This project is co-funded by the European Union, the Republic of Turkey and the World Bank
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

SUSTAINABLE CITIES PROJECT-II
Additional Financing

Nigde Central Sewerage and Stormwater Construction Project

Environmental and Social Management Plan

TUMAS - ENCON JOINT VENTURE

JANUARY 2024

SÜRDÜRÜLEBİLİR ŞEHİRLER
TÜRKİYE CUMHURİYETİ ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ BAKANLIĞI
İLBANK TÜRKİYE'NİN YAPICI GÜCÜ
THE WORLD BANK IBRD • IDA | WORLD BANK GROUP

REVISION HISTORY

Rev.	Date of Issue	Issue Reason	Client	Project Owner	Consultant
1	April 2022	First submission	ILBANK	Nigde Municipality	TUMAS & ENCON Joint Venture
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5	December 2023	Assystem comments addressed	ILBANK	Nigde Municipality	TUMAS & ENCON Joint Venture
6	January 2024	SCM document incorporated	ILBANK	Nigde Municipality	TUMAS & ENCON Joint Venture

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LIST OF ABBREVIATIONS

AF	Additional Financing
AFAD	Disaster and Emergency Management Presidency
AoI	Area of Influence
AZE	Alliance for Zero Extinction
CEKUL	Foundation for the Protection and Promotion of the Environment and Cultural Heritage
CIMER	Presidency's Communication Center
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COVID-19	Coronavirus Disease of 2019
dBA	Decibels adjusted
DLP	Defect liability period
DO	Dissolved Oxygen
DSI	General Directorate of State Hydraulic Works
E&S	Environmental and Social
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
EMEP	European Monitoring and Evaluation Programme
ENCON	ENCON Cevre Danısmanlık Ltd. Sti.
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESMR	Environmental and Social Monitoring Report
ESMS	Environmental and Social Management System
EU	European Union
FI	Financial Intermediary
GBV	Gender Based Violence
GHG	Green House Gas
GIIP	Good international Industry Practice
GIS	Geographical Information System
GRM	Grievance Redress Mechanism
GP	Good Practices
IBA	Important Bird Area
IFC	International Finance Corporation
ILBANK	ILBANK A.S.
ILO	International Labor Organization
IPA	Important Plant Area
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Areas
KGM	General Directorate of Highways
MAN	Man, and the Biosphere Programme
MoEUCC	Ministry of Environment, Urbanization and Climate Change
MoLSS	Ministry of Labor and Social Security
NGOs	Non-Governmental Organizations

NIGKAD-BIR	Nigde Regular Solid Waste Warehouse Operations Association
NTS	Non-Technical Summary
OHS	Occupational Health and Safety
OP	Operational Policies
PAP	Project Affected Person
PIU	Project Implementation Unit
PM10	Particulate matters with aerodynamic diameter smaller than 10µm
PPE	Personal Protective Equipment
PIF	Project Introduction File
Project	Nigde Central Sewerage and Stormwater Construction Project
PS	Performance Standard
RAMAQ	Regulation on the Assessment and Management of Air Quality
RENC	Regulation on the Environmental Noise Control
RAMSAR	Convention on Wetlands of International Importance, Especially as Waterfowl Habitat
RCA	Root Cause Analysis
SCM	Stakeholder Consultation Meeting
SCP-I	First Sustainable Cities Project
SCP-II	Second Sustainable Cities Project
SCP-II-AF	Second Sustainable Cities Project Additional Financing
SEA/SH	Sexual Exploitation and Abuse and Sexual Harassment
SEGE	Socio-Economic Development Ranking Survey of Provinces and Regions
SEP	Stakeholder Engagement Plan
SN	Stiffness
TAYCED	Waste and Environmental Management Association
TEMA	Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats
TMP	Traffic Management Plan
TN	Total Nitrogen
ToR	Terms of Reference
TP	Total Phosphorus
TSS	Total Suspended Solid
TurkStat	Turkish Statistical Institute
TUMAS	TUMAS Turk Muhendislik Musavirlik ve Muteahhitlik A.S.
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	UN Framework Convention on Climate Change
US EPA	United States Environmental Protection Agency
WB	World Bank
WBG	World Bank Group
WHO	World Health Organization
WWTP	Wastewater Treatment Plant
YIMER	Ministry of Interior General Directorate of Migration Management Foreigners Communication Center

EXECUTIVE SUMMARY

Nigde Central Sewerage and Stormwater Construction Project ("the Project") is one of the sub-projects covered under the Sustainable Cities Project-II - Additional Financing (SCP-II-AF) to support sustainable development in Turkish cities. The emergence of the SCP-II-AF is a response to ongoing technical assistance for sustainable urban development and capital investment planning being provided under Component A (Municipal Investments) of SCP-I. This exceptional demand includes identification of investments to improve public transport, water and sanitation, solid waste management, energy, environment, disaster risk management and climate resilience, and social infrastructure.

The Project aims to solve infrastructure problems in order to create sustainable and planned urbanization, to ensure the protection of environmental health and to ensure the continuation of all these for future generations.

The purpose of the project is (a) to design and implement the sewerage network to meet the wastewater infrastructure needs of the residents of Ilhanli and Nar neighborhoods, and (b) to design and implement a stormwater network to meet the rainwater infrastructure needs of the residents of Selcuk, Ilhanli and Nar neighborhoods.

The following activities will be performed within the scope of this Project:

- Rehabilitation of the existing sewerage network of 128.6 km in Ilhanli and Nar neighborhoods in Nigde City Center,
- Construction of a new sewer line with a length of 10.008 km in İlhanli and Nar neighborhoods,
- Construction of 27.617 km long stormwater network in Ilhanli, Nar and Selcuk neighborhoods in Nigde City Center.

Together with the implementation of the Project, the stormwater and wastewater in the integrated system will be separated providing the following benefits for Nigde Province:

- Reduction or elimination of floods in the region,
- Reduction or elimination of sanitary discharges to receiving waters,
- Reduced impacts on aquatic species and habitat,
- Reduced risk of contact with pathogens and bacteria from domestic sewage in the receiving water,
- Saving in energy consumption,
- Less use of clean water resources,
- Water savings with increased wastewater use.

The Project will be financed by the World Bank (WB). ILBANK A.S. (ILBANK) is the Borrower of the loan, serving as a Financial Intermediary (FI) to Nigde Municipality. Nigde Municipality will be responsible for the implementation of the Project at the local level (the Project Owner).

One of the tasks under the scope of the Project is the preparation of an Environmental and Social Management Plan (ESMP) in accordance with the WB Safeguard Policies, and the national legislation in force in Türkiye. This ESMP is therefore prepared to set out site specific mitigation,

monitoring and institutional measures to be taken during construction and operation phases of the Nigde Central Sewerage and Stormwater Construction Project to eliminate adverse environmental and social impacts/risks, offset or reduce them to acceptable levels. This report has been prepared by TUMAS Turk Muhendislik Musavirlik ve Muteahhitlik A.S. (TUMAS) & ENCON Cevre Danısmanlık Ltd. Sti. (ENCON) Joint Venture in the scope of the environmental and social impact and risk assessment studies conducted for the Project.

The Project's anticipated environmental and social impacts/risks will be in terms of air quality, soils, water resources, noise, biological environment, landscape, resources and waste, climate change, socioeconomic environment and occupational health and safety, cultural heritage, and community health, safety and security.

Moreover, within the scope of the Project, Stakeholder Engagement Plan (SEP) has also been prepared by TUMAS & ENCON Joint Venture for Nigde Municipality. The SEP encompasses planned stakeholder consultation activities and the process of stakeholder engagement.

The project will be in compliance with the good international practice, including WB Safeguard Policies, guides, standards and best practices documents alongside the national legislation. Specific standards related to the project are as follows:

- WB Operational Policies (OP) 4.01 – Environmental Assessment
- WB OP 4.04 – Natural Habitats
- WB OP 4.11 – Physical Cultural Resources
- World Bank Group (WBG) General Environmental, Health and Safety (EHS) Guidelines
- WBG Industry Sector Guidelines for Infrastructure - Water and Sanitation
- Bank Policy (BP) 17.50 Bank Disclosure Policy

According to the Turkish Environmental Impact Assessment (EIA) Regulation (Official Gazette dated July 29, 2022 and numbered 31907), the Project is out of the scope of the EIA Regulation since sewer and stormwater systems are not included in Annex I and Annex II of EIA Regulation. Therefore, an EIA study was not required for this project. Application on this issue is made by Nigde Municipality on 06.12.2023 (see Annex 7) and official decision of the Provincial Directorate of Environment, Urbanization and Climate Change is awaited and certificate will be annexed to the ESMP when it is available.

On the other hand, the Project has been categorized as Category B Project according to the definitions in OP/BP 4.01 on Environmental Assessment. In addition, the Project is classified as Moderate Risk according to WB's Environmental and Social (E&S) Policy, which states that for moderate risk projects the potential risks and impacts and issues are likely to have the following characteristics: (i) predictable and expected to be temporary and/or reversible, (ii) low in magnitude, (iii) site-specific, without likelihood of impacts beyond the actual footprint of the Project and (iv) low probability of serious adverse effects to human health and/or the environment (e.g., do not involve use or disposal of toxic materials, routine safety precautions are expected to be sufficient to prevent accidents, etc.).

Since the project area is owned by Nigde Municipality, there is no need to carry out any expropriation within the scope of the project. The routes of the proposed stormwater and sewerage lines will pass under the existing public roads, which are under the responsibility of the Nigde Municipality. During the construction phase of the project, a construction camp site is planned to be established within the area owned by the municipality and this area will also be used for the storage of pipes to be used in construction. The Project will not cause any economic displacement. The impact

on local businesses during the construction of the network is expected to be insignificant and temporary. Road closures will be avoided as much as possible and therefore shops/stores are not expected to be closed due to the construction activities.

Relevant permits and, protocols will be obtained for other 3rd party crossings such as underground electricity cables etc. during construction stage. A permit for cadastre roads will be obtained from KGM and a permit for electricity cables from Türkiye Electricity Transmission Corporation (TEIAS).

Considering the land ownership, the Project does not trigger WB OP 4.12 – Involuntary Resettlement; no land acquisition, resettlement, nor economic displacement is of concern in connection with any of its components. All Project sites will be accessible through the existing roads; therefore, construction of any access/service road is not required.

The project area is relatively poor in terms of biodiversity, and the anthropogenic effect in the project area is high. There are no sensitive areas such as important environmental protection zones, critical natural habitats, natural habitats, etc.

The project will not cause any economic displacement. The impact on local businesses during the construction of the Project will only be temporary and not significant. Roads closures will be avoided as much as possible and therefore shops/stores are not expected to be closed due to the construction activities.

Although the exact total number of workers to be employed during the construction and operation phases is currently unknown, it is estimated as 75 for the construction and four (4) for the operation phases, respectively. In the employment process, priority will be given to the local community. The construction of the Project is planned to be completed in 24 months.

ESMP Content and Key Mitigation Measures

The ESMP has described legal framework and WB Operational Policies applicable to the project, as well as E&S baseline conditions. In addition, it has identified mitigation measures and monitoring activities to reduce and avoid environmental and social impacts/risks associated with the project. This ESMP defines:

- Description of the environmental and social baseline conditions;
- Description of the potential environmental and social impacts/risks;
- Detailed mitigation measures and roles and responsibilities for mitigation implementation;
- Monitoring activities and roles and responsibilities for implementation of the monitoring activities;
- Institutional structure for oversight and management of Project;
- Capacity building requirements; and
- Consultations with affected groups and non-governmental organizations.

Table 1 Summary of Mitigation Measures

Areas of Potential Environmental and Social (E&S) Impacts	**Mitigation Measures**
Air Quality	Dust and exhaust emissions management Air quality monitoring
Geology, Soils and Contaminated Land	Topsoil preservation and restoration Prevention of soil contamination

Areas of Potential Environmental and Social (E&S) Impacts	Mitigation Measures
	Erosion control measures
Water Resources	Proper storage of chemicals Prevention of surface runoff Effluent discharge consistent with applicable national requirements or internationally accepted standards
Noise and Vibration	Regular maintenance of the construction machinery, equipment and vehicles Establishment of a robust grievance redress mechanism
Biological Environment	Re-vegetation, where possible Measures to further avoid and minimize the construction footprint
Landscape and Visual	Planting trees at the borders of the Project
Resources and Wastes	Wastes management in accordance with the waste management hierarchy Selection of most appropriate raw materials by evaluating clean production options Ensuring proper management of existing pipes containing asbestos
Climate Change	Optimal utilization of the available construction equipment and materials Regular maintenance of construction vehicles and equipment
Employment and Procurement Opportunities	Providing transparent, non-discriminatory, equal recruitment opportunities with respect to ethnicity, religion, language, gender and sexuality
Infrastructure and Services	Prompt compensation of any damage to infrastructure
Ecosystem Services	Effluent discharge consistent with applicable national requirements or internationally accepted standards
Labor Force	A grievance redress mechanism Preparation of information materials Managing and monitoring the performance of contractors in relation to the prohibition of child labor, unregistered employment and forced labor Proper adaptation of human rights policy and labor rights
Community Health, Safety and Security	Usage of appropriate health and safety signs and traffic signage Implementation of a grievance redress mechanism for stakeholders and the public to register any complaints Preparation of Traffic Management Plan Usage of appropriate traffic signage
Occupational Health and Safety	Providing a safe working environment for the workers Preparation of a Health and Safety Management Plan Occupational Health and Safety trainings including Code of Conduct Ensuring usage of personal protective equipment Emergency Preparedness and Response Plan First aid and emergency response equipment Adequate Occupational Health and Safety organizational structure
Archaeological and Cultural Heritage	Informing related Conservation Board or Museum Directorate in case of any chance find Implementation of chance find procedure (see Annex-5)

As a part of the mitigation measures, it is recommended that an Environmental and Social Management System (ESMS) covering all phases of the Project and consisting of management plans on different subjects is developed by Nigde Municipality's Project Implementation Unit (PIU). Nigde Municipality will ensure that the contractor will prepare the management plans. Table presenting the recommended management plans and procedures for both phases of the Project is given in Table 2. All employees will be trained on the all relevant management plans and procedures.

Table 2 Recommended Management Plans for Construction and Operation Phases of the Project

Management Plans/Procedures	Stage to be Prepared	Responsible Party	Approving Party
Construction Phase			
A Soil Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
An Air Quality and Emissions Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
A Water Resources Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
A Noise and Vibration Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
A Waste Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
A Traffic Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
A Community Health, Safety, and Security Management Plan that is in line with WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
An Occupational Health and Safety Management Plan that is in line with WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
A Contractor Management Plan that is in line with WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
An Excavation Safety Procedure that is in line with WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
An Asbestos Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	Construction Contractor	ILBANK
A Chance Find Procedure that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to construction	E&S Consultant	ILBANK
Operation Phase			
A Water Resources Management Plan that is in line with WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to operation	Nigde Municipality or Third Party E&S Consultant	ILBANK
A Waste Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to operation	Nigde Municipality or Third Party E&S Consultant	ILBANK
An Occupational Health and Safety Management Plan that is in line with WB OP 4.01 and WBG EHS Guidelines (both general and sector specific)	Prior to operation	Nigde Municipality or Third Party E&S Consultant	ILBANK

I. INTRODUCTION

I.1. Project Background and Rationale

Nigde Central Sewerage and Stormwater Construction Project ("the Project") is one of the sub-projects covered under the Sustainable Cities Project-II-Additional Financing (SCP-II-AF) to support sustainable development in Turkish cities. The emergence of the SCP-II-AF is a response to ongoing technical assistance for sustainable urban development and capital investment planning being provided under Component A (Municipal Investments) of SCP-I. This exceptional demand includes identification of investments to improve public transport, water and sanitation, solid waste management, energy, environment, disaster risk management and climate resilience, and social infrastructure.

Most of the channels that provide the collection and transportation of wastewater in Nigde Central District are still outdated. Moreover, there are many unregulated connections from the roofs of buildings to the sewerage system in addition to the existing lines serving as a combined system, which causes the capacity of the sewerage system to be exceeded in heavy rainfall. For these reasons, the wastewater collection system needs to be renewed and separated. The other issue is the stormwater adversely affecting people, life, traffic, buildings, etc. especially in the city centre. In addition, the wastewater collection system is also used for the collection of stormwater. Therefore, there is a need for a new drainage system that will collect stormwater separately and one of the aims of the project is to separate stormwater from wastewater.

Consequently, the beneficiary Nigde Municipality initiated the infrastructure projects to eliminate the deficiencies related to the sewerage network and stormwater network systems. It is an important requirement that these projects are tendered and put into practice. The Project will be financed by WB. ILBANK is the borrower of the loan and the project monitoring agency, serving as a Financial Intermediary (FI) to Nigde Municipality. Nigde Municipality will be responsible for the implementation of the Project at the local level.

Currently, the stormwater and sewerage network in Nigde Province serve in an integrated manner. As a result of heavy rains, excessive rain water mixes into the existing wastewater network. This situation causes a decrease in the efficiency of the wastewater treatment plant. Due to the lack of infrastructure, there are floods that affect the people of the region. For this reason, the central districts of Nigde province have been prioritized. Stormwater line project was planned in Ilhanli, Nar and Selcuk Neighborhoods. Sewerage line project was planned in Ilhanli and Nar Neighborhoods. With the implementation of the project, the following benefits will be provided:

- Due to the insufficient carrying capacity of the existing infrastructure, overflows may occur. With the project, such situations will be prevented and aesthetic and odor pollution will be reduced considerably.
- The project, which has important advantages in terms of public health, will also be beneficial for the protection of groundwater. Thanks to the system with increased capacity, groundwater will be polluted at a minimum level.
- Since the system will work more efficiently, the amount of wastewater collected from the project area and transmitted to the wastewater treatment plant will increase.
- The project will benefit the protection of water resources, the reduction of pressure on resources and the sustainable use of resources.
- The occurrence of basement flooding within the project vicinity will be mitigated and effectively averted.Overflows during periods of heavy rainfall cause ponding on the roads and endanger vehicle traffic. With the project, ponding will be prevented. And indirectly, a reduction in traffic accidents caused by ponding will be achieved.

- Since the flow rate of the integrated system will decrease, the amount of wastewater (2,862 m^3/day for 2025) to be treated will be reduced that would lead to economic advantages.
- The discharge of stormwater into the natural stream also supports the natural water cycle in cities.

As a result, within the scope of the project, positive effects will be observed on social sustainability by eliminating the grievances of citizens caused by excessive precipitation, and on environmental sustainability by reducing/eliminating negative effects on the environment with the efficient use of wastewater treatment plant.

I.2. Purpose and Scope of ESMP

One of the tasks under the scope of the Project is the preparation of an ESMP in accordance with the WB Safeguard Policies. Accordingly, this ESMP has been prepared by TUMAS Turk Muhendislik Musavirlik ve Muteahhitlik A.S. (TUMAS) & ENCON Cevre Danismanlik Ltd. Sti. (ENCON) Joint Venture to assess and identify the potential environmental and social impacts and risks arising from development of the Project and recommend mitigation measures for adverse environmental and social impacts/risks and describes the monitoring and institutional requirements necessary to implement this Plan.

The primary purpose of this ESMP is to ensure that the environmental requirements and social commitments associated with the Project are carried forward into construction and operation phases of the Project and are effectively managed. The specific objectives of this ESMP are as follows:

This ESMP assesses the environmental and social risks and impacts of the proposed project based on the available information; the type of the project, here is a Sewerage and Stormwater Construction Project; the specific context in which the proposed project will be developed and implemented; and the capacity and commitment of the implementing agency Nigde Municipality together with the findings of the Feasibility Report and the Project Identification Document (PID) prepared for this Project. The purpose of that report is to check and justify the feasibility and applicability of the proposed Project with actual technical and financial data of the Municipality in accordance with ILBANK specifications and national legislation. In addition, PID and design reports are also informative reports containing the objectives and calculations of the Project.

The assessment of the risks and impacts were carried out in accordance with the WB Safeguard Policies, including its Operational Policies (OPs), World Bank Group (WBG) General Environmental, Health and Safety (EHS) Guidelines and Industry Sector Guidelines, ILBANK's Environmental and Social Management Framework (ESMF) of SCP-II AF and best practices documents alongside the national legislation. Identification of risks, mitigation and monitoring activities are considered for the two main phases of the Project, which are "Construction" and "Operation". In order to achieve environmental and social outcomes consistent with the WB Safeguard Policies, potential adverse environmental and social impacts/risks anticipated in each phase of the project components have been identified; requirements for effective and timely interventions have been defined; and means for meeting these requirements have been described in the context of this ESMP.

This ESMP outlines the anticipated project specific impacts/risk, summarizes project specific environmental and social mitigation measures and translates them into management actions. It will be continuously reviewed and updated as the Project progresses by taking into account the following:

- Changes in national legislation and international standards;
- Changes to the project design parameters during the detailed design and tender document preparation stages (if any);

- Monitoring results; and

In the scope of the Project, Stakeholder Engagement Plan (SEP) has also been prepared by TUMAS & ENCON Joint Venture for Nigde Municipality. The SEP encompasses planned stakeholder consultation activities and the process of stakeholder engagement.

The content of this document is as follows:

- Chapter I: Introduction

  This chapter introduces the project background and rationale and also the context and the objective of the ESMP.

- Chapter II: Legal Framework;

  This chapter explains national and international legal requirements, and also identified environmental agreements that are relevant to the project.

- Chapter III: Description of the Proposed Project

  This chapter is a description of the project including its location, components, technical specifications, and a proposed schedule for implementation.

- Chapter IV: Baseline Conditions

  This chapter describes the baseline conditions in and around the proposed project area, including physical, biological and socio-economic conditions.

- Chapter V: Environmental and Social Impacts of the Project

  This chapter assesses the potential positive and negative impacts of the project.

- Chapter VI: Mitigation and Monitoring Plans

  This chapter describes potential environmental and social impacts and risks associated with the Project activities. This chapter also describes proposed detailed management plans to address these impacts and risks; and a monitoring plan.

- Chapter VII: Institutional Arrangements and Capacity Building

  This chapter describes the Project institutional arrangements for implementation of the ESMP and capacity building measures.

- Chapter VIII: Consultations with Affected Groups and Non-Governmental Organizations (NGOs)

  This chapter gives detailed information about the public meetings.

II. LEGAL FRAMEWORK

This chapter is constructed to elucidate the main aspects of the legal and administrative framework followed in the design of this ESMP. Various national legislation and international standards explained in the following sections are also to be complied with during different stages of the Project, including land preparation, construction and operation.

The administrative structure in Türkiye is governed by central and local administrations. The central administration is organized so that the land mass of the country is divided into provinces and the provinces into further smaller divisions (i.e. districts, municipalities, villages/neighborhoods) according to geographic and economic conditions, and the need for public services. For the purpose of meeting collective local needs, the populations of provinces, municipalities, and villages/neighborhoods are administered by units of local government established by law (*Toksoz, F., 2006*).

Ministries are the units of central administration. Local branches of ministries are composed of provincial organizations attached to governors and district organizations attached to the district governors (*Hacettepe University, 2015*). At the local level, municipality mayors and the headmen of the villages/neighborhoods (mukhtar) are the representatives of the administrative structure.

Nigde Municipality is the authority responsible for the implementation of the Project at the local level.

II.1. Turkish Legislation

The key national laws and regulations presented in this section include the legal requirements to reduce the potential environmental impacts that may arise from the construction and operational activities of the Project. Turkish Legislation related to the Project is presented in the following sections under relevant subtopics.

II.1.1. Turkish Environmental, Health and Safety Legislation

Environmental Law No.2872, which is ratified in August 1983 (Official Gazette dated 11.08.1983 and numbered 18132), is one of the principal legislations related to the Project. Several by-laws and decrees are enforced under the Environmental Law.

The Environmental Impact Assessment (EIA) Regulation (Official Gazette dated July 29, 2022, and numbered 31907) defines the administrative and technical procedures and principles to be followed throughout the EIA process and is largely in line with the EU Directive on EIA. When an activity (a Project) is planned, the Project developer is responsible for preparing an EIA Report along with many other permits required to realize the Project. However, facilities are subject to preparation of an EIA Report depending on the type of facility, its capacity, or the location of the activity. The activities that are subject to the provisions of the EIA Regulation are listed in Annex I and Annex II of the Regulation. For Annex I activities a full EIA Report is required and those projects go through the full EIA process. For Annex II activities, a Project Introduction File (PIF) is prepared in accordance with the outline given in the EIA Regulation and the relevant process has to be conducted. As a result of the submission of PIF, if “EIA is required” decision is given, a full EIA Report is prepared.

The EIA process starts with submitting a brief report (EIA Application File), summarizing the characteristics of the Project and the impact area, and the potential environmental impacts and

mitigation measures, prepared according to the format provided in Annex III of the EIA Regulation to the Ministry of Environment, Urbanization and Climate Change (MoEUCC). Then the MoEUCC, General Directorate of EIA, Permit and Inspection forms a committee from related governmental and non-governmental agencies, which also includes the Project Owner and the Consultancy Company that prepares the EIA Report. With the formation of this committee the scoping phase starts.

This committee aims to define the scope of the EIA report to be prepared for the Project. The EIA scope is defined based on findings of the committee and the comments and suggestions received from a public information and participation meeting to be held at the project site. The purpose of the meeting is to give information regarding the Project and take the opinion of the public and answer their questions about the Project.

In addition, the MoEUCC shall announce that the EIA process regarding the project has been initiated and information regarding the EIA process may be obtained also via the internet. The scoping phase is completed with a meeting of this committee during which the EIA scope is agreed on. Based on the agreed scope, the EIA studies are conducted, and the report is prepared. After the submission of the EIA Report to the General Directorate of EIA, Permit and Inspection, it is checked with regard to the contents to decide whether the report is suitable for starting the review process. If the content of the report is found to be appropriate, the review period starts and ends with either a positive or negative decision.

MoEUCC and the governorships are responsible for informing the public that the review period of the EIA Report is started via announcements using local and national media, boards, internet etc. Thus, public will be able to access the EIA Report from the web site of the MoEUCC or the relevant Provincial Directorate and comment on the report. Those comments are reviewed in the Review Commission meeting and the results are reflected in the EIA Report.

The rest of the Turkish EHS Legislation that the Project will comply with is presented in Table II.1.

Table II.1 Turkish EHS Legislation Related to the Project

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Stages
Waste Management			
Waste Management Regulation	April 2, 2015	29314	• Management of wastes generated by construction staff during the construction stage and by operation staff during the operation stage • Hazardous wastes generated at construction and operation stages
Regulation on Landfill of Wastes	March 26, 2010	27533	• Disposal of wastes generated during the construction and operation phases
Waste Oil Management Regulation	December 21, 2019	30985	• Waste oils generated at construction and operations stages.
Regulation on the Control of Waste Vegetable Oil	January 6, 2015	29378	• Waste vegetable oils generated at construction and operation stages.
Regulation on the Control of Packaging Waste	June 26, 2021	31523	• Packaging wastes generated at construction and operation stages.
Communique on Recycling and Recovery of Certain Non-Hazardous Wastes	June 17, 2011	27967	• Non-Hazardous waste generated during construction and operation phases
Regulation on the Control of Medical Waste	January 25, 2017	29959	• Medical wastes generated at construction and operation stages.

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Stages
Regulation on the Control of End-of-Life Tires	November 25, 2006	26357	• Waste tires generated at construction and operation stages.
Regulation on the Control of End-of-Life Waste Vehicles	December 30, 2009	27448	• Management of end-of-Life waste vehicles currently stored in the Project Area.
Regulation on the Control of Waste Batteries and Accumulators	August 31, 2004	25569	• Waste batteries and accumulators generated at construction and operation stages.
Regulation on the Control of Excavation Materials, Construction and Demolition Wastes	March 18, 2004	25406	• Excavation materials, construction and demolition wastes generated during construction stage.
Regulation on the Incineration of Wastes	October 6, 2010	27721	• Incineration of wastes generated during the construction and operation phases
Water Quality Control and Management			
Water Pollution Control Regulation	December 31, 2004	25687	• Wastewater generated by the site staff at construction stage and by operation staff during the operation stage.
Regulation on the Water Intended for Human Consumption	February 17, 2005	25730	• Drinking water supplied during construction and operation stages.
Regulation on the Control of Pollution Caused by Hazardous Substances in and around Water Environment	November 26, 2005	26005	• Management of hazardous substances at construction and operation stages.
Regulation on the Protection of Groundwater Against Pollution and Deterioration	April 7, 2012	28257	• Protection of groundwater sources against pollution during construction and operation stages.
Surface Water Quality Regulation	November 30, 2012	28483	• Protection of surface water sources against pollution during construction and operation stages.
Air Quality Control and Management			
Regulation on the Assessment and Management of Air Quality	June 6, 2008	26898	• Emissions during construction stage.
Industrial Air Pollution Control Regulation	July 3, 2009	27277	• Dust emissions due to the construction activities performed at construction stage. • Emissions during operation stage.
Regulation on the Control of Odor Causing Emissions	July 19, 2013	28712	• Odorous emissions generated during operation stage.
Regulation on the Monitoring of Greenhouse Gas Emissions	May 17, 2014	29003	• Greenhouse gas emissions during construction and operation phases.
Regulation on Exhaust Gas Emission Control	March 11, 2017	30004	• Operation of Project vehicles, machinery and equipment at all phases of the Project
Noise Control and Management			
Regulation on the Environmental Noise Control	November 30, 2022 4, 2010	32029	• Noise emissions at construction and operation stages
Soil Quality Control and Management			
Regulation on the Control of Soil Pollution and Lands Contaminated by Point Sources	June 8, 2010	27605	• Risks of soil contamination at construction and operation stages.
Regulation on Afforestation	January 11, 2017	29945	• Risks of erosion at construction and

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Stages
and Erosion Control Services			operation stages.
Law on Soil Protection and Land Use	July 19, 2005	25880	• Protecting and developing of the soil at construction and operation stage.
Environmental Management, Permitting and Planning			
Environmental Impact Assessment Regulation	November 25, 2014	29186	• Impacts during construction and operation stages.
Environmental Auditing Regulation	June 12, 2021	31509	• Environmental audits performed by either Project Owner or governmental authorities during construction and operation stages.
Regulation on Wastewater Collection and Disposal Systems	January 6, 2017	29940	• At all stages of the Project.
Occupational and Community Health and Safety			
Regulation on Health and Safety Measures in Working with Asbestos	January 25, 2013	28539	• Health and safety measures to be taken at construction stage
General Sanitation Law No: 1593	May 6, 1930	1489	• Health and sanitation measures to be taken during construction and operation phases.
Occupational Health and Safety Law No.6331	June 30, 2012	28339	• Health and safety measures to be taken during construction and operation stages.
Regulation on Occupational Health and Safety	December 9, 2003	25311	• Health and safety measures to be taken during construction and operation phases.
Regulation on Risk Assessment for Occupational Health and Safety	December 29, 2012	28512	• Management of occupational the health and safety risk assessment during construction and operation phases.
Regulation on Health and Safety Conditions Regarding Use of Work Equipment	April 25, 2013	28628	• Work equipment to be used during construction and operation phases.
Manual Handling Operations Regulation	July 24, 2013	28717	• Health and safety measures to be taken during manual handling activities at construction and operation stages.
Preparation, Completion and Cleaning Works Regulation	April 28, 2004	25446	• Health and safety measures to be taken during preparation, completion and cleaning works at construction and operation stages.
Personal Protection Equipment Regulation	May 1, 2019	30761	• Personal protection equipment to be used during construction and operation stages.
Regulation on the Use of Personal Protection Equipment at Workplaces	July 2, 2013	28695	• Personal protection equipment to be used during construction and operation stages.
First Aid Regulation	July 29, 2015	29429	• In case of a first aid requirement during construction and operation stages.
National Occupational Health and Safety Council Regulation	February 5, 2013	28550	• Health and safety measures to be taken during construction and operation stages.
Regulation on the Protection of Workers Against the Dangers of Explosive Environments	April 30, 2013	28633	• Health and safety measures to be taken during construction and operation stages.
Regulation on the Methods and Essentials of Occupational Health and Safety Trainings for Workers	May 15, 2013	28648	• Health and safety trainings to be performed during construction and operation stages

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Stages
Regulation on the Protection of Workers from Noise Related Risks	July 28, 2013	28721	• Health and safety measures to be taken against the noise impacts during construction and operation stages.
Regulation on the Protection of Workers from Vibration Related Risks	August 22, 2013	28743	• Health and safety measures to be taken against the vibration impacts during construction and operation stages.
Health and Safety Signs Regulation	September 11, 2013	28762	• Health and safety signs to be placed during construction and operation stages.
Regulation on the Occupational Health and Safety for Temporary or Fixed Term Jobs	August 23, 2013	28744	• Health and safety measures to be taken for temporary workers during construction and operation stages.
Regulation on the Occupational Health and Safety in Construction	October 5, 2013	28786	• Constructional health and safety measures to be taken during construction phase.
Communiqué on Occupational Health and Safety Regarding to Workplace Hazard Classes	December 26, 2012	28509	• Determination of hazard classes during construction and operation phases.
Regulation on Highway Traffic	July 18, 1997	23053	• Traffic at construction and operation phases.
Regulations on Traffic Signs	June 19, 1985	18789	• Traffic at construction and operation phases.
Management of Chemicals and Other Dangerous Substances			
Regulation on the Classification, Labelling and Packaging of Materials and Mixtures	December 11, 2013	28848	• Chemicals and mixtures to be used during construction and operation phases.
Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals	June 23, 2017	30105	• To ensure a high level of protection of human health and the environment during the construction and operation phases, to evaluate the damages of the substances used, to have information on the registration, evaluation, permission and restriction of those chemicals.
Regulation on Material Safety Data Sheets on Hazardous Materials and Mixtures	December 13, 2014	29204	• Preparation and distribution of safety data sheets in order to ensure effective control and surveillance against the negative human health and the environment effects of hazardous substances and mixtures that may be used during construction and operation phases.
Regulation on the Road Transportation of Hazardous Goods	April 24, 2019	30754	• Hazardous goods to be transported during operation phase.
Land Use			
Regulation on the Protection, Usage and Planning of Agricultural Lands	December 9, 2017	30265	• Management of change in the land use during the planning phase of the Project.
General			
Regulation on the Implementation of the Law Concerning Private Security Services	October 7, 2004	25606	• Private security services to be used during construction and operation services
Use of the Right to Petition Law No: 3071	November 10, 1984	18571	• Management of proposal/grievance for all phases of the Project

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Stages
Laws on Right to Information (No. 4982)	November 25, 2014	29186	• Applies to activities of the public institutions and the professional organizations which qualify as public institutions
Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information	April 27, 2004	25445	• People's usage of right to information in accordance with democratic and transparent management during all stages of the project.
Law on the Protection of Personal Data	April 7, 2016	29677	• Protection of fundamental rights and freedoms of individuals, especially the privacy of private life, in the processing of personal data during all stages of the project.
Regulation on Subcontractors	September 27, 2008	27010	• Management of the conditions for the establishment of the principal employer-subcontractor relationship, the notification and registration of the workplace belonging to the subcontractor, the issues that should be included in the subcontractor agreement.
Türkiye Building Earthquake Regulation	March 18, 2018	30364	• Construction works within the scope of the Project.
Regulation on Structures to be built in Natural Disaster Areas	July 14, 2007	26582	• Construction works within the scope of the Project
Regulation on the Protection of Buildings from Fire	December 19, 2007	26735	• Measures to be taken for fire protection during construction and operation phases.
Regulation Concerning the Ozone Depleting Substances	April 07, 2017	30031	• Substances to be used during construction and operation phases.
Regulation Concerning the Increase in the Efficiencies of Energy Consumption and Energy Resources	October 27, 2011	28097	• Energy consumption during construction and operation phases.
Criminal Law	October 12, 2004	25611	• To protect individual rights and freedoms, public order and security, the rule of law, community health and environment, public peace and to prevent crime during construction and operation phases.

During each and every stage of the proposed Project and implementation of the related management plans, all activities will be carried out within certain standards and limits set by the abovementioned laws and regulations.

II.1.2. Turkish Legislation on the Conservation of Nature and Wildlife

Project-related Turkish legislation on conservation of nature and wildlife is presented in Table II.2.

Table II.2 Project related Turkish Legislation on the Conservation of Nature and Wildlife

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Stages
Regulation on the Management of Natural Assets, Natural Protected	May 2, 2013	28635	• Measures to be taken during chance finds at the construction stage.

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Stages
Areas, and State-Owned Lands Located on Environmental Conservation Lands			
Regulation on Protection of Wildlife and Wildlife Development Area	November 8,2004	25637	• The project area has been examined according to this regulation, but there is no relevant area.
Regulation on the Protection of Wetlands	April 4, 2014	28962	• The project area has been examined according to this regulation, but there is no relevant area.
Law on Conservation of Cultural and Natural Assets No 2863	July 23, 1983	18113	• Measures to be taken during chance finds at the construction stage.
Land Hunting Law No. 4915	July 11, 2003	25165	• The project area has been examined according to this regulation, but there is no relevant area.

II.1.3. Labor Law

The Turkish Labor Law (Law No: 4857) was enacted on 22.05.2003 and published in the Official Gazette dated 10.06.2003 and numbered 25134. The purpose of this law is to regulate the working conditions and work-related rights and obligations of employers and employees working under an employment contract. This Law applies to all establishments and to their employers, employer's representatives and employees, irrespective of the subject matter of their activities with the exception of the activities and employment relationships listed in Article 4 of this law. Some examples to these exceptions are; sea and air transport activities, any construction work related to agriculture which falls within the scope of family economy, domestic services, sportsmen, etc. This law regulates the labor related subjects such as; the principle of equal treatment which aims to avert discrimination based on language, race, gender, political opinion, philosophical belief, religion or similar reasons; the transfer of the establishment or one of its sections which defines the process of the transfer paying attention to not to victimize anyone; temporary employment relationships in order to protect the rights of both parties. Also, Labor Law regulates the employment contracts, types and terminations, wages, organization of work, employment service, supervision and inspection of working conditions, administrative penal provisions and supplementary, transitional and concluding provisions of labor related subjects.

Turkish Labor Law does not cover forced labor issues. However, the Constitution of the Republic of Türkiye, Article 18 prohibits forced labor. "No one shall be forced to work. Forced labor is prohibited. Work required of an individual while serving a sentence or under detention provided that the form and conditions of such labor are prescribed by law; services required from citizens during a state of emergency; and physical or intellectual work necessitated by the needs of the country as a civic obligation shall not be considered as forced labor." Article 80 of the Penal Code penalizes human trafficking and Article 117 penalizes violation of the freedom to work and labor. Türkiye has ratified the International Labor Organization (ILO) Convention No. 29 on Forced Labor and ILO Convention No. 105 on the Abolition of Forced Labor.

Turkish Labor Law sets the minimum age at which a child can be employed as well as the conditions under which children can work (Article 71, Chapter 4). The minimum employment age is 15, but in certain cases of vocational training, mild work may be allowed for 14-year-olds. According to Turkish Labor Law, Article 73, Boys under the age of 18 and women irrespective of their age must not be employed on underground or underwater work like in mines, cable-laying and the construction of sewers and tunnels.

The Regulation on the Procedures and Principles of Employment of Children and Young Workers, which entered into force by publishing in the Official Gazette dated 06.04.2004 and numbered 25425, aims to determine the principles of working and to prevent economic exploitation of children and young workers without jeopardizing their health and safety, physical, moral and social development or education. This Regulation has been prepared on the basis of Article 71 of the Labor Law No. 4857, published in the Official Gazette dated 10.6.2003 and numbered 25134.

The National Programme on the Elimination of Child Labor (2017-2023) by the Ministry of Labor and Social Security (MoLSS) came into effect in 2017 and implemented in cooperation with relevant institutions/organizations, social partners and NGOs. In the program, the priority target groups have been identified as “Working on the Streets”, “Working in Heavy and Hazardous Works in Small and Medium-Sized Enterprises” and “Working in Mobile and Temporary Agricultural Labor Except for Family Business”; children under 18 years of age are particularly prohibited from working in these areas.

Article 32 of Labor Law defines the wages as; “in general terms, wages are the amount paid to someone by the employer or third parties in exchange for a job and paid in money. As a rule, wages, premiums and bonuses are paid, in Turkish Lira, to a bank account opened at the workplace or privately. If the wage has been decided in terms of a foreign currency, it may be paid in Turkish money according to the currency rate on the date of payment. Wage payment must not be made in bonds, coupons or another paper claimed to represent the national currency valid in the country or by any other means whatsoever.

Wage may be paid on a monthly basis at the latest. The time of remuneration may be reduced down to one week by employment contract or by collective agreement. Statutory limitation on wage claims is five years.” The minimum wage limit is regulated by the Turkish Labor Law, Article-39.

II.1.4. Law on the Right to Information

The Turkish Law on the Right to Information (Law No: 4982) was adopted in 09.10.2003 and published in the Official Gazette dated 24.10.2003 and numbered 25269. The main objective of this law is to regulate the procedure and provide the basis of the right to information according to the principles of equality, impartiality and openness that are the necessities of a democratic and transparent government. This law applies to the activities of public institutions and professional organizations, which qualify as public institutions. The Law which is divided into five parts in total explains the legal rights and obligations about information disclosure processes. The first part of the law defines the objective, scope and definitions of terms that are used in law. The second part of the Law makes statements about the subjects of the Right to Information and the Obligation to Provide Information. According to Articles 4 and 5 of this Law found in this part, everyone has the right to information and the responsible parties are obligated to provide information. The application process for accessing information is explained in the third part of the law. In the fourth part of the Law, the information that is restricted is described and some examples are: information and documents pertaining to the state secrets, information and documents pertaining to the economic interests of the state, etc. Finally, the last part of the Law describes the miscellaneous aspects of this law such as entry into force and execution.

II.1.5. Permits

The Project-related permits to be taken are as follows:

- Construction license from Nigde Municipality;

- Operation license from Provincial Directorate of Environment, Urbanization and Climate Change.

II.2. International Agreements and Standards

International financial institutions follow certain policies and procedures regarding assessment and management of environmental and social impacts/risks of the Projects to be financed. As requirements of international support for the Project, environmental and social database and impact assessment studies shall be undertaken guarantee that the Project's design, construction and operation will be satisfactory for international environmental standards alongside national legislation.

II.2.1. International Environmental Conventions that Türkiye is a Contracting Party

Turkish national policy on protection of cultural heritage and conservation of biological resources has been constituted on the base of relevant international agreements that Türkiye has ratified or acceded by laws or relevant legislation. In addition to these, there are various laws and regulations on protection and conservation of natural habitats, wildlife and cultural heritage.

The international agreements and conventions on biological, cultural heritage, environmental and wildlife conservation that Türkiye had ratified are:

- Paris Convention on the Protection of the World Cultural and Natural Heritage (1975),
- Barcelona Convention on the Protection of the Mediterranean Sea Against Pollution (1976),
- Bern Convention on Protection of Europe's Wild Life and Living Environment (1982),
- The Convention for the Protection of Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) (1981),
- Convention on Long Range Transboundary Air Pollution (CLRTAP) (1983)
- Convention on Long-Range Transboundary Air Pollution and the Cooperative Programme for Monitoring and Evaluation of the Long-Range Transmissions of Air Pollutants in Europe (EMEP) (1983),
- Vienna Convention for the Protection of the Ozone Layer (1988),
- Montreal Protocol on Substances Depleting the Ozone Layer (1990),
- Convention on Biological Diversity (Rio Convention) (1992),
- The International Convention on the Established of an International Fund for Compensation for Oil Pollution Damage (FUND 1992),
- International Convention on Civil Liability for Oil Pollution Damage (1992),
- UN Framework Convention on Climate Change (UNFCCC) (2004),
- Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (RAMSAR) (1994),
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1994),
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1996),
- Kyoto Protocol (1997),
- UN Convention to Combat Desertification (CCD) (1998),
- European Landscape Convention (2001),
- United Nations Europe Economic Commission Convention on Transboundary Effects of Industrial Accidents (2000),

- Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention) (2001),
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention) (2004),
- Stockholm Convention on Persistent Organic Pollutant (POPs),
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) (1972),
- Mediterranean Sea Protocol Concerning Specially Protected Areas and Biodiversity (1988), including related protocols,
- Convention for the Protection of the Black Sea Against Pollution (Bucharest) (1994) and its protocols including the Protocol for the Protection of Biological and Landscape Diversity in the Black Sea (2004),
- ILO Conventions;
    - ILO Convention on Forced Labor (1930),
    - ILO Convention on Freedom of Association and Protection of the Right to Organize (1948),
    - ILO Convention on Right to Organize and Collective Bargaining (1949),
    - ILO Convention on Equal Remuneration (1951),
    - ILO Convention on Abolition of Forced Labor (1957),
    - ILO Convention on Discrimination (Employment and Occupation) (1958),
    - ILO Convention on Minimum Age (1973),
    - ILO Convention on Worst Forms of child Labor (1999).

Aside from the listed ILO Conventions which are categorized as fundamental conventions; Türkiye also ratified three out of four governance conventions, 48 out of 177 technical conventions, Out of 59 Conventions ratified by Türkiye, of which 55 are in force, three Conventions have been denounced which are C 34 Fee-Charging Employment Agencies Convention, C 58 Minimum Age (Sea) Convention (Revised) and C 59 Minimum Age (Industry) Convention (Revised); one instrument abrogated which is C 15 Minimum Age (Trimmers and Stokers) Convention.

II.2.2. World Bank Policies and Standards

Since the main finance source of the Project is WB; the Project must be in compliance with the good international practice, including WB Safeguard Policies, guides, performance standards and best practices documents alongside the national legislation.

WB governs projects and activities by the Safeguard Policies in order to assure that they are conducted in an environmentally, financially and socially sound manner. Safeguard Policies include Environmental Assessments and other policies that define environmental and social adverse effects of the projects as well as their reduction and prevention. These policies are enlarged upon in “The WB Operations Manual”, which also provides guidance on compilation with the Operational Policies (OP), Bank Procedures (BP) and Good Practices (GP). OPs are defined as statements of policy objectives and operational principles including the roles and obligations of both the Borrower and the Bank, while BPs are compulsory procedures to be followed by both the Borrower and the Bank and GP are non-compulsory advisory material. Specific policies related to the Project are listed below:

- Environmental and Social Ops
    - OP/BP 4.01 Environmental Assessment
    - OP/BP 4.04 Natural Habitats
    - OP/BP 4.11 Physical Cultural Resources

- BP 17.50 Bank Disclosure Policy

The main objectives and tasks of the Project-related WB Safeguard Policies are explained below:

OP/BP 4.01 Environmental Assessment

- To ensure the proposed projects' environmental and social sustainability and soundness
- To inform decision-makers about the environmental and social risks
- To increase transparency by providing stakeholder engagement in the decision-making process

OP/BP 4.04 Natural Habitats

- To conserve natural habitats and biodiversity
- To avoid significant conversion/degradation of critical natural habitats
- To ensure the sustainability of services and products provided to human society by natural habitats

OP/BP 4.11 Physical Cultural Resources

- To minimize and mitigate impacts on physical cultural resources
- To ensure that measures are in compliance with the framework of national and international agreements

BP 17.50 Bank Disclosure Policy

- To support the decision-making process by allowing public access to information on environmental and social aspects of the project.

Under the WB's OP for Environmental Assessment (OP 4.01), projects are classified as Category A, B and C, based on the level of their likely environmental and social impacts/risks. Brief definition of these categories is given as follows:

- Category A: A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts (based on type, location, sensitivity, and scale of the project and the nature and magnitude of its potential impacts). These impacts are generally large-scale, irreversible, sensitive, diverse, cumulative or precedent setting and may affect an area broader than the sites or facilities financed by the project. For a Category A project, the borrower is required to prepare an Environmental and Social Impact Assessment (ESIA) Report which examines the project's potential negative and positive environmental impacts as well as its social impacts/risks, compares them with those feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental and social performance. ESIA also includes an ESMP which details the measures to be taken during the implementation and operation of a project to eliminate, reduce or offset adverse environmental and social impacts, the actions needed

to implement these measures as well as monitoring indicators and actions and responsibilities.

- Category B: A proposed project is classified as Category B if the potential impacts on the environment are typically site-specific, reversible in nature, less adverse than those of Category A projects and for which mitigatory measures can be designed more readily. The scope of Environmental Assessment for a Category B projects may vary from project to project, but is narrower than that of Category A. Like Category A ESIA, it examines the project's potential negative and positive environmental and social impacts/risks and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. If the project is recognized as Category B, this information may be contained in an ESMP only unless there are site-specific issues which require a site-specific assessment in addition to the ESMP.

- Category C: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further Environmental Assessment action is required for a Category C project.

The Project has been categorized as Category B Project according to the above given classifications. In addition, the project classified as Moderate Risk according to World Bank E&S Policy, which states that for moderate risk projects the potential risks and impacts and issues are likely to have the following characteristics: (i) predictable and expected to be temporary and/or reversible, (ii) low in magnitude, (iii) site-specific, without likelihood of impacts beyond the actual footprint of the project and (iv) low probability of serious adverse effects to human health and/or the environment (e.g., do not involve use or disposal of toxic materials, routine safety precautions are expected to be sufficient to prevent accidents, etc.). Reason regarding to the risk characterization of the Project is given below:

- According to Turkish EIA regulation, the Project is exempt from the EIA process.
- Project related land acquisition and expropriation processes are not required.
- There is no national protected area nor internationally protected and recognized area within the project area.

It should be noted that Turkish laws, notably Law No. 2863 dated 21.07.1983 on the Protection of Cultural and Natural Assets (revised through the amendment issued in the Official Gazette dated 27.07.2004 and numbered 25535) and practices meet the WB requirements for physical cultural resources (OP 4.11). The Regulation on Research, Drillings and Excavations in Relation to the Cultural and Natural Assets, which was published in the Official Gazette dated 10.08.1994 and numbered 18485, define the procedures and obligations concerning the cultural and natural assets found out during construction.

WBG EHS Guidelines constitutes technical reference resources that include general and sector specific examples of international good sector practices. It includes the information on applicable environmental, health and safety issues for all industrial sectors. WBG uses the EHS Guidelines as a technical source of information during project appraisal. EHS Guidelines include performance levels and measurements that can be achieved at newly installed facilities using WBG's available technologies at reasonable cost.

WBG General Health and Safety Guidelines include the following main items;

- Environmental
  - Air Emissions and Ambient Air Quality

  - Energy Conservation
  - Wastewater and Ambient Water Quality
  - Water Conservation
  - Hazardous Materials Management
  - Waste Management
  - Noise
  - Contaminated Land
- Occupational Health and Safety
  - General Facility Design and Operation
  - Communication and Training
  - Physical Hazards
  - Chemical Hazards
  - Biological Hazards
  - Radiological Hazards
  - Personal Protective Equipment
  - Special Hazard Environments
  - Monitoring
- Community Health and Safety
  - Water Quality and Availability
  - Structural Safety of Project Infrastructure
  - Life and Fire Safety
  - Traffic Safety
  - Transport of Hazardous Materials
  - Disease Prevention
  - Emergency Preparedness and Response
- Construction and Decommissioning
  - Environment
  - Occupational Health and Safety
  - Community Health and Safety

In addition to the WBG General EHS Guidelines, WBG Industry Sector Guidelines for Infrastructure -Water and Sanitation is also applicable. Also, WB Good Practice Note on Addressing Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) and WB 2010 Access to Information Policy are other specific guides that should be followed.

EU Directives

Water Framework Directive (2000/60/EC)

The EU Water Framework Directive 2000/60/EC provides sustainable guidelines for the role of water in human health and environmental protection. The Directive aims to provide a framework for the preservation, protection of all subterranean and surface water sources, in prudent utilization of natural sources, and the sustainability and development of the water environment of the EU. All legislation related to water is in support of the Framework Directive (European Commission, 2000).

Surface Water Abstraction Directive

This Directive belongs to the 'first wave' of EU water legislation adopted in the 1970s and 1980s. The Directive aims to protect public health by ensuring that surface water abstracted for use as drinking water reaches certain quality standards before it is supplied to the public. The Directive lays down nonbinding ‘guide’ values and binding ‘imperative’ values and requires Member States to

monitor the quality of surface waters from which drinking water is abstracted and to take measures to ensure that it complies with the minimum quality standards.

This directive is integrated into the Water Framework Directive and is repealed and replaced by the relevant provisions hereof with effect from 22 December 2007. As such, it is no longer directly relevant to the project. However, the main principal obligations mentioned below are still relevant.

Member states are required (among other things) to:

- Establish water quality standards applicable to surface water used for the abstraction of drinking water, for the parameters specified in the Directive;
- Carry out sampling and analysis of surface waters used for the abstraction of drinking water, and assess the extent to which surface waters used for the abstraction of drinking water comply with the quality standards;
- Take measures to ensure that surface waters used for the abstraction of drinking water comply with the minimum quality standards; and do not allow waters that do not meet these standards to be used for the abstraction of drinking water, other than in exceptional circumstances; and
- Ensures the progressive reduction of pollution of surface water and prevents its further pollution.

The directive specifies which parameters to control and other directives specify methodologies for measurement.

Urban Wastewater Treatment Directive (91/271/EEC)

The Council Directive 91/271/EEC concerning urban wastewater treatment was adopted on 21 May 1991. Its objective is to protect the environment from the adverse effects of urban wastewater discharges and discharges from certain industrial sectors and concerns the collection, treatment and discharge of:

- Domestic waste water
- Mixture of waste water
- Wastewater from certain industrial sectors

II.2.3. Comparison of Turkish EIA Regulation and WB OP 4.01

There are differences between the Turkish EIA Regulation and WB's OP 4.01 Policy regarding the Project classification, environmental assessment policy, and public consultation and disclosure requirements. For sub-projects that require an EIA, the "pre-scoping" public information and participation meeting is required by the Turkish EIA Regulation. The Stakeholder Engagement Plan (SEP), which has become obligatory within the scope of the recent EIA Regulation, explains the requirements for the Public Information and Participation Meeting and how it will be done. The only formal requirement for stakeholder engagement is this meeting. It is largely equivalent to the first consultation meeting required by WB for Category A projects. However, WB requires consultation on the draft environmental assessment document for both Category A and Category B subprojects. There is no equivalent provision in the EIA Regulation in Türkiye. Although the EIA Regulation in Türkiye does not require a public consultation for projects that are not subject to an EIA, WB policy does require at least one public consultation.

The EIA Regulation in Türkiye only requires announcing the evaluation results together with their justifications. On the other hand, WB has different consultation requirements for Category A and Category B projects. According to WB policies, two (2) separate public consultations are required for Category A projects: one at the scoping stage (where the public has an opportunity to comment on the definition according to the ESIA) and the other at the draft Environmental Assessment (EA) stage. For Category B projects, as per WB OP 4.01, the draft EA document has to be made available to local NGOs and project-affected groups. The final ESMP for Category B subprojects should be published on WB website. For Category A subprojects, WB requires that the final ESMP be published locally as well as on the WB external website and submitted to WB Board.

The gap analysis between the WB OPs triggered by the Project and Turkish legislation is presented in Table II.3 and detailed differences between WB OP 4.01 and National EIA Regulation are given in Table II.4.

Table II.3 Gap Analysis between Turkish Legislation and World Bank OPs

WB OPs	Turkish Legislation	Gap Analysis	Requirements to be applied to this Project
WB OP 4.01 Environmental Assessment: According to World Bank OP 4.01 projects are classified as A, B and C. While a comprehensive ESIA is prepared for Category A projects, a partial ESIA is required if the project is designated Category B+. For all Category A and B subprojects proposed for World Bank financing, during the Environmental Assessment process, the borrower consults and takes into account the views of subproject-affected groups and non-governmental organizations regarding the environmental aspects of the subproject. These requirements are not apply to Category B subprojects. The responsibility to ensure that OP 4.01 requirements are met rests with the FI.	***Environmental Impact Assessment Regulation No. 31907:*** The EIA Regulation classifies projects into two categories, *Annex I* projects are that have significant potential impacts and require an EIA. *Annex II* projects are projects that may or may not have significant effects on the environment. While comprehensive EIA is prepared for Annex-I projects, PIF is prepared for Annex-II projects. A public information and participation meeting is held for projects subject to EIA. The project proponent presents a project dossier (PIF for Annex II projects or using the PIF outline for Annex I projects) to a commission, which comprises representatives of MoEUCC and relevant organizations as identified by MoEUCC. In this process, the commission takes into account the views expressed at the public information and participation meetings. While the EIA identifies a project's environmental impacts and mitigation measures, it does not specify costs and institutional responsibilities associated with these mitigation measures. The EIA does not require a monitoring plan. The final EIA report is then submitted to the MoEUCC for final review.	• The main differences are related to project classification, EA content (ESMP, ESIA, partially ESIA) and public consultation. • In the EIA Regulation in Türkiye, there is no provision limiting the suitability of experts to prevent conflict of interest. • The content of the environmental and social assessment document required by the World Bank depends on the special conditions of the project. In any case, an ESMP is required, but this requirement is only partially introduced in the EIA Regulation in Türkiye. • The "pre-scoping" consultation which is required by Turkish EIA Regulation for subprojects requiring an EIA is largely equivalent to the first consultation required by WB for Category A subprojects. However, WB requires a consultation on draft environmental assessment document for both Category A and Category B subprojects; there is no equivalent provision in the Turkish EIA Regulation	• Within the scope of the project, WB OP 4.01 was taken into consideration, the project category was determined and ESMP was prepared accordingly. WB OP 4.01 requirements will also be implemented in the future (e.g. public/stakeholder consultation meeting, monitoring)

WB OP 4.04 Natural Habitats: WB Policies require all projects to be evaluated together with the associated facilities especially in terms of natural habitats. WB Policies require identification and definitions of the project area of influence (including the associated facilities as well) during scoping of the report.	***Environmental Impact Assessment Regulation No. 31907:*** EIA regulation requires the coverage of all issues regarding biological diversity and terrestrial and aquatic flora and fauna in the EIA reports. Turkish EIA regulation allows consideration of all projects in an integrated fashion, but does not necessarily require it. The area of influence is rather implicit in many EIA studies in Türkiye, in many cases without a specific or clear definition in the report. In Türkiye, there is no specific habitat compensation requirement. There is only a policy regarding forest areas, which aims to reforest at least as much as the forest area lost due to development activities, fires, etc.	• The process for identification of important natural habitats and lack of consultation with relevant stakeholders in this process. • Requirements to work in important natural habitats • Identification of the projects that would be allowed in such areas. • Determination of work requirements for projects to be realized in important/critical natural habitats	• WB OP 4.04 has been taken into account as the purpose of this report is an integrated assessment.
WB OP 4.11 Physical Cultural Resources This policy addresses the issue of physical cultural resources, defined as movable or immovable objects, areas, structures, groups of buildings and natural features and landscapes of archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance.	***Law No. 2863 dated 21/07/1983 on the Protection of Cultural and Natural Assets*** The purpose of this Law is to define the definitions of cultural and natural assets that need to be protected, and to regulate the actions and activities to be organized. This law is an important guide for excavation work. Article 4 includes the responsibility to inform. It is obligatory to inform the Museum Directorate, Mukhtar or local administrative chiefs within 3 days following the discovery of movable and immovable cultural and natural properties.	• The main idea here is two-dimensional: (i) identification of chance finds during construction and (ii) potential impact of the project on known cultural assets. In case of chance finds in both WB procedures and national legislation, the works will be stopped and the Museum Directorate will be informed. There is no gap between the national legislation and the OP.	• In both implementation, the Chance Find Procedure will be applied, and if cultural heritage is found, the work will be stopped and the relevant units will be notified.

Table II.4 Comparison of WB OP 4.01 and National EIA Regulation

Steps	EIA Regulation	WB OP 4.01
Screening	The EIA Regulation classifies the proposed projects into two categories: 1. Annex-I Projects: Projects with considerable potential impacts, which require an EIA process and EIA Report. 2. Annex-II Projects: Projects with or without considerable potential impacts on the environment.	Within the scope of WB OP 4.01, the proposed projects are classified into three categories: 1. Category A: A proposed project is classified as Category A, if it is likely to have significant adverse environmental and social impacts (depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts). In general, these impacts are major, irreversible, sensitive, variable, cumulative, precedent, and potentially influential over an area broader than the sites and facilities financed under the project. 2. Category B: A proposed project is classified as Category B if its environmental and social impacts are typically site-specific and structurally irreversible and if its impacts are less adverse than those of Category A subprojects and if mitigatory measures can be designed more readily than for Category A subprojects. The projects classified as Category B sometimes vary from the same type of Category A projects only in terms of their scale. 3. Category C: A proposed project is classified as Category C, if it is likely to have minimal or no adverse environmental impacts. If a project financed by the WB includes a series of sub-projects that are selected by a Financial Intermediary (FI) and financed by the WB loan, the project is classified as Category FI.
Public/Stakeholder Consultation Meetings	For the projects included in the list of Annex-I, which therefore require the preparation of an EIA Report, the public information and participation meeting, whose place and date is decided by the Provincial Directorate of Environment, Urbanization and Climate Change, is held not later than 10 days prior to the meeting by disclosing it publicly in local and national newspapers. No public information and participation meeting is held for the projects included in the list of Annex-II.	For all Category A and B subprojects proposed for WB funding, the borrower will consult and consider the views of the project-affected groups and non-governmental organizations regarding the environmental impacts of the subproject during the EA process.
Scope of Environmental Assessment	For the projects in the list of Annex-I, an EIA Application File (EAF) will be prepared in line with the format given in Annex-III to the EIA Regulation. Cumulative environmental impact assessment, stakeholder engagement plan (SEP), environmental and social action plan, environmental monitoring plan, sustainability plan, zero waste plan, traffic management plan, greenhouse gas reduction plan and environmental and social management plan shall be attached to the relevant sections of the EIA Application File. According to the information given in the EAF, a special EIA Report format will be prepared based on the views of committee members to be formed by the MoEUCC, and the EIA report will be written in line with this format, and then submitted to the MoEUCC. For the projects in the list of Annex-II, a Project Introduction File (PIF) will be prepared based on the format given in Annex-IV to the EIA Regulation. The prepared report will be submitted to the Provincial Directorate of Environment, Urbanization and Climate Change.	For Category A subprojects, the borrower is responsible for preparing an ESIA report that examines the project's potential negative and positive environmental and social impacts, compares them with those of feasible alternatives, and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental and social performance. The scope of the environmental and social assessment document for a Category B subproject may vary from subproject to subproject, but it is narrower than that of Category A ESIA. As with the ESIA required for Category A, the borrower will investigate the potential negative and positive environmental and social impacts of the subproject, and will recommend measures required to prevent, minimize, mitigate or compensate for adverse impacts and enhance environmental and social performance. When the project category is identified as B; this information could be included in ESMP, if there are no site-specific problems that require a site-specific assessment process in addition to ESMP.

Steps	EIA Regulation	WB OP 4.01
EA Review and Approval	The Committee will review the draft version of EIA report for the projects in the list of Annex-I. Then, the final EIA Report containing the committee's assessments will be submitted to MoEUCC for final review. MoEUCC will determine whether EIA is positive; an "EIA Positive" decision is rendered, the project will not be continued further. The PIF prepared for the projects in the list of Annex-II will be reviewed by the Provincial Directorate of Environment, Urbanization and Climate Change and the "EIA Required" or "EIA Not Required" decision will be taken accordingly. For the projects for which the "EIA is Required" decision is rendered, the procedure governing the projects in the list of Annex-I will apply.	For projects involving Financial Intermediaries (FI), the financial intermediary is responsible for meeting the requirements in OP 4.01. Normally, the EA process should be completed by the Financial Intermediary before the subproject is approved for funding of WB loan.
Disclosure	The EIA Report for the projects in the list of Annex-I will be made available to the public opinion at the headquarters of MoEUCC or provincial directorates. Following MoEUCC's final assessment of the EIA report, the Governor's Office will disclose its reasoned decision publicly. For the projects in the list of Annex-II, the final PIF will be disclosed publicly at the Provincial Directorates.	In addition to the points given in the Public Participation section, the Financial Intermediary will make the draft ESIA report prepared in local language for Category A subprojects available at a public place accessible to project-affected groups and local Non-governmental organizations (NGOs). Upon finalization of a Category A subproject ESIA report, the Financial Intermediary will submit an English copy of the final report to the WB together with the English Executive Summary. The Bank will distribute the executive summary to its executive directors, and discloses it publicly on an external website. For Category B subprojects, the Financial Intermediary will submit an English copy of the final version of the Category B EA report to the WB and the WB will disclose it publicly on an external website.
Implementation, Monitoring and Inspection	Pursuant to the EIA Regulation, MoEUCC will monitor and inspect the projects that are regarded as "EIA Not Required" or "EIA Positive", respectively, according to the provisions provided in PIF or EIA Report. In addition, the project owner should submit monitoring reports to MoEUCC, and MoEUCC needs to submit these reports to the Governor's Office for announcement to the public.	During subproject implementation, the Financial Intermediary will report to the World Bank on (a) compliance with measures agreed with the Bank on the basis of the findings and results of the EA and additional social assessments, if any, including implementation of ESIA, and (b) the findings of monitoring programs. The Bank will base supervision of the project's environmental aspects on the findings and recommendations of the Environmental Assessment, including the measures outlined in legal agreements, ESMP, and other project documents.

Source: ILBANK "Sustainable Cities Project - II Additional Financing Environmental and Social Management Framework", April 2019

III. PROJECT DESCRIPTION

In Nigde, sewer lines also work as storm water lines. The integrated operation of the system causes floods during heavy precipitation. These floods seriously threaten public health. As a result of analyzes made by Nigde Municipality, it has been determined that the capacities of the lines cannot carry the sewage and rainwater flow rate at the same time. For this reason, the necessity of separating the rainwater line from the combined system has emerged. There will be a construction camp site for pipe lay-down area in the Hidirlik locality in the project area. In camp site, there will be no accommodation; since the project will take place in a residential area, non-local workers will be accommodated in rental houses located near the project area, if needed. Since the materials will be supplied locally, there is no need for an auxiliary facility.

It is aimed to solve the infrastructure problems in order to create a sustainable and planned urbanization, to ensure the protection of environmental health and to ensure the continuation of all these for future generations. The aim of the project is (a) to design and implement the sewage network to meet the wastewater infrastructure needs of the residents of Ilhanli and Nar neighborhoods, and (b) to design and implement a rainwater network to meet the rainwater infrastructure needs of the residents of Selcuk, Ilhanli and Nar neighborhoods. With all these works, environmental pollution will be prevented and a direct benefit will be provided for the protection of public health. All the lands that will be used during the construction of the Project belong to the municipality. Therefore, no expropriation and/or allocation are required.

Ilhanli Neighborhood, one of the neighborhoods where the project is planned to take place, is the third largest neighborhood of the central district. According to 2022 TurkStat data, the population of the neighborhood is about 22,628. There are approximately 5000 households in the neighborhood. The high rate of child and active population is explained by the fact that the neighborhood is a rural settlement area. As mentioned in the Project Field Report, immigrant population of the neighborhood constitutes about 15% of the total inhabitant

In Nar Neighborhood, one of the neighborhoods where the project is planned to take place, the mukhtar of the neighborhood stated that the population is around 5,500-6,000 but according to the information obtained from 2022 TurkStat data, the population of Nar Neighborhood is 3,402. This indicates that there is an informal population. The high rate of child and active population is explained by the fact that the neighborhood is a rural settlement area. The region is underdeveloped and the birth rate, hence natural population growth, is high. There are approximately 500 households in the neighborhood.

Selcuk Neighborhood, one of the neighborhoods where the project is planned to take place, is the second largest neighborhood of the central district. According to 2022 TurkStat data, the population of the neighborhood is about 22,093.

III.1. Project Location

Nigde Province is a city in the Central Anatolia region of Türkiye at an elevation of 1,299 m. Nigde Province is the junction point of important railways and highways connecting southern Türkiye with Central Anatolia, Northern and Western Anatolia. Nigde Province is located between 37º 25' and 38º 58' north latitude and 33º 10' and 35º 25' east longitude. Nigde Province has a total area of 7,312 km^2 in the Central Anatolian Region, and the borders of the central district are spread over an area of 2,699 km^2.

Nigde Province is separated from the province of Icel by the Bolkar Mountains to the south, and from Adana Province by the natural boundaries formed by the Aladag Mountains to the southeast and east. Nigde Province is adjacent to Nevsehir and Aksaray to the north, Konya to the west, Kayseri

to the east and Adana and Mersin to the south. It has a highway connection with the surrounding provinces of Adana, Mersin, Kayseri, Konya, Nevsehir, and Aksaray and a railway connection with the provinces of Adana, Kayseri and Konya.

Nigde Province has a sloping structure in terms of topography. This slope has the same characteristics as a valley. There are two slopes and a slightly inclined structure extending from east to west in the middle of these slopes.

Nigde is plain in the south and mountainous in the north. Although the south side is plain, there are parts that are inclined up to 15% in places. In mountainous areas, the slope increases and the land that can be used for agriculture is less.

Nigde Province is a city located in the south of the Central Anatolia Region. Nigde Province, with an area of 7,400 km² (including lakes), corresponds to 0.94% of Türkiye's surface area. Nigde Province is the junction point of important railways and highways connecting the south of the country to Central Anatolia, Northern and Western Anatolia. There are 6 districts connected to Nigde Province, namely Central, Altunhisar, Bor, Camardi, Ciftlik and Ulukisla districts (see Figure III.1). Nar, Selcuklu and Ilhanli neighborhoods that project is located are in the Central District. These neighborhoods where the project area is located are in the northern region of Nigde province.Site location map of the Project is shown in Figure III.2 and the general layout of the Project area is given in Figure III.3.

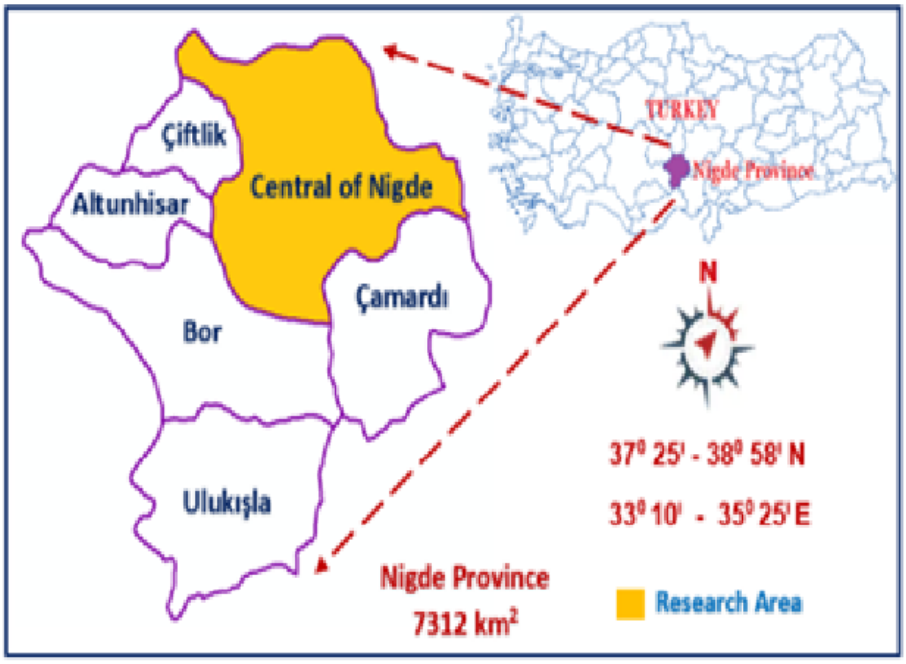

Figure III.1 Nigde Province Central Geographical Location

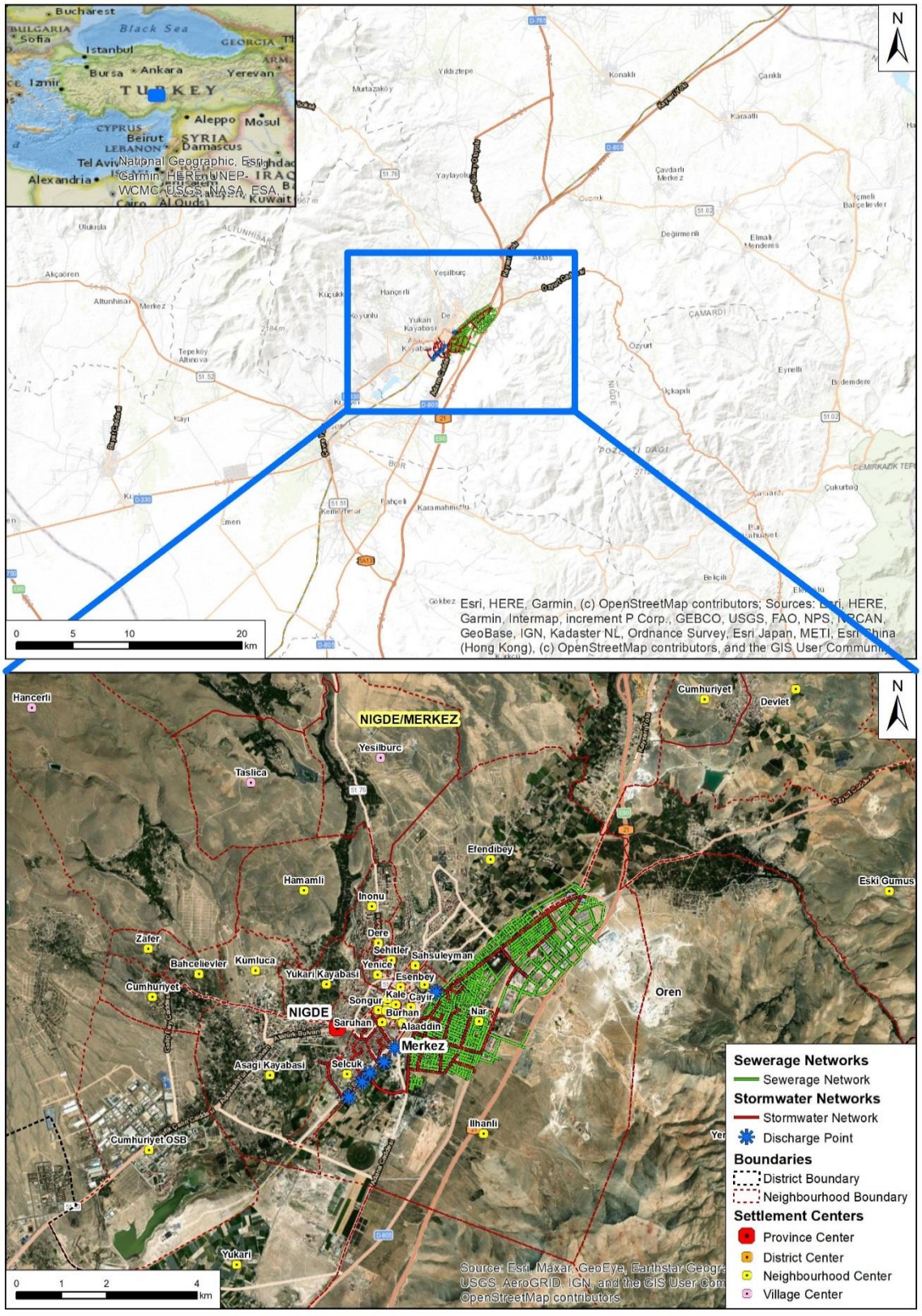

Figure III.2 Site Location Map of the Project

This project is co-funded by the European Union, the Republic of Turkey and the World Bank
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

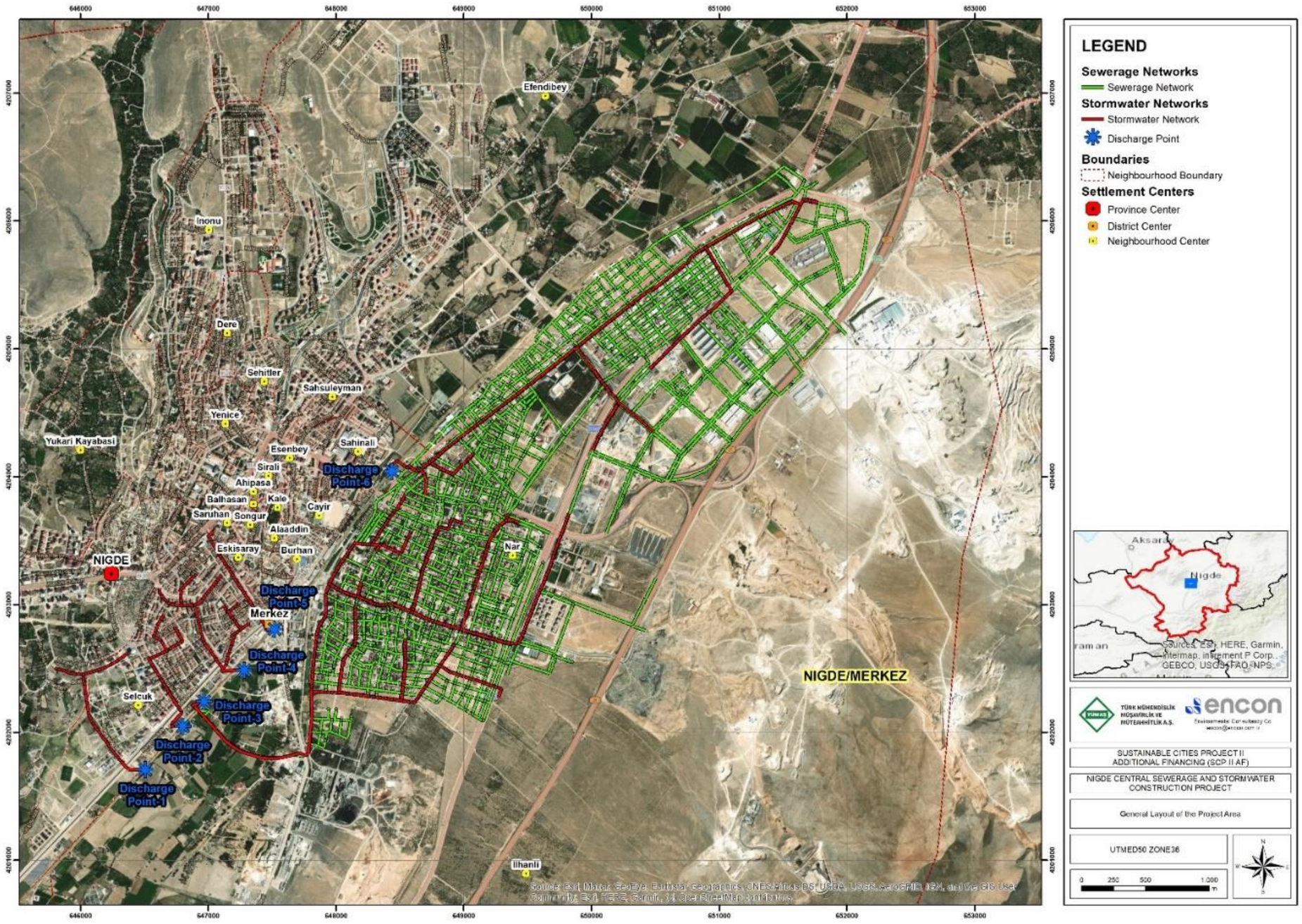

Figure III.3 General Layout of the Project Area

III.2. Summary of Proposed Works for the Project

The Project, sewage and stormwater project, is planned within the borders of Nigde Province. Currently, there is an integrated rainwater and sewage network in Nigde Province. This means that rainwater is mixed into the existing sewage network. A sewage and rainwater project covering the entire Nigde Province was prepared in 2016, but it was not possible to finance such a wide scope with the SCP-II AF Project. For this reason, Nigde Municipality narrowed the scope of the Project by determining certain priorities among the central districts. Accordingly, it was decided that the scope of the Project will include the following components:

- Stormwater Construction Project – Ilhanli, Nar and Selcuk Neighborhoods of Nigde Province
- Sewerage Construction Project – Ilhanli and Nar Neighborhoods of Nigde Province

With this project, approximately 95% of the existing infrastructure in the Project area will be renewed. In total, an estimated 129 km of old wastewater and stormwater lines will be regenerated. 46 km of new wastewater and stormwater lines will be constructed. The Project technical details are given in Table III.1.

Table III.1 Project Technical Details

Network Lengths	Unit	Network to be Regenerated	New Network to be Built
Sewerage Network Regeneration and Extension	Km	128.6	10.008
Stormwater Network Regeneration and Extension	Km	-	27.617
Total Length	Km	129	46

III.2.1. Current Situation of Sewerage and Stormwater Network System

Ilhanli and Selcuk neighborhoods are settlements with high population density. In addition to this, there are not many settlements in the Nar neighborhood yet, and the population is relatively low. However, considering the urban structuring, the city is expected to grow this way. Since this means that Nar neighborhood will have a higher population in the future, infrastructure needs in Nar neighborhood are essential.

The existing sewage network of Ilhanli and Nar neighborhoods were built in the 1980s according to the zoning and population density at that time. These sewage lines are still in use. In 2013, the zoning plan in Nigde Province was changed with the decision of the city council. Today, the average number of households living in this region has increased and the use of sewage has increased accordingly. Therefore, the current network system installed in the 1980s is inadequate in terms of service life, flow level and pipe diameters.

The sewage system, which has reached the end of its economic life, frequently causes leaks, cracks and therefore the need for repair. As a result of these cracks and deterioration, the leaking wastewater mixes with the soil and groundwater, and causes pollution and poses risks for public health and the entire environment.

There is no existing, widespread rainwater network in Nigde Province. Hence, rainwater;

- enters the sewer system directly from the rain gutters in the buildings in an uncontrolled and unregistered manner, and
- enters the sewer system through the chimneys in the existing sewer system.

In addition, large rain puddles and floods may occur on some streets during the rainy season. At the same time, rainwater going to the sewage reduces the efficiency of the Nigde Advanced Biological WWTP with the capacity of 44,000 m^3/day. This WWTP was commisioned in June, 2022 and is located in Selcuk neighborhood. According to 2022 Nigde Provincial Environmental Status Report, Advanced Biological WWTP discharge permits are available and the wastewater of Bor Municipality, Altunhisar Municipality, Cukurkuyu Municipality, Edikli Municipality and Karaatlı Municipality is treated in this WWTP. The effluent water from WWTP is discharged to Akkaya Dam.The discharged water due to the inefficient operation of the WWTP causes the pollution of Akkaya Dam located in the southwest of WWTP. In order for the WWTP to operate with full efficiency, stormwater network must be separated in Nigde Province.

III.2.2. Population Growth Projections

The determination of seweage and stormwater management of the settlements is directly related to the population. Therefore, it is of great importance to estimate the future population according to the project target year with sufficient accuracy in an efficient project design.

The population growth projections of the three neighborhoods (Ilhanli, Nar and Selcuk) in Nigde have been calculated using both the ILBANK method and the arithmetic increase method. All calculations and detailed description of the methods are available in the Feasibility Report prepared for the Project. The design of this Project has been planned based on the year 2020-2055. The summary of population estimates for these three neighborhoods are summarized in Table III.2, Table III.3 and Table III.4.

Table III.2 Ilhanli Neighborhood Population Estimate

Years	The ILBANK Method		The Arithmetic Increase Method		Selected Prediction
	By Constant Multiplier Coefficient	By Gradual Multiplier Coefficient	By Constant Multiplier Coefficient	By Gradual Multiplier Coefficient	
2020	21.761	21.761	21.761	21.761	**21.761**
2025	25.227	26.024	25.320	25.537	**25.227**
2030	29.245	30.590	28.878	29.277	**29.245**
2035	33.903	35.339	32.437	32.981	**33.903**
2040	39.303	40.123	35.995	36.649	**39.303**
2045	45.563	44.766	39.554	40.280	**45.563**
2050	52.820	49.080	43.112	43.875	**52.820**
2055	61.232	52.873	46.671	47.433	**61.232**

Source: Nigde Central Sewerage and Stormwater Construction Project, Feasibility Report

Table III.3 Nar Neighborhood Population Estimate

Years	The ILBANK Method		The Arithmetic Increase Method		Selected Prediction
	By Constant Multiplier Coefficient	By Gradual Multiplier Coefficient	By Constant Multiplier Coefficient	By Gradual Multiplier Coefficient	
2020	3.028	3.028	3.028	3.028	**3.028**
2025	3.510	3.621	3.708	3.750	**3.510**
2030	4.069	4.257	4.389	4.465	**4.069**
2035	4.718	4.917	5.069	5.174	**4.718**
2040	5.469	5.583	5.750	5.875	**5.469**
2045	6.340	6.229	6.430	6.569	**6.340**
2050	7.350	6.829	7.111	7.257	**7.350**
2055	8.520	7.357	7.791	7.937	**8.520**

Source: Nigde Central Sewerage and Stormwater Construction Project, Feasibility Report

Table III.4 Selcuk Neighborhood Population Estimate

Years	The ILBANK Method		The Arithmetic Increase Method		Selected Prediction
	By Constant Multiplier Coefficient	By Gradual Multiplier Coefficient	By Constant Multiplier Coefficient	By Gradual Multiplier Coefficient	
2020	21.726	21.726	21.726	21.726	**21.726**
2025	23.509	23.494	24.255	24.409	**23.509**
2030	25.438	25.390	26.783	27.067	**25.438**
2035	27.526	27.422	29.312	29.699	**27.526**
2040	29.785	29.597	31.840	32.305	**29.785**
2045	32.230	31.925	34.369	34.885	**32.230**
2050	34.875	34.414	36.897	37.439	**34.875**
2055	37.737	37.074	39.426	39.968	**37.737**

Source: Nigde Central Sewerage and Stormwater Construction Project, Feasibility Report

III.2.3. Sewerage Network Rehabilitation and Extension

In the aforementioned neighborhoods, within the scope of the project, the existing sewerage network will be renewed, and new sewer lines will be built and both the renewed and new sewer lines are planned to be connected to the newly built advanced biological wastewater treatment plant constructed in 2021 in Nigde Province. This new wastewater treatment plant in Nigde Province has been designed with a capacity of 400,000 people and will continue to serve until 2045, according to population projection calculations stated in official website of Nigde Municipality. Since the slope of the project area is suitable, it is not planned to establish a pumping station.

The Project's horizon has been taken as 35 years, including the purchase and construction periods. Consumption calculations of Nigde Province have been calculated as 150 lt/day per person, taking into account the water consumption amounts obtained from the municipality. In this case, daily wastewater amount is 21.26 m^3/h for Nar neighborhood, 138.08 m^3/h for Selçuklu neighborhood and 141.43 m^3/h for İlhanlı neighborhood.

The most important points to be considered while designing sewarge wastewater systems are to carry the maximum project flow rate, and to prevent the accumulation of particles in the wastewater by drifting at minimum flows. In order to prevent corrosion in the pipes, the flow rate must not exceed a certain maximum value. For this reason, the flow velocity is planned to be 3 m/s. Pipes are exposed to corrosion due to H_2S gas that may occur from deposits at the bottom of the pipe. For this reason, it will be tried to be above 0.50 m/s in order for the flow rate to be at the self-cleaning limit.

Project design has been finalized by preparing bill of quantities and quantities with geotechnical studies. Detailed calculations are available in the Project's Feasibility Report prepared by joint venture of “Alter Uluslararasi Muhendislik ve Musavirlik Hizmetleri Ltd. Sti.” and “BDO Consultancy Romania”. The summary information on the sewerage pipe diameter and legth is given in Table III.5.

Table III.5 Summary Information on Sewerage Network Pipes

Pipe Type	Pipe Diameter (mm)	Pipe Length (m)
Corrugated	400	4213.00
Corrugated	600	1254.00
Corrugated	1000	4541.77

During the preparation of the projects, the following points were applied:

- In the formation of the network channels of the Project area, it has been ensured that the wastewater of all houses and other buildings is managed.
- The effluent was delivered to the collector by the shortest route.
- The main collectors have been passed through the wide and low-level streets of the site that will not cause construction problems.
- Attention has been paid to ensure that the pipes are above the groundwater level, and it has been taken into account that no collector lines are passed through swampy and muddy soils.
- Care has been taken to pass the lines outside the Highways and Railways expropriation area.
- Highways, railways and stream crossings are kept to a minimum.
- Care has been taken that there is no expropriation problem in the crossing of the lines.
- Since all the effluents are flowed by gravity, there was no need for a pumping system.

Pipe slopes were determined by considering the following points during the selection of the velocity criteria of the sewage channels:

- Not digging too deep,
- Designing in accordance with the topographic structure as much as possible,
- Making sure there is no debris at the bottom of the pipe.

III.2.4. Stormwater Network Rehabilitation and Expansion

In the neighborhoods within the scope of the Project, it is planned to construct a stormwater network, which does not exist at all. It is planned to discharge the stormwater collected through the new network to the Kizilca Stream (also known locally as Yukariyagdan Stream) in the region. This discharge will be carried out from six (6) different points according to design maps obtained from Nigde Municipality. Implementing a physical treatment process prior to discharging the stormwater to receiving bodies has already been incorporated in the design of the Project.

Figure III.4 Kızılca Stream, where the discharge of the rainwater network is planned

Rainwater pipes will be concrete/reinforced concrete pipes. Precipitation intensities were obtained with rational formulas, taking into account the annual precipitation durations and recurrence frequencies. Detailed calculations, including pipe diameters and slopes, are available in the Project Feasibility Report prepared by joint venture of “Alter Uluslararasi Muhendislik ve Musavirlik Hizmetleri Ltd. Sti.” and “BDO Consultancy Romania”. The summary information on the sewerage pipe diameter and legth is given in Table III.5.

Table III.6 Summary Information on Sewerage Network Pipes

Pipe Type	Pipe Diameter (mm)	Pipe Length (m)
Corrugated	400	9161.00
Corrugated	600	7174.00
Corrugated	800	5120.00
Corrugated	1000	6162.00

III.3. Project Cost

The loan of 24,325,410 Euros, which will be provided by the WB for the financing of the Project, will be used through ILBANK. The distribution of investment costs is summarized in Table III.7.

Table III.7 Project Investment Costs

Suggested Project Investment Cost	EUR
Total Investment	**24,325,410**
Sewage Network Regeneration and Extension	14,273,811
Main Works (Construction)	11,073,554
Machinery and Equipment (Mechanical)	-
General Expenses (controlling, promotion, taxes, etc.) (5%)	553,678
Contingencies (5%)	553,678
Value Added Tax (VAT) (18%)	2,092,902
Rainwater Network Regeneration and Extension	10,051,599
Main Works (Construction)	7,797,982
Machinery and Equipment (Mechanical)	-
General Expenses (controlling, promotion, taxes, etc.) (5%)	389,899
Contingencies (5%)	389,899
Value Added Tax (VAT) (18%)	1,473,819

III.4. Organizational Capacity

As a result of the meeting with the Nigde Municipality, it has been predicted that approximately 75 workers will be employed during the construction phase of the project by the contractor. It is anticipated that these workers will most likely be selected from outside the Project area, depending on the contractor firm. Besides, it is anticipated that approximately 4 personnel from Nigde Municipality will work during the operation phase of the Project.

The personnel capacity of Nigde Municipality is given in Table III.8.

Table III.8 The personnel capacity of Nigde Municipality

Personnel	Female	Male	Total
Civil servant	19	99	118
Contract staff	14	21	35
Permanent worker	14	127	141
Total	**47**	**247**	**294**

III.5. Project Schedule

The investments within the scope of the Project will be tendered in accordance with the WB procurement procedures and principles. It is planned to start the construction of the sewage network and the rainwater network simultaneously. Although it varies according to the structure of the area to be excavated, it is expected that the contract will be signed in August 2023 and the construction works

will be completed within 24 months. The defect liability period (DLP) starts just after that period and will last for 12 months. The anticipated schedule of the Project is provided in Table III.9.

Table III.9 Project Schedule

Year	2023 Quarters		2024 Quarters				2025 Quarters				2026 Quarters			
Item	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Tender docs, tendering														
Construction														
DLP														

III.6. Equipment and Material Needs

Main stages of the construction phase are summarized in Figure III.5.

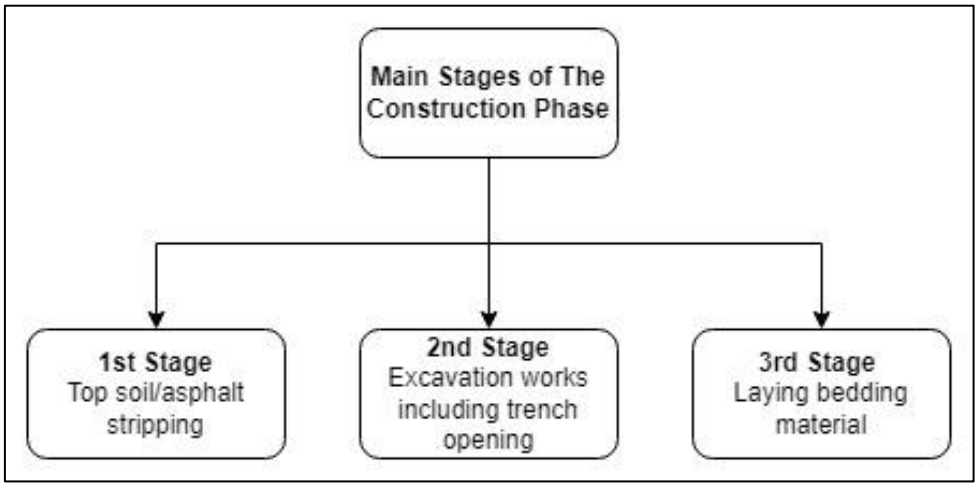

Figure III.5 Main Stages of the Construction Phase

To meet the needs of workers during the construction phase of the Project, Nigde Municipality envisages that there will be a construction camp site. The exact location of the construction camp site has not yet been determined, but it will be within the area owned by the Nigde municipality in Hidirlik Locality. This area will also be used for the storage of pipes to be used in construction. . Bedding materials will be used for the pipes, this material will be supplied from the local market. This storage area is located in parcels 55/647, 3730/1, 3728/1, 3733/2, 3729/1 and 3722/1. If any damage occurs as a result of laying pipes under cadastral roads, Nigde Municipality will ensure that this damage is repaired.

Nigde Municipality has two (2) vacuum trucks and one (1) garbage collection vehicle. These vehicles will be used by the Project's contractor for support during the construction phase. The contractor's vehicle list has not been determined yet and therefore, the construction machineries and equipment to be used during the construction phase is assumed based on the procedures to be followed during construction and engineering estimates and presented in Table III.10.

Table III.10 Indicative Construction Machinery and Equipment List

Construction Machinery/Equipment	Number
Dump Truck	6
Excavator	2
Loader	2
Mini Loader	2
Mobile Crane	2
Sprinkler	1
Grader	2

IV. BASELINE CONDITIONS

IV.1. Physical Environment

This chapter includes information regarding geological, hydrogeological and hydrological characteristics, seismicity and natural hazard conditions, soil and land use characteristics, climate, environmental air quality and noise levels, landscape characteristics, biological environment and protected areas located in the Project area and its vicinity.

Descriptions and information provided in this chapter, regarding current conditions of the Project area and its vicinity, are based on data acquired from and reports prepared by related public and private institutions (the Ministry of Agriculture and Forest, the General Directorate of Meteorology, the Eastern Mediterranean Development Agency, Turkish Statistical Institute, etc.), field studies conducted for identification of physical and biological environment, Geographical Information Systems (GIS) studies and satellite imagery.

IV.1.1. Land Use and Property

The areas where the project is planned belong to Nigde Municipality and there is no expropriation process required. The routes of the proposed stormwater sewerage lines will pass under the existing public roads, which are under the responsibility of the Nigde Municipality. Within the scope of this Project, rehabilitation works on the existing sewerage network of 128.6 km will be carried out in Nigde (City Center) at Ilhanli and Nar neighborhoods. In addition, a new sewer line with a length of 10.008 km will be constructed (see Figure II.2). In addition to this, a 27.617 km long storm water network will be constructed in Nigde (City Center) at Ilhanli, Nar and Selcuk neighborhoods.

Relevant permits and, protocols will be obtained for other 3rd party crossings such as underground electricity cables etc. during construction stage. A permit for cadastre roads will be obtained from KGM and a permit for electricity cables from Türkiye Electricity Transmission Corporation (TEIAS).

There is no unofficial land user at the site, either. Photographs taken from site during the site visit conducted by ENCON on January 20, 2022 are provided in Figure IV.1. The Land Use Map according to Provincial Land Use Database is also given in (see Figure IV.2).

Figure IV.1 Photographs Taken from the Project Site

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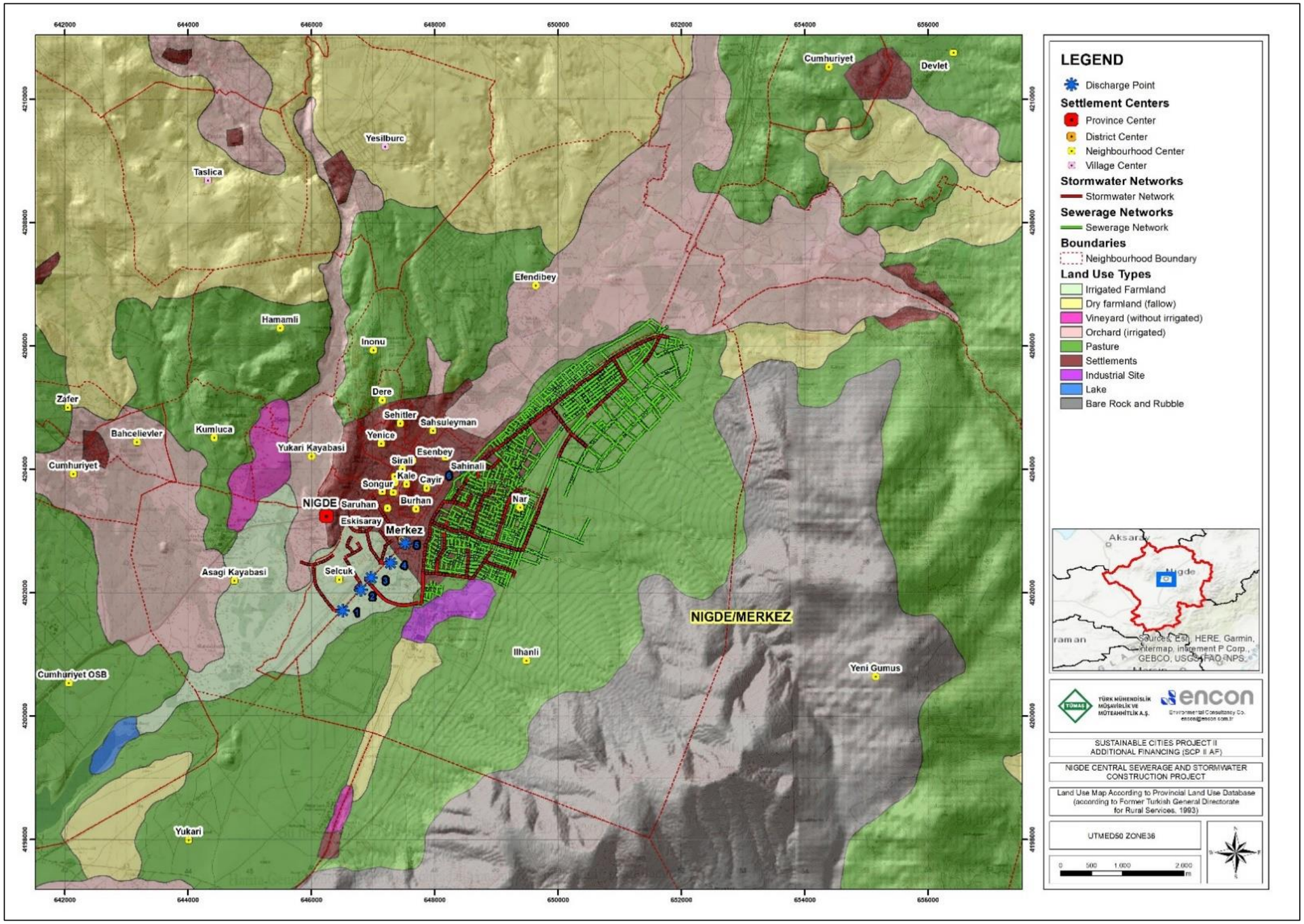

Figure IV.2 Land Use Map according to Provincial Land Use Database

IV.1.2. Climate Conditions and Meteorology

Nigde Province has typical continental climate characteristics with hot and dry summers and cold and rainy winters. While the total annual precipitation was measured as 330.50 mm in the city center as of 2019, the average total precipitation value for many years was observed as 286.60 mm. In a study evaluating the temperature changes in the Nigde region from 1970 to 2019, the minimum temperature average was calculated as -1.7^{0}C and the maximum temperature average 28.8^{o}C. It has been determined that there is an increasing trend in the minimum temperature changes for many years, especially in spring, summer and autumn months. As a result of statistical analyzes, it has been revealed that there is a significant trend in the increasing direction in spring, summer, autumn and winter at maximum and average temperatures (*Bagdatli and Can, 2020*).

Nigde climate graph and climate data are given in Figure IV.3 and Table IV.1.

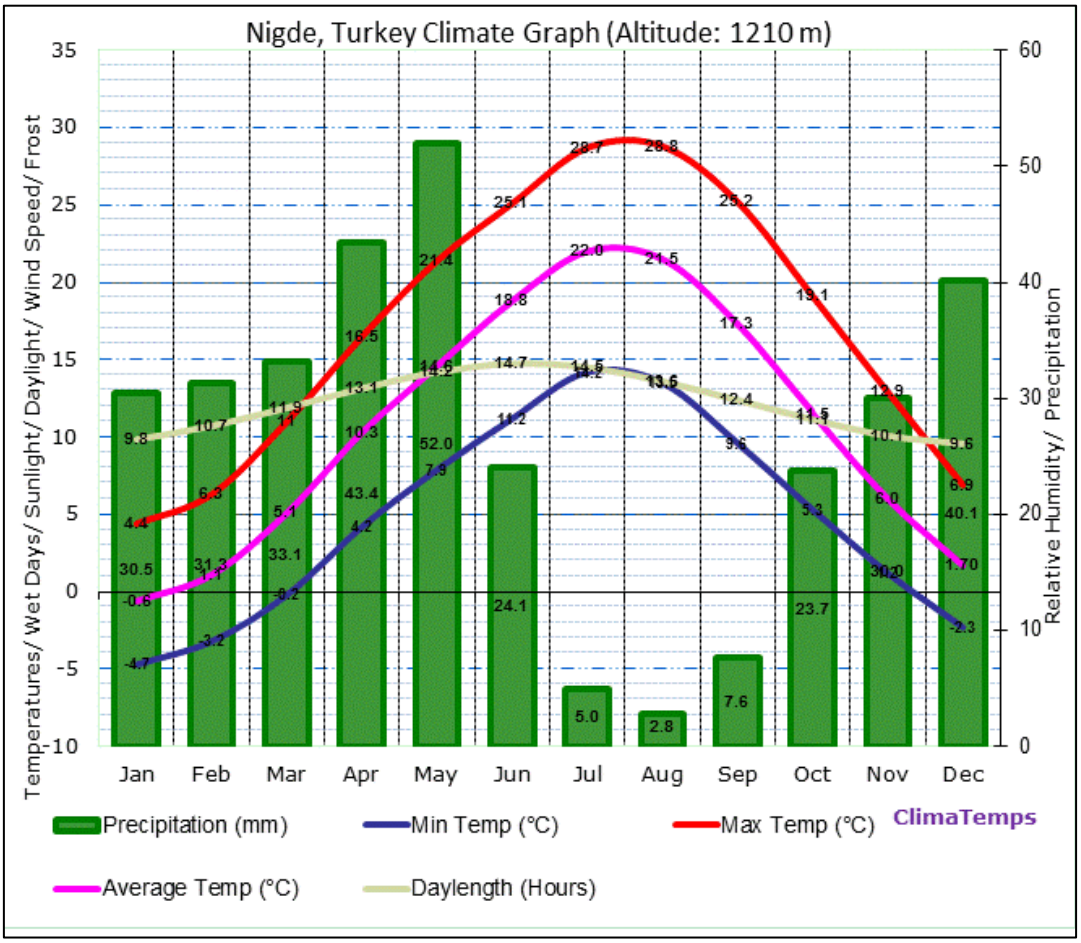

Figure IV.3 Nigde Climate Graph
Source: Anonymous 2019, Nigde İklim Verileri, Meteoroloji Genel Mudurlugu, Ankara (in Turkish)

Table IV.1 Climate data for Nigde

Climate Data for Nigde (1991-2020, extremes 1935-2020)													
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
Record high °C (°F)	18.6 (65.5)	20.5 (68.9)	26.4 (79.5)	30.8 (87.4)	33.0 (91.4)	35.0 (95.0)	38.5 (101.3)	38.5 (101.3)	37.3 (99.1)	32.0 (89.6)	25.0 (77.0)	21.2 (70.2)	38.5 (101.3)
Avarege high °C (°F)	5.3 (41.5)	7.0 (44.6)	11.9 (53.4)	17.2 (63.0)	22.2 (72.0)	26.6 (79.9)	30.2 (86.4)	30.3 (86.5)	26.3 (79.3)	20.4 (68.7)	13.2 (55.8)	7.4 (45.3)	18.2 (64.8)
Daily mean °C (°F)	0.0 (32.0)	1.4 (34.5)	6.0 (42.8)	11.0 (51.8)	15.6 (60.1)	19.8 (67.6)	23.2 (73.8)	23.1 (73.6)	18.8 (65.8)	13.3 (55.9)	6.5 (43.7)	2.0 (35.6)	11.7 (53.1)
Average low °C (°F)	-4.1 (24.6)	-3.2 (26.2)	0.8 (33.4)	5.0 (41.0)	9.1 (48.4)	12.9 (55.2)	15.8 (60.4)	15.6 (60.1)	11.4 (52.5)	7.0 (44.6)	1.3 (34.3)	-2.2 (28.0)	5.8 (42.4)
Record low °C (°F)	-25.6 (-14.1)	-24.2 (-11.6)	-23.9 (-11.0)	-6.9 (19.6)	-2.6 (27.3)	3.5 (38.3)	6.6 (43.9)	6.5 (43.7)	-0.7 (30.7)	-6.2 (20.8)	-19.5 (-3.1)	-24.0 (-11.2)	-25.6 (-14.1)
Average precipitation mm (inches)	34.3 (1.35)	32.0 (1.26)	38.8 (1.53)	41.1 (1.62)	43.4 (1.71)	29.2 (1.15)	5.5 (0.22)	7.7 (0.30)	12.4 (0.49)	30.3 (1.19)	32.7 (1.29)	42.5 (1.67)	34.9 (13.78)
Average precipitation days	9.37	8.40	11.0	12.30	12.93	8.50	2.40	2.13	3.73	6.80	7.37	9.40	94.3
Mean monthly sunshine hours	117.8	141.3	179.8	207.0	254.2	297.0	344.1	341.0	288.0	226.3	165.0	114.7	2,676.2
Mean daily sunshine hours	3.8	5.	5.8	6.9	8.2	9.9	11.1	11.0	9.6	7.3	5.5	3.7	7.3

Source: Turkish State Meteorological Service

IV.1.3. Geology and Topography

Nigde Province is plain in the south and mountainous in the north. Although the south side is plain, there are parts that are inclined up to 15%. Bolkar Mountains form the southern and southeastern borders of the province. The highest point of Bolkars is Medetsiz Hill with 3,524 meters. Aladaglar, another branch of the Taurus Mountains, is located in the east of the province. The highest point of the Aladaglar, which defines the border with Kayseri and Adana provinces, is Demirkazık peak with 3,756 meters. Melendiz Mountains cover the northwestern part of Nigde Province. Gollu Mountain is 2,172 meters high and located in the northwest of the province.

The important plains of the province are; Misli Plain with an average height of 1,350 m, Melendiz Plain at an altitude of 1,400 meters, Altınhisar Plain at an altitude of 1,100 meters and Bor Plain at an altitude of 1,100 meters.

IV.1.4. Soil Quality

The soil structure is clayey and shows regional differences. The soil is clayey-calcareous in the southwest, clay-sandy or clayey-loamy texture in the north and east. Considering the soil texture and horizons, the soil formation of the plain section has been completed in terms of horizons. Soil formation continues in the mountainous area. Soil depth is 50 cm in the southern parts. Soil depth in mountainous areas varies between 10 and 40 cm.

A study was conducted by Erciyes University in 2015 to evaluate the soils of the Nigde Province region in terms of zinc and copper content. In this study, it was aimed to determine the distribution of Zinc (Zn) and Copper (Cu) in different soil depths of Nigde province and to identify

possible sources of pollution. For this purpose, different stations have been identified, including agricultural areas, industrial areas, parks and roadsides within the borders of Nigde Province.

Zn and Cu concentrations of a total of 110 soil samples were determined using the ICP-OES device from the determined stations, from a depth of 10, 20, 30, 40 and 50 cm. According to the findings, it was observed that Zn and Cu concentrations ranged between 10.96 – 52.10 µgg for Zn and 6.95 – 41.23 µgg for Cu. The lowest and highest Zn and Cu concentrations were determined in soil samples taken from 50 and 30 cm depths. The highest heavy metal pollution for Zn was measured in Kayardi Yards. The highest heavy metal pollution for Cu was measured at Cimsa Cement Factory location. The lowest Zn and Cu heavy metal pollution was measured in Ilhanli Neighborhood, which is one of the 3 neighborhoods within the scope of the Project.

Map of great soil groups and land use capability classes for the Project area is represented in Table IV.2. According to the former Turkish General Directorate for Rural Services database analysis (1993), the great soil group existing mainly in Project area is colluvial soils. Land Use Map according to Provincial Land Use Database is also given in Figure IV.4.

Table IV.2 Agricultural Potentials Represented by Different Land Use Capability Classes and Their Characteristics

Class	Agricultural Potential	Definition of Land Use Capability
Class I	Agricultural lands suitable for agricultural soil cultivation	Class I lands are; flat or near flat, deep, fertile and easily cultivated so that the conventional agricultural methods can be applied; potential for water and soil erosion are minimal; have good drainage; are not prone to flood damage exposure; suitable for hoe plants and other intensively grown crops; Class I irrigated lands with low precipitation rates have slope values less than 1% slope, loamy structure, good water holding capacity and medium level permeability.
Class II		Class II lands are decent lands that can only be processed after taking some special precautions. Their difference from Class I lands are one or more of the limiting factors such as slight slope, moderate exposure to erosion, moderately thick soil, exposure to occasional moderate floods and a moderate level of moisture that can easily be isolated.
Class III		Class III lands are moderately good lands for hoe plants which can generate solid income provided they are utilized with a good cropping system and proper agricultural methods. Moderate slope, increased erosion sensitivity, excessive moisture, exposed soil, presence of stones, having a lot of sand and/or gravel, low water holding capacity and low yield are properties of this type of land.
Class IV		Class IV lands can be constantly utilized as meadows. Field crops can also be occasionally grown. High levels of slope, bad soil characteristics, erosion and climate are the factors limiting agricultural activities on these lands. Soils with low slopes and poor drainage are also classified as Class IV lands. These soils are not subject to erosion, but they are unsuitable for growing many agricultural products as they have a low yield and a tendency to suddenly dry up in the spring. In semi-arid regions, cropping systems incorporating legumes are generally not possible due to climate.
Class V	Agricultural lands not suitable for soil cultivation	Class V lands are reserved for long-life plantations such as meadows and forests as they generally are unsuitable for cultivated plants. A few factors such as stony structure and sogginess hinder cultivation here. The land is flat or near-flat. It is not subject to an excessive amount of wind and water erosion. Grazing and tree logging activities can be carried out on condition that a good soil cover is constantly maintained.
Class VI		Class VI lands require moderate precautions even when they are used as forest or meadow since they have quite a bit of slope and are subject to severe erosion. Exposed, soggy or very dry conditions make this type of land unsuitable for cultivation.
Class VII		Class VII lands have high slope, are stony and have been subject to violent erosion. Exposed soils, dry and/or some unfavorable conditions and swamps can be classified as Class VII soil. These can be used as forest or meadow without showing due care. If the vegetation on these soils diminishes, erosion can get quite violent.
Class VIII	Non-arable lands	Class VIII lands exhibit features that prevent them from being used as forest, meadow or cultivated land. This type of land is habitat to wild life and can also be used for recreational purposes or as catchment basins for streams. These include lands containing marshes, swamps, deserts as well as areas of high mountainous regions, rocky lands or lands with very deep craters.

(Former Ministry of Agricultural and Rural Services, July 2008).

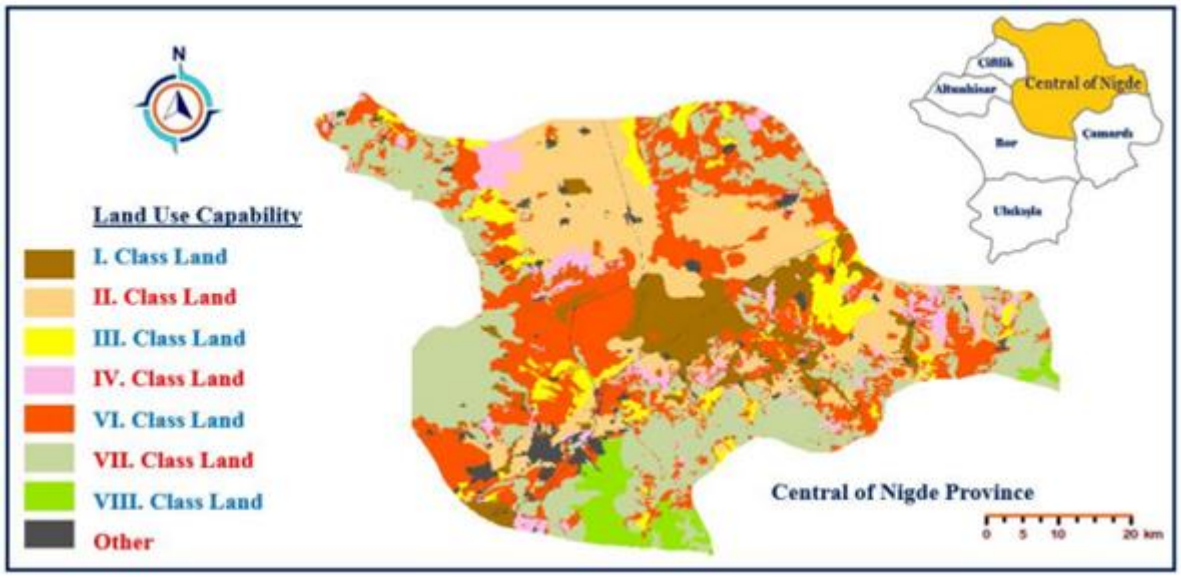

Figure IV.4 Spatial Distribution of Land Use Capabilities

Table IV.3 Areal Distribution of Land Use Capabilities of Central of Nigde Province

Land Use Capabilities	Area (km^2)	Total Area Ratio (%)
I. Class Land	184.47	6.76
II. Class Land	453.19	16.61
III. Class Land	142.43	5.22
IV. Class Land	117.66	4.31
VI. Class Land	671.26	24.60
VII. Class Land	864.62	31.68
VII. Class Land	216.44	7.93
Other	78.90	2.89

VII Class lands are lands formed by areas that are very inclined and exposed to too much erosion and are not suitable for agriculture, and are characterized as lands that can be converted into suitable soil cultivation structures to meadow areas or evaluated as forest areas.

In the central of Nigde Province, VII Class lands dominate. IV Class lands, on the other hand, cover a minimum area of 117.66 km^2 and correspond to 4.31% of the total area. IV Class lands, on the other hand, are known as lands that restrict agricultural production due to insufficient soil and land conditions and unsuitable climatic conditions, but these areas are also known as areas suitable for allocation to meadow and pasture areas.

The planned Nigde Province Sewerage and Stormwater Construction Project covers Ilhanli, Nar and Selcuklu neighborhoods. The areas where the project is planned belong to Nigde Municipality and there is no expropriation process.

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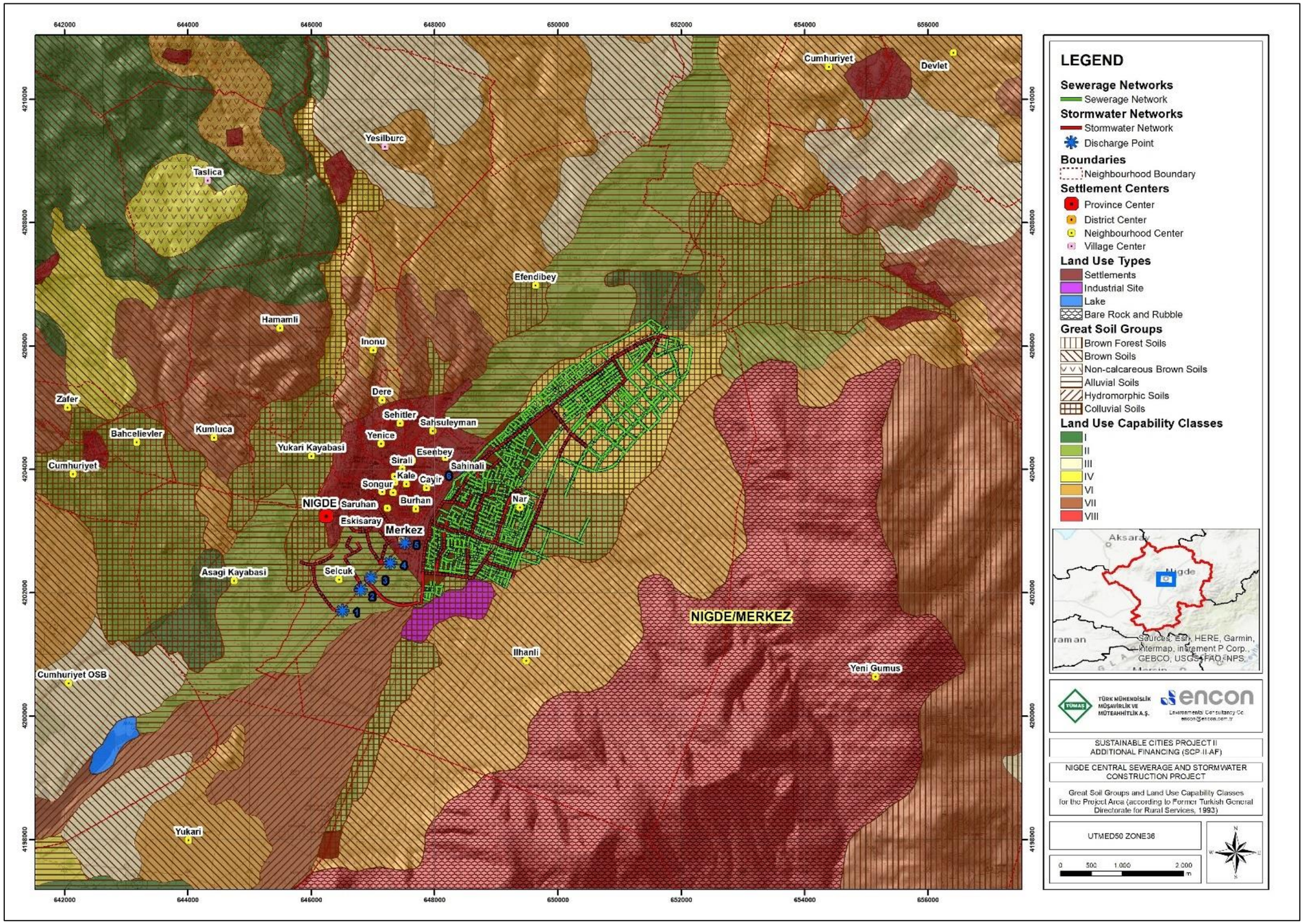

Figure IV.5 Great Soil Groups and Land Use Capability Classes for the Project

IV.1.5. Natural Hazards and Seismicity

Earthquakes, floods, frost, rockfall, landslides, hail, pollution and avalanches are natural disasters that may occur in Nigde Province. According to the "Türkiye Earthquake Zones Map" published by the Disaster and Emergency Management Presidency Earthquake Department, Nigde province is located in the 4th degree earthquake zone. The most important fault line in the region is the Ecemis Fault, which extends along the Ecemis Stream and continues over Sultansazligi to Sivas in the north. In addition, numerous horizontal and vertical faults have developed that run parallel to this main fault or intersecting the mountainous area vertically. The Earthquake Risk Map of Türkiye including the Project area could be found in Figure IV.6.

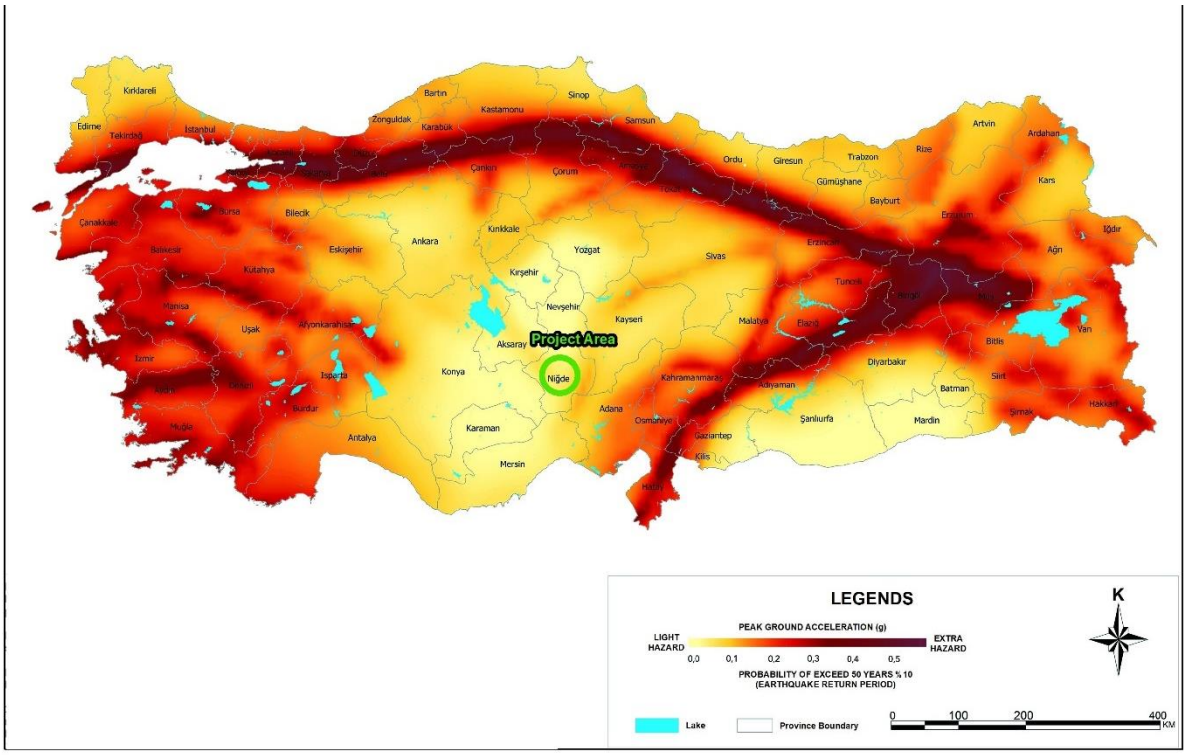

Figure IV.6 Earthquake Risk Map of Türkiye

It is known that there have not been any large earthquakes resulting in surface rupture in the Ecemis Fault Line, which is one of the biggest faults in Türkiye, and its immediate surroundings in the last two centuries. This means that the earthquakes that have occurred in Nigde Province are small and medium sizes. Active fault map of Nigde Province including Ecemis Fault is givenFigure IV.7.

Landslides in Türkiye are natural disasters that occur frequently, especially in the Black Sea Region and Central and Eastern Anatolia Regions. When the landslide map of Türkiye is examined, although Nigde is not located in the region with landslide risk, minor landslide events have been observed in the past years. In 2006, collapses and splits occurred as a result of landslides in Kaynarca Village of Bor District of Nigde Province. In addition, in 2007, the E-90 Highway was closed to traffic as a result of the landslide that occurred in the Yedi Virajlar Locality, near the Ulukisla District of Nigde Province.

Although rockfall events are seen throughout the country, they are relatively concentrated in places where continental climate prevails and temperature differences between day and night are high. Therefore, it is more common in volcanic units around Kayseri, Nevsehir and Nigde provinces, where physical erosion is observed effectively. Nigde Province ranks second among the 15 provinces with the highest rockfall hazard and risk in Türkiye. (*Ergunay, O., Türkiye's Disaster Profile, http://www.imo.org.tr*)

Due to the rainy weather that is effective in the country, floods occur as a result of water accumulating from the hills in some villages of the province. In 2007, water overflowed, trees and planted areas were damaged due to the inadequacy of the bridge on the floodplain as a result of rains in Bahceli Town and Karamahmutlu Village of Bor District of Nigde Province. Again in 2009, summer rains caused a flood in the Havuzlu Village of the Bor District of Nigde, many houses and barns were flooded in the village, and hundreds of acres of agricultural land were flooded.

In the entire Eastern Anatolia, the high parts of the Eastern Black Sea Region, Nigde and Bolkar Mountains in Central Anatolia, and the Uludag and Istranca Mountains in the west have been identified as potential avalanche regions. An avalanche is observed in Nigde Province, especially around Demirkazik. (*Ergunay, O., Türkiye's Disaster Profile, http://www.imo.org.tr*)

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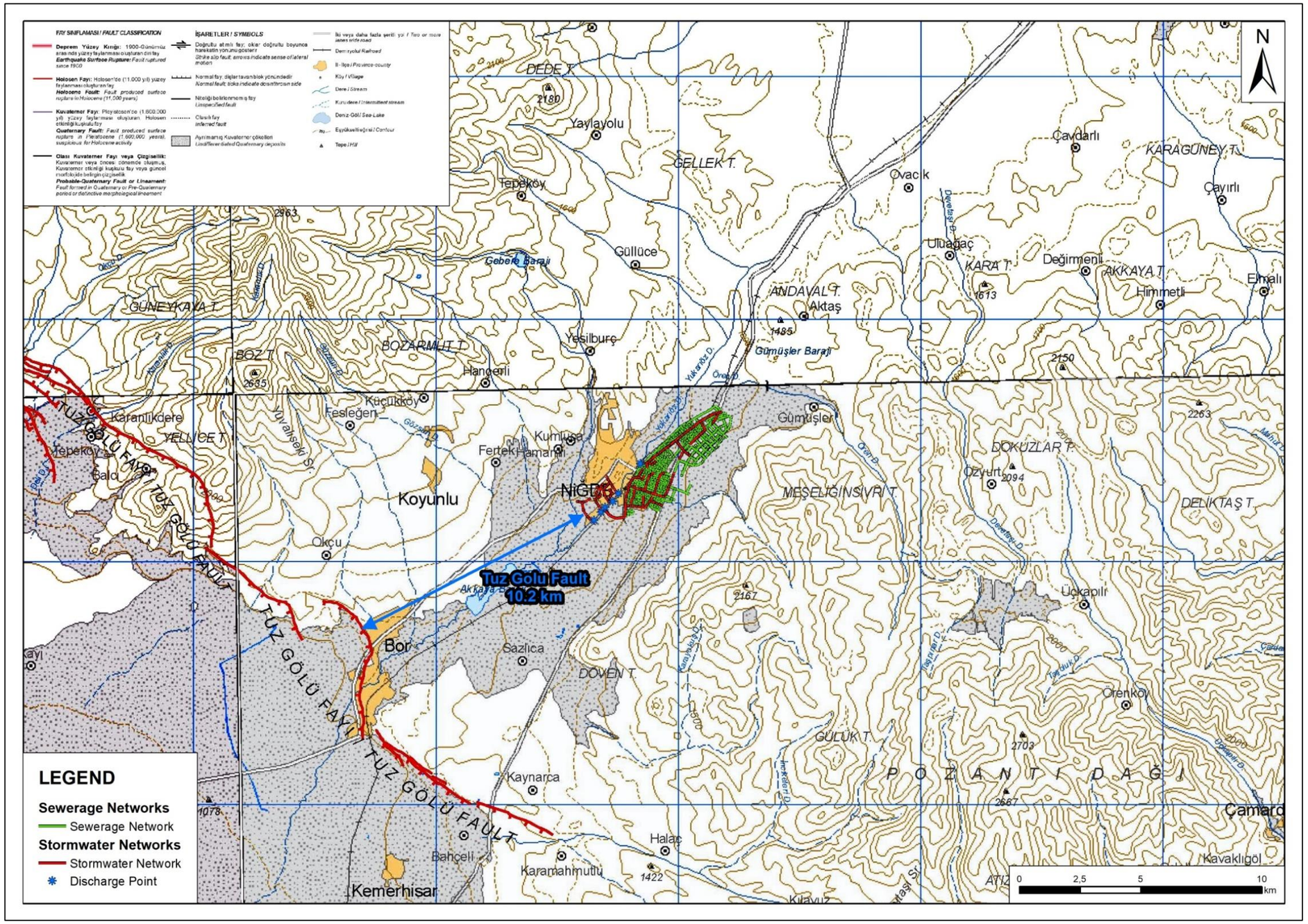

Figure IV.7 Active Fault Map of Nigde Province

IV.1.6. Hydrogeology and Hydrology

Nigde Province is not rich in lakes. There are cirque lakes formed by glacial erosion on the Aladaglar and Bolkar Mountains. Akgol, Alagol, Cinigol, Yedigol, Karagol are the main ones. Narlı Lake in the north was formed as a result of volcanic collapse. Narlı Lake is a brackish lake with mineral-rich waters as it is fed by underground hot water sources.

On the other hand, dam lakes were formed by the collection of water behind the damsbuilt for irrigation purposes in front of the riverbeds. Gebere Dam, fed by the Kirkpinar and Baldira streams coming from the Melendiz Mountains, was built between 1939 and 1941. This dam iss used to irrigate the vineyards of Kırkpınar, Yesilburc, Kayaardi. Gumusler Dam, on the other hand, was built to irrigate the apple orchards around Gumusler, where water is collected from the mountains. Koyunlu, Dikilitas, Azatli, Hacibeyli and Murtaza lakes are other ponds built for irrigation purposes. The hydrology map of the Project area and its vicinity is given in Figure IV.8.

Akkaya dam irrigates the Bor plain. This dam is the discharge point of the Nigde municipality wastewater treatment plant. The dam with a total water volume of 5,800,000 cubic meters was facing serious environmental pollution as stated in the "Nigde Province 2019 Environmental Status Report" prepared by the Nigde Environment and Urban Directorate, and WWTP constructed in 2021 has been helping to reduce the pollution load.

According to the information learned from the official website of Nigde Governorship, it was determined that chemical waste was left in Kizilca Creek in 2016 and it caused a bad smell. The chemical waste spilled into the Kizilca Stream illegally was cleaned by the teams of the Provincial Directorate of Environment and Urbanization, Nigde Municipality and Nigde University, and the stream water was purified. No measurement has yet been made in the receiving environment, but pollution is not considered.

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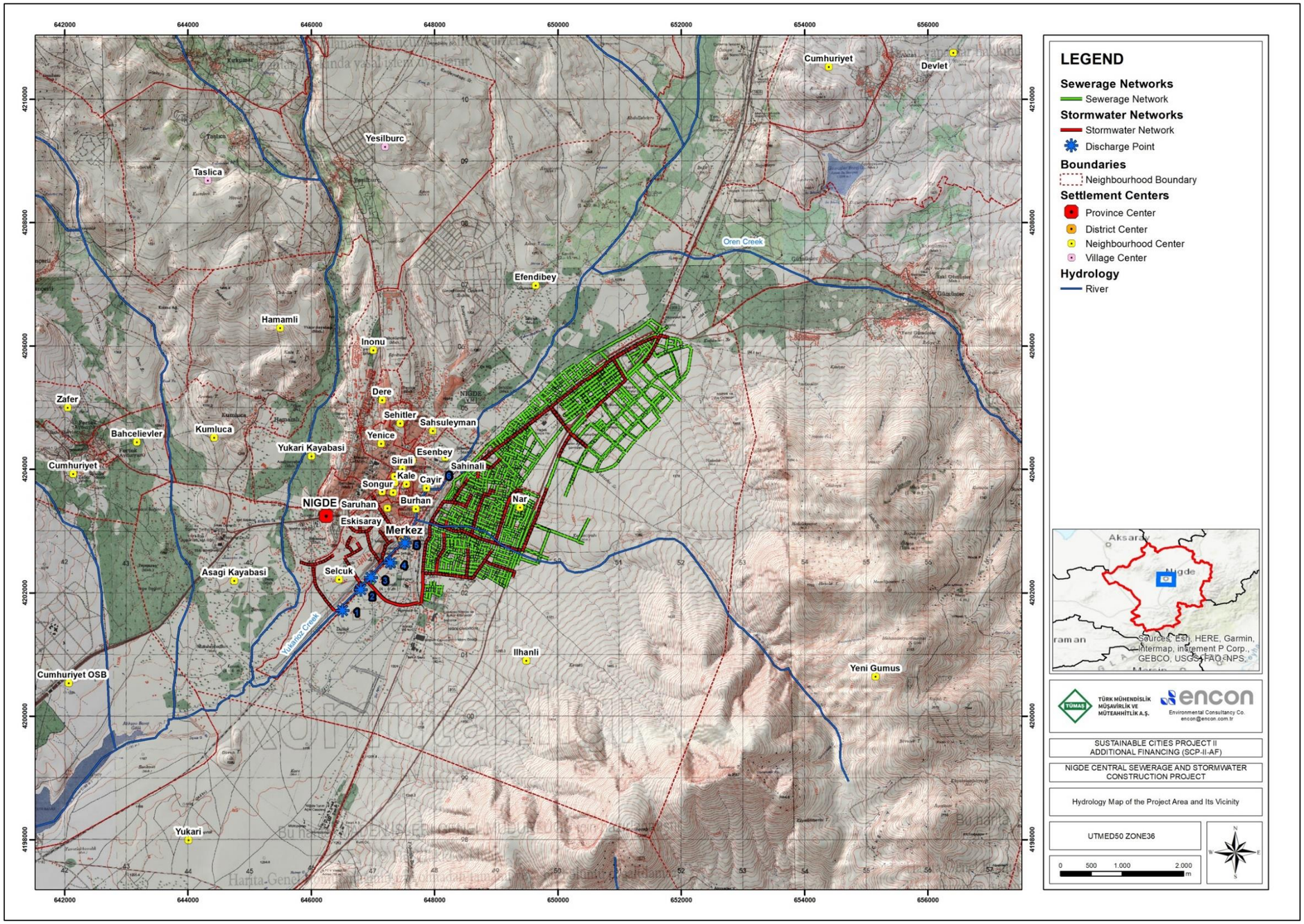

Figure IV.8 Hydrology Map of the Project Area and its Vicinity

IV.1.7. Protected Areas

To identify and evaluate the protected areas in and around the Project Area, desktop studies and literature research were carried out using the databases of the relevant institutions within the scope of the Project. For this purpose, the sensitive area list available in Annex 5 of the EIA Regulation was used as a reference. This list covers areas that need to be protected in accordance with international conventions that Türkiye is a contracting party and nationally declared protected areas.

Primary data sources utilized within the scope of the desktop studies, but not limited to, are listed below:

- Database of Ministry of Culture and Tourism, General Directorate of Cultural Heritage and Museums (https://kvmgm.ktb.gov.tr/),
- Database of Ministry of Agricultural and Forestry, General Directorate of Nature Conservation and National Parks (https://www.tarimorman.gov.tr/DKMP),
- Türkiye National Geographic Information Systems, National Geographic Information Platform (https://www.atlas.gov.tr/),
- Map of Prohibited and Open Hunting Areas in Nigde Province for years 2021-2022 (https://avlakharitalari.tarimorman.gov.tr/AvlakHaritalari/51.jpg).

Protected Areas in accordance with National Legislation

Areas required to be protected as per the Turkish legislation defined under Annex 5 (Sensitive Regions) of the EIA Regulation are listed in the following items. The evaluations related to the indicated areas are presented therein.

National Parks, Nature Parks, Nature Monuments, and Nature Conservation Areas are defined in Articles 2 and 3 of the National Parks Law.

There are no national parks, nature parks, nature monuments, or nature conservation areas in the Project Area.

Aladaglar National Park is the closest national park to the Project Area and is located 35 km southeast of the Project Area. Sultansazligi National Park is located 48 km northeast of the Project Area.

Wildlife Protection Areas, Wildlife Development Areas, and Wild Animal Nestling Areas are determined by the Land Hunting Law.

Map of prohibited and open hunting areas for the years 2021-2022, prepared by the Ministry of Agricultural and Forestry, General Directorate of Nature Conservation and National Parks, is presented in Figure IV.12. There are various hunting areas in the province. There is a wild animal settlement area about 10 km northwest of the Project Area.

Nigde Camardi Demirkazik Wildlife Improvement Area is located about 33 km east of the Project Area (see Figure IV.13).

Areas defined as Cultural Property, Natural Property, Protected Site, and Protected Area according to Law on Protection of Cultural and Natural Properties No. 2863 (published in the Official Gazette dated 23.07.1983 and numbered 18113) Article 3, Paragraph 1, Clause (a)

(Definitions); Sub-clauses 1, 2, 3 and 5; and areas identified and registered in the same Law and amendments.

To identify the cultural assets and protected sites in the vicinity of the Project Area, the Directorate General of Cultural Assets and Museums has been queried. The identified immovable cultural assets in Nigde Province are listed in Table IV.4 and the Protected Sites are listed in Table IV.5.

Table IV.4 Inventory of Immovable Cultural Assets in Nigde Province

Asset Subtype	Number
Administrative	18
Cultural	103
Military	1
Industrial and Commercial	4
Religious	153
Graveyards	12
Civil Architecture Sample	191
Ruins	8
Total	**490**

Source: https://kvmgm.ktb.gov.tr

Table IV.5 Protected Sites in Nigde Province

Protected Sites	Number
Archaeological Sites	286
Urban Sites	1
Historical Urban Sites	2
Total	**289**

Source: https://kvmgm.ktb.gov.tr

Areas defined in Regulation on the Assessment and Management of Air Quality

According to the 7th Article of *Regulation on the Assessment and Management of Air Quality,* zones and sub-zones for air quality identification are listed in Annex-1 of Memorandum 2013/37. With the relevant circular, Türkiye is divided into various regions and sub-regions. With this distinction, the MoEUCC tried to determine the pollution profile of the provinces. The list in Annex-III of the circular is divided into two groups according to the pollution profile of provinces substances: "high pollution potential cities" and "low pollution potential cities." Pollution profiles of provinces were determined by using the 2012-2013 winter season air quality data and air quality bulletins received from air quality monitoring stations connected to the national air quality monitoring network. According to this, the Nigde Province is in the list of "high pollution potential."

Areas identified and declared as Special Environmental Protection Areas (SEPA) by the Cabinet of Ministers in accordance with the 9th Article of Environment Law

The nearest SEPA to the Project Area is Ihlara in Aksaray Province, that is located about 43 km northwest of the Project Area.

Areas defined in Pasture Law

The Project Area is not located in pastureland, which is subjected to Pasture Law No. 4342.

Protected areas in accordance with the Convention for the Protection of Wetlands with International Importance as Particularly Water Birds Living Environment (RAMSAR Convention),

There is no RAMSAR Area in and around the Project Area. The nearest RAMSAR Area, Sultansazligi RAMSAR Area, is located about 50 km northeast of the Project Area.

Agricultural Areas: Agricultural development areas, irrigated areas, potentially irrigated areas, areas with land use capability class of I, II, III, and IV, rainfed agricultural lands classified as I and II, and specific product plantations areas

According to the Land Use map, the Project Area is in the garden (irrigated) area.

Wetlands: Natural or artificial, permanently, or temporarily, standing water or flowing, freshwater, hard or salt water, all the wetlands have importance for the organisms especially for aquatic birds, sea depth range below six meters during the low tide, swamp, reeds, and turbaries and ecologically wetlands on their coastal sides

It is planned to discharge the stormwater collected through the new network to the Kızılca Stream in the Project area. The hydrology map of the Project area and its vicinity is given in Figure IV.10. There are no protected wetlands in and around the Project Area.

Other Protected/Restricted Areas

In addition to the presented information above, the areas listed below (also listed in Annex 5 of the EIA Regulation) do not exist in the Project Area:

- Areas defined in the 17th, 18th, 19th, and 20th Articles in the Water Pollution Control Regulation,
- Forest Areas within the scope of Forest Law No. 6831
- Areas designated in accordance with the Law on the Vaccination of Pesticides and Improvement of Olive Cultivation,
- Areas designated in accordance with the Regulation of the Wetland Conservation
- Areas subjected to construction ban and areas of which their present characteristics should be protected according to Approved Environment Plans (areas of which their natural characteristics should be protected, biogenetic reserve areas, geothermal areas, etc.),
- Areas important for endemic species that are endangered or potentially endangered or important for scientific research, biosphere reserve, biotopes, biogenetic reserve areas, areas have unique characteristics for geologic and geomorphologic formations.

Protected Areas in accordance with International Conventions

Areas required to be protected in accordance with the international conventions to which Türkiye is a party and defined under Annex 5 (Sensitive Regions) of the EIA Regulation are listed in the following items, and the evaluations related to the indicated areas are presented therein.

Other Protected/Restricted Areas

There are no areas within the context of below mentioned protected/restricted areas.

- Cultural, historical, and natural areas that the Ministry of Culture protects under Cultural Heritage and Natural Heritage status according to the 1st and 2nd articles of the Convention for the Protection of the World's Cultural and Natural Heritage,
- European Landscape Contract.

Internationally Recognized Areas within the Region of the Project Area

The map showing the Key Biodiversity Areas in and around the project area can be seen in Figure IV.9. Türkiye's KBAs have been identified on a national scale by Doga Dernegi (the Nature Society of Türkiye) in collaboration with the Ministry of Agriculture and Forestry, Birdlife International, and Royal Society for the Protection of Birds.

Important Plant Areas (IPAs) are globally important sites for wild plants and threatened habitats. IPAs are natural or semi-natural areas containing affluent populations of rare, endangered, and/or endemic plant species and/or have extraordinarily rich and/or valuable vegetation in terms of botany. The IPAs in and around the project area are given in Figure IV.10.

There are 184 Important Bird Areas (IBAs) in Türkiye, according to the BirdLife International Data Zone. Twenty of them are classified as IBAs in danger. The IBAs in and around the project area are given in Figure IV.11.

Eregli Plain KBA/IPA/IBA is 15 km west, Aladaglar KBA/IPA/IBA is about 32 km southeast, Sultansazligi National Park KBA/IPA/IBA is about 46 km northeast and Bolkar Mountains KBA/IPA/IBA/AZE is 48 km southwest of the Project Area.

The Alliance for Zero Extinction (AZE), established in 2004 and comprising 88 biodiversity conservation Non-Governmental Organizations (NGOs), is dedicated to identifying and safeguarding all KBAs, effectively holding the entire global population of at least one Critically Endangered or Endangered species. In Türkiye, there are three AZE sites have been determined. The closest one to the project area is Bolkar Mountains, about 48 km north of it.

The Ramsar Convention is a convention that aims to protect wetlands, which are the habitat of waterfowl of international importance. In Türkiye, 14 wetlands have been declared as Ramsar areas. There is neither any wetland area protected under RAMSAR Convention nor wetland with national importance and with local significance in and around the Project Area.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites are places of importance to cultural or natural heritage as described in the UNESCO World Heritage Convention, established in 1972. Türkiye accepted the convention on 16 March 1983, making its historical sites eligible for inclusion on the list. As of 2021, there are nineteen World Heritage Sites in Türkiye, including seventeen cultural and two mixed sites. There is no protected area per this convention in and around the Project Area.

The Man and the Biosphere Programme (MAB) is an intergovernmental scientific program launched in 1971 by UNESCO. It aims to establish a scientific basis for improving the relationship between people and their environment. There is no protected area per this program in and around the Project Area.

These areas are wild and natural areas with high biodiversity value. The project area is in an urban area, and the anthropogenic effect is high. Therefore, its biodiversity is poor.

As a result of desk and field studies carried out in Kizilca Stream, it has been determined that stream has modified habitat. No fish species were detected in the stream, and it has been determined that there is no habitat for protected aquatic biodiversity components.

The Zondi (Kizilca) Stream feeding the Akkaya Dam passes through the city centre of Nigde and carries the entire pollution load of the city to the dam (Tuncsiper, 2017). No fish was determined in Kizilca stream. Depending on the excess nutrients, the dam has a eutrophic and even a dystrophic structure. No fish species have lived in the dam for many years. It has been determined that the Akkaya Dam population of the mentioned species has disappeared due to pollution pressure.

There are no internationally recognized areas of high biodiversity value such as World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of Internationally Importance, and Alliance for Zero Extinction Sites within or in close vicinity to the project area.

This project is co-funded by the European Union, the Republic of Turkey and the World Bank
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

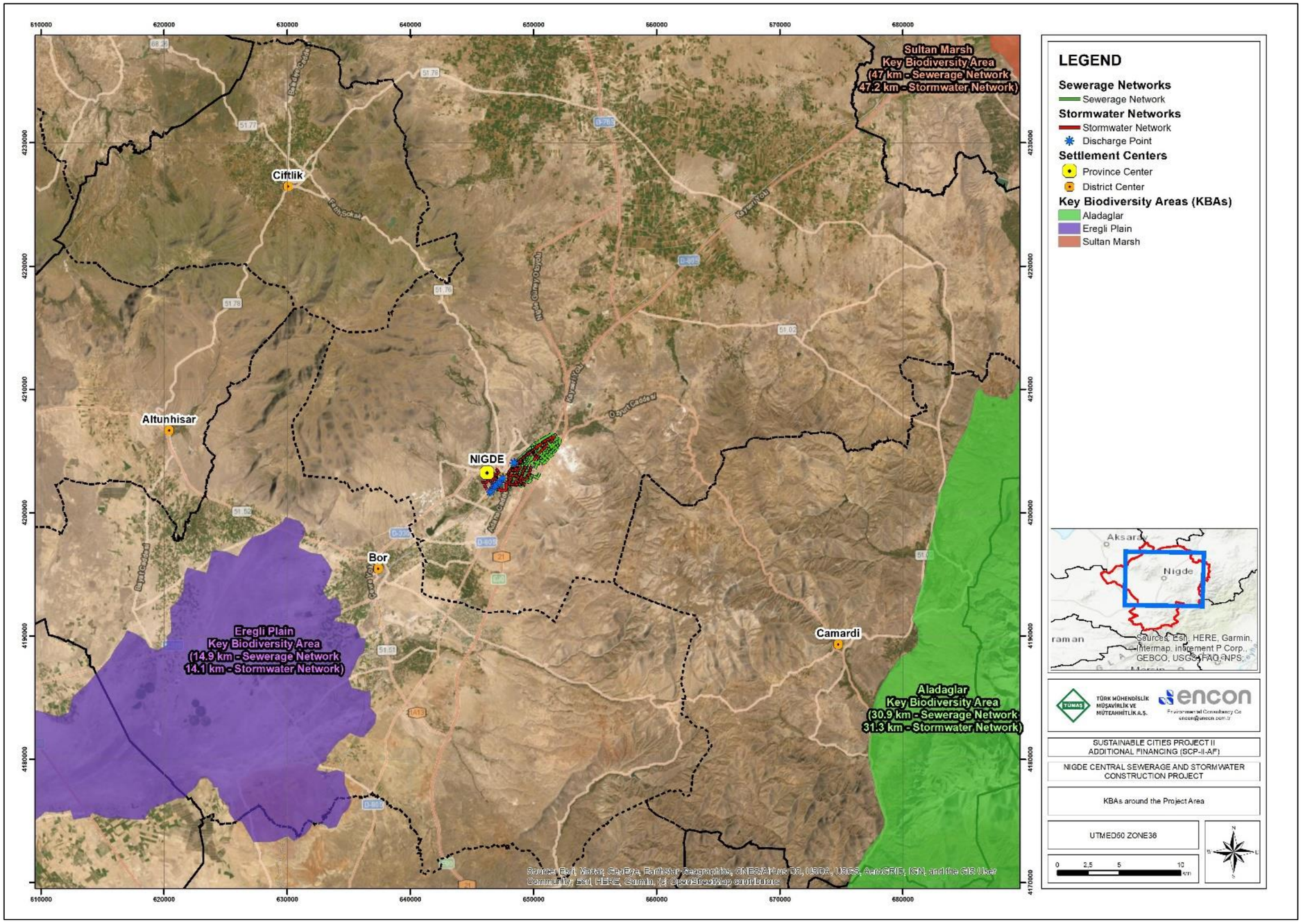

Figure IV.9 Key Biodiversity Areas around the Project Area

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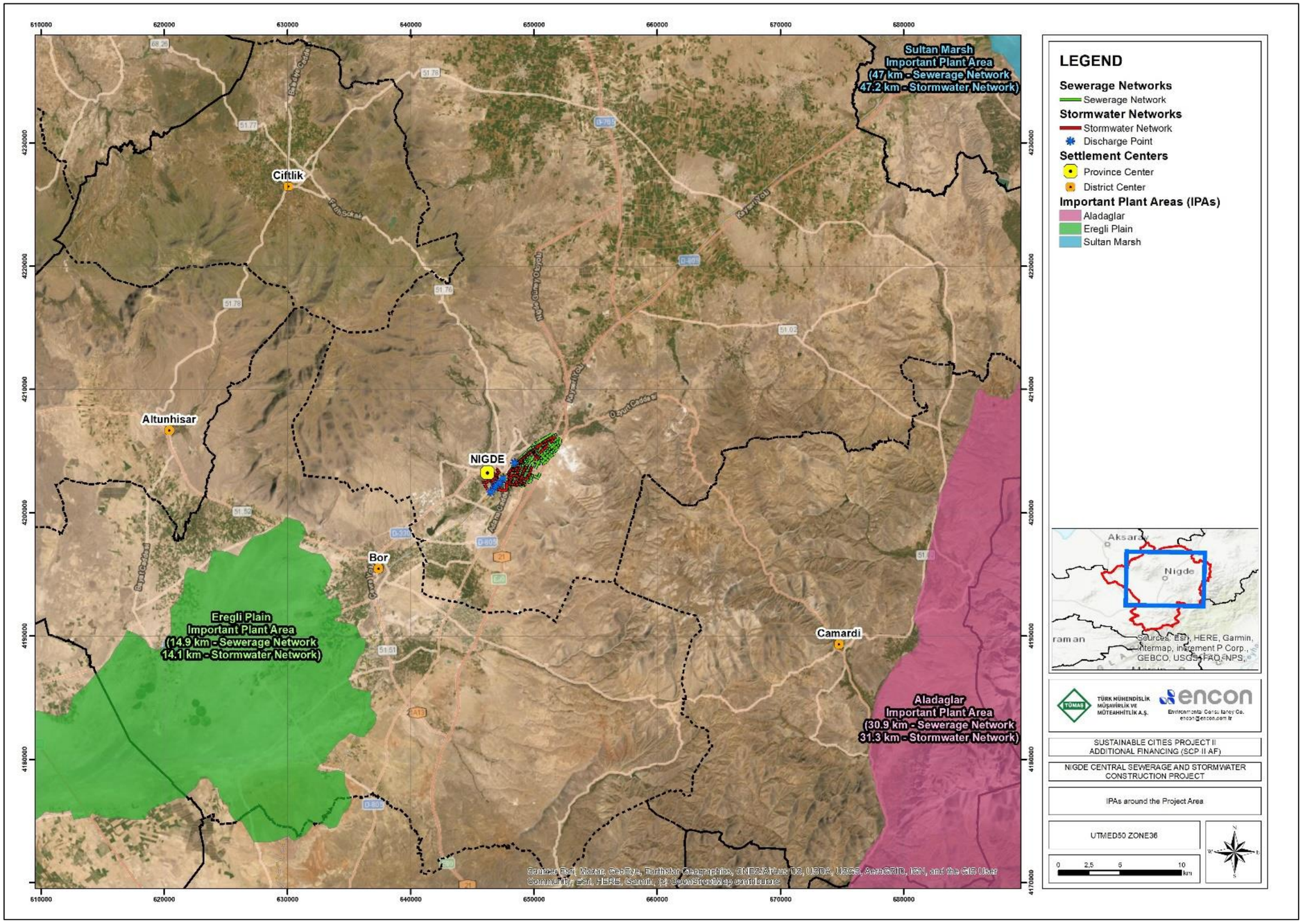

Figure IV.10 Important Plant Areas around the Project Area

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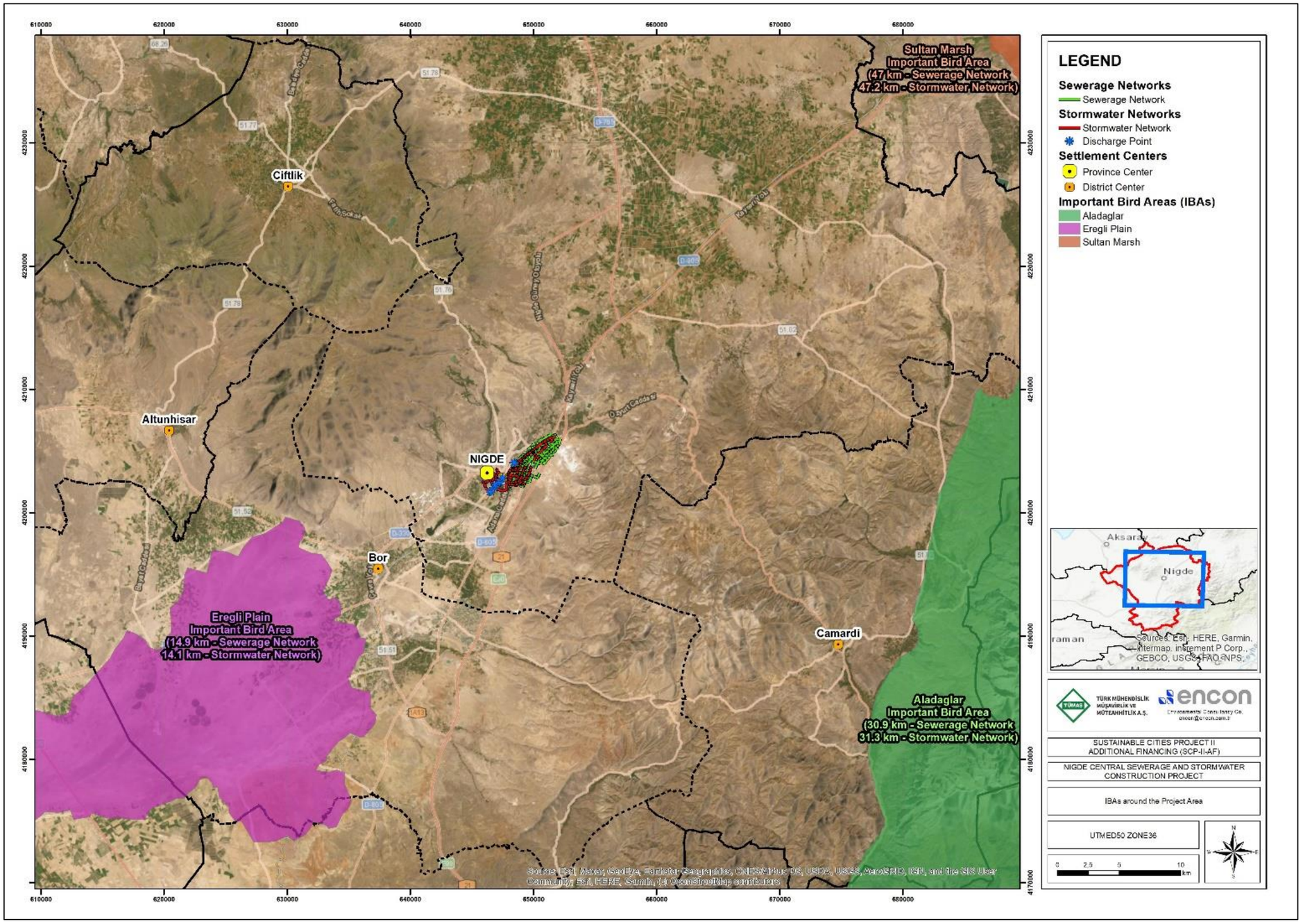

Figure IV.11 Important Bird Areas around the Project Area

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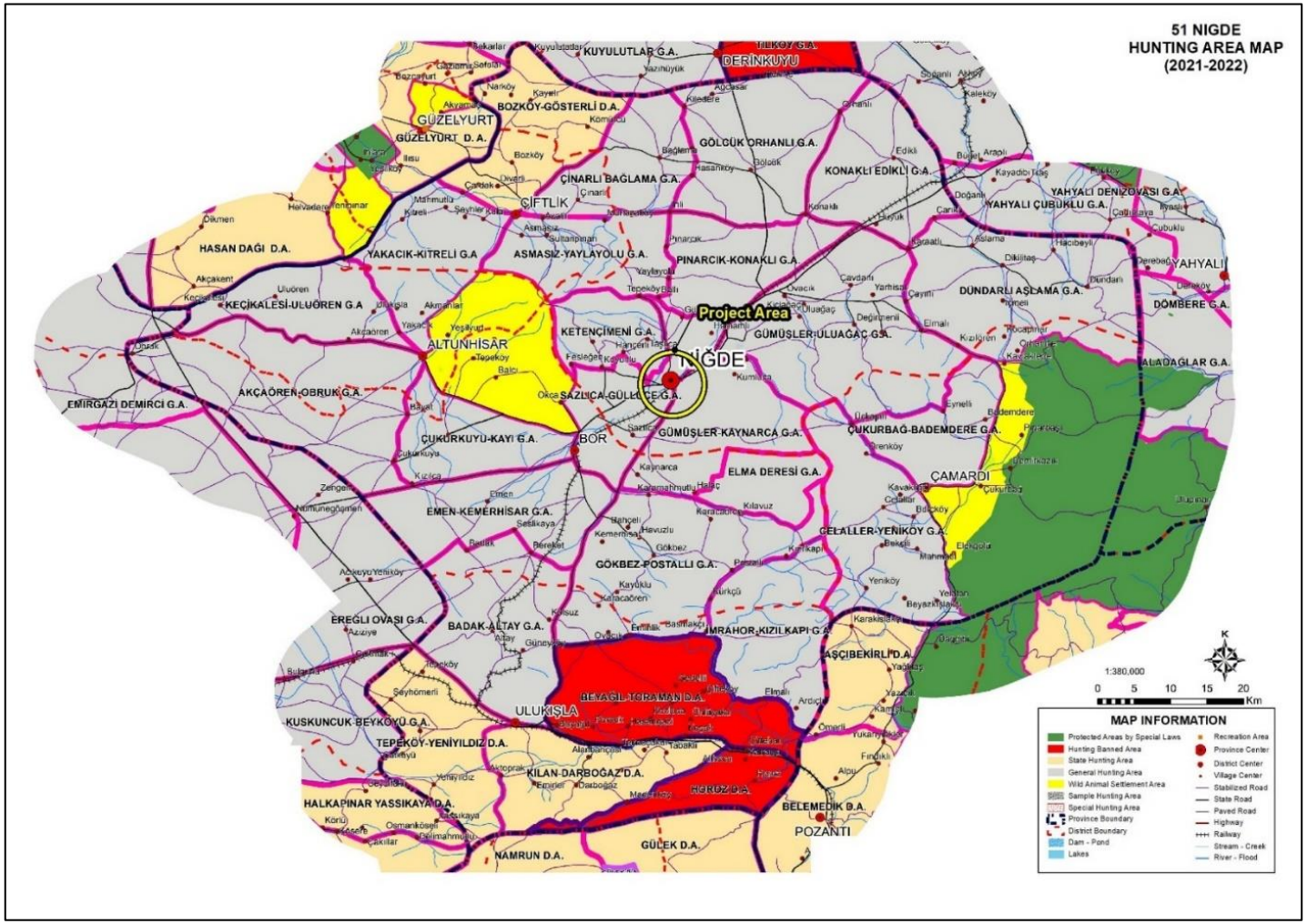

Figure IV.12 Map of Prohibited and Open Hunting Areas in Nigde Province

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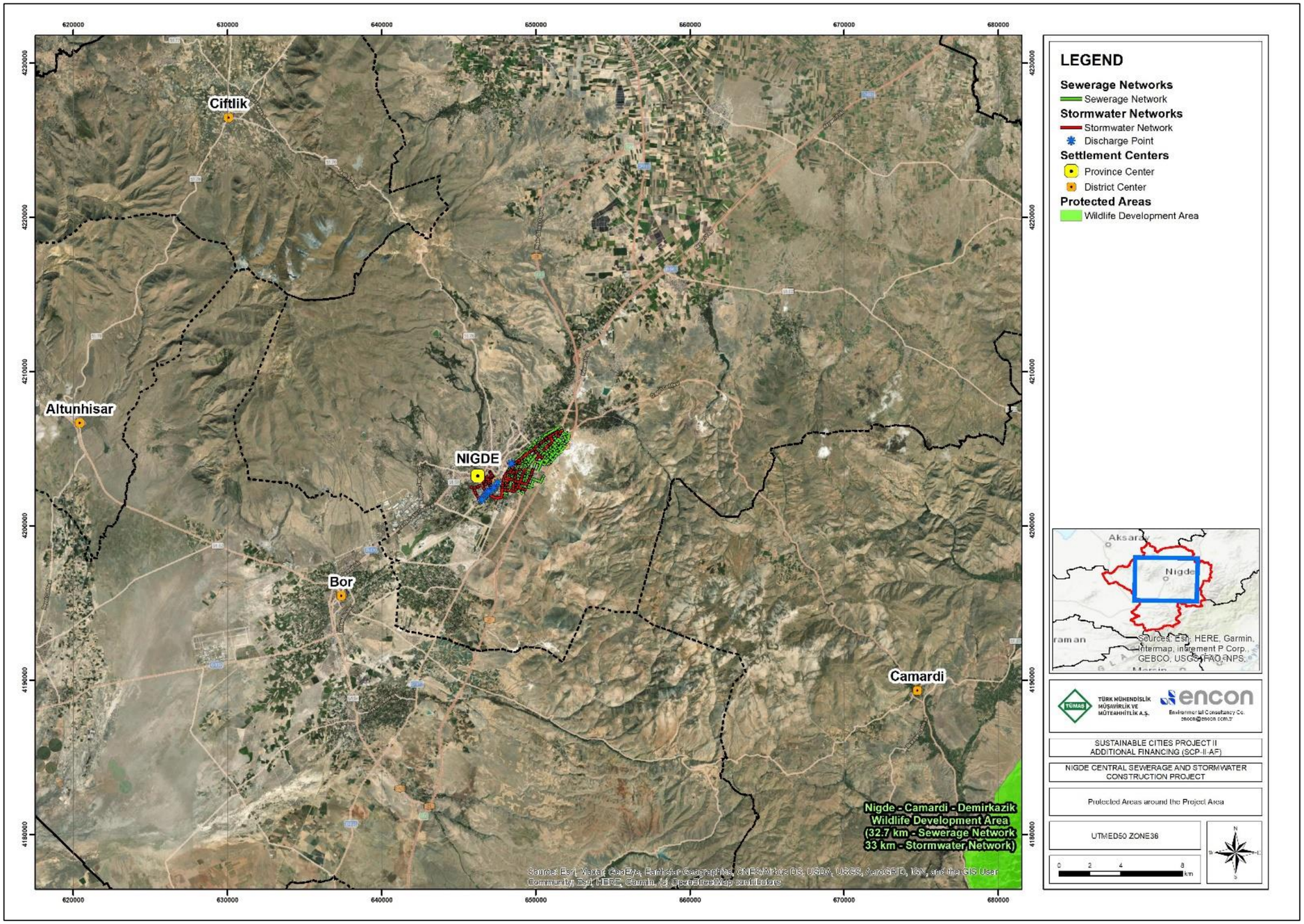


Figure IV.13 Protected Areas around the Project Areas

IV.1.8. Air Quality

There are two (2) air quality monitoring stations in NigdeProvince. The stations are located in Nigde Center and Bor Districts and most of the stations monitor SO_2, NO_X, CO, particulate matters with aerodynamic diameter smaller than 10 µm (PM_{10}) and NO_2 parameters. The location of the air pollution measurement device in Nigde Center Air Quality Monitoring Station and the measured parameters are given in Table IV.6.

Table IV.6 Air Quality Parameters measured in Nigde Center Air Quality Monitoring Station between 01.01.2022 and 30.06.2022

Months	Average Monthly Concentrations					
	PM_{10} (µg/m^3)	SO_2. (µg/m^3)	CO (µg/m^3)	NO_2 (µg/m^3)	NO_x (µg/m^3)	O_3 (µg/m^3)
Jan 2022	33.56	8.26	474.60	32.76	41.33	45.49
Feb 2022	38.23	5.87	426.59	32.24	37.55	44.20
Mar 2022	18.36	3.59	379.03	25.80	52.55	31.60
Apr 2022	70.47	3.56	299.03	23.50	31.68	63.79
May 2022	30.30	2.10	260.55	21.93	36.77	64.86
Jun 2022	38.89	2.15	233.73	21.09	26.37	74.19
Limit Value	**50***	**25****	**10,000***	**40***	**30***	**120***

Source: http://sim.csb.gov.tr/SERVICES/airquality
** As stipulated by the Regulation on the Assessment and Management of Air Quality*

According to the Continuous Monitoring Center data, the parameters are below the limit values. There is no problem in terms of air quality in Nigde Province.

Table IV.7 WBG EHS Guidelines

Parameter	Averaging Period	WBG EHS Guideline Limit Value in µg/m^3	Regulation on the Assessment and Management of Air Quality Limit Value in µg/m^3	Measurement Results at Coordinates of AML*-367246/4139191 in µg/Nm^3
NO_2	24-Hour	20	40	-
	10-Minute	500		
PM_{10}	1-Year	20		16.56
	24-Hour	50	50	
$PM_{2.5}$	1-Year	10		8.09
	24-Hour	25	25**	
O_3	8-Hour daily maximum	100	120	-

The air pollution measuring device is located in the Selcuk neighborhood of Nigde. Since the Selcuk neighborhood is one of the neighborhoods within the scope of the project, the baseline air pollutants data of 2019 below provides us with an accurate analysis opportunity.

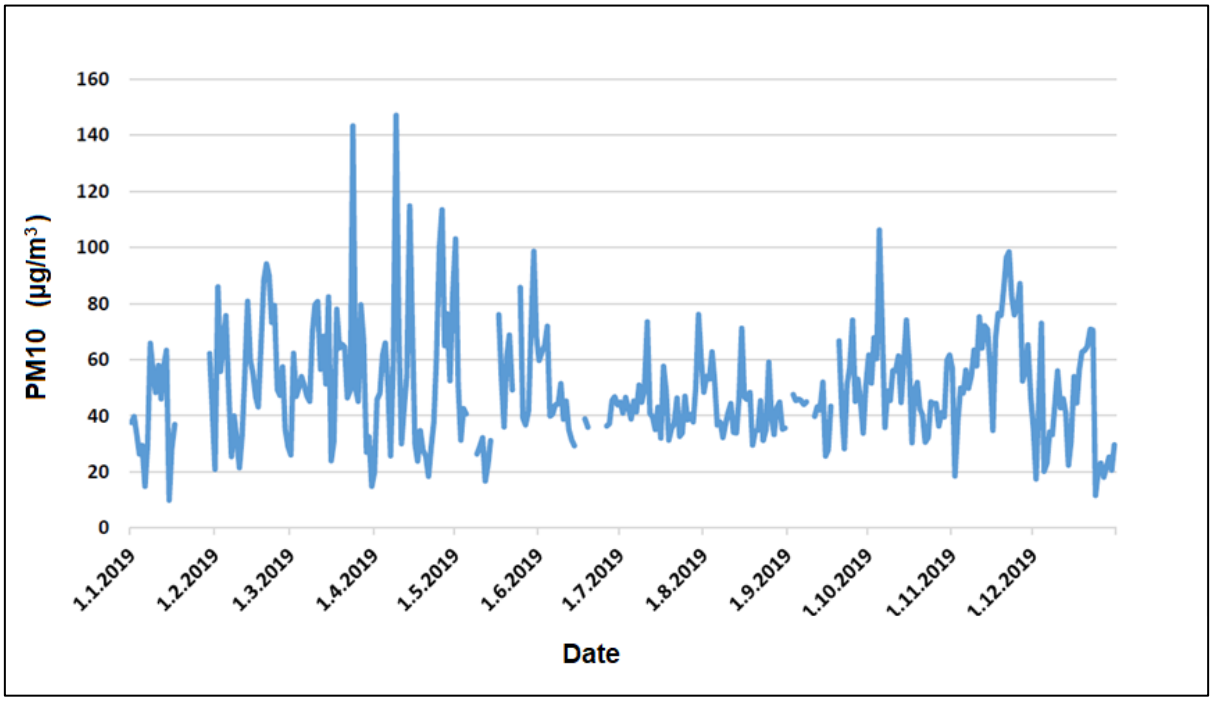


Figure IV.14 Nigde Central Station PM10 Parameter Daily Average Value Graph for 2019

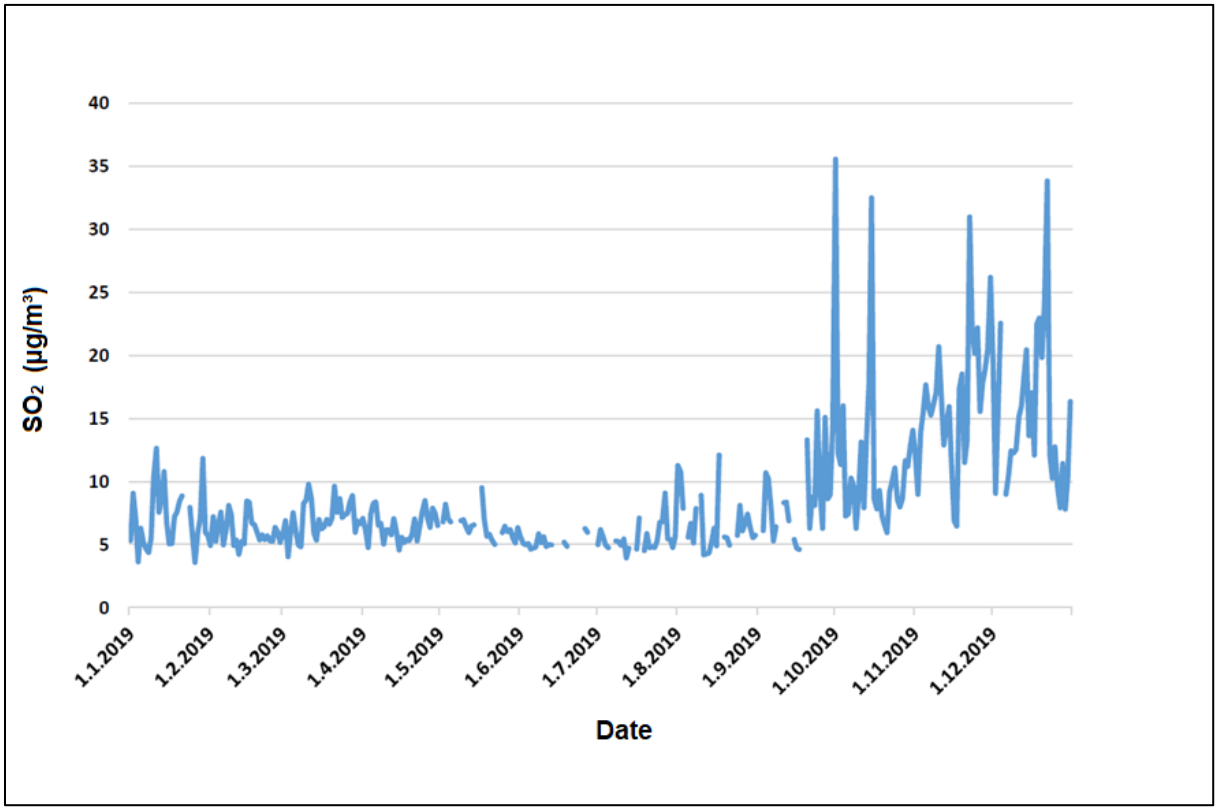


Figure IV.15 Nigde Central Station SO_2 Parameter Daily Average Value Graph for 2019

An increasing SO_2 value has been observed, especially since the last quarter of 2019. But PM10 value has remained stable in 2019.

IV.1.9. Noise Level

Environmental noise in Türkiye is regulated by the Regulation on Environmental Noise Control (RENC), which is published in the Official Gazette dated 30.11.2022 and numbered 32029. This regulation is intended to ensure that precautions are taken to prevent disturbance to peace and tranquility, and to ensure the physical and mental health of persons potentially exposed to environmental noise. For this purpose, the regulation sets out requirements regarding noise mapping, acoustic reporting, environmental noise assessment for determination of noise exposure levels and preparation and application of action plans to prevent or mitigate negative impacts of noise exposure on human being and the environment.

The operation noise limit values defined in the RENC Annex II Table 1 are presented in Table IV.8.

Table IV.8 Environmental Noise Limits Values for Industrial Plants provided in RENC

Noise Source	Measured Parameter	Environmental Noise Level		
		Day	Evening	Night
Industrial plants, transportation resources	$LA_{eq,5min}$	65 dB(A)	60 dB(A)	55 dB(A)
Music broadcasting workplaces	$LA_{eq\ 63\text{-}250\ Hz}$	60 dB(A)	55 dB(A)	50 dB(A)
Workplaces	$LA_{eq,5min}$	Background + 5 dB(A)		Background +3 dB(A)
In case of multiple workplaces	$LA_{eq,5min}$	Background + 7 dB(A)		Background +5 dB(A)
All resources	LC_{max}	100 dB(C)		

WBG General EHS Guidelines

Noise limit levels are described under, WBG General EHS Guidelines: Environmental Noise. The noise limit values are based on World Health Organization (WHO) Guidelines for Community Noise. WBG General EHS Guidelines requires that noise impacts should not exceed the levels presented in Table IV.9, or result in a maximum increase in background noise levels of 3 dB at the nearest receptor location off-site.

Table IV.9 Noise Level Limit Values in WBG General EHS Guidelines

Receptor	One Hour L_{Aeq} (dBA)	
	Daytime 07:00 – 22:00	Nighttime 22:00 – 07:00
Residential, institutional, educational	55	45
Industrial, commercial	70	70

The noise analysis of Nigde Province was carried out by the Environmental Engineering Department of Nigde University in the city center, in particular to determine the noise caused by traffic. This analysis also covers Selcuk and Nar neighborhoods, which are among the neighborhoods that fall within the scope of the Project. Therefore, it provides an accurate evaluation opportunity for the baseline data of the project.

Starting from Nar neighborhood, measurements were taken for 7 days between 8:00-11:00 in the morning, between 12:00-15:00 in the afternoon, and between 17:00-19:30 in the evening, for 7 days. The measurements were carried outat a total of 25 points. Traffic-related noise pollution was measured with decibel meters at the designated points. Areas with continuous traffic flow and high density of people were selected. The name of the neighborhoods and the average measurements of 07.06.2021 are shown in Table IV.10.

Table IV.10 Noise Measurement Results

Measurement points	Morning 8.00-11:00 am (dBA)	Noon 12.00-15.00 (dBA)	Evening 17.00-19.30 (dBA)
Nar Social Center	78.55	78.34	77.56
Aydinlik Street	75.85	76.34	76.48
Emin Erisingil Boulevard	78.64	78.14	78.53
Old Terminal	81.48	81.8	79.88
Cumhuriyet Street	81.04	81.1	80.7
Imam Hatip Square	81.34	81.34	79.86
Governorship	78.9	80.87	78.86
Dr. Sami Yagiz Street	80.56	83.05	79.82
Nigde Cultural Center	78.3	80.06	79.41
Selcuk Street	77.75	78.65	77.71
Mevlana School	75.85	77.01	77.18
Suleyman Fethi Street	79.8	80.06	80.18
Ethem Onbasi Street	80.2	81.47	82.33
Derbent Junction	79.9	80.7	80.17
Alparslan Turkes Boulevard	80.2	81.47	80.13
Old Fertek Road	78.9	77.95	78.2
Hospital Junction	78.5	78.95	75.83
Hospital	81.2	80.71	77.28
Kemal Aydogan School	80.3	80.62	80.75
Sabanci Student Dormitory	80.01	81.42	81.62
Alparslan Turkes Boulevard-II	81.34	81.7	80.55
Cay Duragi	80.65	80.1	81.12
Sarikopru	81.2	81.5	81.25
Campus	81.07	82	81.23
Tevfik Calin Street	81.22	82.41	82.25

Source: "An Experimental Study on the Measurement of Noise Pollution from Traffic and Creation of a Noise Map in the City Center of Nigde" published by İbrahim Karli - November 2021

As a result of the measurements, it has been observed that the points where the equivalent noise level peaks are generally junction areas, old terminal, main street, hospital area and university

junction. Moreover, background noise levels should not be exceeded more than 3 dB at the nearest receptor location off-site during the construction and operation phases of the Project. The areas where the noise measurement is made are in the city and pass near the road. Therefore, the noise measurement was above the limit value.

In addition to the noise analysis of Nigde Province, a measurement study was also conducted at two locations (37.971851/34.698590 and 37.965588/34.687114) to determine the baseline noise level. The photographs taken at measurement locations are presented in Figure IV.16. The background noise measurements were carried out on June 14-16, 2022 by ENCON Laboratory and the results are presented in Table IV.11.

Figure IV.16 Photographs Taken During Noise Level Measurement

Table IV.11 Background Noise Level Measurement Results

Measurement Point	Type of the Receptor	Measurement Coordinates UTM WGS84		Measurement Results and Limit Values (Leq) (dBA)				
				RENC			WBG General EHS Guideline	
		X	Y	Daytime (07.00-19.00)	Evening (19.00-23.00)	Night (23.00-07.00)	Daytime (07.00-22.00)	Nighttime (22.00-07.00)
AML	Residential, Instituonal and Educational	37.971851°	34.698590°	60.2	58.3	50.1	59.6	55.3
AML	Residential, Instituonal and Educational	37.965588	34.687114°	58.4	50.6	48.3	57.5	49.6
Limit Values				65	60	55	55	45

As can be seen from Table IV.11, the background noise levels for the measurement location are below the limit values defined in RENC for daytime, evening and nighttime. However, measurement results are above the limit values specified in the WBG General EHS Guideline. The reason why the noise results are above the limits may be the bad weather conditions at the time of the measurements.

IV.1.10. Waste Management

In order to prevent the indiscriminate storage of solid waste in Nigde Province and to establish the regular storage site required by the decree, 850,000 m² of treasury land in the Hidirlik area has been allocated to the Nigde Municipality. Since it is not economical for small town municipalities and district municipalities outside the provincial municipality to establish and operate a sanitary landfill with their own resources, the; Nigde Solid Waste Association (NİGKAD-BİR) was established by the Decree of the Council of Ministers dated 21.06.2006 and numbered 2006/10635.

In the Nigde Municipality Solid Waste Landfill, which opened in 2013, work is carried out within the scope of the Zero Waste Project. At the facility, solid waste such as plastic and glass is separated and returned to economic cycle. The resulting methane gas is also used for electricity generation. The Solid Waste Storage Facility, which is 8 kilometers away from the city center, produces an average of 550 to 600 megawatts of electricity per month.

In this regard, the waste generated during the construction phase and operation phase will be sent to the Nigde Municipality Solid Waste Landfill commissioned in Nigde Hıdırlık region in 2013. The Landfill is planned as three (3) lots. Lot 1 is planned on an area of 48,470 m², with a capacity of 582.300 m³, Lot 2 with a capacity of 734,550 m³ on an area of 56,717 m² and Lot 3 with a capacity of 1,169,850 m³ on an area of 83,274 m². Nigde Landfill serves 47 settlements that are members of Nigde Solid Waste Union (NİĞKAD-BİR).

Landfill has domestic solid waste storage area, temporary storage area for waste batteries, medical waste sterilization unit, leachate collection system and treatment plant, gas collection system and cogeneration unit.

IV.1.11. Landscape and Visual (Aesthetics)

Within the scope of the Project, the construction of the sewage and stormwater collection network will be carried out in urban areas. Network mainly follow cadastral roads. The planned Nigde Province Sewerage and Stormwater Construction Project covers Ilhanli, Nar and Selcuklu neighborhoods. The areas where the project is planned belong to Nigde Municipality and there is no expropriation process.

In areas where the network does not follow the roads, the soil resulting from topsoil stripping will be used in landscaping and green area arrangement works of district municipalities. The detail explanation on this issue will be given in Section V.4 and it will be managed by mitigation measures defined in Section VI.1.

Within the scope of this Project, rehabilitation works on the existing sewerage network of 128.6 km will be carried out in Nigde (City Center) at Ilhanli and Nar neighborhoods. In addition, a new sewer line with a length of 10.008 km will be constructed (see Figure II.2). In addition to this, a 27.617 km long storm water network will be constructed in Nigde (City Center) at Ilhanli, Nar and Selcuk neighborhoods. Figure III.3 show the general layout of the Project Area.

IV.2. Ecology and Biodiversity

For this Project, the biological environment was investigated, including habitat structures of the project area, protected areas, and key biodiversity areas (KBA). For this purpose, both desktop studies and field surveys were carried out. The related literature and previous studies have been reviewed, and the general biological characteristics of the region have been revealed. Also, a field visit was conducted by the ENCON biologist on January 20th 2022 (see Figure IV.17).

Figure IV.17. Some photos taken during the fieldwork

The entire components of the project area were visited for the biodiversity studies. The biodiversity research area covers the project area and the area of influence of about 250 meters. Following the field survey, flora species were identified based on the Türkiye e-flora website (https://www.turkiyeflorasi.org.tr); the presence of suspected endemic species was searched through the “Red Book of Plants of Türkiye” prepared by Prof. Dr. Tuna Ekim et al. and website (https://bizimbitkiler.org.tr) containing. In addition, up-to-date literature, including thesis and articles relevant to the region, were cited within the scope of desktop studies.

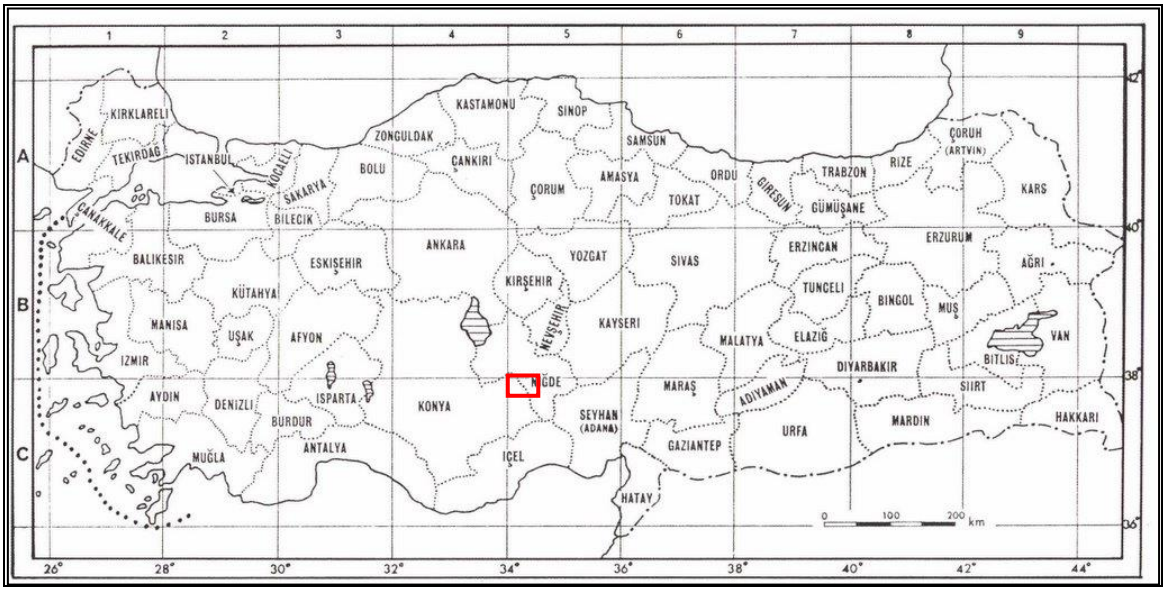
Fauna studies have been carried out in and around the project area and in the habitats suitable for feeding, shelter, and breeding areas for fauna species. Terrestrial fauna survey was conducted, taking into account the existence of suitable habitats, traces, and signs of animals (nests, nest holes, excrement and footprints, feeding signs, etc.). In addition, previously conducted fauna studies regarding the region were also cited and interviews with the local people were assessed. Regarding the fauna survey, no activities such as hunting-collecting-killing were conducted while identifying the species in and in the vicinity of the Project area. Geographical coordinates and the elevations where species were surveyed during the field studies were recorded by GPS.

Data from the literature on biotopes, protected areas, endemic species, endangered species, and wildlife habitats in and around the project area were collected and evaluated. According to national and international sources, the danger categories of flora and fauna species were assessed.

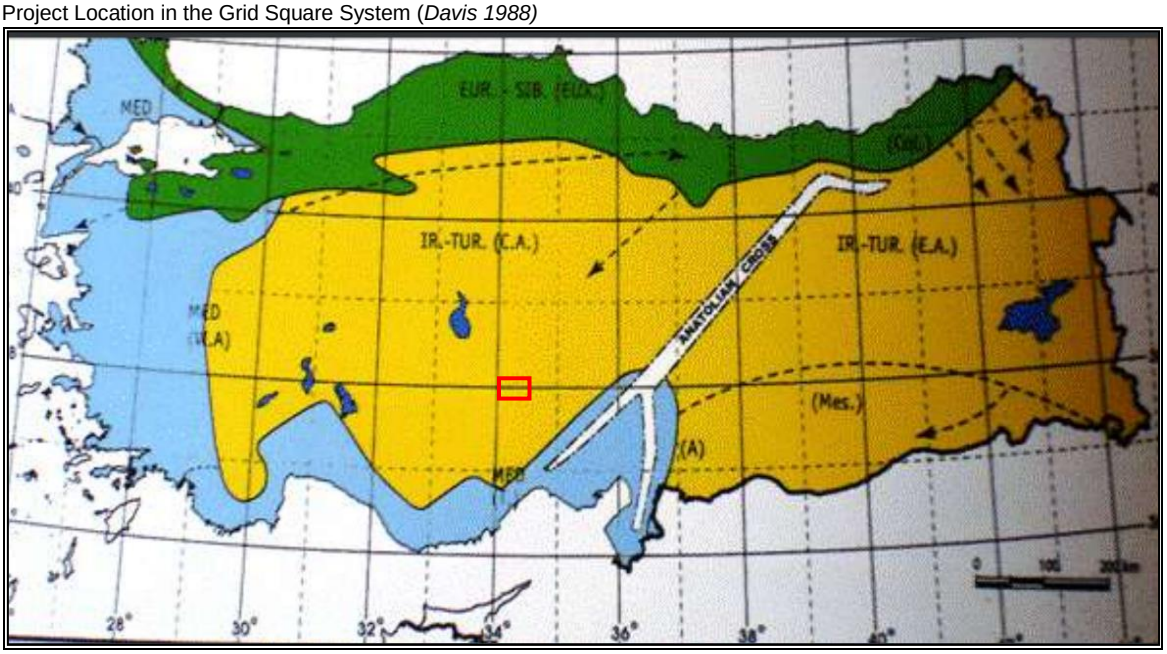
Results of the fieldwork, it was determined that the project area was in city centre under anthropogenic effects. After fieldwork, the species that can be found in the area were determined by desktop studies. Since natural vegetation was not detected, no fieldwork was required during the vegetation period by the biologist.

Vegetation Types of the Biodiversity

The Project Area is in the Central Anatolian Region and is situated in the Irano-Turanian Phytogeographical Region, as seen in Figure IV.18. The Project Area is located in the C5 grid in the grid square system of the flora of Türkiye.



a. Project Location in the Grid Square System (*Davis 1988)*



b. Phytogeographical Regions Map in Türkiye (*www.ktu.edu.tr*)

Davis P.H.,Harper P.C. andHege I.C. (eds.), 1971. Plant Life of South-West Asia. The Botanical Society of Edinburg]
EUR.-SİB.(EUX): Europa-Siberian Region (Euxin sub-region); Col.:Colsic sector of the Euxine sub-region
MED.: Mediterranean Region (Eastern Mediterranean sub-region); W.A: Western Anatolia region; T.: Taurus Region; A.: Amanus Region
IR.-TUR.: Iran-Turanian Region; C.A.: Central Anatolia Region; E.A.: Eastern Anatolia Region (Mes: Mesopotamia) X: Central European/Balkan subregion of possibly Euro-Siberian region (mt): Mountain

Figure IV.18 Bio-ecological Location of the Project Area

The bioclimate type of Nigde province is determined as a cold Mediterranean climate in the semi-arid winter. The steppe vegetation, which dominates this climate type, is widespread in the province. Forest existence is very low and there are Pinus forests in mountainous areas. There are steppe areas with trees in places, and these areas are mostly located in steppe-forest transitions. In addition, rock and meadow vegetation is also observed.

The dominant plant genus in steppe vegetation is *Astragalus sp*, *Quercus pubescens, Pinus nigra* and *Juniperus oxycedrus* species are dominant in the wooded steppe regions.

The project will be built in residential areas where the natural vegetation was previously destroyed. Therefore, no natural vegetation was determined. There are plant species used for landscaping in urban areas (see Figure IV.19).

Synanthropic vegetation, which is plant communities that adapt to changing living conditions due to various anthropogenic effects in residential areas and agricultural areas, has been determined in a small part of the Project.

The stormwater will be discharged to the Kizilca Stream..This stream takes its source from the vicinity of Aktas and Gümüler towns in the northeast of Nigde City, flows through the city of Nigde and pours into the Akkaya Dam. There are no fish species or protected aquatic biodiversity components in this stream which runs through the city centre.

Figure IV.19 Photos of the project area

International Legal and Regulatory Framework for Ecology and Biodiversity

BERN Convention

The Bern Convention was put forward in 1982 in order to protect European wildlife and natural habitats. Species to be protected according to the Bern Convention are listed in four appendices, which are presented in Table IV.12 with their explanations.

Table IV.12 Annexes to the Bern Convention

Annex	Explanation
I	Strictly protected flora species
II	Strictly protected fauna species
III	Protected fauna species

Annex	Explanation
IV	Prohibited means and methods of killing, capture and other forms of exploitation

The Convention aims at conserving and promoting biodiversity, developing national policies for the conservation of wild flora and fauna and their natural habitats, protection of the wild flora and fauna from the planned development and pollution, developing trainings for protection practices, promoting and coordinating the research made regarding this subject. It has been signed by 26 member states of the European Council (as well as Türkiye) with the aim of conserving the wildlife in Europe. Species that are not included within the appendices of the Convention are those that do not require any special protection. Species are not listed individually but instead are protected due to the habitat protection approach of the Bern Convention. All the countries party to the BERN Convention have signed the Convention on Biological Diversity as well. Parties of this convention are responsible for ensuring sustainable use of resources in line with their national development trends and conserving the threatened species.

CITES

CITES stands for the Convention on International Trade in Endangered Species of Wild Flora and Fauna. It is an international agreement that has been ratified by governments of 164 states (including Türkiye), whose aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. The principles of CITES are based on sustainability of the trade in order to safeguard ecological resources (live animals and plants, vast array of wildlife products derived from them, including food products, exotic leather goods, etc.). CITES was signed in 1973 and came into force on July 1, 1975. Türkiye ratified the Convention in 1996. Categories and species included in CITES are listed in three different appendices based on their protection statuses. These appendices and their explanations are given in Table IV.13.

Table IV.13 Appendices to CITES

Appendix	Explanation
I	covers the species, which are under the threat of extinction. Trade in the specimens of these species is not allowed except extraordinary circumstances
II	includes species, which are not threatened with extinction, but trade in specimens is restricted in order to prevent utilization incompatible with their survival
III	for which other parties of CITES is applied for assistance in controlling trade and which are conserved at least in one country.

IUCN

The International Union for Conservation of Nature (IUCN) publishes its Red List of Threatened Species, which intends to draw attention to species whose populations are at risk or under threat. The IUCN places a species on the Red List only after studying its population and the reasons for its decline. Some countries pay greater attention to IUCN-listed species than Bern-listed species, since the Red List relies on more research. The 1994 (ver.2.3) and 2001 (ver.3.1) categories and criteria of the IUCN Red List are presented below in Table IV.14. The Red List Categories and Criteria had been re-formed through evaluating more open and easier to use systems. As a result, the IUCN Commission made revisions in February 2000, and the new set of categories and criteria was published in 2001.

Table IV.14 IUCN Red List Categories and Criteria

IUCN Red List Categories and Criteria 1994 (ver. 2.3)		IUCN Red List Categories and Criteria 2012 (ver. 4.0)	
EX	Extinct	**EX**	Extinct
EW	Extinct in the Wild	**EW**	Extinct in the Wild
CR	Critically Endangered	**CR**	Critically Endangered
EN	Endangered	**EN**	Endangered
VU	Vulnerable	**VU**	Vulnerable
LR	Lower Risk		
cd	conservation dependent	**NT**	Near Threatened
nt	near threatened	**LC**	Least Concern
lc	least concern		
DD	Data Deficient	**DD**	Data Deficient
NE	Not Evaluated	**NE**	Not Evaluated

IV.2.1. Flora

The project area is an urban area and has no natural vegetation. In addition to the plant species used in the urban landscape, synanthropic vegetation has been determined. According to field studies and literature reviews, the flora species in and around the project area are presented in Table IV.15. No endemic or threatened flora species were identified/detected in and around the Project Area. In addition, there are no protected flora species as per the BERN and CITES conventions.

Table IV.15 Flora Species in and around the Project Area[1]

FAMILY	TAXON	ENGLISH NAME	TURKISH NAME	ENDEMISM	IUCN	BERN	CITES
ASTERACEAE	*Anthemis cotula L.*	Stinking Chamomile	Hozancicegi	-	-	-	-
	Carduus nutans L.	Nodding plumeless thistle	Esekdikeni	-	-	-	-
	Centaurea iberica Trev. ex Spreng.	Iberian knapweed	Deligozdiken	-	-	-	-
	Chondrilla juncea L.	Dandelion	Karakavuk	-	-	-	-
	Cichorium intybus L.	Belgium endive	Hindiba	-	LC	-	-
	Echinops ritro L.	Southern globethistle	Topuz	-	-	-	-
	Senecio vernalis Waldst. & Kit.	Eastern Groundsel	Kanaryaotu	-	-	-	-
	Lactuca serriola L.	Prickly Lettuce	Esekhelvasi	-	LC	-	-
	Taraxacum bessarabicum (Hornem.) Hand.-Mazz.	-	Pufcicegi	-	-	-	-
AMARANTHACEAE	*Amaranthus retroflexus L.*	American pigweed	Tilkikuyrugu	-	-	-	-
	Atriplex rosea L.	Tumbling saltweed	Gulunluca	-	-	-	-
	Chenopodium album L.	Lambsquarters	Aksirken	-	-	-	-

[1] *Bask IUCN 2022. The IUCN Red List of Threatened Species. Version 2021-3. https://www.iucnredlist.orgose, Isa, Mehmet Yavuz Paksoy, and Ahmet Savran. "The flora of Nigde University campus area and Akkaya dam lake environments (Nigde/Türkiye)." Biological Diversity and Conservation 5.3 (2012): 82-97.*
Turkish Red Data Book of Turkish Plants (TRDB; Appim et al., 2000)
Turkish Plants Lists (www.bizimbitkiler.org.tr)
Türkiye e-flora website (https://www.turkiyeflorasi.org.tr)

FAMILY	TAXON	ENGLISH NAME	TURKISH NAME	ENDEMISM	IUCN	BERN	CITES
BRASSICACEAE	*Boreava orientalis Jaub. & Spach*	-	Sariot	-	-	-	-
	Capsella bursa-pastoris (L.) Medik.	Shepherd's purse	Cobancantasi	-	LC	-	-
	Conringia clavata Boiss.	-	Topuztelkari	-	-	-	-
	Sisymbrium loeselii L.	False London-rocket	Bulbulotu	-	-	-	-
BORAGINACEAE	*Buglossoides arvensis (L.) Johnston*	Corn gromwell	Tarlataskeseni	-	-	-	-
	Echium italicum L.	Italian bugloss	Kurtkuyrugu	-	-	-	-
	Heliotropium dolosum De Not.	Largefruit Heliotrope	Bambulotu	-	-	-	-
CARYOPHYLLACEAE	*Dianthus zonatus Fenzl*	-	Kayakaranfili	-	-	-	-
	Gypsophila pilosa Hudson	Turkish baby's-breath	Tarlacoveni	-	-	-	-
	Vaccaria hispanica (Mill.) Rauschert	China cockle	Ekinebesi	-	-	-	-
EUPHORBIACEAE	*Euphorbia aleppica L.*	-	Hasul	-	-	-	-
FABACEAE	*Astragalus hamosus L.*	European milkvetch	Kocboynuzu	-		-	-
	Astragalus microcephalus willd.	-	Anadolukitresi	-		-	-
	Coronilla scorpioides (L.) W.D.J.Koch	Annual Scorpion Vetch	Akrepburcagi	-		-	-
	Medicago orbicularis (L.) Bartal.	Blackdisk medick	Paralik	-	LC	-	-
	Medicago sativa L.	Alfalfa	Karayonca	-	-	-	-
LAMIACEAE	*Ajuga chamaepitys* L.	Yellow bugle	Acigici	-		-	-
	Phlomis pungens Willd.	-	Silvanok	-		-	-
	Salvia frigida Boiss.	-	Sagirsalba	-		-	-
	Teucrium polium L.	Poley	Aciyavsan	-		-	-
MALVACEAE	*Alcea biennis Winterl*	-	Fatmaanagulu	-		-	-
	Malva neglecta Wallr.	-	Cobancoregi	-	LC	-	-
	Malva sylvestris L.	Common Mallow	Ebegumeci	-	LC	-	-
PAPAVERACEAE	*Fumaria vaillantii Loisel.*	Earthsmoke	Guvercingogsu	-		-	-
	Papaver rhoeas L.	Common Poppy	Gelincik	-	LC	-	-
PLUMBAGINACEAE	*Acantholimon acerosum (WILLD.)*	-	Pisikkeveni	-		-	-
POACEAE	*Agrostis stolonifera L.*	Creeping bentgrass	Tavusotu	-	LC	-	-
	Bothriochloa ischaemum (L.) Keng	Yellow bluestem	Sakalotu	-		-	-
	Setaria viridis (L.) P.Beauv.	Green Bristle-grass	Yesilsicansaci	-		-	-

FAMILY	TAXON	ENGLISH NAME	TURKISH NAME	ENDEMISM	IUCN	BERN	CITES
POLYGONACEAE	*Polygonum patulum Bieb.*	Bellard's smartweed	Atmercimelegi	-		-	-
	Rumex acetosella L.	Common sheep sorrel	Kuzukulagi	-	LC	-	-
	Rumex pulcher L.	Fiddle dock	Eksilik	-	LC	-	-
ROSACEAE	*Potentilla recta L.*	Sulphur Cinquefoil	Suparmakotu	-		-	-
	Rosa canina L.	Dog rose	Kusburnu	-	LC	-	-
SOLANAECAE	*Datura stramonium L.*	Jamestown weed	Borucicegi	-	-	-	-
	Hyoscyamus reticulatus L.	-	Kumacikotu	-	-	-	-
SCROPHULARIACEAE	*Verbascum glomeratum Boiss.*	-	Sigirkulagi	-	-	-	-

IV.2.2. Fauna

The Project Area is within the urban residential area. For this reason, terrestrial fauna species adapted to urban life have been identified and given in phylogenetic order under the following headings.

The fauna lists were prepared via the field and desktop studies carried out in and around the project area and the interviews made with the local people.

Fish

As a result of desk and field studies carried out in Kizilca Stream, no fish species were detected in the stream, and it was determined that there is no habitat for protected aquatic biodiversity components.

Some researchers reported that *Pseudophoxinus anatolicus* species was detected in the Akkaya Dam (Eken vd. 2005; Ozulug & Oztürk, 2007). However, in the field study, the mentioned species was not found in the dam or the stream feeding the dam. The Zondi (Kizilca) Stream feeding the Akkaya Dam passes through the city centre of Nigde and carries the entire pollution load of the city to the dam (Tuncsiper, 2017). No fish was determined in Kizilca stream. Depending on the excess nutrients, the dam has a eutrophic and even a dystrophic structure. No fish species have lived in the dam for many years. It has been determined that the Akkaya Dam population of the mentioned species has disappeared due to pollution pressure.[2]

Amphibian and Reptilian

The amphibian and reptile species observed in the project area during field studies and likely to be found as per literature studies are shown in Table IV.16.

Among the detected species, only tortoise (*Testudo graeca*) is in the category "VU" (Vulnerable) according to IUCN. However, the tortoise is a widely spread reptile species found in every region except Türkiye's Eastern Black Sea region. Other reptile species are not in any threatened category; according to the IUCN categories, species are "LC: Least Concern" and widespread in Türkiye. There are no endemic or critical amphibian and reptile species.

[2] *Secer, Burak, et al. "Ichthyofauna of Nigde Province (Turkey)." (2020).*
Cicek, Erdogan, and Mustafa Cagri Ceylan. Freshwater Fish Fauna of Nigde. MS thesis. Nevşehir Haci Bektas Veli University, 2018.

Table IV.16 Amphibian and Reptilian Species in and around the Project Area[3]

ORDER	FAMILY	SPECIES	TURKISH NAME	ENGLISH NAME	THREATENED CATEGORIES		
					IUCN	BERN	CITES
AMPHIBIAN							
Anura	Bufonidae	*Bufo bufo*	Sigilli kurbaga	European Toad	LC	Annex-III	-
REPTILIAN							
Testudines	Testudinidae	*Testudo graeca*	Tosbaga	Spur-Thighed Tortoise	VU	Annex-II	APP -2
Squamata	Agamidae	*Trapelus lessonae*	Bozkir Keleri	-	LC	Annex-III	-
	Lacertidae	*Ophisops elegans*	Tarla Kertenkelesi	Wester Sanke-Eyed Lizard	LC	Annex-II	-
		Parvilacerta parva	Cuce Kertenkele	Dwarf Lizard	LC	Annex-II	-
	Colubridae	*Eirenis modestus*	Uysal Yilan	Ring-Headed Dwarf Snake	LC	Annex-III	-

Aves

Hasan Mountain and Akkaya Pond IBA are located in the immediate vicinity of the project area. Since the Project will be located in the city center, which is an area that has already changed, bird species in these IBAs do not take the Project Area as habitats. For this reason, bird species adapted to the city center that can be seen in the Project Area are given in the Table IV.17.

Bird species determined during site survey and literature research in the project area are presented in Table IV.17. Except for the Turtle Dove (*Streptopelia turtur*), other bird species detected are in the LC category according to IUCN. Although Turtle Dove (*Streptopelia turtur*) is in the VU (Vulnerable) category, it is a species that breeds in all regions of Türkiye, as seen in the IUCN map in Figure IV.20.There are no endemic or critical bird species within the Project Area.

[3] *IUCN 2022. The IUCN Red List of Threatened Species. Version 2021-3. https://www.iucnredlist.org*
The Amphibians and Reptiles Monitoring & Photography Society in Türkiye (AdaMerOs Herptil Türkiye) (http://www.turkherptil.org/)
Olgun, Kurtulus Kumlutas, Yusuf and Baran İbrahim. Türkiye Amphibians and Reptiles. TUBITAK, 2012.

(Source: https://www.iucnredlist.org/)

Figure IV.20 Geographic range map of *Turtle Dove (Streptopelia turtur)*

Table IV.17 Bird Species in and around the Project Area[4]

ORDER	FAMILY	SPECIES	TURKISH NAME	ENGLISH NAME	THREATENED CATEGORIES		
					IUCN	BERN	CITES
AVES							
Ciconiiformes	Ciconiidae	*Ciconia ciconia*	Leylek	White Stork	LC	Annex-II	APP-II
Accipitriformes	Accipitridae	*Buteo buteo*	Sahin	Buzzard	LC	Annex-II	APP-II
Columbiformes	Columbidae	*Columba livia*	Kaya Guvercini	Rock Dove	LC	Annex-III	-
		Streptopelia decaocto	Kumru	Dove	LC	Annex-III	–
		Streptopelia turtur	Uveyik	Turtle Dove	VU	Annex-III	-
Cuculiformes	Cuculidae	*Cuculus canorus*	Guguk	Cuckoo	LC	Annex-III	-
Passeriformes	Alaudidae	*Galerida cristata*	Tepeli Toygar	Crested Lark	LC	Annex-III	-
		Alauda arvensis	Tarlakusu	Skylark	LC	Annex-III	-
	Hirundinidae	*Delichon urbicum*	Ev Kirlangici	Martin	LC	Annex-II	-
	Muscicapidae	*Luscinia megarhynchos*	Bulbul	Nightingale	LC	Annex-II	-
	Corvidae	*Pica pica*	Saksagan	Magpie	LC	-	-
		Corvus monedula	Kucuk Karga	Jackdaw	LC	-	-
		Corvus cornix	Les Kargasi	Hooded Crow	LC	-	-
		Corvus corax	Kuzgun	Raven	LC	Annex-III	–
	Sturnidae	*Sturnus vulgaris*	Sigircik	Starling	LC	-	-
	Passeridae	*Passer domesticus*	Serce	House Sparrow	LC	-	-
		Passer montanus	Agac Sercesi	Tree Sparrow	LC	Annex-III	-
	Fringillidae	*Carduelis carduelis*	Saka	Goldfinch	LC	Annex-II	-
	Emberizidae	*Emberiza hortulana*	Kirazkusu	Ortolan	LC	Annex-III	-
		Emberiza calandra	Tarla Kirazkusu	Corn Bunting	LC	Annex-III	-

Mammalian

The mammalian species of the region, like other fauna groups, are widely distributed species with high adaptation to the urban environment. Mammal species expected to be seen in the Projec Area are presented in Table IV.18. There are no endemic or critical mammal species.

[4] *IUCN 2022. The IUCN Red List of Threatened Species. Version 2021-3. https://www.iucnredlist.org*
Anonymous Birds of Türkiye: TRAKUS (https://www.trakus.org/)

Table IV.18 Mammal Species in and around the Project Area[5]

ORDER	FAMILY	SPECIES	TURKISH NAME	ENGLISH NAME	THREATENED CATEGORIES		
					IUCN	BERN	CITES
MAMMALIAN							
Rodentia	Cricetidae	*Microtus anatolicus*	Anadolu Tarla Faresi	Anatolian Vole	DD	-	-
		Cricetulus migratorius	Cuce Avurtlak	Grey Dwarf Hamster	LC	-	-
	Muridae	*Mus macedonicus*	Sari Ev Faresi	Macedonian Mouse	LC	-	-
Eulipotyphla	Erinaceidae	*Erinaceus concolor*	Kirpi	Southern White-Breasted Hedgehog	LC	Annex-II	-
Chiroptera	Rhinolophidae	*Rhinolophus hipposideros*	Kucuk Nalburunluyarasa	Lesser Horseshoe Bat	LC	Annex - II	-
	Vespertilionidae	*Eptesicus anatolicus*	-	-	LC	Annex - II	
Carnivora	Canidae	*Vulpes vulpes*	Tilki	Red Fox	LC	-	-

IV.3. Socio-Economic Characteristics

In this section, information regarding the economic activities and demographic features of Nigde Province and neighbourhoods within the scope of the project are presented. For this information, the Project Feasibility Report, data obtained from TurkStat and related literature resources were used.

IV.3.1. Population

Nigde Province, with a population of 363,725, constitutes 0.43% of Türkiye's population. (According to 2021 data from TurkStat), the surface area of the central of Nigde Province is 2.238 km^2 and the population density is 104.6 people/km^2 as of 2021. Nigde Province population between 2009 and 2021 is presented in Table IV.19 and population history of 1950-2021 are shown in Figure IV.21.

Table IV.19 Nigde Province Population between 2009 and 2021

Name of the Province/ District	Status	Population Estimate 2009	Population Estimate 2013	Population Estimate 2017	Population Estimate 2021
Nigde	Province	339,921	343,658	352,727	363,725
Altunhisar	District	15,415	14,498	12,906	11,934
Bor	District	60,248	61,111	60,561	60,478
Camardi	District	16,279	15,728	12,565	11,940
Ciftlik	District	29,926	29,596	27,276	26,206
City Center	District	195,407	201,597	220,277	234,118
Ulukisla	District	22,646	21,128	19,142	19,049

[5] *IUCN 2022. The IUCN Red List of Threatened Species. Version 2021-3. https://www.iucnredlist.org*
Anonymous Mammalia of Türkiye: TRAMEM (https://www.tramem.org/)

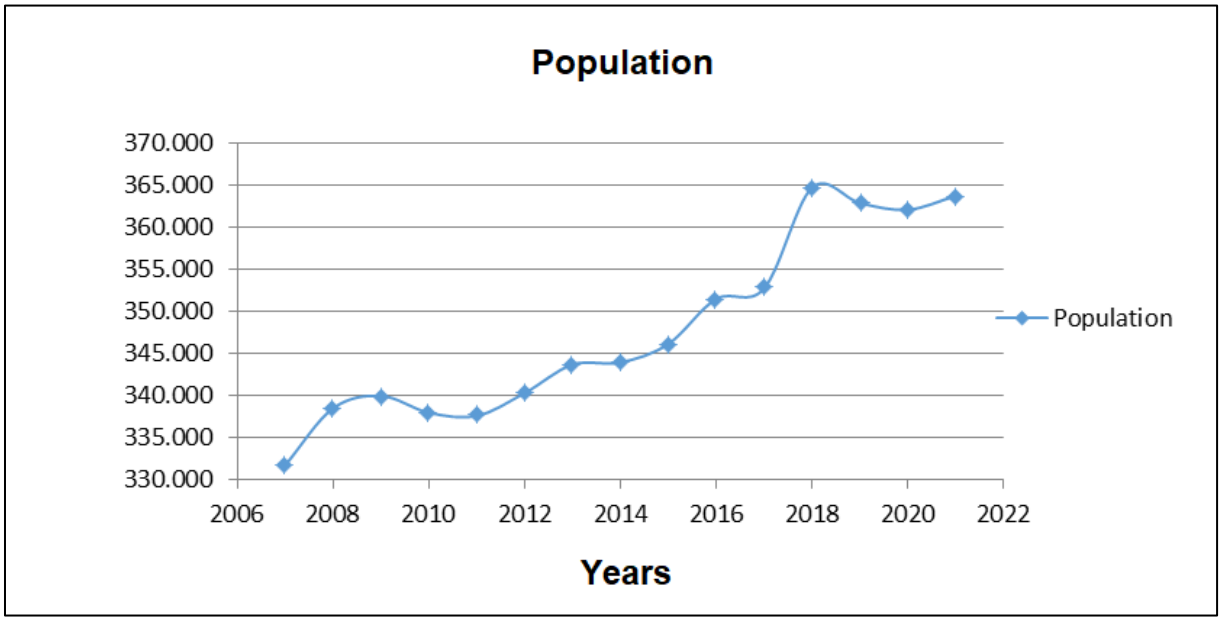


Figure IV.21 Nigde Population History

Ilhanli Neighborhood, one of the neighborhoods where the project is planned to take place, is the third largest neighborhood of the central district. According to 2020 TurkStat data, the population of the neighborhood is about 21,730. There are approximately 5000 households in the neighborhood. The high rate of children and active population is explained by the fact that the neighborhood is a rural settlement area. As mentioned in the Project Field Report, immigrant population of the neighborhood constitutes about 15% of the native population.

In Nar Neighborhood, one of the neighborhoods where the project is planned to take place, the mukhtar of the neighborhood stated that the population is around 5,500-6,000. The high rate of children and active population is explained by the fact that the neighborhood is a rural settlement area. The region is underdeveloped and the birth rate, hence natural population growth, is high. There are approximately 500 households in the neighborhood.

Selcuk Neighborhood, one of the neighborhoods where the project is planned to take place, is the second largest neighborhood of the central district. According to 2020 TurkStat data, the population of the neighborhood is about 22,080.

IV.3.2. Disadvantaged/Vulnerable Groups

As part of the field studies carried out on the project, the mukhtars of Nar District and İlhanlı District were interviewed on 20.11.2022.

According to the interview with the mukhtars of Ilhanli neighborhoods, it was learnt that in Ilhanli neighborhood, the main employment source of the neighborhood is the factories located around the neighborhood. It is also stated that female employment is low. In addition, there is no agricultural area in the neighbourhood. Information about disadvantaged/vulnerable people in Ilhanli neighborhood is as follows:

- There are 264 people that require support due to economic, social, or health-related challenges;
- There are approximately 80-90 female headed households;
- There are approximately 150-170 people who receive support from social assistance;
- There were 20 children of school age who did not go to school for financial reasons.

According to the interview with the mukhtars of Nar neighborhoods, it was learnt that in Nar neighborhood, a significant portion of the people living in the neighborhood work as workers in the construction industry. It is also stated that female employment is low. The birth rate in the neighborhood is high and a significant portion of the population consists of children. . Information about disadvantaged/vulnerable people in Ilhanli neighborhood is as follows:

- There are 60-70 houses that are in need of help;
- There are approximately 20 woman headed households;
- There were 10 children of school age who did not go to school for financial reasons;

IV.3.3. Economy

The economy of Nigde Province is based on agriculture. Vegetable and fruit cultivation is common. Livestock is an important source of income from an economic point of view. In addition to these, sugar factory, feed and brick-tile factories, weaving and metal goods workshops are the main industrial establishments in Nigde Province. There is also a tool-equipment factory belonging to the army within the provincial borders.

Nigde Province, which has an agriculture-based economy, has a per capita income below Türkiye's average. According to 2020 TurkStat data, Nigde Province has a gross domestic product of 41.201 TL per capita, ranking 50th in Türkiye. Per capita income of Nigde Province is given in Table IV.20.

Table IV.20 Per Capita Income of Nigde

	Per Capita Income GDP (TL)					Per Capita Income GDP (USD)				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Türkiye	**33,131**	**39,019**	**46,172**	**52,286**	**60,525**	**10,964**	**10,696**	**9,793**	**9,208**	**8,598**
Nigde	21,548	25,536	29,980	35,783	41,201	7,131	7,000	6,359	6,301	5,853

Nigde Province is above Türkiye's average in agriculture, forestry and fisheries, public administration and social service activities; it remained below in other branches of activity such as industry, manufacturing industry and finance.

Industry in Nigde Province has started to develop after 1980 and especially in recent years. While in 1964, there were 3 workplaces employing more than 10 workers, today this number has exceeded 50. The areas where the industry spreads in Nigde province are Nigde Organized Industrial Zone, Bor Mixed Organized Industrial Zone, Nigde Central Ata Industry and small industrial

enterprises. Organized industrial zones use groundwater as a water source. Their wastewater is connected to existing sewer systems.

Nigde Organized Industrial Zone is located in the Central District. This OIZ, which was established in 1985, continues its operations with 93 enterprises in an area of 420 ha. There is also a small industrial site in the Central District, where small businesses mostly engaged in repair and manufacturing are located. This small industrial site was established in 1977 on an area of 7.1 ha and has 368 workplaces.

Considering project area, in Ilhanli Neighborhood, as mentioned in the Project Site Visit Report, the main employment source of it is the factories located around the neighborhood. Also, in Nar Neighborhood, a significant part of the residents of the neighborhood work as workers in the construction sector.

IV.3.4. Agriculture and Livestock

Nigde Province has an agricultural area of 2 million 758 thousand decare and approximately 38% of the province's surface area is agricultural lands. Pasture areas cover an area of 2,891,150 decares, and fallow areas cover an area of 676 thousand decares, which corresponds to 9% of the province's surface area. The forest area of Nigde province is 562,380 decare and the economically irrigable area in the province corresponds to 57% (1 million 200 thousand decare) of the province's surface area. The number of farmers who are interested in agricultural production throughout the province of Nigde is around 38 thousand, and 14 thousand of these farmers are active in the farmer registration system.

When the Central District where the Project Area is located is evaluated, it is seen that fruit growing is developing (Nigde Chamber of Commerce and Industry, 2022). Additionally, the cooperatives established in the agricultural field in the central district of Nigde are summarized in Table IV.21.

Table IV.21 Agricultural Cooperatives in Central District

Cooperatives	Number
Agricultural Development Cooperative	18
Irrigation Cooperative	9
Agricultural Credit Cooperative	5
Chamber of Agriculture	1
Producer Associations	4

Source: Ministry of Industry and Technology, 2023.

Considering livestock, the cattle population of Nigde province is 177,034, and most of the breeding is done in the Central District.In addition, poultry breeding is seen in the district. Detailed information on animal populations is given in Table IV.22.

Table IV.22 Animal Population in Central District

Type of Animal	Number
Culture Cattle	74,866
Crossbreed Cattle	18,450

Domestic Cattle	95
Mandate	2
Sheep	194,905
Goat	6894
Poultry (owned by the public)	82,626
Poultry (commercial)	149,940

Source: Ministry of Industry and Technology, 2023.

IV.3.5. Transportation

Nigde province is the junction point of important railways and highways connecting Central Anatolia and Northern and Western Anatolia to the south and east. It has transportation links with all four corners of our country. In terms of railway, it is on the railway connecting Western Anatolia to our eastern and southern provinces, Syria and Iraq. Konya-Adana railway is divided into two in the south of Nigde Province. One branch goes to Adana, the other goes to Kayseri. Ulukısla-Bor-Nigde is on the railway to Kayseri. The E-5 highway connecting Ankara to Adana passes through Ulukisla. Here it is divided into two, one goes to İcel and the other to Nigde Province.

There are 160 km of highways, 222 km of state roads and 245 km of provincial roads in the province. While 293 km of these are surface coating, 334 km are integrated hot coating. There are no stabilized or earth roads throughout the province and in the Central District where the Project Area is located (Ministry of Transport and Infrastructure, 2023).

IV.3.6. Cultural Heritage

According to Nigde Provincial Directorate of Culture and Tourism, in Nigde, there are ongoing excavations at:

- Kaletepe Obsidian Workshops,
- BahceliKosk Mound,
- Ciftlik-Tepecik Mound,
- Pınarbası Mound,
- Tin Mine Quarry discovered at Camardı-Kestel,
- Goltepe of Madenci Village.

These excavations are not close enough to be impacted by implementation of the Project.

These projects demonstrate that Nigde was first settled 10,000 years ago and that there have been civilizations in Nigde continuously since then to the present day. In 1470 the region was definitively under the rule of the Ottoman Empire and remained so until the emergence of the Turkish Republic. Nigde, a city of the Central Anatolian Region, bears witness to a continuous habitation from the Paleolithic Period right up to the modern day. There is much evidence of the groups and civilizations involved in thousands of years of cultural accumulation.

There is only one museum in the city, which is affiliated to the Ministry of Culture and Tourism. The Museum in Nigde has its origins in 1939 when operations began in the Akmedrese. During the Second World War the madrasa was used as a storage facility for the Istanbul Museum of

Archaeology. After restoration Nigde Museum was established in 1957; it was opened to visitors and began its own displays and exhibitions. The museum was moved to a new building in 1977 and its first exhibition there opened on the 20th November 1982. This continued until the 16th November 1999.

IV.4. Existing Infrastructure

IV.4.1. Drinking Water Infrastructure

The first drinking water plant, of which the information of Nigde Municipality can be accessed, was built in 1969. There are 46 boreholes belonging to Nigde Municipality. 36 of them are active and pumped 24 hours/day. Well flow rates vary between 5-20 lt/s. Water resources are currently sufficient for the city's water consumption. There are 7 service reservoirs, apart from the Amas pumping reservoir that Nigde Municipality still uses. The elevations and capacities of these warehouses are given below.

Table IV.23 Capacities and Elevations of Service Reservoirs

Service Reservoir	Capacity (m³)	Elevation (m)
Yesilburc Tank	2500	1,350.00
Efendibey Tank	2000 and 1000	1,320.00
Valikonagi Tank	4000	1,284.00
Hancerli Water Tank	2000	1,310.00
Nigdeevleri Water Tank	2500	1,299.00
Kırustu Water Tank	2000	1,300.00

Source; Nigde (Center) Sewage Network Project Idenfaction Report

Table IV.24 İlhanli, Nar and Hidirlik Locations Drinking Water Network Information

İlhanli, Nar and Hidirlik Location Drinking Water Line		
Number	**Pipe of Type**	**Length (m)**
1	Ø400 PE100	3,000
2	Ø300 PVC	1,500
3	Ø160 PVC	5,000
4	Ø150 ACB	1,000
5	Ø140 PVC	2,500
6	Ø125 ACB	2,000
7	Ø110 PVC	15,000
8	Ø90 PVC	40,000
9	Ø63 PE100	3,000
Total		73,000

Source: Source; Nigde (Center) Sewage Network Project Idenfaction Report

IV.4.2. Wastewater Network

As in the whole Nigde city center, there is not enough data about the wastewater network in İlhanlı, Nar neighborhoods and Hıdırlık locality in the project area, although there is no project, the information in the table below about Nigde province and the wastewater network of these neighborhoods has been obtained from the municipality.

Table IV.25 Nigde Province Existing Wastewater Network Information

Diameter of Pipe	Length (meter)
Ø200	324,264
Ø300	28,550
Ø400	4,740
Ø500	2,061
Ø600	4,930
Ø700	4,585
Ø800	9,654
Ø1000	800
TOTAL	379,584

Source; Nigde II. Stage Domestic Wastewater Treatment Plant Project Report, 2017

Currently, there is an integrated stormwater and sewage network in Nigde Province. This means that stormwater is mixed into the existing sewage network. Result of heavy rains, excessive rainwater mixes into the existing wastewater network. This situation causes a decrease in the efficiency of the wastewater treatment plant. Due to the lack of infrastructure, there are floods that affect the people of the region.

Collected wastewater is treated in Nigde Advanced Biological WWTP and treated wastewater is discharged to Akkaya Dam located in the southwest of WWTP.

V. ENVIRONMENTAL AND SOCIAL IMPACTS OF THE PROJECT

The main purpose of an ESMP is to identify and assess the potential positive and adverse impacts/risks that may be caused by the Project activities on the natural environment and on the socio-economic wellbeing and conditions of the population (community and workforce) at local and regional level. The following assessment is based on the project characteristics and activities and the baseline conditions in the Project area.

As a result of this assessment relevant mitigation measures were developed to avoid, minimize, mitigate and off-set significant adverse impacts and enhance beneficial impacts. Furthermore, the significance of project-induced residual adverse effects on the environment and community after implementation of the mitigation measures are assessed. And finally, planned monitoring activities for checking the effectiveness of the proposed mitigation measures are identified.

V.1. Scope-in/Scope-out Process

The first step in the impact assessment is the scoping process of the planned project activities and the environmental and social aspects they would interact with, with in order to identify the issues to be focused on in the ESMP study. The analysis of these potential interactions has been done using a color code (see Table V.1) in a modified Leopold matrix[6] (see Table V.2). This approach provided the means to identify the potential interactions each project activity may have on a range of resources/receptors within the Project Area of Influence (AoI).

The Turkish EIA Regulation defines the area of influence as "*the area affected by a planned project before operation, during operation and after operation*". The area of influence may be different for different types of impacts and different environmental components (physical, biological, social) (WB Energy Sector Management Assistance Program (ESMAP), December 2012).

According to WBG IFC Performance Standard (PS) 1 Assessment and Management of Environmental and Social Risks and Impacts, the AoI is to encompass the following as appropriate:

- The area likely to be affected by: (i) the Project (e.g. project sites, immediate air shed and watershed, or transport corridors) and the Project Sponsors' activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project (e.g. tunnels, access roads, borrow and disposal areas construction camps); (ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location; or (iii) indirect project impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent.

- Associated facilities, which are facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable.

[6] *The Leopold Matrix is a large two-dimensional matrix. It lists on one axis, the project activities which could cause environmental impact, and on the other, existing environmental conditions that may be affected. The items on the axes are general enough to be used as a reference checklist of the full range of actions and impacts that may relate to the proposed development. The axis listing environmental factors that may be affected is also useful as a reference and checklist in describing the existing environment.*

- Cumulative impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted.

Table V.1 Colour Code Used in the Scope-in/Scope-out Process

(White)	An interaction is not reasonably expected.	Aspect "scoped out"
(Grey)	An interaction is reasonably possible, but none of the resulting impacts are likely to lead to significant effects, and/or interaction is addressed through embedded mitigation measures.	Aspect "scoped out", but rationale is provided in relevant section of current report
(Red)	An interaction is reasonably possible and at least one of the resulting impacts is likely to lead to a negative effect (low, medium or significant).	"Scoped in" – subject to impact assessment.
(Green)	Impacts which are considered likely to be positive.	"Scoped in" – subject to impact assessment.

Those interactions that are colored white are scoped out of further consideration in the impact assessment process and no discussion is warranted in this ESMP. Those interactions that are colored grey are also scoped out, but during the impact assessment process these potential interactions have been reviewed to confirm that resulted impacts are not significant and/or are appropriately addressed through one or more embedded controls. Those interactions marked with red and green are scoped in and subject to impact assessment. These impacts would be assessed for their significance and additional mitigation measures, beyond the already planned embedded controls, would be proposed as necessary.

Table V.2 and Table V.3 summarize the potential interactions between the Project and environmental resources (air, water, noise, etc.) and socio-economic receptors.

Table V.2 Potential Interactions between Project Activities and Environmental Resources

Project stage/activity	**Environmental Resources**								
	Air Quality and Odor	**Geology, Soils and Contaminated Land**	**Groundwater**	**Surface Water Resources**	**Noise and Vibration**	**Biological Environment**	**Landscape and Visual (Aesthetics)**	**Resources and Wastes**	**Climate Change**
Construction									
Vegetation clearance and levelling works at Project site									
Excavation of surface material for laying down network pipes									
Collection of the wastes generated by the construction of the Project and their disposal									
Use of energy									
Operation									

Repair (necessary intervention of professional services)									
Provision of material, equipment and service									
Emissions and odor from manholes									

Table V.3 Potential Interactions between the Project Activities and Social/Socio-economic Receptors

Project stage/activity	Social / Socio-economic Receptors									
	Socio Economics					Other Social Receptors				
	Local Economics	Macro Economics	Infrastructure and Services	Demographic Structure of Settlements / Social Cohesion	Ecosystem Services	Land Use	Livelihood	Worker Health and Safety (Labor & Working Conditions)	Community Health and Safety and Security	Archaeological and Cultural heritage
Construction										
Increased employment opportunities for the local										
Procurement of goods and services (from local market)										
Physical presence of construction workers and labor influx										
Construction traffic (transportation of workers and materials)										
Operation of construction machinery, equipment and generators, hazardous materials										
Wastes/Wastewater handling and disposal										
Operation										
Employment of personnel and procurement of goods and services (from local market)										
Wastes handling and disposal										
Failure of operation										

V.2. Impact Assessment Approach and Methodology

The purpose of impact assessment and mitigation is to identify and evaluate the significance of potential impacts (positive or negative) and risks on identified receptors and resources according to defined assessment criteria; to develop and describe the measures that will be taken to avoid or minimize any potential adverse effects and enhance potential benefits; and to report the significance of the residual impacts that remain following mitigation.

The assessment of environmental and social impacts/risks has been done based on the criteria provided below using mainly expert judgement, relevant standards and guidelines:

- **Nature of the impact:** Positive (+), Negative (-)
- **Type of Impact:** Direct, Indirect, Cumulative
- **Extent/area of Impact:** On-site/project footprint, Local, Regional, National
- **Duration of Impact:** Short term, Mid-term, Long term, Permanent
- **Likelihood of Impact Occurrence:** Very likely/certain, Likely, Unlikely

The magnitude and severity of the adverse impacts have been assessed based on the criteria given above and significance of the impacts has been determined based on this assessment and sensitivity of the receiver/source exposed to the impact, as much as possible. The matrix given in Table V.1 combines the sensitivity information with the magnitude of impacts. The significance of the impact is first designated without mitigation measures and then evaluated with proposed mitigation measures. This evaluation serves to determine the significance of the residual impacts (impact left after employing mitigation measures).

Table V.4 Impact Significance Matrix*

Sensitivity of Receptor	Magnitude of Impact			
	High	**Medium**	**Low**	**Negligible/None**
High	High	High	Medium	Negligible/None
Medium	High	Medium	Low	Negligible/None
Low	Medium	Low	Low	Negligible/None

** Adapted from Scottish Natural Heritage – A handbook on environmental impact assessment, 2013*

V.3. Area of Influence

The potential area of influence (AoI) for the Project includes Ilhanli, Nar and Selcuk neighborhoods that are located in the Project area and its close vicinity in Nigde central district. As described before, the Project will have impacts especially on the vicinity of the project sites. While determining area of influence, direct impacts, indirect impacts and associated facilities were taken into account. The potential impact area of the project is 12.95 km^2. The area of influence of the Project is shown in Figure V.1. The map of sensitive receptors of the Project area, namely health center, mosque and school, is given in Figure V.2..

For the planned Project, there will be a camp site within the area owned by the Nigde municipality and this area will also be used for the storage of pipes to be used in construction. The exact location of the camp site has not been determined yet, but it will be located in Hidirlik locality. When determining the AoI, it was ensured that it included the Hıdırlık locality. In camp site, there will be no accommodation; since the project will take place in a residential area, non-local workers will be accommodated in rental houses located near the project area, if needed.

On the other hand, material loan pit/quarry is not required since materials will be procured from borrow areas and quarries having relevant permits.

This project is co-funded by the European Union, the Republic of Turkey and the World Bank
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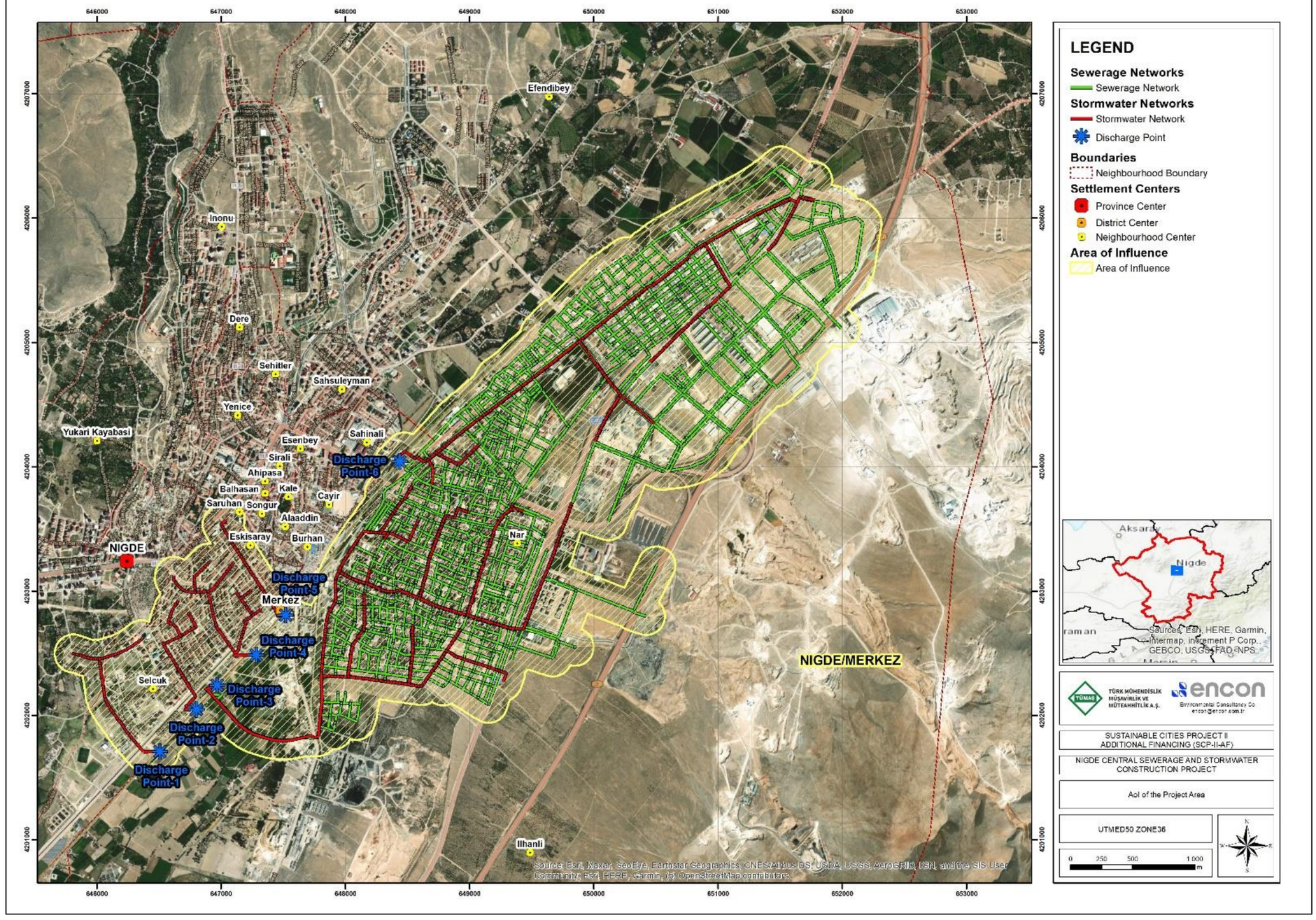

Figure V.1 AoI of the Project

This project is co-funded by the European Union, the Republic of Turkey and the World Bank
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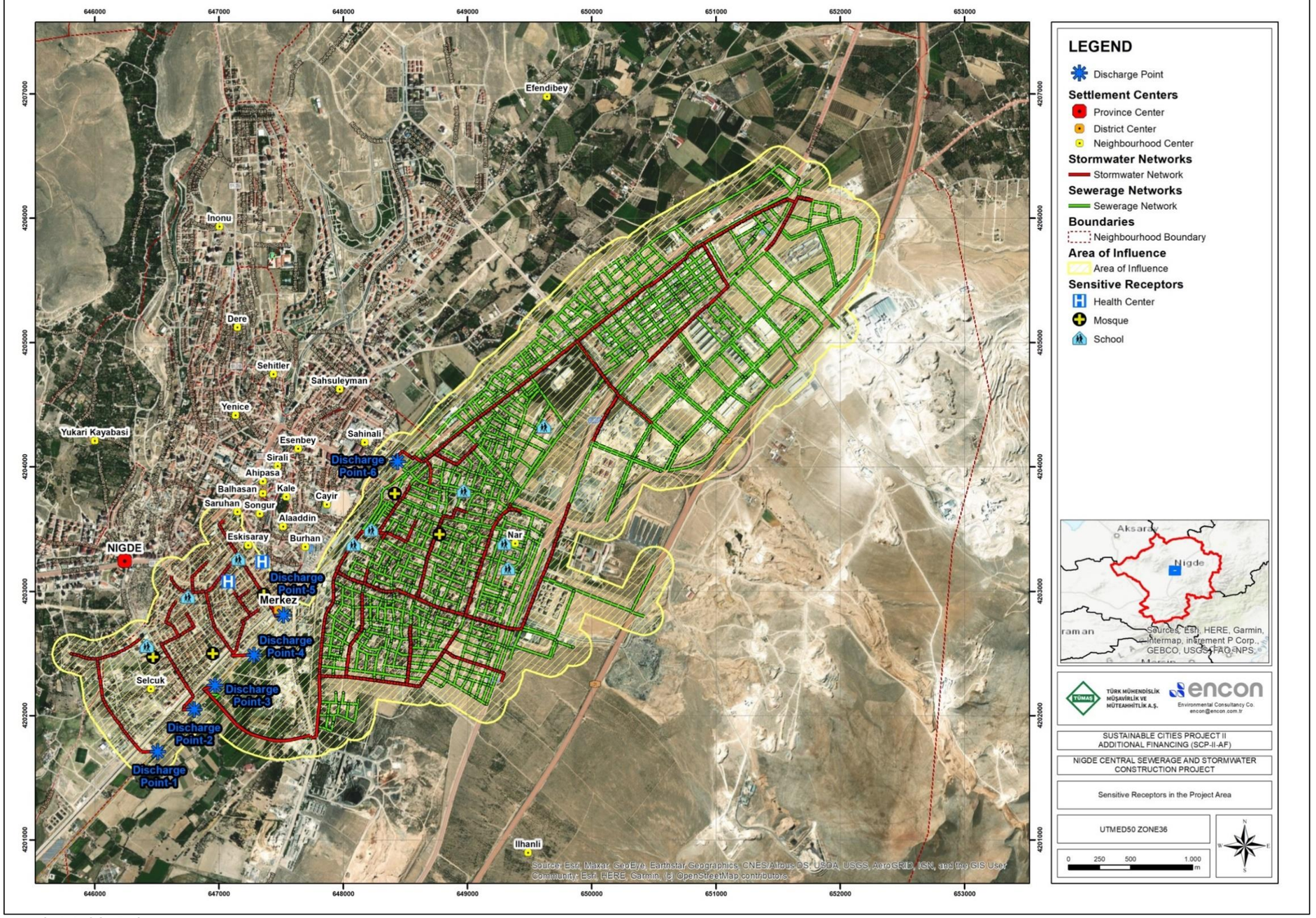


Figure V.2 Sensitive Receptors in AoI of the Project

V.4. Environmental Impacts (Physical and Biological Environment)

The potential impacts of the Project on the physical and biological environment are presented in this Section and a detailed overview of these identified impacts and their assessment for the construction and operation phases are provided in Table V.5 together with the potential impacts on the socioeconomic environment.

Table V.5 Matrix Table with Identification of Impact Level in Terms of Environmental and Social Attributes

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
A. CONSTRUCTION PHASE																					
1. Air Quality																					
1	Increase in dust concentration		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Low**
2	Increase in SO_2 PM, NO_x emission		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Low**
3	Impact on human health (potential asbestos		✓		✓			✓			✓					✓		**Medium**	**Medium**	**Medium**	**Low**
2. Soils and Contaminated Land																					
1	Loss of topsoil		✓	✓			✓							✓		✓		**Medium**	**Medium**	**Medium**	**Low**
2	Contamination of soil		✓	✓			✓						✓			✓		**Medium**	**Medium**	**Medium**	**Low**
3	Erosion potential		✓	✓			✓						✓			✓		**Low**	**Low**	**Low**	**Low**
3. Water Resources																					
1	Change in surface water quality		✓	✓				✓			✓					✓		**Medium**	**Medium**	**Medium**	**Low**
2	Change in groundwater quality		✓	✓			✓				✓					✓		**Medium**	**Medium**	**Medium**	**Low**
4. Noise and Vibration																					
1	Increase in noise level		✓	✓				✓			✓				✓			**Medium**	**Low**	**Low**	**Low**
2	Increase in vibration level		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Negligible/ None**

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
5. Biological Environment																					
1	Decreasing of the terrestrial and species/reduction of local fauna populations due to loss of habitats and disturbance of the biological environment		✓		✓			✓			✓					✓		**Low**	**Low**	**Low**	**Negligible/ None**
6. Landscape and Visual (Aesthetics)																					
1	Impairment of quality of life due to the overall presence of annoying construction works and activities and altered landscape		✓	✓			✓				✓				✓			**Low**	**Medium**	**Low**	**Low**
7. Resources and Wastes																					
1	Improper waste management		✓	✓				✓			✓					✓		**Medium**	**Low**	**Low**	**Low**
2	Resources used during works		✓	✓				✓			✓				✓			**Low**	**Low**	**Low**	**Negligible/ None**
8.Climate Change																					
1	Contribution to climate change through Green House Gas (GHG) emissions		✓	✓						□	✓				✓			**Medium**	**Low**	**Low**	**Low**
9. Socioeconomic Environment																					

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
1	Job creation and local procurement	✓		✓				✓					✓		✓			**Positive**			
2	Infrastructure damage		✓	✓				✓			✓						✓	**Low**	**Low**	**Low**	**Negligible/ None**
3	Road closures		✓	✓				✓			✓					✓		**Medium**	**Low**	**Low**	**Low**
10. Occupational Health and Safety																					
1	Workers' exposure to work-related occupational health and safety risks		✓	✓			✓				✓				✓			**High**	**High**	**High**	**Low**
11. Community Health and Safety																					
1	Project traffic and construction activities related risks		✓	✓				✓			✓					✓		**Low**	**Low**	**Low**	**Low**
2	Community encroachment		✓	✓			✓				✓						✓	**Low**	**Medium**	**Low**	**None/ Negligible**
3	Gender Based Violence (GBV), Sexual Exploitation Abuse / Sexual Harassment (SEA/SH)		✓	✓				✓					✓			✓		**High**	**Medium**	**Medium**	**Low**
12. Archaeological and Cultural Heritage																					
1	Chance finds		✓	✓			✓				✓						✓	**Low**	**Low**	**Low**	**Negligible/ None**

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
13. Labor Force and Working Conditions																					
1	Protecting the workforce		✓	✓			✓						✓		✓			**Medium**	**Low**	**Low**	**Low**
2	Workers Engaged by Third Parties and the Supply Chain		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Low**
3	Working Conditions		✓	✓			✓						✓		✓			**High**	**Low**	**Medium**	**Low**
B. OPERATION PHASE																					
1. Air Quality and Odor																					
1	Odorous gas emission		✓	✓				✓					✓		✓			**Medium**	**Medium**	**Medium**	**Low**
2	Decrease in odorous gas emission	□		✓				✓					✓		✓			**Positive**			
3	Exhaust emissions		✓□	✓□			✓□				✓□		✓□				✓□	**Low**	**Low**	**Low**	**Negligible/ None**
2. Soils and Contaminated Land																					
1	Contamination of Soil		✓		✓		✓					✓					✓	**Medium**	**Low**	**Low**	**Negligible/ None**
3. Water Resources																					
1	Change in overall physicochemical water quality of Kızılca Stream and Akkaya Dam	✓		✓					✓				✓		✓			**Positive**			

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
2	Change in groundwater quality		✓	✓				✓			✓						✓	**Medium**	**Low**	**Low**	**Low**
4. Noise and Vibration																					
1	Increase in Noise Levels		✓	✓			✓							✓		✓		**Medium**	**Low**	**Low**	**Low**
5. Biological Environment																					
1	Change in surface water quality	✓		✓					✓				✓		✓			**Positive**			
6. Resources and Wastes																					
1	Generation of different types of waste including used pipe wastes		✓	✓				✓					✓			✓		**Medium**	**Low**	**Low**	**Low**
2	Resources used for operation		✓	✓				✓					✓		✓			**Low**	**Low**	**Low**	**Low**
7. Climate Change																					
1	GHG emissions		✓	✓					✓		✓						✓	**Medium**	**Low**	**Low**	**Low**
8. Socioeconomic Environment																					
1	Employment and procurement opportunities	✓		✓				✓					✓		✓			**Positive**			
2	Infrastructure damage		✓	✓				✓			✓					✓		**Low**	**Low**	**Low**	**Negligible/ None**
9. Community Health and Safety and Security																					
1	Increased traffic due to maintenance operation		✓		✓			✓			✓						✓	**Low**	**Low**	**Low**	**Low**

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely				
																		High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
2	Failure of operation		✓	✓					✓		✓						✓	**Medium**	**High**	**High**	**Low**
3	Ecosystem service	✓		✓					✓				✓		✓			**Positive**			
1. Occupational Health, Safety and Working Conditions																					
1	Workers' exposure to work-related occupational health and safety risks		✓	✓			✓						✓		✓			**High**	**High**	**High**	**Low**
2. Labor Force and Working Conditions																					
1	Protecting the workforce		✓	✓			✓						✓		✓			**Medium**	**Low**	**Low**	**Low**
2	Workers Engaged by Third Parties and the Supply Chain		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Low**
3	Working Conditions		✓	✓			✓						✓		✓			**High**	**Low**	**Medium**	**Low**

V.4.1. Air Quality

Standards and Limit Values

Standards for PM_{10} (particles with aerodynamic diameter smaller than 10 µm) are defined for particles, which are respirable by humans and therefore, PM_{10} is the accepted measure of particles in atmosphere. In this context, both the Regulation on the Assessment and Management of Air Quality, and Industrial Air Pollution Control Regulation define the standards in terms of PM_{10}.

Regulation on the Assessment and Management of Air Quality (RAMAQ)

Long and short terms standards were specified for the harmonization of environmental regulations in the process of accession to the European Union. However, the regulation sets a transition period for the application of these limit values.

Industrial Air Pollution Control Regulation (IAPCR)

Industrial Air Pollution Control Regulation (IAPCR) aims to control emissions in form of smoke, dust, gas, vapor and aerosol which are released to the atmosphere as a result of activities of industrial plants and energy generation facilities, to protect human beings and the environment from pollution, and to manage and prevent negative impacts of air pollution which result in significant problems on public health.

Ambient air quality limit values for various pollutants defined in above-mentioned legislations are presented in Table V.6.

Table V.6 Ambient Air Quality Limit Values – Turkish Regulations

Parameter	Duration	Limit Value* ($\mu g/m^3$)
SO_2	Hourly (cannot be exceeded more than 24 times a year)	350
	24 hour	125
	Long term limit	60
	Annual and winter season (October 1 - March 31)	20
NO_2	Hourly (cannot be exceeded more than 18 times a year)	200
	Annual	40
Particulate Matter (PM 10)	24 hour (cannot be exceeded more than 35 times a year)	50
	Annual	40
CO	8 hour daily maximum	10.000
O_3	8 hour daily maximum	120
VOC**	Hourly	280
	24-hour	70

** Regulation on Assessment and Management of Air Quality*
*** Industrial Air Pollution Control Regulation (IAPCR)*

In addition to Table V.6, the IAPCR defines limit values for the calculation of contribution to air pollution resulting from stack and non-stack sources. According to the provisions of the regulation, the amount of contribution to air pollution should be calculated to determine if the amount of emission

exceeds these limits. These values are provided in Table V.7.

Table V.7 Emission Limits for Stack and Non-Stack Sources

Parameter	Mass Flow (kg/hour)	
	Stack	Non-Stack
Carbon monoxide (CO)	500	50
Nitrogen oxide (NO_x)	40	4
Sulphur Dioxide (SO_2)	60	6
Dust	10	1

In this context, amounts of emissions released as a result of the activities conducted in scope of the Project will be calculated and compared with the values provided above. If the calculated emissions exceed the limits defined in the regulation, air quality dispersion modelling studies need to be conducted and contribution of the emission to air pollution will be estimated.

WBG Standards

In addition to the Turkish legislations, the ambient air quality limit values stipulated in the WBG General EHS Guidelines shall be complied. National legislation will be followed, as WBG General EHS Guidelines – Environmental Air Emissions and Ambient Air Quality states that national legislation should be considered.

Construction Phase Impacts

The major impacts on air quality during the construction phase of this project will be impacts due to material handling, vehicle movement and emission from heavy construction machinery (trucks, excavators, etc.). Air pollution will be mainly dust emissions and exhaust emissions as well as GHG emissions. The sensitive receptors that will be exposed to these air emissions will be the local population who lives near the project area.

During the construction phase of the Project, there will be vehicle movement for transportation of various construction materials to the project site. Impacts on air quality will be mainly due to dust emissions caused by the vehicle movement on unpaved roads and earthworks to be performed within the Project Area. In addition to the fugitive dust emissions, exhaust emissions will originate from vehicles used in construction activities.

Within the scope of the construction activities, dust is expected to be generated. With proper control measures such as dust suppression, the amount of generated dust is expected to be reduced effectively. In addition to the fugitive dust emissions, there will be exhaust emissions of heavy construction machinery. Primary emissions from exhaust gases of vehicles are NO_2, CO, HC, SO_2 and PM. Emission characteristics depend on parameters such as; age of the vehicle, engine speed, working temperature, ambient temperature and pressure, type and quality of fuel.

Certain levels of dust and vehicle exhaust emissions will occur during the excavation and filling of pipe ditches, disassembly of excavation and filling materials, dismantling and repaving of parquets/curbs, and loading and unloading of them onto vehicles, and transport of materials with vehicles. This dust and exhaust emission will affect the people living in the project area and the parks, gardens, fruit trees and other trees owned by people in the gardens, and ornamental plants for

landscaping.

During the construction phase of the Project, there will be vehicle movement for transportation of various construction materials to the Project site. Impacts on air quality will be mainly due to dust emissions caused by the vehicle movement on unpaved roads and earthworks to be performed within the project area. In addition to the dust emissions, exhaust emissions will originate from vehicles used in construction activities. In order to determine dust and exhaust emissions during the construction phase, the number of machinery and equipment to be used for the construction should be known. The machinery requirement of the Project is not determined by Nigde Municipality yet and therefore, the construction machineries and equipment to be used during the construction phase is assumed based on the procedures to be followed during construction and engineering estimates and presented in Table V.8.

Table V.8 Indicative Construction Machinery and Equipment List

Construction Machinery/Equipment	Number
Dump Truck	6
Excavator	2
Loader	2
Mini Loader	2
Mobile Crane	2
Sprinkler	1
Grader	2

The amount of dust emission generated during the construction phase of the Project is calculated with the emission factors defined in Table 12.6 in Appendix-12 of IAPCR. The emission factors are presented in Table V.9. While uncontrolled emission is the emission before the mitigation measures, the controlled emission is the emission after the measures are taken.

Table V.9 Dust Emission Factors

Sources	Emission Factors		Unit
	Uncontrolled	Controlled	
Dismantling/Excavation	0.025	0.0125	kg/ton
Loading	0.010	0.0050	
Unloading	0.010	0.0050	
Storage	5.800	2.9000	
Transportation (total distance of round trip)	0.700	0.3500	kg/km- vehicle

According to the Project schedule, the construction activities are planned to last for 24 months (approximately 600 work days) and daily shifts will last for 8 hours. Earthworks consist of levelling, excavation, temporary storage, loading and transportation of excavated material. Excavation is planned to be conducted step by step. However, the worst-case scenario is assumed in the calculations and all the activities are assumed to be conducted simultaneously.

Table V.10 Information on the Excavation Works to be Made on Sewerage and Rainwater Networks

Excavation Depth (m)	Length (m)	Area (m^2)	Excavation Width (mm)	Volume (m^3)
1,50	46,000	69,000	300	20,700

Total Excavation Volume : 20,700 m^3
Density of Excavation Material : 1.8 ton/m^3
Total Amount of Excavation : 37,260 ton
Excavation Duration : 300 days
Working Hours per Day : 8
Hourly Excavated Material Amount : 15.52 ton/hour

Uncontrolled Dust Emissions:

Emission from excavation:

Excavation emission factor (uncontrolled): 0.025 kg/ton
Amount of PM_{10} emissions: 15.52 ton/hour * 0.025 kg/ton = 0.388 kg/hour

Loading emission factor (uncontrolled): 0.010 kg/ton
Amount of PM_{10} emissions: 15.52 ton/hour * 0.010 kg/ton = 1.552 kg/hour

Emission from transportation activities

Transportation emission factor (uncontrolled): 0.700 kg/km-vehicle
Amount of PM_{10} emissions: 46 km x 0.700 kg/km-vehicle x (1/300 days) x (1/8 hours)
= 0.013 kg/hour

Total uncontrolled PM_{10} emissions

Total: 0.013 + 0.388 + 1.552 = 1.953 kg/hour

Controlled Dust Emissions:

Emission from excavation:

Excavation emission factor (controlled): 0.0125 kg/ton
Amount of PM_{10} emissions: 15.52 ton/hour * 0.0125 kg/ton = 0.194 kg/hour

Loading emission factor (controlled): 0.005 kg/ton
Amount of PM_{10} emissions: 15.52 ton/hour * 0.005 kg/ton = 0.0776 kg/hour

Emission from transportation activities

Transportation emission factor (controlled): 0.350 kg/km-vehicle
Amount of PM_{10} emissions: 46 km x 0.35 kg/km-vehicle x (1/300 days) x (1/8 hours)
= 0.006708 kg/hour

Total: 0.006708 + 0.194 + 0.0776 = 0.278308 kg/hour

According to the calculations, the total amount of uncontrolled and controlled PM10 emissions are expected as 1.953 kg/hour and 0.278308 kg/hour, respectively. As stated above, these emission rates are calculated based on the worst-case scenario. It is found that the emission rate for uncontrolled and controlled activities are lower than the limit value defined for non-stack sources in IAPCR, which is 1 kg/hour. Therefore, impacts related to dust emissions are in low significance. Although no significant exhaust emission is expected during the construction phase, a set of mitigation measures that are presented in Section VI.1 will be implemented for further reduction of any related impacts on air environment.

In addition to the dust emissions, there will be exhaust emissions of heavy construction machinery. Primary emissions from exhaust gases of vehicles are NO_2, CO, HC, SO_2 and PM. Emission characteristics depend on parameters such as; age of the vehicle, engine speed, working temperature, ambient temperature and pressure, type and quality of fuel. Emission factors developed by United States Environmental Protection Agency (USEPA) for gasoline and diesel fueled vehicles are presented in Table V.11.

Table V.11 Emission Factors (USEPA)

POLLUTANTS	EMISSIONS (g/km/vehicle)	
	Gasoline	Diesel Fuel
Nitrogen oxides (NO_x)	1.20	9.00
Carbon monoxide (CO)	39.0	15.0
Sulphur dioxide (SO_2)	0.08	1.50
Hydrocarbons (HC)	2.60	2.90
Particulate Matter (PM)	0.40	0.80

The indicative list of construction machinery to be used for the construction activities was previously presented in Table V.8. The expected amount of exhaust emissions of the machinery are presented in Table V.12.

Table V.12 Expected Amounts of Exhaust Emissions (kg/h)

Emissions (kg/hour)					
	NO_x	**CO**	**SO_2**	**HC**	**PM**
	0.153	0.255	0.026	0.049	0.014
Limit values*	4	50	6	3	1

** As listed in Table 2.1 in Annex-2 of IAPCR.*

Emission calculations are based on the engine power of the vehicles, their number and daily working hours. According to IAPCR Annex-2 Table 2.1, limit values are not exceeded. Although no significant exhaust emission is expected during the construction phase, a set of mitigation measures that are presented in Section VI.1 will be implemented for further reduction of any related impacts on air environment.

Operation Phase Impacts

During the operation phase, there will be no adverse impacts with regard to air quality. In case of unusual conditions during the operation phase, the short-term generation of odourous gases that are hydrogen sulphide and methane may be caused by wastewater kept in the sewerage network may affect the people. Therefore, minimal odor complaints might be observed during the operation phase of the Project. However, this impact will be low when the appropriate mitigation measures given in Section VI.1 are taken.

V.4.2. Soils and Contaminated Land

Construction Phase

The construction activities will have some minor impacts on the soil environment. However, these impacts are localized and restricted to the construction site. The potential impacts will consist of:

- Disturbance of the natural soil and land structure as a result of soil stripping, levelling excavation and filling activities, work of construction machinery;
- Mixing of soil layers as a result of excavation and filling activities;
- Soil contamination risk due to leakage and spill of fuels, paints and oils that will be used for the construction machinery and equipment;
- Soil pollution which may occur in case of uncontrolled storage or disposal of solid and/or liquid wastes to be generated within the scope of the Project; and
- Improper replacement of soil to its original position.

Erosion risk may occur due to excavated soils that need to be stored temporarily during construction works. It may be necessary to cover the excavation soil to be stored with tarpaulin or plastic material to protect it from erosion.

There is a possibility of contamination of exposed subsoil layers in case of oil and fuel flow/leakage due to accidents or faults from vehicles during ditch excavation. Physical damage to the land during the excavations to be performed in non-asphalted areas is inevitable. Qualified sand and gravel will be required during the backfilling of the pipe ditches. The provision of such natural materials may necessarily lead to loss of soil and land.

These impacts can be easily managed and mitigated to low in significance with the implementation of the mitigation measures given in Section VI.1.

Operation Phase

In the operation phase of the Project, the activities will have a limited physical interaction with the environment. In the operation phase of the Project, no additional significant direct impacts on topography, soil and land use are anticipated under normal operating conditions. Impacts of operation phase of the Project are related with the risks that would arise during repair and maintenance works.

The extent of these negative impacts will be limited with the Project's footprint, the significance of the impacts on soil environment would be considered as low if mitigation measures will not be applied accordingly. With the implementation of mitigation measures, the residual impacts will be negligible in significance. The defined mitigation measures are presented in Section VI.1.

V.4.3. Water Resources

Construction Phase Impacts

During the construction phase, employees' needs will create water supply requirement. Bottled water will be used for the drinking water needs of the personnel. The water used for dust suppression and utility water will be supplied by by tankers. The quality of drinking water that will be supplied to the Project shall be in compliance with the Regulation Concerning the Water Intended for Human Consumption together with the internationally accepted standards, such as World Health Organization (WHO) and WBG's General EHS Guidelines.

Water to be used in dust suppression during the construction phase of the Project will be absorbed by soil or lost by evaporation. Therefore, there will not be any surface runoff formation or wastewater generation due to watering for dust suppression.

The total amount of daily water requirement is calculated based on the multiplication of the number of employees that will be working at the peak time of the phase and the daily water requirement for a person, which is 0.23 m^3 (TurkStat, 2018). Although the number of personnel required is not determined yet, it is assumed as 75. Therefore, the daily water requirement of employees during the construction phase will be;

75 employee x 0.23 m^3/day/employee = 17.25 m^3/day

Approximately 85% of water used ends up as wastewater (TurkStat, 2020). For the employees, portable toilets will be installed at the construction camp site. The wastewater will be collected with the help of septic trucks and sent to the Nigde Advanced Biological WWTP..

Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures (Environmental Protection Agency Office of Air and Radiation Office of Air Quality Planning and Standards Research Triangle Park, North Carolina 27711) was taken as a source in order to determine the amount of water to be used to prevent dust generation.

C=100-(0.8.p.d.t)/i

C= Average percentage of control efficiency
p= Average hourly daytime evaporation rate (inch)
d= Hourly daytime traffic rate (h-1)
t= Implementation timeframe
i= application density in l/m^2
e= Annual average evaporation (inch)

By using the equations above;

C= Calculation was made by assuming the average control efficiency percentage as 90%.

Monthly Maximum Open Surface Evaporation = 17.40 mm taken from the General Directorate of Meteorology.

90 = 100 – (0.80 x (0.0049/25.4) x 17.40 x 16 x 17) / i

i= 0.073 l/m^2.

On the other hand, construction activities may pose the potential for accidental release/leakages of petroleum-based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment on site. All chemical storage containers, including diesel fuel, and hazardous liquid waste drums/containers should be placed so as to minimize the risk of soil, surface water and groundwater contamination during the construction activities. During ditch excavations, there may be ponding in pipe ditches or manholes, the isolation and measuring chambers due to rainfall or groundwater.

In the construction phase of the Project the impact on the surface water resources will be direct and negative with short - term duration and medium in significance. These impacts will be mitigated by the implementation of the mitigation measures given in Section VI.1.

Operation Phase Impacts

In the operation phase, as a result of the pollution prevention, there will be an improvement in the general conditions of the water bodies in the project area. The quality of domestic water and other surface waters will increase. The minor impact on groundwater may be seen due to accidental oil leakages in the areas where the maintenance is carried out as well as improper disposal of waste. This may affect the groundwater quality in the project area if required mitigation measures are not taken. However, it can be concluded that the impacts will be low in significant upon implementation of the mitigation measures and adherence to good engineering methods.

Necessary mitigation measures (see Table VI.2) will be taken in case of any breakdown or natural disaster that may occur during the operation phase. Nigde Municipality will ensure that the contractor will prepare an Emergency Preparedness Plan for the impacts resulting from such problems. In the event of a possible breakdown, the impact will be eliminated in a short time.

It is planned to discharge the stormwater collected through the new network to the Kızılca Stream in the Project area. Thus, stormwater will be prevented from entering the sewer system directly from the rain gutters in the buildings and the chimneys in an uncontrolled and unregistered manner. This discharge will be carried out from 6 different points. Water quality monitoring should be done at each point periodically.

In addition, the sewage system, which has reached the end of its economic life, frequently causes leaks, cracks and therefore the need for repair. As a result of these cracks and deterioration, the leaking wastewater mixes with the soil and groundwater, and causes pollution and poses risks for public health and the entire environment. For this reason, rehabilitation of the existing network is required.

Wastewater and rainwater that have not been collected with a sufficient and discrete system until today will be collected via healthy and adequate systems. The collected wastewater and the rainwater after having been collected more cleanly without endangering the safety of life and property will be discharged to receiving aquatic environments. The project will have a positive impact as it will reduce pollution on water resources.

To conclude, the operation phase impacts of the Project is generally found to be positive on water resources. However, measures should be taken to prevent any unexpected deterioration on the receiving water quality. During the operation phase of the Project, the impact will be direct and positive with long term duration.

V.4.4. Noise and Vibration

Construction Phase Impacts

The project activities during the construction phase are associated with a range of activities that generate noise. The noise would be potentially generated by transportation vehicles, machinery and outdoor equipment to be used for the preparation of the site and the construction activities.

It is unlikely in reality that all construction machinery and equipment are used at the same physical location and non-stop at maximum noise intensity levels. In addition, as the construction activities will occur outdoors, it is expected that there will be a decrease in noise level depending on the distance due to the atmospheric reduction in real conditions. Similarly, vegetation cover is among the factors that could reduce the impact during the spread of noise.

Moreover, noise impacts should not exceed the levels presented in the WBG General EHS Guidelines (Table 1.7.1), or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

As a precaution, the noise level of the equipment and machinery will be kept at a minimum with proper mitigation measures such as the use of silencers and with regular maintenance. Vibration that will affect humans or the structures in the vicinity is not expected to occur as there will be no blasting activity within the project.

Operation Phase Impacts

The project activities within the operation phase are associated with maintenance works. As a good practice, during the procurement of equipment and machinery, sound levels given in the technical specifications/data sheet will be taken into consideration. In all works during the operations, relevant provisions and limit values of national legislations and WBG General EHS Guidelines and Sectoral Guidelines will be complied with.

V.4.5. Biological Environment

The potential impacts of the proposed construction activities of the Project on the biological environment are considered. Potential impacts will affect flora-fauna directly or indirectly. Mitigation measures (see Section VI.I) are to be taken in order to minimize these impacts.

The impact of project activities on ecological components is related to the magnitude of the impact and the vulnerability of the recipient. The sensitivity of terrestrial flora-fauna species was determined according to the matrix given in Table V.13. It is known that the features of each step in the systematic classification of species are different from each other. Accordingly, effect levels will differ from species to species. Sensitivities of flora and fauna species determined within the Project Area are explained in detail in the Section IV.2. Ecology and Biodiversity. Criteria for significance for ecological components are explained in the following topic.

Impact Assessment Criteria

The impact assessment criteria for the impacts on ecology and biodiversity were determined as high, moderate, or low, based on evaluating the magnitude of impact and sensitivity/value of the receptors/resources. WB OP 4.04 definitions are used in habitat and species assessments. These definitions are explained step-by-step.

According to WB OP 4.04, annex A, Natural Habitats, Critical Natural habitats, Significance conversion and Degradation defined as:

"*Natural habitats are land and water areas where (i) the ecosystems' bio-logical communities are formed largely by native plant and animal species, and (ii) human activity has not essentially modified the Area's primary ecological functions. All-natural habitats have important biological, social, economic, and existence values. Important natural habitats may occur in tropical humid, dry, and cloud forests; temperate and boreal forests; Mediterranean-type shrub lands; natural arid and semi-arid lands; mangrove swamps, coastal marshes, and other wetlands; estuaries; seagrass beds; coral reefs; freshwater lakes and rivers; alpine and sub-alpine environments, including herb fields, grasslands, and paramos; and tropical and temperate grasslands.*"

"*Critical Natural habitats: (i) existing protected areas and areas officially proposed by governments as protected areas (e.g., reserves that meet the criteria of the World Conservation Union [IUCN] classifications), areas initially recognized as protected by traditional local communities (e.g., sacred groves), and sites that maintain conditions vital for the viability of these protected areas (as determined by the environmental assessment process); or (ii) sites identified on supplementary lists prepared by the Bank or an authoritative source determined by the Regional environment sector unit (RESU).*"

Significance conversion: Such sites may include areas recognized by traditional local communities (e.g., sacred groves); areas with known high suitability for biodiversity conservation; and sites that are critical for rare, vulnerable, migratory, or endangered species.

Listings are based on systematic evaluations of such factors as species richness; the degree of endemism, rarity, and vulnerability of component species; representativeness; and integrity of ecosystem processes.

Significant conversion may include, for example, land clearing; replacement of natural vegetation (e.g., by crops or tree plantations); permanent flooding (e.g., by a reservoir); drainage, dredging, filling, or channelization of wetlands; or surface mining. Terrestrial ecosystems, conversion of natural habitats can occur as the result of severe pollution.

Conversion can result directly from the action of a project or through an indirect mechanism (e.g., through induced settlement along a road).

Degradation is a modification of a critical or another natural habitat that substantially reduces the habitat's ability to maintain viable populations of its native species."

Based on these criteria, sensitivity criteria for ecological components within the scope of the project have been determined as given in Table V.13.

Table V.13 Criteria for Sensitivity/Value of Resource

Ecosystem Component	Sensitivity/Value Level		
	High	**Medium**	**Low**
Designed Areas	Internationally Recognized Areas (e.g. UNESCO Natural World Heritage Sites, UNESCO Man and the Biosphere Reserves, KBAs, and wetlands designated under the Convention on Wetlands of International Importance (the RAMSAR Convention)	Nationally designated areas.	N/A
Habitats	Habitats are natural or critical natural habitat under the WB OP 4.04 definitions and or Habitats that trigger critical	Areas of habitat that represent >1% distribution within Türkiye or are threatened at a national level. Habitats that support	Natural habitats that do not meet the criteria for either medium or high sensitivity. Habitats that support species

Ecosystem Component	Sensitivity/Value Level		
	High	**Medium**	**Low**
	habitat under the following WBG/IFC PS6 Criteria: • Criterion 4: Highly threatened and/or unique; and/or ecosystems • Criterion 5: Key evolutionary processes • Habitats that support species of High sensitivity	species of Medium sensitivity.	of Low sensitivity.
Species	Species populations that trigger critical habitat under the following IFC PS6 Criteria: • Criterion 1: Critically Endangered (CR) and/or Endangered (EN) species; • Criterion 2: Endemic and/or restricted-range species; and/or • Criterion 3: Migratory and/or congregator species.	Nationally/regionally important concentrations of a Vulnerable (VU) species or locally important concentrations of Critically Endangered (CR) and/or Endangered (EN) species. Locally important populations of endemic/range restricted species. Populations of migratory species that represent >1 % of the national (Turkish) population.	Locally important populations of Near Threatened (NT) or Vulnerable (VU) species or locally important populations of species listed on Annexes to the Bern Convention.

According to the evaluations given in Table V.13. there are no sensitive flora and fauna species in and around the project area.

Construction Phase Impacts on Ecology and Biodiversity

Internationally and Nationally Recognized Areas

The Project Area is located in already modified vegetation, which is under the influence of anthropogenic effects. There is no nationally or internationally protected areas in or around the project area. As a result, the impact on the internationally recognized areas is assessed as negligible. Dust and noise formation due to construction activities may also have a negative impact on fauna species. All these effects can be eliminated by taking mitigation measures (see Table VI.1).

Flora

The significant impacts of the construction phase on the terrestrial flora can be habitat and vegetation loss or damage. The project area is an urban area and has no natural vegetation. Since no sensitive habitat or flora species are found, no significant impact is expected. The Project will be realized in an already modified area.

Impacts of the construction activities on the terrestrial environment will include dust, but this will be a short-term impact. When necessary, measures will be mentioned in Section VI.1.

According to the WB OP 4.04 "Natural habitat" definition, the project area does not have any sensitive natural habitat and wildlife. The impact on the biological environment during construction will be limited. Therefore, it is considered that all the impacts will be minimized or eliminated; if necessary, precautions will be taken. According to the evaluations given in Table V.13 , there are no sensitive flora species in and around the project area. The impact on the flora species is assessed as negligible.

Fauna

Due to the anthropogenic effects in and around the project area, it is determined that large mammal species do not use the project area for nesting. As a result of desk and field studies carried out in Kızılca Stream, no fish species were detected in the stream, and it was determined that there is no habitat for protected aquatic biodiversity components. Hasan Mountain and Akkaya Pond IBA are located in the immediate vicinity of the project area. Since the Project will be located in the city centre, which is an area that has already changed, bird species in these IBAs do not take the Project Area as habitat. For this reason, bird species adapted to the city centre can be seen in the Project Area. Some minor impacts resulting from the construction activities can be seen on fauna species. These effects will mainly consist of secondary effects. Dust and noise formation due to construction activities may also have a negative impact on fauna species. All these effects can be eliminated by taking appropriate measures. According to the evaluations given in Table V.13 there are no sensitive fauna species in and around the project area. The impact on the fauna species is assessed as negligible.

Operation Phase Impacts on Ecology and Biodiversity

No negative impact is expected on terrestrial and aquatic flora and fauna during the operation phase. When necessary, preventive measures will be taken, and biodiversity elements adapted to city life will continue in their former state after construction. The impact of the operation phase of the project on ecology and biodiversity has been determined as negligible.

V.4.6. Landscape and Visual (Aesthetics)

Construction Phase

During the construction phase of the project, the operation of construction machinery and equipment may disturb the landscape of the project area. The removal of vegetation, excavation and temporary storage of soil, trenching, etc. can cause landscape and visual effects.

In areas where the network does not follow the roads, the soil resulting from topsoil stripping will be used in landscaping and green area arrangement works of district municipalities and issues related this topic will be managed by mitigation measures defined in Section VI.1.

The impact is assessed as direct and negative with short term duration, local and low in significance. No permanent loss of aesthetics and landscaping is anticipated due to pipe ditch excavations and constructions of isolation and measuring chambers. However, if there are trees in the boulevards and streets to present hindrance during ditch excavations, their transplantation, if not possible, planting new ones on site or in other appropriate places will reduce the impact on the environment. Such work will be performed by the relevant unit of the Nigde Municipality.

As well as the visual pollution, it is possible that the borders and roads are also damaged during the general excavation activities. This negative impact will have to be eliminated. Restoration will be carried out in accordance with their condition before the project. The necessary repairs and construction will be done, and the damaged parts will be restored.

Operational Phase

In the operation phase, no impacts on landscape are expected. The possible impact during the operation phase will be the maintenance of the pipes. During the maintenance works, as the works will be done in a limited area, landscape of the site will not be affected in a significant way. However,

during maintenance works, the work area will be determined and limited to that area to minimize impacts on landscape.

V.4.7. Resources and Wastes

As a result of the use of resources, construction and operation/maintenance activities as well as domestic requirements of the personnel, different types of waste will be generated throughout the lifetime of the Project.

All the waste to be generated during the construction and operation phases of the Project are required to be properly managed in line with the requirements of national waste management legislation and international good practice in order to avoid impacts on soils, nearby water resources and flora and fauna elements. This section identifies the wastes to be generated in this context and assesses the impacts associated with waste generation.

The possible sources that will generate various types of waste are listed below:

- Municipal solid waste
- Packaging waste such as wood, paper, cardboard, and plastic etc.
- Hazardous and special wastes that may be generated within the scope of the construction and operation phases of the Project can be listed as contaminated vessels, cloths and overheads, waste batteries and accumulators, waste oils etc.
- Excavation and construction wastes
- Waste pipes

Waste to be generated in the scope of the project activities will be managed in accordance with the waste management hierarchy as given in Figure V.3. In this respect, waste generation will be avoided/prevented at the source. In cases where prevention is not possible at the source, respectively; minimization of waste generation, selection of materials that will not cause generation of hazardous waste as much as possible, separate collection of waste according to their type (hazardous, non-hazardous, recyclable, etc.), reuse of generated waste at site as much as possible, assessment of alternatives such as recycling and energy recovery for wastes (where reuse is not possible) will be considered. The final step in the hierarchy of waste management involves the final disposal of wastes in accordance with relevant regulations, where reuse, recycling and energy recovery options are not possible.

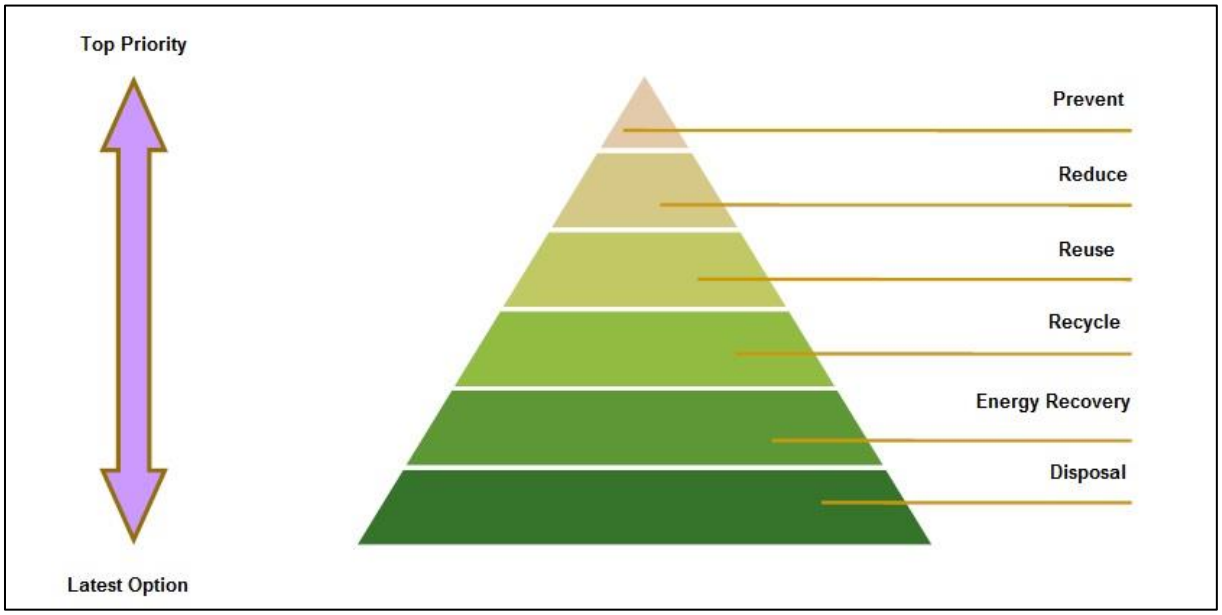


Figure V.3 Waste Management Hierarchy

Construction Phase

During construction phase of the Project, solid waste types expected to be generated are; municipal wastes, packaging wastes (e.g., wood, cardboard, plastic, etc.), hazardous wastes, special wastes, excavation and construction wastes (e.g., scrap metal, wood, concrete waste, etc.), and waste pipes. Hazardous and special wastes might contain chemical substances (e.g., paint, solvent) or packaging materials and cloths contaminated with oils, waste oils resulting from operation and maintenance of machinery and vehicles, solvents, accumulators, batteries, filters, machine parts.

In addition, there is a possibility of encountering old pipes containing asbestos. Because of this situation, it is necessary to prepare an asbestos management plan before the phase starts. Thus, an Asbestos Management Plan is given in Annex-6 of this ESMP to guide the Contractor in preparing its own Asbestos Management Plan specific to the Project to effectively and safely manage the asbestos cement pipes dismantling, handling, and transferring for disposal processes. These ACPs will be classified as hazardous waste and all related handling and disposal will be carried out in compliance with the requirements of Regulation on Health and Safety Measures in Working with Asbestos, Regulation on Waste Management, WBG EHS Guidelines and Good International Industrial Practice. Moreover, asbestos-containing waste will be transported and disposed of in accordance with Regulation on the Road Transportation of Hazardous Goods by signing a contract with a waste transport company licensed by the Ministry of Environment, Urbanization and Climate Change and an authorized waste disposal organization.

These kinds of waste will be stored in special compartments in the Temporary Storage Area allocated for this purpose, in containers, separated from the non-hazardous waste. This area will have an impermeable base/ground and will be protected from the surface flows and rain. Additionally, necessary drainage for the area will be provided. Hazardous waste will be collected and disposed of by companies licensed by the MoEUCC.

Table V.14 lists the types of waste that can be generated during the construction phase of the Project and their waste codes according to the waste lists given in Annex -4 of the Waste Management Regulation.

Table V.14 List of Possible Waste Types to be generated during Land Preparation and Construction Phase of the Project

Waste Code	Definition of Waste Code
13	**Oil Wastes and Liquid Fuel Wastes (Excluding Edible Oils, 05 and 12)**
13 02	Waste Engine, Transmission and Lubrication Oils
15	**Waste Packages, Unspecified Absorbents, Wipes, Filter Materials and Protective Clothing**
15 01	Packaging Wastes (Including Packaging Wastes Separately Collected by the Municipality)
15 02	Absorbents, Filter Materials, Cleaning Cloths and Protective Clothing
16	**Wastes Not Specified Otherwise in the List**
16 06	Batteries and Accumulators
17	**Construction and Demolition Wastes (Including Excavations from Contaminated Sites)**
17 01	Concrete, Brick, Tile and Ceramic
17 02	Wood, Glass and Plastic
17 04	Metals (Including Alloys)
17 05	Soil (Including Excavations from Contaminated Sites), Stones and Dredging Sludge
17.06	Insulation Materials and Construction Materials Containing Asbestos
17 09	Other Construction and Demolition Wastes
20	**Municipal Wastes Including Separately Collected Fractions (Domestic and Similar Commercial, Industrial and Institutional Wastes)**
20 01	Separately Collected Fractions (Except 15 01)
20 03	Other Municipal Wastes

Source: Waste Management Regulation's Annex-4

Municipal waste within the scope of the Waste Management Regulation are referred to as domestic waste or commercial, industrial and institutional waste similar to domestic waste in terms of its content or structure, which are defined with waste code of 20, in the Waste List given in Annex-4 of the Regulation and of whose management responsibility belongs to the Municipality. Therefore, these types of waste will be stored separately from hazardous waste and recyclable waste and will be collected regularly by the municipality.

In order to determine the amount of municipal waste to be generated at site, the average daily municipal waste per person is taken as 1.13 kg according to the municipal waste statistics of TurkStat in year 2014 (TurkStat, 2020). The estimated amount of municipal waste to be generated during the construction phase of the Project, based on the number of people working, is given below. This amount includes also separately collected fractions such as paper, cardboard, glass, metal, plastic, etc. together with biodegradable wastes:

- 75 person x 1.13 kg/person/day=84.75 kg/day

There will be no cafeteria in the construction site. Thus, there will be no food preparation related waste generation within the context of the Project. The food will be supplied through catering services.

The general composition of the municipal waste in Türkiye is as demonstrated in Figure V.4 according to the results of the solid waste composition determination study made within the scope of the Solid Waste Master Plan Project. 34% of municipal waste consists of kitchen waste. Separately collectable and recyclable fractions such as paper, cardboard, bulk cardboard, plastic, glass and metal constitute 25% of municipal waste.

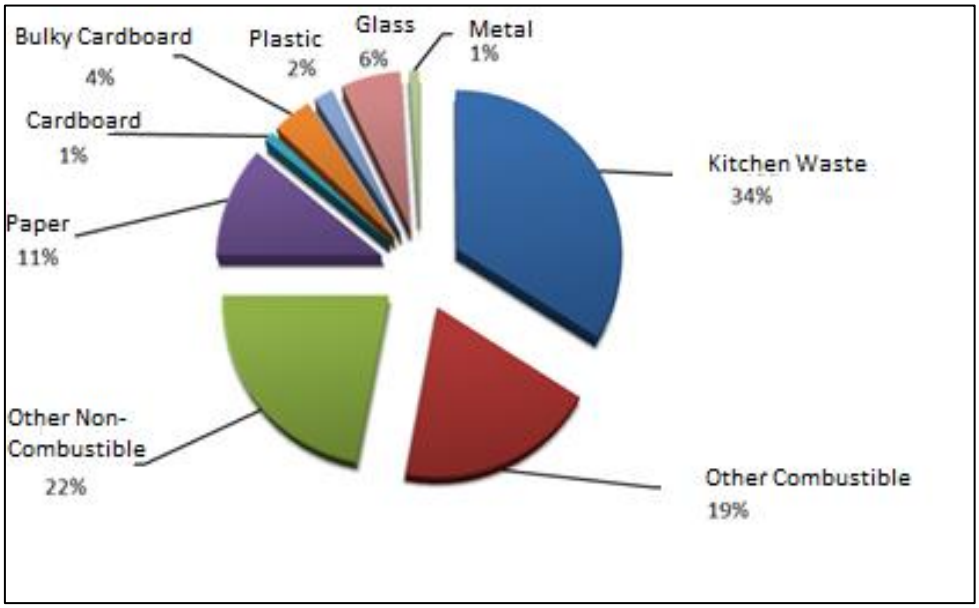


Figure V.4. Composition of Municipal Waste (*former Ministry of Science, Industry and Technology, 2014)*

Considering the information provided in Figure V.4, it is also valid for the municipal waste to be generated within the scope of the Project. The only difference will be the kitchen waste percentages since there will be no kitchen/cafeteria in the Project. By reflecting this and the assumption of only 5% food waste, the composition of the municipal waste will be as follows:

- Food Waste : 5%
- Other Combustible : 27%
- Other Non-combustible : 31%
- Paper : 16%
- Cardboard : 2%
- Bulky Cardboard : 6%
- Plastic : 3%
- Glass : 8%
- Metal : 2%

Now, it can be said that 4.2 kg of food waste and 31.4 kg of separately collectable and recyclable waste will be generated daily during the construction phase of the Project. Also, the remaining 49.2 kg of daily produced waste is in the category of other combustible and non-combustible waste.

Domestic solid waste and packaging waste will be generated by employees meeting their daily needs during the construction phase.

Excess excavation materials will be generated. Considering their volumes and qualities, their random storage or being dumped will have negative environmental impacts. A certain amount of excavation waste will be generated even if the earth to be excavated during the ditch excavations will be used for backfilling operations. There are two excavation dumping areas within the borders of Nigde municipality (Nigde Province Environmental Status Report, 2022). The excavation materials generated and to be disposed of within the scope of the project will be sent to these excavation dumping areas.

Waste of accumulator, oil and tire will be formed in case vehicles and machinery to be used during construction and operation are maintained within the construction sites.

Old metal pipes, valves, etc. to be exposed during excavations are of solid waste properties other than the asbestos cement pipes.

No significant impact resulting from waste generation is expected due to the nature and scale of the Project, as explained above. Therefore, the impact is assessed as direct and negative with short term duration, local and low significance. However, mitigation measures proposed in Section VI.1 in Table VI.1 in order to prevent and/or minimize likely impacts will be implemented.

Operation Phase

In the operation phase, there might be waste generation resulting from damaged, malfunctioned or end-of-life equipment and material that could be replaced or controlled during maintenance and repair activities to be performed periodically or in case of a breakdown. Also, procurement of new equipment, pieces and others will also result in the generation of packaging waste. Besides, personal protective equipment, clothes and rags used during maintenance and repair activities might result in a limited amount of waste generation. In the operation phase of the Project, due to the oil change needs of mechanical equipment, there will be limited amount of waste oil generation.

V.4.8. Climate Change

Construction Phase Impacts

The Project's contribution to climate change during the construction phase will be due to the emission of GHG. The majority of greenhouse gas emissions will be due to construction machinery/ equipment usage. The major greenhouse gas emission will be CO_2 emissions resulting from the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of methane and nitrous oxide will also be emitted during fuel combustion. Therefore, these emissions will contribute to climate change.

The project's contribution to climate change through GHG emissions is assessed as a negative and direct impact. Since the occurrence of the impact will be limited to the construction phase, the impact's duration will be short-term. Although the sensitivity of the receptor is considered as medium, due to the usage of small number of construction machinery/equipment, the significance of the impact is considered as low. With the realization of proper mitigation measures proposed in Section VI.1 in Table VI.1, GHG emissions can be minimized.

Operation Phase Impacts

The project's contribution to climate change during the operation phase will be similar to the contribution explained for the construction phase and the significance of the impact will be low. GHG emissions generated operation phase of the project can be considered as relatively short-term emissions. With the realization of proper mitigation measures proposed in Section VII.1, GHG emissions can be minimized.

V.4.9. Natural Disasters

The Project is not expected to have any impact on natural hazards like flood and seismicity during both construction and operation phases. The construction of the Sewerage and Stormwater Construction Project will be constructed in compliance with the building Earthquake Regulation. The detailed baseline information of natural disasters is provided in Section IV.1.5.

Operation Phase Impacts

More frequent and intense storms and flooding due to climate change may result in increased stormwater runoff. With this increase, overflows may occur in combined systems where sewage and rain water are collected together. Thus, with the project, the use of green infrastructure that is resistant and compatible against possible dangers and risks of climate change will be ensured during the operation phase.

V.5. Impacts on Socioeconomic Environment

Infrastructure projects have both negative and positive impacts from socio-economic standpoint. Increase in traffic due to construction works, operation of construction machinery, waste generation, and noise and dust emission generated by construction activities can be characterized as negative impacts; while employment and procurement opportunities can be described as positive impacts. Both positive and negative impacts are explained separately for the construction and operation phases under this section.

It is inevitable that there will be complaints on issues such as dust, noise, interruption of communication and water cuts, disruption of transportation, etc. during the construction and operation phases of the project. The measures proposed in the following sections should be taken to reduce these complaints.

Vehicle traffic will be adversely affected due to route changes arising from excavations during the construction and operation phases and due to additional traffic load to be caused by construction works.

V.5.1. Land Acquisition

There will be no land acquisition required by the project. The routes of the proposed stormwater and sewerage lines will pass under the existing public roads, which are under the responsibility of the Nigde Municipality. Since there is no built-up housing in any of the areas, there is no issue concerning resettlement. Since the ownership of the project area within the borders of Ilhanli, Nar and Selcuk Neighborhoods in Nigde Province belongs to Nigde Municipality, expropriation procedures will not be carried out within the scope of the Project. Therefore, Involuntary Resettlement is not triggered within the scope of this Project. In addition, there are no land utilisations currently of the project area, or any structures, trees or crops which will be affected.

V.5.2. Employment and Procurement Opportunities Created by the Project

Construction Phase Impacts

The workforce needed during the construction phase of the project (75 employees) will be

sourced locally, regionally and nationally. Due to the technical nature of the project, unskilled labor is expected to be provided locally and skilled labor is expected to be provided non-locally. The general approach of construction companies operating in Türkiye is to employ labor from the local communities, primarily to reduce costs associated with travel and accommodation.

Employment of locals will provide significant benefits for those who are employed; however, this will be a minor portion of the entire population. The employment of individuals from local communities will, however, be beneficial as it is expected to lead to improved relationships between the project and local communities.

Another benefit of the project will be indirect employment opportunities and these will be associated with the project supply chain (goods and services) and spending of project employees in local communities.

Employment of non-locals, as well as the increase in incomes of local employees, may also bring in some minor benefits for local communities, associated with increased spending in the project area.

In addition to the employment opportunities, the project will require certain services and goods. If it is possible and feasible to do so, selection of local procurement options will create minor positive impacts at the regional level.

Before and during construction, the construction contractor and their subcontractors will provide clear information on the recruitment process, with particular emphasis on informing local communities of employment opportunities through different channels such as mukhtars and local associations.

Operation Phase Impacts

In the operation phase of the Project, 4 employees are expected to be employed. In order to avoid the negative impacts of the workforce influx, Nigde Municipality will give priority to the local people.

Nigde Municipality will take all necessary actions and measures for labor and employment to be in compliance with Turkish legislation and international standards. Nigde Municipality will aim at employing local workers to the extent possible, in order to increase the Project's local benefits. The recruitment processes will be transparent, public and non-discriminatory, providing equal opportunities with respect to ethnicity, religion, language, gender and sexuality.

V.5.3. Infrastructure and Services

As a result of project construction activities, the need to transport material and products will lead to increased traffic, mainly of heavy vehicles on the existing road network. The additional traffic can lead to delays in travel times and increased congestion, particularly in critical locations that are already subject to intense traffic. Construction traffic, particularly heavy vehicles, can also contribute to the deterioration of existing roads.

Construction activities will be performed within the borders of abovementioned neighborhoods, and therefore, no impacts on underground utility networks are foreseen. No impact on transmission lines is foreseen either.

The construction works and waste disposal during the construction phase of the Project will be performed by contractors. Therefore, any damage to infrastructure will be repaired or compensated by contractors promptly in accordance with the responsible authority, such as General Directorate of Highways (KGM) or KMM.

During the course of construction phase, grievance redress mechanism, which is detailed in Section VII.3, will be in effect to receive local community's nuisance and disturbance.

V.5.4. Ecosystem Services

Construction phase

The interaction of the project with Kizilca Stream during the construction phase is limited, however, it might still create direct and indirect negative impacts on the water quality of Kızılca Stream due to spillage/leakage of chemicals and hazardous materials and poor waste/wastewater handling and disposal. The negative impacts on ecosystem services can be from low significance to high significance considering the magnitude (amount of spillage, toxicity level of spilled chemical, etc.) of the impact.

Operation phase

No significant impacts on the ecosystem are expected in the operation phase as there is no activity other than the maintenance/repair works, which will be limited.

V.5.5. Archaeological and Cultural Heritage

Construction phase

No significant impacts on archaeological and cultural heritage are expected in the construction phase of the Project.

As required by Article 4 of Law on the Conservation of Cultural and Natural Properties (Law No. 2863), chance finds procedure will be implemented during land preparation and construction works (see Annex-5). In this context, related Conservation Board or Museum Directorate will be informed latest in three days in case of finding any movable or immovable cultural asset by chance during construction works. Construction works will be stopped immediately, related sites will be secured by the Contractor and works will not proceed until official information is received. In case of any damage to protected areas or cultural assets due to the Project during the construction phase, the responsible party is the Contractor.

The impact is assessed as direct and negative with short term duration, on-site and low significance.

Operation phase

No significant impacts on archaeological and cultural heritage are expected in the operation phase as there is no activity other than the maintenance/repair works, which will be limited.

V.5.6. Road Closures

The road closures during the construction and operation phase of the Project might have impacts on local communities, especially on shop owners and farmers. In case information on the construction schedule (maintenance/repair plan for the operation phase) and planned road closures are not disseminated to public in a timely manner, shop owners and farmers might face with difficulties to reach their working areas. Especially agricultural activities that need to be performed on certain times and seasons might be interrupted due to the closures. It is important to perform efficient and effective stakeholder engagement at all stages of the Project to minimize any negative impacts to the extent possible.

The road closures and deterioration in the road structure may serve as a barrier to the daily activities of persons with disabilities and vulnerable/disadvantaged individuals/groups especially during construction phase of the Project. The information about these people within project area is given in Section IV.3.2. Also, construction works not properly managed pose a hazard for many disabled people. Impacts on disabled people and vulnerable groups will be managed with the proper implementation of mitigation measures mentioned in Section VI.1.

The impact on local businesses during the construction of the network will only be temporary and not significant. Shops will not be affected during the construction. In any case, if any shop entrance is unreachable due to the excavation works, a secure entrance will be provided by suitable and safety ensured crossing platforms. Also, during the construction phase of the Project, a traffic schedule will be prepared and will be shared with the local community.

V.6. Labor and Working Conditions

Although the number of personnel to be recruited is not yet decided, it is estimated 75 workers will be employed during the construction and 4 personnel will be employed for operation. During the recruitment process, priority will be given to local people by Nigde Municipality and contractors.

Overall, labor and working conditions for the construction and operation phase include the issues listed below:

- Protecting the Work Force Occupational Health and Safety
- Workers Engaged by Third Parties and the Supply Chain
- Labor Influx

Commitments on labor and working conditions are concluded with a range of mitigation measures for managing labor-related risks and impacts in Section VI.1.

V.6.1. Protecting the Work Force

Nigde Municipality will ensure measures to prohibit child labor and forced labor. In this respect, children under 18 years of age will not be employed during the construction and operation stages. Contractors will develop an age verification system to ensure no one under 18 years old is involved in hazardous work.

Workforce will be provided with written contracts specifying working hours and other work conditions, will be recruited with no discrimination based on gender/religion, ethnicity, etc. and the paid wages will be above national minimum level.

Stipulations of Ministry Circular on COVID-19 Measures to be taken at Construction Sites will be followed during all phases of the Project as long as the COVID-19 pandemic outbreak prevails.

V.6.2. Occupational Health and Safety and Working Conditions

The construction stage of the project includes excavation, backfilling and the use of heavy-duty vehicles. As described in the WBG EHS Guidelines for Water and Sanitation, work at sanitation facilities is often physically demanding and may involve hazards such as open water, trenches, slippery walkways, working at heights and in confined spaces, energized circuits, and heavy equipment. Vehicular movements can cause accidents resulting in injuries and death. Work at water and sanitation facilities may also involve entry into confined spaces which will expose workers to occupational safety risks and accidents. In addition, working at height can result in physical injury in case of a possible fall, while working in confined spaces can lead to various damages due to oxygen deficiency and risk of explosion.

Occupational Health and Safety (OHS) risk might arise due to the possibility of pipes containing asbestos, risk of pollution, emission of dust and production of noise during the site preparation and construction works as well. Existing pipe removal or replacement techniques can result in the creation of asbestos waste and may cause potential impacts due to inhalation from asbestos containing material (lung disease, mesothelioma). Specific precautions provided in the asbestos management plan will be taken for safe handling and effective disposal of asbestos containing materials as required by the WBG EHS on asbestos management. Moreover, the principles of the Regulation on Health and Safety Precautions in Working with Asbestos will be followed and the work will be carried out by an asbestos removal specialist, who has a vocational training certificate.

The asbestos management plan to be prepared by the Contractor will be more comprehensive than the one provided in Annex-8 and it will clearly identify the locations where the asbestos containing material is present, its condition (e.g. whether it is in friable form with the potential to release fibers), procedures for monitoring its condition, procedures to access the locations where asbestos containing material is present to avoid damage, and training of staff, who can potentially come into contact with the material to avoid damage and prevent exposure.

Furthermore, asbestos-containing waste will be transported and disposed of in accordance with Regulation on the Road Transportation of Hazardous Goods by signing a contract with a waste transport company licensed by the Ministry of Environment, Urbanization and Climate Change and an authorized waste disposal organization.

In addition, risks of gender based violence (GBV) and sexual abuse, exploitation and harassment might arise. Training to the labour force regarding these subjects will be provided. Also, training for employees regarding the Code of Conduct (see Annex 4) will be conducted.

OHS risks and impacts should also be managed and mitigated by OHS Management Plan and Risk Assessment (including Emergency Plans) to be prepared by the Contractor during construction and by the Project Owner during operation.

Existing pipe removal or replacement techniques can result in the creation of asbestos waste. Any asbestos waste must be safely removed and disposed of in accordance with the requirements of the Hazardous Waste Control Regulation.

Within this regard, workers' exposure to work-related occupational health and safety risks is assessed as direct and negative with short term duration, local and high in significance. However, with

the implementation of mitigation measures proposed in Section VI.1, these impacts/risks will be reduced to low in significance.

V.6.3. Workers Engaged by Third Parties and the Supply Chain

Nigde Municipality will ensure that contractors are reputable and legitimate enterprises and have an appropriate ESMS that will allow them to operate in a manner consistent with the labor conditions provided by Nigde Municipality.

Nigde Municipality will monitor the performance of contractors such that the human rights policy and labor rights of all workers are exercised properly and include suitable non-compliance measures in their contracts.

Nigde Municipality will ensure that workers of contractors have access to the overall grievance redress mechanism to be established for the Project.

Nigde Municipality will monitor its primary supply chain for safety issues related to supply chain workers. Where necessary Nigde Municipality will introduce procedures and mitigation measures to ensure that suppliers are taking steps to prevent or to correct life-threatening situations.

In order to realize those, Nigde Municipality will prepare a Contractor Management Plan before the construction phase and ensure its implementation.

V.6.4. Labor Influx

In case personnel or material or services required for the construction works cannot be sourced from local sources, technical personnel with adequate capacity or materials that meet international standards must be brought from outside the project area. In such cases, suppliers, potential suppliers and potential job-seekers might move to the close vicinity of the project area to provide goods and services to the project and create an influx in the region. In such situation of workforce influx, which may be observed in any project, people who will work on the project or provide goods and services to the project should be quickly accommodated in the areato reduce anynegative impact on the local population (especially if the area is rural, remote and small).

Due to the technical nature of the project, unskilled labor is expected to be provided locally and skilled labor is expected to be provided non-locally. In order to avoid the negative impacts of the workforce influx, Nigde Municipality will give priority to the local people in recruitment and this will be added to the terms of the contracts of the contractor and possible subcontractors in order to ensure this. In the contract process, Nigde Municipality will request the contractor to prepare a Workforce Management Plan for the workforce prior to the recruitment process if the workforce requirement differs from what is specified in this ESMP. It is planned to be a camp site within the project area. However, there will be no accommodation at the camp site; since the project will take place in a residential area, non-local workers will be accommodated in rental houses located near the project area, if needed. Nigde Municipality will evaluate and submit this plan to ILBANK for approval.

Nigde Municipality and the Contractor shall ensure that code of conduct and public communication trainings are given to all employees as an orientation training to prevent a possible future dispute, unacceptable behaviors within the workplace (i.e. gender based violence, sexual harassment, sexual abuse, etc.).

V.7. Community Health, Safety and Security

Construction Phase Impacts

The Project may change the community exposure to safety risks and impacts arising from construction activities and operations activities, such as equipment accidents, traffic accidents, collisions, structural failures and releases of hazardous materials. The community health, safety and security impacts of the project are mostly limited to the construction phase. In the construction phase, emissions of gaseous pollutants and fugitive dust from equipment and machinery used, noise generation, poor handling of wastes to be generated, requirement to shut down the entire plant and/or specific units for construction works and risks associated with community encroachment might create negative impacts on community health, safety and security. Impacts associated with emissions, noise and waste generation will be managed with the proper implementation of mitigation measures mentioned in Section VI.1.

During the construction phase of the Project, no energy and water cuts are expected because of the Project activities.

According to the Asbestos Management Plan to be prepared by the contractor, if the old asbestos pipes are to be renewed in the working area, which may cause potential impacts due to inhalation from asbestos containing material (lung disease, mesothelioma), specific precautions will be taken for the community for safe handling and effective disposal of asbestos as required by the WBG EHS on asbestos management. Thus, an Asbestos Management Plan (AMP) is given in Annex-5 of this ESMP to guide the Contractor in preparing its own AMP specific to the Project to effectively and safely manage the ACP dismantling, handling, and transferring for disposal processes. The AMP to be prepared by the Contractor will be more comprehensive than the one provided in Annex-5 and it will clearly identify the locations where the asbestos containing material is present, its condition (e.g. whether it is in friable form with the potential to release fibers), procedures for monitoring its condition, procedures to access the locations where asbestos containing material is present to avoid damage, and training of staff, who can potentially come into contact with the material to avoid damage and prevent exposure.

Furthermore, asbestos-containing waste will be transported and disposed of in accordance with Regulation on the Road Transportation of Hazardous Goods by signing a contract with a waste transport company licensed by the Ministry of Environment, Urbanization and Climate Change and an authorized waste disposal organization.

Construction works will involve increased traffic of heavy vehicles and equipment at local level and traffic interruptions. Accidents and incidents could result from traffic operation while transporting equipment and materials to the construction sites as well as from truck and vehicle movements. The significance of the impact is considered low. The risks associated with this issue would be easily mitigated to negligible significance through implementation of mitigation measures presented in Section VI.1.

Operation Phase Impacts

Similar to the impacts during the construction phase, improper handling of waste would create negative impacts on community health and safety. The risks associated with this issue would be easily mitigated to negligible significance through implementation of mitigation measures presented in Section VI.1.

VI. MITIGATION AND MONITORING PLANS

The purpose of the Mitigation and Monitoring Plan is to apply mitigation measures to reduce the impacts of the project, describe the roles of the participating parties and key personnel responsible for the implementation of the mitigation measures, and identify procedures to ensure that the mitigation measures are implemented adequately during all phases of the Project through the monitoring plan.

Some minor to moderate, and temporary negative environmental and social impacts may occur, resulting mainly from the construction activities (e.g., trenching, excavation, laying of pipelines, etc.). These impacts are localized and not considered significant and long-lasting and can be mitigated through appropriate mitigation measures. The severity and duration of these impacts can be minimized by ensuring that the excavation and construction works are limited to short working sections, and that works are carried out rapidly and efficiently.

In the following sections, the potential Project impacts and associated management and/or mitigation measures are described and the key monitoring requirements and responsibilities for implementation are given in detail.

VI.1. Mitigation Plan

Impact mitigation measures and activities are developed for all phases of the project below in compliance with the national legislation as well as international standards. Within this regard, the most stringent among national legislation and WBG standards and the most up-to-date legislation will be complied. Impact mitigation plan is presented in Table VI.1 and Table VI.2 for land preparation and construction, and operation phases, respectively.

Table VI.1 Impact Mitigation Plan for the Construction Phase of the Project

Issue	Potential Impact	Type of Impact	Impact Significance	Mitigation Measures	Cost	Responsible Party
Physical Environment						
Air Quality	Increase in dust concentration	Negative	Low	• Nigde Municipality will ensure that contractor will prepare and implement an Air Quality and Emissions Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific) the employees will be trained on the Air Quality and Emissions Management Plan. 30 days prior to commencement of the works and the training regarding this plan will be provided to the employees • The contractor together with Nigde Municipality should analyze the presence of sensitive receptors prior to start of works. Extra care should be taken when dealing with pollutants in close proximity to areas recognized as sensitive receptors. Sensitive receptors include, but are not limited to, hospitals, schools, residents, livestock and agricultural lands. These are areas where the occupants are more susceptible to the adverse effects of exposure to air pollutants. Sensitive receptors should be included in the Air Quality and Emissions Plan. • Loading and unloading of excavated material should be carried out without throwing or scattering. • Soil and similar material stacks should be carefully followed with the aim of reducing the risk of dust being carried by the wind. Wind shields/barriers should be placed at work sites such as material storage areas to prevent dust dispersion where necessary. The drop height of potentially dust generating materials will be kept as low as possible. • Excavated materials should be covered with nylon canvas during transportation. • Dust suppression methods such as watering with water trucks should be applied to roads (especially during dry season). Water intended for this purpose should be used in quantities that will not result in generation of run-off. If there is traffic flow on the existing roads near the work sites, dust suppression measures will be continuously applied to ensure traffic safety. If there is no traffic existing in the local roads, dust suppression measures will be applied only at sensitive receptors. • PPE will be provided to workers on worksites, such as dust masks where dust levels are likely to be excessive. • The ground should be compacted, where practical, that are heavily used by vehicles and machinery. • Weather conditions should be monitored constantly (especially wind) during work activities. Prevailing wind direction should be considered to reduce the likelihood of affecting sensitive receptors. • Speed limitations will be applied for vehicles. Accordingly, the speed limit will not exceed 30 km/h on roads with a poor coating. • Grievance Redress Mechanism will be implemented to collect complaints and suggestions with respect to air quality. For the owners of adjacent agricultural lands and sensitive receptors, special attention will be given for their grievances and related measures will be taken immediately. • Any damage caused by insufficient or lack of dust suppression (transportation of dust to a residential area, wind borne dust deposits etc.) measures will be compensated by the contractor. • The route to be used in the transport of the excavation will be carefully selected and care will be taken not to pass through the densely populated areas. • Compliance with the air emission limit values stipulated in national legislation and WBG General EHS Guidelines will be ensured; • Dust measurements will be conducted by an authorized environmental laboratory if any grievance regarding dust generation is received and mitigation measures will be enhanced in this respect such as increasing wet suppression/watering activities, further reducing speed/traffic, etc., if deemed necessary, considering	Included in construction costs	Contractor / PIU Supervision Consultant
	Increase in exhaust gas emission (SO_2 PM, NO_x emission)	Negative	Low	• Well and adequately maintained vehicles should be used and regular maintenance of these vehicles will be ensured. • Construction vehicles should not be permitted to keep engines running while waiting to enter to the site or waiting on-site. • Generator units, if necessary to use, should be located as far as possible from residential areas in workplaces. • Modern equipment and tools that can provide relevant emission standards, will be selected for the construction activities; • All machinery and equipment should be inspected before use, including visual inspection of exhaust emissions, and if excessive, such machinery and equipment should not be used until appropriate maintenance has been carried out. Daily maintenance will be performed at the end of each shift; the operation time of each vehicle will be recorded by the operator so that periodic maintenance can be done in a timely manner. Maintenance forms will be filled regularly and kept. • Workers should be adequately informed about equipment and machinerylikely to cause emissions of pollutants and trained on the application of relevant mitigation measures including dust management when they are employed before starting work. This training should be conducted by EHS expert of the contractor or by the EHS third party organization hired by the contractor. • Relevant provisions of the Regulation on Air Pollution Control Sourced from Industry and Regulation on the Assessment and Management of Air Quality will be complied with to minimize air emissions sourced from construction machinery and trucks and compliance with WBG General EHS Guidelines will be ensured.	Included in construction costs	Contractor / PIU Supervision Consultant
	Fugitive dust emission containing asbestos	Negative	Medium	• 6.5 km of asbestos-containing pipeline in the Nigde province has been renewed according to Feasibility Report prepared for the Project. However, there is no current information on whether the existing sewage and stormwater pipes contain asbestos in abovementioned neighborhoods. Therefore, the contractor will develop an Asbestos Management Plan by referring to the plan provided in Annex-5 and workers/staff, who can potentially come into contact with the material, will be trained on this Plan to avoid damage and prevent exposure. • The Contractor will employ a certified asbestos expert for all works including asbestos containing material for fixed time if required. • "Occupational Health and Safety Practice Guide for Asbestos Works, 2019" prepared by the General Directorate of Occupational Health and Safety and the principles of the Regulation on Health and Safety Precautions in Working with Asbestos, WBG EHS Guidelines and Good International Industry Practice will be followed during all asbestos related works at every stage of the work. • Asbestos or asbestos-producing materials that generate dust will be transported in suitable sealed packages and stored separately from other hazardous chemicals and materials. • Asbestos-containing waste will be transported and disposed of in accordance with Regulation on Waste Management and Regulation on the Road Transportation of Hazardous Goods by signing a contract with a waste transport company licensed by the MoEUCC and an authorized waste disposal organization.	Included in construction costs	Contractor / PIU Supervision Consultant
	Increase in odorous gas emissions	Negative	Low	• The odor effect may be observed during the replacement of old sewer lines with new ones. This effect should be reduced by planned work (such as working in a windless weather, adjusting the working hours appropriately). This odor creating hydrogen sulphide gas is characterized by its rotten egg smell. Hydrogen sulphide is flammable in high concentrations. However, the main danger is that it is toxic. Occupational Health and Safety rules should be paid more attention in case the odor increases.	Included in construction costs	Contractor / PIU Supervision Consultant

Issue	Potential Impact	Type of Impact	Impact Significance	Mitigation Measures	Cost	Responsible Party
	Impact on human health	Adverse	Low	• The Dust Management Plan will be prepared by the Contractor 30 days prior to commencement of the works that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific) to ensure: • Regular watering of the work area will be carried out, particularly in spring and summer, to reduce the impacts of dust-causing activities such as excavation and backfilling of trenches; • When there will be windy weather conditions (speed is above 30 km/hour) in the Project Area, the digging and excavation will not be carried out or only small areas through the construction site will be excavated and covered and compacted immediately after work is completed or additional measures such as use of dust curtains will be taken; • Inner roads will be covered with materials to prevent dust and these roads will be kept clean; • All vehicles to be used in transportation activities will obey the speed limits set out in the Regulation on Highway Traffic. Vehicle speeds are proposed to be limited to 30 km/h on unpaved surfaces; • Daily backfilling, bedding and covering materials will be stored at temporary storage areas. In order to prevent the materials moving with the help of wind moistening and compacting of the materials will be carried out; • Loading/unloading will be carried out carefully without scattering; • Proper covering of trucks will be done that carry dusty materials; • Excavated materials will be covered with nylon canvas, etc. during transportation; • The drop height of potentially dust generating materials will be kept as low as possible; • If there is traffic flow on the existing roads near the work sites, dust suppression measures will be continuously applied to ensure traffic safety. If there is no traffic existing in the local roads, dust suppression measures will be applied only in local residential areas; and • Any damage caused by insufficient or lack of dust suppression (transportation of dust to agricultural lands, wind borne dust deposits etc.) measures will be compensated by the contractor.		
Soil Quality	Soil contamination	Negative	Medium	• Nigde Municipality will ensure that the contractor will prepare and implement a Soil Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific) will - prior to the construction. This Plan should include site specific pollution prevention methods. The Soil Management Plan will be prepared by the Contractor 30 days prior to commencement of work and employees will be trained on the Soil Management Plan. • The fuel required for the construction equipment and vehicles to be used at site will be supplied primarily from the nearest station; if deemed necessary, fuels that may possibly be stored at site will be stored in the areas where necessary impermeability precautions (including secondary containment) are taken. • Machinery and equipment will be checked regularly for leaking oil and fuel. • The provisions of the Regulation on the Control of Excavation Soil, Construction and Demolition Waste and Regulation on the Control of Soil Pollution and Sites Contaminated by Point Sources should be complied with. • At site, mobile toilets should be provided for the workers if necessary. • Storage and handling of fuels, oils and other hydrocarbons should be done at designated areas with solid grounds (not soil) and located at least 50 m away from any watercourse. • Waste and wastewater to be generated during the land preparation and construction phases of the Project will be stored and disposed in a controlled manner in accordance with the Waste Management Regulation and Regulation on the Control of Excavation, Construction and Demolition Wastes, WB OP 4.01, WBG General EHS Guidelines and in line with the management practices described in this report; and • According to requirements specified in the Regulation on the Control of Soil Pollution and Sites Contaminated by the Point Sources, in terms of a possible soil contamination in the area, Nigde Municipality is obliged to notify the MoEUCC on possible soil pollution in the project area according to the procedure defined in the regulation. Based on the inspections that will be carried out by the MoEUCC, if the site will be defined as a contaminated site that needs to be cleaned up, the site will be cleaned up by firms authorized by the MoEUCC and Nigde Municipality will be the responsible entity to ensure clean upCorrugated pipes cut into small pieces should be collected separately and given to licensed recycling companies. These pieces of pipes should not be left in the soil during backfilling. • During the concrete operations that will be poured to fix the pipes, only designated areas will be used for concrete washout and concrete delivery drivers should be aware of where they are located.	Included in construction costs	Contractor / PIU Supervision Consultant
	Erosion potential	Negative	Low	• Topography will be restored to provide stabilization immediately after the completion of construction at each location. • Construction activities (especially excavation works) will be undertaken in dry weather conditions as much as possible. • Any damage observed should be repaired immediately to avoid further damage and eventual collapse.	Included in construction costs	Contractor / PIU Supervision Consultant
	Loss of topsoil	Negative	Low	• To prevent the loss of topsoil that will be formed during excavations in the construction site and areas not covered with asphalt, the topsoil layer is scraped of at least 30 cm before the excavation. • Topsoil should be used in landscaping and green area arrangement works of district municipalities.	Included in construction costs	Contractor / PIU Supervision Consultant
Water Quality	Change in surface water and groundwater quality	Negative	Medium	• Nigde Municipality will ensure that the contractor will prepare and implement a Water Resources Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific). 30 days prior to commencement of work and employees will be trained on the Water Management Plan; • In case the excavated trenches are filled with surface water, groundwater or rainfall, the muddy water in these channels will be discharged and the water to be discharged will not be directly discharged to the receiving environment. These waters will be discharged to the receiving environment after eliminating the sand and sludge; • Discharge of wastewater, residues or other waste into groundwater or into surface water will be avoided. Portable toilets will be supplied for the workers at the construction camp sites. The wastewater generated in the construction camp sites will be connected to the existing sewage network or where the connection is not possible it will be collected into the impervious septic tanks and then discharged into the nearest sewage network by vacuum trucks. The collected wastewater will be treated in Nigde Advanced Biological WWTP; • Surface runoff or wastewater generation due to dust suppression activities will be prevented; • The water to be used for dust suppression will be followed in m^3. • The wastewater arising from cleaning or washing vehicles and construction equipment will be collected in temporary isolated impermeable septic tanks; • Construction activities may pose the potential for accidental release/leakages of petroleum-based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. All chemical storage containers, including diesel fuel, and hazardous liquid waste drums/containers will be placed in designated storage areas with their secondary containment so as to minimize the risk of soil, surface water and groundwater contamination during construction. • Nigde will ensure that contractor will prepare and implement a Pollution Prevention Plan that is in line with WB OP 4.01 and WBG EHS Guidelines (both general and sector specific) prior to the construction and the employees will be trained on the plan; • For a case of possible breakdown and natural disaster situation, Nigde Municipality will ensure that that contractor will prepare, implement and monitor an Emergency Preparedness Plan and the employees will be trained on the plan.	Included in construction costs	Contractor / PIU Supervision Consultant

Issue	Potential Impact	Type of Impact	Impact Significance	Mitigation Measures	Cost	Responsible Party
Noise and Vibration	Increased level of noise and vibration	Negative	Low	• Nigde Municipality will ensure that contractor will prepare and implement a Noise and Vibration Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific) The Noise Management Plan 30 days prior to commencement of the works and the employees will be trained on the Plan. • The contractor together with Nigde Municipality should analyse the presence of sensitive receptors prior to start of works. Sensitive receptors include, but are not limited to, hospitals, schools, residents, livestock and agricultural lands. These are areas where the occupants are more susceptible to the adverse effects of exposure to noise. Sensitive receptors should be included in the Noise and Vibration Management Plan. • Construction activities in and around the residential areas cannot be sustained in the evening and night time outside the daytime period. The daytime period is 07:00–19:00. The environmental noise limit value permitted between these hours in Table 5 of Annex VII of the Regulation on the Assessment and Management of Environmental Noise is 70 dBA. Construction activities will be carried out at specified times and so as not to exceed the specified environmental noise limit so that the noise does not affect the work/rest activities. Construction will not be continued in the evening and night time periods unless required. In the event that the construction works will be continued overnight, or the noise level will be high, the people affected will be informed before the activity date. • The nearby residents will be informed about the time of construction activities. • A noise screen will be used around the working area where these limit values are exceeded. In this scope, muffler or noise-cancelling parts should be used in all motor vehicles. • The equipment and vehicles to be used in excavation, construction, transportation, pipe laying and asphalting stages will be periodically maintained. • Care will be taken in equipment and part selection so as to comply with ground vibration velocity values shown in Table 7 of Annex VII as specified in Article 25 of the Regulation on the Assessment and Management of Environmental Noise. In case of observations and complaints that the selected vehicles and equipment generate vibration above the expected level during the construction phase, measurement will be carried out and necessary arrangements will be made. • Compliance with the noise limit values stipulated in national legislation and WBG General EHS Guidelines will be ensured, • Noise measurements will be conducted if any grievance regarding noise is received and mitigation measures will be enhanced in this respect such as use of noise barriers, limiting construction activities at certain times, etc., if deemed necessary, considering both national and WBG EHS Guidelines limit values. • A grievance redress mechanism will be established to manage noise related grievances as well.	Included in construction costs	Contractor / PIU Supervision Consultant
Waste	Improper waste management	Negative	Low	• A Waste Management Plan that is in line with the WB OP 4.01 and WBG EHS Guidelines (both general and sector specific) will be prepared by Construction Contractor prior to the construction to ensure that: • Waste to be generated within the scope of the Project will be managed in accordance with the waste management hierarchy; • All kinds of implementations that may threaten personnel or public health will be avoided in all activities involving collection, temporary storage, transport and disposal of waste throughout the Project; • Waste recycling, transport and disposal will be carried out by means of licensed companies and/or Nigde Municipality; • Incineration or burying of waste by any means at site and/or dumping of waste to nearby roads or water resources will absolutely not be in question; • Waste to be temporarily stored on site will be delivered to licensed transport vehicles appropriate to the type of waste for disposal. Information related to the operations in this context will be recorded and the records will be kept in the administrative building; • Excess material in the construction of ditches should be classified, recycled, reused separately as asphalt, curb, parquet, concrete and soil, and opportunities for reuse in the construction site must be taken. The excavation material will be deposited on the edge of ditch until reused as filling material. Unused material, wastes of asphalt-concrete and excavation according to the Regulation on Control of Excavation Soil, Construction and Demolition Wastes will be sent to licensed landfill by licensed transportation companies;. • Waste oils originating from machinery and vehicles will be stored in impervious tanks and containers that would be situated on impervious foundation in accordance with the "Regulation on Control of Waste Oils". Tanks and containers will be equipped with apparatus that would prevent over filling and will be filled till the designated level mark. Tanks and containers will have a red color and must be labelled as "waste oil". Disposal of waste oils will be controlled by the Nigde Municipality; • Used batteries from construction site and accumulators from vehicles will be disposed of in compliance with the consumer responsibilities specified in Article 13 of the "Regulation on Control of Used Batteries and Accumulators". Accordingly, used batteries will be collected separately (from municipal waste) and transferred to the designated collection sites, if there is one in the region. If not, used batteries will be transferred to licensed transportation companies; • All other hazardous materials will be disposed of in accordance with the Waste Management Regulation; • Hazardous waste to be temporarily stored on site will be delivered to licensed transport vehicles appropriate to the type of waste for disposal. Information related to the operations in this context will be recorded and the records will be kept in the administrative building; • Hazardous or non-hazardous inscription, waste code, stored waste amount and storage date will be indicated/labelled on waste temporarily stored by classifying according to their properties. The reaction of waste with each other will be prevented by taking the measures in the Temporary Storage Area, which will have impermeable ground, proper drainage for accidental leaks/spills, top cover and designated rooms for different types of waste, etc. The permit for the temporary waste storage area will be taken from the Provincial Directorate of Environment, Urbanization and Climate Change; and • Construction activities may pose the potential for accidental release/leakages of petroleum-based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. All chemical storage containers, including diesel fuel, and hazardous liquid waste drums/containers should be placed in secondary containment so as to minimize the risk of soil, surface water and groundwater contamination during construction; and • Training will be provided to the employees regarding waste management practices by PIU with after signing the works contract; • End-of-life tire waste will be generated during maintenance-repair works of the heavy equipment to be operated during the construction phase. End-of-life tire wastes that will be possibly generated due to maintenance and repair works of the heavy equipment during construction should be delivered to environmentally licensed recycling facilities pursuant to the Regulation on Control of End-of-Life Tires.	Included in construction costs	Contractor / PIU Supervision Consultant
Climate Change	Greenhouse gas emissions	Negative	Low	• Optimal utilization of the available construction equipment and materials should be followed in such a way that reduces greenhouse gas emissions. • Speed restrictions will be adopted by construction vehicles and equipment to optimize fuel efficiency. • Regular maintenance of construction vehicles and equipment will be applied. • Energy uses associated with construction vehicles and equipment will be monitored. • Training will be performed on project personnel regarding energy efficiency by PIU	Included in construction costs	Contractor / PIU Supervision Consultant
Site Restoration, Landscape and Visual (Aesthetics)	Nuisance for the people	Negative	Low	• Visual pollution will be reduced by using relevant curtains (separators) in regard to discomfort that will be caused during the works. Furthermore, photographs and information about the city placed on the separators will bring a more aesthetic look. • Materials to be used during construction will be stored in closed and protected environment. • All kinds of road, pavement, wall, pole, etc. damaged during the works will be repaired and restored.	Included in construction costs	Contractor / PIU Supervision Consultant
Resources	Excessive resources used during works	Negative	Low	• To reduce project's construction phase footprint, Nigde Municipality will supervise the construction contractor to select the most appropriate raw materials by evaluating clean production options provided by contractor for implementation. • Modern and energy-efficient construction equipment to reduce fuel consumption will be used. • Construction activities will be planned efficiently to minimize idle time for both equipment and workers, reducing fuel consumption and water usage.	Included in construction costs	Contractor / PIU Supervision Consultant

Issue	Potential Impact	Type of Impact	Impact Significance	Mitigation Measures	Cost	Responsible Party
Biological Environment						
Biological Environment	Disturbance on flora and fauna species	Negative	Low	• No protected and sensitive ecosystems or species exist within the project area. • Vegetation clearing within the site boundary will be avoided unless it is absolutely necessary. • Revegetation of cleared areas will be ensured where possible.	Included in construction costs	Contractor / PIU Supervision Consultant
Socio-Economic Environment						
Socio- economic Environment	Employment and procurement opportunities	Positive	-	• Workforce and employment will be provided by the local people as much as possible. • Nigde Municipality will take all necessary actions and measures for labor and employment to be in compliance with Turkish Labor Law and international standards. • The recruitment processes will be transparent, public and non-discriminatory, providing equal opportunities with respect to ethnicity, religion, language, gender and sexuality.	Included in construction costs	Contractor / PIU Supervision Consultant
	Infrastructure Damage	Negative	Medium	• To prevent residents' habits of use in the project area during the construction phase, the relevant institutions and organizations (Municipality, electricity distribution company, natural gas distribution and operating company (ENERYA, TURK TELEKOM, etc.) will be informed by Nigde Municipality/Contractor before construction starts. If closing the water is required during construction, the public will be informed, and water cuts will be carried out between 12:00- 18:00. The public will be informed 24 hours before the water closing. • Any damage to infrastructure will be repaired or compensated by contractors promptly in accordance with the responsible authority.	Included in construction costs	Contractor / PIU Supervision Consultant
	Road closure	Adverse	Low	• Road closures will be disclosed to community through various means in a timely manner.	Included in construction costs	Contractor PIU Supervision Consultant
Labor Force	Working Conditions	Negative	Low	• Construction contractors of the project will prepare a contractor-level Workforce Management Plan and code of conduct, which includes the main provision in the Project-level. The Workforce Management Plan will be developed covering the subjects; fair treatment; non-discrimination and equal opportunities of workers; establishing, maintaining and improving a sound worker-management relationship; compliance with national labor and employment laws; code of conduct; protecting and promoting the safety and health of workers, especially by promoting safe and healthy working conditions; preventing the use of forced labor and child labor (as defined by the WB and Turkish legislation); induction training for employees by PIU regarding to code of conduct, EHS and WB requirements etc., and Grievance Redress Mechanism (GRM) for workers. The training will be given after signing the works contracts • Particular concern will be paid to principles of non-discrimination and equal opportunity. In this respect, employment decisions (i.e. recruitment and hiring, compensation, wages and benefits, working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices) will not be made on the basis of personal characteristics unrelated to job requirements. Wages, work hours and other benefits will be per the Turkish Labor Law. • Workers will be provided with documented information that is clear and understandable, regarding their rights under national labor law; including collective agreements, their rights related to hours of work, wages, overtime, compensation, and benefits as of startup of working relationship and when any material changes occur; • Workers will be provided with written contracts including job description, wages, working hours, etc. and the paid wages will be above national minimum level. • All Turkish Laws and International Labour Organization Conventions on child labour, forced labour, discrimination, freedom of association and collective bargaining will be fully complied with. • If an employee faces Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) and/or GBV issue s/he can either apply to a higher level superior or directly go to police station, as stipulated in the national referral system of the country for dealing such cases. The content and procedures of the project's GRM will also have a reporting line on such cases in regard to SEA/SH issues and will be handled under full confidentiality. The GRM focal point receiving the SEA/SH and/or GBV related grievance should direct this to national referral systems immediately and record that this has been directed, as set out in the GRM Procedure of ILBANK. All details of the complainant of the sensitive case will be kept strictly confidential.	Included in construction costs	Contractor / PIU Supervision Consultant
	Protecting the Workforce	Adverse	Low	• Employment of child labor and forced labor will be prohibited; • Contractors will be required to have age verification system, ensuring no one under 18 years old are involved in works; and • Stipulations of Ministry Circular on COVID-19 Measures to be taken at Construction Sites will be followed.	Included in construction costs	Contractor / PIU Supervision Consultant

Issue	Potential Impact	Type of Impact	Impact Significance	Mitigation Measures	Cost	Responsible Party
	Occupational Health and Safety (OHS)	Negative	High	• Nigde Municipality will ensure that contractor will prepare and implement a Site-specific OHS Management Plan and the employees will be trained on the Plan. This Plan will also cover applications with regard to Emergency Preparedness and Response, Confined Space as well as measures to address COVID-19 and/or any other pandemic/communicable disease risk, which will be in line with the WBG EHS Guidelines (both general and sector specific). • Site-specific Excavation Safety Procedure will be prepared separately and implemented by Contractor. This Plan will be annex of OHS Management Plan. • In order to minimize the risks and hazards that may arise (e.g., natural disasters, accidents, equipment malfunctions etc.) on human health and safety, safe working environments in the working sites will be established and physical hazards and risks will be prevented. • The Contractor will formally agree that all work will be carried out in a safe and disciplined manner and is designed to minimize risks on neighboring residents and environment. • Employees will be informed about the hazards that may cause from their work and thus a safer work environment will be created. • OHS trainingswill be given to employees by OHS expert before the construction starts. In this context, a training program will be prepared, training records will be kept and evaluation activities will be carried out after the trainings. • Personal protective equipment (PPE) will be provided to all employees by the contractor freely and necessary training will be given for their use. • Work areas will be equipped with warning signs in accordance with the quality and potential risks of the work to be performed in that area. • Smoking in areas where there is a risk of combustion/ explosion will be prohibited. All employees must have knowledge of what to do in the event of a fire. • The Contractor will apply the sufficiency of the technical requirement of the machinery, equipment, and tools to be used in the activities. • Moving parts of machinery and equipment will be equipped with appropriate protective systems (e.g. metal shields etc.), minimizing the risk of injury or damage to the person using the machine or equipment. • Personal factors that may create and control risks during activities (e.g., long hair, jewelry and accessory use, clothing etc.) will be removed from the site by the rules brought by the Contractor. Project staff will be informed about the relevant regulations within the scope of the training program. • Drivers and operators will be trained to comply with traffic rules and to control the vehicles and equipment they use against risks and hazards originating from vehicle traffic. Required traffic signs will be placed in the Project Site and its surroundings. Machine operators and other employees will be informed and alerted about the relevant signs. • 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. • Access of the visitors, local people and animals to the area will be controlled. • If a trench needed to be left open for night, the sufficient illumination of the area should be ensured by the Contractor and necessary signs should be placed and the area should be enclosed with hard barriers. • An adequate OHS organizational structure will be defined, as defined by the local legislation and for 100 workers necessary number of OHS officers should be assigned to be at the site during working hours. • A risk assessment will be done before commencement of work and personnel will be trained regarding the risks. • OHS Personnel will daily inspect the site and if any additional risk is observed relevant plans and trainings will be renewed. • In case of any significant environmental or social incident (e.g. lost time incidents, fatalities, environmental spills etc.), the Contractor will notify Nigde Municipality about the occurrence of the incident in 3 business days and Nigde Municipality will immediately inform ILBANK and the WB. A detailed incident investigation report, including the root-cause analysis, precautions and compensation measures taken will be submitted to Nigde Municipality, ILBANK and the WB in 30 business days after the incident. • During the construction phase, employees will be informed of their job descriptions, responsibilities, relations with the locals and the risks that will threaten occupational health and safety before the start of the work. • Risk Assessment Report will be prepared for all works to be performed before the start of construction works, and necessary measures will be taken to eliminate risks. “Emergency Plans” will be prepared for a possible accident or emergency, emergency teams will be formed, and drills and trainings in accordance with emergency scenarios will be performed. • All necessary precautions will be taken in working areas due to the pandemic. Working environments, cleaning and hygiene of machinery and equipment will be provided. Employees will be ensured to comply with the measures and rules taken. • On rainy days, no excavation work will be carried out; after the rain has stopped, necessary measures will be taken against slipping (cleaning of slippery floors or laying of slippage - preventing material, etc.), and the work will be continued. In the event that work machinery such as excavator, bulldozer, etc are used, all workers will clear the area where the machines are moving, and machinery will not be used by any unauthorized person.	Included in construction costs	Contractor / PIU Supervision Consultant
	Workers engaged by third parties and the supply chain	Negative	Low	• Nigde Municipality will prepare a Contractor Management Plan before involvement of contractors and ensure its implementation. • Contractors will be reputable and legitimate enterprises and have an appropriate ESMS that will allow them to operate in a manner consistent with the labor conditions requirements. • Nigde Municipality will monitor its primary supply chain for safety issues related to supply chain workers, and where necessary Nigde Municipality will introduce procedures and mitigation measures to ensure that suppliers are taking steps to prevent or to correct life-threatening situations. • The performance of Contractors will be monitored such that human rights policy and labor rights of all workers are exercised properly and non-compliance measures will be included in their contracts. • The workers of Contractors will have access to the grievance redress mechanism to be established for the Project workers.	Included in construction costs	Contractor / PIU Supervision Consultant

Issue	Potential Impact	Type of Impact	Impact Significance	Mitigation Measures	Cost	Responsible Party
Community Health, Safety and Security	Increased traffic	Negative	Medium	• Nigde Municipality will ensure that contractor will prepare and implement a a Traffic Management Plan (TMP). TMP will be prepared and employees will be trained on the TMP by the Contractor 30 days prior to commencement of the works. The traffic management plan should explain what should be considered when the traffic will be closed to vehicular traffic due to the works and where local permission should be obtained from. • Adequate road warning signs should be posted at vantage points to warn and direct traffic. • Actual working areas should be secured with barricades. • Traffic wardens should be posted at positions 100m from the construction points on either side of the road to ensure orderly traffic flow. • To mitigate the possible negative impacts on human health during construction works, Nigde Municipality will first get the necessary permissions to close the construction areas to traffic, and then, inform the public in writing, visually and via telecommunication. In case the traffic is closed in the areas where the work will be done, written permission will be obtained from the Traffic Branch Directorate. Such information will also cover alternative routes outside the restricted roads during the construction period in the construction zone. The contractor will be informed in writing by Nigde Municipality about the areas and working hours before the construction works are started. • The contractor should take the necessary safety measures for the residents in the areas where the works will be carried out before construction works. Warning signs, light warning signs and fences will be placed in the working area and unauthorized access will be prevented. Appropriate warning signs and lights will be used on roads where traffic is closed within the city and will not be removed until the work is completed. • Considering that there will be traffic density, alternative routes will be determined, and transportation will be scheduled. Transitions required for the passage of people, especially elderly, children and the disabled over the ditches to be opened will be built by the Contractor. Damages to be incurred as a result of accidents and injuries caused by these opened ditches and sets formed on road sides should be compensated by the Contractor. • Damaged roads will be re-asphalted. Asphalt will be provided from the facilities with valid operating license granted by the Municipality. Speed limits should be complied with. Within the scope of construction works, safe driving training will be provided to the drivers. • Nigde Municipality will inform the authorized representative of the institution/organization of the matter before construction works to be performed in front of buildings such as school, workplace, mosque, etc. and ask the institution/organization for contribution to taking necessary measures during the excavations.	Included in construction costs	Contractor / PIU Supervision Consultant
	General construction related impacts on community	Negative	Medium	• A Community Health, Safety, and Security Management Plan that is in line with WB OP 4.01 and WBG EHS Guidelines (both general and sector specific) will be prepared by Construction Contractor prior to the construction. • Plans from the Municipality showing the location of underground service utilities (power, telecom, other) will be obtained and residents and/or landowners will be consulted on the relocation of utilities prior to commencing excavation activities; • The relevant permits and protocols will be granted for other 3rd party crossings such as underground electricity cables etc. during construction phase; and • The construction activities will be performed in a way not to cause any damage to the utilities located in the working area.	Included in construction costs	Contractor / PIU Supervision Consultant
Archaeological and Cultural Heritage	Chance Finds	Adverse	Low	• Chance Finds Procedure will be complied with by the Contractor and trainings will be performed for project personnel regarding chance finds procedure (see Annex 5). • As required by Article 4 of Law on the Conservation of Cultural and Natural Properties (2863 Numbered Law), chance finds procedure will be implemented during construction works. In this content: • Construction works will be stopped immediately in case of finding any movable or immovable cultural asset by chance. • Related Civilian Authority or Museum Directorate will be informed immediately. • Works will not proceed until official information is received. • Training will be performed for project personnel regarding chance finds procedure. The trainings will be given by the expert archeologist to all employees prior to construction starts	No costs involved	Contractor

Table VI.2 Operation Phase Impact Mitigation Plan

Issue	Potential Impact	Type of Impact	Impact Significance	Mitigation Measures	Cost	Responsible Party
Physical Environment						
Air Quality and Odor	Exhaust gas emissions	Negative	Low	• Well and adequately maintained vehicles should be used and regular maintenance of these vehicles will be ensured during operation phase. • Operating grievance redress mechanism will be established to manage air-related grievances.	Included in operation costs	Nigde Municipality
	Decrease in odorous gas emissions	Positive	-	• Odor problems arising from poorly managed sewage system will be eliminated with the help of the Project. • If there are leaks or cracks in renewed and newly built sewerage lines, these lines should be fixed immediately by Nigde Municipality.	Included in operation costs	Nigde Municipality
Resources & Waste	Resources	Negative	Low	• During maintenance and repair works, modern and energy-efficient construction equipment to reduce fuel consumption will be used and these activities will be planned efficiently to minimize idle time for both equipment and workers, reducing fuel consumption and water usage.		
	Improper management of excavation waste	Negative	Low	• Nigde Municipality will update a Waste Management Plan to reflect the operation phase conditions before commencement of the operation phase, • Excavation waste originating from the ditch excavations performed for maintenance during the operation phase should be classified, recycled, reused separately as asphalt, curb, parquet, concrete and soil, and opportunities for reuse in the construction site must be taken. The excavation material will be deposited on the edge of ditch until reused as filling material. The remaining material, wastesof asphalt-concrete and excavation will be sent to licensed landfill according to the “Regulation on Control of Excavation Soil, Construction and Demolition Wastes”.	Included in operation costs	Nigde Municipality
	Hazardous waste generation	Negative	Low	• Hazardous waste that will generate during the operation phase should be kept temporarily in sound, leakproof, secured containers complying with internationally accepted standards which are placed on concreted ground. The phrase “hazardous waste” should be stated on the containers, the amount of the stored substance and the storage date should be indicated on the containers. The containers will be kept closed at all times, and the waste will be stored temporarily in a way that will not enter into chemical reaction. These materials will be kept in this area against spillage and leakage. If hazardous waste is stored in a temporary storage area, and they will be stored in this area for a maximum of 180 days. Hazardous waste will be sent to the nearest licensed hazardous waste recovery facility or licensed hazardous waste disposal facility. Licensed vehicles will be used for transport. • Waste oils that will originate from maintenance-oil change operations of the vehicles and heavy equipment that will operate during the operation phase will be collected in sealed tanks/containers placed on impermeable ground according to Regulation on Control of Waste Oils. There will be overfill prevention in the tanks/containers, and they will be filled to the marked point. Tanks/containers must be coloured red according to the regulation and should contain the phrase “Waste Oil”. • Incineration or burying of waste by any means at site and/or dumping of waste to nearby roads or water resources will absolutely not be in question.	Included in operation costs	Nigde Municipality
	Waste pipes generation	Negative	Medium	• Upon evaluating the recovery possibilities of old pipe wastes resulting from the replacement of old pipes during the operation phase, the remaining parts will be disposed of in the nearest licensed landfill.	Included in operation costs	Nigde Municipality
	Sewage wastes	Negative	Low	• In the event that sewage wastes are encountered during excavations to be performed for maintenance-repair during operation, they will be removed by Municipality with sewage trucks.	Included in operation costs	Nigde Municipality
Water Quality	Change in water quality of Kızılca Stream	Negative	Medium	• The discharge to the Kızılca Stream will be carried out from 6 different points. Water quality monitoring should be done at each points periodically (at least monthly). How often the analysis will be done and which parameters will be checked should be detailed in the Water Resources Management Plan.	Included in operation costs	Nigde Municipality
	Change in water quality of Akkaya Dam	Positive	-	• Nigde Municipality will update a Water Resources Management Plan to reflect the operation phase conditions before commencement of the operation phase,The stormwater network will be separated from the sewerage network within the scope of the Project. This will enable the wastewater treatment plant to operate more efficiently. The effluent water quality of the WWTP will be consistent with the limit values stipulated in the Urban Wastewater Treatment Regulation, Due to the more efficient operation of the WWTP, the discharged water will no longer cause pollution of the Akkaya Dam.	Included in operation costs	Nigde Municipality
	Change in groundwater quality	Adverse	Low	• Machinery and equipment will be checked regularly for leaking oil and fuel; to prevent pollution of near groundwater resources during operation and maintenance activities	Included in operation costs	Nigde Municipality
Soils and Contaminated Land	Soil contamination	Adverse	Low	• Staff will be trained in proper management of liquid waste to avoid soil contamination during maintenance and repair works; • Amount of soil that could be subject to contamination will be minimized by ensuring the use of only the designated worksites and routes for the machinery and equipment and field personnel during maintenance and repair works; • Provisions of the Regulation on the Control of Soil Pollution and Sites Contaminated by Point Sources will be complied; and • Waste and wastewater to be generated during the maintenance and repair works will be stored and disposed of in a controlled manner in accordance with the relevant regulations and in line with the management practices described in this report. Thus, it will not be possible for the waste and wastewater to be generated in the Project Area to interact with the soil environment and cause any impacts.	Included in construction costs	Contractor Nigde Municipality/PIU Supervision Consultant
Noise and Vibration	Increased level of noise and vibration	Negative	Low	• During the procurement of equipment and machinery, sound levels given in the technical specifications/data sheet will be taken into consideration. • Relevant provisions and limit values of Regulation on the Assessment and Management of Environmental Noise will be complied with during the operation phase.	Included in operation costs	Nigde Municipality
Climate Change	Greenhouse gas emissions	Negative	Low	• Regular maintenance of vehicles and equipment will be applied. • Energy uses associated with vehicles and equipment will be monitored.	Included in operation costs	Nigde Municipality
Labour and Working Conditions						

Issue	Potential Impact	Type of Impact	Impact Significance	Mitigation Measures	Cost	Responsible Party
Labor Force	Occupational Health and Safety (OHS)	Negative	Medium	• Nigde Municipality will update an OHS Management Plan to reflect the operation phase conditions before commencement of the operation phase,During the operation phase, employees will be informed of their job descriptions, responsibilities, relations with the locals and the risks that will threaten occupational health and safety before the start of the work. Employees will be provided with the necessary personal protective equipment and informed of work and occupational safety through regular training. • Personal Protective Equipment (PPE) will be provided for the workers according to the nature of work to be performed. The necessary trainings will be carried out for their use by Nigde Municipality. • Procedures approved by the Nigde Municipality in the maintenance and repair activities and the requirements of the technical specifications of the supplier companies will be complied with; • The necessary health and safety signs and traffic signs will be placed around the project site. Employees will be informed and alerted about the subject matter markings; • Employees will be trained on COVID -19 symptoms, how to protect them and what to do when symptoms occur. Working environments, machinery and equipment will be cleaned and hygienic. Employees will be ensured to comply with the measures and rules taken. • On rainy days, no excavation work will be carried out; after the rain has stopped, necessary measures will be taken against slipping (cleaning of slippery floors or laying of slippage-preventing material, etc.), and the work will be continued. • In the event that work machinery such as excavators, bulldozers, etc. are used, all workers will clear the area where the machines are moving, and machinery will not be used by any unauthorized person. Operational personnel will be trained against the risk of possible methane gas build-up in the sewage.	Included in operation costs	Nigde Municipality
	Working Conditions	Negative	Low	• Workers will be provided with written contract and documented information that is clear and understandable, regarding their rights under national labor law; including collective agreements, their rights related to hours of work, wages, overtime, compensation, and benefits as of startup of working relationship and when any material changes occur. • Workers will receive written contracts containing job description, wages, work hours, rights and duties, Code of Conduct, etc. • Workers will not be discouraged from electing worker representatives, forming or joining workers' organizations of their choosing, or from bargaining collectively, and will not discriminate or retaliate against workers who participate, or seek to participate, in such organizations and collective bargaining. • Particular concern will be paid in principles of non-discrimination and equal opportunity. In this respect, employment decisions (i.e. recruitment and hiring, compensation, wages and benefits, working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices) will not be made on the basis of personal characteristics unrelated to job requirements. Wages, work hours and other benefits will be per the Turkish Labor Law. • A grievance redress mechanism for workers will be provided to raise workplace concerns. The workers will be informed about the grievance redress mechanism at the time of recruitment and make it easily accessible to them. • A Code of Conduct will be prepared by Nigde Municipality and implemented for all employees. • If an employee faces Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) and/or GBV issue s/he can either apply to a higher level superior or directly go to police station, as stipulated in the national referral system of the country for dealing such cases. The content and procedures of the project's GRM will also have a reporting line on such cases in regard to SEA/SH issues and will be handled under full confidentiality. The GRM focal point receiving the SEA/SH and/or GBV related grievance should direct this to national referral systems immediately and record that this has been directed, as set out in the GRM Procedure of ILBANK. All details of the complainant of the sensitive case will be kept strictly confidential. • Employment of child labor and forced labor will be prohibited. Nigde Municipality will be required to have age verification system, ensuring no one under 18 years old are involved in works. • Stipulations of Ministry Circular on COVID-19 Measures to be taken at Construction Sites will be followed.	Included in operation costs	Nigde Municipality
Community Health, Safety and Security	General construction related impacts on community	Negative	Low	• A Community Health, Safety, and Security Management Plan prepared in line with WB OP 4.01 and WBG EHS Guidelines (both general and sector specific) will be updated by Nigde Municipality to reflect the operation phase conditions before commencement of the operation phase, • The maintenance and repair activities will be performed in a way not to cause give any damage to underground service utilities (power, telecom, other) in the working area.	Included in operation costs	Nigde Municipality
Socio-Economic Environment						
Socio- economic Environment	Employment and procurement opportunities	Positive	-	• Nigde Municipality will take all necessary actions and measures for labor and employment to be in compliance with Turkish Labor Law and international standards. • Nigde Municipality will aim at employing local workers to the extent possible, in order to increase the Project's local benefits. The recruitment processes will be transparent, public and non-discriminatory, providing equal opportunities with respect to ethnicity, religion, language, gender and sexuality.	Included in operation costs	Nigde Municipality

VI.2. Monitoring Plan

In order to ensure the continuity and effectiveness of the implementation of mitigation management strategies defined, monitoring plays a key role. The main objective of the Monitoring Plan is to monitor the implementation of the prescribed measures and requirements of this ESMP

Information collected with the monitoring can be used to improve management plans during all phases of the Project. While impact assessment attempts to encompass all relevant potential impacts to identify their significance and include appropriate responses for these impacts, unanticipated impacts may still arise, which can be managed or mitigated before they become a problem using the information obtained through monitoring. Therefore, monitoring will ensure the successful implementation of the mitigation/management plans and optimize environmental protection through good practice at each and every stage of the Project.

Consequently, monitoring studies will provide implementation of impact mitigation measures and optimization of environmental protection by using best practices at all stages of the Project.

Some of the monitoring parameters are determined in the scope of engineering design studies. Monitoring studies will ensure the accordance with the relevant legislation, contract necessities and implementation of impact mitigation measures.

Monitoring activities are submitted in tabular form in Table VI.3 for construction and operation phases, respectively.

Table VI.3 Monitoring Plan for the Construction Phase of the Project

CONTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ Threshold Values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
Physical Environment									
Topsoil, Soils and Contaminated Land	Work sites and storage areas	Once a week starting from the initialization of land preparation and construction phase Upon grievance and observation	Storage time	Spot checks	No soil contamination resulting from project activities	Regulation on the Control of Soil Pollution and Sites Contaminated by the Point Source WBG General EHS Guidelines WB OP 4.01	• The number of events that trigger spill and leakage response • Environmental spill/leak incident records/report • ESMR findings	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
			Soil quality, including, pH, heavy metals, phosphorus, nitrogen, Na, Ca, salts, PAHs hydrocarbons	Grievance registration					
			Number of leakages/spills of oil and fuels						
			Contractor's Compliance	Spot checks	No loss of topsoil	Regulation on the Control of Excavation Soil, Construction and Demolition Waste			
Storage and usage of chemicals	Storage areas	Once a week starting from the initialization of land preparation and construction phase	Conditions of the storage area Number of leaks, spills, etc.	Visual observation Site inspections Environmental incident registry	No chemical spill incident	Regulation on Safety Data Sheets Regarding Harmful Substances and Mixtures Regulation on the Preparing and Distributing Safety Data Sheets Regarding Dangerous Materials and Preparations WBG General EHS Guidelines WB OP 4.01	• Hazardous materials and chemicals inventory • The number of events that trigger spill and leakage response • Environmental spill/leak incident records/report • Storage conditions of chemicals and hazardous material • Floors of the chemical and hazardous material storage areas • Written training records covering the chemicals and hazardous materials management issues • ESMR findings	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
Storage and use of excavation waste	Excavation areas and storage fields	Daily starting from the initialization of construction phase	Amount of refilled, stored, and disposed of excavation materials Amount of stripped and reused topsoil by indicating reuse locations Storage conditions of topsoil (humidity and pile height)	Visual observation Checking the records of the amount of excavated, refilled and disposed materials Daily checklist	Proper management of excavation waste	Regulation of the Control of Excavation Soil and Construction and Demolition Waste WBG General EHS Guidelines WB OP 4.01	• Excavation amount • Reused excavation amount • Amount of excavated material to be sent to final disposal • ESMR findings	Included in construction cost	Contractor Nigde Municipality/PIU Supervision consultant
Air Quality	Nearest sensitive receptors	Upon grievance In the event of a change in activities causing increase of dust level	Settleable dust and PM10	Sampling/analysis via an authorized environmental laboratory. Visually, on the basis of irritation of the respiratory system	Below the regulatory limit values defined in Industrial Air Pollution Control Regulation No air quality related grievance received	Regulation on the Assessment and Management of Air Quality Industrial Air Pollution Control Regulation WBG General EHS Guidelines WB OP 4.01	• Daily visual observations • Vehicle exhaust measurements • Recorded status of equipment and vehicles on site • Dust grievance records • Number of trucks to be used for water sprinkling daily • ESMR findings	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
	At the complainants' house/workplace	Monthly and during the activities that dust level increases	Maintenance records of all machinery and equipment	Maintenance records Visually, on the basis of irritation of the respiratory system	Below the regulatory limit values defined in WBG General Guidelines				

CONTRUCTION PHASE									
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 and Vibration	Nearest sensitive receptors At the complainants' house/workplace)	Upon grievance Monthly and during activities that noise level increases (might be done more frequently with respect to the public complaints) In the event of a change in activities causing increase of noise level In the event of doing permitted night works	Noise levels	Noise level measurement with calibrated sound level meter via an authorized environmental laboratory. Public complaints receipts	Not exceeding the limit values defined in WBG's limit values. No noise related grievance received	Regulation on the Assessment and Management of Environmental Noise WBG General EHS Guidelines WB OP 4.01	• Noise level measurement results • Construction machinery and equipment maintenance log • Noise grievance records • ESMR findings	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
Wastewater	Construction zone Construction site	Daily starting from the initialization of construction phase	Amounts of wastewater	By checking whether there is any wastewater leakage By measuring the water level in the tank when using septic tank Review of the sewage truck records	Prevention of water quality deterioration compared to current surface water and groundwater quality	Water Pollution Control Regulation WBG General EHS Guidelines WB OP 4.01	• Waste Grievance Records • ESMR findings • Visual daily observations	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
Resources and Waste	Construction site, storage areas, and administration office	Twice a week starting from the initialization of construction phase	Classification of the hazardous waste generated	Visual observation regarding proper collection and temporary storage of waste and records kept regarding their coordinated recycle / disposal via licensed firms Site inspections Disposal truck register	Minimizing the amount of waste to be sent for disposal and implementing waste management hierarchy Use of recycled materials whenever possible Not exceeding 1,000 t CO_2 eq.	Waste Management Regulation Zero Waste Regulation WB Safeguard Policies WB OP 4.01	• Environmental inspection • Visual observations • Waste generation amount • Waste Disposal Agreements and Records • Waste Grievance Records • ESMR findings	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
	Construction site, storage areas	Daily starting from the initialization of construction phase	Amounts of waste oil	Visual observation regarding proper collection and temporary storage of waste and records kept regarding their coordinated recycle / disposal via licensed firms Site inspections Disposal truck register National Waste Transportation Forms Daily checklist			• Proper temporary waste storage area on site • Waste Disposal Agreements and Records • Waste Grievance Records • ESMR findings	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
			Amounts of waste sewerage and stormwater pipes (such as asbestos and cement pipes)	Visual observation Waste records Site inspections Disposal truck register National Waste Transportation Forms Daily checklist			• Proper temporary waste storage area on site • Waste Disposal Agreements and Records • Records of Waste Grievance • ESMR findings	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
Biological Environment									

CONTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ Threshold Values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
Biological environment	Project site and access road	Monthly starting from the initialization of construction phase	Number of incidents with fauna mortality	Incident records	No incidents involving fauna species	WB Safeguard Policies WB OP 4.01 WB OP 4.04 WBG General EHS Guidelines	• Site Inspections • ESMR Findings	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
Socio-Economic Environment									
Job creation and local procurement	Nigde city center and its vicinity	Prior to construction and during construction	Number of employed persons from the local community Business growth/increase in income for local communities	Inspection	Meeting 100% of the unskilled workforce need from the local population	Labor Law WBG General EHS Guidelines WB OP 4.01	• Information disclosure records • Stakeholder engagement records • Employee records • Local employment/ procurement ratio	Included in construction cost	Contractor Nigde Municipality/PIU Supervision consultant
Infrastructure damage	Work sites (excavated areas)	Monthly during excavation works Upon grievance	Complaints to Utility Service Providers	Grievance Registration Meetings with service providers	No infrastructure cases	Criminal Law WBG General EHS Guidelines	• Grievance Records • Official correspondences • ESMR findings	Included in construction cost	Contractor Nigde Municipality/PIU Supervision consultant
External and Internal Grievances (to be recorded separately)	Administration office	Daily during the construction phase	Number of received worker and community grievances Number of open and closed grievances Average grievance response and closure time Identification of grievance channels Nature of grievances recorded, addressed and analyzed. Number of complaints against project workers and security personnel	Monthly Grievance Register Control Grievance records (grievance log, received grievance forms, etc.) Daily checklist Conflicts with security personnel and workers of the Project	Complaints that are completely resolved within the current service standards to ensure the overall satisfaction of the complainant	WB Safeguard Policies WB OP 4.01 WBG General EHS Guidelines Law on Private Security Services	• Grievance records • Presence of mukhtar as representative • ESMR findings • Security reports	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
Traffic	Access roads, and work site and their vicinity	Daily starting from the initialization of construction phase	Traffic flow and patterns Number of road closures Number of complaints Number of road traffic Accidents Number of drivers trained	Accident records Daily checklist	No grievances received No accidents occurred 100% of the drivers are trained	Highway Traffic Law WBG General EHS Guidelines WB OP 4.01	• Visual daily observations • Waste Grievance Records • Review of Training Records • Random Site Inspections • ESMR findings	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant

CONTRUCTION PHASE									
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 and safety	Construction site	Daily basis starting from the initialization of land preparation and construction phase Monthly inspections	Workers' health and security inspections H&S Training Records H&S Documentation Number of accidents/Injuries Number of days without incident Period of disease occurrence Number of personnel who are infected with an infectious disease	Visual observation Site inspection Incident Records Training Records Work Permits Daily checklist	Avoid any cases that result in health and safety problems	Regulations on Traffic Signs WBG General EHS Guidelines WB OP 4.01	• Incident Records • Number of nonconformities • Training records • Work Permits • ESMR findings • Visual Observation • Site inspection	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
	Construction site	Daily basis starting from the initialization of land preparation and construction phase	Existing pipes containing asbestos Conformity of asbestos management activities	By checking whether the asbestos pipes found during the excavation were left untouched Work Permits Daily checklist Visual observation Site inspection			• ESMR findings • Visual Observation • Site inspection	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
Chance finds	On and around the working location	Daily basis starting from the initialization of construction phase	Number of chance finds	Visual observation Chance Find Register Daily checklist	No adverse impact on cultural heritage	Law on the Conservation of Cultural and Natural Properties Chance Finds Procedure WBG General EHS Guidelines WB OP 4.01 WB OP 4.11	• Visual observations • Random Site Inspections • ESMR findings	Included in construction cost	Contractor Nigde Municipality/PIU Supervision consultant
Labor and Working Conditions									
Working conditions	Administration office	Weekly during construction phase	Workers' grievances	Grievance records	Managing provisions given in ESMP properly.	WB Safeguard Policies WB OP 4.01 WBG General EHS Guidelines	• Workers' Grievance Records • Presence of union or workers' representative • ESMR findings • Labor/social security records	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
Occupational health and safety	Construction site	Daily basis starting from the initialization of construction phase	Number of incidents	Incident records	No OHS incidents occurred	Occupational Health and Safety Law WBG General EHS Guidelines WB OP 4.01	• Incident Records • Number of nonconformities • Training records, training materials (participant list, presentation etc) • Work Permits • ESMR Findings • H&S reports • H&S meetings • Emergency drills • OHS Implementions (internal & external audits) • OHS Practices (Use of PPE etc)	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
			Incident investigation	Incident investigation records					
			Period of disease occurrence	Disease follow-up register	No infectious disease is recorded				
		Monthly during the construction phase	Number of personnel who are infected with an infectious disease	Training records	No infectious disease is occurred				
		Annually during the construction phase	Training requirements	Annual Environmental, Social Health, and Safety (ESHS) training plan	Every training defined in the Annual ESHS is completed				
		Quarterly during the construction phase	Number and subject of emergency drills	Drill records	Drills are conducted quarterly				

CONTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ Threshold Values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
Protecting the workforce	Administration office	Before each recruitment	Age of candidate employee	Age verification with National ID	Prevent child labor	Labor Law WBG General EHS Guidelines	• No child and forced labor	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant
Impact on the labor force	Municipality/PIU Office	Quarterly starting from the initialization of the Project	Labor Force	Employment records Grievance registration	No nonconformity is observed with the ESMP	WB Safeguard Policies WBG General EHS Guidelines	• Employment records • Grievance records	Included in construction cost	Contractor Nigde Municipality/ PIU Supervision consultant

Table VI.4 Monitoring Plan for the Operation Phase of the Project

OPERATION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
Physical Environment									
Water Leakage	Along pipelines	Monthly basis starting from the initialization of the operation phase of the Project	Number of leakage/spills of storm water from pipeline	Reports of failure Records	No water leakage resulting from Project Activities	Regulation on the Control of Soil Pollution and Sites Contaminated by the Point Source	• Visual observations • ESMR Findings • Laboratory analysis	Included in operation cost	Nigde Municipality/ PIU
Water Resources	At related water body (wells, surface water bodies, etc.)	Continuous monitoring for the detectable by automation measurement device Monthly basis for others	Discharge quality of stormwater to receiving bodies (including TSS, TP, TN and DO concentrations)	Automatic measurement for relevant parameters, and laboratory analysis for others	Prevention of water quality deterioration compared to current surface water and groundwater quality	Water Pollution Control Regulation Surface Water Quality Regulation Regulation on the Protection of Groundwater Against Pollution and Degradation	• Environmental inspections • ESMR Findings	Included in operation cost	Nigde Municipality/ PIU
Noise	Nearest sensitive receptor	Upon grievance during maintenance work	Noise level	Noise measurement via an authorized environmental laboratory	No noise related grievance received	Regulation on the Assessment and Management of Environmental Noise	• Noise Measurement Results • Grievance Records • ESMR Findings	Included in operation cost	Nigde Municipality/ PIU
Odor	Nearest sensitive receptors	Upon grievance during maintenance work	Increased odor	With odor measuring devices	No odor related grievance received	Regulation on the Assessment and Management of Air Quality WBG General EHS Guidelines WB OP 4.01	• Grievance Records	Included in operation cost	Nigde Municipality/ PIU
Wastewater	Between manholes	Once-twice a year	Blockage of wastewater canals	Using canal monitoring equipment (remote controlled camera and TV)	Prevention of water quality deterioration compared to current surface water and groundwater quality	Water Pollution Control Regulation	• Visual observations • ESMR Findings	Included in operation cost (Additional costs are required if the camera and TV are not available).	Nigde Municipality/ PIU
Waste Generation	Stormwater system facilities	Keeping records of solid waste occurring during maintenance periods, assessing monthly and supervising annually	Amount of waste generated (solid waste, wastewater, etc.)	Visual observation Waste Records Site inspections	Ensuring waste management	Waste Management Regulation WBG General EHS Guidelines	• Proper temporary waste storage area on site • Waste Disposal Agreements and Records • Waste Grievance Records • ESMR Findings	Included in operation cost	Nigde Municipality/PIU
Socio-Economic Environment									

OPERATION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
External and Internal Grievances (to be recorded separately)	A grievance redress register in the Municipality	Upon grievance	The grievances received through the website, by phone and in written to the attention of Nigde Municipality will be monitored Average grievance response and closure time Identification of grievance channels	Grievance registration	Complaints that are completely resolved within the current service standards to ensure the overall satisfaction of the complainant	WB Safeguard Policies WBG General EHS Guidelines	• Grievance Records • Records of verbal or written complaints to the mukhtar • ESMR findings • Social security records	Included in operation cost	Nigde Municipality/PIU
Labor and Working Conditions									
Occupational health and safety	Operation areas during maintenance and repair works	Daily basis starting from the initialization of the operation phase of the Project	Number of accidents/Injuries Period of disease occurrence Number of personnel who are infected with an infectious disease	Visual observation Site inspection Incident Records Training Records Work Permits Daily checklist	No OHS incidents occurred No infectious disease is recorded No infectious disease is occurred Every training defined in the Annual ESHS is completed Drills are conducted quarterly	Occupational Health and Safety Law WBG General EHS Guidelines	• Incident Records • Number of nonconformities • Training records • Work Permits • ESMR Findings	Included in operation cost	Nigde Municipality/PIU
Protecting the workforce	Municipality/PIU Office	Quarterly starting from the operation phase of the Project	Employment data	Employment records Grievance registration	Prevent child labor	Labor Law WBG General EHS Guidelines	• Employment records • Grievance records	Included in operation cost	Nigde Municipality/PIU
Community conflicts	Municipality/PIU Office	Upon grievance and/or incident	Number of conflicts	Grievance registration Conflicts with security personnel and workers of the Project	No nonconformity is observed with the ESMP	WB WBG General EHS Guidelines Safeguard Policies	• Security reports • Grievance records	Included in operation cost	Nigde Municipality/PIU

VII. INSTITUTIONAL ARRANGEMENTS AND CAPACITY PLANNING

ILBANK is the financial intermediary and main implementing agency of this project, and has the following responsibilities:

- credit management,
- selection of suitable projects,
- evaluation and approval of projects,
- tender support services,
- payment/credit transfer management,
- technical supervision, and
- monitoring and evaluation.

ILBANK, which is also responsible for environmental and social impact assessments and monitoring environmental action plans, is also responsible for preparing periodic reports for the World Bank. The World Bank is the main lending institution. It provided ILBANK with a loan in Euros to finance infrastructure projects.

Nigde Municipality is the implementer and beneficiary institution of this project. It is responsible for providing technical support in the preparation of the technical and financial feasibility of the projects during the preparation phase. It is responsible for preparing the tender documents during the implementation, and working in cooperation with ILBANK for construction supervision.

The construction work of the project will be given to the contractor with the tender to be held by the Nigde Municipality. The tender will be supervised by ILBANK. The main contractor will be responsible for the management of the Project. Besides, the management of the Project will be supervised by ILBANK and the consultant to be appointed by ILBANK.

The main responsible organization for the implementation of this ESMP is Nigde Municipality. Nigde Municipality has the adequate ability and capacity to manage the implementation of the project and in particular the E&S. Environmental and Social Management System (ESMS) of Nigde Municipality covering all phases of the Project and consisting of management plans on different subjects has available staff and capacity to ensure ESMP implementation. Besides, in different phases of the Project, various parties (contractors, Construction Supervision Team, ILBANK, etc.) will take responsibility for various works in the scope of the ESMP. All mentioned works will be coordinated by the Nigde Municipality. Mitigation and monitoring tables, which are given in this ESMP, summarize the relevant responsibilities.

In that scope, it is suggested to add below mentioned liabilities to tender documents of any possible contractor(s):

- Technical characteristics of the ESMP,
- Environmental, social, and health and safety liabilities,
- Other environmental and social issues that can show-up.

VII.1. Environmental and Social Management Structure

As the potential impacts and impact levels of the Project vary according to different phases of the Project (land preparation, construction and operation) environmental and social management of the Project are assessed separately. ESMP consists of three main components in that scope, which are as follows:

- Mitigation Plan,
- Monitoring Plan,
- Monitoring Report.

The graphical representation of the environmental and social management structure is given in Figure VII.1.

Figure VII.1 Environmental and Social Management Structure

In addition, the details of the ESMP implementation, monitoring and reporting structure are explained in Figure VII.2.

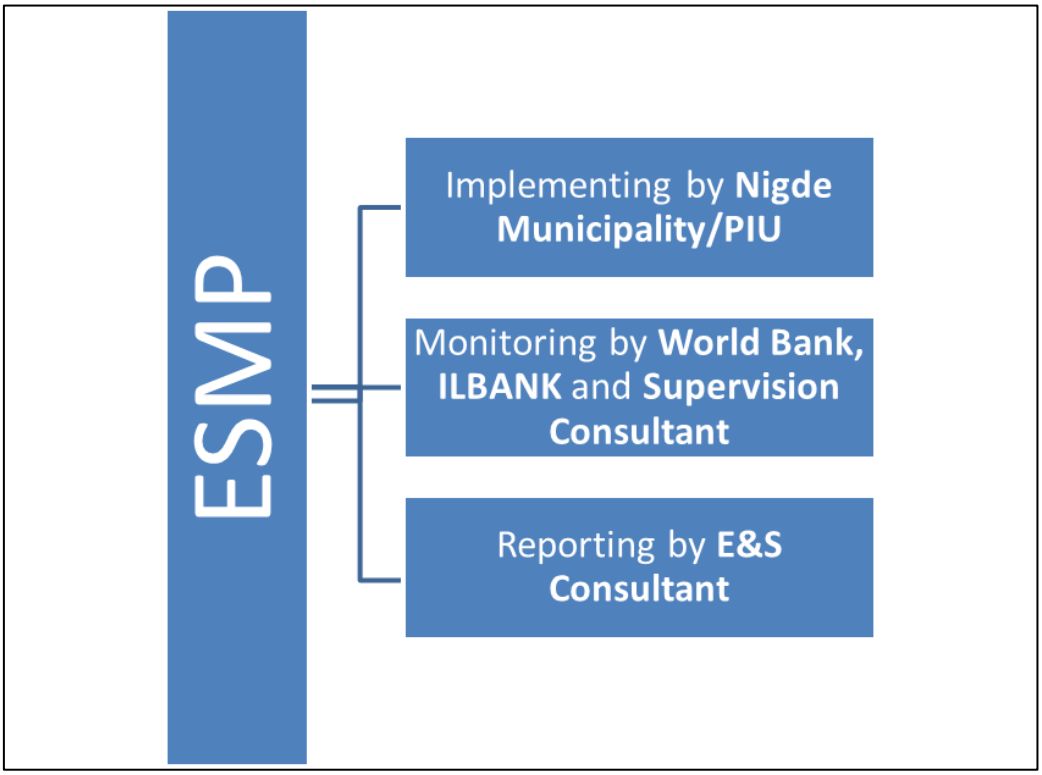


Figure VII.2 ESMP Implementation, Monitoring and Reporting Structure

VII.2. Roles and Responsibilities

The entire Project will be financed by the World Bank. WB is the financing institution and its monitoring is part of WB's internal control system, not a part of the project implementation. ILBANK is the Borrower of the loan and the project implementing agency, serving as a Financial Intermediary to Nigde Municipality. Nigde Municipality will be responsible for the implementation of the Project at the local level.

Implementing of an appropriate application of the environmental and social safeguard policies during whole process is supervised and monitored by ILBANK.

The final ESMP Report will be made available to public in both Nigde Municipality's and ILBANK's website prior to any activity on site. ILBANK Project Management Unit (PMU) will include an environmental specialist to supervise the implementation of the ESMP. The specialist will supervise the implementation of the ESMP by Nigde Municipality and document performance, recommendations and any further actions required. He/she will provide guidance to Nigde Municipality officials on World Bank procedures, consultation and disclosure requirements. In addition, Nigde Municipality will inform ILBANK and the WB the project changes or unforeseen circumstances in the approved project documents.

Nigde Municipality is responsible for providing technical and data support during the supervision of contractors and the preparation of technical and financial feasibility reports regarding projects. Moreover, Nigde Municipality holds ultimate responsibility for the environmental and social performance of the overall Project, including the performance of its contractors and any other contractors. A PIU will be established to carry out operational and administrative tasks. The PIU staff will be the Nigde Municipality's own staff. Nigde municipality's current organizational chart presented in Figure VII.3. This chart is taken from the official website of Nigde Municipality.

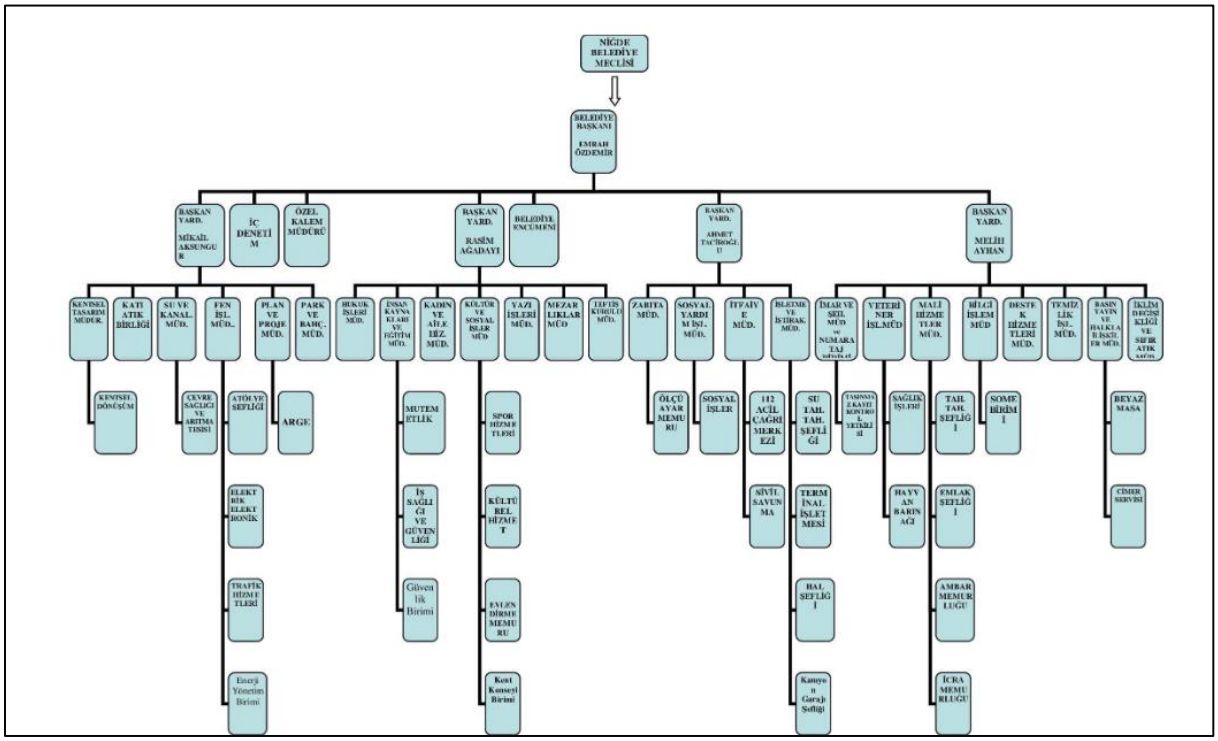


Figure VII.3 Nigde Municipality's Current Organizational Chart
Resource; https://www.nigde.bel.tr/organizasyon-semasi

The Nigde Municipality's environmental engineer, who will act as the Environmental Manager of this Project, will oversee the implementation of the ESMP and monitoring progress. The responsible parties for the monitoring progress are contractor and Nigde Municipality/PIU during construction phase, while only Nigde Municipality/PIU is responsible for monitoring progress during operation phase of Project. Potential impacts of Project will be assessed by analyzing relevant parameters in determined periods in the scope of Monitoring Plan. The analyses of parameters will be done by different ways such as sampling, visual observations, site inspections, maintenance records, grievance records etc. The parameters, analysis location, analysis method, analysis time and analysis cost were indicated in Table VI.2 in detail way. Depending on the monitoring plan, Contractor will prepare monthly Environmental and Social Monitoring Reports (ESMRs) to be submitted to Nigde Municipality; whereas Nigde Municipality will review and submit ESMRs to ILBANK quarterly. The environmental engineer/expert will be supported by environmental consultants, when necessary. The Environmental engineer/expert will appoint a representative on site to lead the development of this ESMP, and its onsite implementation.

In addition, Nigde Municipality's social expert will act as the Social Affairs Manager of this Project and will manage the social issues determined by this ESMP and its monitoring progress. The social expert will also manage the grievance redress mechanism and stakeholder engagement.

Moreover, Nigde Municipality will be responsible for the incident and accident reporting and informing the necessary institutions (WB, ILBANK etc.), as per the provisions explained below:

- The WB and ILBANK will be promptly notified of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers including but not limited to; incidents and accidents encountered during construction works, environmental spills, etc.
- Sufficient detail will be provided regarding the incident or accident, findings of the Root Cause Analysis (RCA), indicating immediate measures or corrective actions taken or that

are planned to be taken to address it, compensation paid, and any information provided by any contractor and supervision consultant, as appropriate. It will be ensured that the incident report is in line with the WB's Environment and Social Incidence Response Toolkit. Subsequently, as per the Bank's request, a report on the incident or accident with proposed measures to prevent its recurrence will be prepared.

- Therefore, Nigde Municipality will report details of any significant environmental or social incidents (e.g. fatalities, lost time incidents, environmental spills etc.) within 3 business days and submit an incident report, including RCA, precautions and compensation measures taken within 30 business days. ILBANK will forward the incident report to the WB immediately upon receipt from Nigde Municipality. Prompt notification of any accident and incidents will remain inclusive under the contractor's ESMP.
- Prompt notification of accidents and incidents will are part of the contractor's ESMP.

TUMAS & ENCON Joint Venture, who prepared this ESMP and the SEP for the Project, is the E&S Consultant and provided the necessary information to the Project Owner and took part in organization of the stakeholder consultation (ESMP introduction) meeting held for the public and Non-Governmental Organizations (NGOs) and finalized this ESMP and the SEP as per the concerns/opinions of the stakeholders of the Project.

The Supervision Consultant, who will be selected by tender process to be opened by Nigde Municipality and approved by ILBANK, will have at least one Environmental Expert, one Social Expert and one full time Occupational Health and Safety Expert in its team. The number of experts will be increased, if necessary. The Supervision Consultant will oversee the supervision of construction and/or rehabilitation works and installation of equipment. The respective experts will be responsible for identification and management of environmental, social and OHS related risks and will ensure initiation corrective actions where necessary. The job description given to Supervision Consultant and the required number/qualification of personnel will be determined by the joint efforts of PIU and contractor. Supervision Consultant will oversee the supervision of construction and/or rehabilitation works and installation of equipment. The respective experts will be responsible for identification and management of environmental, social and occupational health and safety related risks and will ensure initiation corrective actions where necessary and report to ILBANK and the Project Owner on a timely manner. The experts will also monitor and evaluate the performance of the services provided by the Contractor.

Considering the tender process, Nigde Municipality will prepare the tender documents and process the bidding. The WB Procurement Regulations and Public Procurement Law will be applied during the tender process.

The contractor will implement the project in line with the approved design documents and will be the responsible body to implement and apply the mitigation measures given in this ESMP during the construction phase. The contractor will adhere to its responsibilities specified in this ESMP and ensure to be aware of his/her duties and responsibilities within this ESMP for compliance with national regulation and WB Safeguard Policies. The contractor will employ a full time OHS specialist and a full time environmental and social expert, who will instruct and consult the workers on compliant working structure and implementation of ESMP (including grievance redress mechanism and the applicable stakeholder engagement activities detailed in Project SEP). Furthermore, a competent ESHS manager of the Contractor will monitor the implementation of measures given in the mitigation plan. The prompt notification of accidents and incidents within the scope of construction works in line with the above-described provisions is the responsibility of the contractor. The contractor will keep an incident register at the construction site throughout the construction and defects liability period. In addition, the Contractor will be responsible for the preparation and submission of the regular monthly ESMRs on the environmental, social and OHS issues of the Project during the construction phase.

In addition to these roles and responsibilities, the Supervision Consultant is responsible for controlling whether the necessary training are given to the personnel who will work during the

construction phase. Also, managing the GRM and monitoring regularly the reporting of complaints to the Project Owner is another responsibility of Supervision Consultant. Monitoring and auditing the consultation process will be carried out by Supervision Consultant to ensure that it is managed through safe and effective channels, considering the relevant national and local regulations as well as the health-related recommendations and guidelines of national and international health authorities due to the Covid-19 outbreak. Necessary arrangements will be made according to the "Interim Advice for IFC Clients on Safe Stakeholder Engagement in The Context of Covid-19" published by the IFC on May 15, 2020. In this respect, stakeholder engagement activities will be carried out. Supervision Consultant will take part in stakeholder engagement activities.

VII.3. Grievance Redress Mechanism

In accordance with WB OP 4.01, a grievance redress mechanism (GRM) will be established by which people who deem that they have been adversely affected by the project during planning, construction or operation can bring grievances to the project for consideration and, if required, resolution. A specific project grievance redress mechanism is beneficial in addressing community and individual concerns and complaints before they escalate beyond control. The purpose of this mechanism is to establish a system for handling, evaluation and resolution of all kinds of grievances, concerns, queries and proposals of the project affected groups and other stakeholders, such as construction workers, regarding the project activities (mainly construction). During the project implementation process, grievances will be addressed at mainly two levels; (i) local (site) level at Construction Contractor/Operator, and (ii) provincial level at the Nigde Municipality/PIU (Project Implementation Unit) and also involving also ILBANK.

Managing grievances, including avoiding and minimizing them as well as effective handling, is an integral part of a sound stakeholder engagement strategy. Experience shows that significant numbers of grievances arise from misunderstandings, and that such grievances can be avoided, or their numbers reduced, through proactive and consistent engagement with communities. Engagement also helps anticipate and review community concerns to prevent them from escalating into grievances. A project-specific Grievance Redress Mechanism (GRM) is beneficial in addressing community and individual concerns and complaints before they escalate beyond control. Within the scope of the project, the principle of the grievance redress mechanism is being legitimate, accessible, predictable, equitable, rights-based, transparent, anonymity and non-retaliation.

A GRM has been established by Nigde Municipality in case of failure to fulfill ESMS principles, standards and procedures in line with the international requirements. GRM aims to assure people or communities who suffer or fear adverse effects of project that they will be heard and assisted with effective and timely resolution. The most important point in the GRM is to ensure that all complaints are effectively received, recorded, resolved and responded to by the PIU on a predetermined timetable and according to their content, and to ensure that the corrective / regulatory action to be taken is acceptable to both parties.

Nigde Municipality/PIU and the construction contractors are responsible for implementing and maintaining GRM during the construction activities, where Nigde Municipality is responsible for both the construction and operation phases (together with the Operator if contracted by Nigde Municipality). The Nigde Municipality, together with contractors and supervision consultants, has to ensure that grievance redress mechanism is implemented effectively. A Social Affairs Manager (the social expert of Nigde Municipality) will be appointed by the Nigde Municipality/PIU. Additionally, to facilitate communication with women during the grievance process, one of the members assigned responsible for the GRM will be a woman.

Nigde Municipality will establish a GRM for use of both internal stakeholders, in line with the project Stakeholder Engagement Plan (SEP) of Nigde Municipality prepared and presented on May

2022 by TUMAS and ENCON Joint Venture. This GRM will be available to both direct and contracted workers to allow them to raise their workplace related concerns and grievances. The GRM will be prepared within the scope of the SEP prepared for the Project. Nigde Municipality will also assess grievance(s) and suggest solutions for employees of contractors and subcontractors to construct an internal grievance redress mechanism which is easily accessible for all workers.

Under the PMU of the ILBANK Department of International Relations, the GRM Team was created with the assistance of expert/technical experts and technical group managers.

The responsibilities of the technical group manager are to ensure the implementation of the indicated procedures and to lead the grievance closure process when multi-dimensional work is needed.

The responsibilities of the social expert are to ensure the complaint management system is efficiently working, the investigation and resolution of reported complaints in a timely and acceptable manner to this Procedure, the complaints register software is up-to-date, to support the ethics committee for the sensitive complaints to investigate the grievances, and to implement corrective actions to close out the complaints.

For a Project that ILBANK will fund through international financial institutions, a Project PIU will be set up at the level of municipalities or utilities. Each PIU shall have a unique GRM, as specified in the Project's SEP. Municipalities and utilities will designate a focal point to execute GRM.

Monthly summaries regarding the grievances, queries, and related incidents together with the implementation status of corrective/preventive actions will be prepared by the contractor throughout the construction phase and by Nigde Municipality during the operation phase. These summaries will be incorporated in monthly ESMRs which will be prepared by contractor in construction phase of the project to be submitted to the Municipality. Also, the contractor should convey the grievances immediately to the project owner besides summarizing them in Monthly ESMRs. The monthly summaries/reports will be a means to assess both the number and nature of complaints (if any), along with Nigde Municipality's and contractor/s' ability to address complaints in a timely and effective manner. As for the incidents, the contractor is responsible for immediate notification of the contingencies such as environmental, social and labor issues or accidents, incidents or loss of time to the Project Owner and keeping an event log on site throughout the lifetime of the Project.

Monthly ESMRs will be prepared by the Contractor to be submitted to Nigde Municipality. Quarterly ESMRs and semiannual Project Progress reports will be prepared by Nigde Municipality, to be submitted to ILBANK together with the Grievance Register. Semiannual ESMRs and Project Progress reports will be prepared by ILBANK to be submitted to WB. These reports will include a summary of the Project's performance on management of health, safety, environment and social issues, grievance redress mechanism and stakeholder engagement activities conducted during the specified period. All the work done within the GRM will be documented with the forms and logs in this SEP and will be evaluated and reported according to the determined KPI targets. It is also should be noted that the personal information of the complainant having used the GRM will remain confidential and will never be shared in these reports.

Currently, Nigde Municipality uses a telephone "444 51 01" which is accessible 24/7 for any emergencies, and communication link through official website of Nigde Municipality, which also enables people to follow up their complaints. Any grievance related to this Project will be evaluated and responded to. Contact information of Nigde Municipality is as follows:

- Web: http://www.nigde.bel.tr
- Call Centre: +90 (388) 444 51 01
- Tel: +90 (388) 232 35 50

- E-mail: iletisim@nigde.bel.tr
- Address: 1-51100, Adliye St., Yukarı Kayabası District

Nigde Municipality will also ensure that a formal internal GM for the Project employees is in place. This GM will be available to both direct and contracted workers to allow them to raise their workplace related concerns and grievances. The GM will be prepared within the scope of the SEP prepared for the Project. Nigde Municipality will also assess grievance(s) and suggest solutions for employees of contractors and subcontractors to construct an internal grievance redress mechanism which is easily accessible for all workers.

The formal internal and external grievance redress mechanism procedures to be prepared by Nigde Municipality will focus on both stakeholders and public. According to the SEP prepared for the Project, all complaints received are collected in the PIU complaints mechanism section, which consists of the staff of Nigde Municipality. Afterwards, received complaints are recorded in the database and stored. Then, PIU GRM Officer communicates with the person who made the complaint, to confirm that the complaint is delivered in two working days by telephone or e-mail. After that, he/she prepares the draft response and submits it to the Project Management approval. Following the response, the Grievance Form is updated according to the outcome of the process and the complainant gets the result within ten (10) working days. All kinds of information and documents related to the complaints are recorded in the complaint follow-up process, monitoring and evaluation system, and the complainant can follow the process from the system. At the end, Nigde Municipality should inform the statistics of the complaints to ILBANK. Complaints / feedback received will be resolved within a certain time period as specified in the national law.

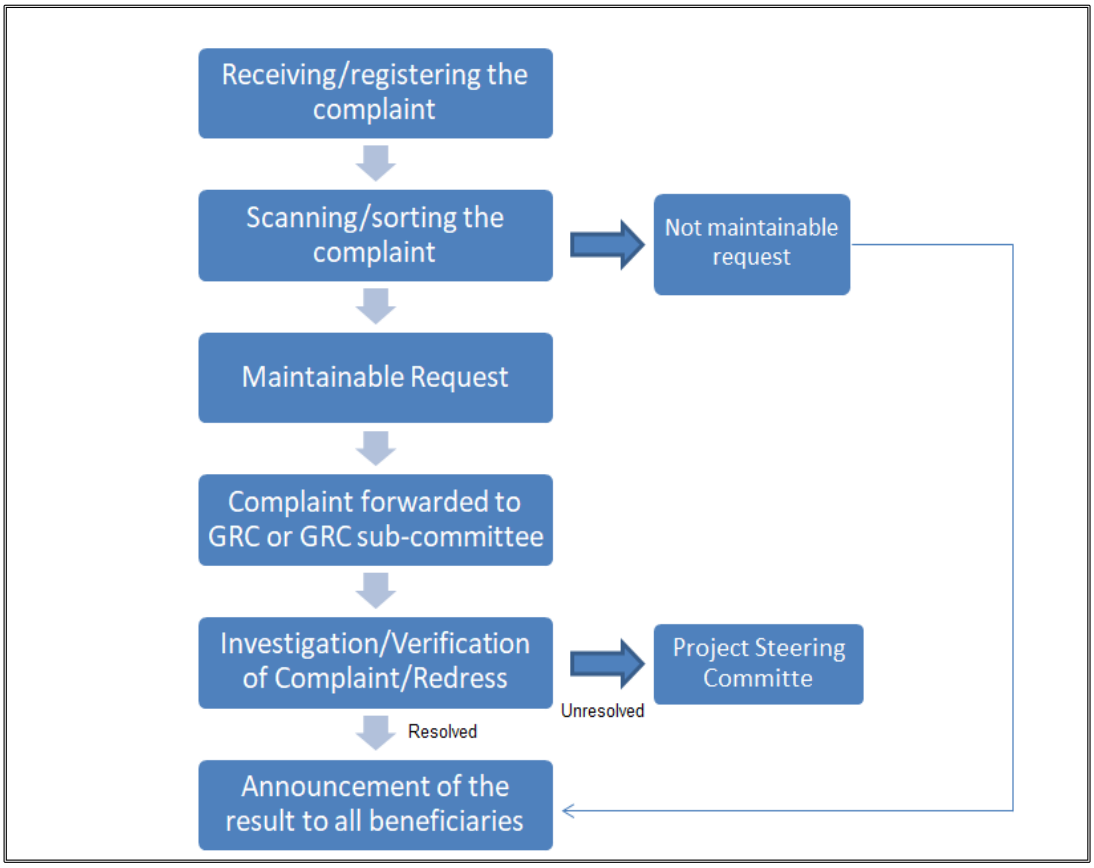


Figure VII.4 GRM Graph

In addition, sample forms to be used by the Social Affairs Manager assigned by Nigde Municipality responsible for GRM are also given in Annex-3, while the sample grievance register is provided in Annex-3 and the sample grievance register table is given in Table VII.1.

The step-by-step grievance process to be adopted is summarizes in the following bullets.

- **Submission of a complaint:** Receiving the grievance by any communication channel explained below.
- **Registration of complaint:** Registering/recording through making an entry in the register table and filling of the Grievance Form.
- **Forwarding of complaint:** The complaint is forwarded to relevant persons (site manager on construction sites and experts of the PIU) responsible for handling the complaint in not later than three working days upon receiving the complaint.
- **Evaluation of a complaint:** Evaluating the complaints within ten working days and determining whether the complaint meets the admissibility criteria. If the complaint is not valid, providing relevant explanation to the complainant.
- **Response for a complaint:** If the complaint is valid, identifying and taking corrective measures for resolving the complaint in not later than fifteen working days upon receiving. If resolving the complaint would take longer, a partial response could be provided to the complainant and fill the Grievance Closeout Form.
- **Recording the result of a complaint:** Recording the result of the complaint in register table.
- **Right to appeal**: If the complaint cannot be resolved with the existing process, applicants can always apply to relevant legal institutions.

Table VII.1 Sample Grievance Register

Date of Grievance	Name of the Complainant	Subject of Grievance	Responsible Party	Corrective Action	State of Grievance Closure	Date of Closure	Remarks

Apart from the means of Grievance Redress Mechanism presented by the Project Owner as mentioned above, all internal and external stakeholders will also have the opportunity to benefit from other grievance redress mechanisms if not satisfied with the solutions offered by the Project's GRM or if they wish to submit their grievances to ILBANK as a higher authority through the following communication tools:

- Web site: https://www.ilbank.gov.tr/form/bilgiedinmeuluslararasi
- E-mail: bilgiuidb@ilbank.gov.tr
- Phone number: +90 312 508 79 79
- Address for Official Letter: ILBANK Department of International Relations, GRM Team (letters must be marked as personal or confidential) Emniyet Mahallesi Hipodrom Caddesi No:9/21 Yenimahalle/ANKARA

All internal and external stakeholders will also have the opportunity to benefit from other grievance redress mechanisms such as Presidency's Communication Center (CİMER) that are used

nation-wide which is accessible to all project stakeholders as an alternative and well-known channel for conveying their project-related grievances and feedback directly to state authorities.

- www.cimer.gov.tr
- Call Centre: 150
- Phone number: +90 312 525 55 55
- Fax number: +90 0312 473 64 94
- Address for Official Letter: Republic of Türkiye, Directorate of Communications Kizilirmak Mahallesi. Mevlana Bulvari No:144 CANKAYA/ANKARA
- Individual applications: Community relations desks at governorates, ministries, and district governorates
- Mail addressed to Republic of Türkiye, Directorate of Communications cumhurbaskanligi@tccb.gov.tr.

According to Directorate of Communications of Presidency of the Republic of Türkiye, If the subject of the application to CIMER contains a specific request, complaint or notice, the related institutions have to give a definite positive or negative answer within 30 (Thirty) days. If the subject of the application to CIMER is an information and/or document request in accordance with the Law No. 4982 on the Right to Information, the response time is 15 (fifteen) working days.

Moreover, the Foreigners Communication Center (YİMER) has been providing a centralized complaint system for foreigners. YİMER will be available to all project stakeholders as an alternative and well-known channel for conveying their project-related grievances and feedback directly to state authorities.

- www.yimer.gov.tr
- Call Centre: 157
- Phone number: +90 312 5157 11 22
- Fax number: +90 0312 920 06 09
- Address for Official Letter: Republic of Türkiye General Directorate of Migration Management, Camlica Mahallesi 122. Sokak No: 4 Yenimahalle /ANKARA
- Individual applications at the Republic of Türkiye General Directorate of Migration Management
- Mail addressed to Republic of Türkiye, Directorate of Communications

The grievance and feedback related to the Project that are lodged/conveyed through CIMER and/or YIMER are received by Department for Planning and Coordination under the General Directorate of ILBANK. If the grievance and feedback is related with Department of International Relations, Department for Planning and Coordination will forward the complaint to the GRM Team with ensuring its anonymity and confidentiality by observing the requirements stipulated by the Law on the Protection of Personal Data (Law No. 6698, 2016). They will be recorded by the GRM Team to the GRM database and managed as per GRM Procedures to timely inform the project on taking corrective actions. Both CIMER and YIMER will complement GRM throughout the project life.

If the complaint cannot be resolved with the existing process, applicants can always apply to relevant legal institutions. Such institutions can be summarized as follows:

- Civil Courts of First Instance
- Administrative Courts
- Commercial Courts of First Instance
- Labor Courts, and
- Ombudsman (https://ebasvuru.ombudsman.gov.tr/)

Furthermore, communities and individuals, who believe that they are adversely affected by a WB supported project, may submit complaints to the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. The details are provided in the project-specific SEP.

Certain complaints warrant urgent action, and the regular GRM procedure may be inappropriate or too slow to prevent an issue from escalating. A separate fast-tracked channel with the existing GRM, including guidance on the circumstances under which it should be employed, can help ensure that high-priority complaints are dealt with in a timely manner. In the case of complaints alleging serious harm or risk of harm, and/or serious rights violations, the GRM's standard operating procedures will call for a fast-track response, whether by the GRM or by immediate referral to another office or organization and immediate notification to the complainant of that referral.

In addition, the project GRM will include a channel to receive and address confidential complaints related to SEA/SH and/or GBV with special measures in place. If an employee faces SEA/SH and/or GBV issue s/he can either apply to a higher level superior or directly go to police station, as stipulated in the national referral system of the country for dealing such cases. The content and procedures of the project's GRM will also have a reporting line on such cases in regard to SEA/SH and/or GBV issues and will be handled under full confidentiality. The GRM focal point receiving the SEA/SH and/or GBV related grievance should direct this to national referral systems immediately and record that this has been directed, as set out in the GRM Procedure of ILBANK. All details of the complainant of the sensitive case will be kept strictly confidential.

VII.4. Capacity Building and Training

One of the main necessities of the ESMP is trainins for the Project Owner's and contractor's top-level management and employees.

Necessary training will be given to the personnel immediately after the recruitment process which will be also refreshed during the work period and will be performed at a number of levels. Trainings will cover workers' rights, contract requirements, Code of Conduct, grievance redress mechanism and contact channels. Compliance with the rules of code of conduct, including awareness of and rules relating to gender-based violence, sexual harassment, sexual exploitation and abuse, which are included in the trainings to be provided, will be in the contract articles of the personnel. Some short-term training is required for the Environment Manager, other staff members of the PIU and the contractor staff to raise their levels of environmental awareness. The training can be conducted by either some external experts or through the help of in-house expertise of the PIU and the consultants and the help of ILBANK and the WB. In the long-term training, special environmental and social issues will be examined, and likely solutions provided to the PIU.

The mentioned trainings will take a maximum two (2) days. This period will be determined by taking into account the responsible trainer's opinion on how many days it takes to explain the relevant subject and the detailed scope of the syllabus that has been prepared. The PIU is also responsible for the monitoring of the Contractor's actions on training. The trainings will be given after signing the works contracts and refresher trainings will be held as needed depending on work progress and construction activities. Measurement and evaluation will be performed at the end of the training given to the personnel. This is intended to enhance the personnel's competency. According to the review results, the training program can be modified, or trainers can be replaced, or training can be repeated, if needed, upon determining whether the training is effective.

The basic training that are planned to be given are as follows, but not limited to:

- Waste Management,

- Energy Efficiency,
- Safe Driving,
- Occupational Health and Safety,
- Chance Find Procedure,
- Induction regarding Code of Conduct, GBV & SEA/SH, Grievance Redress Mechanism, EHS and WB Requirements, and
- First-Aid, Emergency Preparedness and Covid-19 Measures

Environmental and Social Trainings

Environmental and Social Trainings will cover the waste management, energy efficiency, waste that causes environmental pollution, hazardous waste management, traffic management, infectious diseases and grievance redress mechanism. Environmental and social trainings will be given to the appointed staff and workers of the Contractor by ILBANK before the construction starts. The planned training is expected to take four (4) hours. The training will be refreshed as the work site changes and/or workers change.

Chance Find Procedure Training

Chance Find Procedure training will cover the actions required if previously unknown heritage resources, particularly archaeological resources, during the project construction. The training will be given to the appointed staff and workers of the Contractor by ILBANK before the construction starts. The planned training is expected to take two (2) hours. The training will be refreshed as the work site changes and/or workers change.

Occupational Health and Safety Training

OHS Training will cover the work-site accidents and their causes in construction works, special working subjects according to the teams, technical subjects such as the correct use of hand tools and equipment's. Also, the training will focus on information on labor legislation, legal rights and responsibilities of employees, workplace order, legal consequences arising from work accident and occupational disease. The training will be given to the workers of the Contractor by ILBANK before the construction starts. The planned training is expected to take two (2) hours. The training will be refreshed as the work site changes and/or workers change.

Induction Training

Induction Training will cover the current risks and potentially dangerous areas, emergency action and safety practices related to the site. The training will be given to the workers of the Contractor by ILBANK two months before the construction starts. The planned training is expected to take two (2) hours. The training will be repeated as the work site changes and/or workers change.

First Aid and Emergency Preparedness Training

The subjects of the First Aid and Emergency Preparedness Training will be defined by the relevant educational institutions. The training will be given to the appointed staff and workers of the Contractor before the construction starts. The planned training is expected to take 16 hours. The training will be refreshed as the work site changes and/or workers change

Table VII.2 provides examples of the basic training for the ESMP implementation. The training programs will be developed annually and delivered by the PIU.

Table VII.2 Proposed Training Programme

Module 1	
Training course	Environmental and social supervision, monitoring and reporting
Participants	Environmental staff, technical staff and administrative staff of the PIU
Time	Soon after project effectiveness but at least one (1) month before the construction of the first contract. The follow-up training will be scheduled as needed.
Duration	Two days of training twice a year to be repeated on a yearly basis until the end of the DLP.
Content of the Training	General environmental and social management relating to the Project Requirements on environmental and social monitoring Monitoring and implementation of mitigation measures Guide and supervise contractor in implementation of the ESMP Documentation and reporting Code of conduct Sexual exploitation, abuse and harassment training/ awareness Risk response and control Other areas to be determined
Trainer	Environmental and Social Consultant or ILBANK
Module 2	
Training course	Implementation of mitigation measures
Participants	Contractor, related authorities: On-site construction management staffs, environmental staffs of contractor, related authorities
Time	After signing the works contract
Duration	Two days of training twice a year to be repeated on a yearly basis depending on needs
Content of the Training	Overview of potential impacts and mitigation measures Requirements of environmental monitoring Occupational Health and Safety Training Role and responsibilities of the contractor Content and methods of implementation of environmental mitigation measures Response and risk control Preparation and submission of report Risk response and control Asbestos Management Training Other areas to be determined
Trainer	PIU with support of the ILBANK

In addition, the training program/modules shall address a range of issues, including but not limited to:

- Purpose of ESMP regarding the Project activities,
- Requirements in management plans and monitoring activities to be performed within the scope of this plan,
- Understanding of the sensitive environmental and social receptors within the project area and its vicinity, and
- Awareness-raising about the potential risk and impacts from the project activities,
- Grievance redress mechanism developed within the scope of the project, grievance redress mechanism officer and employee rights,
- Community health and safety risks and measures,
- OHS, first aid, emergency preparedness,
- Covid-19 related measures and protection measures,
- Code of conduct and clothing,
- Communication with the local community,
- Code of conduct training, including gender-based violence, sexual harassment, sexual exploitation and abuse,
- Traffic and road safety principles, and
- Training aiming at the sorting, storage and environmental planning of waste.

VII.5. Environmental and Social Monitoring Report

Environmental and Social Monitoring Report (ESMR) is an important tool to record monitoring activities. The results of technical assessments of relevant issues given in Table VI.2 will be presented in ESMRs. The results shall be compared with the national legislative requirements and WBG General EHS Guidelines. The results of the visual observations together with the key issues observed will be submitted in written form. ESMRs will focus on the negative findings as well as the good practices. The negative findings will be supported with the photographic evidence. For each negative observation, a corrective action will be suggested with a reasonable due date. Any analysis/sampling/measurement report will be given as an annex of the report together with the relevant assessment and necessary remediation activities. The findings of the ESMRs will keep this ESMP as a living document; thus, the ESMP will be reviewed and revised by the environmental and social unit of the Nigde Municipality according to these findings, if necessary.

In that scope, Contractor will prepare monthly ESMRs to be submitted to Nigde Municipality and Nigde Municipality's Project Implementation Unit will produce quarterly ESMRs for all sub-project sites and monitor quality of reporting throughout the duration of works and reporting requirements will be included in bidding documents of the contractors. Nigde Municipality will be submitting these ESMRs to ILBANK together with the Grievance Register. Also, ILBANK will prepare and submit semiannual ESMRs on the environmental, social, health and safety performance of the Project, including but not limited to the implementation of the ESMP, status of preparation and implementation of E&S documents required under the ESMP, stakeholder engagement activities, performance of the grievance redress mechanism(s) to the WB together with Project Progress Reports. The reports will be prepared in Turkish and English.

VIII. CONSULTATIONS WITH AFFECTED GROUPS AND NON-GOVERNMENTAL ORGANIZATIONS (NGOS)

Community consultation is one of basic conditions to ensure local support and it also represents the viewpoint of local authority and community on the Project. By public/stakeholder consultation, some unintended and inadvertent impacts and mitigation measures can be identified and added in Final ESMP Report. In practice, it will be better for information exchange and update between project's implementer and the community if there is public/stakeholder consultation from the time of project preparation. In that case, the project can get valuable idea contribution from local community. The objectives of the public/stakeholder consultation include:

- to share all information on the activities of the project with Stakeholders (local communities and local authorities, including anticipated adverse impacts and risks;
- to gather opinions/comments and concerns from local authorities and the community on local particularities and environmentally sensitive matters in the project area;
- to disclosure of all project-related documents (ESIA, ESMP, SEP, GRM, etc.) prepared and other relevant information
- to provide an opportunity for the project affected parties to get clear, accurate and comprehensive information about the project and its anticipated impacts;
- to provide an opportunity for the project affected parties to give their views and raise their concerns regarding the project and its impacts;
- to provide the project affected parties with the opportunity of suggesting ways of avoiding, reducing, or mitigating the negative impacts and enhancing positive impacts;
- to enable the project proponents to incorporate the needs, preferences and values of the project as seen by the stakeholders into the proposed project;
- to provide opportunities to avoid and resolve disputes and reconcile conflicting interests by the stakeholders of the project, and;
- to enhance transparency and accountability in decision making.

For the purpose of the Project, environmental and social impact and risk assessment studies were carried out and public/stakeholder consultation was organized on 16th of January, 2024 in accordance with the WB's safeguard policies and procedures WB OP/BP 4.01 on Environmental Assessment, whereby the Project is obliged to meet requirements of the environmental Category B – type investment standards.

The E&S Consultant prepared the Draft ESMP in compliance with the stipulated standards. The Draft ESMP was subject to public/stakeholder consultation aiming to inform the public and to receive comments, questions and concerns of the project-affected parties and local NGOs (see Table VIII.3) in line with the procedure stipulated by the international requirements and accordingly, the stakeholder consultation meeting of the Project was held on 16th of January 2024. In this regard, the non-technical summary of the Draft ESMP Report was disclosed before and during the public/stakeholder consultation meeting. The consultation activities are presented in the Annex 8, considering the content provided in "Annex 3: Table of Contents for the Public Consultation Documentation" of ESMF prepared by ILBANK for SCP-II AF.

In the meeting the E&S Consultant made a presentation, providing information on project description, its potential environmental and social impacts and risks and then comments and expectations of the stakeholders were received through a questions and answers session. The inputs of the stakeholder consultation and discussions were taken into account and the ESMP was revised accordingly to include these inputs and other related documents.

All of the current required Covid-19 measures will be in place during organization and

execution of the stakeholder engagement activities including the public/stakeholder consultation meeting. In the scope of health and safety risks associated with the project activities, number of personnel who are infected with a contagious disease, including COVID-19 will be monitored. According to Guidance to COVID-19 Outbreak Management and Working prepared by the Ministry of Health and Interim Advice for IFC Clients on Safe Stakeholder Engagement in the Context of COVID-19, to make public participation happen safely in terms of Covid-19, virtual, remote and safe engagement approaches such as online communication tools and audio options will be considered.

VIII.1. Identification of Consultation Participants

In order to develop an effective consultation process, it is necessary to determine project stakeholders, i.e. who is affected or likely to be affected (both directly and indirectly) by the Project ("affected parties"); who may have an interest in the Project ("interested parties"); and have the potential to influence project outcomes or operations. In addition, it is essential to identify individuals and groups that may be differentially affected by the Project because of their disadvantaged or vulnerable status in order to construct an effective consultation process. For this purpose, a Stakeholder Engagement Plan (SEP) has been prepared by E&S Consultant. In this Plan, individuals/groups and institutions that will be affected or can be affected by this project have been identified.

The persons and institutions that are affected or likely to be affected by the Project are provided in Table VIII.1. They will be invited to attend the consultation meetings. In this framework, the points taken into account in the determination of the consultation meeting participants are as follows:

- The impact area of project,
  - Living in residential areas close to the project area,
  - Being affected by problems such as noise and dust that may arise during the construction phase of the project,
  - Carrying out activities in various fields together with relevant vulnerable/disadvantaged individuals/groups.
- The nature of impact
  - According to the nature of the impact, local/national government types, NGOs, academic institutions, and research institutions that may be related to this impact issue

It should be noted that the presented project-affected groups and local NGOs list provides the most prominent stakeholders and that organizations or groups which are not listed, and wish to be informed about the Project, can make contact ILBANK and/or Nigde Municipality to provide their contact information. The identified potential stakeholders are listed in Table VIII.1

Table VIII.1 List of Potential Stakeholders

Level	Category	Organization / Entity
National	Ministries and Relevant Central Authorities	Ministry of Environment, Urbanization and Climate Change
		Ministry of Agriculture and Forestry
		Ministry of Health
		Ministry of Energy and Natural Resources
		Ministry of Foreign Affairs
		Ministry of Labor and Social Security
		General Directorate of Environmental Management

Level	Category	Organization / Entity
		General Directorate of State Hydraulic Works (DSI)
		General Directorate of Water Management
		Disaster and Emergency Management Presidency (AFAD)
	NGOs	Chamber of Environmental Engineers
		Chamber of Agricultural Engineers
		Environment Foundation of Türkiye
		Environment Protection Foundation of Türkiye
		Nature Association
		Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats (TEMA)
		Waste and Environmental Management Association (TAYCED)
		Foundation for the Protection and Promotion of the Environment and Cultural Heritage (CEKUL)
		WWF Türkiye
		Governorship of Nigde
		Nigde Provincial Directorate of Environment, Urbanization and Climate Change
		Nigde Provincial Directorate of Agriculture and Forestry
		Nigde Provincial Directorate of Health
		Nigde Municipality
		Provincial AFAD offices
	NGOs	Nigde / Nar Neighborhood Development and Solidarity Association
	Residential Areas/Local Communities/Potentially Project Affected People	Ilhanli Neighborhood
		Nar Neighborhood
		Selcuk Neighborhood
	Business Enterprises	Businesses in the immediate vicinity of the project
	Universities	Nigde Omer Halisdemir University

Information obtained from formal/informal interviews with representatives/key informants of neighborhoods within the project area are used to identify vulnerable/disadvantaged individuals/groups. In addition, the guidance of the official authorities and public institutions in the region has helped identify possible vulnerable/disadvantaged individuals/groups. In the scope of this Project, female headed households, children, the elderly, and the disabled people, who live close to the Project area and live in areas where noise and dust problems are likely to occur during the construction phase of the Project, are considered as vulnerable/disadvantaged individuals/groups. However, the details of vulnerable/disadvantaged individuals/ groups will be identified in the SEP as one of the key components of the plan.

E&S consultant helda meeting with the Nigde Municipality within the scope of the Project on 20.01.2022.. Then, the project site was visited. Meetings were held with the mukhtar of Ilhanli and Nar neighborhoods on the same date. During these meetings, information with regard to baseline conditions of the neighborhoods was obtained. The environmental and social impacts of the project were discussed in a non-detailed manner. The findings of this field study were recorded in the Project Site Visit Report

VIII.2. Stakeholder Consultation

The stakeholder consultation meeting of the Project was held on 16th of January 2024. Nigde Municipality Assembly Hall was selected by the Nigde Municipality as the meeting venue, which is located at the central district of Nigde Province. The meeting venue had enough capacity and facilities to ensure comfortable and efficient communication during the event.

Prior to stakeholder consultation meeting, several information dissemination methods were used to inform the related public authorities (including provincial governorates, district governorates, municipality mayors, etc.), mukhtars and local people, and local media agencies and wider public including Non-Governmental Organizations (NGOs), etc. During the announcement process of the stakeholder consultation meeting, initially announcements were published in local newspapers on 5th of January, 2024, in national newspaper on 6th of January 2024, and official website of Nigde Municipality on 5th of January 2024. Advertisements on newspapers and Nigde Municipality official website to announce the meeting are given in the Annex 8-1. In addition, before the commencement of meeting, project information brochures were distributed to the participants and maps of the Project were also made available for them. The brochure is provided also in Annex 8-1.

The meeting was held with the participation of the local people together with the representatives of Nigde Municipality (Project Beneficiary and Executing Organization), and ENCON (the E&S Consultant). The photographs from meeting are presented in Annex 8-2.

The meeting started with an introduction and explanation of the purpose and scope of the meeting and followed by a presentation by ENCON and a final discussion session where questions, concerns and suggestions of the participants were received. The presentation used during the meeting is provided in Annex 8-1. The main topics covered in the presentations were as follows:

- What is the Project?
- Who are the Project Main Executive Body, the Project Beneficiary and Executing Organization and the Project Sponsors?
- What are the Anticipated Benefits of the Project?
- What is the Environmental and Social Impact Assessment Studies?
- Stakeholder Engagement: How to Participate into the Process?
- Discussion (Questions and Answers) Session

Large-scale (A1 size) maps showing the Project areas were provided for the public.

A total of 15 people participated in the meeting for the Project. List of participants to the SCM are presented Annex 8-2 of this document. The meeting lasted for about one hour. The questions, issues, concerns and suggestions raised by the participants during the SCM were categorized and a summary of the SCM findings is provided in Table VIII.2.

Table VIII.2 Summary of Stakeholder Consultation Meeting Findings

Party who Raised the Question/ Issue/Concern/ Suggestion	Question/Issue/Concern/ Suggestion Raised	Response of Project Sponsors/ Environmental Consultant
Participant 1*	Flooding and sewage problems have been going on for a long time in the neighborhoods within the scope of the	The financing and bureaucratic procedures required for the implementation of the project are about to be completed. Construction work will start in 2024, probably

Party who Raised the Question/ Issue/Concern/ Suggestion	Question/Issue/Concern/ Suggestion Raised	Response of Project Sponsors/ Environmental Consultant
	project. Has the decision to implement the project been finalized? When will the construction process start?	after the local elections. Consultancy companies are currently being determined for the tender phase.
Participant 2*	After the infrastructure works are completed within the scope of the project, will the superstructure such as roads and pavements be completely renewed?	While sewerage and stormwater lines are being constructed within the scope of this project, there are also efforts to renew and improve the electricity and natural gas lines. If that project can be implemented in a timely manner, almost the entire infrastructure will be renewed but the superstructure will be severely damaged. In this case, it will be necessary to completely renew the superstructure. However, if the mentioned natural gas and electrical line renewal project could not be implemented in a timely manner or postponed, only the damaged parts of the superstructure during this project will be repaired instead of a complete renewal.
Participant 3*	Are the entire Ilhanli and Nar neighborhoods included in the project area? How many years is the project lifespan/service period?	The parts of Ilhanli and Nar neighborhoods that has problematic sewage lines and flood problems are determined during the inspections. These areas are within the scope of the project. Most, but not all, of the mentioned neighborhoods' area are within the scope of the project. The project life is 35 years.

**The participation's name is not given because of the Law on Protection of Personal Data.*

VIII.3. Consultation Documentation

In the scope of project, it is required to hold one (1) stakeholder consultation meeting as per WB OP 4.01; however, consultation and stakeholder engagement should be understood as an ongoing process and not just a step in the process of project approval. In essence, consultation is the means by which a project communicates with the people living in the project's area of influence and all other stakeholders. As such, some kind of consultation has to take place throughout the life of the project, from its initial conception, design, and implementation through to completion and decommissioning in case of need. This process was and will be carried out by following the steps below.

Place and Date of Stakeholder Consultation Meetings

When the date and place of the stakeholder consultation meeting are clarified, the common practice of the Project is to announce the date and place through the local media, Notice Board of the Nigde Municipality, in public places such as mosques, schools, etc. and an information memo sent to the neighborhood mukhtars. The announcement methods preferred for the public/stakeholder consultation meeting held on 16th of January 2024 are provided in Table VIII.3

Table VIII.3 Planned Stakeholder Consultation

No	Location	Notes	Stakeholder Consultation
1	Nigde Central District	Announcement of public consultation has been published on media (local and/or national newspaper) Announcement has been placed at the Notice Boards at mukhtar offices, local mosques and schools and the website of the Nigde	Indicative: 16.01.2024

		Municipality. Non-technical Summary of the Draft ESMP Report has been disclosed via website of Nigde Municipality.	

Information on the participants of the stakeholder consultation meetings were and will be recorded via a "participant list" (see Figure VIII.1) filled in by the attendees during the meeting.

NIGDE CENTRAL SEWERAGE AND STORMWATER CONSTRUCTION PROJECT PARTICIPATION LIST

MEETING PLACE		DATE:
		TIME:

PARTICIPANTS

	Name - Surname	Profession	Represented Institution / Residential Area	Phone Number	Signature
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Figure VIII.1 Participation List of Stakeholder Consultation Meeting

The list of participants and/or other forms that include personal information such as duties, signature, contact numbers, etc. of the participants to be kept in the records and are shared in the project documents (i.e. ESMP and SEP) after the respective lines containing personal data are blurred considering “The Law on The Protection of Personal Data”. Moreover, the screenshots of the newspaper ads, full minutes of the meeting and all materials/documents/ forms related to the stakeholder engagement activities are also provided as an appendix to this ESMP (see ANNEX-8) and SEP.

Meeting Program

The program and the scope of the meetings to be held with the participation of the direct and indirect stakeholders and non-governmental organizations will be decided in due course of the project implementation. The presentation, which was presented and explained to the participants at the stakeholder consultation meeting, were prepared by TUMAS – ENCON Joint Venture, the E&S

Consultant. In addition, during the meeting, large-scale (A1 size) maps and/or brochure showing the project areas were provided for the participants.

Summary Meeting Reports

Nigde Municipality will be responsible for recording the minutes of the meetings and providing the details of the meetings in the ESMRs. For the stakeholder consultation meeting held on 16th of January 2024,this ESMP and the SEP were updated accordingly to ensure that ESMP and SEP include the minutes and details of the meeting including the photographs, if any, screenshots of the newspaper ads, participants list, brochures, full minutes of the meeting etc.

Questions, issues, concerns and suggestions raised by the participants during the consultation meeting will be noted and categorized by E&S Consultant and a summary of the meeting findings will be prepared, together with the highlights from the consultations, number of participants, meeting venue, etc.

After the consultation meeting on the draft ESMP, this ESMPis finalized, incorporating the results of the stakeholder consultation meeting and the final ESMP will be published by ILBANK/Nigde Municipality and WB websites.

REFERENCES

- Alter International Engineering and Consulting Services (2021) *Nigde Central Sewerage and Stormwater Construction Project*
- ILBANK SCP Group 2 Field Report - *Nigde Central Sewerage and Stormwater Construction Project* 20.01.2022
- Database of Ministry of Culture and Tourism, General Directorate of Cultural Heritage and Museums (https://kvmgm.ktb.gov.tr/)
- Database of Ministry of Agricultural and Forestry, General Directorate of Nature Conservation and National Parks (https://www.tarimorman.gov.tr/DKMP)
- European Commission. (2000). Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy. European Commission.
- General Directorate of Highways. *Ministry of Transport and Infrastructure, General Directorate of Highways*. Retrieved November 3, 2021, from Distance Inquiry Between Provinces: https://www.kgm.gov.tr/Sayfalar/KGM/SiteTr/Uzakliklar/illerArasiMesafe.aspx
- Hacettepe University, Department of Political Science and Public Administration, April, 2015, Turkish Administrative Structure.
- Nigde Chamber of Commerce and Industry, 2022, Nigde Province Economic Outlook 2022.
- Ministry of Environment, Urbanization and Climate Change. *Ministry of Environment, Urbanization and Climate Change Sim Database*. Retrieved November 3, 2021, from Air Quality - Station Database: https://sim.csb.gov.tr/STN/STN_Report/StationDataDownloadNew
- Ministry of Industry and Technology, General Directorate of Development Agencies . (2017). *Socio-Economic Development Ranking Survey of Provinces and Regions (SEGE-2017).* Ankara.
- Ministry of Transport and Infrastructure, 2023, *In Transportation and Access 2002-2023.*
- Toksoz, F., 2006, Assessment of Public Administration in Türkiye.
- TUBIVES. Turkish Plants Data Service. Retrieved November 2021, from http://www.tubives.com/
- TurkStat. Central Distribution System. Retrieved November 3, 2021, from TurkStat Database: https://biruni.TurkStat.gov.tr/medas/?locale=tr
- Türkiye National Geographic Information Systems, National Geographic Information Platform (https://www.atlas.gov.tr/)
- World Bank, 2020, ESF/Safeguards Interim Note: COVID-19 Considerations in Construction/Civil Works Projects
- IUCN 2022. The IUCN Red List of Threatened Species. Version 2021-3. https://www.iucnredlist.org
- Baskose, Isa, Paksoy, Mehmet Yavuz, and Savran, Ahmet. "The flora of Nigde University campus area and Akkaya dam lake environments (Nigde/Türkiye)." Biological Diversity and Conservation 5.3 (2012): 82-97.
- Turkish Red Data Book of Turkish Plants (TRDB; Appim et al., 2000)
- Turkish Plants Lists (www.bizimbitkiler.org.tr)
- Türkiye e-flora website (https://www.turkiyeflorasi.org.tr)
- Anonymous Birds of Türkiye: TRAKUS (https://www.trakus.org/)
- Anonymous Mammalia of Türkiye: TRAMEM (https://www.tramem.org/)
- The Amphibians and Reptiles Monitoring & Photography Society in Türkiye (AdaMerOs Herptil Türkiye) (http://www.turkherptil.org/)
- Kiziroglu,İ., 2009. The Pocket Book for Birds of Türkiye, ISBN: 975-7460-01-X, Ankamat Printing House, Ankara, 564
- Olgun, Kurtulus Kumlutas, Yusuf and Baran İbrahim. Türkiye Amphibians and Reptiles. TUBITAK, 2012.
- Nigde Provincial Directorate of Environment and Urbanization, Nigde Province 2019 Environmental Status Report

- Karlı İ., 2021, *An experimental study on measuring noise pollution caused by traffic and creating a noise map in the city center of Nigde*
- Bagdatlı M. C. & Arslan O. 2020. GIS Mapping of Large Soil Groups, Current Land Use, Soil Depths and Slopes, Soil Erosian in Kırsehir Province of Türkiye, World Research Journal of Agricultural Science (WRJAS), 8(1):265-277

ANNEX-1-CONTRIBUTORS

Name-Surname	Profession
Dr. Ibrahim Haluk CERIBASI	Environmental Engineer
Dr. Okan BILKAY	Mechanical Engineer
Tolga BALTA	Environmental Engineer, M.Sc.
Huseyin TEKIN	Environmental Engineer
Sumeyra CAKIR	Biologist
Nazan Duygu YIGITER	Urban Planner, Msc
Baris USLU	Hydrogeology Engineer
Dilan ELVEREN	Sociologist
Ebru GULER	Environmental Engineer
Kubra CIBUK	Environmental Engineer
Mehmet Emre CALISIR	Environmental Engineer

ANNEX-2- SAMPLE GRIEVANCE REGISTER

Sample Grievance Register

No	Complaint Register Number	How Complaint is Received (Grievance Form, Community Meeting, Telephone)	Level of Grievance (Municipality/Utility Level, Regional ILBANK Office, ILBANK HQ Level)	Date of Complaint Received	Location of Complaint Received	Name of Person Receiving Grievance	Land Parcel # (If complaint is related to land)	Complainant Information					Project Component Related to Complaint	Grievance Category (expropriation/land acquisition related, environmental issues, damages to structures etc.)	Complaint Summary	Grievance Status (open, closed or pending)	Action Taken				Supporting Documents for Grievance Closeout (bank receipt for compensation, grievance closure protocol)
								Name/Surname	ID Number	Telephone/ e-mail	Village-District	Gender					Responsible Person/Department	Action Planned	Due Date of the Addressing the Grievance	Date of Action Taken	
1																					

ANNEX-3- SAMPLE GRIEVANCE FORM, GRIEVANCE CLOSE-OUT FORM, SAMPLE CONSULTANT FORM

Sample Grievance Form

NİĞDE BELEDİYESİ Medeniyetlerin yaşatıldığı şehir	**NIGDE MUNICIPALITY** **Nigde Central Sewerage and Storm Water Construction Project**
	GRIEVANCE FORM

Person Filling out the Form:	Date and time:
Meeting Agenda:	Reference No:
1. INFORMATION ABOUT THE COMPLAINANT	
Name Surname:	**Form of Complaint:**
TR Identification number:	Phone / Toll Free Hotline ☐
Phone:	Face to Face Meeting ☐
Address:	Website / E-Mail ☐
E-Mail:	Other (Explain) ☐

Stakeholder Type

Public Institution ☐	PAP ☐	Private Enterprise ☐	Professional Chamber ☐	NGO ☐
Interest Groups ☐	Industry Associations ☐	Labor Unions ☐	Media ☐	University ☐

2. DETAILED INFORMATION ON THE COMPLAINT	
Explanation of the complaint:	
Action requested by the complainant:	

Registrant Name Surname/Signature **Complainant Name Surname /Signature**

Sample Grievance Closeout Form

NİĞDE BELEDİYESİ Medeniyetlerin yaşatıldığı şehir	**NIGDE MUNICIPALITY** **Nigde Central Sewerage and Storm Water Construction Project**
	GRIEVANCE CLOSEOUT FORM
Reference No:	
1. IDENTIFICATION OF CORRECTIVE ACTION	
1	
2	
3	
4	
5	
Responsible Departments	
2. TERMINATION OF COMPLAINT	
This section will be filled and signed by the complainant in the event that the complaint specified in the "Grievance Register Form" is resolved.	

Grievance Closeout Date:

...../……/……..

Name-Surname/Signature of the Person Closing Complaint:
Name-Surname/Signature of Complainant:

Sample Consultation Form

NİĞDE BELEDİYESİ	**NIGDE MUNICIPALITY** **Nigde Central Sewerage and Storm Water Construction Project**
	CONSULTATION FORM

Person Filling out the Form:	Date and time:
Meeting Agenda:	Consultation Registration No:

1. CONSULTATION INFORMATION

Interviewed Institution:	Communication Type
Name-Surname of the Interviewee:	Phone / Hotline ☐
Phone:	Face to Face Meeting ☐
Address:	Website / E-mail ☐
E-Mail:	Other (Explain) ☐

Stakeholder Type

Public Institution ☐	PAP ☐	Private Enterprise ☐	Professional Chamber ☐	NGO ☐
Interest Groups ☐	Industry Associations ☐	Labor Unions ☐	Media ☐	University ☐

2. CONSULTATION DETAILS

Questions about the project:	
Project concerns/feedback:	
Responses to the views expressed above:	

Recorded by
Name-Last Name/Signature

Complainant
Name-Last Name/Signature

ANNEX 4 - CODE OF CONDUCT

A minimum requirement for the Code of Conduct has been established taking into account the problems, impacts and mitigation measures identified in the following:

- Project reports e.g. ESIA/ESMP
- Any particular GBV/SEA requirements
- Consent/permit conditions (regulatory authority conditions attached to any permits or approvals for the project)
- Required standards including World Bank Group EHS Guidelines
- Relevant international conventions, standards or treaties, etc., national, legal and/or regulatory requirements and standards (where these represent higher standards than the WBG EHS Guidelines)
- Relevant standards e.g. Workers' Accommodation: Process and Standards (IFC and EBRD)
- Relevant sector standards e.g. workers' accommodation
- Grievance redress mechanisms.

In accordance with the contract, the Contractor is obliged to implement the measures covering the environmental and social risks related to the Construction Works, including sexual exploitation, abuse and harassment.

This Code of Conduct is also included in the solution measures for environmental and social risks related to Construction Works. This set of rules applies to all employees on the Construction Site and other locations where work is carried out. The Code of Conduct is also binding on the personnel of each subcontractor and each employee who assists in the performance of the works. All of the above-mentioned employees will be referred to as "Contractor's Personnel", and compliance with the Code of Conduct will be mandatory for all of them.

This Code of Conduct defines the required behavior expected from all Contractor's Personnel. Dangerous, unpleasant, harassment/abuse or violent behavior will never be allowed in our work environment. Everyone is free to openly share their thoughts and concerns without fear of retaliation.

The behaviors expected from the Contractor's Personnel are as follows:

- Performing their duties with due competence and care,
- Complying with this Code of Conduct and all applicable laws, regulations and other requirements, including protecting the health, safety and well-being of the local community (including vulnerable and disadvantaged groups), the Consultant's Experts, the Client's personnel, and the Contractor's personnel, including sub-contractors and day workers,
- Ensuring that the machinery, equipment and processes used by each employee in the work area are safe and do not pose a risk to health, using of necessary personal protective equipment, taking necessary precautions in the use of chemical, physical and biological substances, and following appropriate emergency application procedures,
- Reporting workstations that are considered unhealthy and unsafe, and staying away from areas where human life is considered to be at serious danger,
- Respecting other people and not discriminating against certain groups such as women,

people with disabilities, migrant workers and children,

- Avoiding Sexual Harassment
- Avoiding Sexual Abuse
- Avoiding Sexual Exploitation
- Protecting of children, ensuring their safety in Project Areas and prohibiting sexual activity or abuse, or otherwise unacceptable behavior towards them,
- Participating in relevant trainings on issues such as health and safety, Sexual Exploitation, Abuse and Sexual harassment related to the environmental and social aspects of the Convention,
- Respecting reasonable work instructions and ensuring protection and proper use of property,
- Complying with sanitation requirements,
- Avoiding conflicts of interest such that benefits, contracts, or employment, or any sort of preferential treatment or favors, are not provided to any person with whom there is a financial, family, or personal connection,
- Reporting a violation of this Code of Conduct,
- Non-retaliation against personnel who report violations of the Code.

Examples of Sexual Harassment

- One Contractor's Personnel making positive or negative comments about the appearance and sexual attractiveness of another Contractor Personnel.
- A Contractor's or Employer's Personnel contacting physically another Contractor's Personnel.
- A Contractor Personnel telling another Contractor's Personnel that they can get a salary increase or promotion if they send him/her nude photos.

Examples of Sexual Exploitation and Abuse

- A Contractor's Personnel telling a community member that he or she can get a job on the work site in exchange for sexual intercourse (eg. kitchen and cleaning jobs).
- A Contractor's personnel making electrical connections to households offer to connect to the grid in exchange for sexual intercourse in female-headed households.
- A Contractor's Personnel rapes or otherwise sexually assaults a member of the community.
- A Contractor's Personnel preventing access to the Site if the sexual desire of a person is not met.
- A Contractor's Personnel telling a person applying for a job under the Contract that they will only be given employment in exchange for sexual intercourse.

Violation of this Code of Conduct by the Contractor's Personnel may have serious consequences and may result in the termination of the contract and the transfer of the matter to the legal authorities.

ANNEX 5- CHANCE FIND PROCEDURE

1. Introduction

The Municipality is responsible for avoiding or mitigating any potential impacts of the Activities on the physical or cultural resources. It is anticipated that the project sites are selected such that there would not be any overlapping with archaeological and heritage sites/assets within the project impact area. However, there is still a possibility of encountering some unknown archaeological sites and cultural heritage assets as a Chance Find during project activities. A Chance Find means potential cultural heritage objects, features or sites that are identified outside of a formal site reconnaissance, normally as a result of construction monitoring. Thus, this document aims to outline the procedure and respective responsibilities in relation to the management of Chance Finds during construction works.

2. Roles and Responsibilities

The Municipality and all the contractors are responsible for complying with the procedure during the project construction activities. In this regard, the Municipality would be providing training to their and the contractors' employees involved in supervision and construction works regarding the procedure. Mainly a Chance Find could be encountered during the pre-construction and ground disturbance (e.g., excavation and levelling) activities. Thus, the procedure has to be implemented day to day at this stage.

3. Chance Find Process and Procedure

The step by step process and procedure to be followed upon a Chance Find discovery is provided below:

Step 1 - After the discovery of a Chance Find:

- All work must cease at the location where discovery is made.
- A temporary buffer zone around the Chance Find will be established.
- The contractor contacts the Municipality and the relevant Governmental Archaeological Museum in the Province is informedimmediately.
- The Chance Find location is secured through flagging or no-entry signs, etc.
- The Chance Find should not be moved, removed or further disturbed.

Step 2 – Recording

- The Chance Find Form Part A is filled in by the contractor and sent to the Municipality and a copy is filed for records.

Step 3 – Contact with local authority

- The contractor notifies the relevant Governmental Archaeological Museum in the Province for the Chance Find.

Step 4 – Authority's decision

The relevant Museum decides on the following path of actions for chance find area:

Step 4.A - No significance to site or finding

- The Museum declares that the site/finding is considered to be of no significance.
- The contractor informs the Municipality.
- The contractor records the decision on Part B of the Chance Find Form and sends a copy to the Municipality.
- A copy of the Chance Find Form Part B is kept for records.
- No further actions are required.
- This step closes out the Chance Find procedure.
- Construction activities may resume.

Step 4.B – Significance of the site

- The Museum declares that the site/finding is considered to be of significance.
- The Museum decides on further actions and informs the contractor and the contractor informs the Municipality.
- The contractor records the decision on Part B of the Chance Find form.
- Proceed to Step 5.

Step 5 – Site investigation

Step 5.A - After field investigation the Museum declares the site/finding has minor significance

- The contractor informs the Municipality.
- The contractor records the decision on Part C of the Chance Find form and sends a copy to the Municipality
- A copy of the Chance Find Form Part B is kept for records.
- No further actions are required.
- This step closes out the Chance Find procedure.
- Construction activities may resume.

Step 5.B - After field investigation the Museum declares the site/finding has moderate significance

- Further studies such as test pit/salvage excavations or remote sensing investigation are to be completed.
- The Museum provides instructions, and/or supervision for the studies.
- The contractor informs the Municipality.
- The Municipality provides an archaeological work team of qualified archaeologist and

workers to work under the supervision of the Museum.
- After the excavation is completed, the team provides a report to the Museum directorate.
- The Museum directorate reports the study outcomes to the relevant Regional Preservation Board of Cultural Assets.
- The relevant Regional Preservation Board of Cultural Assets officially confirms completion of recovery and informs the Municipality.
- The contractor records the decision on Part C of the Chance Find Form and sends a copy to the Municipality.
- A copy of the Chance Find Form Part B is kept for records.
- No further actions are required.
- This step closes out the Chance Find procedure.
- Construction activities may resume.

Step 5.C - After field investigation the Museum declares the site/finding has major significance

- Salvage excavation is to be completed.
- The site is to be treated according to Law on the Protection of Cultural and Natural Assets Law (No. 2863 dated 21.07.1983).
- The Museum provides instructions, and/or supervision for test pit/salvage archaeological excavation.
- The contractor informs the Municipality.
- The Municipality provides an archaeological work team of qualified archaeologist and workers to work under the supervision of the Museum.
- Once the excavation is completed, salvage excavation team provides a report to Museum directorate.
- The relevant Regional Preservation Board of Cultural Assets officially confirms completion of recovery and informs the Municipality.
- The site will be officially recorded and protected according to Turkish regulations.
- The contractor records the decision on Part C of the Chance Find Form and sends a copy to the Municipality.
- A copy of the Chance Find Form Part B is kept for records.
- No further actions are required.
- This step closes out the Chance Find procedure.
- Construction activities may resume or further actions need to be taken.

It is important to note that in case human remains are found, all project team and the local authorities will be immediately notified.

4. Monitoring and Reporting

The contractor will monitor all construction or other ground disturbance activities for evidence of presence of cultural heritage items. Chance Finds will be recorded on the Chance Find Report Form (see Annex-5.1). All Chance Find Report Forms will be kept in hard copy at the site and will also

be scanned and saved electronically. Any Chance Find will be recorded in the Chance Find Register (see Annex-5.2).

Annex 5.1 Chance Find Report Form

PART A			
Project Location (Province):	District: Neighborhood:	Date:	Form No:
Name of person reporting Chance Find:			
Was work stopped in the immediate vicinity of the Chance Find? ☐ Yes ☐ No			
Was a buffer zone created to protect the Chance Find? ☐ Yes ☐ No			
NOTIFICATION			
Municipality contacted ☐ Yes ☐ No			
CHANCE FIND DETAILS			
GPS coordinates		Photo record ☐ Yes ☐ No If not, explain why: Other records ☐ Yes ☐ No Specify (drawings, videos, etc.):	
Description of Chance Find:			
Description of site/finding and other specifications of site/finding (e.g. surface sediment type, ground surface visibility, etc.):			

PART B		
NOTIFICATION OF MUSEUM DIRECTORATE		
Contractor contacted museum directorate ☐ Yes ☐ No Date of notification: Name of museum directorate and Name of contact: Contact number of museum directorate representative:		
DECISION OF MUSEUM DIRECTORATE		
Date of site visit:		
☐ Site/Finding of no significance - Construction to proceed with no further action – End of chance find procedure Date of notice to resume work:	☐ Site/Finding of significance - Further actions required Please Fill out Part C	
Name of museum directorate representative/archeologist: Contact information:		
Municipality contacted ☐ Yes ☐ No		
PART C		
FURTHER FIELD INVESTIGATION		
☐ Site/Finding of minor significance	☐ Site/Finding of moderate significance	☐ Site/Finding of major significance
Describe additional work to be conducted:		
Date started:	Date completed:	
Date of notice to resume construction works:		
Name of museum directorate representative/archaeologist: Contact information:		
Municipality contacted ☐ Yes ☐ No		

Annex 5.2 Chance Find Register

Date of Find	Summary of Chance Find	Name of Authority Notified	Action Taken	Chance Find Form Completed	Status Open or Closed	Remarks

ANNEX-6 ASBESTOS MANAGEMENT PLAN

1. Introduction

The Municipality is responsible for avoiding, mitigating, or compensating any potential impacts of the Project activities on the workers and other stakeholders. There is no planned work for asbestos pipes to be realized within the scope of the Project. However, during the implementation of the Project, in case of the Municipality decides to carry out any repair, dismantling, demolition, maintenance, and removal activities for asbestos pipes or in case of accidental breaking of asbestos pipes; this Asbestos Management Plan (AMP) has been developed in accordance with the Regulation on Health and Safety Precautions in Working with Asbestos (dated 25/01/2013 and numbered 28539) to guide the Municipality.

2. Roles and Responsibilities

According to the Regulation on Health and Safety Precautions in Working with Asbestos, all asbestos-related works must be carried out only by licensed and authorized companies. Therefore, any asbestos-related work shall be contracted by the Municipality with a subcontractor (asbestos-related works' subcontractor is the Employer of this AMP) with the specified qualifications. In this regard, the Employer (asbestos-related works' subcontractor is the Employer of this AMP) would train all workers involved in supervision and construction works regarding the procedure in case of any planned or unplanned work (including accidental asbestos pipe breakings) on asbestos pipes. The Municipality and all the contractors are to comply with the procedure during the Project construction activities. No financial burden can be imposed on the workers for conducted trainings, implemented mitigation/remediation measures.

3. Asbestos Management Process and Procedure

The step-by-step process and procedure to be followed are provided below:

a) Risk Assessment: The Employer is obliged to carry out a risk assessment, taking into account the type and physical properties of asbestos and the degree of exposure of the workers where there is a risk of exposure to asbestos dust. During the risk assessment, the opinions of the workers or their representatives are to be taken.

b) Notification with Work Plan: The Employer is obliged to prepare a work plan before starting these works and notify the related Provincial Directorate of Labor and Employment Institution of the work plan. The notification includes the following:

- Commercial name and address of the workplace,
- The type and amount of asbestos to be removed,
- Works to be done and procedures/processes to be applied during works,
- Number of workers,
- Starting date and the estimated duration of work,
- Asbestos removal specialist certificate,
- Asbestos removal worker certificate.

The work plan specifies the measures to be taken in the working area within the scope of the risk assessment of the health and safety of the workers. The working plan includes the following:

- Type of work and estimated duration and place of the work,
- The method to be used for the removal of asbestos-containing materials,
- Features of equipment used in asbestos dismantle, repair, maintenance, and removal work,
- Protection of workers from asbestos materials,
- Protection measures of other persons in or near the working environment during the work.

c) Dismantling, Repair, Maintenance, and Removal Works: Before starting the mentioned works, the Employer inspects the Project area, existing structures, and infrastructure plans to identify asbestos-containing material locations.

- Asbestos-related works are carried out by the asbestos removal workers, under the supervision of an asbestos removal specialist. An asbestos removal worker defines as a worker having vocational training certificate for asbestos demolish, repair, maintenance, and removal works or who has completed the training program established by the commission established by the Ministry of Labor and Social Security and has received a course completion certificate. An asbestos removal specialist defines as the person given responsibility by the Employer during the implementation of the procedures specified in the Regulation on Health and Safety Precautions in Working with Asbestos (dated 25/01/2013 and numbered 28539), who has completed the training program established by the commission established by the Ministry of Labor and Social Security, and who has received a course completion certificate after being successful in the exam.

- Asbestos measurement and sampling are carried out by accredited and authorized laboratories. While determining the sampling places, the opinions of the workers or their representatives are also taken. The sampling time is regulated to determine the worker's exposure over eight hours of work (one shift) by measurement or time-weighted calculation. Sampling time is adjusted to determine worker exposure over eight hours of work (one shift) by measurement or time-weighted calculation. The Employer ensures that the asbestos concentration in the air the workers are exposed to during the work does not exceed 0.1 fiber/cm^3 of the eight-hour time-weighted average value.

d) End of Work Notification: When the asbestos removal, repair, maintenance, and removal works are completed, the Employer or its representatives shall provide a document containing the measurement results indicating that there is no risk of exposure to asbestos dust in the workplace.

The report containing the documents and measurement results prepared by accredited and authorized laboratories is submitted to the Provincial Directorate of Labor and Employment Agency by the Employer or its representatives.

4. Asbestos Exposure Mitigation Measures and Over-exposure Action Plan

a) Asbestos Exposure Mitigation Measures: The following measures are taken to minimize the exposure of workers to dust from asbestos materials:

- Necessary markings are made in the working areas and warning signs are placed.
- Unauthorized workers are prevented from entering the work area.
- Smoking-prohibited areas determined. The places reserved for eating and drinking are chosen outside the places where there is a risk of contamination with asbestos dust.
- Work is carried out with as few workers as possible.
- The working area will be isolated so as not to produce asbestos dust. If this is not possible, it will be designed in such a way as to prevent the spread of dust to the environment. In order to prevent formation of asbestos dust or mixing of dust into air, the working area will be sprayed with water at regular intervals.
- Cleaning and maintenance of the equipment used in places having a risk of asbestos exposure are to be carried out regularly and effectively.
- Asbestos materials are transported in suitable sealed packages and stored separately from other materials.
- Wastes containing asbestos are collected immediately, labeled using appropriately, and removed from the workplace as soon as possible in sealed packages and disposed of in accordance with the relevant legislation.

b) Over-exposure Action Plan: The following measures are taken in case of a limit value breach:

- The reasons for exceeding the limit value are determined and the necessary measures are taken immediately to reduce the asbestos concentration below this value. Work cannot be carried out in the affected area until appropriate measures are taken to protect workers.
- Whether the measures taken are sufficient or not is determined by ambient air asbestos concentration measurements.
- In cases where it is not possible to reduce the exposure with other measures and it is only possible to comply with the limit value by using respiratory system protection, the workers with the protector cannot work continuously. The maximum time each worker will work is determined in advance and cannot be exceeded.
- Appropriate rest breaks are given during the work using protective equipment, considering the physical conditions, climatic conditions, and the views of the workers or their representatives.

5. Record Keeping

The Employer performing the asbestos dismantling, repairing, maintaining, or removal work or subcontracts the work; keeps and maintains records indicating the work performed by those involved in the work, the duration of the work, and the level of exposure. Any health personnel, health institution, or health organization can examine these records upon request. Workers can get a copy of their records. Workers or their representatives may receive general information about records anonymously. Records are retained for at least 40 years after exposure to asbestos dust ceases.

ANNEX-7 APPLICATION LETTER FOR EIA EXEMPTION DECISION

T.C.
NİĞDE BELEDİYE BAŞKANLIĞI
Su ve Kanalizasyon Müdürlüğü

Sayı : E-29246902-220.99-73649
Konu : Çed Raporu Muafiyet

NİĞDE ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ İL MÜDÜRLÜĞÜNE

İlbank ile Dünya Bankası arasında imzalanan Sürdürülebilir Şehirler Projesi II kapsamında finansman anlaşması imzalanmıştır. Bu anlaşma dahilinde Kurumumuzca İlimiz İlhanlı ve Nar Mahallelerinde uygulanacak olan kanalizasyon ve yağmur suyu altyapı projelerinin ÇED roparundan muaf olduğuna dair yazının tarafımıza iletilmesi hususunda;

Gereğini rica ederim.

Mikail AKSUNGUR
Belediye Başkan Yardımcısı

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: ed4f7fb4-94eb-4a17-bcc3-93b573e747a6 Doğrulama Linki: https://www.turkiye.gov.tr/icisleri-belediye-ebys

Adres: Yukarı Kayabaşı Mahallesi Adliye Sokak No:1 - 51100 - Niğde
Telefon No: 4445101 Faks No: (388)232 35 68
e-Posta: nigde@nigde.bel.tr Internet Adresi: https://nigde.bel.tr
Kep Adresi:

Bilgi için: Harun DELİASLAN
Memur
Telefon No:

1/1

ANNEX-8 STAKEHOLDER CONSULTATION MEETING

Annex 8-1 Announcements and Presentation for the SCM

4 GÜNCEL 8 OCAK 2024 PAZARTESİ — Gülaydın

"1 hafta içinde 134 bin kişi daha icra takibine alındı"

CHP Niğde Milletvekili Ömer Fethi Gürer, bankalara ve varlık yönetimi şirketlerine borcu yüzünden icra takibinde olan vatandaşların sayısının 3 milyon 830 bin 149'a çıktığını belirterek, "İktidar vatandaşı borç batağına soktu, Mutlu azınlığın keyfi gıcır, vatandaş ise ekmeğe muhtaç" dedi.

Cumhuriyet Halk Partisi (CHP) Niğde Milletvekili Ömer Fethi Gürer, ekonomik veriler üzerinden yaptığı değerlendirmede, bankalara ve varlık yönetimi şirketlerine borçlarından dolayı icra takibi başlatılan vatandaşların durumuna dikkat çekti.

11 AYDA 1 MİLYON 197 BİN KİŞİ İCRA TAKİBİNE ALINDI

2023 yılının Ocak- Kasım döneminde 780 bin 850 kişinin bankalara olan bireysel kredi borcunu, 787 bin 683 kişinin ise kredi kartı borcunu temerrüt süresinin de sonuna kadar ödeyemediği için bankalar tarafından icra takibine alındığını belirten Gürer, "Hem kredi kartı hem de tüketici kredisi borcu yüzünden söz konusu dönemde takibe alınanlar tek kişi sayıldığında 2023 yılının Ocak-Kasım döneminde toplam 1 milyon 197 bin 35 kişi bankalar tarafından icra takibine alındı" dedi. Önceki yıllarda da bankalar tarafından borcu yüzünden icra takibine alındığı halde borcunu henüz ödeyememiş 2 milyon 337 bin 292 kişinin olduğuna dikkat çeken CHP Milletvekili Ömer Fethi Gürer, "2 milyon 109 bin 51 kişi de varlık yönetim şirketlerinin takibinde icra takibinde bulunuyor. Hem bankalar hem de varlık yönetim şirketleri tarafından borcu yüzünden takip edilenler tek kişi sayıldığında takipteki toplam vatandaş sayısı Kasım 2023 sonu itibariyle 3 milyon 830 bin 149 kişi olarak hesaplanıyor" değerlendirmesinde bulundu.

Ömer Fethi Gürer, "Resmi verilere yansıyan borçlarla vatandaşın mağduriyeti artıyor. Bu arada özel ikili ilişkiler ile şahıs, esnaf gibi borçlanılan kesimler bu veriler içinde yer almıyor. Elden alınan borçlarda dikkate alındığında borçlanma daha da artıyor. Örneğin çiftçi borçlarını ödemek için arazi satıp, borç ödüyor. Kimi icralık olmamak ya da sorun yaşamamak için evdeki eşyasını satmak zorunda kalıyor. İkinci el pazarları beyaz eşya ya da mobilya gibi eşyalarla dolu, vatandaş borç ödemek için bu yola başvuruyor. Kayıtlı ve resmi veriler dışında bir de kişiye özel borçlanma olayı gerçeği var. Nüfusun çoğunluğu borçla yaşamaya çalışıyor" dedi.

TÜKETİCİ BANKALARA 2 HAFTA İÇİNDE 100 MİLYAR LİRA DAHA BORÇLANDI

Tüketicilerin banka borcunun geçen yılın son iki haftasında 100 mily... büyüdüğüne de ... Milletvekili Öm... bankaların zam... emediği için ... lan vatandaş... ları ise söz kon... milyar oldu Tak... başından bu yana ise 15,1 milyar liralık artış yaşandı" değerlendirmesinde bulundu.

BİR HAFTA İÇİNDE 134 BİN 515 YENİ İCRA DOSYASI

CHP Milletvekili Ömer Fethi Gürer, 1 Ocak- 5 Ocak 2024 günleri arasında icra dairelerine UYAP üzerinden gelen yeni dosya sayısının ise geçen yılın aynı haftasına göre yüzde 9,9 oranında artarak 134 bin 515 olduğuna da dikkat çekti. "UYAP üzerinden açılan ve icra dairelerinde derdest bulunan dosya sayısı 5 Ocak itibariyle 21 milyon 328 bin oldu" dedi.

İKTİDARIN YANLIŞ EKOMİ POLİTİKALARININ CEREMESİNİ VATANDAŞ ÇEKİYOR

CHP Niğde Milletvekili Ömer Fethi Gürer, Her Bakan değişikliği ile ekonomide farklı uygulamalara gidildiğini ve dünyada faizler yükselirken "Ben ekonomistim" diyen Cumhurbaşkanının " NAS" var diyerek faizleri aşağı çekmesi ile oluşan denge kaybının yüksek faiz olarak geri döndüğüne işaret etti. Gürer, AKP iktidarının yanlış ekonomi politikalarının ceremesini, dar gelirli ve sabit gelirli vatandaşların çektiğini ve yanlış politikanın bedelinin sürekli zam ve vergilerle yüksek faiz olarak yaşamımıza yansıdığını söyledi.

YEREL SEÇİM SONRASI DAHA DA ZOR

Artan enflasyon, temel ürünlere gelen zam yağmuru ve ekonomideki istikrarsızlığın, vatandaşı yoksulluğa sürüklediğini belirten Ömer Fethi Gürer, "Milyonlarca insanın icra takibinde olduğu bir ülkede, sürekli artan yoksullaşma ile karşı karşıyayız. Sofradan ekmek eksilmeye devam ediyor. Yeterli beslenemeyen aile sayısı artıyor. 4 milyon hane sosyal yardımla yaşıyor. Yatağa hiçbir çocuk aç girmesin derken bu iktidarın eseri olarak aileler yatağa aç girer duruma düşürüldü. AKP iktidarlarının yanlış ekonomi politikaları ile yaratılan denge bozukluğu bu zihniyetle düzelmesi zor görülüyor. Daha çok kemer sıkma dönemi sürecek. Kamu varlıklarından sonra kamu arazilerinin satışı da durmuyor ama denge tutmuyor. Elinde imar planı yapma yetkisi de bulunan özelleştirme idaresinin 2023 yılında yaptığı 180,9 milyon dolarlık özelleştirmenin 179,1 milyon dolarlık kısmını taşınmaz (arsa-arazi) satışları oluşturdu. 2022 yılında yapılan 504 milyon dolarlık özelleştirmenin de 441 milyon dolarlık kısmını taşınmaz satışından elde edilmişti. Kamu varlıklarında elde ne kaldı ise satmaya devam eden iktidar bir yandan da sürekli zam ve vergi ile gelir sağlamaya vatandaştan almaya devam ediyor. Akaryakıt, gübre ve yem gibi önemli tarımsal üretim girdilerine gelen vergi ve zamlar ile fiyatlar artıyor. Bu sürecin gıda maliyetlerini artıracağı için de rafta ürün fiyatlarına kısa süre sonra yeni artışlar yansıyacak. Ülkemizi getirdiği nokta ne yazık ki sorunlu bir süreç olarak devam edecek değerlendirmesinde bulundu. CHP

Acar Se... ten Umre ziyareti

Acar Seyahat & Büşra turizm 2024 yı... organizasyonu ile umre vazifesini yerin... getirmek üzere kutsal topraklara gidecek... toplam da 350 kişinin yer aldığı grubun son kafilesi olan 75 kişiye yönelik seminer düzenledi. Niğde'de 12 yıldan beri hac ... ...lan vatandaşlar için Acar Seyahat ... mahallesi merkez yerleşkesi konferans salonunda bilgilendirme semineri ... ay içerisinde toplam 350 kişinin kutsal topraklara gidileceği kafilenin 75 kişi... üzere yönelik gerçekleştirilen seminere Acar Seyahat hac umre görevlileri Mehmet Yılmaz ve Ramazan Özmen ile birlikte çok sayıda kutsal topraklara gidenlerin yakınları katılırken duygu dolu heyecanlı anlar yaşandı. Vatandaşların umre ibadetlerini sağlık, güvenlik ve huzur içerisinde, usulüne uygun ve bilinçli bir şekilde yerine getirebilmeleri, umre ibadetini manevi bir yenilenme fırsatı olarak değerlendirebilmeleri amacıyla düzenlenen Umrecilere çeşitli konularda bilgiler verildi. Seminerlerin önemine değinen Acar Seyahat görevlisi Ramazan Özmen, "Umre öncesi eğitimlere çok önem veriyoruz. Bizde gittiğimiz zamanlarda bunu görüyoruz müşahede ediyoruz. Yani eğitim verilenlerle, eğitim almayanlar arasında büyük farkların olduğunu rahatlıkla görünüyor. Bu eğitimler sayesinde inşallah Ocak ayı içerisinde toplamda 350 umrecimizi kutsal topraklara Allah nasip ederse göndereceğiz. Bugün burada kardeşlerimize eğitim verdik, katılım iyiydi ve çok güzel geçti diye konuştu. (HaberMerkezi)

NİĞDE MERKEZ KANALİZASYON VE YAĞMURSUYU ŞEBEKESİ İNŞAATI PROJESİ PAYDAŞ KATILIM TOPLANTISINA DAVET

Sürdürülebilir Şehirler Programı-II Ek Finansman (SŞP-II-EF) kapsamında Niğde Belediyesi tarafından çalışmaları devam eden Niğde Merkez Kanalizasyon ve Yağmursuyu Şebekesi İnşaatı Projesi'ne ait Çevresel ve Sosyal Yönetim Planı çalışmaları kapsamında, paydaşları bilgilendirmek, görüş ve önerilerini almak, yatırım ve işletme dönemlerinde paydaşlar ile işbirliği tesis etmek üzere "Paydaş Katılım Toplantısı" düzenlenecektir. Toplantının detayları aşağıda verilmiştir.

Halkımıza saygı ile duyurulur.

Toplantı Yeri ve Tarihi

BAĞLI İLİ/İLÇESİ	YER	TARİH ve SAAT
Niğde / Merkez	Niğde Belediyesi Meclis Salonu Niğde Belediyesi 2. Kat Meclis Salonu Yukarı Kayabaşı Mah. Adliye Sk. No:1	18.01.2024 10:00

Proje Sahibi : Niğde Belediyesi
Telefon : 444 51 01
E – posta : nigdebelediyesi@hs01.kep.tr
ÇSYP Raporu Hazırlayan Kuruluş : ENCON Çevre Danışmanlık Ltd. Şti
Telefon : +90 (312) 447 71 23

Resmi ilanlar www.bik.gov.tr BASIN İLN01961704

İLAN NİGDE 2. ASLİYE HUKUK MAHKEMESİNDEN

Mahkememizin 03/01/2024 tarih, 2023/819 Esas ve 2024/1 karar sayılı kararı ile Niğde İli, Altunhisar İlçesi Uluören Köyü/Mah. Cilt No:79 Hane no: 35 BSN: 219 'denüfusa kayıtlı, Davut ve Nurdagül kızı, Niğde 26/11/2005 doğumlu, 11063894260 T.C. Kimlik numaralı Buse DEMİRASLAN'ın isminin "ELA" olarak TASHİHİNE, karar verilmiştir. Karar gereğince ilgililere ilanen duyurulur.03/01/2024

Resmi ilanlar www.bik.gov.tr BASIN İLN01963572

Niğde–Bor ücreti 23 lira oldu

Niğde – Bor arası minibüs taşıma ücretlerine zam yapıldı. S.S. 10 Nolu Motorlu Taşıyıcılar Kooperatifinin taşıma ücretlerine zam talebi Niğde Esnaf ve Sanatkarları Odaları Birliği Yönetim Kurulunun kararı ile kabul edildi.

Kabul edilen zamlı tarife 8 Ocak 2023 Pazartesi günü uygulanmaya başlayacak.

İŞTE YENİ ZAMLI TARİFE; BOR – TOKİ – NİĞDE (Tam) : 23 TL, BOR – TOKİ – NİĞDE (Öğrenci): 20 TL, BOR – KAMPÜS (Tam): 20 TL, BOR – KAMPÜS (Öğrenci) : 18 TL, TOKİ – KAMPÜS (Tam) : 15 TL, TOKİ – KAMPÜS (Öğrenci) : 13 TL (Süleyman Özşahin)

Ak Parti'nin İstanbul adayı Murat Kurum oldu

AK Parti Milletvekili Murat Kurum İstanbul Büyükşehir Belediye (İBB) Başkan adayı oldu.

Kurum'un ekibine konuyla ilgili yaptığı açıklamanın bir kısmı sosyal medyadan paylaşıldı. Kurum, açıklamasında "Ekibimizle, tüm arkadaşlarımızla birlikte çıkacağız. 16 milyon İstanbullu için çıkacağız. İstanbul'un bu karmaşasını, düzensizliğini, insanlarımızın deprem riski kaygısını hep birlikte ortadan kaldırmak için tüm ekibimizle, tüm arkadaşlarımızla ki uzun zamandır benimle beraber çalışıyorsunuz" dedi. (Murat Karakaya)

Çiftlik–Niğde arası yolculuk zamlandı

Minibüs ücretlerine zam konusunda, Niğde Esnaf ve Sanatkarı Odaları Birliği Yönetim Kurulu ittifakla yeni tarifede anlaştı.

Niğde Esnaf ve Sanatkarları Odaları Birliği Yönetim Kurulunun aldığı 4 Ocak 2024 tarihli karara göre; Çiftlik-Niğde arası tam ücret 100, öğrenci 90 lira, Kitreli Kasabası ile Niğde arası tam ücret 110 lira oldu. Kararla birlikte; ilçeler arasında yolculuk yeni tarifeyle uygulamaya geçti. (Murat Karakaya)

İzmir'de deprem

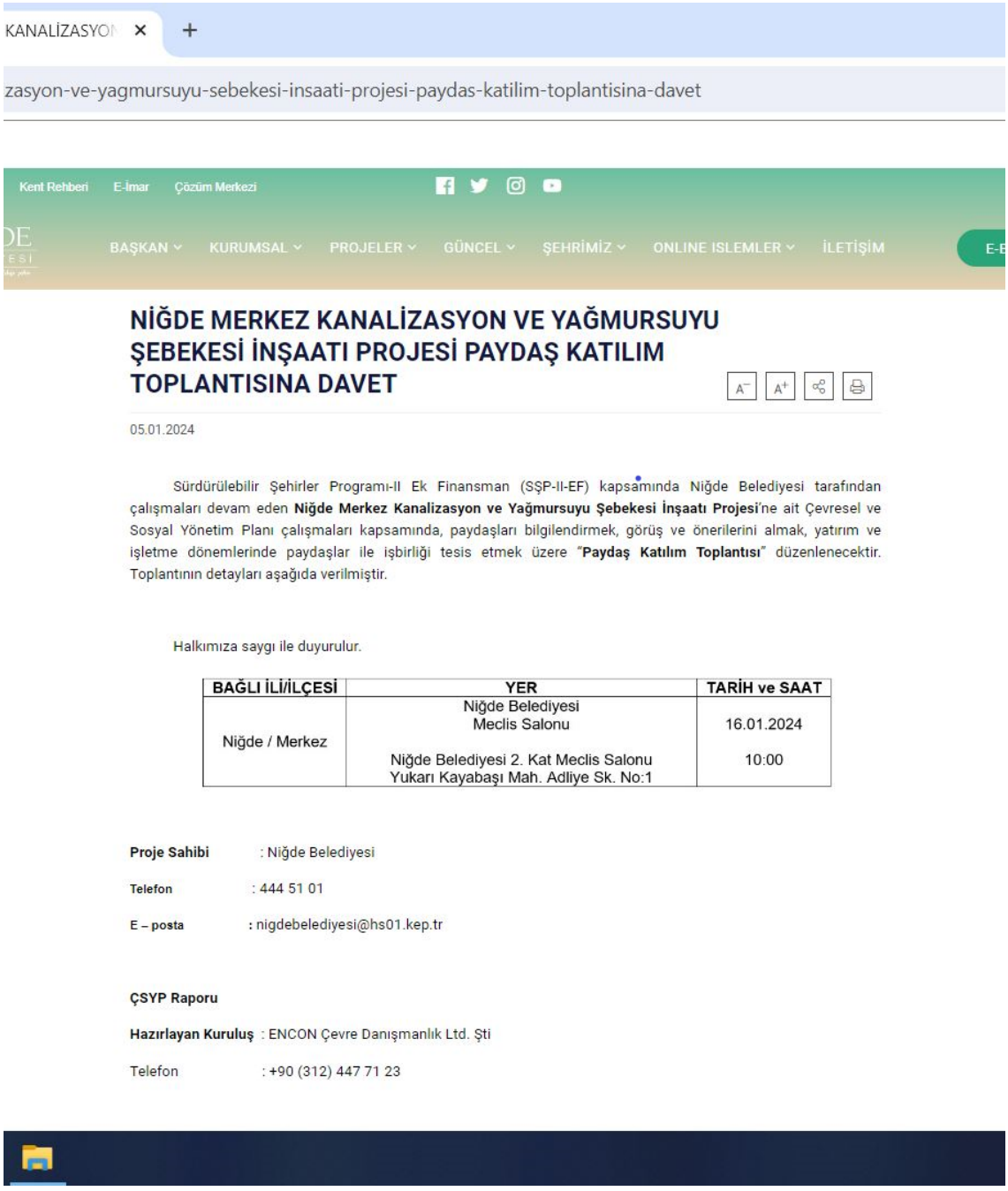
İzmir'in Çandarlı ilçesinde geçtiğimiz gün 4.2 büyüklüğünde deprem meydana geldi. İzmir'in Çandarlı ilçesinde 4.2 büyüklüğünde deprem meydana geldi. AFAD'dan yapılan açıklamada saat 14.53'te oluşan deprem yerin yaklaşık 9 km derinliğinde oluştu. Deprem İzmir ve çevre illerden de hissedildi. (Murat Karakaya)

Annex 8-1-1 Local Newspaper Announcement

This project is co-funded by the European Union, the Republic of Turkey and the World Bank
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

Annex 8-1-2 National Newspaper Announcement

SÜRDÜRÜLEBİLİR ŞEHİRLER
TÜRKİYE CUMHURİYETİ ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ BAKANLIĞI
İLBANK TÜRKİYE'NİN YAPICI GÜCÜ
THE WORLD BANK IBRD • IDA | WORLD BANK GROUP



KANALİZASYON

zasyon-ve-yagmursuyu-sebekesi-insaati-projesi-paydas-katilim-toplantisina-davet

Kent Rehberi E-İmar Çözüm Merkezi

BAŞKAN KURUMSAL PROJELER GÜNCEL ŞEHRİMİZ ONLINE ISLEMLER İLETİŞİM

NİĞDE MERKEZ KANALİZASYON VE YAĞMURSUYU ŞEBEKESİ İNŞAATI PROJESİ PAYDAŞ KATILIM TOPLANTISINA DAVET

05.01.2024

Sürdürülebilir Şehirler Programı-II Ek Finansman (SŞP-II-EF) kapsamında Niğde Belediyesi tarafından çalışmaları devam eden **Niğde Merkez Kanalizasyon ve Yağmursuyu Şebekesi İnşaatı Projesi**'ne ait Çevresel ve Sosyal Yönetim Planı çalışmaları kapsamında, paydaşları bilgilendirmek, görüş ve önerilerini almak, yatırım ve işletme dönemlerinde paydaşlar ile işbirliği tesis etmek üzere "**Paydaş Katılım Toplantısı**" düzenlenecektir. Toplantının detayları aşağıda verilmiştir.

Halkımıza saygı ile duyurulur.

BAĞLI İLİ/İLÇESİ	YER	TARİH ve SAAT
Niğde / Merkez	Niğde Belediyesi Meclis Salonu Niğde Belediyesi 2. Kat Meclis Salonu Yukarı Kayabaşı Mah. Adliye Sk. No:1	16.01.2024 10:00

Proje Sahibi : Niğde Belediyesi

Telefon : 444 51 01

E – posta : nigdebelediyesi@hs01.kep.tr

ÇSYP Raporu

Hazırlayan Kuruluş : ENCON Çevre Danışmanlık Ltd. Şti

Telefon : +90 (312) 447 71 23

Annex 8-1-3 Website Announcement

sızıntı, su kirliliği, atık üretimi ve iş sağlığı ve güvenliği, işletme aşamasında ise kimyasalların depolanması ve kullanımı, atıklar, gürültü, geçim kaynakları, şikâyetler, topluluk çatışmaları, iş sağlığı ve güvenliği ve işgücü parametreleri vb. **ÇSYP'de belirlenen şartlara uygun olarak izlenecektir**.

Bu ÇSYP'nin uygulanmasından sorumlu ana kurum, projenin inşaatından ve işletme aşamalarından da sorumlu olan Niğde Belediyesi'dir. Ayrıca, projenin farklı aşamalarında çeşitli taraflar (Yükleniciler, Proje Uygulama Birimi, İLBANK, vb.) ÇSYP kapsamında çeşitli konularda sorumluluk alacaklardır. Sözü edilen tüm çalışmalar Niğde Belediyesi tarafından koordine edilecektir.

Proje dokümanları ayrıca Niğde Belediyesi'nin internet sitesi üzerinden yayınlanacaktır ve talep edilmesi halinde bu dokümanlar Niğde Belediyesi tarafından paylaşılacaktır.

Niğde halkının hem inşaat hem de işletme aşamasında Proje ile ilgili endişelerini, görüşlerini, şikâyetlerini ve önerilerini almak adına bir **Şikâyet Mekanizması** kurulacaktır.

Bu mekanizma aracılığıyla iletilen şikâyetler, hızlı ve hassas bir şekilde ele alınacaktır.

5

Şikâyet Mekanizmasının kurulmasından ve uygulanmasından sorumlu kurum Niğde Belediyesi olacaktır. Bu kapsamda proje ile ilgili beklenti, görüş, öneri ve şikâyetlerin paylaşılması için aşağıda verilen iletişim kanalları da ayrıca kullanılabilecektir:

- **Paydaş Katılım Toplantıları**
- **Alo 153 – 444 51 01**
- **E-mail:** nigdebelediyesi@hs01.kep.tr

Tüm iç ve dış paydaşlar, projeyle ilgili şikâyetlerini ve geri bildirimlerini doğrudan devlet yetkililerine iletmek için alternatif ve iyi bilinen bir kanal olarak tüm proje paydaşlarının erişimine açık olan ve ülke çapında kullanılan Cumhurbaşkanlığı İletişim Merkezi (CİMER) gibi diğer şikâyet giderme mekanizmalarından da yararlanma hakkına sahip olacaktır.

CİMER iletişim bilgileri;

- **CİMER Web Sitesi: www.cimer.gov.tr**
- **CİMER Çağrı merkezi:150**
- **CİMER Telefon: +90 312 525 55 55**
- **CİMER Faks: +90 312 473 64 94**
- **CİMER Resmi Yazı Adresi: TC İletişim Başkanlığı Kızılırmak Mah. Mevlana Bulvarı No:144 ÇANKAYA/ANKARA**

Bireysel başvurular için valilikler, bakanlıklar ve kaymakamlıklardaki halkla ilişkiler masaları ile görüşünüz.

6

This project is co-funded by the European Union, the Republic of Turkey and the World Bank
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

Sürdürülebilir Şehirler Projesi-II Ek Finansman Niğde Merkez Kanalizasyon ve Yağmursuyu Şebekesi İnşaatı Projesi

Bilgilendirme Broşürü

OCAK 2024

1

Niğde Merkez Kanalizasyon ve Yağmursuyu Şebekesi İnşaatı Projesi Türkiye'deki şehirlerde sürdürülebilir kalkınmayı desteklemek için Sürdürülebilir Şehirler Projesi- II Ek Finansman (SŞP-II-EF) kapsamındaki alt projelerden biridir. SŞP-II-EF, özellikle afetlere ve iklim değişikliğinin olası risklerine karşı şehirlerin direncinin arttırılması ve bu risklerin gerçekleşmesi durumunda şehirlere etkilerinin hafifletilmesine ilişkin yaklaşımları geliştirmeyi amaçlamaktadır.

Dünya Bankası (DB) tarafından finanse edilen proje, İller Bankası A.Ş. aracılığı ile Niğde Belediyesi tarafından yürütülecektir. **Projenin genel amacı,** İlhanlı ve Nar mahallelerinin atıksu altyapı ihtiyaçlarını karşılamak için kanalizasyon şebekesi tasarlamak ve uygulamak ve Selçuk, İlhanlı ve Nar mahallelerinin yağmursuyu toplama hattı altyapı ihtiyaçlarını karşılamak için yağmursuyu şebekesi tasarlamak ve uygulamaktır.

Proje, üç bileşenden oluşmaktadır (Bkz: Şekil 1).

- **Bileşen I- Niğde İlhanlı ve Nar Merkez Mahalleleri'nin Kanalizasyon Şebekelerinin Yenilenmesi,** Niğde'nin İlhanlı ve Nar Merkez Mahallelerinin 128,6 km'lik mevcut kanalizasyon şebekesinde rehabilitasyon çalışmaları yapılmasını ve 14,3 km uzunluğunda yeni bir kanalizasyon hattı inşa edilmesini kapsamaktadır.

2

- **Bileşen II- Niğde İlhanlı, Nar, Selçuk Merkez Mahalleleri Yağmursuyu Şebekesi İnşası,** entegre olarak tasarlanan kanalizasyon ve yağmursuyu toplama sistemlerinin ayrı birer sistem haline getirilmesi için 31,5 km uzunluğunda bir yağmur suyu şebekesi inşa edilmesini kapsamaktadır.

Projenin beklenen sonuçları aşağıdaki gibidir:

- Proje hizmet alanındaki taşkınların azaltılması veya ortadan kaldırılması,
- Kanalizasyon sistemine düşen su taşıma yükünün ve atıksu arıtma tesisine giden su miktarının azalması,
- Mevcut atıksu arıtma tesisinin verimliliğinin artması ile alıcı su ortamına patojen deşarj riskinin azalması,
- Sucul türler ve habitat üzerindeki etkilerin azalması,
- Enerji tüketiminde tasarruf ve temiz su kaynaklarının daha verimli kullanımı.

Projenin inşaat faaliyetlerinin 24 ay süreceği öngörülmektedir.

Projenin personel ihtiyaçları henüz kesinleşmemiş olmakla beraber inşaat aşamasında 75, işletme aşamasında 4 kişinin istihdam edilmesi öngörülmektedir. İşe alım sürecinde yerel halka öncelik verilecektir.

3

Şekil 1: Yer Bulduru Haritası

Beklenen etkilerin yönetimi için bir Çevresel ve Sosyal Etki Değerlendirmesi (ÇSYP) geliştirilmiştir. ÇSYP, Projenin uygulanmasından kaynaklanan olası çevresel ve sosyal etki ve riskleri belirlemek ve önemli olumsuz çevresel etkiler için etki azaltma önlemleri önermek amacıyla hazırlanmıştır.

Ayrıca ÇSYP kapsamında uygulanacak **izleme ve denetim faaliyetleri** de tanımlanmıştır. ÇSYP çalışmaları kapsamında toprak ve hava ortamları, gürültü, su kaynakları, atıklar, trafik üzerinde oluşabilecek etkiler belirlenmiş ve ilgili etki azaltma önlemleri belirtilmiştir.

İzleme gereklilikleri de ÇSYP kapsamındaki izleme tablolarında tanımlanarak sunulmuştur. Buna göre projenin inşaat aşamasında, üst toprak kaybı, toprak kirliliği, toz emisyonu, gürültü,

4

Annex 8-1-4 Brochure Distributed During the SCM

SÜRDÜRÜLEBİLİR ŞEHİRLER PROJESİ – II
EK FİNANSMAN

NİĞDE MERKEZ KANALİZASYON VE YAĞMURSUYU ŞEBEKESİ İNŞAATI PROJESİ

PAYDAŞ KATILIMI TOPLANTISI

BİLGİLENDİRME SUNUMU

OCAK 2024

1

KAPSAM/GÜNDEM

NİĞDE MERKEZ KANALİZASYON VE YAĞMURSUYU ŞEBEKESİ İNŞAATI PROJESİ

- Projenin finansörü, aracısı ve yürütücüsü kimdir?
- Projenin beklenen faydaları nelerdir?
- Çevresel ve Sosyal Çalışmalar nedir?
  - Olası çevresel ve sosyal etkiler
  - Etki azaltıcı önlemler ve yönetim stratejileri
- Paydaş Katılımı: Sürece nasıl dahil olabilirsiniz?
- Sorular ve Cevaplar (Proje ile ilgili soru, beklenti, görüş ve öneriler)

2

PROJE BİLGİLERİ

THE WORLD BANK — PROJE FİNANSÖRÜ: DÜNYA BANKASI

İLBANK — PROJE ARACISI: İLLER BANKASI ANONİM ŞİRKETİ GENEL MÜDÜRLÜĞÜ

NİĞDE BELEDİYESİ — PROJE YÜRÜTÜCÜSÜ: NİĞDE BELEDİYESİ

3

PROJE YERİ

Yüzölçümü 7.312 km² olan Niğde ili, Türkiye'nin İç Anadolu Bölgesi'nde yer almaktadır.

Proje Alanı, Niğde ilinin Merkez İlhanlı, Nar ve Selçuk Mahalleleridir.

Proje kapsamında İlhanlı ve Nar Mahallelerinin atıksu altyapı sistemi, İlhanlı, Nar ve Selçuk Mahalleleri için yağmursuyu toplama hattı bulunmaktadır.

4

SÜRDÜRÜLEBİLİR ŞEHİRLER
TÜRKİYE CUMHURİYETİ ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ BAKANLIĞI
İLBANK TÜRKİYE'NİN YAPICI GÜCÜ
THE WORLD BANK IBRD • IDA | WORLD BANK GROUP

PROJENİN AMACI VE FAYDALARI

- Proje ile Niğde'nin Merkez İlçesinin yoğun yağışlar sırasında kanalizasyon sisteminin kapasitesinin aşılması ve yağmur suyunun atık sudan ayrılması nedenleri ile atık su toplama sisteminin yenilenmesi ve ayrıştırılması amaçlanmaktadır.
- Proje'den beklenen sonuçlar şu şekilde sıralanabilir:
  - ✓ Bölgedeki taşkınların azaltılması veya ortadan kaldırılması
  - ✓ Alıcı sulara yapılan sıhhi deşarjların azaltılması veya ortadan kaldırılması
  - ✓ Sucul türler ve habitat üzerindeki etkilerin azaltılması
  - ✓ Alıcı suda evsel kanalizasyondan kaynaklanan patojen ve bakterilerle temas riskinin azaltılması
  - ✓ Enerji tüketiminde tasarruf
  - ✓ Temiz su kaynaklarının daha az kullanılması
  - ✓ Artan atık su kullanımı ile su tasarrufu

PROJE ÖZELLİKLERİ

Proje iki bileşenden oluşmaktadır;

Bileşen 1 - Niğde İlhanlı ve Nar Merkez Mahalleleri'nin Kanalizasyon Şebekelerinin Yenilenmesi, Niğde'nin İlhanlı ve Nar Merkez Mahallelerinin 128,6 km'lik mevcut kanalizasyon şebekesinde rehabilitasyon çalışmaları yapılmasını ve 14,3 km uzunluğunda yeni bir kanalizasyon hattı inşa edilmesini kapsamaktadır.

Bileşen 2 - Niğde İlhanlı, Nar, Selçuk Merkez Mahalleleri Yağmursuyu Şebekesi İnşası, entegre olarak tasarlanan kanalizasyon ve yağmursuyu toplama sistemlerinin ayrı birer sistem haline getirilmesi için 31,5 km uzunluğunda bir yağmur suyu şebekesi inşa edilmesini kapsamaktadır.

PROJE ÖZELLİKLERİ

- İnşaat ve işletme aşamalarında çalıştırılacak toplam işçi sayısı kesin olarak bilinmemekle birlikte, inşaatta 75, işletmede ise 4 kişi olacağı tahmin edilmektedir. İstihdam sürecinde öncelik yerel topluma verilecektir.
- Projenin inşaatının 24 ayda tamamlanması planlanmaktadır.
- Bu Proje'nin tasarımı satın alma ve inşaat dönemleri de dahil olmak üzere 2020-2055 yılları arası 35 yıl olarak alınmıştır.
- Projenin ilk bileşeni kapsamında 128,6 km'lik mevcut şebekenin rehabilitasyon çalışmaları gerçekleştirilecektir. Ayrıca 14,3 km uzunluğunda yeni bir kanalizasyon hattı inşa edilecektir.
- Projenin ikinci bileşeni kapsamında ise 31,5 km uzunluğunda yağmur suyu şebekesi inşa edilecektir.
- Ayrıca, Proje alanı içinde ve çevresinde önemli çevre koruma bölgeleri, kritik doğal yaşam alanları, doğal yaşam alanları vb. hassas alanlar bulunmamaktadır.

PROJE ÖZELLİKLERİ

- Kanalizasyon hattının 2021 yılında Niğde ilinde yeni inşa edilen ileri biyolojik atıksu arıtma tesisine bağlanması planlanmaktadır. Yapılacak yeni hatlar da bu atıksu arıtma tesisine bağlanacaktır.
- Proje kapsamındaki mahallelerde, mevcut olmayan bir yağmursuyu şebekesinin inşa edilmesi planlanmaktadır. Yeni şebeke vasıtasıyla toplanan yağmursuyunun bölgedeki Kızılca Deresi'ne deşarj edilmesi planlanmaktadır. Bu deşarj, Niğde Belediyesi'nden alınan tasarım haritalarına göre altı farklı noktadan gerçekleştirilecektir.
- Proje, Niğde Belediyesi'ne ait mevcut imar yollarından geçtiğinden proje kapsamında kamulaştırma işlemlerinin yapılmasına gerek yoktur.
- Proje ekonomik açıdan herhangi bir yer değiştirmeye neden olmayacaktır. Ağın inşaatı sırasında yerel işletmeler üzerindeki etki yalnızca geçici olacak ve inşaat kadastro yollarında olacağından önemli olmayacaktır.
- Proje'nin inşaatı ve işletimi ile yerel halkın su hizmetlerine erişimi ve kanalizasyon sistemi iyileştirilecektir. Bu nedenle, Proje'nin halk sağlığı üzerinde olumlu bir etkisi olacaktır.

KAPSAM/GÜNDEM

FİZİKSEL ve BİYOLOJİK ÇEVRE | SOSYO-EKONOMİK ÇEVRE | KÜLTÜREL MİRAS

Etki Kaynağı Faaliyetler/Durumlar	İlgili Çevresel ve Sosyal Unsurlar
• Bitki Örtüsü ve Bitkisel Toprak Temizliği • Tesviye, Kazı ve Dolgu • Malzeme Temini ve Taşınması • Asfaltlama • Atık Oluşumu • İstihdam • İşletme sırasında oluşabilecek teknik hatalar	• Toprak Ortamı • Su Kaynakları • Biyolojik Ortam • Hava Kalitesi • Koku • Gürültü • Trafik • Atık Yönetimi • Kültürel Miras • Sosyo-ekonomik Çevre • Toplum Sağlığı ve Güvenliği • İş ve Çalışma Koşulları

TOPRAK ORTAMI

Olası Etkiler

- Toprak sıyırma, tesviye, hafriyat ve dolgu faaliyetleri, iş makinelerinin çalışması sonucu doğal toprak ve arazi yapısının bozulması,
- Hafriyat ve dolgu faaliyetleri sonucunda toprak tabakalarının karıştırılması;
- İnşaat makine ve ekipmanlarında kullanılacak yakıt, boya ve yağların sızması ve dökülmesi nedeniyle toprak kirlenmesi riski;
- İnşaat faaliyetleri sonucu erozyon potansiyeli oluşması
- Proje kapsamında oluşacak katı veya sıvı atıkların kontrolsüz depolanması veya bertaraf edilmesi durumunda oluşabilecek toprak kirliliği;
- Toprağın orijinal konumuna uygun olmayan şekilde değiştirilmesi.

Alınacak Önlemler

- ✓ Sadece belirlenen çalışma sahaları ve güzergahları kullanılarak kirlenmeye maruz kalacak toprak miktarı minimuma indirgenecektir.
- ✓ Şantiyede kullanılacak iş makinesi ve araçlar için gerekli olan yakıt, öncelikle en yakın istasyondan sağlanacak; gerekli görülmesi halinde sahada depolanabilecek yakıtlar, gerekli sızdırmazlık önlemlerinin alındığı alanlarda depolanacaktır. İnşaat aşamasında oluşan atıklar ve atıksular ilgili yönetmeliklere ve standartlara uygun şekilde depolanıp, bertaraf edilecektir.
- ✓ Erozyona sebep olmamak için bitkisel toprağın sıyrılma işlemi olması gerekenden erken yapılmayacaktır ve sıyrılan toprak uygun koşullarda (çevre düzenlemesi vs.) yeniden kullanılmak üzere depolanacaktır.
- ✓ İnşaat faaliyetlerinin yapıldığı alanlar işler tamamlandıktan sonra eski haline getirilecektir.

SU KAYNAKLARI

Olası Etkiler

- İnşaat aşamasında, çalışanların günlük ihtiyaçları su temini gereksinimini yaratacaktır.
- Projenin inşaat aşamasında toz bastırma için su kullanılacaktır.

Alınacak Önlemler

- ✓ Atıksu, kalıntı veya diğer atıkların yeraltı sularına veya yüzey sularına deşarjı önlenecektir. İnşaat sahalarındaki işçiler için portatif tuvaletler temin edilecektir. Şantiyelerde oluşan atıksular mevcut kanalizasyon şebekesine bağlanacak veya bağlantının mümkün olmadığı yerlerde geçirimsiz sepsik tanklarda toplanacak ve daha sonra vidanjörlerle en yakın kanalizasyon şebekesine boşaltılacaktır.
- ✓ Boruların ve pompaların bakım ve onarım işleri geciktirilmeden yapılacaktır.
- ✓ Toz bastırma faaliyetleri için sulamaya bağlı yüzey akışı önlenecektir.

KARASAL BİYOÇEŞİTLİLİK

Olası Etkiler

- Flora ve fauna türleri üzerindeki olası riskler

Alınacak Önlemler

- ✓ Proje alanı içerisinde korunan ve hassas ekosistemler veya türlerin olması öngörülmemektedir.
- ✓ Çalışma alanı sınırları içerisinde gerekli görülmedikçe bitki örtüsü temizlenmeyecektir. Bitki örtüsü temizliği yapılan yerlerde tekrar bitkilendirme yapılacaktır.
- ✓ Arazi hazırlığı aşamasından önce, inşaat faaliyetlerinin yapılacağı bölge önceden belirlenecek ve bu sınırların dışına çıkılmayacaktır.
- ✓ İnşaat ayak izini daha da önlemek ve en aza indirmek için önlemler alınacak ve mümkün olan yerlerde temizlenen alanların yeniden bitkilendirilmesi sağlanacaktır.

13

HAVA KALİTESİ VE GÜRÜLTÜ

Olası Etkiler

- Projenin inşaat aşamasında hava kalitesi üzerindeki başlıca etkiler, malzeme taşıma, araç hareketi ve ağır iş makinelerinden (kamyonlar, ekskavatörler, vb.) kaynaklanan emisyonlardan kaynaklanan etkiler olacaktır. Hava kirliliği esas olarak toz emisyonları ve egzoz emisyonlarından kaynaklanan sera gazı emisyonları olacaktır.
- Sahanın hazırlanması ve inşaat faaliyetleri için kullanılacak ulaşım araçları, makineler ve dış mekan ekipmanları tarafından gürültü oluşması beklenmektedir.

Alınacak Önlemler

- ✓ İnşaat sahaları toz oluşumuna karşı düzenli olarak sulanacaktır.
- ✓ Gerekli olması durumunda, inşaatta gürültü bariyerleri kullanılarak gürültü azaltımı sağlanacaktır.
- ✓ İnşaat araçlarının şantiyeye girmeyi beklerken veya şantiyede beklerken motorlarını çalışır durumda tutmalarına izin verilmeyecektir.
- ✓ Proje kapsamında gürültü seviyesi düşük ekipman seçimine özen gösterilecektir.
- ✓ İnşaat faaliyetleri mümkün olduğunca gündüz saatlerinde yapılacaktır.
- ✓ Hassas lokasyonlarda gerekli önlemler alınacaktır.

14

KOKU

Olası Etkiler

- Eski kanalizasyon hatlarının yenisi ile değiştirilmesi sırasında koku etkisi görülebilmektedir. Planlı çalışmalarla (rüzgarsız havada çalışmak, çalışma saatlerini uygun şekilde ayarlamak gibi) bu etki azaltılmalıdır.
- Hidrojen sülfür gazı yaratan bu koku, çürük yumurta kokusuyla karakterizedir.

Alınacak Önlemler

- ✓ Kokunun artması durumunda İş Sağlığı ve Güvenliği kurallarına özellikle dikkat edilecektir.
- ✓ Proje'nin yardımıyla kötü yönetilen kanalizasyon sisteminden kaynaklanan koku sorunları ortadan kaldırılacaktır.
- ✓ Yenilenen ve yeni yapılan kanalizasyon hatlarında sızıntı veya çatlak varsa bu hatların Niğde Belediyesi tarafından onarılması söz konusudur.

15

TRAFİK

Olası Etkiler

- Şehir içinde gerçekleştirilecek inşaat faaliyetleri dolasıyla trafiğin aksaması,
- İnşaat ve işletme aşamalarında yapılacak hafriyat ve kazılardan kaynaklanan güzergâh değişiklikleri ve inşaat işlerinin yol açacağı ek trafik yükü nedeniyle araç trafiği olumsuz etkilenmesi.

Alınacak Önlemler

- ✓ Trafik Yönetim Planı hazırlanacak ve trafiği etkileyebilecek tüm faaliyetler bu plana göre yapılacaktır.
- ✓ İnşaat malzemelerinin, ekipmanlarının ve makinelerinin trafik şeritlerinde depolanması önlenecektir.
- ✓ Gerekli trafik levhaları ve bariyerler yüklenici tarafından konulacaktır.
- ✓ Alternatif yollar trafik yoğunluğuna göre belirlenecektir.
- ✓ Çalışma sahalarına yakın mevcut yollarda trafik akışı olması durumunda, trafik güvenliğini sağlamak amacıyla sürekli olarak toz giderme tedbirleri uygulanacaktır. Yerel yollarda trafik yoksa toz giderme tedbirleri yalnızca yerel yerleşim alanlarında uygulanacaktır.
- ✓ Şikayet mekanizmasının kurulacak ve işletilecektir.

16

ATIK OLUŞUMU

Atık Üretecek Olası Kaynaklar

- İnşaatta çalışacak personel kaynaklı katı atık oluşumu
- Ahşap, kağıt, karton, plastik vb. ambalaj atıkları
- Proje'nin inşaat ve işletme aşamaları kapsamında oluşabilecek tehlikeli ve özel atıklar, kontamine kaplar, bez ve giderler, atık pil ve akümülatörler, atık yağlar vb.
- Hafriyat ve inşaat atıkları
- Atık borular

Alınacak Önlemler

- ✓ Proje kapsamında oluşturulacak atıklar atık yönetimi hiyerarşisine göre yönetilecektir.
- ✓ Atıklar çok bekletilmeden bertaraf edilecektir.
- ✓ Geri dönüştürülemeyen ve değerlendirilemeyen katı atıklar şantiye sahasındaki çöp konteynırlarında toplanacak ve Niğde Belediyesi tarafından günlük olarak toplanacaktır. Atıkların sahada yakılması veya gömülmesi söz konusu olmayacaktır.
- ✓ Atık oluşumu, depolanması ve bertarafı ile ilgili kayıtlar tutulacaktır. Geçici depolanan atıklar özelliklerine göre sınıflandırılacaktır.
- ✓ İşletme aşamasında eski boruların değiştirilmesi sonucu ortaya çıkan eski boru atıklarının geri kazanım olanakları değerlendirilerek kalan kısımlar en yakın ruhsatlı depolama sahasına bertaraf edilecektir.

17

SOSYO EKONOMİ

Olası Etkiler:

- Projenin inşaat ve işletme aşamalarında toz, gürültü, iletişim ve su kesintileri, ulaşımın aksaması gibi hususlar söz konusu olabilir.
- Proje nedeniyle bölgeye yerleşen kişilerin yerel nüfus üzerinde olumsuz etkileri görülebilir (özellikle bölge kırsal, uzak ve küçük ise).
- Proje kapsamında çalıştırılacak iş gücünün; çalışma şartları, haklarının korunması, iş sağlığı ve güvenliği gibi konular üzerindeki olası etkileri olabilir.

Alınacak Önlemler

- ✓ Çalışanların ulusal iş hukuku kapsamındaki haklarıyla ilgili açık ve anlaşılır bir şekilde bilgilendirilmesi
- ✓ İş Sağlığı ve Güvenliği kapsamında inşaat aşamasında çalışanlara ve operasyon ve bakım personeline eğitimler verilmesi
- ✓ Proje alanının güvenliğini sağlamak için gerekli izinlere sahip kişilerin veya kuruluş görevlilerinin alana erişime izin verilmesi
- ✓ Tüm ekipmanın uygun çalışma düzeninde çalıştırılması
- ✓ Şikayet mekanizmasının kurulması ve işletilmesi

18

ARKEOLOJİ VE KÜLTÜREL MİRAS

Olası Etkiler

- İnşaat aşamasında yeni arkeolojik yerleri ve kalıntıları keşfetme ve bunlara kazara zarar verilmesi
- İnşaat aşamasında bulunan arkeolojik yerlerin ve kalıntıların değerli olduğunu fark edemeden önemli kültürel değerlerin kaybedilmesi

Alınacak Önlemler

✓ Kültürel mirasın korunmasının önemi ve Proje'nin kültürel miras kaynaklarına olan etkileri önleme, en aza indirme veya hafifletme tasfhüfleri konusunda farkındalıklarını artırmak için Rastlantısal Buluntu Prosedürü ile ilgili olarak tüm Proje personeline ve Alt Yüklenicilere eğitim verilecektir.

✓ Yüklenici ve Alt Yüklenicilerle yapılan sözleşmelerde inşaat süresi boyunca inşaat kaynaklı zararların karşılanmasına yönelik hükümler yer alacaktır.

✓ Yüklenicinin Proje alanında yapacağı işler sırasında herhangi bir taşınır veya taşınmaz kültür varlığı ile karşılaşması durumunda, Yüklenici tüm işleri durduracak, 2863 sayılı Kanun'un 4. maddesi uyarınca en yakın Mahalli İdare veya Müze Müdürlüğü'ne haber verilecek ve bundan sonra ilgili makamdan gelecek talimatlara uyulacaktır.

19

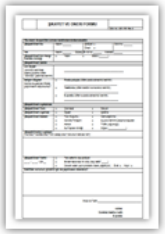
PAYDAŞ KATILIMI: SÜRECE NASIL DAHİL OLABİLİRSİNİZ?

Görüş ve Şikayet Bildirme Mekanizması

Proje kapsamında bir Şikayet Mekanizması kurulacak ve herkes tarafından erişilebilir olacaktır.

Proje ile ilgili beklentileriniz, görüşleriniz, önerileriniz ve şikayetleriniz;

- **Paydaş Katılım Toplantıları sırasında,**
- **Niğde Belediyesi İnternet sitesini kullanarak,**
- **Şikayet Mekanizmasını kullanarak,**
- **Alo 153 ve Alo 156 Acil Yardım Hattı aracılığıyla,**
- **Cumhurbaşkanlığı İletişim Merkezi (CİMER) aracılığıyla,**
- **Niğde Belediyesi proje temsilcisi aracılığıyla iletebilirsiniz.**
- **Telefon:** ALO 181 – (388) 444 5101
- **Adres:** Yukarı Kayabaşı Mah. Adliye Sok. No:1-51100, Niğde
- **E-mail:** iletisim@nigde.bel.tr

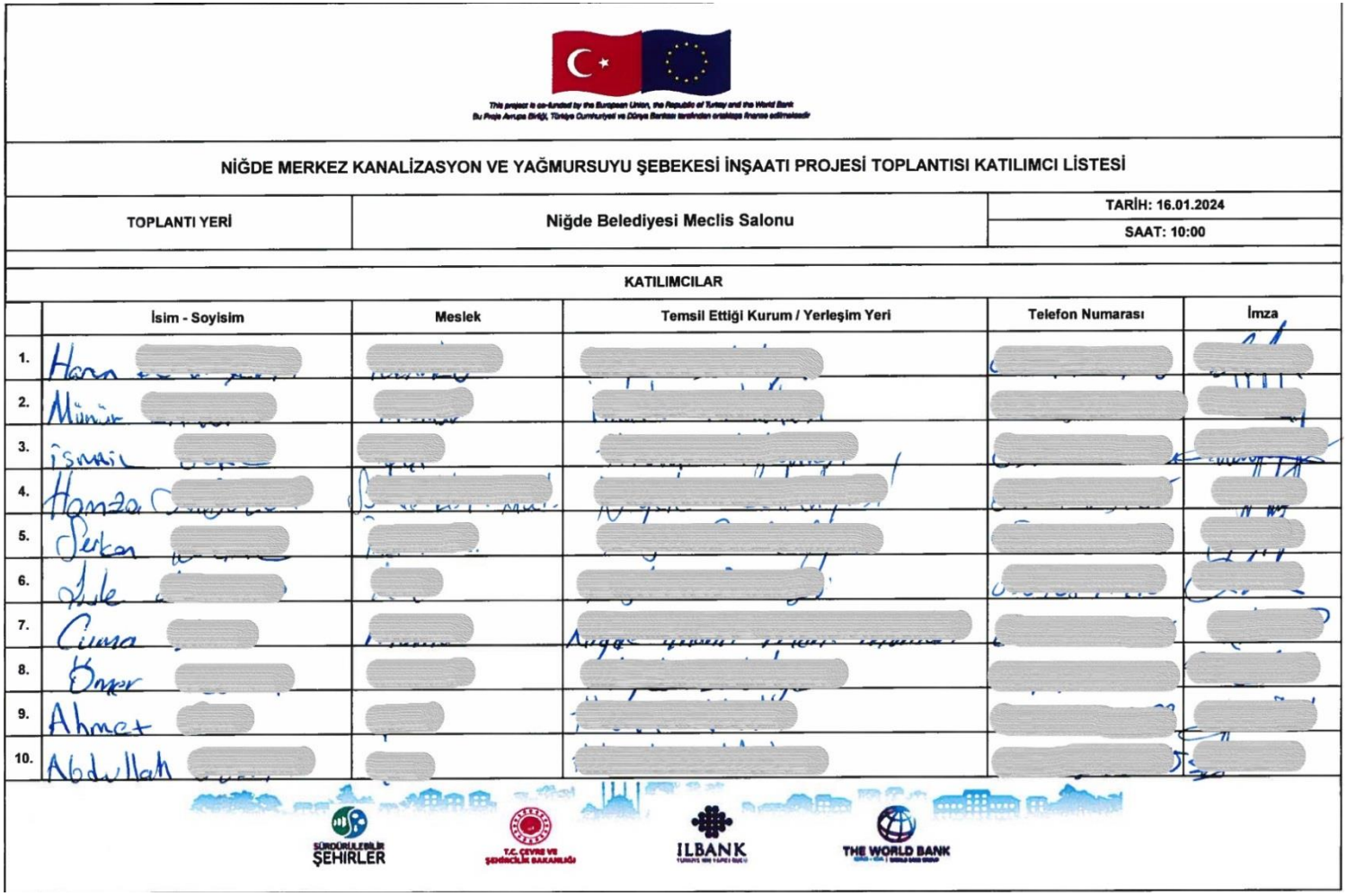


Bu toplantıda sunacağınız görüş, öneri ve şikayetleriniz kayıt altına alınarak nihai raporda ilgili paydaşların (Niğde Belediyesi, İLBANK, DB) bilgisine sunulacaktır.

20

Annex 8-1-5 Project Information Presentation that was presented at the SCM

Annex 8-2 Stakeholder Consultation Meeting Participant Lists and Photos



This project is co-funded by the European Union, the Republic of Turkey and the World Bank
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

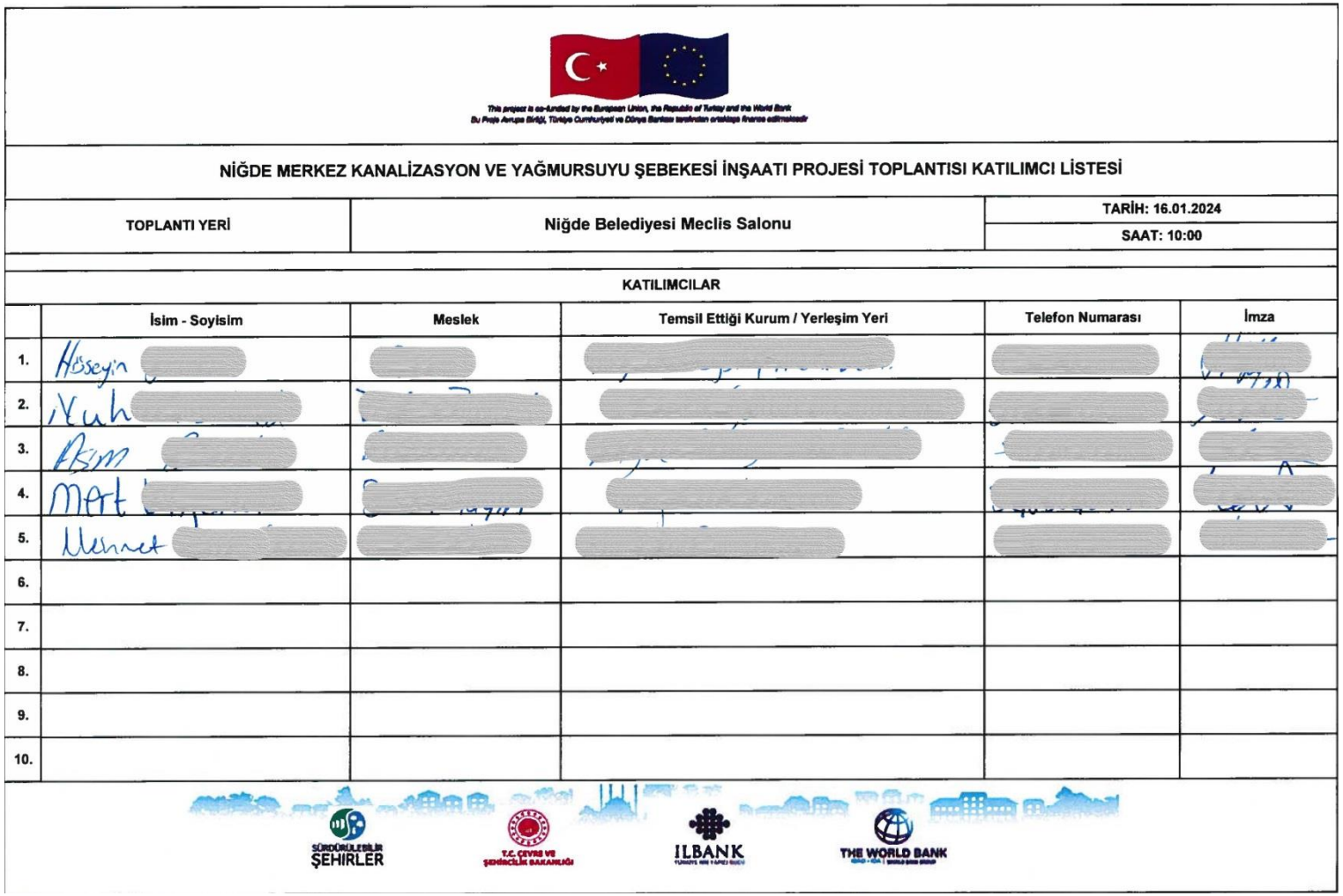
NİĞDE MERKEZ KANALİZASYON VE YAĞMURSUYU ŞEBEKESİ İNŞAATI PROJESİ TOPLANTISI KATILIMCI LİSTESİ

TOPLANTI YERİ	Niğde Belediyesi Meclis Salonu	TARİH: 16.01.2024 SAAT: 10:00

KATILIMCILAR

	İsim - Soyisim	Meslek	Temsil Ettiği Kurum / Yerleşim Yeri	Telefon Numarası	İmza
1.	Hasa [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2.	Münür [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
3.	İsmail [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4.	Hamza [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
5.	Serkan [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
6.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
7.	Cuma [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
8.	Ömer [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
9.	Ahmet [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
10.	Abdullah [redacted]	[redacted]	[redacted]	[redacted]	[redacted]

SÜRDÜRÜLEBİLİR ŞEHİRLER · T.C. ÇEVRE VE ŞEHİRCİLİK BAKANLIĞI · İLBANK · THE WORLD BANK



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NİĞDE MERKEZ KANALİZASYON VE YAĞMURSUYU ŞEBEKESİ İNŞAATI PROJESİ TOPLANTISI KATILIMCI LİSTESİ

TOPLANTI YERİ	Niğde Belediyesi Meclis Salonu	TARİH: 16.01.2024 SAAT: 10:00

KATILIMCILAR

	İsim - Soyisim	Meslek	Temsil Ettiği Kurum / Yerleşim Yeri	Telefon Numarası	İmza
1.	Hüseyin [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2.	Yuh [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
3.	Rşm [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4.	Mrt [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
5.	Mehmet [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
6.					
7.					
8.					
9.					
10.					

SÜRDÜRÜLEBİLİR ŞEHİRLER · T.C. ÇEVRE VE ŞEHİRCİLİK BAKANLIĞI · İLBANK · THE WORLD BANK

Annex 8-2-1 Participation List of the SCM


NİĞDE
BELEDİYESİ

Annex 8-2-1 Photographs of the SCM

ANNEX-9 MINUTES OF STAKEHOLDER PARTICIPATION MEETING

MINUTES OF STAKEHOLDER PARTICIPATION MEETING				
Subject of Meeting:	Nigde Central Sewerage and Stormwater Construction Project Stakeholder Consultation Meeting			
Place/Date of Meeting:	Nigde Municipality Meeting Hall		16.01.2024 – 10:00	
Participants:				

	Name-Surname	Occupation	Represented Institution / Place of Residence	Telephone
1	Hamza			
2	Harun			
3	Mehmet			
4	Nuh			
5	Munir			
6	Ismail			
7	Serkan			
8	Sule			
9	Cuma			
10	Omer			
11	Ahmet			
12	Abdullah			
13	Huseyin			

14	Asim Bozok	Press	Ozbelde Neighborhood	05360665317
15	Mert Tanguner	Press	Nigde Centrum	05468048935

No	Issues Discussed
1	The meeting was opened by Mr. Mehmet Emre Calisir, the representative of Tumas - Encon Joint Venture, the Environmental and Social Consultant.
2	Presentation on the Project to be implemented and the activities to be carried out within this scope was made by Mr. Mehmet Emre Calisir, the representative of Tumas - Encon Joint Venture, the Environmental and Social Consultant. Afterwards, a question and answer session was held. There were three questions. The questions and answers are provided below.
3	A participant asked the question "Flooding and sewage problems have been going on for a long time in the neighborhoods within the scope of the project. Has the decision to implement the project been finalized? When will the construction process start?" Mr. Hamza Akbulut answered with: "The financing and bureaucratic procedures required for the implementation of the project are about to be completed. Construction work will start in 2024, probably after the local elections. Consultancy companies are currently being determined for the tender phase."
4	A participant asked the question "After the infrastructure works are completed within the scope of the project, will the superstructure such as roads and pavements be completely renewed?" Mr. Hamza Akbulut answered with: "While sewerage and stormwater lines are being constructed within the scope of this project, there are also efforts to renew and improve the electricity and natural gas lines. If that project can be implemented in a timely manner, almost the entire infrastructure will be renewed but the superstructure will be severely damaged. In this case, it will be necessary to completely renew the superstructure. However, if the mentioned natural gas and electrical line renewal project could not be implemented in a timely manner or postponed, only the damaged parts of the superstructure during this project will be repaired instead of a complete renewal."

5	A participant asked the question "Are the entire Ilhanli and Nar neighborhoods included in the project area? How many years is the project lifespan/service period?" Mr. Hamza Akbulut answered with: "The parts of Ilhanli and Nar neighborhoods that has problematic sewage lines and flood problems are determined during the inspections. These areas are within the scope of the project. Most, but not all, of the mentioned neighborhoods' area are within the scope of the project. The project life is 35 years."
6	The meeting was concluded in 1 hour and 15 minutes.

Annex 9-1 Minutes of SCM