Environmental and Social Consulting Services for the Baku Metro Expansion Project

Environmental and Social Management Plan: Baku Metro Expansion Project - Phase I

December 2025

Prepared by Baku Metropolitan CJSC for Baku Metro Expansion Project

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Acronyms and Abbreviations

Acronym	Meaning
ADB	Asian Development Bank
AIIB	Asian Infrastructure Investment Bank
AIIB ESP	Environmental and Social Policy of AIIB
bgl	below ground level
BMEP	Baku Metro Expansion Project
BTR	Biennial Transparency Report
CCTV	Closed-Circuit Television
CJSC	Closed Joint Stock Company
CO	Carbon Monoxide
CRA	Climate Resilience Assessment
E&S	Environmental and Social
EHS / HSE	Environment, Health and Safety / Health, Safety and Environment
EIA	Environmental Impact Assessment
EPC	Engineering, Procurement and Construction
ESAP	Environmental and Social Action Plan
ESF	Environmental and Social Framework
ESHS	Environmental, Social, Health, and Safety
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMPF	Environmental and Social Management Planning Framework
FGD(s)	Focus Group Discussion(s)
GAP	Gender Action Plan
GBVH	Gender-Based Violence and Harassment
GIIP	Good International Industry Practice

Acronym	Meaning
GoA	Government of Azerbaijan
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service (AIIB)
HVAC	Heating, Ventilation and Air Conditioning
IBAT	Integrated Biodiversity Assessment Tool
IDP(s)	Internally Displaced Persons
IoT	Internet of Things
IUCN	International Union for Conservation of Nature
KII(s)	Key Informant Interview(s)
KPI(s)	Key Performance Indicators
LARPF	Land Acquisition and Resettlement Policy Framework
LED	Light-Emitting Diode
LMP	Labor Management Procedures
LOTO	Lock-Out/Tag-Out
LRP	Livelihood Restoration Plan
MDB	Multilateral Development Bank
MENR	Ministry of Ecology and Natural Resources
MoM	Minutes of Meeting
NEMA	National Emergency Management Agency
NGO	Non-Governmental Organization
NO_2	Nitrogen Dioxide
OHS	Occupational Health and Safety
PCR	Physical Cultural Resources
PIU	Project Implementation Unit
PM10	Particulate Matter ≤ 10 µm (coarse particles)
PM2.5	Particulate Matter ≤ 2.5 µm (fine particles)

Acronym	Meaning
PPE	Personal Protective Equipment
PV	Photovoltaic
PwD	Persons with Disabilities
RAP	Resettlement Action Plan
RC	Reinforced Concrete
RoA	Republic of Azerbaijan
SEA/SH	Sexual Exploitation and Abuse / Sexual Harassment
SEP	Stakeholder Engagement Plan
SOP(s)	Standard Operating Procedure(s)
SO_2	Sulfur Dioxide
TBM	Tunnel Boring Machine
TOR	Terms of Reference
UNESCO	United Nations Educational, Scientific and Cultural Organization

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Executive Summary

A. General

The Government of Azerbaijan (GoA), through the Baku Metropolitan Closed Joint Stock Company (Baku Metro), is implementing the Baku Metro Expansion Project (BMEP) to enhance urban mobility, reduce congestion, and support sustainable transport in line with the State Program on Transport Infrastructure (2025–2030) and Baku's General Plan (2020–2040). The BMEP – Phase I (the "Project") is financed by the Asian Infrastructure Investment Bank (AIIB) and national funds. BMEP will benefit from potential parallel financing from other multilateral development banks.

B. Project Overview

The Project comprises of the following components:

- Completion and equipment supply of Darnagul Depot (Green Line); and
- Construction and equipment supply of the new Khojasan Depot; and
- Existing stations enhancement: ES, safety, and climate performance enhancement of the existing stations on the Green line.

The two depots are critical for ensuring maintenance capacity, operational reliability, and safety across the expanding metro system. Works include building maintenance, repair, washing, electrical, and administrative facilities, along with water, wastewater, and energy systems.

Phase I is screened **Category B** under AIIB's ESF, with focused mitigation and monitoring sufficient to manage site-specific risks. Applicable national requirements are complemented by IFC General EHS Guidelines where more stringent.

C. Key Impacts

The material E&S issues are (i) construction-phase nuisances (air/noise/traffic), (ii) soil & geology risks including possible contaminated-soil encounters (iii) worker and community health & safety, and (iv) waste management (oils, paints, batteries, OWS sludge). All are moderate as impacts are not large-scale or irreversible and are site specific within the depot areas. These impacts are manageable through the application of the detailed mitigation measures provided in this ESMP.

D. Mitigation and Management

The ESMP applies national environmental requirements alongside Good International Industry Practice and IFC EHS Guidelines, including their more stringent discharge and air quality limits where applicable. Core mitigation measures address dust and emissions control, noise/vibration minimization, and licensed permitting for water discharges. Wastewater from washing and maintenance will be treated through oil–water separation and subject to MENR permits, while hazardous waste such as oils, filters, batteries, paints and OWS sludge will be segregated, stored safely, and transferred only to licensed operators. The ESMP also incorporates a contaminated-land procedure requiring investigation and delineation prior to excavation, ensuring compliant off-site disposal where hotspots are identified.

To minimize community disturbance, the Project will implement construction traffic management, enforce working hours, and adopt safety-in-design for the depot facilities. Stakeholder engagement and a public grievance mechanism continue throughout construction and operation, supporting timely communication, issue resolution, and transparency. Tree removal at Darnagul will be compensated

through replanting and landscaping at both depots, in compliance with the Law on Protection of Green Plantings, and no sensitive flora/fauna or protected areas will be affected. Community health and safety risks from vehicle movement, noise, dust, and labour influx are managed through traffic controls, dust suppression, accessible design, codes of conduct, and security protocols aligned to good practice.

The ESMP also includes comprehensive OHS requirements for contractors, covering risk assessments, emergency preparedness, safe access and excavation, electrical safety, working at height, and machinery use. Daily, weekly, and monthly monitoring and reporting obligations apply to contractors and the Engineer, with quarterly reporting to AIIB. Any incident, fatality, major spill, or breach must be reported within 24 hours. The ESMP further mandates capacity building for Baku Metro and contractors through training, worker induction, and strengthened contractor management systems to bridge national law gaps and align with AIIB ESS requirements.

E. Institutional Requirements

Implementation of the ESMP relies on coordinated responsibilities shared between Baku Metro, the Engineer, contractors, and AIIB. During detailed design, the Design Consultant is required to integrate ESMP measures into engineering specifications, ensuring drainage, noise control, OHS requirements, wastewater treatment and safety features are incorporated in all designs. During construction, contractors are responsible for day-to-day implementation of mitigation measures, preparation and execution of site-specific CESMPs, obtaining required environmental permits, and carrying out monitoring, training, reporting, and grievance response in accordance with national laws and IFC/AIIB requirements. The Engineer plays a verification and supervisory role, conducting regular inspections, reviewing CESMP documentation, and submitting monthly and quarterly E&S performance reports, with mandatory 24-hour notification of any major incident or breach. Baku Metro, as the implementing agency, provides overall E&S oversight, ensures adequate capacity, enforces contractual E&S requirements, maintains the grievance mechanisms, and submits six-monthly and annual reports to AIIB. AIIB maintains an oversight function, reviewing monitoring reports, conducting missions, and requiring corrective actions where gaps occur. This structure ensures compliance, transparent monitoring, and accountability throughout the construction and operation of the depots and station enhancement works.

F. Conclusion

The ESMP provides a comprehensive plan to ensure that the Project is implemented in an environmentally sustainable, socially responsible, and safety-compliant manner. It integrates legal requirements, international best practices, and community feedback to minimize risks and enhance long-term benefits of Baku's metro expansion. With these measures, residual impacts are expected to be low to moderate and manageable. The ESMP provides a practical framework for compliance with Azerbaijan's legal framework and AIIB's ESF, supporting safe, reliable depot delivery and operation.

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I. Introduction

1.1 Background

The Government of Azerbaijan (GoA), through Baku Metropolitan Closed Joint Stock Company (Baku Metro), is implementing the Baku Metro Expansion Project (BMEP) to enhance the city's public transport network in line with national transport and urban development strategies. The BMEP – Phase I (the "Project") is planned for financing by the Asian Infrastructure Investment Bank (AIIB) and national funds. BMEP will benefit from potential parallel financing from other multilateral development banks such as the Asian Development Bank (ADB), as well as contributions from national funds.

Baku Metro currently operates three lines, comprising 27 stations and serving over 620,000 passengers daily. Under the Conceptual Development Plan and the State Program on Transport Infrastructure (2025–2030), aligned with the General Plan of Baku City (2020–2040), the system is set for significant expansion. The vision is to develop a modern, efficient, and sustainable metro network consisting of five lines, 76 stations, and 119.1 km of track.

BMEP is a part of Azerbaijan's State Program on the Improvement of Transport Infrastructure in Baku City and Surrounding Areas for 2025–2030 (the "State Program"), approved on 30th January 2025 and programmed Climate Change Mitigation measures, included in the 2024 Biennial Transparency Report (BTR).

The Project comprises the following components:

- **Darnagul Depot:** Completion and equipment supply on the Green Line (partial foundation in place).
- **Khojasan Depot:** Construction and equipment supply on the Purple Line, supporting its extension.
- Existing stations enhancement: ES, safety, and climate performance enhancement of the existing station on the Green Line.
- **Related Services:** Project preparation, construction supervision, and implementation support.

1.2. Purpose and Scope of the Environmental and Social Management Plan

A screening report prepared for the project identified Phase I activities funded by AIIB as Category B, meaning they required the preparation of an Environmental and Social Management Plan (ESMP). Accordingly, this ESMP has been developed to focus on Phase I activities, specifically **Darnagul Depot and Khojasan Depot.** No other project components are covered under this ESMP. A separate audit and ESMP for the 10 Green Line Stations under Phase I will be prepared.

The purpose of ESMP is to provide the necessary management tools to ensure compliance with the national and AIIB environmental, social, health, and safety standard. Besides the legal and institutional requirements for the successful implementation of the relevant management plans, ESMP also determines the roles and responsibilities of Baku Metro, and its contractors and subcontractors. The main objectives of ESMP are as follows:

- To provide an overview of the environment, health and safety (EHS), socio-economic and cultural heritage policies, standards and legal legislation that the Project is obliged to comply with.
- To provide guidance on how to manage EHS risks in the construction phase of the Project in compliance with EHS policies, standards and legal regulations and to ensure that Project commitments are fulfilled.

- To determine the roles and responsibilities of Baku Metro and contractors to ensure compliance with EHS requirements during the construction phase of the project.
- To ensure that construction activities are properly checked to ensure that the Project is in compliance with EHS policies, standards and legal regulations.
- Ensure reporting systems are developed and streamlined to deliver EHS compliance performance.
- Enabling ongoing development and EHS compliance coverage.

1.4. Link to other E&S Instruments

This ESMP builds on the E&S Screening report (September 2025) prepare for Phase I and forms part of a package of documents for the wider project. Specifically relevant to the ESMP and Phase I activities are:

- Labor Management Plan – provides for the management of Labor and working conditions in both construction and operational phases of the project (all Phases, including Phase I).
- Stakeholder Engagement Plan – provides the requirements for stakeholder engagement, disclosure and grievance management in both construction and operational phases of the project (all Phases, including Phase I).
- Gender Action Plan.
- Climate Risk Assessment – This ESMP does not include risks and impacts relating to climate change as they are discussed directly within the climate risk assessment documents provided as part of the Phase I package.

1.5. Report Structure

This ESMP is structured as follows:

- Introduction: The section in-hand.
- Project Description: Summary information about project activities, duration and cost of the project.
- Policy, Legal and Administrative Framework: Summary of key national legislation, AIIB and IFC standards EHS documents.
- Baseline Environmental and Social Conditions: Building on the baseline developed during phase I screening.
- Key Environmental Risks and Impacts: Based on the Phase I screening report.
- Environmental and Social Mitigation Plan: Provides the Project mitigation measures and the responsible parties for implementation.
- Environmental and Social Monitoring Plan: Provides the quantitative E&S monitoring plans and responsibilities.
- Implementation Plan: Outlines how the ESMP will be implemented and any capacity building requirements to ensure smooth implementation.
- Stakeholder Engagement and Grievance Mechanism: Describes the procedures for stakeholder engagement and disclosure of the ESMP and the grievance mechanisms for general stakeholders and workers.

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2. Project Description

2.1 Baku Metro Expansion Project – Phase I (the "Project"): Components and Activities

The Project's components include the following:

- Construction completion and equipment supply of the Darnagul Depot on the Green line. This depot has partial foundation already laid and need to be built.
- Construction completion and equipment supply of the Khojasan Depot on the Purple line. This depot is to be built to accommodate the extension of the purple line.
- Existing stations enhancement: ES, safety and climate performance enhancement of the existing stations on the Green Line.

AIIB intends to fund the completion of the construction works at the depots. Figure 1 shows the locations of the depots in the context of Baku and Figure 2 and Figure 3 illustrate the land uses around the sites.

Figure 1: Locations of Darnagul (Green line) and Khojasan Depot (Purple Line) in Baku

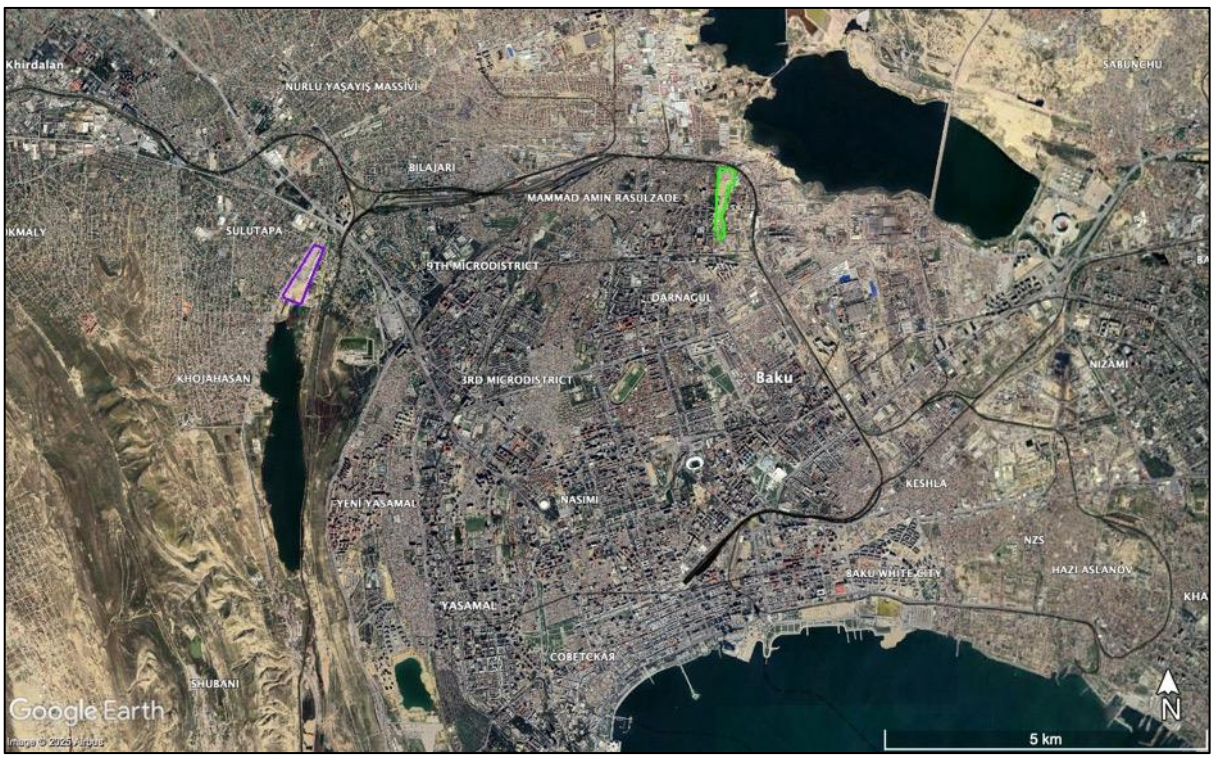

Figure 2: Location of Khojasan Depot (Purple Line) and Surrounding land use

Figure 3: Location of Darnagul Depot (Green Line) and Surrounding land use

Phase I includes construction, completion, and commissioning of two metro depots—Darnagul (completion and equipment) and Khojasan (new construction)—together with enhancements to existing Green Line stations to improve safety, environmental performance, and climate resilience. The depots are critical operational facilities whose main task is to ensure reliability and safety of the metro network and maintain the required train frequency, especially during peak hours. Trains will be housed overnight at the depots and, in cases of operational failure, repairs will be conducted on site. Each depot will manage train arrivals and departures for maintenance, regulate train operation and signaling, and conduct diagnostics to identify technical faults. Operationally, the depot consists of two primary sections: (i) a stop-and-repair trench where rolling stock undergoes regular inspections before entering the line, and (ii) a service repair area for daily maintenance that does not require full dismantling of metro wagons. These activities require specialized workshops, diagnostic machinery, compressed air systems, cranes, and maintenance equipment, all of which represent potential sources of noise, vibration, hazardous waste streams, and energy consumption during operation.

Construction activities will involve structural works for workshop buildings, washing halls, maintenance and diagnostic bays, administrative offices, and accommodation areas for service personnel, along with installation of high-voltage electrical systems, compressed air stations, wastewater treatment units including oil–water separators, stormwater drainage, fuel and oil storage systems, and track infrastructure. Site development will include extensive excavation, foundation construction, concrete works, paving, welding, painting, and installation of lifting systems and machinery. Excavation will generate spoil requiring transport to licensed disposal sites; potential hotspots of contaminated soil may be encountered and must be screened under the ESMP's contaminated-land procedure before removal. These activities, particularly earthworks, concrete production, machinery operation, compaction, and haulage, generate dust, emissions, construction noise, and vibration, which must be managed through mitigation measures later detailed in the ESMP.

Construction will use heavy equipment such as excavators, bulldozers, cranes, tipper trucks, concrete mixers, pavers, loaders, compressors, welding tools, cutting machines, and mechanical lifts

Track maintenance and diagnostic facilities will produce operational wastes including used oils, lubricants, oily water, batteries, metal scraps, paints, oily sludge, and solvent-contaminated rags; these will be segregated and transferred to licensed operators. All construction materials will be stored within depot boundaries, and ready-mixed concrete will be sourced from licensed plants and trucked to site. Utilities and water infrastructure are key to impact assessment: washing and maintenance wastewater will be treated and discharged only under MENR permits, in line with IFC EHS guideline limits, while stormwater runoff will be channeled to controlled outfalls. No contractor camps will be established—only on-site offices—reducing risks associated with labour accommodation. Sensitive receptors include residential communities located approximately 200 m from the depots, with impacts linked to truck movement, noise, dust, and vibration. No protected areas or sensitive ecological receptors are present within 5 km of the sites

The combination of excavation, haulage, machinery operation, hazardous waste generation, wastewater processes, and depot functionality forms the core of the environmental and social risks assessed in subsequent chapters of this ESMP.

2.2 Overview of Depot Components

Darnagul Depot

The following summarizes the key components of the depot to be established under the project:

- Stop-Repair Bodyshop – The workshops in the maintenance and repair building are designed for overnight maintenance of trains, scheduled technical servicing, and urgent replacement of faulty equipment on electric trains.
- Manufacturing Facilities – These facilities are designed for the repair of electrical, mechanical, and pneumatic devices and equipment, and for the preparation of parts needed for train repairs. The production workshops include automatic, electrical, battery, welding, forging, metalworking, and mechanical departments; tool and oil distribution warehouses; warehouses for spare parts.
- Administrative-Commercial Building – Office and service center for depot staff. It also houses rooms for depot management, administration, and engineering staff.
- Locomotive Workshop (Repair and Maintenance) – This workshop provides maintenance, repair, and storage of locomotives used for shunting operations and for transporting goods and materials required for metro line and depot maintenance.
- Washing and Blowing Shop – For washing metro cars and blowing out electrical parts. It consists of a washing department and a blowing department.
- Compressor Room – Supplies compressed air for various technological purposes. It is typically equipped with an independent compressor unit, though in some cases air is supplied by pipeline from another area or workshop.
- Traction-Lowering Substation – This substation converts 6, 10, or 20 kV alternating current into 825 V direct current for train operations, and steps down to 380 V or 220 V alternating current for auxiliary systems and other electrical consumers. The combined substation consists of traction and lowering units.
- Electrical Centralization Post (Block-Post) – Provides centralized control and management of railway automation and telemechanics to ensure safe shunting operations and train movements in the depot.
- Wheel Diagnostic Complex Building (Tunnel Exit) – Provides automated, contactless inspection and analysis of wagon wheelset parameters to monitor wheel condition.
- One-Way Passenger Platform – Used for receiving passengers arriving at the depot, providing a safe and convenient location for boarding or disembarking.
- Under-Wagon Wheeling Machine Building – Designed to polish train wheelsets without dismantling them and to maintain and control the distance between the inner and outer wheel surfaces.
- Stormwater Pumping Station – This station drains industrial and stormwater from the depot area into external stormwater sewerage networks.
- Tunnel Drainage Pumping Station – Removes water from tunnels.
- Wastewater Pumping Station – Pumps wastewater from the depot into external sewer networks.
- Drinking Water Tank (240 m^3) – A reservoir that supplies drinking water for household and utility needs within the Darnagul Depot.
- Drinking Water Pumping Station – Supplies drinking water to depot facilities and provides water to the firefighting system.
- Drinking Water Tank (100 m^3) – A reservoir built to meet the household and utility water needs of the depot.
- Fire Water Tank (500 m^3) – Supplies water to firefighting equipment and systems for extinguishing potential fires at depot facilities.
- Control and Release Zone No. 1 – A security facility that regulates the entry and exit of persons and vehicles, the movement of materials, and compliance with depot procedures.
- Control and Release Zone No. 2 – A second security facility performing the same functions as Zone No. 1, managing controlled access of people, vehicles, and materials.

- Boiler Room Building – A fixed boiler house that provides hot water and heating for depot residential, industrial, and service facilities.
- Modular Boiler Room – A block-modular (mobile) boiler plant used as backup when required, providing hot water and heating for depot facilities.
- Domestic Sewerage Pumping Station – Designed to collect and discharge household and communal wastewater into external networks.

Khojasan Depot

The following summarizes the main components of the Khojasan Depot:

- Traffic Train Service Area – Facilities for train maintenance, repair, wheelset transformation, and vacuum cleaning. Includes overpass systems, rail tracks, and inter-rail platforms.
- Metro Car Repair and Production Building – Workshops for wagon repair, painting, bodywork, assembly, testing, and tuning.
- Administrative Building – Offices and support spaces for depot management and staff.
- Locomotive Workshop (Motovoz Workshop) – Facility for repair and parking of locomotives.
- Passenger Platforms – Platforms for safe boarding and alighting of passengers.
- Train Washing Chamber – Equipped with external washing systems, dryers, and a water treatment and recycling system.
- Electrical Control Post – Facility for controlling signalling, communications, and CCTV systems.
- Fuel and Lubricants Warehouse – Warehouses for standard stocks of materials and products required for wagon installation, maintenance, and repair. Equipped with mechanized systems for transporting goods and storage for spare parts, tunnel and station construction materials, and other necessary equipment.
- Electrical Substation – Provides voltage and current reduction for depot operations.
- Boiler Room – Supplies heating for service rooms, operating on liquefied gas.
- Locomotive Fuel Station – Refueling facility for locomotives.
- Rainwater Purification Device – System for treating and reusing water in maintenance and cleaning operations.
- Compressor Station – Supplies compressed air for depot operations.
- Water Pump Station – Provides water supply for maintenance, cleaning, and emergency use.
- Crossing Gates (No. 1–3) – Secure entrances and exits for vehicles and personnel.
- Guard Posts – Security facilities located at the depot portal and along the connecting road.
- Loading and Unloading Yard – Area designated for delivery of construction materials and disposal of tunnel waste.
- Underground Passage and Vestibule – Provides passenger access to depot platforms.
- Wastewater Collector – Centralized system for collecting wastewater.
- Processed Oils Collector – Storage facility for used oils.
- Parking Lot – Parking facilities for staff and visitors.
- Floodlight Towers – Lighting system for depot parkways and outdoor areas.
- Cylinder Storage Facility – Designated storage for gas cylinders.
- Water Reservoirs and Pools – Includes a general water reservoir, a 240 m^3 hot water pool, and a 240 m^3 cold water pool.
- Technological Platform with Crane – Equipped for loading and unloading heavy cargo.
- Service Brigade Accommodation Building – Housing for technical service personnel.
- Technical Service Rooms – Support facilities for technical staff.
- Water Supply System – Basic water supply infrastructure serving depot needs.

2.3 Construction and Operation Activities

Construction

Construction/installation works are planned to be carried out according to the following program:

- Preparatory work, engineering survey work in the field
- Earthworks, site clearance, communication works;
- Drainage system installation;
- Installation of a fire protection system;
- Construction/installation of facilities in the complex;
- Preparation of infrastructure;
- Laying of electrical lines, etc.

The main construction equipment to be used during construction/installation includes: Excavators, cranes, bulldozers, welding machines, compressors and other construction equipment and auxiliary equipment.

In addition to earthworks, the following works are expected to be carried out in the construction area:

- Welding works;
- Piling, foundation and body construction;
- Concrete works (ready-mixed concrete will be purchased from concrete production facilities and trucked to site in concrete mixers;
- Painting works; and
- Installation works.

Construction of the Darnagul and Khojasan depots requires significant quantities of civil construction materials and specialized electromechanical systems to install depot workshops, rail infrastructure, water and wastewater systems, electrical substations, and diagnostic machinery. Building materials will predominantly be sourced locally from licensed suppliers, with selected specialist items imported.

Table 1: Estimated Construction Materials, Sources and Use

Material	Estimated Quantity	Primary Use	Planned Source
Ready–mixed concrete	105,000–130,000 m³	Foundations, structures, pits, track slab	Local batching plants
Reinforcement steel	12,000–15,000 tonnes	Structural frames, workshops	Local/Regional distributors
Structural steel	3,500–5,000 tonnes	Roof structures, gantries	Local + imported fabricators
Aggregates	120,000–150,000 tonnes	Filling, sub-base, drainage	Absheron quarries
Rail steel & track components	8,000–10,000 m rail	Depot and workshop track	Imported via port
Ballast	18,000–25,000 m³	Track yard ballast	Regional quarries

Material	Estimated Quantity	Primary Use	Planned Source
M&E equipment	Lump sum	Cranes, pumps, HVAC, OWS	Regional/imported suppliers
Paints & coatings	Lump sum	Surface finishing, protection	Local suppliers
PVC/HDPE piping	18,000–22,000 m	Drainage & wastewater	Local suppliers
Firewater/potable tanks	240–500 m³ each	Fire & drinking water storage	Local + imported

All materials will be stored on-site within the site boundary. Estimated workforce is shown in the following table.

Table 2: Estimated Workforce Requirements

Worker Category	Typical Number	Notes
Skilled trades (welders, carpenters, steel fixers)	80–120	Peak civil works
Machine operators	25–40	Heavy equipment & track laying
Construction labourers	100–150	Earthworks, finishing
Electrical & M&E technicians	50–75	Installation phase
Supervisors, engineers, safety staff	20–35	Metro + contractor
Admin & logistics	20–30	No worker camps
TOTAL ESTIMATED	300–450 workers	Combined both depots

Construction and installation works are expected to take approximately 1.5 years. The exact completion date will depend on the start of construction activities. Once construction and installation are finished, landscaping and greening works will be implemented across the site.

No construction camps are required, only on-site offices.

Operations

Once commissioned, the Darnagul and Khojasan depots will function as the principal operational hubs for Baku Metro's rolling stock maintenance, storage, diagnostics and shunting control. The depots will operate continuously, supporting daily metro service through overnight stabling of trains, routine mechanical and electrical inspections prior to dispatch, and targeted repairs of faulty rolling stock. Depot operations will be structured into two core activities: (i) daily inspection and functional testing

in the stop-and-repair trench, where trains undergo safety checks, wheel condition diagnostics, fluid inspection, brake testing, and electrical system review before entering passenger service; and (ii) maintenance and light repairs in workshops, where technical faults detected during service are repaired without requiring full wagon dismantling. The depots are designed to maintain the minimum train interval during peak periods by ensuring rapid rollout of fully serviced trains early each morning.

Operational activities will rely on a range of specialized facilities and integrated infrastructure systems. These include wheel diagnostic systems, under-wagon wheel polishing machines, welding and metalworking workshops, electrical, pneumatic and battery repair facilities, manufacturing shops for parts and tool fabrication, and locomotive repair and storage areas, supporting both rolling stock and shunting locomotives. Trains will also transit through dedicated washing and blowing chambers, where external cleaning and compressed-air drying of electrical components are undertaken prior to resumption of service. Supporting machinery and utilities include independent compressor stations, oil and tool storage warehouses, and equipment and parts depots essential for continuous service operations.

Critical support systems provide operational continuity through dedicated depot infrastructure. Both depots include traction-lowering substations converting 6–20 kV AC power to 825 V DC for train systems and reducing power to 380/220 V AC for auxiliary loads, alongside an electrical centralization post (block-post) responsible for the controlled movement of trains, signal switching, and telemechanics. Water supply and hydraulic systems are supported by drinking-water pumping stations, domestic wastewater pumping stations, fire-water tanks, tunnel drainage pumping stations and stormwater pumping stations connected to municipal networks. The washing channels and technical water systems incorporate on-site oil–water separation, while boiler rooms and modular boiler houses provide heating and hot-water supply to service buildings. Access and movement of personnel, vehicles and materials are managed through two secure control and release zones at each depot, complemented by one-way passenger platforms for controlled boarding and disembarking of staff entering or exiting the depot areas.

2.4 Associated Facilities

Consistent with AIIB definitions, associated facilities are those not legally part of the Project but (a) directly and materially related, (b) carried out/planned contemporaneously, and (c) necessary for the Project's viability such that they would not be undertaken without it. Upgrading works on the Green and Purple Lines are proceeding under separate programs (with their own safeguards) and can operate independently of the depots (albeit at reduced capacity); therefore, they do **not** meet all criteria and are **not** considered associated facilities of the depot Project.

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3. Policy Legal and Institutional Framework

3.1. Applicable Azerbaijani Laws and Regulations

3.1.1 General

Project implementation must comply with Azerbaijan's national environmental, social, health and safety legislation and associated permit requirements. Key laws applicable to Phase I (depot construction and operation) are summarized below, while detailed content and article references are provided in Annex C: Applicable National Legislation.

- **Environmental Protection Law (1999)** – general environmental protection obligations, pollution control, and monitoring requirements.
- **Law on Environmental Impact Assessment (2018)** – screening, disclosure, permitting, and reporting requirements for activities subject to EIA.
- **Water Code (1997) & Law on Water Supply and Wastewater (1999)** – permits for wastewater discharge, technical requirements, and connection to municipal networks.
- **Forest Code & Law on Greenery Protection (2011/2006)** – protection of green areas and compensation for tree removal.
- **Law on Sanitary and Epidemiological Welfare (1992)** – sanitation, hygiene, and wastewater quality obligations.
- **Labor Code (1999)** & **Occupational Health and Safety Law (1999)** – mandatory worker safety, training, working conditions, and grievance access.
- **Waste Management Law (2012)** – classification, handling, transport, and disposal of hazardous and non-hazardous waste.
- **Fire Safety Law (1997)** – requirements for fire systems in industrial facilities.

3.1.1. National EIA Legislation

The environmental assessment process in Azerbaijan is regulated by the Law on Environmental Impact Assessment (2018)**,** which operationalizes Article 54.2 of the Law on Environmental Protection and establishes legal and procedural requirements for evaluating environmental and health impacts of proposed activities. Under national law, the EIA process must:

- Assess environmental, social and economic impacts of a planned activity.
- Ensure accuracy, transparency and public accessibility of project information.
- Consider ecological balance, biodiversity and environmental standards.
- Identify all potential impacts and evaluate risk levels.
- Consult not only authorities but wider stakeholders, including the public, businesses and NGOs.
- Be subject to government review and accessible to state control.

For the depot project, national legislation requires:

- Mandatory development of an EIA report submitted to MENR (State Ecological Expertise).
- Assessment of baseline conditions for environmental and socio-economic receptors.
- Identification of impacts from construction, reconstruction and operation of facilities.
- Preparation of an Environmental Management Plan and Monitoring Plan as part of the EIA.

- Presentation of at least two project alternatives, including a “no project” option.
- Assessment of residual, cumulative and emergency impacts, and transboundary impacts if applicable.
- Public disclosure and stakeholder consultation, including affected communities.
- Expert review and formal approval by MENR, which becomes a binding compliance mechanism.

National EIAs have been completed for both depots, and MENR approval has already been granted. Detailed procedural requirements, legal references and article summaries are included in Annex D: National EIA Framework.

3.1.2. Conventions and International Agreements

Azerbaijan has ratified key conventions including the Aarhus Convention (access to environmental information), UN Conventions on Human Rights, Child Rights, Women's Rights, and the Convention on Intangible Cultural Heritage. Azerbaijan is party to all core conventions including freedom of association, equal pay, minimum age, and forced Labor prohibition (ILO convention). Key conventions and international agreements are provided in Annex E.

3.2. Project Standards

Project standards are the air, noise, water, and vibration limits the project must meet during both construction and operation. They reflect the most stringent requirements drawn from national regulations, international best practice, or a combination of both.

3.2.1. Air Quality

Table 3: National and IFC Ambient Air Quality Standards

Pollutant	Azerbaijan ambient standard	IFC General EHS (WHO AQG 2005)	Notes
PM10 / PM2.5	“Dust (TSP)” 24-hr 0.030 mg/m³ (30 µg/m³) momentary max 0.150 mg/m³ (150 µg/m³). No explicit PM10/PM2.5 values,	PM10: Annual 0.020 (20 µg/m³) 24-hr 0.050 (50 µg/m³). PM2.5: Annual 0.010 (10 µg/m³) 24-hr 0.025 (25 µg/m³).	Azerbaijan uses the Maximum allowable concentration (MAC) format and TSP (“dust”); IFC applies WHO AQGs by fraction (PM10/PM2.5).
SO_2	24-hr 0.200 (200 µg/m³) momentary max 0.300 (300 µg/m³).	24-hr 0.020 (20 µg/m³) (guideline) and interim targets 0.125/0.050 10-min 0.500 (500 µg/m³).	Azerbaijan’s 24-hr limit (200) is far less stringent than WHO/IFC.
NO_2	24-hr 0.070 (70 µg/m³) momentary max 0.080 (80 µg/m³).	Annual 0.040 (40 µg/m³) 1-hr 0.200 (200 µg/m³).	Different averaging periods (AZ 24-hr vs IFC annual/1-hr).
O_3	Not listed in the national table cited.	8-hr max daily 0.100 (100 µg/m³) (guideline	

		160 interim target).	
CO	24-hr 2.000 (2,000 µg/m³) momentary max 3.000 (3,000 µg/m³).	Not listed in IFC's Table 1.1.1; WHO 2005 AQG commonly applied: 8-hr 10 mg/m³.	

IFC/WHO standards are more stringent than Azerbaijan standards. However, IFC EHS Guidelines for Air Emissions and Ambient Air Quality (2007) note that "Emissions do not result in pollutant concentrations that reach or exceed relevant ambient quality guidelines and standards9 by applying national legislated standards, or in their absence, the current WHO Air Quality Guidelines". Azerbaijan has their own air quality standards and therefore they will be followed.

3.2.2. Noise

Noise standards in Azerbaijan follow the Presidential Decree No. 796 (08 Jul 2008) approving "Regulations of the vibration and noise pollution…," which set admissible levels (in octave bands) and define both equivalent (LAeq) and maximum (Lmax) parameters. International best practice for ambient noise standards are the IFC General EHS Guidelines – Noise (Table 1.7.1), community noise criteria in LAeq, 1-hour.

Table 4: National and IFC Noise Standards/Guidelines

Item	Azerbaijan standard	IFC General EHS Guideline
Typical residential limit (outdoor)	50 dBA day (07:00–23:00) 40 dBA night (23:00–07:00).	55 dBA day (07:00–22:00) 45 dBA night (22:00–07:00) for residential/institutional/educational receptors (LAeq, 1-hr).
Industrial/commercial receptors	Not stated as simple broadband numbers in public extracts; limits are provided via octave-band tables with LAeq and Lmax criteria in the Decree.	70 dBA day/night (LAeq, 1-hr).

Project noise standards are blend of national (residential) and IFC (industrial/commercial).

3.2.3. Vibration

Azerbaijan doesn't have a native "DIN-4150-style" building/ground-vibration code. Instead, it regulates vibration through national sanitary/environmental rules and legacy GOST standards. In practice, projects in Azerbaijan often adopt DIN 4150-3 (or UK BS 7385) as best-practice criteria for construction-induced building vibration. Accordingly German Standard DIN 4150-3 will be followed during the construction phase relating to vibration from work sites.

Table 5: Guideline Values for Vibration Velocity to be Used When Evaluating the Effects of Short-term and Long-term Vibration on Structures

Group	Structure	Guideline Value for Velocity (mm/s)				
		Short-term				Long-term
		At Foundation			Uppermost Floor	Uppermost Floor
		Less than 10 Hz	10 Hz to 50 Hz	50 to 100 Hz	All frequencies	All frequencies
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40	10
2	Residential dwellings and buildings of similar design and/or use	5 (105 dB)	5 to 15	15 to 20	15	5 (105 dB)
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g., buildings that are under a preservation order)	3 (100.5 dB)	2 to 8	8 to 10	8	2.5 (99.0 dB)

Source: DIN 4150-3, Structural Vibration, Part 3: Effect of vibration on structures

3.2.4. Wastewater

Azerbaijan regulates via permits that set maximum permissible discharges - MPDs (substance-by-substance) issued by the MENR. The Water Code and environmental law provide the basis; MENR "develops and approves standards for maximum permissible wastewater discharges," and the permit states the allowed quantities. The project will be obliged to follow the MPDs but shall also ensure compliance with the IFC General EHS indicative values for treated sanitary sewage discharges (to surface water).

Table 6: IFC General EHS indicative values for treated sanitary sewage discharges

Pollutant	Units	Guideline value
pH	pH	6–9
BOD_5	mg/L	30
COD	mg/L	125
Total nitrogen	mg/L	10
Total phosphorus	mg/L	2
Oil and grease	mg/L	10

Total suspended solids (TSS)	mg/L	50
Total coliform bacteria	MPN/100 mL	400+

3.3. AIIB Environmental Standards

AIIB's Environmental and Social Framework (ESF) sets binding rules for how projects manage environmental and social (E&S) risks. It consists of an Environmental and Social Policy (ESP), three Environmental and Social Standards (ESS1: Assessment & Management; ESS2: Land Acquisition & Involuntary Resettlement; ESS3: Indigenous Peoples), and an Environmental and Social Exclusion List. Together they define how risks are screened and categorized (e.g., Category A or B) and what assessments and plans are required (ESIA/ESMP, LARPs, etc).

The ESF also lays out transparency and accountability: clients must disclose draft and final E&S documents in accessible formats and languages, with minimum pre-approval disclosure periods (typically 60 days for Category A and 30 for Category B). It requires meaningful stakeholder engagement, project-level grievance redress mechanisms, and provides access to AIIB's Project-affected People's Mechanism (PPM). AIIB itself discloses key documents early in due diligence and throughout implementation, including monitoring reports

3.4. Gap Analysis

The following table provides a gap analysis between the AIIB ESF requirements and Azerbaijani law.

Table 7: Gap Analysis

Topic	AIIB ESF	Azerbaijan law	Gaps	Relevance to This Project	How the Project Addresses the Gap
Screening & categorization	Bank assigns A/B/C/FI based on risk/impact; determines instruments (ESIA, E&S Management Plan, frameworks).	EIA Law + 2022 Rules list activities, set screening and process; MENR is competent authority; specific lists include EIA for "new metro stations, bridges and tunnels" and linked facilities.	National system is list-/threshold-based, not risk-category–based; no A/B/C/FI analogue and fewer linkages to selecting ES instruments.	Yes — Category B classification is not provided under national system.	AIIB classified the depots as Category B, and therefore a standalone ESMPhas been prepared with risk-based mitigation, management and monitoring.
Assessment scope	Holistic E&S assessment (incl. social, labor/worker OHS within ESS1), cumulative/induced impacts, alternatives, management plans; apply GIIP and EHS Guidelines.	EIA focuses on environmental & health impacts; social aspects referenced but less systematized; content set by 2022 Rules; "state ecological expertise" review.	Social/OHS, cumulative/induced impacts, and alternatives are less systematic; management plans and GIIP/EHS benchmarks not consistently required.	Yes — depot construction & O&M involve OHS, wastewater, cumulative noise, waste & community risks.	This ESMP applies IFC EHS Guidelines, OHS and labor requirements, and cumulative impact controls; mitigation and monitoring plans (Tables 14–17) cover construction and operation.
Disclosure & timing	Bank discloses draft E&S docs: 60 days (Cat A) / 30 days (Cat B) before Board; continued disclosure incl. monitoring.	Public notice/hearings required; deadlines evolving; hearings linked to Law on Public Participation (2014).	No clear pre-decision disclosure periods equivalent to 60/30 days; ongoing disclosure/monitoring less explicit.	Yes — ongoing reporting and timing obligations are weaker under local system.	This ESMP commits to 30-day disclosure for Category B and requires public access to monitoring and performance reports, disclosed through Baku Metro/PIU.
Stakeholder engagement	"Meaningful consultation" throughout; project-level GRM required; extended requirements for Indigenous Peoples (FPICon in certain cases).	Public hearings during EIA; participation anchored in EIA & Public Participation laws; GRM not universally required outside lender projects.	Ongoing engagement beyond EIA stage and mandatory project-level GRM are not consistently required.	Yes — Depots are near communities; engagement must continue beyond EIA approval.	The Project implements a Stakeholder Engagement Plan (SEP), including continuous community engagement and project-level GRMfor construction and operation.
Grievance & accountability	Project-level GRM + access to AIIB's accountability mechanism; Bank monitors	Administrative/judicial avenues exist; EIA regime doesn't prescribe a project GRM;	No lender-style independent accountability mechanism or mandatory project GRM;	Yes — absence of GRM poses community and labor	This ESMP introduces two GRMs: (i) public GRM and (ii) worker GRM.

Vista Environment

Topic	AIIB ESF	Azerbaijan law	Gaps	Relevance to This Project	How the Project Addresses the Gap
	and can use remedies for non-compliance.	enforcement via MENR inspections.	compliance relies on administrative/judicial routes.	risks during depot works.	Stakeholders are informed of access to AIIB's PPM.
Pollution prevention / GIIP	Explicitly requires GIIP; references EHS Guidelines as technical baseline.	Emission/effluent control via Environmental Protection Law, permits, and sector rules; GIIP/EHS not explicitly mandated.	Absence of explicit GIIP/EHS requirements as baseline standards.	Yes — depot operations include wastewater, hazardous waste, decanting, welding fumes, mechanical servicing.	This ESMP mandates GIIP using IFC EHS effluent, emissions, noise and OHS benchmarks, and introduces monitoring against EHS values (Table 17).
Biodiversity & protected areas	Addressed within ESS1 (e.g., critical habitat, no-net-loss approaches via GIIP/EHS).	Multiple statutes protect especially protected natural territories and species; strict area-based controls.	Critical habitat assessments and no-net-loss/offsets outside protected areas are not clearly codified.	Yes — Darnagul depot borders a cemetery; archaeological risk exists; cultural resource not fully regulated under EIA.	Chance-Find Procedure (Annex B) and culturally sensitive engagement with cemetery stakeholders are required before and during excavation and operation (noise/visual controls).
Land acquisition / resettlement	ESS2: avoid where feasible; restore/improve livelihoods if displacement occurs; covers physical & economic displacement; requires LARP/RP and support for vulnerable groups.	Law on Withdrawal of Lands for State Needs (2010): expropriation and compensation at market value; livelihood restoration less developed.	Livelihood restoration and support for vulnerable groups not fully aligned in national law.	Partially — depot land was acquired >10 years ago, so legacy risks required review.	Legacy land review completed; no outstanding grievances were identified. No further action required unless requested by AIIB.
Indigenous Peoples	ESS3: identification, culturally appropriate engagement; FPICon/benefit-sharing where relevant (often "not	No dedicated IP legal regime; IP not a defined category.	No national procedures equivalent to ESS3 where relevant contexts arise.	No. Azerbaijan has no Indigenous Peoples as defined by ESS3, and none are present near the depot sites.	Not applicable. No ESS 3 actions required for this Project.

Topic	AIIB ESF	Azerbaijan law	Gaps	Relevance to This Project	How the Project Addresses the Gap
	applicable" in AZ but still checked).				
International access to information norms	Early disclosure & access to accountability mechanism are embedded in ESF.	Azerbaijan is Party to the Aarhus Convention (access to information, participation, justice).	Convention membership doesn't provide a project-level lender mechanism or ESF-style early/continuous disclosure requirements.	Yes — Aarhus does not require early disclosure, ESMP-level monitoring disclosure, or access to AIIB's PPM.	The Project ensures early disclosure (30 days pre-approval), ongoing publication of monitoring results, and informs stakeholders of access to AIIB's Project-Affected People's Mechanism (PPM).

3.5. Institutional Framework

The ministries, agencies and institutions having key functions with responsibility for the environmental and social aspects of the Project are listed in Table 8 below.

Table 8: Overview of Relevant Government Institutions

Institution	Role for this Project	Key Permits / Approvals / Oversight (as applicable)
Ministry of Ecology and Natural Resources (MENR)	Central environmental authority—permitting and compliance oversight (air, water, waste), State Ecological Expertise (EIA review).	EIA/State Ecological Expertise for listed activities; air emissions (MPE); wastewater discharge (MPD); hazardous waste licensing/oversight; environmental monitoring and inspection.
Ministry of Labor and Social Protection of Population	National authority for Occupational Health & Safety (OHS) compliance in construction and operation.	Oversight of OHS obligations under the Labor Code; verification of contractor OHS plans, training, PPE, and workplace safety compliance.
Ministry of Emergency Situations (MES)	Emergency preparedness and civil protection coordination for the Project.	Coordination/approval of Emergency Response Plan (ERP); participation in drills during construction and operation.
Ministry of Culture / State Service for Protection, Development and Restoration of Cultural Heritage	Cultural heritage authority responsible for safeguarding historical and archaeological assets.	Notification/review of heritage matters; implementation of Chance Finds Procedure; oversight under the Law on Protection of Historical and Cultural Monuments.
Azerbaijan National Academy of Sciences – Institute of Archaeology & Ethnography	Technical authority providing expertise for archaeological and ethnographic heritage.	Participation in archaeological monitoring or confirmation if chance finds occur.
State Tourism Agency	Responsible for monuments and protected cultural reserves under its jurisdiction.	Oversight of immovable monuments within designated reserves; ensures compliance with heritage protection requirements.
State Land and Cartography Committee (SLCC)	Land administration and coordination of land-related actions with executive agencies.	Cadastral and land registration coordination; involvement where land allocation or boundary verification is required.
District/City Executive Authorities (including Baku City)	Local state executive power managing state lands, local infrastructure, and municipal coordination.	Oversight of municipal waste systems and local environmental coordination; supports implementation of waste handover systems.
Municipalities	Local self-government responsible for environmental service delivery at community level.	Management and contracting of municipal (non-hazardous) waste collection, transport, and disposal services.

Institution	Role for this Project	Key Permits / Approvals / Oversight (as applicable)
Ministry of Digital Development and Transport	Sector ministry for transport policy and infrastructure coordination.	Sectoral oversight; no project-specific environmental or social permit required but provides policy alignment for the BMEP Project.

3.6. Summary

The following tables summarises who is responsible and when for ensuring compliance with the legal and regulatory framework.

Table 9: Summary Responsibilities

Topic / Activity	Specific Requirement / Provision	When it Applies (Trigger & Timing)	Preparer	Competent Authority / Issuer	Where and How Addressed in ESMP
Environmental Impact Assessment (EIA)	Preparation and submission of EIA and ESMP for State Ecological Expertise in accordance with the Law on EIA and Law on Environmental Protection.	Before construction and for any listed activities requiring expert review.	Baku Metro	Ministry of Ecology and Natural Resources (MENR)	Not required. EIA already complete and approved.
Wastewater discharge (industrial / sanitary / wash bay)	Obtain discharge permit with Maximum Permissible Discharges (MPDs) per Water Code and related rules; apply IFC EHS values if stricter.	Prior to first discharge and during construction and ooperation.	Contractor / Baku Metro	MENR (Water resources division).	Standards listed in §3.2.4; monitoring frequency and parameters in Table 15 (Operations Monitoring Plan).
Air emissions (stationary sources)	Comply with Law on Air Protection; determine Maximum Permissible Emissions (MPE); obtain permit if required.	During consruction and during operation if boilers, paint booths, or similar sources installed.	Contractor / Baku Metro	MENR (Air Protection Dept.).	Legal basis §3.1.2; project adopts IFC and national limits in §3.2.
Hazardous waste (oils, filters, batteries, OWS sludge, contaminated soil)	Manage under Law on Industrial and Domestic Waste; obtain license for hazardous waste handling; use approved manifests and licensed transport / disposal operators.	Throughout construction and operation whenever hazardous waste is generated.	Contractor / Baku Metro	MENR (Waste Management and Licensing Dept.).	Requirements in §3.1.2 and Ch. 6 Mitigation Measures (Waste Management Plan).
Municipal (non-hazardous) waste	Segregate and hand over to municipal service providers per local rules.	Continuous during construction and operation.	Contractor / Baku Metro	City / District Executive Authority & Municipality.	Institutional roles §3.5; practical procedures Ch. 6 Waste Management.

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Topic / Activity	Specific Requirement / Provision	When it Applies (Trigger & Timing)	Preparer	Competent Authority / Issuer	Where and How Addressed in ESMP
Noise and vibration	Meet national noise limits and IFC EHS Guidelines; apply DIN 4150-3 for vibration; monitor and record levels.	Construction and operation.	Contractor / Baku Metro	MENR (environmental monitoring and inspection).	Standards §3.2.2–3.2.3; monitoring methods Table 15.
Cultural heritage / chance finds	Follow Law on Protection of Historical and Cultural Monuments; apply Chance Finds Procedure; notify authorities on discovery.	Screening before works and immediately if finds occur during construction.	Contractor	Ministry of Culture and Institute of Archaeology & Ethnography.	Legal trigger §3.1.2; procedure in Ch. 6 and reporting in §8.7.
Occupational Health & Safety (OHS)	Comply with Labor Code and OHS regulations; implement contractor OHS Plan within CESMP; training and PPE provision required.	All construction and operation activities.	Contractor / Baku Metro	Ministry of Labor and Social Protection of Population.	National laws §3.1.2; measures and monitoring Ch. 6 and Ch. 8.
Emergency preparedness & fire safety	Prepare Emergency Response Plan (ERP); conduct drills with Ministry of Emergency Situations (MES).	Construction and operation; periodic review and drills.	Contractor / Baku Metro	MES (Civil Protection Dept.).	Institutional role §3.5; ERP referenced in Ch. 5–8.
AIIB ESF & disclosure requirements	Apply AIIB Environmental and Social Framework (ESS1); operate project GRM; disclose ESMP and monitoring reports.	Entire project cycle; pre-approval and through operation.	Contractor / Baku Metro	AIIB (lender) and Project Implementation Unit (PIU).	Requirements §§3.3–3.4; reporting procedures §8.7.

4. Baseline Environmental and Social Conditions

The following section of the ESMP provides an overview of the baseline environmental and social conditions at the depots and the wider Baku area. The aim of this section is to provide context for the risks and impacts identified in Section 5. The section is organized into four sub-sections: 1) Overview of the current site conditions, 2) baseline physical resources, 3) baseline biological resources and 4) baseline Socio-economic Resources. Sections 2, 3 and 4 are further sub-divided into specific topics, e.g. air quality, gender, etc. This section also includes information about Baku Metro and how they operate as an organization, e.g. regarding Labor and working conditions.

4.1 Overview of Current Site Conditions

Darnagul Depot

The project area, which is a state-owned plot, is located directly in a residential zone of Baku. The project area is bordered by the railway line from the north, A. Kunanbeyov Street from the west, and is located either adjacent to or in the immediate vicinity of various industrial enterprises, residential buildings, and currently inactive educational institutions and administrative buildings.

Site preparation works have been ongoing in the project area for nearly ten years including land clearance and relocation of utilities. However, active works have increased in the previous 3 months.

Construction works at the depot are currently on-going. Site visit observations highlighted large, uncovered spoil piles generating dust, exacerbated during windy conditions. Construction waste and wastewater management systems require further strengthening, including segregation, covered storage, and disposal through licensed contractors. Traffic management arrangements for the movement of materials and spoil are not yet formalized.

Technical conditions for connecting the depot to municipal water supply and sewage systems have already been secured. Within the project area, some buildings have been completed while others remain unfinished. Construction of these unfinished structures began approximately ten years ago but have not been completed. The design team is currently assessing the feasibility of incorporating these buildings into the project.

Labor and OHS practices are generally in place. The depot operates three shifts of eight hours each, including at night. Workers receive safety inductions and semi-annual emergency and first aid training. No fatalities have been reported, though minor injuries are frequent. The labor department investigates incidents and requires additional training as remedial action. Worker compensation is paid during leave and reinstated upon return. Despite these arrangements, additional attention is required for noise and dust control during night shifts. The grievance mechanism is accessible through the Health, Safety, and Environment (HSE) Division, but the hotline is not visibly posted at the depot site. Current site conditions are shown in Figure 4, Figure 5, Figure 6 and Figure 7.

Khojasan Depot

The Khojasan depot site is located west of Baku, within the Yasamal district, at the entrance of Khojasan village in the Binagadi District, to the left of the Khojasan-Lokbatan road. A total of 23.7 hectares of land has been allocated for the depot.

The depot is surrounded by the settlements of Khojasan and Sulutapa (Sulu Tepe), which have merged into a single urban area. There are several beverage factories in the Binagadi district, including Azerbaijan Coca-Cola Bottlers Ltd. and Mars Overseas Baku Ltd.

The depot is functional (project will expand the facilities on site) and includes an operations Metro station within its site boundary. The depot's infrastructure is connected to municipal sewage and

water systems and includes a functioning substation. Current facilities comprise a washing station and overnight wagon parking facilities, while future plans envision a wagon factory.

The Khojasan depot is connected to city sewage and water networks and is supported by an on-site substation. Washing stations and overnight wagon parking facilities are under construction. Trains operate above ground, with the current wagon workshop located within the high-voltage boundary.

Train operations here are above ground, and a wagon workshop lies within the high-voltage boundary. No fatalities have been reported, though minor injuries have occurred and are investigated. Wages continue to be paid during recovery, and workers confirmed that grievance procedures are available through the HSE Division, with a Metro hotline posted online and onsite.

Currently, two unrelated community concerns persist that were raised in the consultations: foul odours from a nearby lake affecting surrounding residences, and the high-speed movement of vehicles, including heavy trucks, along the road in front of the depot, which creates safety risks. Current site conditions are shown in Figure 8, Figure 9, Figure 10 and Figure 11.

Figure 4: Darnagul Depot

Figure 5: Exterior of Darnagul Depot

Figure 6: On-going works at Darnagul Depot

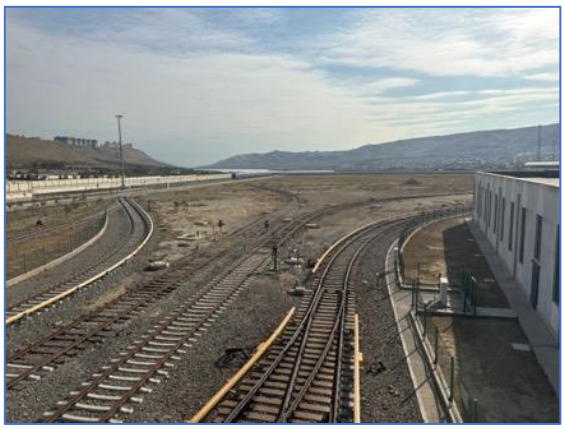
Figure 7: Darnagul Depot Site Wall (inside depot)

Figure 8: Khojasan Train Station

Figure 9: Repair facility and control room at Khojasan Depot

Figure 10: Khojasan Maintenance Facility

Figure 11: Khojasan Depot



4.1. Physical Resources

4.1.1. Climate

The depots are located in Baku on the Absheron Peninsula, which has a temperate-hot, semi-desert climate characterized by hot, dry summers, cool winters, and persistent winds throughout the year. Climatic conditions are shaped by the Caspian Sea and regional continental influences, resulting in limited precipitation, high evaporation, and strong seasonal variability.

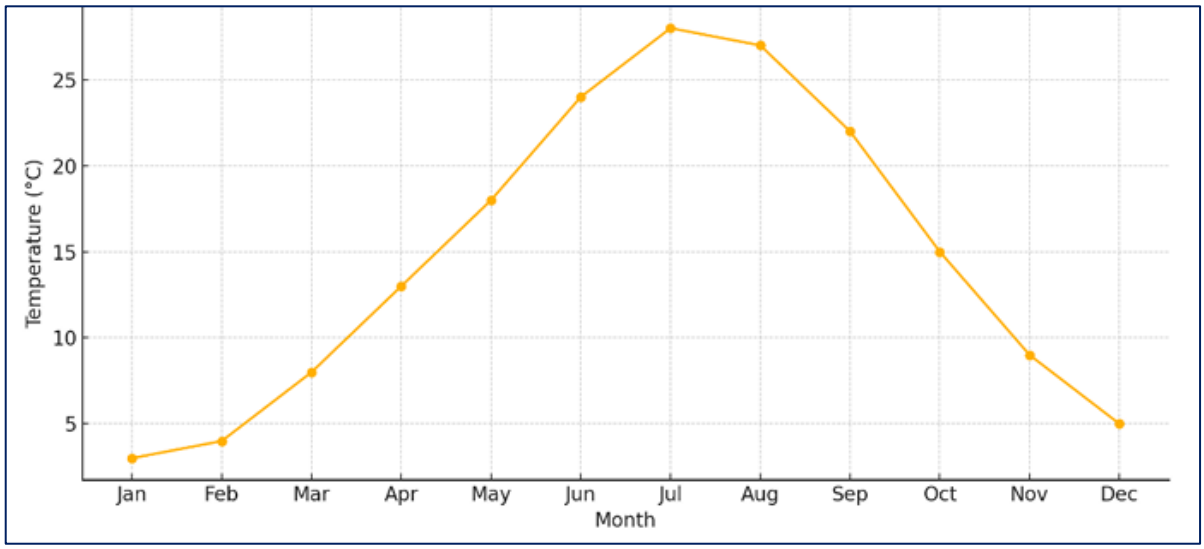
Temperature

Long-term meteorological data indicate an average annual air temperature of 13.5°C. Absolute temperatures range from a maximum of 42°C in July to a minimum of –13°C in January in Baku. Soil freezing depths in winter do not exceed 0.4 m. Average monthly temperatures range from –1.9°C in winter to 32°C in summer, with July being the hottest month. The warm season extends from early June to mid-September, with daily highs averaging above 27°C.

Observed Warming Trend

Over the past decades, Baku has experienced a measurable rise in annual mean temperatures. Summers have become hotter, with more frequent days above 35°C, while winters have become milder with fewer frost days. These changes are consistent with observed warming across the Caspian Basin and indicate an ongoing shift in seasonal patterns.

Figure 12: Average Monthly Temperatures in Absheron Peninsula



Source: Garagurbanli, V. (2023). *Climate, Radiation Balance, Atmospheric Periodicity, and Hydrothermal Regime of the Absheron Peninsula*. Natural Sciences

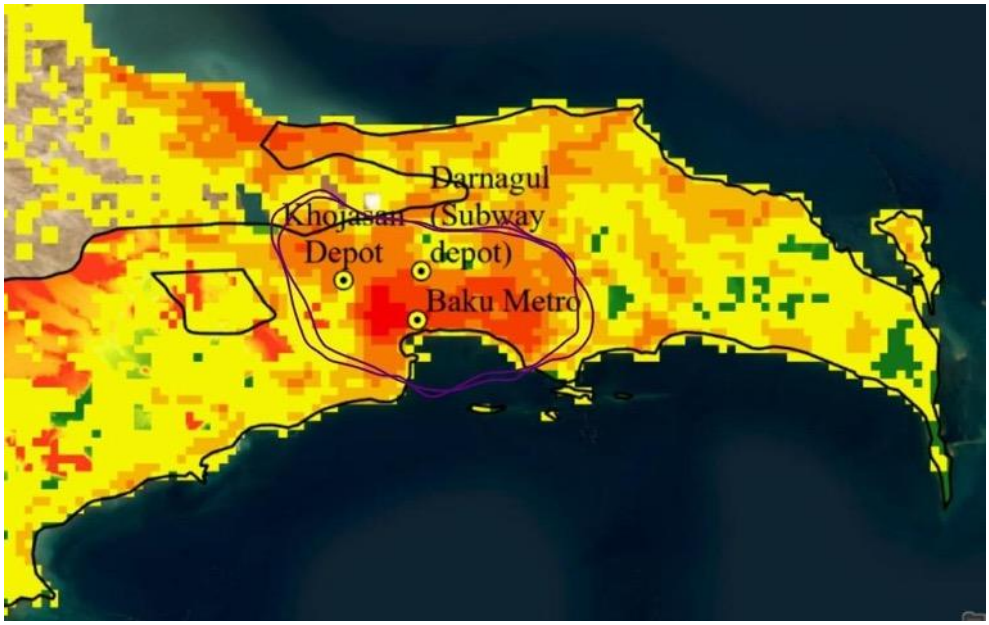
Cloud Cover

Sky cover varies seasonally. The clear period lasts from late May to early October, with August being the clearest month (95% clear or mostly clear). The cloudy period runs from October to May, peaking in January when skies are cloudy about half the time.

Precipitation and Hydrology

Average annual precipitation is about 227 mm, while evaporation rates are very high (947–1344 mm). Rainfall is erratic and often concentrated in autumn and spring, with October the wettest month and July the driest. Intense short-duration storms have been recorded, periodically overwhelming surface drainage systems and causing localized flooding, particularly in low-lying areas such as the Darnagul catchment. Variability in the Caspian Basin also contributes to rising groundwater levels, which place stress on depot foundations and service pits.

Figure 13: Spatial Distribution of Urban Heat Island (UHI) Intensity Across Baku



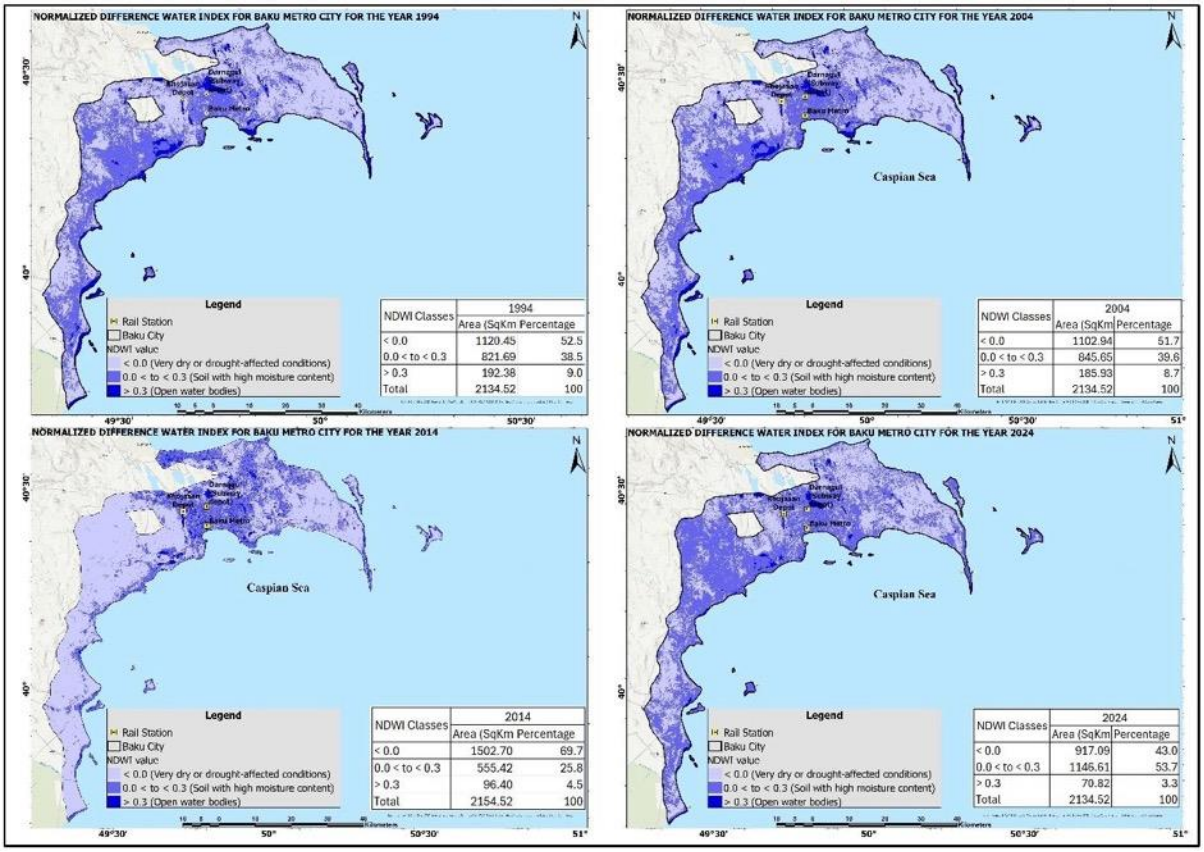
Red zones: *Very High UHI intensity*

Orange zones: *High UHI intensity*

Yellow zones: *Moderate heat exposure*

Green zones: *Low UHI intensity / Cooler surfaces*

Figure 14: Normalized Difference Water Index (NDWI) for Baku Metro City for the Years 1994, 2004, 2014, and 2024



This figure presents the Normalized Difference Water Index (NDWI) for Baku Metro City across four benchmark years (1994, 2004, 2014, and 2024), showing how surface water content and soil moisture have changed over time. NDWI is a remote sensing indicator used to assess the presence of surface water and the degree of dryness or drought stress in land areas. The Normalized Difference Water Index (NDWI) analysis across four time periods (1994, 2004, 2014, and 2024) reveals distinct hydrological fluctuations driven by changes in land cover, urban expansion, and shifting climatic conditions.

Humidity

Humidity fluctuates significantly through the year. Between mid-June and early October, muggy or oppressive conditions occur about 15% of the time, with August averaging 16 days of high humidity.

Wind

Winds are strong for most of the year. The windy season lasts from late June to early April, with November the windiest month (average 5.5 m/s) and May the calmest (4.2 m/s). Prevailing winds come from the north between April and October and from the south between November and February.

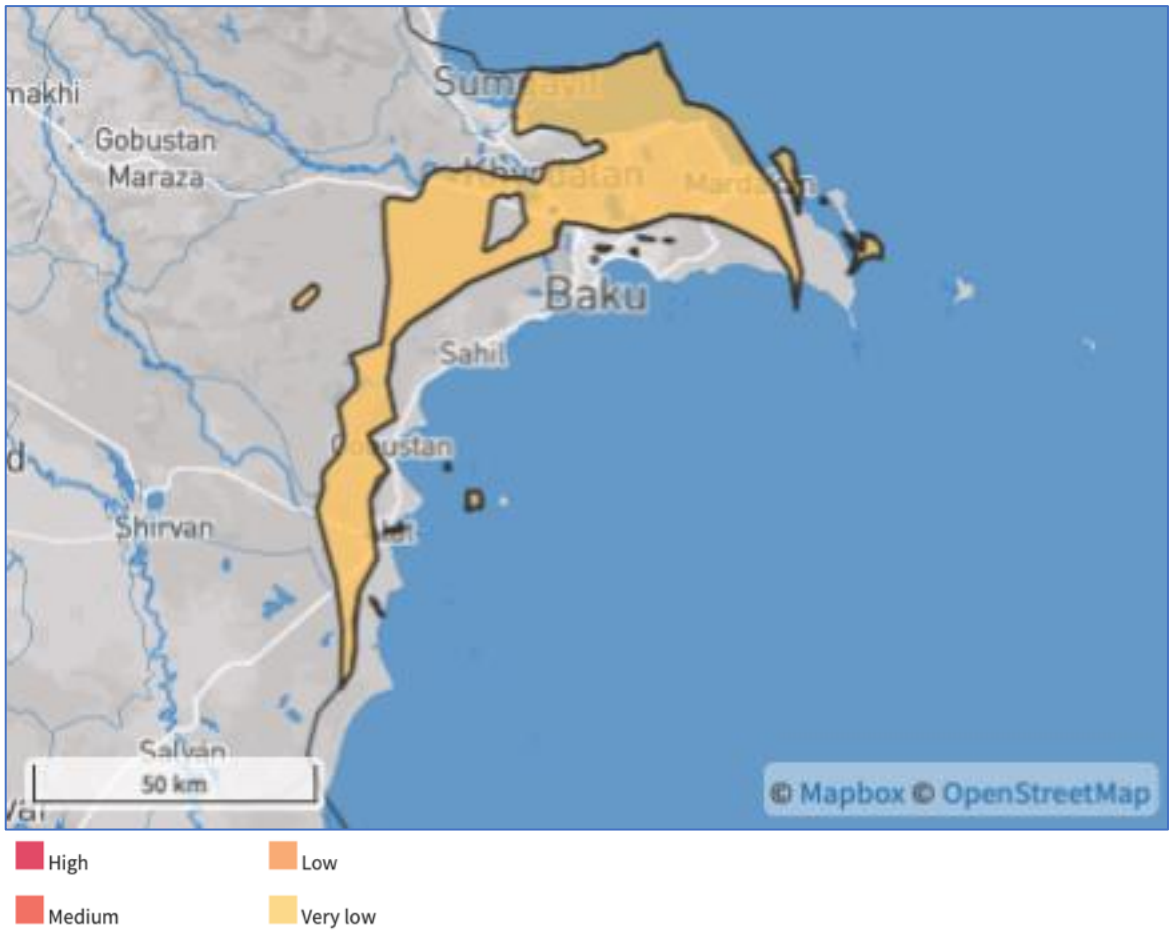
4.1.2. Natural Hazards

Both depots are located in an 8-point seismic zone (AZ DTN 2.3-1), requiring earthquake-resistant design. Local soils are classed II–III (MGE-7) under AZDTN 2.3-1 (amend. 1).

In terms of floods, consultations with residents around both depots indicated that localized flooding is not an issue. Think Hazard categorizes the risk of urban flooding in Baku as very low, meaning less

than 1% chance of potentially damaging and life-threatening river floods occurring in the coming 10 years (return period of c. 1 in 1000 years). However, there have been instances of flood events in the city in the last 5 years. [1]

Figure 15: Urban Flood Risk, Baku



Source: ThinkHazard: https://thinkhazard.org/en/report/495-azerbaijan-absheron-baku/UF

No other natural hazards, such as landslides, mudslides have been identified around the depot sites.

4.1.3. Topography

The terrain of Baku is characterized by flat lowlands near the coast, which quickly transition to higher elevations outside the city area. This landscape contrasts with surrounding mountainous regions, including the Greater Caucasus Mountains to the north and various uplands to the west.

Darnagul and Khojasan—are located within this broader topographical context. The Darnagul area, in the western part of the Absheron Peninsula, has a young and gently dissected relief formed by recent Quaternary tectonic activity, marine terraces, channel less depressions, and small ravines. The Khojasan area, in the eastern part of the peninsula, features relatively flat terrain transitioning to low undulating plains. Both areas are influenced by anthropogenic modifications, with the most widespread landscapes consisting of residential and industrial developments.

[1] https://eurasianet.org/baku-hit-by-widespread-flooding

Khojasan depot itself is sited on low, flat terrain north of Khojasan Lake. Its elevation rises from around 18m at its southern boundary to 32 meters in the north. Darnagul depot is also located on flat ground with an almost even elevation of 33-35m across the site.

Figure 16: Flat Topography of Khojasan Depot

Source: Consultants own photo, 2025

Figure 17: Flat Topography of Darnagul Depot

Source: Consultants own photo, 2025

4.1.4. Air Quality

The atmospheric air of the Absheron Peninsula is primarily polluted by emissions from oil and gas production, oil refining, petrochemical industries, energy, mechanical engineering, and other industrial sectors, as well as from vehicles. Despite favorable conditions for pollutant dispersion across the peninsula, the dense industrial activity and high vehicle traffic maintain consistently elevated levels of air pollution. Higher concentrations of pollutants are observed during periods of unfavorable meteorological conditions, typically from June to September. During this time, atmospheric inversion and calm (windless) conditions frequently occur in the surface layers, leading to the accumulation of chemical compounds in near-surface air masses. Pollutant concentrations are generally higher in the western parts of the peninsula, particularly around Baku and Sumgayit, where they may exceed established norms by 10% to four times. In the eastern direction, concentrations decrease by 2–3 times and typically remain within sanitary norms.

Baseline monitoring was done on-site three locations during October 21, 2021 and January 2022. within Khojasan depot as part of the Khojasan EIA (2023).

Figure 18: Monitoring Locations

Source: Khojasan EIA (2023)

The EIA states none of the national limits were exceeded (for PM10, NO_2, SO_2, CO). Details relating to the methodology employed during the national EIA can be found in Annex A.

Table 10: Air Quality Measurements

Sample location	PM2.5 With particles	PM 2.5 ppm/m³ Mass	PM 10 µg/m³	NO2 mg/m³	SO2 mg/m³	CO pq/m³
SP 1	345	30	72	35.2	3.2	1.2
SP 2	323	27	20	32.8		
SP 3	346	29	21	25.7		

Source: Khojansan EIA (2023)

Baseline air quality monitoring was not completed for the Darnagul EIA (2022). However, site visits by the Team in August 2025 noted large, uncovered mounds of soils (stockpiles) were generating high levels of dust during windy periods. The figure below illustrates the heigh of the stockpile. One of the community members interviewed as part of this screening report noted that dust from Darnagul depot was a problem in the summer and dry periods.

Figure 19: Stockpiles at Darnagul Depot

Source: Consultants own photo, 2025

Additional instrumental monitoring of both depots is in progress and the results will be provided in an updated ESMP.

4.1.5. Water Resources

Darnagul depot is located in the Absheron-Gobustan hydrogeological region. Groundwater occurs locally in Quaternary sandy sediments at depths of 0.4–2.5 m, but most is highly mineralized (in some places aggressive to reinforced concrete (sulfate/chloride attack), contaminated with oil, and unsuitable for use. Accordingly, groundwater is not used for domestic purposes in the areas around the depots piped supply comes from surface-water transfers and reservoirs (e.g., Samur–Absheron canal/Jeyranbatan), not from city aquifers. There are decentralized users—households, small facilities, and some enterprises—who draw from local wells inside Greater Baku, but none are known to be present around the depot areas.

Across the depot area, groundwater was encountered as part of geotechnical investigation wells with the water table typically between about 1.0 and 15.0 m below ground level (bgl), depending on local relief and soils. Near Lake Boyukshor it's much shallower—~0.4 to 2.55 m bgl—and largely technogenic/septic in origin.

Figure 20: Proximity of Lake Boyushor to Darnagul Depot

Source: Google Earth

Figure 21: Proximity of Lake Khojasan to Khojasan Depot

Source: Google Earth

No direct surface water flows reach the Khojasan Depot; the nearest significant water body is Lake Khojasan. Groundwater was encountered in all wells drilled at the site, at depths ranging from 0.1 to 5.8 meters (Khojasan EIA, 2022). Eight groundwater samples were collected and analyzed in the laboratory as part of the national EIA. Results of the chemical analysis indicated that the groundwater is not aggressive toward reinforced concrete; however, based on chloride ion concentrations, it is strongly aggressive toward metal structures.

4.1.6. Soil & Geology

The Darnagul Depot sits on mixed Quaternary sediments with technogenic soils on top, underlain by clay, sand, and sandstone layers of varying strength. As noted by the national EIA (2022) areas of soil contamination are present. The weak soils are prone to loosen and collapse when excavated. Further, windblown dust can be an issue on site.

Soil sampling is in progress at Darnagul depot and the results will be provided in an updated ESMP.

The Khojasan Depot lies with the Absheron Peninsula's productive Neogene (middle Pliocene) strata, mainly composed of dusty clays, silts, and fine-grained sands interbedded with thin sandstone layers. Structurally, the site belongs to the Shabandag–Shubani anticline zone with steeply dipping strata. Land in the area has been heavily modified by urbanization. It is also possible that areas of soil contamination from oils exist across the site.

4.1.7. Noise and vibration

Noise monitoring was undertaken at three locations within the Khojasan Depot as part of the national EIA (2022). Short-term daytime measurements (30 minutes per location, consistent with national requirements) recorded levels between 53.4 and 54.4 dBA. Although these averaging periods are not directly comparable to IFC guideline methodologies, the results suggest that daytime noise levels are likely within the IFC daytime limit of 55 dBA. Vibration monitoring was also carried out, with no vibration detected. Residents interviewed for this assessment similarly reported no concerns related to vibration. It should also be noted that Khojasan depot is located adjacent to a busy road which generates high noise levels on the western boundary of the site. As such any receptors located west of the road will be mainly disturbed by road noise and not by any on-site works, or movements of wagons.

It should be noted, however, that the methodologies and equipment used for both noise and vibration monitoring did not fully align with international best practice. Additional monitoring using standardized approaches is therefore recommended including during construction.

Noise monitoring has not yet been conducted at the Darnagul Depot. The Darnagul EIA (2023) does report that "the current noise level is below the accepted norm for areas directly adjacent to residential areas." In the absence of quantitative measurements, this statement should be considered anecdotal only, and further monitoring will be required.

Community consultations around both depots did not identify noise as a major issue, with the exception of one resident near Darnagul who reported being disturbed by nighttime noise.

Additional instrumental monitoring of both depots is in progress and the results will be provided in an updated ESMP.

4.2. Biological Resources

4.2.1. Flora

There is no significant vegetation within the boundaries of the Khojasan Depot. At the Darnagul Depot, areas of greenery are present, including tree stands located in the western part of the central project area and smaller groups of trees in the northern and northeastern sections. A total of 464 trees were recorded, the majority being fir and pine species. An inventory of these trees was completed as part of the Darnagul EIA (2023). No rare or endangered species were identified during the field surveys.

Due to the absence of proper agrotechnical care and irrigation over many years, a portion of the trees have withered or are in the process of drying out. Under the project, these trees will need to be removed or relocated in accordance with national procedures.

Figure 22: Vegetation, Darnagul Depot

Source: Consultants own Photos, August 2025.

4.2.2. Fauna

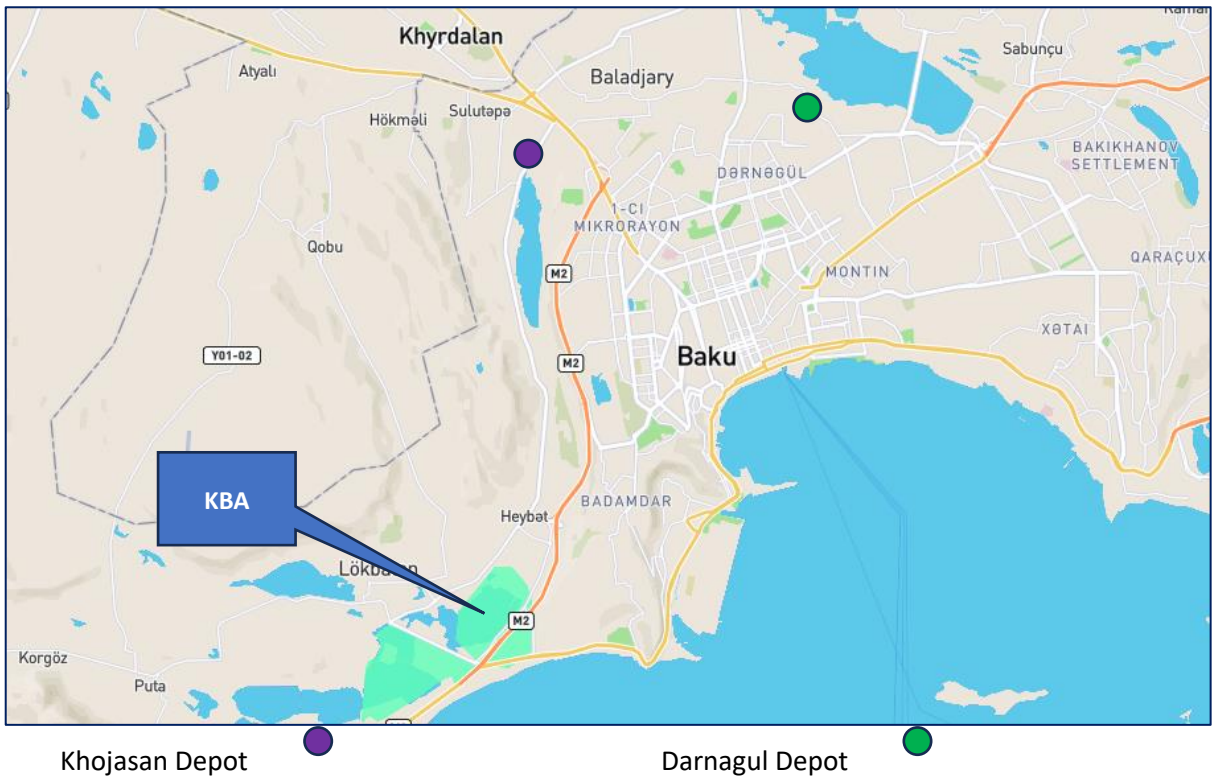
Both depot boundaries have been established for several years, and some site clearance and preparatory works have already taken place. As a result, no notable fauna is present within these urbanized areas of Baku. A review of IBAT and IUCN Red List data confirms that no critically endangered or endangered species occur near either depot site.

A field survey conducted at Darnagul as part of the Darnagul EIA (2023) identified four reptile species (lizards and snakes). Several common bird species were also recorded, including black starling, house sparrow, barn swallow, common crow, and field pigeon. No dedicated fauna survey has been undertaken at Khojasan as part of the Khojasan EIA (2022); however, site visits did not reveal evidence of notable fauna. The absence of vegetation at the site further reduces the likelihood of fauna presence.

4.2.3. Protected areas

Both depots are located within the urban area of Baku. There are no nationally or internationally recognized protected areas within 5 km of either site. The nearest area of ecological interest is the Krasnoye Lake and Absheron Waterbodies Key Biodiversity Area (KBA), which is also designated as an Important Bird Area (IBA). This site supports two waterbird species of conservation concern: the White-headed Duck (Oxyura leucocephala, IUCN Endangered) and the Lesser White-fronted Goose (Anser erythropus, IUCN Vulnerable).

Figure 23: Krasnoye Lake and Absheron Waterbodies Key Biodiversity Area (KBA)



Source: IBAT, 2025

4.3. Socio-economic Resources

4.3.1. Community health and safety

Both depots are located within urban areas of Baku. At Khojasan, the depot is bounded primarily by commercial and light industrial properties and open land, with residential areas set back approximately 100 meters or more from the site boundary. Land use around Darnagul is more mixed, with some residential properties located directly adjacent to parts of the depot boundary.

The Darnagul depot is a secure, gated, and walled facility, with site access strictly controlled by unarmed security personnel. Consultations carried out in August 2025 confirmed that no conflicts or issues have arisen between the community and depot security staff. At Khojasan, the metro station is located within the depot boundary which can only be accessed by an underground passage (Figure 24: Khojasan Station Underpass). While the depot can be accessed from the station platform, access is restricted by a locked gate, and passengers cannot enter the depot itself (Figure 25: Locked gate at Khojasan Depot).

Figure 24: Khojasan Station Underpass

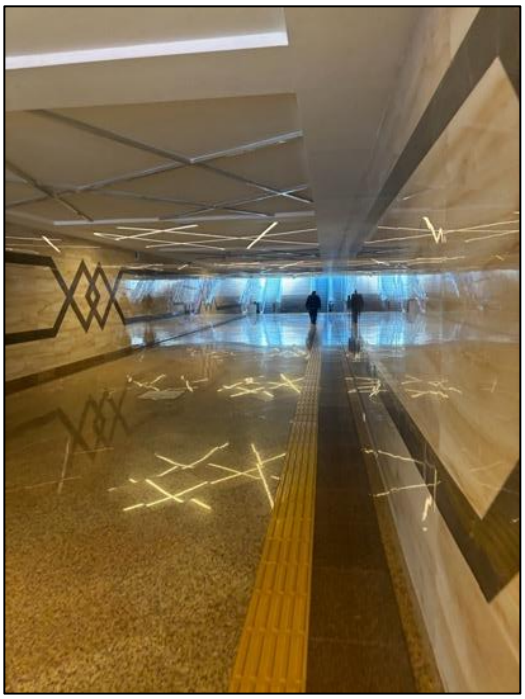
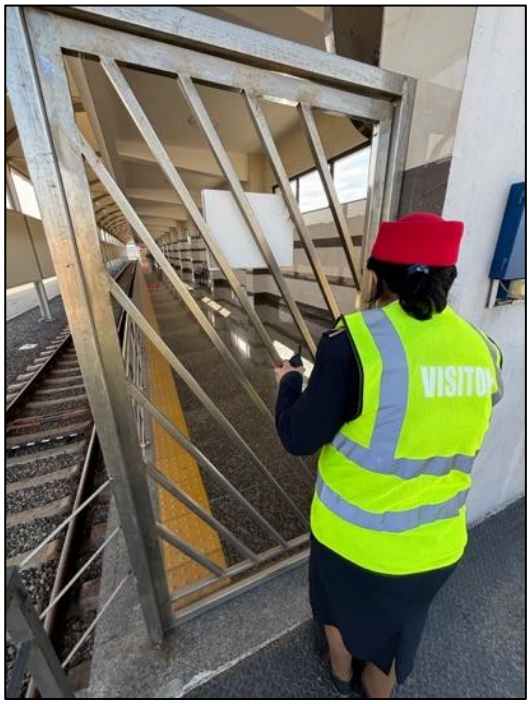


Figure 25: Locked gate at Khojasan Depot



Source: Consultants own Photos, August 2025.

During a site visit to Darnagul depot on 23 September 2025, no hazardous materials were observed during site visits to the depots that would present risks of major fire, explosion, or chemical leakage to the surrounding population.

Community consultations indicated no concerns directly related to construction traffic at either depot. However, no evidence was observed of dedicated traffic management systems, signage or related community awareness measures. At Khojasan, residents highlighted the high-speed movement of vehicles, including heavy trucks, on the main road in front of the depot as a significant safety hazard.

4.3.2. Labor and Working Conditions

Baku Metro employs around 4,800 staff, with a majority 78% male workforce (22% female) and an internal HR department managing recruitment, training, payroll, and employee relations. For the two depots, it is anticipated that there will be around 150-200 contracted workers across the two sites to support the construction of the Project. It is currently unclear whether accommodation will be provided to project workers. A newly established Construction Management Department will oversee project implementation, alongside the Procurement Department and the Project Management Consultant.

Baku Metro prioritizes local employment and contractors will also be encouraged to do the same. It is also anticipated that some workers might be engaged from other countries where specific expertise is not available locally, potentially via recruitment or employment agencies. The company has various HR policies and procedures in place, including codes for discipline, ethics, and recruitment, although some are still under development e.g. the Corporate Code of Conduct and Business Ethics, and Employee Handbook. Although Baku Metro complies with Azerbaijan law, there are no dedicated policies on child labor or forced labor. There is currently no Project Worker Grievance Mechanism system, and the current Baku Metro state-aligned system is not aligned with AIIB standards. There is

also no dedicated and specialized channel for workers to report incidents relating to violence, harassment and discrimination, or mechanisms provided by the company to support victims.

Baku Metro has an active Labor union, and in accordance with national legislation, workers can freely join trade unions and engage in trade union activities to protect their Labor, social, economic and other rights. OHS is governed by comprehensive policies and procedures, and training is provided at induction and periodically. While external labor inspections are conducted by the State Labor Inspectorate, there is no internal formal process for labor inspections. For the Project, contractors will be responsible for procuring goods and services, however, there are currently no corporate level, international standard-aligned policies and procedures addressing good practice supply chain management, including supplier screening and due diligence during the contractor to prevent and remedy child Labor and forced Labor risks and potential impacts.

4.3.3. Occupational Health and Safety

During a site visit to Darnagul depot on 23 September 2025, there was a lack of reliable information on workforce numbers and subcontractor presence for on-going works, the risk assessment process for specific activities, and inadequate PPE compliance was observed. Excavation works presented multiple uncontrolled risks, with poor access/egress, insufficient barricading, and unsafe positioning of spoil and machinery. Piling activity produced high noise levels; operator and guide were not using hearing protection. No activity-specific risk assessment was available for piling works. Numerous heavy vehicles and machinery were present on site, but when inspection records were requested, the response was that they were “not currently in use,” and documentation was not provided. This indicates poor assurance of machinery safety.

No hazardous materials were observed during site visits to the depots that would present risks of major fire, explosion, or chemical leakage to the surrounding population.

Community consultations indicated no concerns directly related to construction traffic at either depot. However, no evidence was observed of dedicated traffic management systems, signage or related community awareness measures. At Khojasan, residents highlighted the high-speed movement of vehicles, including heavy trucks, on the main road in front of the depot as a significant safety hazard.

At Darnagul depot, Baku Metro has currently contracted UFC, whose scope of work is twofold: (1) Excavation / preparation for pedestrian subway; (2) Rail line works at depot entrance. UFC has four subcontractors active at Darnagul (Onstone, Azertrans, Erinsaat, and SVF Construction). More subcontractors are expected to be added. No Project Management Consultant (PMC or “Engineer”) has been engaged yet; works are proceeding under direct Metro oversight due to urgency. A Contractor Management Plan (covering OHS responsibilities) is still under preparation. UFC was permitted to begin work without approved risk assessments due to schedule pressures. Metro’s OHS Department remains formally responsible for oversight. UFC’s HSE Manager has recently been replaced at Metro’s request. Contracts include OHS clauses referencing national legislation and are subject to state inspection.

The absence of task-specific risk assessments, inspection records, and a worker grievance mechanism indicates weak OHS oversight at contractor and subcontractor levels.

4.3.3. Cultural Heritage

Archaeological evidence investigations in and around Baku documents a continuous human presence on the Absheron Peninsula for at least 40,000 years, including significant archaeological and built heritage resources dating to the Paleolithic, Bronze Age, Classical, Medieval, and Historic periods. While the EIAs conducted for both depot areas did not identify any previously recorded cultural heritage resources in the depot project areas, given the region’s extensive occupation history, there

is the potential for undiscovered, buried archaeological materials within the Darnagul and Khojasan depot areas. The satellite imagery analysis for the Darnagul Depot area identified an extensive cemetery to the northwest of the depot project area. A review of historic satellite imagery indicates that part of the cemetery previously extended into the northwest corner of the Darnagul Depot Area and that the gravestones, monuments, and associated infrastructure were removed ca. 2013.

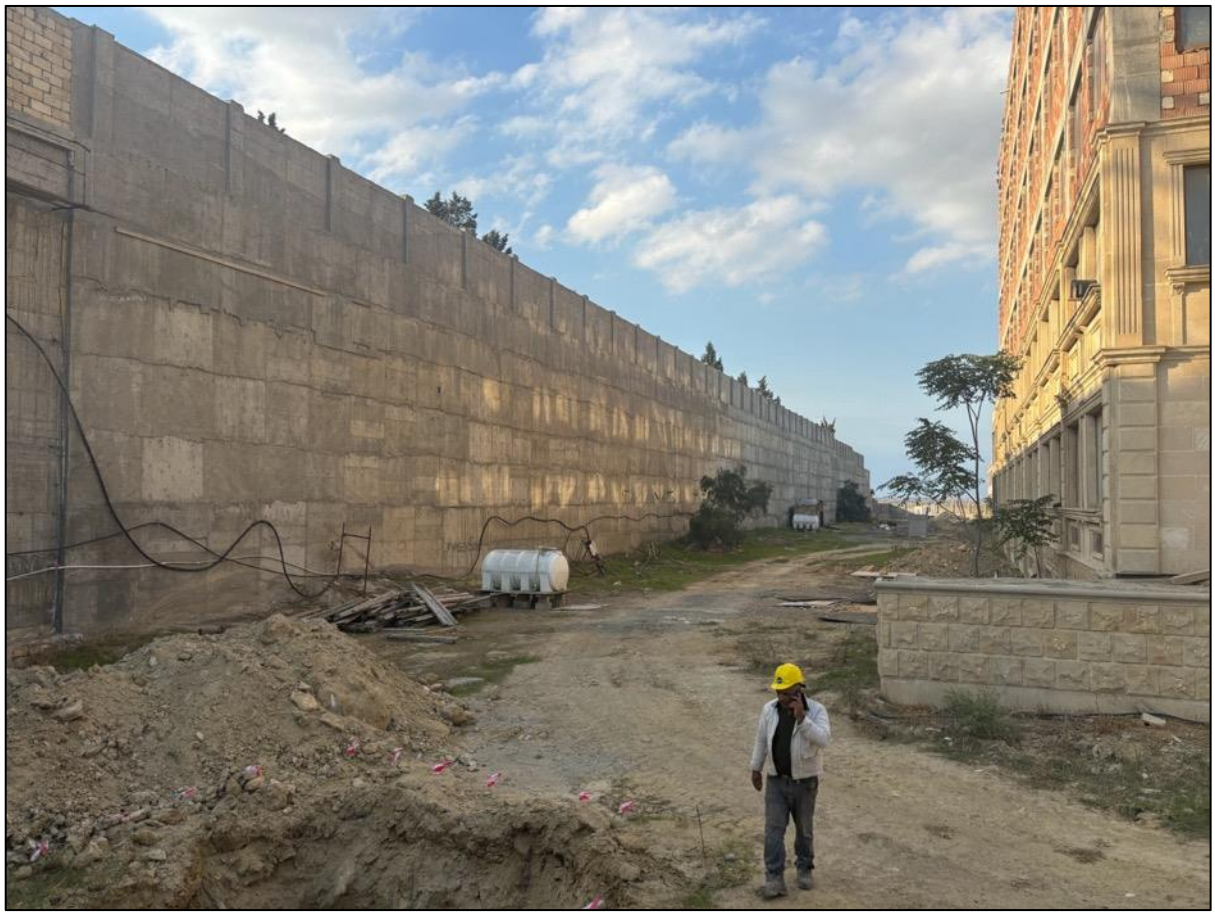
During the site visit, the Baku Metro stated that approximately 346 gravestones were removed from the portions of the cemetery in the depot area prior to construction but could not provide documentation or records of this effort. The site visit team discussed the cemetery relocation activities performed by the Baku Metro ca. 2013 with members of the local community. Interviewees stated that the cemetery relocation was performed in consultation with relatives of the deceased and organized/overseen by the local police, various government ministries and the state institutes. The interviewees stated that they were unaware of any complaints or outstanding grievances related to the grave relocation.

Figure 26: Darnagul Depot area and adjacent cemetery ca. 2010

Figure 27: Darnagul Depot area and adjacent cemetery ca. 2025

During the site visit, the project team observed that past construction activities in the depot area involved significant excavation and grading. These actions significantly lowered the ground level in the depot area compared to the cemetery located west of the depot (Figure 28). Due to this change in elevation, it is likely that these previous excavations and grading removed any human remains that may have been present in the former extension of the cemetery within the depot area.

Figure 28: Boundary wall separating the Darnegul Depot area (right) and current cemetery (left). The ground level within the cemetery is just below the concrete block wall at the top of the retaining wall on the left side of the image.



Source: Consultants own Photos, September 2025.

4.3.4. Gender

At the corporate level, Baku Metro demonstrates relatively strong gender representation compared to national averages in Azerbaijan's transport sector, with women making up 22% of the total workforce and 8% of management roles. In August 2025, the HR Department conducted a Worker Satisfaction Survey with a 68% participation rate, gathering gender-disaggregated feedback. The main concerns raised by both male and female employees included dissatisfaction with salaries and lacking teamwork. In response, the HR Department is analyzing the results through focus groups and plans to take action, including efforts to improve female representation in specific departments.

Interviews with a cross-section of Baku Metro employees for a baseline gender assessment supporting an AIIB-aligned Gender Action Plan revealed that staff generally feel safe and believe they are treated equally, with no reported experiences of harassment or discrimination, including Gender-Based Violence and Harassment (GBVH). However, most workers were unaware of specific policies or reporting procedures related to these issues. While Baku Metro's 'Corporate Code of Conduct and Business Ethics' and 'Recruitment Rules' include provisions on equality, non-discrimination, and harassment, GBVH is not explicitly addressed. Additionally, for the two depots, the gender composition of the project workforce remains unknown as contractors are yet to be hired, however, Baku Metro plans to promote inclusive hiring and equal opportunity standards among third-party contractors.

Vista Environment

4.3.5. Land Use

The Baku City Master Plan 2040 establishes a multi-zone land use plan for the city, comprising residential areas, mixed-use corridors, industrial and tech zones, transport hubs, green and eco zones, coastal protection areas, and peripheral development zones. It divides the city into planning zones and establishes a citywide land use/zoning framework comprising residential microdistricts, commercial corridors, industrial clusters, transport and depot areas, and protected/coastal strips. The Master Plan is the formal reference for zoning decisions.[2]

The Khojasan settlement is administratively part of the Binaqadi district of Baku. According to the latest statistics (2024), the population of the settlement is 5,022, with a density of approximately 279 people per km². The total area of the settlement is 18 km².

Darnagul is a residential microdistrict (the 7th microdistrict/Darnagul area) of Binagadi District. It has a population of 44,500 and an area of 3.2 km². The population density is 13,906 people per km².

Table 11: Summary of Depot Locations

Settlement	Administrative belonging	Population	Area (km²)	Population density (persons / km²)
Baku city	Capital city	2,344,900[3]	≈2,123 km²[4]	≈1,105)
Khojasan settlement	Binəqədi district - Khojasan settlement	5,022	18.0 km²[5]	279[6]
Darnagul district	Binəqədi district — Dərnəgül residential / microdistrict (7th microdistrict)	44,500[7]	3.2 km²[8]	13,906[9]

Khojasan is a predominantly low-rise, residential/peri-urban settlement pattern consisting of scattered single- and two-storey housing and local services, located on the outskirts of major industrial and transport nodes. The Binəqədi municipal descriptions present Xocəsən as a fringe settlement (18 km²) and note the presence of local services and the recent metro extension, which has affected land use. The Master Plan classifies such peripheral settlements within Baku's lower-density residential zones.[10]

The Khojasan Depot occupies a 23.7-hectare site to the west of Baku, at the entrance to Khojasan village in the Binagadi District. The land was formally allocated for depot development by a government decree in 2011. The depot is surrounded by the merged settlements of Khojasan and Sulutapa, which together form a single urban area. The area also includes several beverage factories, indicating a mix of residential and industrial land use. After 2004, informal residential and non-residential structures were constructed on the depot site. These were cleared in 2015, with the last

[2] https://arxkom.gov.az/en/bakinin-bas-plani?page=15&utm_source
[3] Jan 2024, State Statistical Committee — Regions 2024. https://www.stat.gov.az/menu/6/statistical_yearbooks/source/regions_2024.pdf?utm_source
[4] Baku Master Plan: city administrative area reported as 212.3 thousand ha = 2,123 km². https://arxkom.gov.az/bakinin-bas-plani?utm_source
[5] https://arxkom.gov.az/bakinin-bas-plani?utm_source
[6] https://binegedi-ih.gov.az
[7] https://binegedi-ih.gov.az
[8] https://binegedi-ih.gov.az
[9] https://binegedi-ih.gov.az
[10] https://binegedi-ih.gov.az

large residential building demolished in 2020, to make the site available for the depot. While relocation and compensation were reportedly provided to PAPs, the adequacy and documentation of these processes remain unverified.

Darnagul is a dense, urban, residential/mixed-use microdistrict comprising multi-storey apartment blocks, an established transport hub (Dərnəgül metro station/bus interchange) and supporting commercial strips, as well as legacy light-industrial areas. The Master Plan treats central microdistricts as corridors of higher-density residential and mixed-use development with transport and service functions.[11]

The Darnagul Depot itself is located on a 16.48-hectare, state-owned plot in Baku's Binagadi district, within a residential area bordered by major roads and a railway line. The site was previously occupied by informal residential structures, which were demolished in 2014, and residents were relocated. The surrounding area includes industrial facilities, residential buildings, and some unused public structures. To mitigate social impacts, including disrupted access for locals, a pedestrian crossing was built to restore connectivity.

4.3.6. Landscape

The depot areas are located within the suburbs of Baku and they have been present for a number of years. As noted above no significant cultural landscapes, monuments, or objects are located close to the depots that are significantly affected. Further, these areas of Baku are not considered to be areas of interest in terms of tourism. The general architecture around the site comprises low- and high-rise residential properties, commercial properties and some light industrial workshops. None of these areas have specific aesthetic value that would be significantly affected by the depot construction and operation. It is however, noted that there are plans to landscape the depot itself with trees and shrubs.

Figure 29: Western boundary of Darnagul Depot

Figure 30: Commercial property around Darnagul Depot

Figure 31: Western boundary of Khojasan Depot

[11] https://binegedi-ih.gov.az

Source: Consultants own Photos, August 2025.

5. Key Environmental and Social Risks and Impacts

5.1. Physical Resources

5.1.1. Natural Hazards

Receptors: The key impact receptors identified the project infrastructure, i.e. the depots. None of the proposed works are likely to induce natural hazards.

Potential Risks and Impacts: Baku is located in a seismically active region. The project sites at Darnagul and Khojasan depots therefore require design measures to ensure structural resilience under seismic loading. During site consultations, community members reported no recent earthquake damage in the depot areas, although some residents recalled events in the early 2000s. Engineering surveys for both depots confirm that the foundation soils consist mainly of clay, sandy clay, and loam, which are prone to settlement but do not present liquefaction risks under anticipated seismic scenarios.

Overall Risk / Impact Summary: Low. Seismic hazard is credible in Baku; however, code-compliant seismic design ensures that impacts would be of low significance. No liquefaction risk at the depots.

5.1.2. Air Quality

Receptors: Key receptors will be the residential receptors living within 200m of the site boundary. Other receptors include businesses around the site, but generally they are less sensitive. No schools or hospitals are located within 200m of the either depot. Several kindergartens have been identified within 200m of Khojasan depot.

Aspects: Construction activities, including excavation, backfilling, vehicle movement, and material handling will generate dust and combustion emissions. Operational activities, including the movement of wagons is unlikely to generate significant dust on the sites. The Metro is electric powered and combustion emissions from the site will be negligible.

Risks and Impacts: Dust and particulate matter could be generated in levels higher than national limits (see Table 3) and could have a negative affect on the health of nearby residents, workers, and local air quality in general within 200m of the site works. Dust can also have a nuisance to commercial

activities, e.g. restaurants and businesses through dust coating windows, outdoor tables, displays, etc. Emissions from construction machinery (diesel engines) may also release carbon monoxide, nitrogen oxides, and hydrocarbons, but these combustion emissions are not anticipated to have such wide-ranging impacts as dust. All these impacts are expected to be temporary, localized, and of moderate significance, with high potential for mitigation.

During operation, the main sources of air emissions at the Darnagul depot will be combustion gases (carbon and nitrogen oxides) from gas-powered heaters and vehicle engines, as well as paint aerosols and solvent vapors during painting and landscaping activities. routine metro maintenance activities (material delivery and waste disposal) are conducted underground, preventing additional emissions to the surrounding environment.

Overall Risk / Impact Summary: Medium. Risks are temporary and localized, but without adequate suppression and monitoring they can significantly affect local air quality and community health.

5.1.3. Water Resources

Receptors: No users of groundwater for domestic use have been identified within 200m of the depots. There are no major water courses or surface waters within 250m of the depots. The key receptors identified are the already contaminated groundwater aquifers which are unsuitable for domestic use.

Aspects: The following key aspects are anticipated to result in impacts:

- Use of water for construction works, e.g. dust suppression.
- Use of water for cleaning wagons during the operational phase, and any other domestic uses at depots and watering of trees and landscaped areas.
- Use of hazardous liquids during the construction and operational phase of the Project.
- Discharge of water from site buildings and activities during the operational phase.

Risks and Impacts: Construction activities at the depots will require water for drinking, sanitation, washing, and dust suppression. Wastewater generated during construction (approximately 50% of total water use) will be discharged into the general sewage network in accordance with agreements with Azersu OJSC. Discharges must be aligned with national MPDs as well as IFC effluent discharge standards. No direct discharges to surface water or groundwater are anticipated and there will be no direct discharge to any lake or surface water. Other issues that could affect groundwater, such as spills and leaks of oils, fuel, are possible across the work site during construction. But volumes of hazardous liquids stored on site are likely to be small, stored in 200 liter drums and as such any spill or leak on site it unlikely to have major impacts to water resources.

During depot operation, water will be needed for drinking, sanitation, cleaning, and greenery maintenance. Rainwater harvesting is proposed for non-potable uses, such as irrigation of landscaped areas. For wagon washing depots and cleaning solar panels will adopt a water recycling system, that will treat grey water before reuse. These systems should ensure that at least 80% of water used is recycled. [12]

Overall Risk / Impact Summary: The risk of pollution of groundwater is **low** during both phases. Design of the depots will incorporate closed drainage systems with oil-water separators and interceptor tanks to capture and treat contaminated runoff from workshops, washing platforms, and maintenance yards prior to discharge.

[12] https://www.railway-technology.com/contractors/yard/aquafrisch/?utm

5.1.4. Soil & Geology

Receptors: Key receptors are the soils beneath the site and its surroundings that could be affected by migration of pollution offsite and deport infrastructure that could be affected by soil conditions. In terms of geology, receptors include site construction workers and depot infrastructure.

Aspects: The following key aspects are anticipated to result in impacts:

- Excavation for deport building foundations.
- Soil conditions.
- Extreme weather events.

Risks and Impacts: Oil-product contamination of soils and shallow groundwater has been identified as present at certain depot locations, creating durability and corrosion challenges for concrete and metal structures. In sandy and gravelly layers, excavation faces are prone to loosening and collapse, particularly during rainfall or where fissures occur. Runoff from cleared or excavated areas can also cause significant erosion if not controlled; as a precaution, earthworks are often paused during heavy rainfall at Darnagul.

Any excavation on sites could encounter contaminated soil and these can represent a health hazard to workers handling the contaminated soils and also a potential pollution risk when it is removed from the site for disposal. Impacts of spills and leaks of hazardous liquids are similar to those discussed under 5.1.3 – Water Resources.

Geotechnical surveys highlight risks of soil subsidence and recommend reinforcement of trench walls and, where necessary, soil improvement beneath nearby structures to maintain stability. These conditions are compounded by shallow, chemically aggressive groundwater, which can accelerate material degradation.

The geotechnical risk profile is also closely linked to climate hazards and seismic risks. Intense rainfall events (see Section 4.1.1 Climate Change) increase the likelihood of erosion, slope runoff, and inflows into excavations. Seismic activity (see Section 4.1.2 Natural Hazards) could amplify settlement and destabilize poorly supported excavation faces or retaining structures.

Overall Risk / Impact Summary: Medium. Localized contamination, settlement/subsidence potential, excavation instability, and rain-driven erosion are manageable with soil improvement, shoring, drainage/erosion controls, and material protection. Specific measures for the identification of contaminated areas across the site are required along with measures to dispose correctly of any contaminated soil.

5.1.5. Noise and vibration

Receptors: Key receptors will be the residential receptors living within 200m of the site boundary. Other receptors include businesses around the site, but generally they are less sensitive. No schools or hospitals are located within 200m of the either depot. Noise levels will not be of a constant level during operational phase that may affect workers.

Khojasan Specific – The depot is bounded by a main road, open land, or commercial / industrial properties. These sites are not considered sensitive receptors to either noise or vibration. Residential properties are located well beyond the high boundary wall, a main road and a row of commercial properties.

Darnagul Specific - Several kindergartens have been identified within 200m of Darnagul depot. A cemetery is located adjacent to the site. Residential tower blocks and some houses are located at certain locations on the boundary of the site.

Aspects: The following key aspects are anticipated to result in impacts:

- Movement and operation of construction equipment and plant.
- Piling and excavation works.
- Movement of wagons in the operational phase.

Risks and Impacts: Baseline noise levels in the project area were measured at 52–53 dBA, slightly above national and IFC standards. Construction machinery, vehicle movement, and related activities are expected to increase these levels by 5-6dB. Vibration impacts may also result from pile driving, blasting, soil compaction, and operation of heavy machinery.

At khojasan depot, any construction noise is unlikely to be heard far beyond the site boundary. The site is bunded by a high four-meter wall on all sides which largely prevents sound propagation beyond the site. Further, the main road opposite the depot produces significantly more noise than will be generated during construction meaning that any residential receptors within 200m of the western site boundary will not be affected by construction noise. Several residential receptors are located closer to the northeastern boundary, but at around 200m from the location of any core construction activities. In terms of vibration, no properties are located within 50m of any area where piling or any other significant vibration activity would occur. As such no vibration impacts to properties, are possible.

At Darnagul depot receptors are closer, in some cases bordering on the site boundary. Here noise impacts from construction are likely to be elevated above IFC guideline limits and mitigation measures will be required to manage this issue but noting that not all noise impacts will be prevented. However, construction is currently on-going at the site and it should be noted that there have been no major complaints about noise from the depot works. Vibration impacts are only possible at a location on the eastern side of the site boundary where several residential properties can be found. This should be monitored during works within 25m of these properties. No vibration impacts or major noise impacts are located close to the cemetery where all major works have been completed and where a multi-storey building shields the cemetery from on-going works noise.

During operation, the primary noise and vibration sources will include train movement, depot machinery, and vehicle traffic. These impacts are expected to remain within permissible limits at the boundaries of nearby residential areas. Vibration effects are anticipated to be localized and short-term, primarily associated with loading, unloading, and vehicle movements. As baseline studies from the national EIAs (2022, 2023) indicate that operational noise levels are not likely to exceed regulatory thresholds, no large-scale mitigation measures are anticipated beyond standard practices. Compliance will be ensured through regular monitoring and routine equipment maintenance.

Overall Risk / Impact Summary: Medium (construction) / **Low** (operation). Temporary exceedances and localized vibration may occur near works, but are controllable with scheduling, barriers, equipment maintenance, and monitoring; operational levels are expected to remain within applicable standards at receptors.

5.2. Biological Resources

5.2.1. Flora

Receptors: Trees at Darnagul depot

Aspects: Land clearance

Risks and Impacts: A number of trees will need to be removed from Darnagul depot. None of the trees have any special status. Tree replanting and landscaping at both depots is part of the project. Tree removal and replanting will be managed in accordance with regulatory requirements including the Law “On Protection of Green Plantings” (2014, last amended Nov 29, 2024).

Overall Risk / Impact Summary: The removal of trees from the site is not anticipated to have significant biodiversity impacts, especially in light of plans to replant trees at both depots. Risks and Impact rating is **low**.

5.2.2. Fauna

Receptors: No special status species identified.

Aspects: Land clearance and operation of the site.

Risks and Impacts: No significant impacts to fauna are anticipated as there are no special status fauna present in the depots.

Overall Risk / Impact Summary: None

5.2.3. Protected areas

Receptors: None within 5km of the depots

Aspects: None identified.

Risks and Impacts: No impacts are possible as there are no protected areas within 5km of the depots.

Overall Risk / Impact Summary: None

5.3. Socio-economic Resources

5.3.1. Community health and safety

Receptors: Members of the community living and working within the project area, specifically within 200m of the site.

Aspects: The following key aspects are anticipated to result in impacts:

- Movement of construction vehicles on public roads.
- General construction activities on site (generating noise and air quality issues).
- Labour influx during construction.
- Accidents and emergencies during construction and operational phases.
- Use of security staff.

Risks and Impacts: The Baku Metro expansion poses community health and safety (CHS) risks during both construction and operation. During the construction phase, community interface risks arise from the mixed use of access roads by local pedestrians, vehicles, and heavy construction traffic. Other potential impacts include traffic disruptions, noise, dust, and vibration affecting nearby businesses and residential areas. Safety hazards may also arise from heavy equipment use, open excavation sites, and increased vehicle movements in dense urban areas settings.

Temporary labour influx during construction may create pressures on nearby communities, including increased demand for local services, housing and utilities. If unmanaged, this can also result in social tensions, increased road safety risks, or incidents of gender-based violence and harassment (GBVH). Contractors will be required to identify and manage such risks through their Labour Management Plans and Code of Conduct implementation.

Depots must take into account public safety during operation, including incremental risks from operational accidents or natural hazards, such as fire, flooding, or extreme weather events. Design and construction of new buildings and structures should apply the principles of universal access, ensuring that persons with disabilities and other vulnerable users can access facilities safely and independently.

Security staff are employed at depots to control access and protect assets. However, inappropriate conduct or use of force could pose risks to workers or members of the public. Baku Metro will assess these risks and ensure that all security personnel act in compliance with national law and good international practice, including proportional use of force, avoidance of discrimination, and respect for human rights.

Overall Risk / Impact Summary: The Project presents moderate community health and safety risks during both construction and operation. However, these can be adequately managed though application of the mitigation measures provided in this ESMP with further detail on labour-related measures in the Labour Management Plan (LMP) and security protocols.

5.3.2. Labor and Working Conditions

Receptors: Contractor staff, engineer staff and Baku Metro staff (including PIU).

Aspects: The following key aspects are anticipated to result in impacts:

- General construction activities
- Site supervision and inspections
- Operation of the depots

Risks and Impacts: While Baku Metro has some HR and labor management policies and procedures in place, two key documents are currently under development, including the 'Corporate Code of Conduct and Business Ethics' and the 'Employee Handbook', which will be important for signposting workers to HR policies and procedures, and internal working regulations, including terms of contract and working conditions. In addition, there is currently no standalone Baku Metro or Baku Metro Expansion Project (BMEP) Worker Grievance Mechanism and specialized channel for the reporting of violence, harassment and discrimination incidents, aligned with the requirements of AIIB ESS 1. There are also currently no documented corporate policy statements prohibiting forced labor and child labor, which could be cascaded down to project contractors and implemented (see Baku Metro Expansion Project Labor Management Plan for further details on management measures).

For the Project specifically, as the key contractor has not been selected yet, there is currently no transparency on the demographics of future project workers and, including vulnerable worker categories, including women, workers with disabilities, ethnic minorities, migrant workers, workers living in project-provided accommodation, contracted or third party workers, and workers engaged via recruitment or employment agencies., whether they need to relocate for the Project, whether they are 'migrant workers', whether contractors intend to source labor via recruitment or employment agencies, and whether workers will need to be accommodated in project-provided housing. The presence of these aspects vulnerable worker categories represents potential risks to the Project, if the necessary due diligence and management measures are not adequately implemented (see Baku Metro Expansion Project Labor Management Plan and Baku Metro Expansion Project Gender Action Plan for management measures).

As a state entity, Baku Metro follows Azerbaijan legislation and public policies, which might fall short of AIIB's standards e.g. on contractor management, monitoring and reporting, and supply chain management. Absence of documented AIIB-aligned policies and procedures, codes of conduct and robust contractual clauses on labor management covering contractors, subcontractors, third parties and suppliers also represents a project risk if not addressed.

Current Baku Metro employees receive an induction training when they join Baku Metro but not on all labor topics, including grievance management and reporting violence, harassment and discrimination incidents.

Overall Risk Summary: Medium. Key documents such as the Corporate Code of Conduct and Employee Handbook are still under development, creating a gap in clear guidance for workers on rights, responsibilities, and internal procedures. There is currently no AIIB ESS1-aligned standalone Worker Grievance Mechanism or specialized reporting channels for violence, harassment, and discrimination incidents. There are no documented corporate policy statements explicitly prohibiting forced labor and child labor. With the main EPC Contractor not yet selected, there is currently no visibility on project worker demographics and vulnerable worker categories, including women, workers with disabilities, ethnic minorities, migrant workers, workers living in project-provided accommodation, contracted or third party workers, and workers engaged via recruitment or employment agencies, vulnerable worker categories, such as women, disabled workers, ethnic minorities, (e.g. migrant workers), use of recruitment or employment agencies, or a potential need for workers to be relocated and housed in project-provided accommodation, all of which pose potential risks related to labor rights and conditions if not properly managed. As a state entity, Baku Metro currently follows national legislation, which may fall short of AIIB standards in areas such as contractor and supply chain management, monitoring and reporting, and labor clauses in contracts. Induction training for employees does not cover key labor topics, including grievance management or how to report violence, harassment, and discrimination incidents. These issues present compliance, reputational, and labor rights risks, particularly if not resolved before major project activities begin.

5.3.3. Occupational Health and Safety

Receptors: Contractors staff, engineers staff and Baku Metro staff (including PIU).

Aspects: The following key aspects are anticipated to result in impacts:

- General construction activities
- Site supervision and inspections
- Operation of the depots

Risks and Impacts: The Baku Metro expansion project presents a complex occupational health and safety (OHS) risk profile due to underground construction activities, high-voltage systems, and confined operational environments. While the company has safety systems in place, data gaps remain regarding accident records, emergency preparedness, and workforce oversight.

Baku Metro's OHS department comprises Health & Safety and Fire Safety Divisions. Contractors have their own OHS structures with coordination meetings taking place but not yet documented.

Baku Metro does not currently hold ISO certification for its OHS management system, though an HSE Manual is under preparation. Worker health and safety is governed by an Environment, Health and Safety (EHS) Policy, HSE Regulations, and Fire Safety Regulations. Several individual procedures (covering accident reporting and investigation, working at height, underground works, use of electrical equipment, crane operations, and road works) exist, but only a list was provided. Procedures on risk assessment and emergency preparedness and response are not yet developed. OHS statistics and presentations are compiled for senior management, though coverage is partial (e.g. six-month reporting period and limited drill data.

Daily and monthly inspections are undertaken, and findings are logged in a database. Incident reporting to government is mandatory with joint inspections carried out. Weekly and monthly OHS reports are produced, but near-misses are not systematically tracked. Operational emergency drills are coordinated with the Ministry of Emergency Situations, while internal non-operational drills are also conducted (e.g. in office buildings after upgrades to fire alarms and turnstiles).

Procurement of spare parts is constrained by sanctions, creating delays in replacement of critical assets. Some parts are sourced independently, raising concerns about quality and compliance, increasing the risk of equipment failure, accidents, and non-conformance with OHS requirements.

At Darnagul depot, Baku Metro has contracted UFC for excavation and rail line works, with multiple subcontractors active on site. No Project Management Consultant (PMC) has been engaged yet; works are proceeding under direct Metro oversight. A Contractor Management Plan (covering OHS responsibilities) is under preparation. UFC was permitted to begin work without approved risk assessments due to schedule pressures. During the 23 September site visit, multiple uncontrolled risks were observed: poor access and egress in excavations, insufficient barricading, unsafe machinery positioning, and noise exposure without hearing protection. No task-specific risk assessments or inspection records were available, indicating weak OHS assurance at contractor and subcontractor levels.

The absence of task-specific risk assessments, inspection records, and a worker grievance mechanism demonstrates weak OHS oversight and limited worker participation in safety management.

Extreme temperature conditions, including seasonal heatwaves and cold snaps, may lead to thermal stress for workers engaged in outdoor or semi-indoor maintenance, washing and mechanical activities. Low temperatures can affect hydraulic systems, compressors and battery equipment, while excessive heat increases ventilation and cooling demand, influencing energy efficiency and working conditions.

Main OHS Risks Identified:

Key occupational health and safety risks identified for the depot works include:

- **Heat stress** during summer months, especially in confined underground spaces;
- **Confined space hazards** in tunnels, shafts, and ducts;
- **Electrical hazards** from live systems, equipment testing, and maintenance;
- **Fatigue** arising from long (12-hour) shifts and limited rest breaks;
- **Physical hazards** from lifting operations, excavation collapse, and machinery movement;
- **Noise and vibration exposure** during piling and equipment use; and
- **Worker welfare and hygiene risks** in any temporary labour camps or site accommodation, including fire safety, overcrowding, and sanitation.

These risks have been identified based on site inspections, consultations with the OHS Department, and applicable national and lender standards. Their significance ranges from *moderate* to *substantial*, depending on task-specific conditions. Mitigation and monitoring measures for each risk are detailed in Chapter 6 (Environmental and Social Mitigation Measures) and Chapter 7 (Monitoring Plan) and further elaborated in the Labour Management Plan (LMP) and contractor OHS plans. Together, these documents define how OHS risks are managed, monitored, and reported in accordance with AIIB, IFC, and ILO requirements.

Overall Risk Summary: Medium. Although multiple OHS risks have been identified, these can be managed as long as contractors adopt good practice as outlined in this ESMP. Oversight of works by the PIU and their supervision engineer will help ensure that OHS risks are appropriately managed.

5.3.4. Cultural Heritage

Receptors: Cemetery adjacent to Darnagul depot. Unknown cultural heritage, e.g. chance finds.

Aspects: The following key aspects are anticipated to result in impacts:

- Excavation works at Darnagul depot.

Risks and Impacts: Archaeological investigations within Baku and across the Absheron Peninsula have documented numerous sites dating from the Paleolithic Period to the early 20th century. This extensive

archaeological record suggests there is the potential for undiscovered archaeological resources to be present within the Darnagul and Khojasan depot areas. While the screening study and satellite imagery indicated the potential for unmarked graves/human remains within the the Darnagul Depot, the site team observed deep excavation near the cemetery boundary that would have eliminated any remaining graves, if present. Based on these findings, it is unlikely that unmarked burials are present in the Darnagul Depot area. Increased noise, air quality changes, and viewshed impacts from Darnagul Depot construction and operation may negatively impact stakeholders' use of the adjacent cemetery for culturally significant activities.

Overall Risk Summary: Medium. The absence of prior archaeological investigations within the depot areas, combined with the rich archaeological record of the Absheron Peninsula, suggests a potential for undiscovered resources in both locations. The discovery of unrecorded archaeological sites may result in significant delays and adverse effects on culturally or scientifically sensitive resources. Changes in noise levels, air quality, and viewsheds have the potential to adversely impact stakeholders' utilization of the cemetery for funerary ceremonies and annual commemorative events, which may lead to grievances and formal complaints from those affected.

5.3.4. Gender

Receptors: Female and male workers, including contractors, engineer and Baku Metro staff.

Aspects: The following key aspects are anticipated to result in impacts:

- General construction and operational activities.

Risks and Impacts: While the female/male employee gender balance at Baku Metro is higher than the average percentage of women in Azerbaijan's transportation sector, achieving this on the Project in a more male-dominated transportation sector and construction industry will be more challenging, unless contractors and subcontractors take measures to attract women and vulnerable groups, through inclusive, fair and equal opportunity recruitment and employment practices.

The 'Corporate Code of Conduct and Business Ethics', which is currently in development, prohibits any form of harassment, however violence or Gender-Based Violence and Harassment (GBVH) is not explicitly mentioned. Worker interviews conducted during the Site Visit confirmed that employees are unaware of existing policies on violence, harassment, and discrimination, and have not received relevant training. There is also currently no standalone Baku Metro or Baku Metro Expansion Project (BMEP) Worker Grievance Mechanism and specialized channel for the reporting of violence, harassment and discrimination incidents, aligned with the requirements of AIIB ESS 1.

Overall Risk Summary: Medium. The Project will be challenged to achieve a gender balance in the more male-dominated sector transportation and construction sectors, unless proactive measures are taken by contractors and subcontractors. The current draft of the Baku Metro Code of Conduct does not explicitly mention violence, or Gender-Based Violence and Harassment (GBVH), which are critical and sensitive topics, which should also be incorporated. Worker interviews conducted during the Site Visit confirmed that employees are unaware of existing policies on violence, harassment, and discrimination, and have not received relevant training. There is currently no standalone grievance mechanism or specialized reporting channel for incidents of violence, harassment, or discrimination, which does not meet AIIB ESS 1 requirements. These gaps pose significant social and reputational risks, and may hinder compliance with international safeguards and gender inclusion goals.

5.3.5. Landscape

Receptors: The general landscape around the depots, a buffer of 200m has been determined.

Aspects: The following key aspects are anticipated to result in impacts:

- Establishment of the depot.

Risks and Impacts: No specific landscape impacts were identified in the depot screening report. Notwithstanding the above, landscaping of the depots will be part of the project.

Overall Risk / Impact Summary: No risks or impacts identified.

5.3.7. Waste Management

Receptors: General environment around the depot and waste disposal sites.

Aspects: The following key aspects are anticipated to result in impacts:

- General construction waste, packaging, offcuts, domestic waste, liquid waste.
- General operational waste, packaging, domestic waste, liquid waste.

Risks and Impacts: During construction, solid and hazardous waste will be generated, including construction debris, plastics, packaging, oils, paints, and household waste. Waste water is discussed under section 5.1.3 – Water Resources. Typical wastes are anticipated are shown in the following table.

Table 12: Types of Construction and O&M Waste

Waste Type	Examples	Hazard Classification
Construction Phase		
Excavated soil and spoil	Inert soils, overburden from excavation	Non-hazardous
Construction debris	Concrete, bricks, blocks, scrap metal, timber, asphalt fragments	Non-hazardous
Packaging and general waste	Cardboard, plastic, cables offcuts, canteen waste	Non-hazardous
Oily waste	Used oil, grease, oily rags, filters	Hazardous
Chemical residues	Paints, adhesives, solvents, containers	Hazardous
Batteries and spill cleanup waste	Lead-acid batteries, contaminated soil	Hazardous
O&M Phase		
General waste	Office waste, food waste, packaging materials	Non-hazardous
Recyclables	Scrap metal, paper, plastics, wood	Non-hazardous
Used oils and filters	Lubricating oil, hydraulic oil, filters	Hazardous
Oily sludge and wash water residue	Sludge from oil-water separators and sumps	Hazardous
Paint and solvent waste	Solvent residues, paint booth filters	Hazardous
Batteries	Lead-acid and lithium-ion batteries	Hazardous
Lighting and e-waste	Fluorescent tubes, electronic components	Hazardous

Waste Type	Examples	Hazard Classification
Refrigerant and coolant waste	Used refrigerants from HVAC/AC units	Hazardous
Contaminated soil/debris	From minor leaks/spills at maintenance areas	Hazardous

These wastes pose risks of soil, air, and water contamination if not managed properly. The impacts are expected to be temporary, localized, and of moderate significance with high mitigation potential.

During operation, waste streams will be more limited, consisting mainly of household waste, packaging, and used lubricating oils from maintenance activities. These require appropriate storage and off-site transfer by licensed companies to avoid environmental impacts.

Mixed storage of recyclable scrap metals, packaging materials and general waste may reduce the reuse and recycling potential of depot waste streams and increase disposal requirements. Poor segregation practices may also lead to contamination of recyclables with food or hazardous residues, preventing their diversion from landfill and increasing overall waste volumes.

Overall Risk / Impact Summary: Medium (construction) / Low (operation). Mixed construction and hazardous wastes present moderate short-term contamination risks but are readily mitigated via a SWMP, segregation, secure storage, and licensed haulage. Operational wastes are limited; proper handling of used oils and packaging keeps residual impacts low.

5.4.8. Land Use

Receptors: Land users on and around both depots.

Aspects: The following key aspects are anticipated to result in impacts:

Historical land acquisition

Risks and Impacts: The Darnagul Depot presents risks and potential impacts primarily due to its history of land acquisition and resettlement activities. The process of relocating occupants from allegedly illegal residential structures and demolishing these structures was completed in 2014. However, there is a notable lack of records verifying the exhumation and relocation of human remains, as well as documentation of compensation provided to affected persons for the removal of non-residential structures. This gap in documentation raises the risk of unresolved legacy issues, as it is unclear whether all affected individuals were adequately compensated and whether the resettlement process met current safeguard standards.

The site previously included part of a cemetery, with approximately 346 gravestones removed around 2013, further complicating the legacy issues and potentially leading to grievances among former residents and families of those interred. The depot is situated in a residential zone, bordered by a railway line, a street, and adjacent to industrial enterprises, residential buildings, and educational institutions. This proximity to sensitive receptors increases the potential for impacts on surrounding communities during construction, such as noise, dust, and disruption to daily life. These environmental and social impacts on neighboring communities are also of concern and require careful management to avoid exacerbating existing issues.

The Khojasan Depot also presents risks and potential impacts related to past land acquisition and resettlement activities. Informal residential and non-residential structures, constructed after 2004, were cleared in 2015, and the last large residential building was demolished in 2020. Although occupants were relocated and compensated, the adequacy of these actions has not been verified against current safeguard standards, as the relevant documentation has not yet been shared. This

presents a risk of unresolved legacy issues and potential non-compliance with international best practices.

The Khojasan Depot is located west of Baku, within the Yasamal district, at the entrance of Khojasan village, and is surrounded by settlements. The presence of these residential areas near the depot site suggests that construction and operational activities could impact community services, access, and the well-being of local residents. These risks highlight the need for thorough due diligence and engagement with affected communities to ensure that all impacts are properly addressed and mitigated in accordance with safeguard standards.

Overall Risk Summary: Medium. The combined risks and impacts associated with the Darnagul and Khojasan depots center on potential legacy issues from past land acquisition, resettlement, and demolition activities, as the land was acquired long before AIIB identified the project (more than ten years ago). Both depots have histories of relocating occupants and removing residential and non-residential structures. It was reported by Baku Metro that these processes were carried out in accordance with Azerbaijan legislation and that all affected individuals were properly compensated in accordance with law, although it was not possible to fully verify this as some requested documentation was not available/submitted. Baku Metro confirmed that there are no unresolved grievances or ongoing livelihood, resettlement or compensation issues relating to the depot project land. In accordance with AIIB ESS 2, as the depot land was acquired more than ten years ago and given that no legacy issues have been identified, it is proposed that no further due diligence or actions are requested, unless specifically requested by AIIB. For more details on the depot sites, see the Baku Metro Expansion Project Land Acquisition and Resettlement Planning Framework (2025).

5.4.9. Resource Use and Energy Demand

Receptors: The primary receptor associated with energy use at both depots is the broader environment, as electricity supplied from the national grid indirectly results in greenhouse gas emissions. Secondary receptors include depot personnel, whose thermal comfort and working conditions depend on the performance of heating and ventilation systems, as well as Baku Metro's operating budget, which is affected by the efficiency and lifecycle cost of energy-consuming equipment. Depot operations are also dependent on external electrical supply without confirmed onsite power generation, making maintenance activities vulnerable to operational disruption during outages. In addition, where potable water is used for functions that do not require potable quality, unnecessary demand may be placed on municipal water systems and project operating costs.

Aspects: During operation, both depots will consume significant electrical and thermal energy to support continuous maintenance activities. Energy use will arise from industrial washing and drying systems, wheel diagnostics and polishing machinery, compressed air stations, hydraulic tools, industrial ventilation and HVAC systems, extensive lighting within workshops and rail yards, and pumping systems for water, fire protection and wastewater. Continuous night-time stabling of trains will require lighting and HVAC beyond standard work hours, with additional seasonal heating and cooling demands for worker facilities. At Darnagul Depot, energy supply will ultimately be provided through a traction-lowering substation that remains uncommissioned at present; until commissioning, the depot relies on external grid connection. At Khojasan Depot, the substation is operational and a liquefied gas boiler house provides heating, while rooftop solar power has been included in design documentation for both sites but has not yet been installed. No confirmed backup power generation or onsite resilience system has been identified at either location. Potable water may also be supplied for washing and service purposes where non-potable sources may be suitable, increasing unnecessary treated-water consumption.

Risks and Impacts: Although neither depot emits pollutants directly from energy consumption, grid electricity in Azerbaijan is partly derived from fossil fuels, resulting in indirect greenhouse gas

emissions. Inefficient or poorly controlled HVAC systems may lead to avoidable energy loss, unnecessary cost and reduced environmental performance. At both sites, reliance on grid power without confirmed backup generation or storage presents a resilience risk that may interrupt routine train maintenance activities, including operation of lighting, compressors, washing systems and wheel diagnostics. At Darnagul, this vulnerability is heightened during the period before its substation is fully commissioned. At Khojasan, the presence of an operational substation does not eliminate outage risk in the absence of an emergency power solution. Use of potable water for utility services or washing processes where non-potable alternatives could be used increases the demand on municipal supplies and may elevate operating costs without providing additional benefit.

Risk and Impact Summary: The impact associated with resource use and energy demand is considered medium prior to mitigation, reflecting long-term, continuous energy consumption, indirect greenhouse gas emissions, and the absence of confirmed backup power at both depots. Water demand is considered a secondary efficiency concern rather than a significant environmental risk, but it contributes to unnecessary operational burden if potable water is not replaced by suitable alternatives. Following commissioning of the Darnagul substation, installation of planned rooftop solar systems, application of efficient HVAC, lighting and mechanical equipment, provision for backup power resilience, and substitution of potable water where feasible, the residual significance is expected to be low, with reduced energy waste, improved operational reliability and lower indirect emissions.

6. Environmental, Health and Safety Mitigation & Monitoring Plan

The following tables provide the environmental, health and safety mitigation plan for the design, pre-construction, construction and operational phases of the Project. [13]The plan also includes responsibilities for qualitative monitoring of the proposed measures. Quantitative monitoring requirements are outlined in section 7. The plans identify:

a) Potential Impacts and Risks

b) Mitigation measures for each (or groups of) identified risks and impacts

c) Monitoring Indicators

d) The responsibilities for implementing the mitigation

e) Frequency of monitoring

f) Costs

[13] All labor and land management measures are provided in the 'Baku Metro Expansion Project Labor Management Plan' (2025) and 'Baku Metro Expansion Land Acquisition and Resettlement Planning Framework' (2025) documents, respectively. All climate change measures are provided in standalone climate change risk assessments. All gender measures are included in the 'Baku Metro Project Gender Action Plan' (2025).

Table 13: Environmental, Health and Safety Mitigation Plan – Design Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Cost
Occupational Health and Safety	Design-related safety risks (heat, confined spaces, electrical isolation, fatigue exposure)	• Integrate safety-in-design principles • Ensure adequate ventilation, lighting, and emergency egress • Specify safe access for confined spaces • Include fatigue and ergonomic considerations in work sequencing	• Design drawings reviewed for OHS provisions; safety-in-design monitoring reports	• DDC (prepare design).	PIU OHS Specialist (review and approval).	Design review stage	Included in design BOQ (no separate line item).
Community Health and Safety	Building safety, universal access, and security design	• Apply universal access standards • Design for fire/flood resilience and crowd control • Incorporate passive and active safety features • Ensure secure yet non-intrusive station security design	• Design compliance checklists; accessibility and safety audit reports	• DDC (prepare design).	• PIU Social/CHS Specialist (review and approval).	Design review stage	Included in design BOQ (no separate line item).
Natural Hazards	Seismic shaking (all sites)	• Design to national code/Eurocode 8.	• Signed structural calculations. • Design Review.	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).

Vista Environment

Table 13: Environmental, Health and Safety Mitigation Plan – Design Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Cost
	Flooding / water intrusion at Darnegul depot	• Set finished floor levels above 1-in-100-year flood + climate allowance. • Site grading with drains to oil–water-separated outfalls. • Sump pits with duty/standby pumps and auto controls. • Deployable flood barriers at doors. • Backup power to pumps.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
	Shrink–swell soils / ground settlement at Khojasan	• Adopt deep foundations or ground improvement (e.g., stone columns/CFA piles)	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
	Windstorm stress on envelopes/roofs	• Design cladding/roof to site wind speeds per code.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).

Vista Environment

Table 13: Environmental, Health and Safety Mitigation Plan – Design Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Cost
Air Quality	Combustion emissions from space/water heaters and depot vehicles (NOx, CO, PM)	• Prioritize electric equipment (heat pumps, electric forklifts). • Specify high-efficiency, low-NOx sealed-combustion heaters where unavoidable.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
	Paint/solvent VOCs and odors from finishing/cleaning operations	• Enclosed paint/solvent rooms with dedicated mechanical ventilation. • Segregated solvent storage (fire-rated cabinets) with spill containment.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
	Particulate/dust from sanding, grinding, and housekeeping (PM10/PM2.5)	• Dust collection/vacuum systems at sanding/grinding stations. • Sealed waste chutes/containers.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).

Vista Environment

Table 13: Environmental, Health and Safety Mitigation Plan – Design Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Cost
Water Resources	Oily wastewater from vehicle washing and maintenance entering sewer or environment	• Oil–water separators sized to peak flows with bypass. • Wash-water recycling loop. • Closed-loop parts washers.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
	Sanitary wastewater overloading or cross-connection risks	• Separate sanitary and industrial drainage networks. • Capacity check against municipal sewer. • Provide holding tank contingency where required.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
	Groundwater intrusion in pits/tunnels/sumps (esp. Darnegul)	• Waterproofing systems (membranes, waterstops). • Sump pits with duty/standby pumps.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
	Potable water supply reliability and high consumption	• Dual feeds or storage for critical uses. • Smart meters and sub-metering. • Greywater reuse for flushing/irrigation.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).

Vista Environment

Table 13: Environmental, Health and Safety Mitigation Plan – Design Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Cost
	Over use of water for wagon washing	• Design washing system to include water recycling system capable of recycling at least 80% of water.	Items included in Detailed Design.	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
Soil and Geology	Corrosion of buried steel/pipes/cable trays due to aggressive soils	• Specify coatings, wraps, and cathodic protection where needed. • Use corrosion-resistant materials.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
	Differential settlement/subsidence (notably at Khojasan)	• Ground improvement or deep foundations. • Slab reinforcement/jointing to accommodate movement.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).

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Table 13: Environmental, Health and Safety Mitigation Plan – Design Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Cost
Noise	Continuous operational plant noise (HVAC, compressors, pumps) impacting receptors.	• Set maximum sound power/pressure levels in equipment specs. • Acoustic enclosures/liners provided around all noisy equipment. • Silencers on fans. • Locate noisy plant away from boundaries.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
	Intermittent high noise (alarms, PA tests)	• Specify adjustable alarm/PA levels.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
Flora	Tree removal	• Update tree inventory. • Obtain permits for tree cutting. • Transplant where feasible. • Prepare compensatory planting plan with native/drought-tolerant species.	• Inventory • Permits	• DDC (prepare inventory). • PIU to obtain permits.	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).

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Table 13: Environmental, Health and Safety Mitigation Plan – Design Phase

Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Cost
Resource Use and Energy Efficiency	High energy consumption of HVAC/lighting/process loads	• High-efficiency HVAC (heat pumps/VRF) installed. • LED lighting installed with controls (occupancy/daylight).	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
	Reliance on grid power without on-site generation or resilience.	• Rooftop PV with battery storage where feasible. • Backup generator for life-safety and critical loads.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	CAPEX for PV/storage/generator; OPEX savings from PV.
	Excess potable water consumption for non-potable uses	• Rainwater and greywater systems installed for flushing/irrigation. • Metering installed. • Low-flow fixtures and leak detection.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).
Waste Management	Mixed storage of recyclable and general waste leading to poor segregation	Design dedicated, roofed segregation area with color-coded bins.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).

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Table 13: Environmental, Health and Safety Mitigation Plan – Design Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Cost
	Improper storage of hazardous wastes (used oil, filters, solvents, batteries)	• Hazardous storage room with ventilation and secondary containment. • Bunded used-oil tanks. • Battery cabinets. • Eyewash/shower provision.	Items included in Detailed Design	• DDC (prepare design).	PIU/ Engineer (review and approval).	At detailed design	Included in design BOQ (no separate line item).

N.B. All labor and land management measures are provided in the 'Baku Metro Expansion Project Labor Management Plan' (2025) and 'Baku Metro Expansion Land Acquisition and Resettlement Planning Framework' (2025) documents, respectively. All climate change measures are provided in standalone climate change risk assessments. All gender measures are included in the 'Baku Metro Project Gender Action Plan' (2025).

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
Natural Hazards	Seismic event during construction causing instability of partially completed structures	• Temporary bracing/shoring to seismic loads. • Emergency stop-work and muster procedures after seismic events. • Seismic toolbox talks and drills.	• Daily bracing inspections. • Procedures in place. • Training records.	• Contractor (OHSS) to implement	• Engineer /PIU to monitor	• daily inspections. • monthly emergency drills.	Included as part of general construction costs.
	Flooding/water ingress on site damaging works and polluting runoff.	• Perimeter diversion drains/berms installed. • Temporary sumps with duty/standby pumps in place. • Sandbags/deployable barriers at openings. • Dewatering via sediment control per permit.	• No damaged sites recorded. • No incidents of polluted run-off.	• Contractor to implement.	• Engineer /PIU to monitor	• Set up prior to rainy periods. • Inspect daily and after ≥10 mm rainfall.	Included as part of general construction costs.
	High-wind events affecting cranes, formwork, and cladding installation.	• Wind thresholds and stop-work criteria developed. • Tie-downs provided for formwork/scaffolds. • Crane wind monitoring. • Secure loose materials during windy periods.	• Weather/wind logs. • Inspection records.	• Contractor to implement.	Engineer /PIU to monitor	Daily checks when winds forecast.	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Heatwaves/cold snaps causing worker H&S risks and material performance issues	• Prepare thermal stress plan (shade, hydration, shift timing). • Provide insulated storage for temperature-sensitive materials.	• Weather-based work-rest schedules.	• Contractor to implement.	Engineer /PIU to monitor	Daily during extreme conditions.	Included as part of general construction costs.
Air Quality	Dust (PM10/PM2.5) from earthworks & haul roads.	• Prepare pollution prevention plan as part of CESMP. • Water/mist suppression via water bowsers. • Cover stockpiles and trucks. • Provision of wheel wash at site entrance. • Earthwork operation will be suspended when the wind speed exceeds 20 km/h in areas.	• Plan implemented. • Daily dust visual checks. • Water truck logs. • Complaints register. • PM spot measurements during high-risk activities.	• Contractor to implement.	• Engineer /PIU to monitor	• Daily (dry/windy periods). • PM checks as triggered after complaints.	Included as part of general construction costs. Hand held PM monitor – 1,000 USD per unit, one for each depot.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Exhaust emissions (NOx/CO/PM/black smoke) from diesel plant and generators	• No-idling policy. • Routine maintenance of vehicles. • Provision of stage/Euro-compliant equipment. • Use low-sulfur fuel. • Provide correctly sized gensets with load sharing.	• Fuel and maintenance records. • Visible smoke observations.	• Contractor to implement.	• Engineer /PIU to monitor	• Daily supervision. • Weekly records review.	Included as part of general construction costs.
	VOCs from paints/solvents, adhesives and cleaning agents during finishing works	• Use low-VOC products. • Store solvents in ventilated, fire-rated cabinets.	• Material submittals (low-VOC). • Ventilation operation logs • Storage inspection checklists.	• Contractor to implement.	Engineer /PIU to monitor	Per delivery/submittal; daily checks during works.	Included as part of general construction costs.
	Fumes from welding/cutting/soldering in workshops	Provide fume extraction arms/hoods in workshops.	• Extraction equipment checks.	• Contractor to implement.	Engineer /PIU to monitor	Daily during hot works; weekly verification.	Included as part of general construction costs.
	Open burning of waste materials	No burning of debris or other materials will occur on the at the construction site.	• Complaints register.	• Contractor to implement.	• Engineer /PIU to monitor	• Daily supervision.	Included as part of general construction costs.

Soils	Contaminated soil	Prepare a sampling & analysis plan (SAP) with boreholes/test-pits in suspected areas; collect soil and groundwater samples; analyse to accredited methods. Compare results to applicable sanitary and environmental criteria and water MACs referenced by national standards; define hotspot thresholds and engineering implications. Map any hotspots vertically and laterally; evaluate risks to workers, structures (corrosivity), and water; decide on remediation or engineering controls (e.g., encapsulation, barrier layers, concrete protection). Prepare a Contaminated-Soil Management Plan (CSMP): Include: (i) segregation of impacted vs. clean soils at source; (ii) covered, lined stockpiles with leachate/run-on control; (iii) dust and vapour suppression; (iv) load tracking and chain-of-custody; (v) unexpected-finds protocol; (vi) worker protection and hygiene	• Monitoring completed CSMP prepared	• Contractor to implement.	• Engineer /PIU to monitor	• SAP and CSMP prepared prior to construction commencement. • Disposal throughout construction phase	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
		controls coordinated with the LMP/OHS plans. Classification & Disposal Routing: Classify soils per MENR hazardous-waste certification/ inventory rules; obtain necessary approvals; consign hazardous soils to licensed carriers and authorized facilities (toxic industrial-waste landfill per SanPiN 2.01.28-85 and 2013 design norms). Non-hazardous soils may be reused on-site if analytically verified and consistent with the CSM. Maintain waste manifests and MENR notifications.					
Water Resources	Sediment-laden stormwater runoff from earthworks entering drains/watercourses	• Prepare Pollution Prevention Plan as part of CESMP. • Stabilize stockpiles (cover). • Wheel-wash at exits. • Phase works to minimize exposed areas.	• Plan implemented. • Photos of controls. • Turbidity checks after rain.	• Contractor to implement.	Engineer /PIU to monitor	inspect weekly and after ≥10 mm rain; maintain as needed.	Included as part of general construction costs.

	Oils/fuels/chemicals spills contaminating soil and drains	• Designate refueling/ maintenance on impermeable, bunded areas. • Spill kits provided at risk points. • Drip trays under parked plant. • Train staff on spill response. • Fueling operations will occur only within containment areas. • All fuel and chemical storage (if any) will be sited on an impervious base within a bund and secured by fencing. The storage area will be located away from any watercourse or wetlands. The base and bund walls will be impermeable and of sufficient capacity to contain 110% of the volume of tanks. • Filling and refueling will be strictly controlled and subject to formal procedures and will take place within areas surrounded by bunds to	Spill register. Toolbox talk records Inspection of bunds/drip trays. Evidence of kit replenishment and waste disposal manifests.	• Contractor to implement.	• Engineer /PIU to monitor	• Daily visual checks. • Formal weekly inspection.	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase

Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
		contain spills / leaks of potentially contaminating liquids. • All valves and trigger guns will be resistant to unauthorized interference and vandalism and be turned off and securely locked when not in use. • The contents of any tank or drum will be clearly marked. Measures will be taken to ensure that no contaminated discharges enter any drain or watercourses. • Disposal of lubricating oil and other potentially hazardous liquids onto the ground or water bodies will be prohibited.					

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
		Should any accidental spills occur immediate cleanup will be undertaken and all cleanup materials stored in a secure area for disposal. Disposal of such will be undertaken by a waste management company contracted by the Contractor. The waste management company must have the required licenses to transport and dispose of hazardous waste before any such waste is removed from the site. The Contractor will keep copies of the company's licenses and provide waste transfer manifests at his site office for routine inspection by the Engineer.					

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Concrete washout water entering soil/drainage (high pH)	Provide lined, contained washout pits or tanks. Prohibit washout on bare ground. Haul to licensed facility for disposal.	Washout locations marked on site plan. Inspection records Spot pH checks of residual water prior to removal.	• Contractor to implement.	• Engineer /PIU to monitor	• Set-up before concreting. • Inspect daily during pours • After heavy rain events.	Included as part of general construction costs.
	Dewatering discharge causing erosion or pollutant release	Pass dewatering flows through sediment tanks. Discharge to sewer as permitted.	Permit/approval records.	• Contractor to implement.	• Engineer /PIU to monitor	• Daily during dewatering. • After heavy rain.	Included as part of general construction costs.

Noise	Construction Noise	• All exhaust systems will be maintained in good working order. • Properly designed engine enclosures and intake silencers will be employed. • Regular equipment maintenance will be undertaken. • No long-term generators of significant noise will be allowed that are located within 50 meters of sensitive receptors or the site boundary unless shielded by boundary wall directly. • Operations will be scheduled to coincide with periods when people would least likely be affected. • Work hours and workdays will be limited to less noise-sensitive times. • Hours-of-work will be approved by the Engineer having due regard for possible	• Noise monitoring logs vs. project standard limits • Equipment maintenance records • Barrier installation. • Complaints register closed out.	• Contractor to implement.	Engineer /PIU to monitor	Baseline before works; weekly spot checks; continuous/attended monitoring during high-noise activities.	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
		noise disturbance to the residents or other activities. • Construction activities will be strictly prohibited between 10 PM and 6 AM. • Public notification of construction operations will incorporate noise considerations. • Stationary equipment will be: o placed as far from sensitive land uses as practical and selected to minimize objectionable noise impacts. o Provided with shielding mechanisms where possible.					

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
Vibration	Ground-borne vibration from compaction, piling, and demolition affecting structures/receptors	• Select low-vibration methods (static rollers, bored piles). • Pre-condition surveys of nearby structures (within 20m) • Set PPV limits in alignment with project standards. • Install vibration monitors with alarms at any residential receptor within 20m of the work area during heavy works on this area, e.g. piling.	• Pre/post-condition survey records. • PPV monitoring data. • exceedance/stop-work logs. • method statements referencing limits.	• Contractor to implement.	Engineer /PIU to monitor	Continuous/attended monitoring during high-vibration tasks.	Included as part of general construction costs.
Flora	Damage to retained trees/vegetation at Darnegul from machinery and storage	• Prepare tree protection plan. • Erect tree protection fencing. • Hand-dig near roots. • Appoint arborist for any pruning/relocation.	• Tree protection plan implemented • Arborist reports for any interventions.	• Contractor to implement.	Engineer /PIU to monitor	Install before mobilization; inspect weekly.	Included as part of general construction costs. 1,500 USD for aborist.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Failure of new plantings due to inadequate watering/ establishment care	• Implement establishment irrigation schedule. • Protect with mulch and windbreaks • Replace failed stock during defects liability period.	Watering logs. Plant survival counts.	• Contractor to implement.	• Engineer /PIU to monitor	• Weekly during planting season. • Monthly during establishment.	Included as part of general construction costs.
Community Health and Safety	Traffic disruption and increased crash risk around depot gates and along approach roads.	• Prepare, submit, and implement a site-specific Traffic Management Plan (TMP) covering gate layouts, haul routes, delivery windows, lane closures, diversions, signage, lighting, barriers, flaggers, and speed limits; keep a copy on site.	• Approved TMP on file • site set-up matches TMP • toolbox records on TMP • no. of traffic incidents/near-misses = 0/month.	• Contractor to implement.	• Engineer /PIU to monitor	• TMP approved before start of works. • Implementation monitored daily. • Reviewed monthly or after any incident.	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase

Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Access around gates	• Maintain safe temporary vehicle and pedestrian access at all times • Provide marshals at peaks • Prohibit truck queuing on public roads • Keep gate sightlines clear; coordinate with tenants/owners for any short closures and provide alternative access.	• complaints related to access = 0 substantiated/ month.	• Contractor to implement.	• Engineer /PIU to monitor	• Continuous during working hours • Weekly reporting	Included as part of general construction costs.
	Pedestrian safety risks near site perimeters, especially at shift changes and delivery peaks.	• Install robust perimeter fencing around gates. • Guarded gates. • Provide trained flaggers during deliveries. • Maintain lighting to ≥20 lux at access points.	• Fencing and delineation in place and maintained. • Flaggers present during deliveries.	• Contractor to implement.	• Engineer /PIU to monitor	• Daily checks.	Included as part of general construction costs.
	Unsafe speeds of construction traffic near sensitive receptors.	• Impose and enforce max speed 30 km/h within 300 m of site access.	• Speed spot-checks (handheld)	• Contractor to implement.	• Engineer /PIU to monitor	• Weekly speed checks	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Labour influx, security personnel conduct, public interface safety	• Apply Codes of Conduct and GBVH prevention training • Manage worker-community interactions • Supervise security staff on use of force and human rights compliance • Control site access and traffic near communities	• Training attendance • Grievance records • Incident and security audit reports	• Contractor to implement.	• Engineer /PIU to monitor	• Continuous / Monthly	Included as part of general construction costs.
OHS	Accidents and injuries due to multiple contractors on site	• Require all contractors to prepare site-specific OHS plans aligned with international standards. • Enforce PPE • Ensure inductions and toolbox talks	• Number of approved OHS plans • % workers inducted • PPE compliance rate	• Contractor to implement.	• Engineer /PIU to monitor	• Monthly reporting • Weekly spot checks	Included as part of general construction costs.
	Unsafe excavations (collapse, falls, machinery near edges)	• Provide safe access/egress, shoring, barricading, dewatering, spoil management • Daily excavation inspections	• Inspection checklists • umber of NCRs • Excavation safety audit findings	• Contractor to implement.	• Engineer /PIU to monitor	• Daily inspections	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Working at height and fall risks	• Install scaffolds, guard rails, fall arrest systems • Use PTW system per LMP. • Worker training per LMP.	• % scaffolds with valid inspection tags • Number of PTWs • Incident records	• Contractor to implement.	• Engineer /PIU to monitor	• Weekly inspections	Included as part of general construction costs.
	Electrical hazards during construction	• Apply lock-out/tag-out procedures and electrical PTW. • Test equipment • Provide insulated tools and PPE	• % workers trained; records of equipment testing • number of PTWs • Number of electrical incidents	• Contractor to implement.	• Engineer /PIU to monitor	• Monthly	Included as part of general construction costs.
	Unsafe lifting operations and crane use	• Certified lifting equipment • Lifting plans for heavy loads. • Exclusion zones provided.	• Inspection reports • lifting permits • Incident/near-miss records	• Contractor to implement.	• Engineer /PIU to monitor	• Weekly inspections	Included as part of general construction costs.
	Confined space entry risks (tunnels, shafts, tanks)	• Permit-to-work system in place. • Gas tests • Ventilation provided.	• Number of PTWs issued • gas test records.	• Contractor to implement.	• Engineer /PIU to monitor	• For every entry • monthly audits	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Worker health (heat stress, fatigue) and hygiene (sanitation, welfare facilities)	• Provide clean drinking water, toilets, washing facilities, shaded rest areas, shift rotation • Inspect and certify temporary labour camps for hygiene, fire safety, and sanitation	• Number of facilities per workers • inspection records • Worker grievances	• Contractor to implement.	• Engineer /PIU to monitor	• Monthly /Weekly	Included as part of general construction costs.
Cultural Heritage	Non-compliance with articles 4 and 14 of the Law on Protection of the Historical and Cultural Monuments of the Republic of Azerbaijan	• Consultations with the Ministry of Culture and Tourism (MoCT) and Institute of Archaeology and Ethnography (IoAE)	• Correspondence from MoCT and IoAE documenting compliance	• PIU	• Engineer	• Once	Part of project management costs
	Damage/destruction of archaeological resources	• Archaeological monitoring and Chance Finds Procedure	• Archaeological monitoring logs and Chance Finds Procedure reports	• Contractor to implement.	• Engineer /PIU to monitor	• Daily monitoring and chance finds response;	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Visual, auditory, and air quality impacts to cemetery adjacent to Darnagul Depot area	• Stakeholder engagement to develop culturally relevant and sensitive measures to avoid, minimize, and/or mitigate noise, air quality, and visual impacts such as construction scheduling, vegetative screening, dust management, etc.	• Stakeholder engagement plan; treatment plan; regular stakeholder engagement reports; Grievance Mechanism records	• Contractor to implement.	• Engineer /PIU to monitor	• Monthly stakeholder engagement meetings; daily implementation of noise, visual, and air quality management measures.	Included as part of general construction costs.
Resource Use and Energy Efficiency	Excess fuel/energy use by idling equipment and inefficient temporary power	• No-idling policy followed • Use hybrid/electric plant where feasible.	• Fuel logs toolbox talks on energy efficiency.	• Contractor to implement.	• Engineer /PIU to monitor	• Daily supervision • weekly fuel/energy review.	Included as part of general construction costs.
	High potable water use for dust suppression and curing	• Use non-potable sources where permitted (harvested rain/treated water). • Optimize application of dampening water.	• Water use logs.	• Contractor to implement.	• Engineer /PIU to monitor	• Daily during dry/windy periods	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
Waste Management	Poor segregation of construction and demolition (C&D) waste	• Provide labeled skips for metal, wood, concrete, general waste; lay out internal collection points • Train workers in waste management requirements.	• Daily housekeeping checklists. • waste transfer notes	• Contractor to implement.	• Engineer /PIU to monitor	• Daily inspections • monthly reporting.	Included as part of general construction costs.
	Hazardous waste (oily rags, filters, solvent containers) mishandled	• Store in bunded, ventilated, locked area • Use sealed containers. • Dispose via licensed operator.	• Inventory and manifest records. • storage inspection logs.	• Contractor to implement.	• Engineer /PIU to monitor	• Weekly inspections	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Recycling and re-use	• Prepare and implement a Waste Management & Recycling Plan that maximizes reuse/recycling (wood, plastic, metals, glass), explores on-site concrete crushing for fill where practical. • Where possible, surplus materials will be reused or recycled. • Used oil and grease will be removed from site and sold to an approved used oil recycling company. • Contractor shall segregate all waste (domestic, construction, hazardous, recyclable). Implement a recycling/reuse plan (wood, asphalt, concrete, metal).	• Plan prepared • Recycling manifests • Records of recycled material volumes.	• Contractor to implement.	Engineer /PIU to monitor	Weekly inspections	Included as part of general construction costs.

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Table 14: Environmental, Health and Safety Mitigation Plan – Construction Phase							
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Supervising Responsibility	Frequency	Mitigation Cost
	Inert Solid & Liquid waste	• Provide refuse containers at each worksite. • Maintain all construction sites in a cleaner, tidy and safe condition. • Waste storage containers will be covered, tip-proof, weatherproof and scavenger proof. • Train and instruct all personnel in waste management practices and procedures. • Collect and transport non-hazardous wastes to all approved disposal sites.	• Containers in place and being used. • No waste scattered across the site. • Training records.	• Contractor to implement.	Engineer /PIU to monitor	Weekly inspections	Included as part of general construction costs.

N.B. All labor and land management measures are provided in the 'Baku Metro Expansion Project Labor Management Plan' (2025) and 'Baku Metro Expansion Land Acquisition and Resettlement Planning Framework' (2025) documents, respectively. All climate change measures are provided in standalone climate change risk assessments. All gender measures are included in the 'Baku Metro Project Gender Action Plan' (2025).

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Table 15: Environmental, Health and Safety Mitigation Plan – Operational Phase						
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Frequency	Cost
Natural Hazards	Earthquake affecting buildings and rolling stock facilities	Maintain seismic restraints on MEP and storage racks; keep evacuation routes clear; conduct annual earthquake drills; post-event inspection and restart protocol.	Annual restraint inspection logs; drill records; post-event inspection checklists.	Baku Metro	Annual inspections/drills; after any felt event per SOP.	Part of general O&M costs.
	Site flooding/water intrusion (e.g., Darnegul) disrupting operations	Maintain pumps and flood barriers; keep drains clear; pre-storm deployment checklist; protect critical spares/equipment above flood level.	Pump runtime/alarm logs; drain cleaning records; pre/post-storm checklists; incident reports.	Baku Metro	Monthly maintenance; pre-storm checks; after rain events.	Part of general O&M costs.
	Windstorms damaging roofing/cladding and outdoor equipment	Routine inspection of fasteners/flashing; secure outdoor items; wind action plan for securing doors/vents; rapid post-storm assessment.	Inspection logs; inventory of tie-downs; post-storm inspection records; repair work orders.	Baku Metro	Quarterly checks; pre/post-storm as needed.	Part of general O&M costs.
	Ground movement/settlement (esp. Khojasan) affecting slabs and tracks	Read settlement markers; maintain drainage to prevent softening; initiate remedial grouting/repairs when thresholds exceeded.	Settlement readings; drainage maintenance records; repair closeout reports.	Baku Metro	Quarterly readings; annual survey; after extreme weather.	Part of general O&M costs.

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Table 15: Environmental, Health and Safety Mitigation Plan – Operational Phase						
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Frequency	Cost
Air Quality	Combustion emissions from standby boilers/heaters and depot vehicles in enclosed areas	Prioritize electric equipment; interlock CO sensors with ventilation; maintain flues and ensure stack heights; prohibit idling indoors.	CO sensor calibration logs; ventilation runtime; maintenance records; incident/complaint logs.	Baku Metro	Monthly sensor checks; quarterly maintenance; annual compliance review.	Part of general O&M costs.
	VOCs from paints/solvents used in routine maintenance	Use low-VOC products; operate spray booth/local exhaust; maintain storage cabinets; train staff on handling per SDS.	Inventory of low-VOC products; booth maintenance logs; storage inspection records; training certificates.	Baku Metro	Monthly inspections; annual training refreshers.	Part of general O&M costs.
	Particulate/dust from sanding, grinding, housekeeping in maintenance areas	Operate dust collection/central vacuum; keep surfaces cleanable; schedule housekeeping; replace filters per OEM.	Filter replacement logs; housekeeping records; PM spot checks; complaints register.	Baku Metro	Daily housekeeping; monthly system checks; quarterly PM checks.	Part of general O&M costs.
Water Resources	Oily wastewater from routine vehicle washing/maintenance exceeding discharge limits	Operate and maintain oil–water separators and filters per O&M; keep wash-water recycling system active; prohibit detergents that defeat separation; maintain spill kits near wash bays.	Monthly separator inspection & sludge removal log; effluent testing results vs. permit; recycling system runtime/flow logs; spill register.	Baku Metro	Weekly visual checks; monthly maintenance; quarterly/biannual effluent sampling per permit.	Part of general O&M costs.

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Table 15: Environmental, Health and Safety Mitigation Plan – Operational Phase						
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Frequency	Cost
	Groundwater/sump infiltration leading to uncontrolled discharge	Keep sump pumps in duty/standby service with functional alarms; test automatic start and backup power; maintain waterproofing patches.	Pump runtime logs; alarm test records; generator/UPS test sheets; leak inspection reports.	Baku Metro	Weekly visual; monthly functional tests; annual full emergency drill.	Part of general O&M costs.
	High potable water consumption and supply interruptions	Track sub-metered use and set reduction targets; maintain low-flow fixtures; operate rain/greywater systems; adjust irrigation scheduling to weather.	Monthly water balance with KPI vs. baseline; fixture maintenance records; cistern levels and reuse system runtime logs.	Baku Metro	Monthly KPI review; seasonal irrigation adjustments; annual performance report.	Part of general O&M costs.
Soils and Geology	Soil contamination from leaks (fuels, oils, chemicals) during operations	Maintain bunded storage; inspect refueling/maintenance areas; use drip trays and spill response; train staff and enforce SOPs.	Monthly storage inspection checklists; spill/cleanup logs; staff training records.	Baku Metro	Daily housekeeping; monthly inspections; immediate reporting upon spills.	Part of general O&M costs.
	Settlement affecting slabs, tracks, and buried utilities (especially Khojasan)	Read settlement monitoring points; inspect cracks/joints; plan corrective grouting or slab repairs if thresholds exceeded.	Instrumentation readings; crack/joint survey; maintenance work orders and closeouts.	Baku Metro	Quarterly readings (or after extreme events); annual condition survey.	Part of general O&M costs.

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Table 15: Environmental, Health and Safety Mitigation Plan – Operational Phase						
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Frequency	Cost
Noise	Fixed plant (HVAC, compressors, fans) exceeding boundary noise limits	Preventive maintenance of silencers/enclosures; replace worn bearings/fans; manage operating schedules; keep doors of plant rooms closed.	Boundary/operator noise measurements vs. limits; maintenance logs; complaints register.	Baku Metro	Quarterly spot measurements; continuous monitoring where installed; annual audit.	Part of general O&M costs.
	Public address (PA)/alarms causing nuisance during tests or incidents	Keep PA levels/zoning calibrated; schedule tests in permitted hours; provide public notices when needed.	PA calibration records; test schedules; complaint log follow-up.	Baku Metro	Monthly functional checks; biannual calibration; per-incident review.	Part of general O&M costs.
Vibration	Machinery/track-induced vibration affecting occupants/sensitive rooms	Maintain isolation mounts and pads; balance rotating equipment; inspect trackform/resilient elements; enforce speed limits in sensitive zones.	Vibration readings vs. criteria; maintenance records of mounts/balancing; track inspection reports.	Baku Metro	Quarterly checks for key equipment; after maintenance; annual vibration survey.	Part of general O&M costs.
	Passenger safety risks (fire, evacuation, crowding)	Maintain fire detection/ suppression systems; conduct evacuation drills; ensure signage and PA systems	% functioning fire alarms / extinguishers; drill records; evacuation times	Baku Metro	Quarterly drills; annual full-scale	Part of general O&M costs.

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Table 15: Environmental, Health and Safety Mitigation Plan – Operational Phase						
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Frequency	Cost
Health and Safety	Accessibility for PWDs	Keep lifts/ escalators operational; maintain SOS phones; provide safe devices for wheelchair access	Functionality test records; number of complaints	Baku Metro	Monthly inspections	Part of general O&M costs.
	Passenger injury risks on escalators and platforms	Maintain escalators; install warning signage; provide trained staff at peak times	Escalator maintenance records; incident statistics	Baku Metro	Monthly	Part of general O&M costs.
	Worker OHS risks in operations and maintenance	Apply PTW, LOTO, confined space entry procedures; refresher training	Number of PTWs; % trained staff; audit findings	Baku Metro	Ongoing; quarterly audits	Part of general O&M costs.
	Confined space hazards in maintenance (pits, tunnels, tanks)	Strict PTW system; continuous air monitoring; ventilation; rescue plan and equipment	PTW records; air monitoring results; drills conducted	Baku Metro	Each entry; annual drills	Part of general O&M costs.
Cultural Heritage	Visual, auditory, and air quality impacts to cemetery adjacent to Darnagul Depot area	• Stakeholder engagement to develop culturally relevant and sensitive measures to avoid, minimize, and/or mitigate noise, air quality, and visual impacts, noise reduction (see above), vegetative screening, dust management, etc.	• Operation Phase Treatment Plan; regular stakeholder engagement reports; Grievance Mechanism records	• Baku Metro	• Annual stakeholder engagement meetings; daily implementation of noise, visual, and air quality management measures.	Part of general O&M costs.

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Table 15: Environmental, Health and Safety Mitigation Plan – Operational Phase						
Topic	Risk/Impact	Mitigation Measure	Monitoring Indicator	Implementing Responsibility	Frequency	Cost
Resource Use and Energy Efficiency	Excess potable water use for sanitation/cleaning	• Maintain low-flow fixtures. • monitor leaks. • Use reclaimed water where available. Optimize cleaning schedules and methods.	• Water sub-meter readings. records of reclaimed water usage.	• Baku Metro	• Monthly audits	Part of general O&M costs.
Waste Management	Poor segregation and low recycling rates for operational wastes	• Maintain clearly labeled, color-coded bins. • Staff training/awareness provided.	• Volume of recycled waste,	• Baku Metro	• Monthly audits • Annual training	Part of general O&M costs.
	Hazardous waste (oils, batteries, solvents) mishandled during routine operations	• Keep hazardous store ventilated and locked. • Maintain secondary containment. labeling per MSDS, • Licensed collection and manifests.	• All waste stored in correct location	• Baku Metro	• Monthly audits	Part of general O&M costs.

7. Instrumental Environmental, Health and Safety Monitoring Plan

The overall objective of environmental, health and safety monitoring is to quantitatively measure effectiveness of mitigation measures, and develop appropriate responses to incompliances with Project standards, and emerging environmental and social issues. Monitoring will be carried out to ensure that all Project activities and mitigation measures comply with the Project standards, Baku Metro and the Construction Contractor meet their commitments and requirements of this ESMP in terms of periodical audits and reporting.

To determine whether monitoring outcomes comply with the Project standards, implementation of mitigation measures will be observed and measured, effectiveness of measures will be verified, all results will be recorded and monitored.

Table 16: Environmental, Health and Safety Monitoring Plan

Parameter	Method / Standard	Location	Frequency	Responsible Party
Pre-construction / Construction Phase				
Dust (PM10, PM2.5)	Portable dust meters (gravimetric/optical); visual inspections; compare to project standards.	Depot boundary; nearest receptors; haul routes	Daily visual; Quarterly instruments (monthly during peak earthworks)	Engineer
Noise (LAeq, Lmax)	Class-1 sound level meter; Per project standards	Site boundary; nearest residences/schools	Weekly during works; at complaints	Engineer
Vibration (PPV)	DIN 4150-3 thresholds	Sensitive structures (e.g., cemetery, nearby buildings)	Prior to high-vibration activities; event-based	Engineer
Soil contamination (hydrocarbons, metals)	Soil sampling; accredited laboratory analysis. Parameters to include those used for the ESMP baseline monitoring.	Suspect hotspots; maintenance pads; fuel store	Baseline; then post-spill / as needed	Engineer
Operation Phase				
Depot wastewater (sanitary/industrial)	Effluent sampling vs IFC indicative values; oil-water separator checks	Wastewater discharge points (incl. washing station)	Monthly sampling; weekly separator inspections	Baku Metro

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8. Implementation

The main institutions that will be involved in implementation of the ESMP are the Detailed Design Consultant, the Supervision Consultant (the "Engineer"), the Contractor and Baku Metro through their PIU.

8.1. Detailed Design Consultants (DDC) Responsibilities

The DDC will ensure that he reads and understands all the identified environmental impacts highlighted by this ESMP. He will also ensure that all recommendations made for the design phase of the ESMP are considered and incorporated in the detailed designs, or that justifications are made for the exclusion of any recommended mitigation measure.

8.2. Engineer Responsibilities

The Engineer is tasked with specific responsibility to ensure safeguard compliance of civil works – with particular emphasis on the monitoring of implementation of ESMP through the Contractors Construction Environment and Social Management Plan (CESMP) and related aspects of the project. The Engineer will ensure the Contractor's Environmental, Social, Health, and Safety (ESHS) performance is in accordance with good international industry practice and delivers the Contractor's ESHS obligations.

To achieve this, the Engineer will include:

- One part-time Environmental and Social Specialist (ESS)
- One full time Occupational Health and Safety Specialist (OHSS) to monitor implementation of the ESMP during construction of all Project Components.

The Engineers Team Leader will take overall responsibility in ensuring that the Project is implemented consistent with the provisions of the ESMP. The main responsibility of the Engineer includes, but is not limited to:

- review and approve the Contractor's CESMP, including all updates and revisions (not less than once every 6 monthly);
- review and approve ESHS provisions of method statements plans, proposals, schedules and all relevant Contractor's documents;
- review ESHS risks and impacts of any design change proposals and the implications for compliance with ESMP, consent/permits and other relevant project requirements;
- undertake audits, supervisions and/or inspections of any sites where the Contractor is undertaking activities related to the Works, to verify the Contractor's compliance with ESHS requirements, with and without contractor and/or client relevant representatives, as necessary, but not less than once per month. ESS to monitor the Contractor's implementation of his CESMP via weekly inspections of the work sites;
- undertake audits and inspections of Contractor's accident logs, community liaison records, monitoring findings and other ESHS related documentation, as necessary, to confirm the Contractor's compliance with ESHS requirements;
- agree remedial action/s and their timeframe for implementation in the event of a noncompliance with the Contractor's ESHS obligations;
- attend meetings including site meetings, progress meetings to discuss and agree appropriate actions to ensure compliance with ESHS obligations;

- check that the Contractor's actual reporting (content and timeliness) is in accordance with the Contractor's contractual obligations;
- review and critique, in a timely manner, the Contractor's ESHS documentation (including regular reports and incident reports) submitted to the Engineer and to provide advice to ensure the accuracy and efficacy of the documentation
- undertake liaison, from time to time and as necessary, with project stakeholders to identify and discuss any actual or potential ESHS issues;
- prepare a brief monthly and quarterly report that describes the work that the ESS and OSHS have undertaken, the issues (including any Contractor's ESHS noncompliance, details of the Contractors activities (such as training programs, community meetings, etc.) and compliance with the ESMP and CESMP)) identified and the actions taken to address the issues;
- help the Contractor with the development of the Contractors CESMPs (at least one month prior to the start of construction);
- engage external service from a certified laboratory for environmental instrumental monitoring of air quality and noise;
- Report accidents to the PIU.

If the Engineer identifies any ESMP / CESMP non-compliance issues by the Contractor, a Non-Compliance Notice will be issued to the contractor if the Engineer requires action to be taken. The Contractor will be required to prepare a corrective action plan which is to be implemented by a date agreed with the Engineer. Non-compliance will be ranked according to the following criteria:

- Non-Compliance Level l: A situation that is not consistent with requirements of the ESMP/CESMP, but not believed to represent an immediate or severe social or environmental risk. Repeated Level I concerns may become Level II concerns if left unattended.
- Non-Compliance Level II: A situation that has not yet resulted in clearly identified damage or irreversible impact, but which demonstrates potential significance. Level II requires expeditious corrective action and site-specific attention to prevent severe effects. Repeated Level II concerns may become Level III concerns if left unattended.
- Non-Compliance Level III: A critical situation that will result in significant social or environmental damage occurring or a reasonable expectation of very severe impending damage. Intentional disregard of Non-Compliance Notices or specific prohibitions is also classified as a Level III concern.

The failure to prepare a corrective action plan or to implement it within the required timeframe will result in the Employer undertaking the work at the Contractor's expense (as will be specified in the Contract).

A Terms of Reference for the ESS and OHSS is provided below.

Environmental and Social Specialist (ESS)

Scope of Services: He/she will (i) review all documents and reports regarding the integration of environmental and social including contractor's environmental and social action plan, (ii) supervise the contractors' compliance to ESMP & CESMP, and (iii) prepare monthly compliance reports.

Qualification: Degree in environmental sciences or equivalent. Preferably five (5) years' experience in conducting environmental and social impact assessments and implementation of environment and social mitigation plans and/or monitoring implementation of environmental and social mitigation measures during implementation of projects including transport projects funded by developing partners.

Time Period: The ESS will be a part-time position over the duration of the construction period.

Occupational Health and Safety Specialist (OHSS)

Scope of Services: The NOHSS shall help prepare the Occupational Health and Safety (OHS) Plan which forms part of the Contractors overarching CESMP. The OHSS will also prepare health and safety monitoring checklists to ensure that the OHS Plan is implemented and maintained throughout the contract period. He/she will also take care of all OHS issues during construction works including conducting OHS training and daily toolbox briefings to provide OHS awareness. The OHSS will review and advise the relevant person (of the Engineer) on the OHS risks and impacts of any design change proposals and the implications for compliance with ESMP, consent/permits and other relevant project requirements. The OHSS will prepare Quarterly OHS Reports providing a summary of the reporting periods monitoring checklists, incident and accident reports, non-compliance reports, training programs, etc.

Qualification: A relevant, recognized OHS qualification (such as NEBOSH / IOSH / OSHA or another regionally recognized qualification). Preferably five (5) years' experience as an OHS practitioner during implementation of large infrastructure projects. Working knowledge of English is required.

Time Period: The OHSS will be engaged on a full-time basis over the duration of the construction period.

8.3. Contractor Responsibilities

The Contractor will appoint one full-time Environmental and Social Manager (ESM) and one full-time Occupational Health and Safety Manager (OHSM). The Contractor will also include a part-time Community Liaison Officer (CLO) and a part-time Archaeological Monitor (AMs).

The ESM will have a university degree (preferably at Master's level) in Environmental Science or related discipline and have at least 10 years work experience in environmental management of infrastructure projects. The OHSM will have a university degree and a recognized health and safety certification and at least 10 years work experience in health and safety issues for infrastructure projects. The AM will have an university degree (preferably at Master's level) in archaeology and have at least 5 years experience managing archaeological investigations and/or archaeological monitoring on major infrastructure projects.

Key responsibilities of the Contractor (through the ESM, CLO, AM and OHSM) are as follows:

- Completing detailed design including all the environmental and social mitigation measures in this ESIA.
- Preparing the CESMP for approval by the Engineer prior to the Contractors taking possession of the construction site (see below).
- Ensuring the CESMP is implemented effectively throughout the construction period.
- CESMP must incorporate all site-specific mitigation measures and method statements from the ESMP.
- Coordinating community relations issues through acting as the Contractor's community relations focal point (proactive community consultation, complaints investigation and grievance resolution).
- Establishing and maintaining site records of:
    - Weekly site inspections using checklists based on the CESMP;
    - Environmental and health and safety accidents/incidents including resolution activities (including reporting of accidents to the ISWS Consultant);

- Non-compliance notifications issued by the Engineer;
- Corrective action plans issued to the Engineer in response to non-compliance notices;
- Community relations activities including maintaining complaints register;
- Preparing monitoring reports (Monthly);
- Routine reporting of CESMP compliance and community liaison activities;
- Ad hoc reporting to the Engineer of environmental incidents/spillages including actions taken to resolve issues; and
- Provide daily toolbox training at the depot work sites. The ESM and OHSM will keep a record of all monthly training and toolbox training undertaken.

- Implementing the Chance Finds Procedure, including archaeological monitoring of construction activities.
- Incident reporting. The Project will comply with AIIB requirements for the prompt reporting, investigation and correction of environmental, social and OHS incidents and accidents. An incident or accident includes any event associated with project activities that has, or is likely to have, a significant adverse effect on workers, the affected community or the environment. Reportable events include, but are not limited to: fatalities and serious injuries, major chemical or fuel spills, structural failures, fire or explosion, major traffic accidents, security-related harm, significant community complaints, or any incident that may result in substantial environmental damage or social harm. The Construction Contractor shall immediately notify the Supervision Consultant (PIC) and Baku Metro PIU of any incident or accident. Initial notification must be provided within 24 hours, followed by a preliminary written report confirming facts and immediate control measures. The PIC will verify incident details, classify severity, and submit the verified incident report to the PIU. The PIU will provide incident notification to the AIIB within 72 hours, in accordance with lender requirements. Following initial notification, the Contractor shall conduct a root-cause investigation in coordination with the PIC and PIU, and shall prepare a Corrective Action Plan (CAP) with a defined timeline to prevent recurrence. The CAP shall be reviewed and approved by the PIC and endorsed by the PIU. The PIC will monitor close-out of all actions and verify effectiveness prior to completion. All incidents, investigations, evidence and closure documentation shall be retained for the duration of the project and shared with relevant authorities where required by national legislation.

8.4. Baku Metro Responsibilities

Baku Metro is the Implementing Agency and will implement project activities using their existing institutional setup and departments. Baku Metro will be the final responsible to ensure the implementation of the provisions of the ESMP by all parties, including Contractors, including environmental and social monitoring, evaluation and reporting.

The Project Director (PD) at Baku Metro will be responsible for overall guidance and policy advice, internal coordination, discussion and resolution of project matters with counterparts in the ministry and other government agencies, donor alignment and harmonization, and public disclosure and civil society involvement. The PIU Director (PIUD) at Baku Metro Project will provide day-to-day support to the PD and will have the responsibility to ensure that environment and social activities are implemented, all consultants follow their terms of reference and delivery schedule, project activities are carried out on schedule and within budget, and financial management reports are submitted on time.

Baku Metro's Environmental and Social Officer (ESO) will be instrumental in ensuring the environmental and social performance of Project. The ESO will be assigned to the Project. They will

be responsible for ensuring compliance with the ESMP by carrying out document reviews, site visits and interviews with the Contractor, Engineer, workers, local authorities and local communities. Upon completion of each site visit, the ESO should prepare a Monitoring Report reflecting the main issues, and arrangements and timing for their solution. It is also recommended to hold regular meetings with the Contractor and Engineer on a monthly basis. More specifically, the ESO will be responsible for:

- Overseeing full compliance with project safeguard instruments and will conduct monitoring of safeguard policy implementation.
- Ensure that all relevant ESMP requirements (including environmental designs and mitigation measures) are duly incorporated into the project bidding documents.
- Review necessary permits and/or clearance, as required, from MENR and other relevant government agencies, ensuring that all necessary regulatory clearances are obtained by the Contractor before commencing any civil work on the project.
- Ensure that the Contractor has access to the ESMP.
- The obligations under 8.3 above apply regardless of the contractual form adopted (FIDIC Red Book or Yellow Book). Baku Metro shall ensure that these requirements are fully incorporated into the tender and contract documents.
- Ensure that the Contractor understands his responsibilities to mitigate environmental problems associated with their construction activities and facilitate training of their staff in implementation of the ESMP.
- Approve the CESMP, with support from the Engineer, before the Contractor takes possession of construction site.
- Undertake regular site visits to assess the Contractors compliance with the ESMP / CESMP and make recommendations to the Contractor where non-compliance issues are identified.
- Keep proper safeguards documentations.
- Lead safeguard supervision and reporting at the project level. ESO will prepare six month and annual safeguard progress report.
- Integrating the gender dimension into safeguards documents, and consultation processes;
- Track and report on grievances received, addressed, and overall work and implementation of the grievance redress mechanism (GRM).
- Regular coordination and meetings with the Engineer to discuss Project progress and any issues.

The ESO team will report directly to PIU Director.

8.5. Construction Environmental and Social Management Plan (CESMP)

Following the award of the contract and prior to construction commencing the Contractor will review the ESMP and develop this into his detailed CESMP. The CESMP will identify persons who will be responsible for supervising the work within the Contractor's team. This information will be presented in a series of site plans covering the whole project site showing all environmental management requirements for all activities in the construction phase. The CESMP will also include the following plans:

- Pollution Prevention Plan
- Waste Management and Recycling Plan
- Emergency Response Plan

- Occupational Health and Safety Plan
- Community Health and Safety Plan
- Traffic Management Plan
- Spill Response Plan
- Chance Find Procedure (See Annex B)
- Contaminated Soil Management Plan (if needed)

The CESMP will also include a monitoring plan and a reporting program corresponding to the requirements of the ESMP. The CESMP, and all its plans without exception, will be submitted to the Engineer and PIU for review and will require approval from the Engineer prior to the Contractor taking possession of any work site.

It is recommended that the Engineers ESS supports the Contractor's ESM through on the job training in the preparation of the CESMP.

8.6. Site Induction

Following approval of the CESMP the Contractor will be required to attend a site induction meeting with the Engineers ESS whereby the CESMP is confirmed with the Contractor to ensure that all compliance conditions are clearly understood. Following confirmation of the CESMP with the Contractor the Engineers ESS advises the Engineers Team Leader that the Contractor is now cleared to take possession of the Site and may commence moving equipment to the Site. The Contractor will be responsible for ensuring that all sub-contractors abide by the conditions of the CESMP.

In relation to the Baku Metro Expansion Project Labor Management Plan (LMP) (Chapter 10 Contractor and Subcontractor Management), all contractor and subcontractor personnel will receive labor induction training covering workers' rights and protections under Azerbaijan law and AIIB standards, use of grievance mechanisms, and relevant policies and procedures mentioned in the LMP. Supervisors will receive additional training on fair recruitment, OHS leadership, and non-discrimination and inclusive management.

8.7. Reporting

Contractors Reporting - The Contractor will prepare two levels of environmental reports:

- Weekly Environmental Checklists – These will be prepared weekly by the Contractors ESM and will be submitted to the Engineer on a weekly basis.

- Monthly Summary Report - in respect of compliance with ESMP / CESMP requirements that will be submitted to the PIU through the Engineer. The report will contain sections relating to:

    - environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies, temples or cultural heritage site, protected areas, etc.;

    - health and safety incidents, accidents, injuries and all fatalities that require treatment;

    - labor-related incidents or near misses, including any suspected or identified cases of child labor or forced labor within the supply chain;

    - interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);

- status of all permits and agreements:
  - work permits: number required, number received, actions taken for those not received;
  - status of permits and consents:
    - list areas/facilities with permits required, dates of application, dates issued (actions to follow up if not issued), dates submitted to the Engineer, status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);
    - list areas with landowner agreements required, dates of agreements, dates submitted to Engineer;
    - identify major activities undertaken in each area this month and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management);
- Cultural Heritage
  - Incident reports for any chance finds (with stop-work evidence and authority notifications).
- Biodiversity
  - Trees cut and removed.
- Health and safety supervision:
  - occupational, health and safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;
  - number of workers, work hours, metric of PPE use, worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);
- summary of worker numbers (including subcontractors) by category, disaggregated by gender and age (for expats and locals separately): including number of female workers and percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);
- training:
  - number of new workers, number receiving induction training, dates of induction training;
  - number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
- environmental and social supervision:

- ESS: days worked, areas inspected and numbers of inspections of each (road section, accommodations, quarries, borrow areas, spoil areas, stream crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management.

- Grievances: list current month's and unresolved past grievances and violence, harassment and discrimination incidents, by date received, complainant, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (cross-reference other sections as needed):
  - Worker grievances;
  - Violence, harassment and discrimination incidents;
  - Community grievances.
- Traffic and vehicles/equipment:
  - traffic accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
  - accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
  - overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).
- Environmental mitigations and issues (what has been done):
  - dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; (covers, sprays, operational status); % of rock/muram/spoil lorries with covers, actions taken for uncovered vehicles;
  - erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;
  - spill cleanups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination;
  - waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;
  - details of tree plantings and other mitigations required undertaken this month;
- compliance:

- compliance status for conditions of all relevant consents/permits, for the Work): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;

- compliance status of ESMP/CESMP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance, status of all non-conformances identified during audits and inspections that are identified by non-compliance notices.

- other unresolved issues from previous months related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, etc. Cross-reference other sections as needed.

The Contractor will have a duty to immediately and within 24 hours report to the Engineer if any serious environmental breach has occurred during construction e.g., clearing of sensitive areas, serious oil spills etc. This including serious accident cases and fatality.

Engineer Reporting – The Engineer will prepare two levels of environmental reports as follows:

a) Monthly Environmental Report – prepared by the ESS and submitted to the PIU. This monthly report will summarize the Contractors environmental social and health and safety performance based on the Contractors weekly checklists and the weekly site visits by the ESS.

b) Quarterly Environmental Report – prepare by the ESS and submitted to the PIU and AIIB, this report will be more detailed that the monthly monitoring reports and will include findings of the ESS site visits to the work sites.

The Engineer will have a duty to within 24 hours report to the PIU and AIIB if any serious environmental breach has occurred during construction e.g., clearing of sensitive areas, serious oil spills etc. This including serious accident cases and fatality.

PIU Reporting – The PIU will prepare six month and annual safeguard progress report and submit to the AIIB.

8.8. AIIB responsibilities

AIIB will conduct review and oversight of the implementation of the ESMP, ESAP, and other approved E&S documents. AIIB will review the client's E&S monitoring reports, carry out site supervision missions, and verify that the agreed mitigation measures are being implemented effectively. The Bank requires the client to submit reports on incidents, grievances, and compliance with E&S covenants, and requires corrective actions where gaps or non-compliances arise. AIIB also reviews the E&S documents for the ten stations, any necessary updates to E&S instruments, and provides guidance to support the client in maintaining compliance with AIIB's Environmental and Social Policy, including the ESF.

8.9. Summary of Responsibilities

The following table summarises the implementation responsibilities for each phase.

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Table 17: Summary of Responsibilities

Project Phase	Entity	Primary Responsibilities	Verification / Reporting Mechanism	Frequency
Design	Design Consultant (DDC)	Integrate ESMP and AIIB requirements into detailed design; include provisions for OHS, drainage, wastewater, and noise controls.	Engineer and PIU design review and approval checklists	Per design package
	Engineer / PIU E&S Team	Review and approve design submissions; verify compliance with environmental and social standards.	Design review minutes and approval letters	Each design submission
Construction Operation	Contractor	Implement all mitigation measures for E&S, OHS, and community health and safety; maintain records and report incidents.	Daily logs and weekly E&S reports submitted to Engineer	Daily / Weekly
	Engineer	Supervise construction activities, verify ESMP implementation, issue corrective actions for non-compliance.	Supervision reports, site inspection checklists	Weekly
	PIU E&S Team	Oversight of environmental, social, and OHS compliance; compile monthly summaries for AIIB; coordinate with stakeholders.	Monthly consolidated E&S performance reports	Monthly
	Baku Metro O&M Department	Operate and maintain depot facilities; manage wastewater, waste, OHS, and community grievance mechanisms.	O&M logs, audit reports, GRM records	Quarterly / Semi-annual

Project Phase	Entity	Primary Responsibilities	Verification / Reporting Mechanism	Frequency
	PIU / AIIB Oversight	Review operational compliance, support periodic audits, and report project-level performance to AIIB.	Performance monitoring reports and audit summaries	Semi-annual / Annual

8.10. Implementation Arrangement

Environmental and Social (ES) responsibilities during construction and operation of the depots are shared across Baku Metro PIU, the Supervision Consultant (PIC), the Construction Contractor and relevant authorities. Each party has defined duties for implementation, supervision, coordination, reporting, and enforcement.

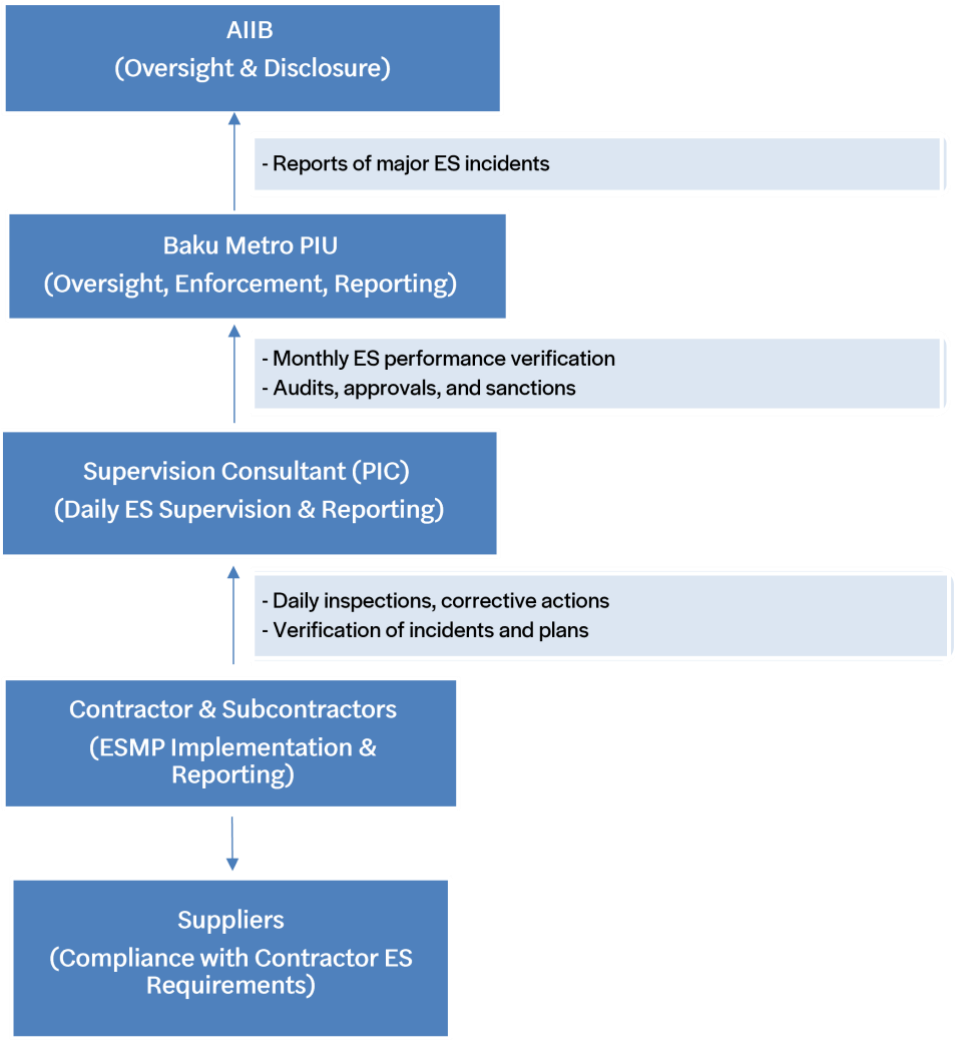
Table 18: Roles and Responsibilities

Entity	ES Responsibilities
Construction Contractor & Subcontractors	Implement all ESMP mitigation measures in Tables 14–17; prepare and implement C-ESMP, site-specific plans (traffic, waste, OHS, emergency), training and toolbox talks; maintain records (incidents, inspections, waste tracking); undertake daily ESHS management and compliance; immediate incident notification.
Supervision Consultant (PIC) – ES Team	Daily monitoring and supervision of Contractor ES performance; approve C-ESMPs, method statements and risk assessments; monitor implementation of mitigation measures; issue corrective action requests; verify incident notifications; prepare monthly ESHS performance reports to PIU.
Baku Metro PIU	Overall ES oversight and coordination; contractual enforcement and issuance of non-compliance sanctions; review and approve monthly reporting; conduct periodic ES audits; validate high-risk method statements; maintain communication with authorities; report significant incidents to AIIB.
Local Authorities / State Agencies	Provide relevant environmental approvals, waste documentation, discharge permits, labour inspections, and emergency response support where required by law.
AIIB	Lender oversight; disclosure requirements; receives significant incident/accident notifications from PIU; may request additional actions to ensure compliance with ESF.

Key Elements of the ES Implementation System:

- Contractor implements mitigation (Tables 14, 15, 16, 17).
- PIC supervises daily, approves C-ESMP and submits monthly ESHS reports.
- PIU enforces requirements, conducts audits, and escalates non-compliance.
- Authorities regulate permits/inspections, not daily supervision.

Figure 32: ES Implementation Accountability Chart



8.11. Baku Metro Capacity Building Requirements

Baku Metro intends to engage one Safeguard Specialist to manage the E&S aspects of the Project and to help implement this ESMP. Baku Metro have prepared a ToR for the recruitment of this staff. The ToR includes the requirements for minimum qualifications, including:

- Master's degree in environmental science, environmental management, environmental sustainability, or social science-related field.
- At least 10 years of work experience managing E&S aspects of infrastructure projects during preparation and implementation, including impact assessment, mitigation and compliance monitoring.
- Proven experience in preparing, implementing, and monitoring environmental and social instruments (e.g., ESMPs, RAPs, SEPs), particularly in the rail or transport infrastructure sector.
- Strong knowledge of international E&S good practices and the E&S policies, frameworks, and standards of MDBs.
- Strong knowledge of the environmental and social legislation in Azerbaijan.
- Experience in stakeholder engagement and grievance redress is desirable.

- Management and high-level coordination experience would be a strong advantage.
- Experience in elaborating/conducting training programs would be an added asset.
- Excellent reporting and communication skills.
- Fluency in English is required; fluency in Azerbaijani is a strong advantage. Knowledge of Turkish or Russian is an added asset.

These requirements are considered satisfactory for the project. However, it is also recommended that the specialist be provided with a week-long intensive training course upon his recruitment. The training course, to be provided by two international E&S specialists should focus on:

- AIIB Safeguard requirements
- Conditions of the ESMP
- Site Monitoring
- Reporting methods
- Occupational Health and Safety and Community Health and Safety
- Managing Grievances.

8.12. Training

The following training program is required which aligns with the project Environmental and Social Management Plan Framework (ESMPF). The 'Baku Metro Expansion Project Labor Management Plan' (2025) provides more detailed information on proposed project labor management training to workers and management across Baku Metro, project contractors and subcontractors, including training to the Grievance Coordinator and Gender Focal Point.

Table 19: Training Requirements

Training	Recipients	Duration	Organizer
AIIB Safeguard requirements Conditions of the ESMP and preparing a CESMP	PIU Contractor	0.5 days	Engineers ESS and OHSS
Site Monitoring, including instrumental monitoring with a focus on vibration monitoring	PIU Contractor	1.0 days	Engineers ESS and OHSS
Construction Phase Occupational Health and Safety and Community Health and Safety. -including site visits and practical work.	PIU Contractor	3.0 days	Engineers ESS and OHSS
Cultural Heritage Awareness and Chance Finds Procedure Training	PIU Contractor	0.5 days	Engineers ESS and OHSS
O&M Phase OHS	Baku Metro OHS Unit	5.0 days	Engineers ESS and OHSS
Waste water discharge management and monitoring	PIU Contractor	0.5 days	Engineers ESS and OHSS

Training	Recipients	Duration	Organizer
Managing Grievances	PIU Contractor	0.5 days	Engineers ESS and OHSS
Stakeholder engagement	PIU Contractor	0.5 days	Engineers ESS and OHSS
Reporting methods and requirements	PIU Contractor	0.5 days	Engineers ESS and OHSS

8.13. ESMP Costs

Most costs associated with the environmental recommendations of the ESMP are a normal part of preparing the bid and contract documents and ensuring that proper environmental provisions are incorporated therein. The installation of waste containers for example, is an environmental necessity, but not generally considered an “environmental cost”.

lists the proposed mitigation measures and indicates where they would be “included in the project budget” as part of a bid document and where additional costs are a likely “environmental cost” beyond what would normally be included in a project budget. Beyond these project costs, there will also be the requirement for instrumental monitoring and engagement of environmental and social staff to monitor works. The following table provides these costs.

Table 20: ESMP Costs estimates

Activity	Item	Number of Units / Unit cost	Cost estimate / US$	Responsibility
Pre-construction				
CESMP	CESMP and associated plans	Included in Project Budget	-	Contractor
Incorporation of Environmental Items into Bid Documents	Item in Bid Document	Included in Project Budget	-	PIU
Obtain permits	Permits	Included in Project Budget	-	Contractor
Training	Contractor and PIU Training	Per the ESMPF	Per the ESMPF	Engineer
Construction				
Air Quality Monitoring	Periodic monitoring by external consultant (all parameters)	48 / US$ 200	$9,600	Contractor
PM Monitoring	Handheld monitors	2 / US$ 1,000	$2,000	Contractor
Noise Monitoring	Class-1 sound level meter	2 / US$ 1,000	$2,000	Contractor
Vibration Monitoring	Vibration Monitoring Equipment	2 / US$ 2,000	$4,000	Contractor
Soil Sampling	Periodic monitoring by accredited laboratory	20 / US$ 200	$4,000	Contractor
Training	Contractor and PIU Training	Per the ESMPF	Per the ESMPF	Engineer
Environmental Staff	PIU Safeguards Specialist	24 / US$ 2,500	$60,000	PIU

Activity	Item	Number of Units / Unit cost	Cost estimate / US$	Responsibility
	ESM	24 / US$ 2,500	$60,000	Contractor
	OSHM	24 / US$ 2,500	$60,000	Contractor
	CLO	6 / US$ 2,500	$15,000	Contractor
	AM	4 / US$ 2,500	$10,000	Contractor
	ESS	12/ US$ 2,500	$30,000	Engineer
	OHSS	24 / US$ 2,500	$60,000	Engineer
Total			$316,000	

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9. Stakeholder Engagement and Grievance Mechanism

9.1. Stakeholder Engagement

A Stakeholder Engagement Plan (SEP) has been prepared for Baku Metro for both Phase I and Phase II activities. The SEP is a standalone document and comprises all of the required stakeholder engagement, plus records of all stakeholder engagement undertaken to date. The SEP has been disclosed by AIIB and Baku Metro on their websites and can be found via the following web-link:

To be inserted.

Specifically relating to Phase I, several informal consultations have been completed around both depots to inform this ESMP. More than 55 people living and working around the depots were consulted about a range of environmental and social issues. The key findings are presented in the SEP. In summary:

Khojasan Depot: Residents reported no significant depot noise, though minor train noise was noted in 12 cases where homes sit close to the tracks. Dust disturbance was mentioned by 7 respondents, and no significant vibration issues were raised. Traffic and pedestrian safety stood out as the major concern, with 20 respondents citing high-speed trucks and 17 noting unsafe crossings. All 25 respondents mentioned foul odors from the nearby lake (especially in summer). Relations with metro staff/contractors were reported as problem-free.

Darnagul Depot: Respondents indicated no significant depot noise, with dust disturbance noted by 7 respondents. No significant vibration issues were identified, although several respondents noted vibration was felt sometimes. Traffic and pedestrian safety concerns were limited. Relations with metro staff/contractors were unanimously positive.

In the coming weeks, additional stakeholder consultation will be completed on this draft ESMP, as aligned with the SEP. This will include public meetings at both depots with the public (including community and CSO's) and a session with relevant government stakeholders. It should be noted that EIAs have been prepared for both depots to comply with national legislation, and these assessments also included consultation on these documents. Accordingly, the consultations completed as part of this ESMP further complement those already completed.

9.2. Grievance Mechanism

9.2.1. General GM

The Baku Metro Expansion Project's Stakeholder Engagement Plan (SEP) provides a detailed breakdown on the Project's Grievance Mechanism, which is aligned with AIIB ESS 1 and best international practices. A Grievance Log template is also provided in the SEP (Appendix B Grievance Log) to support the tracking and continuous monitoring of worker grievances. The Grievance Redress Mechanism described in the Baku Metro Expansion Project Stakeholder Engagement Plan (SEP), will also be the mechanism through which external stakeholders can submit any grievances relating to current or historical land acquisition or resettlement, which is referenced in the Baku Metro Expansion Project Land Acquisition and Resettlement Planning Framework (LARPF) (Chapter 10 Grievance Redress Mechanism).

9.2.2. Worker GM (WGM)

The Baku Metro Expansion Project's Labor Management Plan (LMP) (Chapter 8 Grievance Management provides a detailed breakdown on the Project's Worker Grievance Mechanism, which is aligned with the Labor Code of Azerbaijan, AIIB ESS 1 and best international practices (ILO, IFC and EBRD grievance handling models). A Grievance Log template is also provided in the LMP (ANNEX II Grievance Log) to support the tracking and continuous monitoring of worker grievances.

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Annex A – Monitoring Data from Khojasan EIA (2023)

3. Desert Measurements (dust)

3.1 About the equipment

Bu al
rütub
Xüsus

-
-
-
-
-
- Accurate time display
- Toolbar

Auto-off

Texni

This tool provides a quick, easy, and accurate measurement of dust particles, mass, air temperature, and relative humidity.

Features:

2.0 TFT color LCD screen

220* 176 pixels

Simultaneous PM2.5 and PMIO measurements

Temperature and humidity

Technical requirements:

1.
2. Channel-2.5um,10um
3.
4. Mass mixture-PM2.5: O 2000 ug/m3
5. PMIO: 2000 ug/m3
6. Correction: 1 ug/m3
7. Temperature: 0-500C / 32-1220F

Correction: O.IOC/OF basic accuracy: IOC / 20F Humidity: 0-100 % RH basic accuracy: E%RH O- RH 80-100%RH

2.5%RH 20 -80%RH

3.2 Dust Measurement Results

Measurements were carried out within 15 minutes in a radius of 10 m of each sample point. The results of the measurements are as follows:

Oh!	Measurement point	Geo location	PM2.5	PM 10
	SPI	40 0 25 1 25" shm-e 49 0 4354" sh-u	228	19
			265	20
			323	21
			331	22
			339	23
			363	21
			335	22
			354	23
			415	
			504	28
2	SP2	40 0 25'18" s-e 49 0 46 1 46" sh-u	340	21
			312	18
			367	
			281	17
			301	19

			358	22
			381	24
			324	19
			232	21
			340	22
3	SP3	40 °25 ¹32 ¹' shm-e	330	21

		49 °46 ¹ 59" is	359	23
			406	24
			393	23
			331	21
			350	21
			298	19
			310	20
			356	21
			334	22

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2. Results of noise measurements

2.1 About the equipment

Measurements were carried out using an environmental Sas measuring device.

A detailed description of the equipment is shown below.

The sound measuring device is intended for sound-noise design; quality control; and all types of environmental sound measurements .

This device complies with the following for 1EC61672-I CLASS2:

- Sound measuring device
- MAX & MIN measurements
- Indicator above the norm
- Indicator below the norm
- A & C Weight
- C3LD & SLOW response
- Analog AC/DC outputs for frequency conversion
- to analyzer or XY axis recorder

Features

Applicable standard: 1EC61672 -I CLASS2

Accuracy: t1.4dB

Frequency range:31.5HZ 8KHZ

Dynamic range:50dB

Memory:32700

Level ranges:LO:30dB

Average:50dWIOOdB

Loud•.80dW130dB

Auto:30dW130dB

Operating temperature and humidity:

0°C~40°C,10%NR~90%NR

Storage temperature and temperature:

-ioac~+60°C, 10%NR~75%NR

Size: 278 (Length) x 76 (Width) x 50 (Height) mm Weight: 350g

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Annex B – Chance Find Procedures

The following section provides step-by-step Chance Finds protocols for minor and significant chance finds.

Chance Finds Procedure

The following steps will be followed whenever a potential chance find is identified during Project construction or operation.

1. **Stop Work** - In the case of a potential chance find, Contractor or subcontractor staff will stop all work in the vicinity of the find.

2. **Initial Notification** - Construction supervisors, field personnel, and staff will be notified of the stop work. If the archaeological monitor is not already present, they will be notified of the potential chance find within two (2) hours of discovery.

3. **Demarcation and Site Protection** – Contractor will cordon off an area around the potential chance find, with a minimum buffer of 15 m, and the area will be established as a no-go area / total protection zone to secure the find and prevent disturbance. Further measures will be taken to protect the potential chance find, including the installation of warning tape, fencing, and/or avoidance signs, as necessary.

4. **Document Find** – The archaeological monitor will document the potential chance find using narrative notes, digital photography, GPS coordinates, and hand drawn or digital maps, as appropriate.

5. **Evaluation** – The archaeological monitor will perform a preliminary evaluation to determine whether the find is cultural heritage resource and, if so, whether it is a minor or significant chance find. The monitor will also assess whether it is isolated or part of a larger site or feature. The evaluation will result in one of the following outcomes:

a. If the find is not cultural, the archaeological monitor will authorize the removal of site protection measures and activity can resume.

b. If it is a minor chance find, the cultural heritage monitor will document and, if movable, collect the find and then authorize the removal of site protection measures and construction activity can resume.

c. If it is a significant chance find or human remains, the archaeological monitor will work with the construction team to install protective measures around the find and, if possible, develop a plan to allow construction works to proceed around the find buffer.

6. **Notification of Authorities** – Significant chance finds, and human remains require notification of relevant government authorities.

a. If the find is determined to be a significant chance find, the archaeological monitor will notify the IoAE and MoCT within twenty-four (24) hours of evaluating the find.

b. If the find is determined to include human remains, the archaeological monitor will immediately notify the Contractor, who will in turn notify local law enforcement and relevant village or religious leadership to alert the community of the find (to respect sociocultural and faith-based traditions).

7. **Chance Find Report** – The type and timing of reporting depends on the results of the chance finds assessment performed by archaeological monitor:

a. If the find is determined to be a minor chance find, the monitor will document the find in the field, collect the find, if possible, and allow construction to continue, and provide the IoAE and MoCT with

a summary report of the find within five (5) days. All collected materials will be transferred to the IoAE along with the summary report.

b. If the find is determined to be a significant chance find work will be suspended around the find and the monitor will provide the IoAE and MoCT with a summary report of the find within forty-eight (48) hours.

8. **IoAE and MoCT Response**- After receiving notification of a significant chance find, the IoAE and MoCT will determine within twenty-four (24) hours of notification if they will send a representative to conduct a site visit to assess the find. If the IoAE and MoCTdetermine whether a site visit is necessary, the site visit will occur within fourty-eight(48) hours of notification. Costs for transportation and additional expenses will be incurred by the Contractor.

9. **Treatment Plan** – For Significant Chance Finds, the archaeological monitor will prepare a report that includes recommendations for the treatment of the find (i.e., treatment plan). If the IoAE and MoCT choose to conduct a visit the site, the treatment plan will be developed in consultation with the IoAE and MoCT representatives during the site visit. Options to be considered in the treatment plan include the following:

a. **Avoidance:** This option minimizes the impact to the resource through partial Project redesign or relocation of Project components. This is the preferred option from a cultural heritage management perspective and aligns with international standards.

b. **In-situ Protection or Management**: This option includes the application of site protection measures, such as fencing or barricades, or capping the site area with fill during construction followed by the removal of all protective measures after construction activities are complete.

c. **Surface Collection**: For archaeological resources, if a site is assessed as having limited salvage excavation potential but contains significant surface archaeological items, those surface finds may be mapped and collected.

d. **Archaeological Evaluation:** For archaeological resources, if the archaeologicalmonitor and IoAE and MoCT representatives cannot determine, based on available information, whether the site requires a salvage excavation, they may recommend conducting an archaeological evaluation of the site. Archaeological evaluation typically consists of the excavation of small number of intrusive test units/pits to assess the stratigraphic integrity of the site.

e. **Rescue Excavation:** If a significant archaeological resource is encountered and the Project cannot sufficiently avoid or minimize impacts, the IoAE and MoCTmay require a more extensive archaeological excavation. Rescue excavations consist of the controlled excavation and documentation of the portion of an archaeological site that will be impacted by a project by a team of trained/qualified archaeologists.

10. **Treatment Plan Review:** The IoAE and MoCT will review the treatment plan for the significant chance find and will provide comments/revisions or approve the plan within five (5) days of receiving it. The archaeological monitor will revise the plant to address comments from the DoA and resubmit the plan within two (2) days of receiving comments.

11. **Treatment Plan Implementation:** Upon receiving approval from the IoAE and MoCT, the archaeological monitor will implement the treatment plan with the support of experts from the IoAE. While treatment is ongoing, the archaeological monitor will coordinate with on-site personnel to keep them informed as to the status and schedule of investigations and when construction may resume.

12. **Resume Work:** After the treatment plan is complete, the IoAE and MoCT will provide the Project with written approval to resume construction activities. After receiving approval, construction activity will be allowed to resume at the chance find location.

Management of Chance Finds – Human Remains

If skeletal remains / bones are discovered, the CFP detailed above will apply. The archaeological monitor will attempt to identify whether the skeletal remains / bones are human remains. If they are determined to be human remains, the Contractor will immediately notify the IoAE, MoCT, and local police authorities. Construction activities will not resume until all legal requirements and the reasonable requests from local communities and stakeholders have been adequately addressed.

Record Keeping

The archaeological monitors at both depot sites will maintain chance finds documentation and the treatment plans records which will include the following:

- Weekly reports summarizing chance finds identified, assessments and evaluations, internal and external communications and instructions, and supporting photographic documentation (or other reference materials as appropriate);
- Monthly reports summarizing monitoring and evaluation results, the status of any site treatment measures, and other internal and external communications;
- Technical reports detailing the results of any treatment plans implemented to address chance finds; and
- Any additional reports prepared to fulfil specific requirements of the IoAE and MoCT.

The weekly and monthly chance finds procedure reports will be submitted to the IoAE and MoCTfor review and comment in lieu of formal technical reports. Technical reports will be submitted to the IoAE and MoCT for any treatment plans implemented to resolve chance finds.

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Annex C – Applicable National Legislation

Constitution

The main legislative document that defines the rights, obligations, and provisions for the use of natural resources and environmental protection is the Constitution of the Republic of Azerbaijan, adopted on November 12, 1995 (as amended and supplemented as of July 25, 2016). The following Articles help determine the applicability of national and international requirements:

- Article 148.II International treaties to which the Republic of Azerbaijan is a party shall be an integral part of the legislative system of the Republic of Azerbaijan
- Article 151 - If any conflicts arise between the normative-legal acts which constitute the legislative system of Azerbaijan (except for the Constitution and the acts adopted via referendum) and the international agreements acceded to by the Azerbaijan Republic, the provisions of the international agreements shall apply.

National Environmental Legislation

GoA has committed itself to aligning the national environmental legislation with the principles of internationally accepted regulations, particularly with environmental regulations of EU. As this process is on-going, the Project must comply with the intent of current national legal requirements. Framework for the Azerbaijan national environmental legislation is formed by the Law on Protection of the Environment (1999), which addresses the following issues:

- Rights and responsibilities of the State, citizens, public associations and local authorities;
- Use of natural resources;
- Monitoring, standardisation and certification;
- Economic regulation of environmental protection;
- State Environmental Expertise (SEE);
- Ecological requirements for economic activities;
- Education, scientific research, statistics and information;
- Environmental emergencies and zones of disasters;
- Control over the environmental protection;
- Environmental audit;
- Responsibility for the violation of environmental legislation; and
- International cooperation.

The following provides a summary of the key national E&S regulations of Azerbaijan relevant to the Project.

Table C-1: Key national environmental and social regulations

Subject	Title	Date	Description
General	Law of Azerbaijan Republic on Protection of the Environment No. 678-IQ.	08/06/1999 (last amendment 30/09/2014)	This Law governs the legal, economic and social framework for environmental protection. The purpose of this Law is to guarantee environmental safety and the ecological balance of the environment, prevent the impact of socioeconomic and other activities, preserve biological diversity, and effectively manage the use of nature. This Law governs mutual relations between society and nature for the purpose of improving the quality of the environment, using and renewing natural resources efficiently, and enforcing environmental protection laws and legal procedures.
	Law of Azerbaijan Republic on Environmental Impact Assessment No. 1175-VQ	12/06/2018	Establishes main principles and procedures for the environmental and social impact assessment, its' development and approval at the level of the state.
	Law of Azerbaijan Republic on Ecological Safety No. 677-IQ.	08/06/1999 (last amendment 01/02/2013)	One of two keystone laws of the country's environmental legislation (along with the Law on the Protection of the Environment). Its purpose is to establish a legal basis for the protection of life and health, society, the environment, including atmospheric air, space, water bodies, mineral resources, natural landscapes, plants and animals from natural and anthropogenic dangers. The Law assigns the rights and responsibilities of the State, citizens and public associations in ecological safety, including information and liability. The Law also deals with the regulation of economic activity, territorial zoning and the alleviation of the consequences of environmental disasters.
Biodiversity / ecosystems	Law of the Azerbaijan Republic on Specially Protected Natural Territories and Objects No. 840-IQ	24/03/2000 (last amendment 06/03/2015)	Determines the legal basis for protected natural areas and objects in Azerbaijan. Defines the animal world, property rights over fauna and legal relationships between parties. It also describes issues of State inventory and monitoring, and economic and punitive regulations.
	Law on Protected Areas, No. 540-IQ	2000 (last amendment in 2006)	This Law establishes legal basis for the organization, protection and management of protected areas, based on the following main objects: 1) conservation of biological diversity and ecosystem; 2) purposeful use of protected areas for scientific research, culture and education; 3) recreational use; 4) international cooperation (art. 3).

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Subject	Title	Date	Description
	Law of Azerbaijan Republic on Fauna No. 675-IQ.	04/06/1999 (last amendment 06/03/2015)	This Law establishes the legal basis for protection of fauna in the Azerbaijan Republic, with the aim of ensuring preservation and rational use of all types of wild animals. It also describes issues of State inventory and monitoring, and economic and punitive regulations
	Law of Azerbaijan Republic on Green Belts, No. 957-IVQ	2014	This Law aims at conservation of greens (trees, shrubs, flowers, grasses and planting materials) and green areas, also by defining the rights and obligations of state agencies, municipalities, legal entities and individuals.
Water	Water Code of Azerbaijan Republic (approved by Law No. 418-IQ).	26/12/1997 (last Amendment 06/03/2015)	Regulates the use of water bodies, sets property rights and covers issues of inventory and monitoring. The Code regulates the use of water bodies for drinking and service water and for medical treatment, spas, recreation and sports, agricultural needs, industrial needs and hydro energy, transport, fishing and hunting, discharge of waste water, fire protection and specially protected water bodies. It provides for zoning, maximum allowable concentrations of harmful substances and basic rules of industry conduct.
	Rules of Referral of Specially Protected Water Objects to Individual Categories, Cabinet of Ministers Decree No. 77.	01/05/2000 (last amendment 10/05/2012)	This resolution requires special permits for disposal if there are no other options for wastewater discharge. The resolution allows for restrictions to be placed on the use of specially protected water bodies, and for further development of regulations related to these water bodies. It requires consent from MENR for activities that modify the natural conditions of specially protected water bodies and includes provisions for permitting of any discharges to water that cannot be avoided. There are also special requirements for the protection of water bodies designated for recreational or sports use.
	Rules for Protection of Surface Waters from Waste Water Pollution, State Committee of Ecology Decree No. 1.	04/01/1994	Under this legislation the Permitted Norms of Harmful Impact Upon Water Bodies of Importance to Fisheries require discharges to meet several specified standards for designated water bodies in terms of suspended solids; floating matter; colour, smell and taste; temperature; dissolved oxygen; pH; Biological Oxygen Demand (BOD) and poisonous substances. Limits are based on Soviet era standards and are to be achieved at the boundary of the facility (specific “sanitary protection zone limits”) rather than “end-of-pipe” limits. End of pipe limits are defined in facility-specific “eco-passports” and are established with the intent to ensure compliance with applicable ambient standards.

Subject	Title	Date	Description
	ISR (Interstate Construction Regulations) 3.04-101-2005. Determination of basic calculated hydrological characteristics	15./12.2005	Instead of SNiP 2.01.14-83. AR State Building and Architecture Committee 15.12. Entered into force on 01.01.2006 in the territory of AR with the decision of 13 of 2005
	GOST 2874-82 Drinking water.	1985	Drinking water. Hygienic requirements and quality control
	ISR (Interstate Construction Regulations) 2.1.5.1315-03. Maximum allowable concentrations (MACs) of chemical substances in water of water objects of domestic and drinking water and cultural and domestic water use.	2003	Maximum allowable concentrations (MACs) of chemicals in the water of water objects used for drinking and domestic-recreation purposes. 2003
Air	Law of Azerbaijan Republic on Air Protection No. 109-IIQ.	27/03/2001	Establishes the legal basis for the protection of air, thus implementing the constitutional right of the population to live in a healthy environment. It stipulates the rights and obligations of the authorities, legal and physical persons and non-governmental organisations (NGOs) in this respect, sets general requirements for air protection during economic activities, establishes norms for mitigating physical and chemical impacts to the atmosphere, establishes rules for the State inventory of harmful emissions and their sources and introduces general categories of breaches of the Law that will trigger punitive measures.
	Methodology to Define Hazard Categories and need to develop Projects' maximum permissible emissions.	04/09/1990	Under this methodology the maximum permissible concentrations of harmful substances and their hazard classes are provided. Limits are based on Soviet era standards.

Subject	Title	Date	Description
	ISR (Interstate Constriction Regulations) 2.04-03-2005. Protection from noise	06/08/2008	Norms of vibration and noise pollution that adversely affect the environment and human health. Approved by the Decree of the President of the Republic of Azerbaijan No 796 of 08.06.2008
Waste	Law of Azerbaijan Republic on Industrial and Domestic Waste No. 514- IQ.	30/06/1998 (last amendment 12/06/2012)	Describes State policy in environmental protection from industrial and household waste including harmful gases, wastewater and radioactive waste. It defines the rights and responsibilities of the State and other entities, sets requirements for the design and construction of waste-treatment installations, licensing of waste generating activities, and for the storage and transport of waste (including transboundary transportation). The Law also encourages the introduction of technologies for the minimization of waste generation by industrial enterprises. There is a general description of responses to infringements. This law is specified by Resolutions of the Cabinet of Ministers on the rules of certification of hazardous wastes, state strategy on management of hazardous wastes in Azerbaijan and by Instructions on the Inventory. Rules and Classification System of the Wastes generated by Industrial Processes and in the Field of Services approved by the MENR.
	SanPiN 2.01.28-85.	28.01.1985	Landfills for neutralization and disposal of toxic industrial waste. Basic provisions for design.
	Toxic industrial waste disposal and landfills for disposal. Design norms	01.01.2013	Approved by State Committee for Urban Planning and Architecture of the Republic of Azerbaijan 2013
	SanPiN № 4631-88.		Sanitary rules and norms for protection of coastal waters of the seas against pollution in places of water use of the population. Moscow – 1988
	GOST 2761-84. Interstate standard.		Sources of centralized economic-drinking water supply. Sanitary and technical requirements and rules of selection. МКС 13.060
Baku Metro	Approval by the Cabinet of Ministers of the Republic of	19.10. 2010	Regulates passenger conduct and ensure safe operation of the metro. The rules define operating hours, passenger obligations, and prohibitions such as smoking, littering, and damaging facilities. They establish standards for cleanliness, order, safety, and restrictions on

Subject	Title	Date	Description
	Azerbaijan of the "Rules for Using the Baku Metro". (# 179)		dangerous or oversized items. Amendments, such as Resolution No. 159 (2018), strengthened tobacco bans within metro premises. Enforcement lies with metro authorities, ensuring compliance to protect passengers and infrastructure. These regulations form a legal framework supporting efficient and safe public transport in Azerbaijan.
	Order of the President of the Republic of Azerbaijan on the establishment of the 'Baku Metro' Closed Joint-Stock Company (order # 289)	27.02.2014	The decree designates the new CJSC as legal successor to these prior bodies - the existing Baku Metro operator and Azertunelmetrotikinti Joint Stock Company, and transfers all rights, obligations and assets, including infrastructure, personnel, liabilities. The Decree also mandates the Cabinet of Ministers to approve the company's charter, determine its authorized capital, and oversee its structure and governance. The restructuring aims to streamline management and unify operational and construction responsibilities under one corporate entity, thus improving efficiency, accountability, and investment clarity.
	Order (# 456) of the President of Azerbaijan approving the State Programme for Improving Transport Infrastructure in the City of Baku and Surrounding Areas (2025–2030)	30.01.2025	The program includes expansion of highways, construction of metro stations, upgrading rail and suburban lines, electric buses, and pedestrian infrastructure. It focuses on modernizing urban mobility in Baku through integrated planning of roads, metro, and public transport networks. It aims to reduce congestion, improve road safety, and support sustainable transport by expanding electric bus fleets, introducing smart traffic management systems, and developing cycling and pedestrian-friendly infrastructure, enhancing quality of life and economic efficiency.
Subsoil	SanPiN 2.01.28-85.	28.01.1985	Landfills for neutralization and disposal of toxic industrial waste. Basic provisions for design.
Information	Toxic industrial waste disposal and landfills for disposal. Design norms	01.01.2013	Approved by State Committee for Urban Planning and Architecture of the Republic of Azerbaijan 2013
Health & Safety	Law of the Azerbaijan Republic on Sanitary-Epidemiological Services (authorised by Presidential Decree No. 371).	10/11/1992 (last amendment 30/09/2014)	Establishes sanitary and epidemiological requirements for industrial entities to be met at design, construction and operational stages, and for other economic activities. Aims to protect the health of the population. It addresses the rights of citizens to live in a safe

Subject	Title	Date	Description
			environment and to receive full and free information on sanitary-epidemic conditions, the environment and public health.
	Law of the Azerbaijan Republic on Protection of Public Health No. 360-IQ.	26/06/1997 (last amendment 02/02/2015)	Sets out the basic principles of public health protection and the health care system. The Law assigns liability for harmful impact on public health, stipulating that damage to health that results from a polluted environment shall be compensated by the entity or person that caused the damage.
	Law of the Azerbaijan Republic on Public Radiation Safety No. 423-IQ.	30/12/1997 (last amendment 03/03/2006)	Includes requirements for ensuring radiation safety in industrial entities. The Law establishes the main principles of government policy on radiation safety, as well as environmental norms protecting the safety of employees and populations in areas potentially affected by the use of radioactive sources. The Law provides for compensation for damage to health, property and life due to accidents.
	Law of the Azerbaijan Republic on Technical Safety - 733-IQ	02/11/1999 (last amendment 30/09/2014)	The current law sets legislative, economic and social basis of PDF (Potential Dangerous Facilities) exploitation.
Employment	Labor Code of the Azerbaijan Republic No. 618-IQ	February 1, 1999,	The Labor Code, through the relevant legal norms, defines the Labor, social, economic rights of employees and employers, as well as the principles and rules for ensuring the right to work, rest, work in safe and healthy conditions, as well as other fundamental rights and freedoms of citizens of the republic.
	Law on employment, No.1196-VQ	2018 (last amendment in 2019)	This Law establishes the legal, economic and organizational foundations of state policy in the field of employment assistance, as well as social protection of unemployed citizens.
	Law on unemployment insurance, No. 765- VQ	2017 (last amendment in 2018)	This Law establishes the basic principles of relations in the Labor market of Azerbaijan, the creation of new mechanisms for financing the lost wages of insured citizens, payment of compensations to them and strengthening social protection of the population.

Subject	Title	Date	Description
	Law on State Guarantees of Equal Rights for Women and Men.	10 October 2006	The law aims to eliminate all forms of gender-based discrimination and ensure gender equality in the political, economic, social and cultural spheres. All human rights are guaranteed to women and men.
Land management and acquisition	The Civil Code	Adopted in 1999	Articles 246, 247, 248 and 249 include provisions for acquisition of lands for state needs. The Code requires the Decree on acquisition of lands for state needs should be registered in state real estate registration. It also states that Executive Agency should; a) send official notifications to all affected persons about land acquisition; b) pay full compensation to the affected persons within 90 days after the transaction agreement made; c) assist relocated people; and d) pay compensation for affected assets on the market rates (in case it is not possible to identify market rates, replacement prices are used). The Civil Code states as well that affected person can select one or more type of compensations. It also states that any rights to real estate must be registered with the State, and that land may be acquired from owners for state needs as approved by the relevant courts. It also states that the legality of ownership is established through the registration certificate issued by the Real Estate Land Registry Service based on the cadastral information (survey numbers) obtained from the State Land and Cartography Committee (SLCC) where the land is located.
	The Land Code dated June 25, No. 695-IQ	1999 (last amendment in 2019)	The Land Code is aimed at regulating land relations, fulfilling the obligations of landowners, users and tenant farmers and protecting their rights to land, creating conditions for the rational use of lands and their protection, restoration and improvement of land fertility. Article 101 states that, all damage caused by acquisition of land (compulsory purchase) or temporary detention, as well as limiting the rights of owners, users and lessees or deterioration of the quality of soil should be fully paid to landowners or users. In addition, costs derived from early termination of its obligations against third parties should also be paid to the affected person. Disputes relating to compensation is being considered in a court in accordance with the procedure established by the legislation.

Subject	Title	Date	Description
	The Land Acquisition Law	April 2010	Specifically address matters related to involuntary resettlement (IR), including the process and institutional arrangement for land acquisition, compensation and valuation, consultation requirements, entitlements of various categories of displaced persons and grievance mechanism. The law considers various categories of displaced persons, including those without state registration, renters, non-formal long-term users of land, and persons who have no legal rights on the land that they live in. The law entitles persons who have no legal rights on the land to resettlement assistance and compensation for their non-land assets. It includes provision of compensation for loss of business/income, transition allowance and transportation support, and compensation for loss assets based on replacement cost. As per the LAL, in case of physical displacement, the acquiring authority needs to send notification to DPs at least 60 days before resettlement.
	Law on Acquisition of Lands for State Needs	2011	The Decree stipulates additional provisions for the implementation of the Land Acquisition Law. It also assigns government agencies for each case of relevant executive body.
	Law on the state land cadastre, land monitoring and land management No.593	22.12.1998. Last amended on 31.05.2018	This Law defines the legal framework for ordering the state land cadastre, land monitoring and land management works in the Azerbaijan Republic.
	Law on land lease dated December 11, No.587-IQ	Last amended on 31.05.2018	This law defines the legal framework for the lease of lands in state, municipal and private ownership, and lease relations in the Azerbaijan Republic. The law states that (Article 16) when the leased land is acquired for state needs, another land plot having a same size and a same quality can be provided to lessee. Losses incurred in this land shall be paid in accordance with the legislation.
	Law on the management of municipal lands No.160-IIQ	29.06.2001. Last amended on 19.06.2020	This Law regulates the general rules for the transfer of municipal lands to ownership, use and lease, considering the peculiarities of their management, legal relations in the field of their use and protection.
	Law on land market, No.665-IQ	1999 (last amendment in 2018, No.1287- VQD)	This Law establishes general rules for land market relations in the Azerbaijan Republic and ensures the protection of property rights to land.

Subject	Title	Date	Description
	Cabinet of Minsters' Resolution No.45 24	2012	Approving of guidelines for preparation of Resettlement Plan and Resettlement Guideline.
	Rules for assigning lands to categories and transferring them from one category to another", approved by Decision No. 10 of the Cabinet of Ministers	2017	Agricultural lands (arable lands) are specially protected and their transfer to other categories for non-agricultural purposes is permitted in exceptional cases in accordance with the Land Code of the Republic of Azerbaijan and on the basis of the requirements of the "Rules for assigning lands to categories and transferring them from one category to another".
Liability	Law on Mandatory Insurances.	24/06/2011	Identifies requirements for the mandatory insurance of civil liability for damage caused to life, health, property and the environment resulting from accidental environmental pollution.
Permitting	A System of Standards for the Environment Protection and Improvement of Natural Resources Utilization. Industrial Enterprise Ecological Certificate Fundamental Regulations, GOST 17.0.0.04-90.	01/07/1990	The MENR issues ecological documents on the impact on the environment of potentially polluting enterprises. The documents include maximum allowable emissions, maximum allowable discharges, and an “ecological passport.” The last item is specific to countries of the Former Soviet Union and contains a broad profile of an enterprise’s environmental impacts, including resource consumption, waste management, recycling, and the effectiveness of pollution treatment. Enterprises develop the draft passport themselves and submit it to MENR for approval.
Cultural heritage	Law of the Azerbaijan Republic on the Protection of Historical and Cultural Monuments.	10/04/1998	The principal cultural heritage protection law in Azerbaijan is the "Law on Protection of the Historical and Cultural Monuments of the Republic of Azerbaijan (1998)" and its subsequent amendments. The regulatory review and preliminary cultural heritage baseline review demonstrated that, while Articles 1, 2, and 5 of the law are broadly applicable to the project, Articles 4, 13, and 14 are the most relevant and applicable to the proposed depot projects. The Baku Metro was unable to provide documentation demonstrating compliance with these articles.

Annex D – National EIA Framework

Regulatory requirements on the EIA process in Azerbaijan are set by the Law on Environmental Impact assessment. The purpose of the Law on EIA is to enact Article 54.2 of the Law "On Environmental Protection" by defining the legal, economic and organizational bases of the process of assessing the environmental and health impacts of economic activities implemented by private and public sector entities. Fundamental principles established by the law say that the EIA process shall:

- be based on the analysis of environmental, social and economic impacts of the planned activity;
- ensure the accuracy, transparency and reliability of the activity's environmental security related information;
- take into account the need to maintain the ecological balance and protect the biodiversity;
- accurately identify all possible environmental impacts and assess the levels of risks;
- ascertain that effects of the impacts will stay within the restrictions set by the respective standards.
- Ensure that, in addition to consultations with government and municipal authorities, the EIA process and findings are disclosed to, consulted with and reviewed by a wider list of stakeholders, including individuals, firms and NGOs;
- Ensure that the EIA is open for the state control transparent for the general public.

Requirements as to the EIA procedures are described in Article 4 of the Law. According to this Law, to coordinate the planned activity with the State Ecological Expertise of the MENR, it is necessary to develop and submit the EIA report to the representatives of MENR. The purpose of the Law "On EIA" is to create the legal basis for the functioning of the mechanism for the environmental impact assessment of public and private projects or the types of planned activities to ensure the prevention or reduction of negative impacts on the environment and public health at the earliest stages. The development of the EIA report is mandatory. Specifically, the EIA report should include:

- Assessment of the initial and expected state of the environmental and socio- economic environment.
- Determination of the environmental impacts of construction, reconstruction and operation of facilities.
- Environmental Management Plan, combining a system of measures to reduce and mitigate environmental impacts.
- Environmental Monitoring Plan providing for the effectiveness of environmental measures.

A summary of the EIA process, including mandatory requirements, is presented in Table 2 below.

Table D-1: Summary of National EIA Regulations

EIA coverage and requirements	
Activities that require EIA	Activity types for which EIA is required are listed in the Annex to the EIA Law.
EIA Scoping	A party responsible for the assessment is required to carry out the EIA on the proposed activity after initial consultation with the relevant competent authority (MENR). Preliminary consultations are required to pre-determine the contents, scope and methods of the assessment, and to ensure the completeness and accuracy of the information to be reflected in the EIA document.

EIA Report	
General	In accordance with the Law "On Environmental Protection", the EIA report must be prepared at the project development stage and submitted to the relevant competent authority. The report should be prepared in an easy-to-understand style, characterize environmental baseline of the area where the proposed activity will take place, identify possible potential environmental and health related impacts of the activity, determine ways to eliminate these impacts, and suggest recommendations for minimizing adverse effects.
Project description	Description, purpose, stages, types of environmental impacts and environmental risk assessment methods of the proposed activity should be provided.
Project alternatives	At least two alternatives to the proposed activity (including the zero activity option), as well as an environmental justification for the most effective technological solutions, must be provided.
Regulatory requirements	Regulatory framework referred to during the preparation of the EIA document and a summary of the legal acts should be included.
Environmental and socioeconomic baseline	Environmental and socioeconomic baseline of the area must be studied and described.
Impacts and mitigation measures	All impacts (direct and indirect, localized and broader scale, acute and chronic, one-time and cumulative, emergency and irregular, temporary and permanent) should be identified and assessed according to their magnitude and severity, and measures should be proposed to prevent, reduce and mitigate these impacts.
Transboundary and emergency impacts	In case cross-border impacts are identified, they should be assessed in accordance with procedures and conditions established (not yet adopted) by the relevant authority (Cabinet of Ministers). Emergency impacts should also be addressed in the ESIA report.
Environmental management and monitoring	General information on the environmental management plan adopted for all phases of the project, including relevant management and monitoring plans, should be included.
Residual impacts	A summary of the residual effects and their significance should be included.
EIA Disclosure	
Public participation	The law requires that the public affected by the planned activities be informed on the EIA process. The Client is expected to engage the affected community in discussions regarding the proposed activities.
State environmental expertise	The Law on Environmental Protection requires that the EIA report is reviewed by MENR (within 3 months) and the MENR prepares an expert opinion. The opinion must be published and submitted to the relevant executive authorities in the area where the proposed activities will be carried out.

State approval of the EIA by the MENR creates a compliance mechanism, including environmental and social standards that the organization must comply with. The law requires that an EIA document be prepared by at least three EIA assessors – qualified and certified specialists included in the expert list of MENR. National EIAs have been completed for both Depots and approvals from MENR given.

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Annex E - Conventions and International Agreements

International Convention	Year Ratified
International Labor Organization (Fundamental)	
C029 - Forced Labor Convention, 1930	1992
C087 - Freedom of Association and Protection of the Right to Organise Convention, 1948	1992
C098 - Right to Organise and Collective Bargaining Convention, 1949	1992
C100 - Equal Remuneration Convention, 1951	1992
C105 - Abolition of Forced Labor Convention, 1957	2000
C111 - Discrimination (Employment and Occupation) Convention, 1958	1992
C138 - Minimum Age Convention, 1973 Minimum age specified: 16 years	1992
C155 - Occupational Safety and Health Convention, 1981 (No. 155)	2023
C182 - Worst Forms of Child Labor Convention, 1999	2004
Pollution prevention	
Stockholm Convention on Persistent Organic Pollutants	Acceded in 2004
Convention on the Transboundary Effects of Industrial Accidents	Acceded in 2004
Basel Convention on the Control of Transboundary Shipment of Hazardous Wastes	2001
Kyoto Protocol, 1997	Acceded in 2000
UN Convention on the Protection of the Ozone Layer (Vienna Convention)	Acceded in 1996
Montreal Protocol on Substances that Deplete the Ozone Layer, 1987	Acceded in 1996
United Nations Framework Convention on Climate Change, 1992	Acceded in 1992
UNECE Geneva Convention on Long-Distance Transboundary Air Pollution	2002
UN Convention on Control of Transboundary Movements of Hazardous Wastes and their Disposals	2001
International Carriage of Dangerous Goods by Road	2000

International Convention	Year Ratified
Espoo Convention (To promote environmentally sound and sustainable development through the application of ESIA, especially as a preventive measure against transboundary environmental degradation)	Acceded in 1999
Aarhus Convention (To guarantee the rights of access to information, public participation in decision-making and access to justice in environmental matters)	Acceded in 2000
Biodiversity	
UNESCO Convention on Wetlands of International Importance especially as Waterfowl Habitat / RAMSAR Convention	2001
UN Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention; CMS), 1979	1998
Cultural Heritage	
Convention for the Safeguarding of the Intangible Cultural Heritage. Paris 2003	2007
Convention concerning the Protection of the World Cultural and Natural Heritage. Paris, 16 November 1972	1993
European Convention on the Protection of the Archaeological Heritage	2000
UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions, 2005	2009