportunities, with Gerede Highlands being ideal for highland tourism. Winter sports and skiing are possible in the Esentepe and Arkut Mountain regions, and during the summer, residents and visitors can enjoy sports, camping, and picnicking.

5.4.1.1. Socioeconomic Development

In the 2017 Socioeconomic Development Index (SEGE) study conducted by the General Directorate of Development Agencies, Bolu province secured the 13th position out of the 81 provinces assessed, placing it in the 2nd tier of the socio-economic development ranking.

5.4.1.2. Main Labour Force Indicators

When the main indicators such as employment rate, labour force participation rate and unemployment rate for the years 2021-2022 are examined, it is seen that the labour force participation and employment rates in the TR42 region, where Bolu is located, are higher than the rates of Türkiye in general, and the unemployment rates are lower than those of Türkiye. Main Labour Force Indicators in TR42 Region and Türkiye are given in Table 5-2 below.

Table 5-2 Main Labour Force Indicators

Main Labour Force Indicators	Labour force participation rate (%)		Employment Rate		Unemployment Rate	
	2021	2022	2021	2022	2021	2022
TR42 (Bolu, Yalova, Düzce, Kocaeli, Sakarya)	%52,5	%56,7	%47,5	%50,9	%9,6	%10,1
Türkiye in General	%51,4	%53,1	%45,2	%47,5	%12	%10,4

Source: TURKSTAT

5.3.2. Gerede

Gerede, in the past, served as an essential stopover for Silk Road traders. However, as the Silk Road lost its significance, the local economy relied on self-sustained production. The activation of Ankara, Istanbul, and Eastern Black Sea highways sparked economic growth. Recent years have witnessed rural-to-urban migration, the establishment of new businesses, increased construction, and a rise in transportation options, necessitating the creation of new job opportunities.

Gerede's industrial landscape comprises key establishments, with a focus on leather manufacturing and two mixed-organized textile facilities. Additionally, carpenters, some of whom operate in the auto industry, have ventured into furniture manufacturing. While agriculture, animal husbandry, forestry, and small businesses remain fundamental, residents have increasingly turned to economic investments, especially in the district center.

The primary livelihoods are centered around agriculture, animal husbandry, and forestry, with most locally produced items such as oil, yogurt, cheese, poultry, and agricultural products consumed by the district's residents. Some villages engage in bone combing, and during construction seasons, part of the male population seeks employment in nearby cities as masons, painters, construction molders, blacksmiths, and carpenters. A considerable number of Gerede's population work abroad, with a lack of collective workplaces leading to self-employment for most. Efforts to enhance vocational education have been made in recent years through the Apprenticeship Training Center and the Industrial Vocational High School.

Proximity to significant industrial centers like Ankara, Izmit, and Karabük has led to out-migration. Notably, the Gerkonsan Steel Construction and Technological Equipment Factory, situated alongside the D100 highway at the Ankara exit, plays a vital role in the local economy.

Leather workshops, Gerede's oldest businesses, have been operating since the city's establishment. Currently, Gerede is home to the second-largest raw leather processing

industry in Turkey, following Istanbul. The sector has made strides toward organized industrial development, with around 120 workplaces and 450 artisans producing leather bought by traders from major centers across Turkey.

According to the 2022 Socio-Economic Development Ranking Research (SEGE) of Districts, conducted by the General Directorate of Development Agencies, Gerede boasts a socio-economic development index in the third level, ranking second among the nine districts in the region

6. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The activities to be performed in the scope of the Project are presented in 6.1. Mitigation Plan for the Project and considered for the assessment of the best practice mitigation measures identified for the Project.

The activities to be carried out within the scope of the Project will be in compliance with the most up-to-date national legislation and WB standards. Where Turkish legislation differs from WB Policies, the stricter one will be applied for the implementation of the Project.

The monitoring, review and audit program detailed in 6.2 Monitoring Plan for the Project will be implemented during construction and operation phases to monitor the implementation of the environmental and social commitments of the ESMP requirements. Monitoring for the implementation of mitigation measures and commitments provided in the ESMP will be carried out continuously by the contractor and Project Owner in line with Monitoring Plan starting from the Construction Project. Project Owner will audit the Project every six (6) months during the construction period and once a year during the operation period. The Project Owner will be responsible for ensuring that the Contractor and its subcontractors comply with applicable national/international regulations and lenders' requirements.

6.1. Mitigation Plan for the Project

No.	Topic	Definition of Potential Impact	Type of Impact	Impact Significance Before Mitigation	Cost	Measures to be Taken	Responsibility	Key Performance Indicators
C1	Disclosure	Insufficient information	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Before the start of construction works, the local people and all relevant stakeholders will be informed of the works to be performed and the measures to be taken. The information on the start and finish dates of construction and working periods and the permits obtained from the provincial/district municipality will be shown by the operations owner in a signboard that is easily visible to all personnel at the construction site. 	Contractor Project Owner	<ul style="list-style-type: none"> Number of grievances Percentage of closed grievances within the target timeframe
C2	Occupational Health and Safety (OHS)	Inadequate workers health and safety conditions	Adverse	High	Included in construction costs	<ul style="list-style-type: none"> The Project management unit to be formed by the Project owner and the contractor's project team will include staff(s) (at least one environmental and one social expert and one full time Class A OHS expert) who will take part in full-time and effectively control the implementation of the Project and, Project Owner will make sure that the measures provided below are taken by the contractor, and enforce necessary actions/sanctions in case lack of these measures on site. To control the cases (fire, earthquake, etc.) which may occur during the construction activities under the Project, and which require urgent action, an EPRP and an OHS Management Plan will be prepared and shared with all employees. The Project Owner will require all employees and contractors to adhere to local and international health and safety legislation and guidelines. Workers will be provided with all necessary personal protective equipment (PPE) (hard hats, safety harnesses, protective coveralls, glasses, gloves, armor-clad shoes, etc.). Appropriate hand and face washing facilities will be provided to the employees, and also shower facilities for dusty works. Technical and OHS legal basic training, orientation and on the job training including the code of conduct indicating the possible risks regarding the work site and works to be carried will be given to workers by the contractor. Training will also be given on risks that may arise due to changes in workplace or job, change of work equipment, application of new technology. Information and training activities will be carried out not only for the employees, but also about the measures to be taken for community health and safety. All employees will be informed about working conditions, job definitions, responsibilities, relations with the local community and potential work risks and precautions. Workers will be required to comply with all OHS regulations and necessary inspections will be made additionally workers also should have professional competency certificates for the specific tasks. The contractor formally agrees that all work will be carried out in a safe and disciplined manner and is designed to minimize risks on neighboring residents and environment. All activities will be implemented in line with both the Law on Occupational Health and Safety and its relevant regulations, and also the WBG EHS Guidelines. The contractor will assign full-time personnel with Class A certification and experience in charge of OHS and she/he shall monitor the site implementations. Before the construction works start, a Risk Assessment study will be implemented for all works to be carried out and legal OHS training for the team should be completed. EPRP will be prepared and put into practice. Both the Risk assessment and EPRP will take into consider communicable disease risks. Emergency teams will be formed, and drills and training programs will be carried out in line with emergency scenarios. Employees will have a good command of emergency plans, and the grievance will be reported to the authorized teams and resolved, if they require urgent action. Appropriate signposting of the sites will be provided and then workers will be informed of key rules and regulations to follow. OHS trainings and toolbox talks will be provided to the employees including the code of conduct indicating the possible risks regarding the work site and works to be carried out. These will include regular trainings to workers on COVID-19 symptoms, how to be protected and what to do when symptoms appear. First aid kit will be kept available at the construction site, taking into account that first aid response may be required before the casualty is referred to the nearest healthcare provider. Both trainings and incidents (fatalities, near misses, lost time incidents, any significant events including spills, fire, outbreak of pandemic or communicable diseases, social unrest, etc.) will be recorded. In the event of any significant incident (e.g. environmental, social, labor or lost-time incidents) the Contractor shall immediately notify Gerede municipality shall inform ILBANK and WB within three business days. Then, within 30 days, a report on the root 	Contractor Project Owner	<ul style="list-style-type: none"> % of scheduled HSE Inspection % of attendance at HSE meetings % of closing of Non Compliance Reports (NCRs) Reporting safe observations Reporting unsafe observations Reporting near misses % of Toolbox attending % of Risk Assessment compliance % of Legal Requirements compliance Results of scheduled audits HSE training carried out to training matrix > 90% of all training to matrix % of attendance at scheduled trainings Engagement in HSE program by individual managers and supervisors Engagement in HSE program by contractor's

No.	Topic	Definition of Potential Impact	Type of Impact	Impact Significance Before Mitigation	Cost	Measures to be Taken	Responsibility	Key Performance Indicators
						<p>causes of the incident and the corrective actions to be taken will be presented to ILBANK and WB.</p> <ul style="list-style-type: none"> Guidance, directives and recommendations of Ministry of Health, Ministry of Family and Social Services, WHO and the WB shall be followed and all relevant necessary measures shall be taken, both for occupational health and safety of employees and for workplaces, in case of an outbreak of any other pandemic/communicable disease including COVID-19. Areas where excavation work is to be carried out will not be accessible other than the authorized personnel. The loading and unloading activities shall be carried out together with the persons to oversee the personnel to carry out the activity. Daily work permit system will be implemented for all excavation works. Since the works will be performed at areas close to the public, the public access to these areas shall be restricted by any means. If a trench needed to be left open for night, the sufficient illumination of the area shall be ensured by the Contractor and necessary signs shall be placed, and the area shall be enclosed with physical robust barriers without leaving any space between them. Installation of concrete molds, concreting, installation of water tank etc. may require working at height, working in confined space etc. Therefore relevant procedures such as Confined Space Entry Procedure, Working at Height Procedure, etc. will be prepared in accordance with applicable national requirements and internationally accepted standards. Adequate and appropriate training in confined space hazard control, atmospheric testing, use of required PPE as well as the serviceability and integrity of PPE shall be verified before workers are required to enter a permitting confined space. In addition, adequate and appropriate rescue and/or rescue plans and equipment shall be in place before the worker enters the confined space. In the event of an accident, coordination will be established with the emergency response teams to ensure that the most accurate first aid is given. The Emergency Action Plan will be revised in accordance with the operational period and necessary training will be given to all personnel. Only personnel holding the height work permit will work at height, and safeguarding measures (guardrails, fall arrest) will be in place. The areas to be excavated will not be accessible except by authorized personnel. Loading and unloading activities will be carried out together with the persons who will supervise the personnel who will carry out the activity. The construction areas will be surrounded and necessary security measures will be taken, no one will be allowed to enter except for the staff. The WBG General Environment, Health and Safety Guidelines will apply. Equipment that meets international standards in terms of performance and safety will be used. All equipment used during the construction phase will be kept in good working condition. In accordance with the regulation, the contractor will designate a full-time OHS responsible person with the requisite certification and experience, along with an workplace physician and a nurse, to monitor field practices. 		
C3	Employment / Economy	Child labour, forced labour and unregistered employment Contribution to economy	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Care will be taken to contributing to the local economy through the use of local materials and to procuring various goods and services from local resources. Priority should be given to the local labor where possible and practical. Efforts will be exercised to allocate employment opportunities to the local parties and the settlements within the Aol. The work permits of the employees will be controlled within the scope of the Project, prohibiting child labor, forced labor, and child labor under the age of 18. Discrimination in the workplace will be eliminated. Necessary measures will be taken by contractor to make sure that workers coming from outside the city will be given a training program on dialogue and communication with local communities, and that there are no social or cultural issues between host communities and external workers. It is the Project Owner's responsibility to ensure that the contractor complies with the determined criteria. 	Contractor Project Owner	<ul style="list-style-type: none"> Number of grievances Percentage of closed grievances within the target timeframe
C4	Social Life	Potential Community Disturbance	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> The Contractor will provide training to the site personnel on environmental and social issues. It is the Project owner's responsibility to ensure that the contractor complies with the determined criteria. The operations to be carried out during construction works will be performed not to restrict / hinder the social and economic life of local people. To avoid any impact on the safety and daily life of communities, safety and information signs will be placed on site before the work. 	Contractor Project Owner	<ul style="list-style-type: none"> Number of grievances Percentage of closed grievances within the target timeframe

No.	Topic	Definition of Potential Impact	Type of Impact	Impact Significance Before Mitigation	Cost	Measures to be Taken	Responsibility	Key Performance Indicators
						<ul style="list-style-type: none"> The public, and nearby institutions and organizations, and hospitals and schools will be informed at least two days before starting repair / maintenance works that may cause disturbance temporarily. The construction activities to be performed around or in front of hospitals and/or healthcare providers will be planned not to hinder the public access to these services and the opinions of the relevant stakeholders will be sought in order to determine the common working strategy in this regard The Project Owner will ensure that contractors establish the code of conduct and will check that workers will be given training especially on communication with local people of foreign nationality public before starting work, so that local people of foreign nationality will not be adversely affected by external workers. 		
C5	Labor Conditions	Improper Working Conditions, Child labor, forced labor and unregistered employment	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Workers will be allowed to have access to the Grievance Redress Mechanism and will be required to be aware about this Mechanism. All workers will be given training on discrimination and codes of conduct. The trainings given to the employees will be explanatory about the concepts of sexual harassment and abuse, gender-based violence, abuse and intervention with harassment. At the same time, through the trainings, it will be ensured that workers learn the Grievance Redress Mechanism of the Project (explained in detail in the Project's SEP document) and the steps to be followed in exercising their legal rights. Access to the Grievance Redress Mechanism will be easy and effective. The grievance redress mechanism officer designated for the Project will be announced to all employees during the trainings to be given before starting work. There will be brochures and posters containing the grievance redress mechanism and the contact information of the authorized person in places such as the cafeteria, canteen and service areas used by the employees. Minimum legal labor standards will be met (child/forced labor, anti-discrimination, working hours, minimum wages) as per International Labor Organization (ILO) regulations. At the same time, the Operational Policies of the World Bank and the national legislation will be complied with in terms of the working conditions. Workers will be provided hygienic and adequate facilities. Workers will be allowed to have access to primary healthcare on site, enabling the provision of prescriptions. Discrimination based on language, race, gender, political thought, philosophical belief and religion will be avoided in business relations. 	Contractor Project Owner	<ul style="list-style-type: none"> Number of grievances Percentage of closed grievances within the target timeframe
C6	Community Health and Safety	Community health and safety risks	Adverse	High	Included in construction costs	<ul style="list-style-type: none"> To minimize the impact of the traffic activities that are expected to intensify during the construction phase, the working hours will be adjusted according to the peak hours of transportation. Special crossings will be created by taking additional measures for the elderly, pregnant women, people with small children and the disabled. The project area will be fenced to avoid physical hazards to the communities associated with the project. Contractors will take necessary health and safety measures, such as using appropriate warning signs and signboards, arranging time schedule of noisy works (mostly after 9:00 AM before 6 PM), making the regular maintenance of the machinery, replacement or repair of part which cause noise and performing watering in dry seasons, under the management of the Project Owner during site preparation and construction activities so that the public is informed of the construction plan and locations in a timely manner and the construction sites are determined. Care will be taken to ensure that warning signs are visible and illuminated at night and in bad weather conditions. The adequate number of appropriate firefighting equipment will be kept available at construction sites at all times. An emergency action plan will be prepared and implemented in order to be able to take and manage measures to protect public health and safety. Project employees, local people and response teams will be informed about this plan. Local people will be informed about possible dangers and precautions to be taken with brochures that will be placed on signs and notice boards to be hung in various areas in the neighborhood. Detailed information on the use of the Grievance Redress Mechanism and contact information on the grievance redress mechanism officer will be made available to the public. (via the project website, information brochures left at the Mukhtars offices, posters and hand brochures in places such as schools, health centers, hospitals, mosques, which are the common areas used by the community intensively). 	Contractor Project Owner	<ul style="list-style-type: none"> Number of communicable and non-communicable diseases and injuries experienced. Number of community health safety & security complaints from local communities as recorded in the grievance register. Number of reported community health & safety incidents Number of reported noise incidents

No.	Topic	Definition of Potential Impact	Type of Impact	Impact Significance Before Mitigation	Cost	Measures to be Taken	Responsibility	Key Performance Indicators
						<ul style="list-style-type: none"> Damages that may occur on the road surfaces due to traffic caused by heavy construction machinery during construction works on existing roads will be repaired by the contractor. In case of any damage to infrastructure elements on private lands due to construction activities, mitigation measures will be taken by the contractor. 		
C7	Land Use	Damages to adjacent lands and structures	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Any unintended damages caused to adjacent land and structures during construction will be compensated and repaired by Project Owner/Contractor. If grievances are received regarding unauthorized use of privately-owned lands, damage to neighboring lands, etc. through the Grievance Redress Mechanism to be established, assessments / investigations will be performed on a case-by-case basis, and corrective actions will be planned and implemented, where necessary. Materials will be stored in closed and protected areas. If it is required to provide an additional space for closed and protected areas, the contractor will fulfill temporary rental formalities or obtain relevant permits. 	Contractor Project Owner	<ul style="list-style-type: none"> Number of grievances Percentage of closed grievances within the target timeframe
C8	Stakeholder Engagement	Communication issues with the stakeholders	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> An adequate timing will be planned for interaction / communication with communities and for engagement. Regular consultations will be carried out with the authorities and communities regarding the project management. 	Contractor Project Owner	<ul style="list-style-type: none"> Number of grievances Percentage of closed grievances within the target timeframe Records of stakeholder engagement activities
C9	Grievance Redress Mechanism	Grievance Issues	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> An efficient Grievance Redress Mechanism will be initiated to allow potentially affected individuals to voice their concerns on the Project. 	Contractor Project Owner	<ul style="list-style-type: none"> Number of grievances Percentage of closed grievances within the target timeframe
C10	Documentation	Missing documentation	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> All activities, information meetings, opinions/suggestions, grievances, etc. provided during the construction period will be documented continuously 	Contractor Project Owner	N/A
C11	Sustainable Development Goals ³	Failure to set sustainable goals	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Throughout the life of the project, workers will be recruited from the region as much as possible. Throughout the life of the project, priority will be given to working with local suppliers and procuring services from the local employees in the service industry, as much as possible (fuel supply, vehicle maintenance/food, beverage and spare parts supply, etc.). 	Contractor Project Owner	N/A
C12	Traffic and Pedestrian Safety	Direct and indirect threats posed by construction activities against traffic and pedestrians	Adverse	High	Included in construction costs	<ul style="list-style-type: none"> Actions will be taken to ensure that any vehicles operating during the construction period obey the set speed limit (30 km/hr). Traffic and warning signs will be placed around and near the project area. The project area will be made visible. Local people will be informed about potential hazards and risks through brochures and posters left in common areas frequently used by local people such as headman's offices, hospital, health center, mosque, coffee house and marketplace. The activities affecting the local traffic will be planned considering the rush hours of the traffic as much as possible. All drivers involved in the project will be informed about road safety, speed limits, and traffic rules to be followed during the project, and requirements to be observed. The weight of all vehicles will not exceed the legal limits according To Highway Traffic Regulation. In case of hazardous chemical or waste storage on site, the transfer of these wastes will be performed out by licensed carriers not to pose a threat to community health. The routes developed in agreement with the competent authorities will be used for special cargos. The designated routes will be programmed to prevent traffic congestion on the roads, and will be published in advance to prevent possible disturbance. The arrangements in traffic will be discussed with the Municipality and planned jointly. To prevent unauthorized access to the construction site, the construction site will be surrounded by fence/curtain/protection tape, and uncontrolled entrances will be prevented. 	Contractor Project Owner	<ul style="list-style-type: none"> Number of non-compliances against the mitigation controls identified in Traffic Management Plan Number of drivers found to be exceeding speed limits or driving unsafely Number of road traffic accidents involving: Accidental injuries and deaths, Spillages (such as cargo or fuel), Wildlife-vehicle collisions. Number of traffic-related grievances
C13	Air Quality	Air pollution from Construction Works	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Dust from outdoor sources will be minimized by employing control measures such as covering the piles and increasing the moisture content. Dust suppression techniques such as the application of water or non-toxic chemicals will be used to minimize dust from vehicle movements. Truck loading and unloading operations will be carried out with due care, and materials will be prevented from scattering around. 	Contractor Project Owner	<ul style="list-style-type: none"> Air Quality incidents Records of Non-Compliance with air quality standards Community complaints

³ As mentioned in the United Nations Development Cooperation Strategy Türkiye 2016-2020 Government of the Republic of Türkiye and The United Nations System in Türkiye, *Sustainable, Inclusive Growth and Development Goals*.

No.	Topic	Definition of Potential Impact	Type of Impact	Impact Significance Before Mitigation	Cost	Measures to be Taken	Responsibility	Key Performance Indicators
						<ul style="list-style-type: none"> Modern equipment and vehicles that can meet the applicable emission standards will be selected for construction works. All vehicles will have exhaust emission permits and all vehicles will be regularly maintained. Exhaust systems and emission levels of machinery and vehicles will be checked by the contractor. Project Grievance Redress Mechanism will be implemented. In case of any complaints, air quality measurement will be carried out at the nearest sensitive receptors in accordance with international standards, and the results will be recorded. Speed limits will be set for construction equipment, and actions will be taken to ensure that such limits are complied with. During transportation, excavated materials will be covered with nylon canvas or materials with grain size larger than 10 mm Any damage caused by inadequate dust suppression measures (i.e. pollution of the surrounding area, transport to a residential area by wind, dust deposits by the wind, etc.) will be compensated by the contractor. 		
C14	Noise	Noise from Construction Works	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Residents living near the project area will be informed during the construction phase. Construction works will be planned in consultation with local communities, and operations with the highest noise generation potential will be scheduled during the time of the day that will cause minimum disturbance. Noise control devices, such as temporary noise barriers and deflectors, will be used for operations causing impact as well as exhaust silencers for combustion engines. Use of roads close to the settlements in transportation activities for the project will be avoided or minimized. Equipment and vehicles used externally will be regularly maintained. "Low noise" equipment will be used as much as possible during the construction phase. Where construction equipment is provided with impermeable acoustic covers or enclosures, covers will be kept closed while equipment is in operation. When equipment is not working, they will be turned off or reduced to the minimum level. Vibration levels will be monitored in case of complaints, and measures will be taken to reduce vibration if standards are exceeded. Noise measurement will be carried out at the nearest noise sensitive receptors in accordance with the international standard, in case of any complaints. 	Project Owner Contractor	<ul style="list-style-type: none"> Noise and Vibration incidents Records of Non-Compliance with Project standards Number of noise-related community grievances
C15	Waste Management	Wastes of Construction Works	Adverse	Medium	Included in construction costs	<ul style="list-style-type: none"> During the construction period, any waste will be collected separately at source, and stored in the temporary waste storage area. Construction waste will be regularly collected by licensed collectors at the permitted excavation waste storage site of the Municipality. Waste disposal records will be kept regularly. To keep these records, a Waste Registry Information Form will be prepared, which will contain information on the waste code, amount, and transfer and disposal method as presented in the Waste Management Regulation – ANNEX IV. Where appropriate, waste can be reused or recycled. Temporary storage of medical waste will be performed in accordance with Article 14 of the Medical Waste Control Regulation. In addition, medical waste will be transported to processing facilities in accordance with Article 15 of the same regulation. 	Project Owner Contractor	<ul style="list-style-type: none"> Total waste generated Ratio of recovered/reused/recycled waste to total waste generated
C16	Domestic Waste	Waste management failure, pollution from waste	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Any domestic waste generated will be sorted at source (plastic, glass, paper, etc.), and reusable waste will be recycled. Unrecyclable waste will be collected in closed sanitary trash bins and will be disposed of by the solid waste collection system of Bolu/Gerede Municipalities. 	Project Owner Contractor	<ul style="list-style-type: none"> Total waste generated Ratio of recovered/reused/recycled waste to total waste generated
C17	Waste Oils	Waste management failure, pollution from waste	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> If different categories of oils are generated from the works at the construction site, these oils will be stored separately. Containers where waste oils are stored will be kept closed and protected from rainwater. Waste oils will only be transported by licensed transportation companies, and will only be delivered to licensed recycling or disposal facilities. 	Project Owner Contractor	<ul style="list-style-type: none"> Total waste generated Ratio of recycled to total waste generated
C18	Waste Batteries and Accumulators	Waste management failure, pollution from waste	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Waste batteries will be collected separately from other wastes, delivered to authorized organizations and recycled. Waste batteries and accumulators will be delivered to waste battery and accumulator disposal facilities within the Municipal borders through authorized transportation companies. 	Project Owner Contractor	<ul style="list-style-type: none"> Total waste generated Ratio of recycled total waste generated

No.	Topic	Definition of Potential Impact	Type of Impact	Impact Significance Before Mitigation	Cost	Measures to be Taken	Responsibility	Key Performance Indicators
C19	End-of-life Tires	Waste management failure, pollution from waste	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> In cases when tires of the vehicles to be changed during construction activities; end-of-life tires will be delivered to the companies that distributes and sells tires via the authorized transportation companies. 	Project Owner Contractor	<ul style="list-style-type: none"> Total waste generated Ratio of recycled waste to total waste generated
C20	Excavation Soil, Construction and Demolition Wastes	Waste management failure, pollution from waste, loss of top soil	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Consideration will be given to recycling of excavation soil and construction wastes and especially to their reuse as infrastructure material. For a robust recycling and disposal system, waste will be sorted at source. Removal of the excavated material, which will not be used for backfilling, from the site will be performed at regular intervals without waiting. These materials will be transferred to permitted excavation waste storage area by licensed transportation companies. 	Project Owner Contractor	<ul style="list-style-type: none"> Total waste generated Ratio of recovered/reused/recycled waste to total waste generated
C21	Wastewater and Water Management	Wastewater management failure, pollution from wastewater	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> Wastewater generated during the construction works will be integrated into the existing sewerage system, and necessary agreements will be executed with the municipality so that the wastewater sewer system ending with Bolu Wastewater Treatment Plant. 	Project Owner Contractor	<ul style="list-style-type: none"> Minimization and continued improvement in the number of the reported water quality related incidents. Zero NCRs per year Zero grievances per year No significant adverse impact No infrastructure damage and damage to loads/humans
C22	Hazardous Materials	Pollution from hazardous materials	Adverse	Low	Included in construction costs	<ul style="list-style-type: none"> If hazardous wastes are stored in the project area, those wastes will be stored in containers that are strong, leak-proof, safe and in accordance with internationally recognized standards. The containers will bear "hazardous waste" label, with the amount, content, properties, storage conditions and storage date of the stored material indicated on the containers. Containers containing hazardous materials will be placed in sealed vessels to prevent spills and leaks. Hazardous wastes will be transported by licensed waste transportation companies and will be disposed of at licensed facilities. Toxic paints, solvents or lead-based paints will not be used. Hazardous waste management will be fulfilled in consultation with Bolu/Gerede Municipality in accordance with the Hazardous Waste Control Regulation. Hazardous chemicals and wastes likely to be generated at the construction site will be stored not to pose a threat to community health. The disposal of hazardous chemicals and wastes that may be generated at the construction site will be carried out at licensed facilities under the supervision of authorized companies and experts. 	Project Owner Contractor	<ul style="list-style-type: none"> Ratio of hazardous waste generated to total waste (by contamination + by generation)
C24	Project Affected Forests, Wetlands and/or Protected Areas	Protection	Adverse	Low	Additional cost is not expected.	<ul style="list-style-type: none"> No impact is expected on flora and fauna during the construction phase. Therefore, there is no need to take mitigation measures. 	Project Owner contractor	<ul style="list-style-type: none"> Zero damage to natural habitats, wetlands and sites considered as protected areas Zero hunting, foraging, logging
C25	Project Affected Forests, Wetlands and/or Protected Areas	Biodiversity	Adverse	Low	Additional cost is not expected.	<ul style="list-style-type: none"> No impact is expected on flora and fauna during the construction phase. Therefore, there is no need to take mitigation measures. 	Project Owner contractor	<ul style="list-style-type: none"> Zero damage to natural habitats, wetlands and sites considered as protected areas Zero hunting, foraging, logging

6.2 Monitoring Plan for the Project

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Disclosure	Settlements near the project area	During Construction Monthly	Grievances	<ul style="list-style-type: none"> On-site inspections Minutes of meetings Grievance redress mechanism records 	Zero grievances closed out within the target timeframe	<ul style="list-style-type: none"> Regulation on Assessment and Management of Environmental Noise Regulation on Air Quality Assessment and Management WB OP 4.01 	<ul style="list-style-type: none"> Grievance Records Number of grievances Percentage of closed grievances within the target timeframe 	Brings no additional cost	Project Owner Contractor
Labor Conditions	Project area	Monthly	Grievances	<ul style="list-style-type: none"> Internal and external audits Grievance records Accident records Training records Sample contracts Human Resource Policy Number of the local employees Legal work permit 	Zero grievances closed out within the target timeframe	<ul style="list-style-type: none"> Labor Law (No. 4857) Law on Trade Unions and Collective Bargaining Agreements ILO International Regulations 	<ul style="list-style-type: none"> Number of worker grievances Percentage of closed grievances within the target timeframe 	No additional costs	Project Owner Contractors
Occupational Health and Safety	Project area Settlements near the project area	Daily	Safe conditions and worker' behaviors on the construction site Risk analysis and procedures Disease Incidents Grievances Toolbox talks and trainings HSE Inspection Legal Requirements EPRP Work Permits	<ul style="list-style-type: none"> On-site inspections Interviews with employees Complaint records Training and toolbox records Contract examples Internal and external audits Accident and near miss records Drill records On site permit records 	The targets are expressed numerically in Hata! Başvuru kaynağı bulunamadı.	<ul style="list-style-type: none"> Occupational Health and Safety Law Regulation on Health and Safety Requirements for the Use of Work Equipment 	<ul style="list-style-type: none"> % of scheduled HSE Inspection % of attendance at HSE meetings % of closing of NCRs Reporting safe observations Reporting unsafe observations Reporting near misses % of Toolbox attending % of Risk Assessment compliance % of Legal Requirements compliance Results of scheduled audits HSE training carried out to training matrix > 90% of all training to matrix % of attendance at scheduled trainings Engagement in HSE program by individual managers and supervisors Engagement in HSE program by contractor's 	No additional costs	Project Owner Contractors

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Community Health & Safety	Project area Residential areas around project area	Daily	Safety conditions at the site Fencing of construction site Warning signs and flashlights Grievances Incidents Accidents	<ul style="list-style-type: none"> Records of comments/ suggestions/ grievances Site Audits Training records 	No significant increase in communicable and non-communicable disease and injury rates per 1,000 residents per annum. Decreasing number/ continuous improvement in number of complaints Zero incidents per year	<ul style="list-style-type: none"> Public Health Law Health and Safety Signs Regulation 	<ul style="list-style-type: none"> Number of communicable and non-communicable diseases and injuries. Number of community health safety & security complaints from local communities as recorded in the grievance management system. Number of reported community health & safety incidents Number of reported noise incidents 	No additional costs	Project Owner Contractors
Documentation	Project area	During the construction period, the contractor will report the ESMRs monthly to the Project owner, the Project Owner to ILBANK every 3 months together with the Grievance Register. Moreover, ILBANK, will compile these ESMRs and report them to WB biannually together with the Project Progress Report.	N/A	<ul style="list-style-type: none"> On-site inspection Record control 	N/A	WB OP 4.01	N/A	No additional costs	Project Owner Contractors ILBANK
Land Use	Project area Settlements near the project area	Monthly	Grievance Records	<ul style="list-style-type: none"> Grievance redress mechanism Compensation for unintended damages to land and structures during construction 	Zero grievances not closed out within the target timeframe	<ul style="list-style-type: none"> WP OP 4.12 Soil Conservation and Land Use Law No. 5400 	<ul style="list-style-type: none"> Grievance Records Number of grievances Percentage of closed grievances within the target timeframe 	No additional costs	Project Owner Contractors
Grievance Redress Mechanism	Project area Settlements near the project area	Monthly	Grievance Records	<ul style="list-style-type: none"> View/suggestion/ grievance records On-site inspection 	Zero grievances not closed out within the target timeframe	ILBANK SCP-II ESMF	<ul style="list-style-type: none"> Grievance Records Number of grievances Percentage of closed grievances within the target timeframe 	No additional costs	Project Owner Contractors
Sustainable Development	Settlements near the project area	Monthly	N/A	<ul style="list-style-type: none"> View/suggestion/grievance records Product supply records List of employees On-site inspection 	N/A	WB OP 4.01	N/A	No additional costs	Project Owner Contractors
Air Quality	Project area Settlements and schools near the project area	During Construction In case of grievance Monthly	Grievance Records	<ul style="list-style-type: none"> On-site inspections PM2.5 and PM10 Measurements to be performed in case of grievance 	<ul style="list-style-type: none"> Minimization and continued improvement in the number of the reported air quality related incidents. Zero complaints per year Minimization and continued improvement in the number of air quality related community complaints. 	<ul style="list-style-type: none"> Regulation on Air Quality Assessment and Management WB OP 4.01 	<ul style="list-style-type: none"> Air Quality incidents Records of Non-Compliance with air quality standards Community complaints 	No additional costs	Contractors

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Noise	Project area Settlements and schools near the project area	During Construction In case of grievance Monthly	Grievance Records	<ul style="list-style-type: none"> Monitoring conducted at the nearest sensitive receptors using noise measuring devices On-site inspections Measurements to be performed in case of grievance 	<ul style="list-style-type: none"> Minimize and continued improvement in number of reported noise and vibration related incidents. Zero NCRs per year Zero grievances per year 	Regulation on Assessment and Management of Environmental Noise	<ul style="list-style-type: none"> Noise and Vibration incidents Records of Non-Compliance with Project standards Number of noise-related community grievances 	No additional costs	Contractors
Waste Management	Project area	During Construction Daily	<ul style="list-style-type: none"> Temporary waste storage area conditions Waste amount Recovery / reuse / recycle ratio 	<ul style="list-style-type: none"> Waste records On-site inspection 	<ul style="list-style-type: none"> Minimization of total waste generated Minimize the ratio of hazardous waste generated to total waste (by contamination + by generation) Increasing the ratio of recovered/reused/recycled waste to total waste generated 	<ul style="list-style-type: none"> Regulation on Hazardous Waste Control Packaging Waste Control Regulation Waste Management Regulation 	<ul style="list-style-type: none"> Total waste generated Ratio of hazardous waste generated to total waste (by contamination + by generation) Ratio of recovered/ reused/ recycled waste to total waste generated 	No additional costs	Contractors
Domestic Waste	Project area	During Construction Daily	<ul style="list-style-type: none"> Waste amount Recovery /reuse /recycle ratio 	<ul style="list-style-type: none"> Waste records On-site inspection 	<ul style="list-style-type: none"> Minimization of total waste generated Increase in the ratio of recovered/ reused/ recycled to landfilled 	<ul style="list-style-type: none"> Packaging Waste Control Regulation Waste Management Regulation 	<ul style="list-style-type: none"> Total waste generated Ratio of recovered/ reused/ recycled waste to total waste generated Records regarding transportation and disposal. 	No additional costs	Contractors
Waste Oils	Project area	During Construction Weekly	<ul style="list-style-type: none"> Waste amount Waste storage conditions Recovery /reuse/ recycle ratio 	<ul style="list-style-type: none"> Visual observations Waste records 	<ul style="list-style-type: none"> Minimization of total waste generated Increase in the ratio of recovered/ reused/ recycled waste to total waste generated 	Waste Oil Control Regulation	<ul style="list-style-type: none"> Total waste generated Ratio of recycled waste to total waste generated. Records regarding transportation and disposal. 	No additional costs	Contractors
Waste Batteries and Accumulators	Project area	During Construction Monthly	<ul style="list-style-type: none"> Waste amount Recovery /reuse/ recycle ratio 	Waste records	<ul style="list-style-type: none"> Minimization of total waste generated Increase in the ratio of recovered/ reused/ recycled waste to total waste generated 	Waste Battery and Accumulator Regulation	<ul style="list-style-type: none"> Total waste generated Ratio of recycled waste to total waste generated. Records regarding transportation and disposal. 	No additional costs	Contractors
Excavation Soil, Construction and DebrisDemolition Wastes	Project area	During Construction Daily	Waste amount and storage conditions Transfer records	On-site inspection	<ul style="list-style-type: none"> Minimization of total waste generated Increase in the ratio of recovered/ reused/ recycled waste to total waste generated 	Regulation on the Control of Excavation Soil, Construction and Demolition Wastes	<ul style="list-style-type: none"> Total waste generated Records regarding transportation and disposal. 	No additional costs	Contractors
Wastewater and Water Management	Project area	During Construction At the beginning of the project.	Sewer connection permit.	Official Letter regarding permit.	<ul style="list-style-type: none"> Permit in place. 	<ul style="list-style-type: none"> Water Pollution Control Regulation 	<ul style="list-style-type: none"> Permit 	No additional costs	Contractors
Hazardous Waste Management	Project area	During Construction Daily	Waste amount and storage conditions	<ul style="list-style-type: none"> Waste records On-site inspection 	Increase in the ratio of hazardous waste generated to total hazardous waste (by contamination + by generation)	Waste Management Regulation	<ul style="list-style-type: none"> Total waste generated Records regarding transportation and disposal. 	No additional costs	Contractors

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Cultural Heritage	Project area Settlements near the project area	Daily throughout the construction Monthly	Existence of a Chance Find	<ul style="list-style-type: none"> On-site inspection Existence of a Chance Find Procedure 	Zero Grievance Records	<ul style="list-style-type: none"> Law on the Conservation of Cultural and Natural Properties WB OP 4.11 	<ul style="list-style-type: none"> Number of chance find records and reports 	No additional costs	Contractors
Direct and indirect threats posed by construction activities against traffic and pedestrians	Project area	During Construction Daily	Grievance Information gathered through Public Consultation Information on available pedestrian ways Existence and number of warning signs properly installed at designed location Training records for drivers Availability of EPRP	On-site inspection	<ul style="list-style-type: none"> Number of non-compliances against the mitigation controls identified in Traffic Management Plan Zero number of drivers found to be exceeding speed limits or driving unsafely Number of road traffic accidents involving: <ul style="list-style-type: none"> Zero accidental injuries and deaths, Zero traffic-related grievances Driver training records Existence of EPRP Installation of warning signs 	Occupational Health and Safety Law	<ul style="list-style-type: none"> Number of non-compliances against the mitigation controls identified in Traffic Management Plan Number of drivers found to be exceeding speed limits or driving unsafely Number of road traffic accidents involving: <ul style="list-style-type: none"> Accidental injuries and deaths Spillages (such as cargo or fuel) Wildlife-vehicle collisions Number of traffic-related grievances 	No additional costs	Contractors
Access to the Construction Site Security Fence Protection Tape	Settlements near the project area	During Construction Daily	Grievance	On-site inspection	Zero Number of unauthorized accesses to the project site	Occupational Health and Safety Law	Number of unauthorized accesses to the project site	No additional costs	Contractors

7. STAKEHOLDER ENGAGEMENT

7.1. Stakeholder Analysis

This Stakeholder Analysis is based on the relevant Turkish legislation and international regulations by considering the project is exempt from EIA and classified as a Category B Project according to the WB OP 4.01. In conformity, relevant WB OPs (i.e., WB OP 4.01 and WB's 2010 Policy on Access to Information) and EU Directives. In this regard, the relevant national and international policies considered are given below.

7.1.1. Previous Stakeholder Engagement Activities

No preliminary stakeholder engagement activities were conducted for this project.

7.1.2. Stakeholder Identification and Analysis

The purpose of a stakeholder identification is to determine and prioritize the project stakeholders for consultation that may be affected (either directly or indirectly in positive or negative way) by the project or that have an interest in the project but are not necessarily directly impacted by it.

Within the scope of this project, a comprehensive list of the internal and external stakeholders is given in Table 7-1. Comprehensive List of the Stakeholder Identified for the Project.

Table 7-1. Comprehensive List of the Stakeholder Identified for the Project

Stakeholder Groups	Level of Interest	Level of Influence
Direct Stakeholders		
Directly Affected Communities		
Residents in the project area of influence	High	Moderate
Vulnerable individuals/groups in the project area of influence	High	Moderate
SuTP living in project areas of Bolu	High	Low
Formal or informal users of lands allocated to the project	High	Moderate
Public Administrations at National Level		
The Ministry of Environment, Urbanization and Climate Change.	Moderate	High
Ministry of Energy and Natural Resources	High	High
Turkish Energy Market Regulatory Board	Moderate	Moderate
Ministry of Industry and Technology	Moderate	Moderate
General Directorate of Energy Affairs	High	High
General Directorate of ILBANK	High	Low
Directorate General of Migration Management	Low	Low
Public Administrations/Authorities/Agencies at Provincial Level		
Gerede Municipality	High	High
Provincial Directorate of Environment, Urbanization and Climate Change	Moderate	High
Mukhtar of Sofular Village	High	Moderate
SEDAŞ Electricity Distribution Company	High	High
Contractors/Sub-contractors and Supervision Consultant Companies	High	High
Indirect Stakeholders		
Indirectly Affected Communities		

Stakeholder Groups	Level of Interest	Level of Influence
Direct Stakeholders		
Residents outside of the project area of influence	Low	Moderate
Vulnerable individuals/groups outside of the project area of influence	Low	Moderate
Public Administrations at National Level		
Ministry of Interior	Low	Low
Ministry of Agriculture and Forestry	Low	Low
Public Administrations/Authorities/Agencies at Provincial Level		
Governorship of Gerede	Low	Moderate
Provincial Directorate of Disaster and Emergency	Low	Low
Provincial Directorate of Health	Low	Low
Ipekyolu Development Agency	Low	Low
Turkish Employment Agency (IS-KUR) – Bolu Branch	Low	Moderate
Other Interested Parties		
Chamber of Environmental Engineers	Low	Low
International Solar Energy Society (GUNDER)	Moderate	Moderate
International Refugee Rights Association	Low	Low
Media Organs in Bolu Province	Low	Moderate
Business enterprises located in the Project area	Low	Moderate
Bolu Abant İzzet Baysal University	Low	Low

The types and causes of exposures and how above-mentioned stakeholder groups are affected (positive/negative) are given in Table 7-2.

Table 7-2. The Potential Impacts of Project Activities on Social Components

Social Component	Type of Potential Impact (Positive/Negative)	Potential Impact Definition
Emergency Response	Positive	After the increase in the electricity prices in Turkey, municipalities are having hard times paying them. After the implementation of this project, it is expected to be offset the energy demand and prices.
Local Employment	Positive	Employment opportunities
Transportation/Traffic	Negative	Safety issues due to increase in traffic, damages on roads, generation of greenhouse gas emissions / noise
OHS and Community H&S	Negative	Water pollution, air emissions/noise and visual pollution
Tourism	Negative	Aesthetic issues

As part of the stakeholder identification process, it is also important to identify individuals and groups that may be differentially or disproportionately affected by the Project because of their disadvantaged or vulnerable status. The potential vulnerable/disadvantaged groups can be listed as follows:

- Households with physically and / or mentally disabled family members,
- People with chronic diseases,
- Elderly people over 65 years of age who live alone and in need of care,
- Female-headed households,
- Households where the head of the household is a child,
- Households with low or no income, and
- Refugee households.

The project is situated in an isolated area with no residential settlements nearby, ensuring that during both the construction and operation phases, there are no anticipated adverse social impacts on specific vulnerable groups such as the disabled, women-led households, children, the elderly, refugees, and individuals dependent on their livelihoods. Nevertheless, the project acknowledges the possibility of identifying sensitive disadvantaged groups within its scope, including market vendors and the local population. These groups may encompass individuals with disabilities, women heading low-income households, among others. The project remains open to making necessary adjustments based on feedback and complaints received from stakeholders.

Table 7-3. Potential Vulnerable/Disadvantaged Groups and their needs

Community	Stakeholder group	Key characteristics	Language needs	Preferred notification means (e-mail, phone, radio, letter)	Specific needs (accessibility, large print, child care, daytime meetings)
Sofular Village	Parents with young children	The number of households affected and which of children - To be Determined (TBD)	Official language	Written information, radio	Child care for meetings—late afternoon preferred timing
	Refugees	The number of extended families TBD, poverty level	Language alternative	Visit with translator and civil society representative	Graphics, education on process
	Persons with disability	The number of disabled person TBD	Official language and/or sign language	Written information, radio and/or face-to-face with competent person on sign language if possible	Accessibility i.e., providing transportation
	Other groups	The number of person TBD	Official language	Written information, radio Visit at their own places	Graphics, education on process

7.1.3. Stakeholder Engagement Plan

The Stakeholder Engagement Plan (SEP) is a control mechanism that ensures the implementation of key principles during the project. The engagement activities will be scheduled in a manner to ensure maximum involvement of relevant stakeholders. To maximize stakeholder engagement, it prevents disruption of local stakeholders' daily work and regulates the timing and number of engagement activities. Accordingly, recording the findings and feedback together in accordance with all engagement activities, sharing them with the responsible parties, and following the process are essential. Also, engagement activities need to be culturally appropriate, provided equal access to relevant stakeholders,

and enable their feedback. Ultimately, all engagement activities are in accordance with the project-specific SEP schedule.

The SEP will be disclosed by ILBANK, and Gerede Municipality, and Contractor in consultation with the stakeholders on potential benefits of the planned Project and the potential adverse impacts and associated mitigation measures through appropriate methods. The guidance of WB's OP 4.01 and WB's 2010 Policy on Access to Information will be followed for all disclosure attempts. Detailed engagement plan for the project is given in Table 7-4.

Table 7-4. Stakeholder Engagement Program During the Construction and Operation Phase

Stakeholder	Purpose of Engagement	Documents/Materials to be Used for Engagement	Engagement Method	Location	Responsible Party	Timetable for Implementation
All stakeholders	<ul style="list-style-type: none"> • Disclosure of full Project information package 	<ul style="list-style-type: none"> • Full Project information package 	<ul style="list-style-type: none"> • ILBANK Website • Gerede Municipality website • Information boards at local mukhtar offices and project site 	<ul style="list-style-type: none"> • Gerede Municipality website • Information boards at local mukhtar offices and project site 	<ul style="list-style-type: none"> • ILBANK • Contractor • Project Implementation Unit (PIU) 	<ul style="list-style-type: none"> • Prior to the commencement of any construction activities • In case revision throughout construction and operation period
Related central and local governmental agencies	<ul style="list-style-type: none"> • Up-to-date information for disclosure on the Project • Consultation on permitting, environmental, occupational issues and • Community management, • Emergency preparedness and response collaboration 	<ul style="list-style-type: none"> • Project documentation as required by the authorities 	<ul style="list-style-type: none"> • Face to face meetings • Email correspondence or other means 	<ul style="list-style-type: none"> • The municipality building and/or relevant stakeholders' own places 	<ul style="list-style-type: none"> • PIU • Community Liaison Officer (CLO) (Gerede Municipality & Contractor) • Supervision Consultant 	<ul style="list-style-type: none"> • Before the start of construction activities (at least 15 days) • As required throughout the construction and operation phases
Headmen (mukhtars)	<ul style="list-style-type: none"> • Deliver all aspects of Project-related information to include project timeline and conditions, E&S 	<ul style="list-style-type: none"> • Stakeholder engagement meeting announcements • Project presentation document and Brochures covering information on the communication channels as well as a non-technical summary (NTS) of the Project 	<ul style="list-style-type: none"> • Periodic and needed face to face meetings • Grievance Mechanism • Review of grievances on an appropriate basis. 	<ul style="list-style-type: none"> • Municipality building and/or headmen offices 	<ul style="list-style-type: none"> • Contractor • PIU • Supervision Consultant 	<ul style="list-style-type: none"> • At least 15 days before the project start • The monthly basis for the construction phase

Stakeholder	Purpose of Engagement	Documents/Materials to be Used for Engagement	Engagement Method	Location	Responsible Party	Timetable for Implementation
	<ul style="list-style-type: none"> impacts and mitigations Assess complaints and feedback from stakeholders 	<ul style="list-style-type: none"> including E&S issues regarding the Project Consultation and grievance forms (Open & Close-Out) 				<ul style="list-style-type: none"> The quarterly basis for the operation phase Grievances will be assessed immediately, and installed grievance boxes will be checked weekly during project phases Anytime as needed
Local communities; Land Owners / Users/Renters/Informal Users including vulnerable groups/PAP:	<ul style="list-style-type: none"> Deliver all aspects of Project-related information to include project timeline and conditions, E&S impacts and mitigations. Assess complaints and feedback from stakeholders 	<ul style="list-style-type: none"> Project information, E&S Expropriation process/issues based on specific stakeholder groups in a suitable and understandable language/format 	<ul style="list-style-type: none"> Non-technical meetings-disclosure Face to face meetings Focus group discussions/ separate informative meetings for land issues 	<ul style="list-style-type: none"> Municipality building and/or relevant stakeholders' own places 	<ul style="list-style-type: none"> Contractor PIU Supervision Consultant 	<ul style="list-style-type: none"> At least 15 days before the project start The monthly basis for the construction phase The quarterly basis for the operation phase Grievances will be assessed immediately, and installed grievance boxes will be checked weekly during project phases Anytime as needed

Stakeholder	Purpose of Engagement	Documents/Materials to be Used for Engagement	Engagement Method	Location	Responsible Party	Timetable for Implementation
Local businesses	<ul style="list-style-type: none"> • Deliver information regarding requirements and opportunities of local procurement and service provision • Disclose information on Project, E&S aspects and associated impacts of which related to construction / operation activities 	<ul style="list-style-type: none"> • Particular information on required goods and services • Project information, E&S, construction / operation impacts and associated mitigation measures. • Grievance Management 	<ul style="list-style-type: none"> • Face to face meetings • Email correspondence • Phone calls 	<ul style="list-style-type: none"> • Municipality building and/or at the relevant stakeholders' own places 	<ul style="list-style-type: none"> • Contractor • PIU • Supervision Consultant 	<ul style="list-style-type: none"> • At least 15 days before the project start • As required for construction impacts issues and operation period
Local NGOs	<ul style="list-style-type: none"> • Inform on updated current Project status, associated project activities, potential E&S impacts of which depending on Project phase, Project E&S Management System (ESMS) 	<ul style="list-style-type: none"> • E&S issues • Particularly prepared documentation/materials as a response to concerns on the Project 	<ul style="list-style-type: none"> • Face to face meetings • Email correspondence • Phone calls 	<ul style="list-style-type: none"> • Municipality building and/or at the relevant stakeholders' own places 	<ul style="list-style-type: none"> • PIU • Contractor • Supervision Consultant 	<ul style="list-style-type: none"> • The quarterly basis for the construction and operation phase • Anytime as needed

Stakeholder	Purpose of Engagement	Documents/Materials to be Used for Engagement	Engagement Method	Location	Responsible Party	Timetable for Implementation
	including community HS management and emergency preparedness issues					
Regional, national and international NGOs and universities	<ul style="list-style-type: none"> As a response to concerns on the Project 	<ul style="list-style-type: none"> Particularly prepared documentation/materials as a response to concerns on the Project 	<ul style="list-style-type: none"> Face to face meetings Email correspondence Phone calls Online meetings 	<ul style="list-style-type: none"> Municipality building and/or at the relevant stakeholders' own places 	<ul style="list-style-type: none"> PIU Supervision Consultant 	Anytime as needed
Media	<ul style="list-style-type: none"> Deliver Project-related information to further parties in interest in an appropriate manner 	<ul style="list-style-type: none"> Visual materials/advertisements on Project-related information (may be particularly prepared in consideration to any public concern on the Project) Video/audio records 	<ul style="list-style-type: none"> Visual materials/advertisements to be published by local / national media agencies 	<ul style="list-style-type: none"> Media 	<ul style="list-style-type: none"> PIU 	Anytime as needed
Internal stakeholders (including own workers and indirect (contracted) employees)	<ul style="list-style-type: none"> Deliver information on the Project, working conditions and worker management including worker 	<ul style="list-style-type: none"> Employment contracts Through selected worker representatives H&S-related announcements GRM forms and guidance Training documents/materials (i.e., presentations) 	<ul style="list-style-type: none"> Communicating relevant written documentation with the Project employees Induction and orientation trainings 	<ul style="list-style-type: none"> Project site 	<ul style="list-style-type: none"> PIU Contractor 	At the time of recruitment
			<ul style="list-style-type: none"> Toolbox trainings 	<ul style="list-style-type: none"> Project site 		Daily before start of each shift during the

Stakeholder	Purpose of Engagement	Documents/Materials to be Used for Engagement	Engagement Method	Location	Responsible Party	Timetable for Implementation
	rights and OHS management addressed in the Project-specific E&S policy and other relevant ESMS documentation					construction / operation phases
	<ul style="list-style-type: none"> Ensure that SEP covering GRM is efficiently implemented 		<ul style="list-style-type: none"> H&S Committee Meetings 	<ul style="list-style-type: none"> Project site 		Monthly as periodically and anytime as needed

7.1.4.Roles and Responsibilities

Gerede Municipality and Contractor will implement the SEP activities during the construction and operation phases of the Project. The planned organizational structure of the Team is presented in Table 7-5

Table 7-5. Responsibilities of Key Actors/Stakeholders in SEP Implementation

Actor/Stakeholders	Responsibilities
Gerede Municipality	SEP Management Stakeholder engagement activities; Establishment of Grievance Redress Mechanism Management or resolution of Grievances resolution; Consultation on specific SEP activities;
ILBANK	Monitoring and supervising the process of SEP implementation; Reporting the progress of SEP implementation to WB on regular periods
Contractor/Subcontractor(s)	Taking part of in SEP activities; Reporting of issues to Gerede Municipality related to stakeholder engagement; Grievance management and resolution; Resolution of grievances issues resulting from construction activities with collaboration and under the direction of Gerede Municipality; Informing Gerede Municipality on construction activities (such as road closures and service interruptions); Internal Reporting to Gerede Municipality on SEP implementation
Supervision Consultant	Guide public participation and announcement requirements; Provide necessary information to Gerede Municipality Review GRM and complaints to Gerede Municipality.
WB	Audit the Gerede Municipality's compliance with the provisions set out in the SEP managed by the Municipality during the construction and operation phase via the Project Progress Reports Visit project sites to conduct its own monitoring at certain intervals or when necessary.

7.1.5.Grievance Mechanism

Gerede Municipality will establish a Grievance Redress Mechanism (GRM) to receive, resolve, and follow the concerns and complaints of the Project affected communities. All grievances will be effectively received, recorded, and responded to within a predetermined timeline and based on their contents.

At the earliest convenience, the stakeholders will have access to Gerede Municipality PIU and Contractor dedicated CLOs for responses to responses to grievance. Stakeholders will be informed on the Satisfactory responses to the grievances and corrective activities. The GM for the stakeholders will be operated according to the following procedure;

1. Following tools will be used so that all stakeholders can be informed regarding the

Project's GRM process:

- Web page
 - Email address
 - Public meetings
 - Telephone
 - Frequently Asked Questions (Brochure, web page, bulletin, etc.)
2. Grievances can be submitted by the channels outlined below:
 - Telephone (Call Center and units) : 03743116700
 - Web page: <https://www.gerede.bel.tr/bizeulasin>
 - Personal visit to Gerede Municipality and Contractor head office/branches
 - Grievance boxes (installed at the Gerede Municipality Units / Contractor)
 - Relevant public administrations (district governorship, municipality, headmen)
 - Email: belediye@gerede.bel.tr
 - Meetings
 - Staff and local communication desk of Gerede Municipality / Contractor
 - By written petition to Gerede Municipality / Contractor
 - During site visits and miscellaneous
 3. All the submitted grievances are collected at the GRM Section of PIU Department.
 4. The submitted grievances are recorded in databases by CLOs of PIU and Contractor.
 5. PIU and Contractor CLOs or any contact person who received the grievance confirm the grievance reception via phone and/or email within 2 days.
 6. The response to the relevant grievance will be drafted by CLOs of PIU / Contractor and approved by Project Managements.
 7. After responding to the relevant grievance, necessary revisions will be made on the Grievance Form with respect to the result of GM process which will be communicated with relevant Complainant within 10 working days. The required actions for valid grievances will be taken within 15 working days. If applicant accepts the resolution within 30 days, the submitted grievance is marked as closed. If the applicant does not sign-off Complaint Close-Out Form due to insufficient satisfaction, a meeting will be organized by the PIU management on relevant complaint and if necessary, with the participation of Contractor. The compliant can participate this meeting to submit his/her Project-related concern face to face to the management. The aim of this meeting is to find alternative solutions of which both parties agree with.
 8. All the grievances will be monitored by recording them via the monitoring and

evaluation system which will be established within the scope of GM.

9. Regarding grievances received by Contractor; the grievances which are within the scope of Contractor responsibility will be handled by itself and reporting to the PIU during monitoring activities. The grievances within the scope of Gerede Municipality responsibility will be immediately communicated with PIU by Contractor and handled by the PIU accordingly. Contractor CLO is responsible for recording and tracking grievances.
10. If the complaint cannot be resolved with the existing process, applicants can always apply to relevant legal institutions. Such institutions can be summarized as follow:
 - Civil Courts of First Instance
 - Administrative Courts
 - Commercial Courts of First Instance
 - Labor Courts, and Ombudsman

(<https://ebasvuru.ombudsman.gov.tr/>)

During construction and operational activities, the GRM described above shall continue to be driven by stakeholders' views, making this procedure accessible to all affected stakeholders. Requests that require urgent remedy and/or support shall be responded to and given support within the same day. All outstanding grievances/requests shall be recorded within two business days, reviewed and assessed within ten business days, and concluded not later than 15 business days. Corrective actions shall be taken to resolve the grievance. GM Flow Chart is given in Table 7-6.

Table 7-6. Grievance Mechanism Flowchart

Stage of GM	Required Action
Grievance submission	Receiving the grievance by any above-mentioned communication channel. (Following to receive more sensitive grievances i.e. SEA/SH, child abuse or abuse, necessary action will be taken within 48 hours. For such cases at the workplaces, the complaint will be directed by the GM focal point (based in ILBANK headquarter) to relevant legal authorities/service providers such as Ministry of Family and Social Services and Prosecutors Office.)
Grievance registration	Grievance Form and Grievance Register Table are used during registration process. After grievance registration, feedback will be sent to the Complainant for the purpose of confirmation within two (2) days. Anonymous registration will be conducted if a Complainant requests that complaint of whom is handled anonymously.
Grievance assessment	Grievances are assessed within 10 working days with the clarification of the fact that relevant grievance is compliance with admissibility criteria. The Complainant will be informed appropriately in case of invalid grievances.
Responses to the grievances	According to the grievance type, consultation with stakeholders in question can be conducted on site. After grievance assessment, grievance will be responded appropriately via previously-mentioned communication channels.

Stage of GM	Required Action
	Application to ILBANK or Court of First Instance is also available for Complainants if a resolution cannot be figured out for whose grievances.
Grievance closure	<p>As long as alternative agreement is not conducted, grievance of Complainant is closed within fifteen (15) Business Days as of submission date and the Grievance Close Out Form is filled accordingly.</p> <p>In the case of grievances cannot be closed within fifteen (15) Business Days, it is ensured that well documented mitigatory circumstances related to which are reported.</p> <p>Regarding the anonymous grievances, outcome of GMGRM process and associated taken actions should be declared on Gerede Municipality website for the purpose of informing relevant Complainants.</p>
In the case of unresolved grievances	<p>ILBANK monitors GM process according to following outline:</p> <ul style="list-style-type: none"> -Confirmation of grievance submission -Assessment of grievance by the Gerede Municipality and information to ILBANK accordingly -Communication of grievance response to Complainant by the Gerede Municipality which is monitored by ILBANK (The timeframe for response at this level is thirty (30) days.) -Application to Court of First Instance by Complainants in case of unresolved grievances
Reporting	<p>The grievances will be analyzed quarterly by Gerede Municipality PIU considering the frequencies, types and resolution methods of which. By doing this, for instance, complaints submitted by majority of Contractor/Subcontractor(s) and/or those originated from certain works can be determined in a better way.</p> <p>The outcomes are reported to the PIU management by CLOs</p>
Right to Appeal	<p>If the complaint cannot be resolved with the existing process, applicants can always apply to relevant legal institutions. Such institutions can be summarized as follow:</p> <ul style="list-style-type: none"> • Civil Courts of First Instance • Administrative Courts • Commercial Courts of First Instance • Labour Courts, and <p>Ombudsman (https://ebasvuru.ombudsman.gov.tr/)</p>

7.1.6. Monitoring and Reporting

Periodically (at least once every 6 months) review and update of the SEP will be conducted, as necessary, during the stakeholder consultation as required within the scope of SEP implementation.

Gerede Municipality PIU and the Contractor CLO will record all incoming corporate grievance/comment databases.

Gerede Municipality PIU will assess the number and nature of grievances/comments (if any) quarterly and their effectiveness to address grievances/comments based on the number and percentage of closed grievances. The monitoring framework is described in Table 7-7

Table 7-7. SEP Monitoring Framework

Parameter	Key Performance Indicator	Phase	Frequency	Responsible Party
Stakeholder engagement process	<ul style="list-style-type: none"> •Number of meetings (e.g. public consultation, meeting with authorities, focus group meetings, in-depth meetings, etc.) •Number of engaged persons •Number of the visits to the settlements impacted by the Project activities within a timeframe 	Construction	Quarterly	- To be assigned by Gerede Municipality PIU and Contractor
		Operation	Semi-annually in the first two years; Annually afterwards	- To be assigned by Gerede Municipality PIU and Contractor
Project GRM	<ul style="list-style-type: none"> • Number of grievances/comments received during per consultation • Types of the grievances/comments (community HS, employment, local procurement etc.) • Timeframes for response to each grievance • The number of open or closed grievances • Number of invalid or in progress grievances 	Construction	Quarterly	- To be assigned by Gerede Municipality PIU and Contractor
		Operation	Semi-annually in the first two years; Annually afterwards	- To be assigned by Gerede Municipality PIU and Contractor
Workers' GRM	<ul style="list-style-type: none"> • Number of grievances/comments received by own workers • Number of grievances/comments received by indirect workers • Types of the grievances/comments regarding worker management and working conditions (e.g. Worker rights, OHS, etc.) 	Construction	Monthly	- To be assigned by Gerede Municipality PIU and Contractor
		Operation	Semi-annually in the first two years; Annually afterwards	- To be assigned by Gerede Municipality PIU and Contractor

Parameter	Key Performance Indicator	Phase	Frequency	Responsible Party
	<ul style="list-style-type: none"> Timeframes for response to each grievance The number of open or closed grievances Number of invalid or in progress grievances 			
GM	Effectiveness of the GM	Construction	Quarterly	ILBANK

8. CONCLUSION


This ESMP identifies the potential impacts that may arise during construction and operation phases of the Project and proposed appropriate mitigation measures to effectively address these impacts. In conclusion, the Project can be carried out in an environmentally and socially sustainable manner on full implementation of this ESMP as there are no likely major or irreversible negative impacts.

As part of the requirements stipulated by the Lenders, ESMP is to be publicly disclosed by the Project Owner's and the Lender's website. ESMP will be reviewed, updated, and approved if necessary. For each approved updated version of this ESMP, the Project Owner will be responsible for the disclosure of the updated documents.


9. APPENDICES

Appendix-1 Title Deed Information For The Project

BU BELGE TOPLAM 2 SAYFADAN OLUŞMAKTADIR BİLGİ AMAÇLIDIR.



Tarih: 14-11-2023-08:44



Kayıd Oluşturan: METİN ÇELİKBAŞ (Gerede Belediye Başkanlığı)

Tapu Kaydı (Hepsi)

TAPU KAYIT BİLGİSİ

Zemin Tipi:	AnaTasınmaz	Ada/Parsel:	0/386
Taşınmaz Kimlik No:	72876503	AT Yüzölçümü(m2):	17600.00
İl/İlçe:	BOLU/GEREDE	Bağımsız Bölüm Nitelik:	
Kurum Adı:	Gerede	Bağımsız Bölüm Brüt Yüzölçümü:	
Mahalle/Köy Adı:	SOFULAR Köyü	Bağımsız Bölüm Net Yüzölçümü:	
Mevkii:	RUMŞAHKIRI	Blok/Kat/Giriş/BBNo:	
Cilt/Sayfa No:	4/378	Arsa Pay/Payda:	
Kayıt Durum:	Aktif	Ana Taşınmaz Nitelik:	TARLA

TAŞINMAZA AİT ŞERH BEYAN İRTİFAK BİLGİLERİ

Ş/B/İ	Açıklama	Malik/Lehtar	Tesis Kurum Tarih-Yevmiye	Terkin Sebebi-Tarih-Yevmiye
Beyan	5403/5578 S.Y. gereğince arazi toplulaştırması kapsamındadır. (Şablon: 5403/5578 S.Y. Göre Topplulaştırma Belirtmesi)	(SN:2736827) TARIM REFORMU GENEL MÜDÜRLÜĞÜ VKN:	Gerede - 02-06-2015 09:34 - 1452	

1 / 2

MÜLKİYET BİLGİLERİ

(Hisse) Sistem No	Malik	El Birliği No	Hisse Pay/ Payda	Metrekare	Toplam Metrekare	Edinme Sebebi-Tarih-Yevmiye	Terkin Sebebi-Tarih-Yevmiye
197773171	(SN:2858703) GEREDİ BELEDİYESİ VKN:1620051805	-	1/1	17600.00	17600.00	Satış 19-12-1991 1833	-

MÜLKİYETE AİT ŞERH BEYAN İRTİFAK BİLGİLERİ

Ş/B/İ	Açıklama	Kısıtlı Malik (Hisse) Ad Soyad	Malik/Lehtar	Tesis Kurum Tarih-Yevmiye	Terkin Sebebi-Tarih-Yevmiye
Serh	Kamu Haczi :- BOLU SOSYAL GÜVENLİK İL MÜDÜRLÜĞÜ'nin 14/06/2016 tarih 8478197 sayılı Haciz Vazesi sayılı yazıları ile Borç :- 1194974 TL (Alacaklı :- amme)	GEREDİ BELEDİYESİ VKN		Gerede :- 21-06-2016 17:06 - 1910	Gerede :- 29-07-2016 17:29 - 2186

Bu belgeyi akıllı telefonunuzdan karekod tarama programları ile aşağıdaki barkodu taratarak;
veya Web Tapu anasayfasından (<https://webtapu.tkgm.gov.tr> adresinden) _5YDDoMZ6Jd kodunu Online işlemler alanına yazarak doğrulayabilirsiniz.



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Figure 8-1 Title Deed Information for the Project Area

Appendix-2 Environmental And Social Screening Checklist For Sub-Projects

Sub-project Information	
Sub-project title	Gerede SPP
Sub-project beneficiaries	Gerede Municipality
Proposed date of start of work	04.2024
Brief description of sub-project	Gerede Municipality's Solar Power Plant Project aims to produce the electricity consumption needed by the citizens living in the district through a solar power-based electricity generation facility. Within the scope of the project, it is planned to use solar energy panels with monocrystalline cell structure.
The planned capacity for Solar Power Plants (MWh/MWe)	1.576 MWh/year
Site area (ha), location	17.600 m ² (0.00176 ha) Bolu Province, Gerede District, Sofular Neighbourhood
Status of national EIA process of sub-project Please attach the official documents for (Annex I - Within the Scope of the Environmental Impact Assessment), (Annex II - Not Requiring Environmental Impact Assessment), and (Excluded from Scope).	Status of national EIA process is given in Figure 8-2 and Figure 8-3 Hata! Başvuru kaynağı bulunamadı..

Environmental and social impacts related to the proposed sub-project – the existing situation			
	Yes	No	Details
Will the sub-project adversely affect legally protected areas or internationally recognized areas of high biodiversity value ¹ ?		X	The area where the project will take place is a field, but there is no active cultivation. There are no trees or wetlands in the area. Therefore, it is not expected to have an impact on biodiversity during the construction or operation phase.
Will the sub-project be located in or near the environmentally sensitive or protected area (in accordance with national legislation)?		X	There is no protected area with a diameter of 1 km near the area where the project will be carried out.
Will the sub-project adversely affect critical habitats such as forest ecosystems, wetlands, marshlands, and aquatic ecosystems or natural habitats?		X	The area where the project will take place is a field, but there is no active cultivation. Therefore, it is not expected to have an impact on protected areas during construction or operation.
Will the sub-project adversely affect endangered plant and animal species?		X	There are no endangered species in the area where the project takes place, and the area is not located on the migration route.
Will the sub-project affect archaeological sites, historic monuments and settlements?		X	There are no archaeological sites or historical monuments found in the past around the project area. For this reason, the probability of finding finds in the area seems low.
Is there woods or forest around the sub-project area?		X	There is no wooded area around the project. The area around is steppe.
Will the sub-project adversely affect the woods and forest?		X	
Is there any combustible and flammable subsidence material around the sub-project area?		X	
Is there underground facilities such as gas pipeline, electrical facilities?		X	
Are there any overhead lines such as high-voltage lines in or near the sub-project area?		X	There is no high or medium voltage line with a diameter of 500 meters around the project.
Will people permanently or temporarily lose access to facilities, services, or natural resources because of the sub-project activities?		X	
Does this sub-project intervention (for the power plant area, energy transmission line, or transportation route) require the		X	The project area is owned by the municipality. The electrical transmission line is located within the site and is 300 meters long,

acquisition of privately owned land? If so, please provide details.			so there is no need for expropriation. Since the project area is close to the main road, there is no need for a transportation route.
If land parcel acquisition is required (for the Power Plant Area, Energy Transmission Line, or Access Road), what is the actual land size and ownership status?		NA	
If new land is needed (for the Power Plant Area, Energy Transmission Line, or Access Road) and the land is privately owned, can this land be purchased through mutual agreement (outside of expropriation) with the consent of the landowner?		NA	
Will the sub-project require the acquisition of public lands?		X	
If public lands will be acquired, are there any formal/informal users utilizing these lands for income generation purposes?		NA	
Will there be loss of/damage to productive trees, fruit plants or crops that generate livelihood income for the households?		X	
Is there any soil contamination observed at the sub-project area?		NA	

Impacts of sub-project (in case of rooftop solar sub-project only):			
Will the sub-project affect the daily operation of the building and people?		X	No impact expected as long as the dates of active construction are made known to the public
Is the building protected under the law for the protection of cultural heritage?		X	
Is the building of special significance to any vulnerable group (i.e. disabled people, minorities, youth, etc.)?		X	The project area belongs to the municipality, no indirect users have been identified.

Environmental and social/impacts related to sub-project construction/installation			
	Yes	No	Details
Will the sub-project involve the use of forest trees or other natural resources as building materials?		X	
Will the sub-project emit greenhouse gases (CO ₂ , NO _x , O ₃) or ozone-depleting substances (CFC, methyl bromide, etc.)?		X	It is envisaged to use a small crane, excavator, and a truck during the construction phase of the project. Greenhouse gas generation will be negligible.
Will the sub-project use, produce, or discharge hazardous and toxic materials	X		If the equipment is to be filled with fuel near the site, there will be a possibility of minor spills.

(e.g., hospital waste, industrial waste, or other?)			Apart from this, there is a possibility of small scale medical waste (dressing etc.).
Will the sub-project produce or cause occupational hazards?	X		In the exaction material transport and assembling works of panels, PV Panel Power Lines Connecting etc. In all processes, there are hazards such as working at height, electric shock or Hot/Sunstroke.
Will the sub-project cause dust and noise pollution?	X		A low amount of dust generation is expected on the access roads during the transportation of the excavation material, panels, and a low amount of noise generation during installation.
Will the sub-project cause water pollution?		X	Due to the low number of people to work, there will not be a significant increase in the wastewater load.
Will the sub-project cause soil pollution?	X		There is a possibility of pollution due to the storage of hazardous materials and wastes generated during construction and assembly without providing the necessary conditions.
Will the sub-project result in temporary disruption to the livelihoods of any persons/households?		X	
Will the sub-project cause community safety-related hazards?	X		Occupational accidents may arise due to working at height and working with electricity.
Will the sub-project include significant OHS concerns?		X	
Will the sub-project cause additional traffic load?		X	It is envisaged to use a small crane, excavator, and a truck during the construction phase of the project. The contribution of the project to traffic will be negligible.
Will the sub-project cause any adverse impact on the closest sensitive receptors (if there is any)?		X	The closest residential area to the project area is 300 meters. Considering the distance, short construction period and the scope of construction, the impact is not expected.
Is there a population that can be negatively affected by the sub-project?		X	The closest residential area to the project area is 300 meters. However, considering the distance, short construction period and the scope of construction, the impact is not expected.

Other environmental or social impacts (describe the nature and severity of its impact)	<p><u>Preparation phase:</u></p> <p>One of the environmental considerations concerns waste management, as construction activities can generate various types of waste, including exaction material, domestic solid waste, packaging waste, hazardous waste and medical waste. Appropriate waste management practices are essential to prevent negative effects on the environment and human health. There is no expropriation within the project scope.</p> <p><u>Construction phase</u></p> <p>The effects at the preparatory stage also apply during construction. In addition, maintenance oils and hazardous materials used for vehicles and machinery may pose a risk of soil pollution if not properly managed. In addition, dust emissions may occur due to the movement of machinery. By applying appropriate dust control measures such as water spraying and dust curtains, airborne particles can be reduced, and air quality standards can be complied with. Noise from machinery and assembly processes can have potential effects on workers and surrounding local residents. Nightwork will be avoided and mitigation measures will be taken regarding any complaints about noise. Traffic density is not expected to increase significantly due to the restricted movement of heavy equipment on the access roads to the project areas.</p> <p><u>Operation phase:</u></p> <p>The operation phase of the solar power plant will not involve significant impacts in terms of the environment.</p>
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Sub-project Categorization and Need for Safeguards Instruments

Sub-project Category	<input checked="" type="checkbox"/> Low <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial <input type="checkbox"/> High
Key Reasons	The construction phase will be short-term and low-impact. No impact expected during operation.
Environmental and Social Instruments Required	<input checked="" type="checkbox"/> ESMP <input checked="" type="checkbox"/> OHSP <input type="checkbox"/> ESIA <input type="checkbox"/> LMP <input type="checkbox"/> RAP <input type="checkbox"/> Ex-post Social Audit

Status	Agency / Official	Name, Signature with Date
---------------	--------------------------	----------------------------------

Prepared by	Kali Mühendislik ve Danışmanlık A.Ş.	Şevval Kurt / 14.09.2023
Checked and Categorized as (low, moderate, substantial, or high) by		
Reviewed and Approved by		

Appendix-3 EIA Exemption Letter

T.C.
BOLU VALİLİĞİ
Çevre ve Şehircilik İl Müdürlüğü

Sayı : 70703704-220.03-E.5528
Konu : Güneş Enerjisi Santrali (E-2019116)

26.06.2019

PORTAL ENERJİ-Sedat ERDAŞ
Aşağıyurtçu Mah. 4491 Cad. No:13 B/14 Etimesgut/ANKARA

İlgi : 03/05/2019 tarihli ve 105861 Referans No'lu Başvuru.

Bolu İli, Gerede İlçesi, Sofular Mah. 386 ve 791 Nolu Parsellerde Gerede Belediyesi tarafından yapılması planlanan Güneş Enerjisi Santrali (990 kW) projesi, 25/11/2014 tarih ve 29186 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerindeki eşik değerden az olduğu için kapsam dışı olarak değerlendirilmiştir.

Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik denginin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi ve gereğini rica ederim.


İmza
Osman KAZGAN
Çevre ve Şehircilik İl Müdürü

Belgenin 1/1
Elektronik İmzalıdır
26.06/2019
Fatma ÖZDEMİR
Etiler


Figure 8-2 EIA Exemption Letter

Appendix-4 Exclusion Letter

TASNİF DIŐI



T.C.
BOLU VALİLİĐİ
Çevre, Şehircilik ve İklim Değışikliği İl Müdürlüğü



Sayı : E-70703704-220.03-8190900
Konu : Güneş Enerji Santrali ÇED Görüşü (E-2019116)

GEREDE BELEDİYE BAŐKANLIĐINA

İlgi : 07.12.2023 tarihli ve 30004812-115.99-11040 sayılı yazınız.

İlgi yazıda , 10.05.2005 tarih ve 5346 numaralı Enerji Piyasa Kurulu tarafından 02.10.2023 tarih ve 28783 Sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren " Enerji Piyasasında Lisanssız Elektrik Üretimine İlişkin Yönetmelik" kapsamında Kurumunuza 990 kW Güneş Enerji Üretim Santrali izni verildiğı belirtilmiştir. Müdürlüğümüz tarafından bahse konu Güneş Enerji Üretim Santrali (990 kW) için 26.06.2019 tarih ve E.5528 sayılı yazı ile verilen ÇED Yönetmeliğı kapsam dışı değerlendirme yazısının (E-2019116) geçerli olduğuna dair yazının verilmesi istenmiştir.

Bu bağlamda; Güneş Enerji Üretim Santrali (990 kW) için verilmiş olan ÇED Kapsam dışı yazısı, 29.07.2022 tarih ve 31907 sayılı güncel olan ÇED Yönetmeliğı kapsamında da geçerliliğini korumaktadır.

Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değışik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğeri mer'î mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi ve gereğini rica ederim.

Oğuzhan KURT
Vali a.
Çevre, Şehircilik ve İklim Değışikliği İl Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: CC158675-0042-4A28-B05D-246369AC28C4
Adres: Sağlık Mahallesi Şehitler Caddesi No: 54 PK:14300 BOLU
Fax:(374) 270 35 71
e-posta: bolu@csb.gov.tr İnternet Adresi: http://www.csb.gov.tr/iller/bolu
KEP Adresi: bolucevreschircilik@chs01.kep.tr

Doğrulama Adresi: https://www.turkiye.gov.tr
Bilgi için:Olgun AKMAN
Çevre Mühendisi

TASNİF DIŐI




Figure 8-3 Exclusion Letter