Environmental and Social Consulting Services for the Baku Metro Expansion Project

Green Line Stations Audit, December 2025

Prepared by Baku Metropolitan CJSC for Baku Metro Expansion Project

Vista Environment

Table of Contents

Executive Summary 7
1. Introduction 7
2. Green Line 10 (ten) Stations Existing Conditions 11
2.1. General 11
2.2. Key Observations 11
2.2.1. Occupational and Community Health and Safety 14
2.2.2. Environmental Conditions 14
3 Summary of Key Risks & Impacts 17
3.1. Existing Issues 17
3.2. Modernization Issues 18
4 Conclusions and Next Steps 20
4.1. General 20
4.3. Immediate Corrective Measures (to be implemented without waiting for the detailed assessment) 20
4.4. Next Steps 21
4.5. Key Areas of Focus for the Detailed ES Assessment 21
Annex A - Scope of Work for Audit and ESMP 24

Acronyms and Abbreviations

Acronym	Definition
AIIB	Asian Infrastructure Investment Bank
BMEP	Baku Metro Expansion Project
CHS	Community Health and Safety
E&S	Environmental and Social
E&S Assessment	Environmental and Social Assessment
EHS	Environmental, Health, and Safety
ESAP	Environmental and Social Action Plan
ESF	Environmental and Social Framework (AIIB)
ESMP	Environmental and Social Management Plan
ESP	Environmental and Social Policy (AIIB, 2019)
ESS	Environmental and Social Standards (AIIB)
GBVH	Gender-Based Violence and Harassment
GIIP	Good International Industry Practice
GHG	Greenhouse Gas
HSE	Health, Safety, and Environment
LARPF	Land Acquisition and Resettlement Policy Framework
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment
PIU	Project Implementation Unit
PWD	Persons with Disabilities
SEA/SH	Sexual Exploitation and Abuse / Sexual Harassment
SEP	Stakeholder Engagement Plan
SOP	Standard Operating Procedure
ACM	Asbestos-Containing Material
NTS	Non-Technical Summary
FS	Feasibility Study

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CCTV	Closed-Circuit Television

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Executive Summary

This Environmental and Social (E&S) Audit assesses the operational performance of ten existing stations under the Baku Metro Expansion Project (BMEP) and forms part of the due-diligence package required under the Asian Infrastructure Investment Bank (AIIB) Environmental and Social Policy (ESP). The audit reviews environmental, health and safety (EHS), social, accessibility, and emergency-preparedness conditions against national legislation, Baku Metro procedures, and relevant good international practice.

The stations covered in this audit consist of ten existing operational stations along the Green Line. These stations represent a diverse set of underground and above-ground assets embedded in densely populated urban areas. Their current operational condition is directly relevant to AIIB's assessment, as they will interface with forthcoming expansion works and play a critical role in overall system safety, passenger experience, and network reliability.

The audit identifies key risks and performance gaps that require corrective action. A September 2025 field assessment revealed a consistent set of issues across stations, summarized below:

- Padlocked or obstructed emergency exits, manual turnstile fail-safe systems, and heavy reliance on escalators for evacuation.
- Uneven emergency lighting and signage, resulting in inconsistent visibility and guidance.
- Limited flood-preparedness despite Baku's recurrent extreme rainfall events.
- Substantial accessibility barriers, including locked elevators, non-functional ramps, inadequate signage, and inactive SOS systems.
- Worker health and safety concerns, including noise exposure, insufficient ventilation redundancy, and extended shift patterns.
- Variations in firefighting equipment condition, despite centralized maintenance systems.

These issues reflect broader structural challenges across the network, including ageing infrastructure, inconsistent maintenance practices, and the absence of standardized risk-based monitoring.

Environmental performance is generally acceptable, but improvements are needed in documentation, periodic inspections, and monitoring of operational noise and air quality. Accessibility gaps remain among the most critical concerns, especially for passengers with reduced mobility, elderly passengers, and individuals with disabilities.

The Audit provides a set of targeted corrective actions for incorporation into the ESAP and ESMP, focusing on evacuation readiness, infrastructure upgrades, accessibility improvements, enhanced OHS procedures, and strengthened maintenance and inspection systems. Implementing these measures will support Baku Metro in meeting AIIB requirements and improving long-term operational resilience.

1. Introduction

1.1. Background

The city of Baku has embarked on a path with ambitious goals: increasing public transport accessibility (by 2030, 90% of the population should have access to a public transport service within 500 meters), drastically reducing road accidents, cutting traffic-related air and noise emissions, and shortening travel times for urban trips.

The State Program on Improving Transport Infrastructure in Baku and Surrounding Areas for 2025–2030 was recently approved, setting out major projects such as the expansion of the metro network, the renewal

of the public transport fleet, the development of pedestrian and cycling infrastructure, and the construction/upgrade of highways, viaducts, and interchanges.

Within this framework, the Project aims to assist the City of Baku in continue improving its public transport system.

The Project will improve the reliability, safety and efficiency of public transport in Baku through the upgrade and modernization of existing metro stations.

Many of these stations became operational in 1966 and have not been rehabilitated since then, hence, the Project will address the urgent infrastructure investment needs.

The Project is expected to substantially improve the quality of public transport for the City's growing population. By providing the needed rehabilitation of metro stations, the Project is expected to promote growth in ridership and put into reality the principle of "accessibility-for-all", while creating a minimum impact on the existing services during construction, i.e. through carrying out the works during non-service hours and using modern engineering techniques to avoid full-scale shutdown at any time.

This will foster the reduction of GHG and air pollutant emissions from transport in the City, and reduce noise pollution. It will thus enable the provision of safe, reliable and environment friendly transportation for Baku's population. Rehabilitation of stations and their components is expected to meet or exceed national energy efficiency requirements with a specific focus on selecting high efficiency lighting (LED) and ventilation systems.

1.2. Component Activities

The purpose of the project will be to modernize stations to improve and include:

- **Safety systems**, assessing the current condition of the systems and upgrading them in compliance with existing regulations, integrating advanced fire detection, alarm, and suppression systems, including smoke extraction and emergency communication facilities. Modern CCTV and physical security systems will be installed to ensure real-time monitoring, improved incident response, and overall passenger safety throughout station premises;
- **Ventilation and Cooling Systems**, assessing the current condition of the systems and upgrading them in compliance with existing regulations, modernization of station and under-platform ventilation systems to ensure effective air circulation and thermal comfort. Installation of cooling and air-conditioning units where required to maintain suitable climatic conditions for passengers and staff, especially during peak summer periods;
- **Lighting Systems**, replacement of existing lighting with energy-efficient LED systems providing uniform illumination, reduced energy consumption, and longer service life. Lighting design will emphasize both operational efficiency and architectural aesthetics, ensuring clear visibility and an enhanced passenger environment;
- **Sound and Warning Systems**, installation of a modern public address and emergency warning system to ensure clear and intelligible voice communication across all station areas. These systems will support routine passenger information announcements as well as evacuation guidance and emergency alerts in multiple languages;
- **Wayfinding and Passenger Information**, implementation of a comprehensive wayfinding system in accordance wayfinding strategy of Baku Metropolitan CJSC. Integration of real-time travel information screens and maps to improve passenger experience and accessibility;
- **Inclusivity and Accessibility,** adaptation of station infrastructure to meet universal design and accessibility standards, including tactile flooring for visually impaired passengers, potential for installation of elevators and ramps for persons with reduced mobility, and audible and visual information systems to ensure inclusive access for all users;

- **Architectural and Interior Solutions**, refurbishment of station interiors and finishes to improve aesthetics, durability, and passenger comfort while preserving the architectural identity of each station. Works may include wall and floor finishes, lighting integration, and renewal of passenger amenities in line with modern metro design principles.
- **Exit Turnstiles and Validation Systems**, replacement of existing fare gates with modern electronic turnstiles and validation systems compatible with smart cards and contactless payment technologies. These systems will enhance fare control efficiency, passenger throughput, and integration with future multi-modal ticketing platforms;
- **Non-Fare Revenue and Social Projects**, development of commercial and social spaces within station areas, including retail kiosks, vending zones, and service facilities. Introduction of non-fare revenue initiatives and community-oriented projects to enhance the role of metro stations as vibrant urban spaces supporting local economic activity; and
- **Platform Extension for Six-Car Trains**, implementation of civil and architectural works to extend platforms where necessary, enabling operation of six-car train formations. This will increase passenger capacity, reduce congestion, and support future ridership growth on the Green Line.

The interventions concern the following stations of Baku's Green Metro Line:

1. Shah Ismayil Khatai (Xətai);
2. Jafar Jabbarli (Cəfər Cabbarlı);
3. Nizami;
4. Elmler Akademiyasi (Elmlər Akademiyası);
5. Inshaatchilar (İnşaatçılar);
6. 20 Yanvar;
7. Memar Ajami (Memar Əcəmi);
8. Nasimi (Nəsimi);
9. Azadlig Prospekti (Azadlıq Prospekti); and
10. Darnagul (Dərnəgül).

1.3. Purpose of the Audit

This document presents the results of a rapid Environmental and Social (ES) audit undertaken to identify the immediate and observable environmental, social, health and safety (ESHS) risks at the ten Green Line stations. The rapid audit is intended to provide an early indication of priority issues and to define the scope and focus areas for the subsequent detailed Environmental and Social Assessment, which will be carried out once engineering designs for the modernization works are further developed. As such, this audit serves as an initial screening tool to highlight key ESHS risks, legacy issues, and areas requiring further technical evaluation during the full ES Assessment and ESMP preparation.

The audit forms part of a package of documents prepared for Phase I of the Baku Metro Expansion Project (BMEP) which has been classified as a Category B activity per AIIB Environmental and Social Framework (ESF), as impacts are not anticipated to have significant adverse environmental and social impacts that are irreversible, cumulative, diverse or unprecedented. Note, this audit was prepared at the request of AIIB and is limited in scope per the request of AIIB.

1.4. Limitations

This rapid audit was conducted under significant time and access constraints and reflects only conditions that were visually observable, reported through interviews, or otherwise available at the time of the September 2025 site visit. The audit did not include:

- Functional testing of safety-critical systems (e.g., fire alarms, smoke extraction, emergency lighting, turnstile fail-safe operation).
- Review or verification of station-level maintenance, inspection or incident records, as these are kept centrally at Baku Metro headquarters and were not accessible during the visit.
- Engineering inspections of structural, mechanical, electrical, or ventilation systems.
- Measurement-based environmental monitoring beyond what was demonstrated by station staff.
- Detailed accessibility audits, such as gradient measurements, equipment operability checks, or passenger flow modelling.
- Labor and HR records audits, contractor oversight reviews, or verification of supply chain practices.

Given these limitations, the findings should be interpreted as preliminary and non-exhaustive, requiring confirmation and expansion through the forthcoming detailed ES Assessment and engineering-based analyses.

2. Green Line 10 (ten) Stations Existing Conditions

2.1. General

A site visit to operational Green Line stations in September 2025 provided insights into the current baseline conditions. The stations vary in age, condition, and passenger volumes (ranging from approximately 4,000 daily passengers at Darnagul to 67,000 at 20 Yanvar).

The following operational stations were visited: Darnagul, Azadliq, Nasimi, Memar Ajami, Cəfər Cabbarlı, Elmlar Akademiyasi, 20 Yanvar, İnşaatçılar, and Khatai.

The purpose of the site visit was to assess the operational safety and environmental conditions of these stations, focusing on aspects such as evacuation procedures, fire safety, electrical safety, ventilation, air quality, and waste management.

2.2. Key Observations

Each station employs a safety inspector, a head of station, a chief engineer, and a fire safety instructor. The Consultant team held interviews with station management and operational staff and inspected parts of all ten stations. The following table summarises station-specific observations and information, firstly in tabular format by station, then by more detailed narrative of specific issues.

Table 1: Key Observations

Station	Passenger Volume (1st semiannual 2025)	Depth (m)	Exits		Ventilation / Microclimate	Accessibility (PWD)	OHS	CHS / Emergency & Evacuation
			1st entrance hall	2nd entrance hall				
Darnagul	93,480	12	2	2	Daily microclimate measured; dust/CO_2/O_2 pilot ongoing across metro.	Lifts present in some stations but locked; ramps inadequate system-wide; no operational SOS phones.	Standard safety staff; drills not held regularly.	Padlocked emergency exits; master key held by station head; evacuation delays if alarm doesn't trigger auto-opening of turnstiles.
Azadliq Prospekti	644,320	12.8	2	2	Same general system: daily microclimate checks; risk of flooding citywide; no flood-control equipment.	Same system-wide issues: lifts locked, ramps ineffective, service only via prior booking.	Standard safety staff; no major deviations noted.	Same systemic evacuation constraints: padlocked exits, escalators used for evacuation; turnstiles require manual key if alarm fails.
Nasimi	288,579	11.23	2	2	As above; also pilot crowd-control camera system detecting passengers near platform edge.	Same limitations	Standard staff setup; records maintained centrally.	Evacuation procedures identical; emergency lighting varies; padlocked exits.
Memar Ajami / Memar Ecami	769,060	8.1	2	2	General ventilation/microclimate system-wide observations apply.	Same limitations	Standard safety setup; no additional issues noted.	Evacuation constraints same as others.
20 Yanvar	1,454,310	11.1	5	2	Same systemic ventilation/flood-risk profile.	Same limitations	Standard safety staff; annual inspection plan exists.	If only one exit exists, evacuation would require platform/tunnel use. Turnstile limitations apply.

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			1st entrance hall	2nd entrance hall				
Insaatchilar / Insaatcilar	904,229	13.2	2	2	System-wide microclimate measures; no visible flood-control equipment.	Same limitations	Standard safety structure; 12-hour shifts.	Same systemic evacuation limitations; emergency lighting variable.
Elmlar Akademiyasi	1,090,813	45	1	1	Same systemic ventilation/flood-risk profile.	Same limitations	Standard safety setup	Same systemic evacuation limitations
Nizami	569,437	49.83	1		Standard system-wide ventilation; upgraded lighting and panels in 2016	Same metro-wide limitations: lifts locked; no independent access; service only by advance booking	Standard OHS staffing	Same system-wide concerns: padlocked exits, variable emergency lighting, manual turnstile key issue; single entry increases evacuation risk
Shah Ismayil Khatai	379,960	19.2	1		Rebuilt 2–3 years ago; likely improved but still lacking flood-control equipment.	Same limitations; lifts locked; ramps ineffective; SOS phones not working.	Standard staff; last drill held end of October last year	Padlocked exits; emergency lighting varies; turnstile manual opening issue; escalators used despite noncompliance with NFPA 130.
Jafar Jabbarli/Cəfər Cabbarlı	99,191	29.93	4		System-wide daily microclimate checks; improved ventilation after reconstruction but no flood-control equipment	Lifts locked system-wide; ramps ineffective; SOS phones nonfunctional	Standard station safety staffing; escalators replaced	Padlocked emergency exits; manual turnstile opening if alarm fails; escalators used for evacuation contrary to NFPA guidance; emergency lighting variable

2.2.1. Occupational and Community Health and Safety

Evacuation - Fire exits between tunnels and platforms are padlocked. The Head of Station carries the master key, which could delay evacuation in emergencies. Turnstiles are designed to automatically open when the fire alarm activates; however, if the alarm fails, they must be manually opened by the Turnstile Controller using a key, further delaying evacuation.

Most stations have conducted night-time emergency drills with the Ministry of Emergency Situations within the last two years. No information was available regarding targeted evacuation time versus actual evacuation time. No information was available on lessons learned from these drills.

In the event of a real emergency the following course of action was described: initially, the staff member who hears the alarm calls 1111, then the train dispatcher, then the Ministry of Emergency Situations. The train dispatcher disconnects the electrical supply, and passenger evacuation begins, directed by the platform controllers.

Some stations only have one means of access/egress. If that exit is blocked, passengers can be evacuated via tunnel or train, depending on the type of emergency.

Baku Metro staff noted that escalators are planned to be used for evacuating passengers during emergencies. However, this practice is not consistent with Good International Industry Practice (GIIP). International metro fire-life-safety codes (e.g., NFPA 130) generally require escalators to be stopped during emergencies due to risks associated with smoke propagation, mechanical hazards, and passenger congestion. Reliance on escalators therefore represents a procedural and safety gap.

Emergency Lighting and Signage - Lighting systems vary widely between stations. Some are recessed or integrated with regular lighting, making them difficult to identify. In some cases, signage is non-illuminated or poorly positioned, reducing visibility in dark or smoky conditions. Functionality of lighting systems could not be verified.

Illuminated exit routes - some stations have modern self-illuminated exit signs; others have non-illuminated emergency exit signage that will not be visible in dark or smoky conditions. One station even had its emergency exit signs on a TV screen, but nowhere else.

Fire safety - Fire hydrants are placed in several key positions in stations, including under the platforms, accessed via a manhole. Fire extinguishers, fire hoses and other fire-fighting equipment appear to be in good working order and are tagged/inspected.

Maintenance and Inspection - Inspection and maintenance schedules for escalators, lifts, ventilation, and emergency lighting are kept centrally at the Head Office rather than at individual stations.

Crowd control - Currently platform controllers monitor the proximity of passengers to the platform edge. A camera-based system is being piloted at Nasimi Station to warn passengers who approach the platform edge. Crowd control measures are currently limited to signage on stairs and in some corridors instructing passengers to keep to the left when walking.

Accessibility (PWDs) - Some stations have lifts, but these remain locked. Ramps are often too short or steep to be usable. Trains include wheelchair spaces, but there is no independent access to platforms. Baku Metro's "Accessible Metro" project, initiated in 2019, provides support to persons with disabilities upon prior booking (1–24 hours in advance, from 9:00–21:00). However, signage and awareness are lacking, and SOS phones on platforms are currently non-operational.

2.2.2. Environmental Conditions

Microclimate and Air Quality - Daily monitoring is conducted at all stations, focusing on temperature, ventilation, and air quality. A pilot system has been introduced at one Green Line station that monitors dust, CO_2, O_2, humidity, and temperature in real time.

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Table 2: Average Temperature and Humidity

No	Station Name	Temperature (average monthly in C^0)				Humidity (average monthly %RH)			
		Jan-Mar	Apr-Jun	Jul-Spt	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Spt	Oct-Dec
1	Darnagul	19.5	24.3	28.3	21.9	52.0	54.0	57.8	54
2	Azadlig prospekti	19.6	23.6	27.6	21.4	53.6	55.6	58.4	55
3	Nasimi	19.2	23.2	27.3	20.8	54.9	55.8	58.8	55
4	Memar Ajami	19.5	24.4	28.1	22.0	52.9	56.3	57.9	52
5	20 Yanvar	19.5	24.0	28.0	21.4	52.6	57.1	59.6	54
6	Inshaatchilar	19.2	24.0	28.0	21.3	52.8	57.8	59.7	56
7	Elmlar Akademiyasi	18.7	23.8	27.5	22.1	57.0	63.6	64.3	56
8	Nizami	18.0	24.1	26.9	21.7	57.0	62.4	64.3	56
9	Shah Ismayil Khatai	19.1	23.8	27.3	23.1	50.7	61.9	69.0	52
10	Jafar Jabbarly	18.2	23.2	26.8	22.2	51.1	62.8	67.8	54

Source: Baku Metro

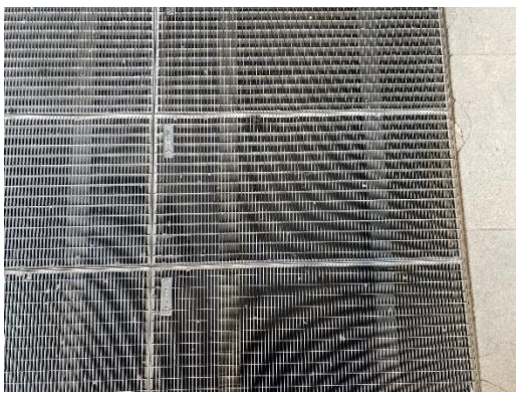
Waste Management - Household waste is collected by Kommunal Xidmətlər Müəssisəsi LLC, so routine disposal is covered. Due to safety considerations, there are no bins at the stations. No hazardous waste is stored at stations.

Flooding - No visible flood-control measures (e.g., sump pumps, back-up power, barriers, or signage) were identified. Although staff reported that stations do not experience flooding due to elevated entrances and drains, Baku's history of heavy rainfall indicates residual risk.

According to ThinkHazard, the overall urban flood risk along the Baku Metro Green Line corridor is classified as very low, with modeled data indicating less than a 1% probability of damaging river floods within the next 10 years. However, severe riverine flooding can occur under certain condition and localized flooding remains a credible concern.

Previous heavy rain events in Baku have caused flooding in streets, underpasses, and areas adjacent to metro entrances. While Baku Metro confirmed that no station flooding has been recorded, these external events demonstrate vulnerabilities linked to surface drainage, stormwater management, and sewer system overloads. Given the context, a detailed flood vulnerability and risk assessment would be required to determine the level of risk and the need for resilience measures.

Figure 1: Drains at Station Entrances



(Photos from Baku Metro HSE dept)

Noise

In several stations (Nizami and Darnagul), it was observed that the control rooms lack soundproofing. This makes it difficult for the controller to hear alarms and other audible warning signals from the monitoring equipment. This also raises a worker welfare issue regarding the effects of constant exposure to high noise levels.

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3 Summary of Key Risks & Impacts

3.1. Existing Issues

Across all stations, of consistent safety and accessibility risks and impacts were identified:

- **Evacuation Readiness**: many emergency exits between platforms and tunnels were padlocked, requiring master keys, which could delay evacuation. Turnstiles only fail-open if alarms trigger; otherwise, manual unlocking is required. Escalators are used in evacuation procedures, despite international codes advising against their use. Drill data (timings, lessons learned) are not systematically recorded.
- **Emergency Lighting and Signage**: Systems are inconsistent across stations. Some signage is non-illuminated or poorly placed, compromising visibility in smoke or power outages. The functionality of emergency lighting could not be verified.
- **Fire and Life Safety Equipment**: fire hydrants, extinguishers, and hoses are present and tagged, though some hydrants are located under platforms, creating access delays.
- **Maintenance and Inspection**: records for lifts, escalators, ventilation, and emergency systems are held centrally, not locally at stations, limiting real-time assurance of readiness.
- **Crowd Control**: currently relies on staff and basic signage. A pilot camera-based system is being tested at Nasimi to warn when passengers approach the station edge.
- **Flooding Preparedness**: no flood-control systems (sump pumps, barriers, back-up power) were observed, despite Baku's history of heavy rainfall events.
- **Structural Integrity**: several structural integrity risks may be present given the age of the Green Line stations–many of which were constructed in the 1960s and have not undergone comprehensive structural rehabilitation since. Although this rapid audit did not include engineering assessments, the potential exists for deterioration of structural components such as concrete spalling, corrosion of reinforcement, aging waterproofing systems, deformation or settlement of tunnels, and degradation of platforms, ceilings, and load-bearing elements. These conditions could pose safety risks for both workers and passengers and may constrain or complicate modernization works.
- **Accessibility for Persons with Disabilities (PWDs)**: lifts exist at some stations but are locked and unavailable. Ramps are mostly non-functional. While trains include wheelchair spaces, passengers cannot reach them independently. SOS phones on platforms were non-operational in all stations visited.
- **Other Worker and Passenger Concerns**: control rooms lack soundproofing, impairing alarm audibility and exposing staff to noise. No back-up ventilation systems exist, leaving staff reliant on respirators in emergencies. CCTV coverage is in place and monitored in real time with feeds linked to police and Metro headquarters.
- **Labour and Working Conditions**: In addition to passenger and community risks, baseline observations also identified worker OHS issues at stations, including prolonged 12-hour shifts, noise exposure in control, rooms, lack of local maintenance records for safety systems, and reliance on respirators in the absence of backup ventilation.
- **SEA/SH:** Although no SEA/SH incidents were reported during the rapid audit, underground transport environments inherently present heightened SEA/SH and security risks, particularly during station closures or phased construction works.
- **Hazardous Materials:** Given the age of many of the Green Line stations (some dating to the 1960s), there is a credible legacy risk of asbestos-containing materials (ACMs) and other hazardous substances within structural elements, insulation, piping, electrical systems, and old equipment. No asbestos

documentation or prior surveys were available at station level during the rapid audit. Additionally, modernization works may generate or expose hazardous materials such as:

- asbestos insulation or fireproofing.
- mercury-containing fluorescent lamps.
- oils, lubricants, and electrical equipment with residual contaminants.
- historical hydrocarbon residues or other underground contamination.

Overall, the baseline for the Green Line stations indicates that while firefighting equipment and CCTV systems are broadly functional, emergency preparedness, evacuation systems, flood resilience, accessibility, and documentation practices are inconsistent and below international good practice.

All these issues must be addressed as part of the planned modernization works.

3.2. Modernization Issues

In terms of the proposed modernization works, there will be significant environmental and social benefits, through improvements to access, fire safety and ventilation. During the actual works there will however be a range of negative risks and impacts, which are summarized as follows:

Closure, or partial closure of stations – Works may necessitate the full or partial closure of stations. Full closure will result in significant impacts to metro users in the surrounding communities but does have benefits in terms of health and safety of the public, i.e., preventing passenger access during construction. Partial closure may allow some restricted movements within the station but increases the potential for accidents involving metro users, particularly given underground works in confined spaces. To manage these risks, detailed health and safety management plans will be required, supported by a comprehensive alternative transport plan (e.g., shuttle services, rerouting to adjacent stations, temporary bus links). In addition, a clear communication strategy—including advanced notice, station and neighborhood signage, real-time updates, and multi-channel public information—must be implemented. All communication and engagement activities should be carried out in line with the Stakeholder Engagement Plan (SEP) to ensure early notification, participation of affected communities, and consistent messaging throughout the construction period.

Generation of waste – Generally this will comprise inert wastes, concrete, wood, metal, etc. But there may also be the possibility of hazardous materials in the form of asbestos (to be removed) and well as oils and solvents and mercury containing lightbulbs which will be used during the modernization works. Extension of stations may also generate a limited amount of spoil material which would need to be removed from the tunnels using existing entrances/exits. Detailed management plans need to be in place during the modernization phase, as well as a pre-work asbestos audit.

Worker health and safety – Working underground in confined spaces, possibly including some minor excavation works presents a significant health and safety risk. Detailed OHS plans and procedures, such as emergency response plans, must be prepared prior to the start of works. Further, as noted above a strong team of health and safety supervisors will be needed to implement plans.

Vibration – It is possible that station extension works to accommodate an additional wagon may require removal of rock and soil. Significant vibration could be generated depending on the excavation method and this may impact upon above ground structures where tunnels are at a shallow depth. Potential vibration impacts must be examined further during the design phase of the activity.

Land acquisition and Involuntary Resettlement – It is not expected that works under this activity will trigger the requirement for land acquisition and voluntary resettlement. However, this issue will be assessed further during the preparation of preliminary project designs.

Gender - Gender-related impacts will also need to be considered during the modernization works. Women may be disproportionately affected by temporary station closures, altered travel routes, and reduced lighting or visibility during construction, which can heighten perceptions of insecurity. Construction-related worker presence may also increase risks of sexual harassment if not properly managed. The detailed ES Assessment should therefore evaluate gender-specific mobility patterns, safety concerns, and access constraints, and ensure that the ESMP includes measures such as improved lighting, clear signage, gender-sensitive grievance mechanisms, codes of conduct for workers, and engagement with women metro users consistent with the SEP. Modernization also presents opportunities to enhance station accessibility, safety, and usability for women and other vulnerable groups.

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4 Conclusions and Next Steps

4.1. General

This initial audit has identified several health and safety risks at the ten stations visited. Further, a range of environmental and health and safety risks and impacts have been identified that may occur during the construction phase of the activity. Accordingly, given these risks and impacts, it is recommended that an additional detailed audit of the ten stations is completed along with an Environmental and Social Management Plan (ESMP). The audit will follow-up in detail on all the items raised in this initial audit and propose corrective actions where needed. The ESMP will include these corrective actions as well the actions needed in the construction phase to ensure risks and impacts are managed in line with AIIB and Azerbaijan standards and regulations as well as good industry international practice. A full terms of reference for this activity is included in Annex A.

4.2. High Risk Stations

Recently constructed/renovated stations (Darnagul, Nizami, Khatai) have lower structural and maintenance risks, but still share the systemic safety issues identified (padlocked exits, locked lifts, variable emergency lighting, no flood-control equipment). Stations without renovation history should be considered higher risk overall due to aging infrastructure combined with the same unresolved OHS/CHS concerns.

Using key risk factors such as depth, number of exits, evacuation constraints, emergency systems condition, PWD access, flooding vulnerability, and passenger volume, the highest-risk stations are those combining great depth, limited exits, and high passenger exposure.

- High-risk stations: Khatai (49.8 m), Elmlar Akademiyasi (45 m), Nizami (29.93 m) - all deep-level stations where evacuation time would be significantly prolonged.
- Moderate-risk stations: 20 Yanvar, Memar Ajami, and Azadliq Prospekti – low-moderate depth but very high passenger volumes, making crowd control, emergency routing, and turnstile constraints critical.
- Lower-risk stations: Darnagul, Jafar Jabbarli, Insaatcilar – moderate or relatively shallow stations with lower passenger volume, reducing evacuation time and exposure.

Overall, despite differences in depth and renovation status, all stations require improvements in emergency evacuation readiness and accessibility, with deep and high-volume stations needing priority attention.

4.3. Immediate Corrective Measures (to be implemented without waiting for the detailed assessment)

Although the full ES Assessment and engineering evaluations are still required, several critical safety and accessibility issues identified during the rapid audit warrant immediate action to reduce risk to passengers and workers:

- Unlock and secure emergency exits between platforms and tunnels to ensure they can be used without delay during an emergency.
- Restore and operationalize SOS/emergency communication phones on platforms, ensuring they are functional, visible, and regularly tested.
- Improve visibility of emergency signage, including replacing non-illuminated signs or repositioning signage obstructed or poorly located.

- Stop the use of escalators as evacuation routes and update station SOPs to align with GIIP until formal engineering assessments confirm suitability (unlikely).
- Enhance soundproofing or improve alarm audibility in control rooms where alarms could not be reliably heard.
- Unlock lifts where safe to do so, or install temporary signage indicating alternative accessible arrangements.
- Implement basic flood-preparedness checks, including verifying drain functionality and ensuring staff awareness of unmanaged flood risks.
- These measures do not require detailed engineering designs and can be undertaken immediately by station management to enhance baseline safety.

4.4. Next Steps

The following activities should be initiated by Baku Metro and the PIU to progress toward a full ES Assessment and ESMP:

1. Commission the detailed Environmental and Social Assessment, including specialist studies where needed.
2. Undertake engineering inspections, including structural integrity assessments, ventilation and electrical system reviews, and fire-life-safety performance testing.
3. Develop a project-specific Stakeholder Engagement Plan (SEP) update, particularly addressing communication needs associated with construction-phase station closures.
4. Prepare the Environmental and Social Action Plan (ESAP) based on identified gaps.
5. Initiate procurement planning for contractors, incorporating OHS, SEA/SH, labour management, and hazardous materials requirements.

4.5. Key Areas of Focus for the Detailed ES Assessment

The detailed Environmental and Social Assessment should prioritize the following technical, safety, environmental, and operational areas identified during the rapid audit. These elements will be central to developing a comprehensive ESMP aligned with AIIB requirements and good international practice.

Fire & Life Safety and Emergency Preparedness

- Conduct a full evaluation of fire detection, alarm, suppression, smoke extraction, emergency lighting, and evacuation systems.
- Update station-level Standard Operating Procedures (SOPs) to reflect GIIP, including the requirement that escalators are not used as evacuation routes unless specifically engineered for such use.
- Train station staff on updated evacuation procedures, including alternative egress routes, roles, communication protocols, and emergency response coordination.
- Require functionality checks of all emergency systems—including alarms, exit signage, emergency lighting, and turnstile fail-safe operations—during the detailed assessment.
- Require all stations to maintain simplified station-level logbooks documenting emergency equipment tests, maintenance checks, and corrective actions, improving day-to-day operational oversight.

Accessibility and Universal Design

- Evaluate compliance with accessibility standards through a detailed accessibility audit, including:
    - elevator operability and fail-safe access,

  - functional SOS/emergency phones,
  - tactile paving and routing for visually impaired passengers,
  - accessible signage and wayfinding,
  - independent access to platforms and trains.

- Conduct functionality checks during the detailed ES assessment to ensure all accessibility features operate correctly.
- Incorporate universal design principles into modernization works, ensuring barrier-free access for persons with disabilities and other vulnerable users.

Asbestos, Hazardous Materials, and Waste Management

- Conduct a comprehensive asbestos survey during the detailed design phase / ES assessment, identifying all ACMs in stations, tunnels, equipment, and structural elements.
- Prepare a hazardous materials inventory, including mercury lamps, oils/lubricants, legacy contaminants, fireproofing materials, and historical waste residues.
- Integrate hazardous materials handling, removal, transport, and disposal procedures into the ESMP and contractor OHS requirements.

Structural Integrity

- Undertake engineering inspections to evaluate aging-related deterioration, concrete spalling, corrosion of reinforcement, tunnel deformation, waterproofing failure, and platform/ceiling condition.
- Identify structural repairs or stabilization measures required before or during modernization works.

Flood Vulnerability and Climate Resilience

- Conduct a flood vulnerability assessment, examining drainage capacity, water ingress pathways, sump pump needs, and historical flooding data.
- Incorporate climate adaptation measures—such as improved drainage, back-up power, waterproofing upgrades, or flood barriers—into the ESMP to enhance long-term resilience.

Air Quality, Ventilation, and Microclimate

- Perform baseline air quality monitoring during the detailed ES assessment, including particulate matter, CO_2, temperature, humidity, and ventilation performance.
- Assess adequacy of ventilation and cooling systems relative to expected passenger loads and microclimate conditions.

Noise and Worker Welfare

- Conduct noise measurements in control rooms and other high-noise areas to evaluate worker exposure.
- Where noise levels impede alarm audibility or exceed occupational limits, recommend acoustic insulation, dampening materials, or layout adjustments.

OHS and Labour Conditions

- Review worker welfare, shift structure, emergency preparedness, PPE use, and contractor management systems.
- Evaluate SEA/SH risks and ensure appropriate codes of conduct, worker training, and grievance mechanisms.

Community Health, Safety, and Engagement

- Assess implications of station closures and phased construction on community safety and mobility.
- Ensure the ESMP incorporates:
    - alternative transport planning,
    - clear communication and signage strategies,
    - SEP-consistent community engagement measures.

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Annex A - Scope of Work for Audit and ESMP

Background

This Annex describes the scope of work of an Environmental and Social Assessment for a generic infrastructure project categorised B in accordance with AIIB's Environmental and Social Policy (ESP, 2019).

Project Description

The Project is part of a broader programme aiming to assist Baku City in reforming its management of public transport by financing the renewal of bus and metro systems, and network restructuring. The operation will improve the reliability, safety and efficiency of public transport in Baku. Full details of the Project are provided in the ToR.

It is understood that the Project may be subject to local environmental impact assessment (EIA) with associated public consultation and public disclosure in accordance with local/national legal and permitting requirements.

The Project is categorised "B" in accordance with the AIIB ESP. The Consultant will be required to confirm project categorization based on the analysis of additional information obtained through ESDD and FS. Should the sub-project be categorized as A and require development of the full international ESIA in line with AIIB ESP, this will be included into a separate ToR.

The Bank therefore wishes to engage a consultant (the "Consultant") to carry out an Environmental and Social (E&S) Assessment of both the Project and the Client's existing operations.

Applicable Requirements

The E&S Assessment is to be carried out in accordance with:

- Applicable local, national and regional requirements, including those related with environmental and social impact assessments;
- The AIIB's ESP (2019) (and the incorporated Performance Requirements (PRs));
- Relevant international conventions and protocols relating to environmental and social issues, as transposed into national legislation

Objectives of the E&S Assessment

The objective of this assignment is to undertake an Environmental and Social (E&S) Audit and forward-looking Assessment of the Project to: (i) identify gaps against Azerbaijani legislation, AIIB's ESP (2019), the Environmental and Social Exclusion List, and the IFC/World Bank Environmental, Health and Safety (EHS) Guidelines; (ii) assess legacy risks; and (iii) prepare a time-bound Environmental and Social Action Plan (ESAP).

The assessment process will be commensurate with, and proportional to, the potential impacts and issues of the Project and the Client's existing operations. The assessment will cover, in an integrated way, all relevant direct and indirect environmental and social impacts and issues of the Client's operations, the Project and the relevant stages of the project cycle (e.g. pre-construction, construction, operation, and decommissioning or closure and reinstatement).

The Environmental and Social Assessment will also determine whether further studies are required, focusing on specific risks and impacts, such as asbestos removal, climate change, human rights and / or gender.

The Environmental and Social Audit is required to assess the Client's current operations in terms of compliance with national legislation, national or local permitting requirements, the relevant provisions of the AIIB Environmental and Social Policy (ESP, 2019) and Environmental and Social Standards (ESS 1–3). Further, the audit must review possible historical environmental and social issues, such as potential contamination of soil and/or groundwater, the use of asbestos lining in tunnels or land acquisition disputes.

Scope of Work

Each of the ten stations will require its own station-specific Environmental and Social (ES) Assessment and station-specific Environmental and Social Management Plan (ESMP). These station-level assessments shall identify unique risks, legacy issues, accessibility constraints, structural and fire-life-safety conditions, and operational challenges for each station.

The following station-specific technical studies are mandatory requirements and shall be incorporated into the ES Assessment and ESMP for each station:

- Accessibility Audit, including universal access review, tactile guidance, elevator operability, platform access, passenger flow constraints, and compliance with universal design principles.
- Asbestos Survey, identifying all asbestos-containing materials (ACMs) and other hazardous building materials in stations, tunnels, mechanical systems, and structural elements.
- Hazardous Materials Inventory, including mercury lamps, oils, lubricants, legacy contaminants, and waste management practices.
- Flood Risk Assessment, including drainage capacity, water ingress pathways, flood history, and the need for climate adaptation measures.
- Fire and Life Safety Audit, assessing evacuation routes, smoke extraction, alarms, emergency lighting, fire suppression, turnstile fail-safe modes, and compliance with GIIP.
- Structural Integrity Screening, identifying deterioration of structural components due to station age.

These studies shall inform both the engineering design process and the ESMP, and are prerequisites for finalizing modernization plans.

Further, the Consultant will:

- Confirm Project categorization
- Identify existing and Project-related environmental and social impacts and risks;
- Describe and characterise a relevant environmental and social baseline commensurate with the risks posed by the current site operations and the Project;
- Develop a draft E&S Assessment report in accordance with the Bank's requirements as defined in the ESP, including a Compliance Summary table with the Bank's PRs;
- Prepare a draft ESAP and draft Non-Technical Summary (NTS);

- Identify if any additional studies will be required to cover relevant aspects in greater detail (eg. biodiversity, resettlement, retrenchment, gender, etc.). (Any such work will be commissioned under separate Terms of Reference); and,
- Finalise all documentation further to the AIIB, other lenders' (if involved) and Client's comments.

TASK 1: Review of Available Data and Site Visit

The Consultant will review the following studies and baseline data available from the Client:

- Identify and assess relevant regional and strategic environmental and social assessments or studies that affect the Project. Where regional or strategic assessments or studies are identified and assessed, these will be included in the summary of due diligence undertaken, including the NTS.
- Complete a media search about the Project, Client, sector, country, etc. to determine the extent to which there has been relevant news coverage and, if so, whether any of the issues will require additional verification during the initial review and site visit. If no relevant issues are identified through this process the Consultant will include a statement to this effect within its results.

Data and documentation are in English and Azerbaijan This list is not exhaustive and the Consultant must be prepared to review, and also request, further documentation that does not appear above.

Following the review of available data, the Consultant will visit the site, to obtain any supplemental information needed to complete the E&S Assessment and carry out the on-site activities necessary to fulfil the E&S Audit reporting requirements.

Following completion of the data review and site visit the Consultant will deliver a summary of key findings.

TASK 2A: Environmental and Social Assessment

Environmental and Social Assessment

Project Description and Associated Facilities

The Consultant will prepare a description of the Project, including details of alternatives considered, the scope of rehabilitation and modernization at the 10 existing metro stations, and any associated facilities. In line with AIIB's ESP (2019) and Environmental and Social Standard (ESS) 1, the Consultant will also identify:

- Relevant associated activities or facilities that, while not part of the Project, may be directly or indirectly influenced by it or could pose risks to the Project.
- Cumulative impacts in combination with other past, present, or reasonably foreseeable developments.
- Unplanned but predictable activities enabled by the Project at later stages or different locations.
- Environmental and social risks linked to primary supply chains essential to the Project's operations.

Analysis of Legal and Institutional Requirements

The Consultant will identify applicable national and local environmental and social laws, regulations, and permitting requirements, including obligations under international conventions. These will be benchmarked against AIIB's ESP (2019) and its three ESS (ESS 1–3). The analysis will be presented as a gap analysis in tabular format, structured by AIIB requirements.

- For land acquisition and resettlement, the Consultant will confirm whether Resettlement Plans (RPs) or a Land Acquisition and Resettlement Policy Framework (LARPF) exist, assess their consistency with AIIB ESS 2, and identify corrective actions.

- For Indigenous Peoples, the Consultant will confirm applicability of AIIB ESS 3.
- The Consultant will review the compliance status of the Project with all relevant permits and authorizations.

Baseline Environmental and Social Conditions

The Assessment will summarize the physical, biological, and socio-economic environment in the Project's area of influence, drawing on available ESIA and screening data. This will cover:

- Physical environment (air quality, soils/groundwater, hydrology, noise and vibration).
- Biological environment (biodiversity, habitats, protected areas if relevant).
- Socio-economic environment (land use, cultural heritage, labor conditions, vulnerable groups, gender aspects, and community health and safety).

The baseline will describe inter-relationships, vulnerabilities, and resilience to natural and human-induced hazards.

Assessment of Potential Risks, Impacts, and Opportunities

The Consultant will assess the likely environmental and social risks and impacts of the Project, as well as potential benefits. The analysis will:

- Cover all phases of the Project: pre-construction, construction, operation/maintenance, and eventual closure or decommissioning.
- Identify adverse impacts (e.g., dust, noise, vibration, waste, worker influx, traffic safety, OHS, land acquisition/legacy issues) and beneficial impacts (e.g., improved accessibility, safety, air quality).
- Consider cumulative and residual impacts where applicable.
- Be commensurate with the magnitude and significance of the identified issues.

Management of Impacts and Issues

For each adverse impact or risk, the Consultant will propose feasible measures to avoid, minimize, mitigate, or compensate. Recommendations will align with Good International Industry Practice (GIIP) and be integrated into the draft ESAP.

All assessments and resulting ESMP actions shall be aligned with universal access design requirements, ensuring barrier-free movement, inclusive infrastructure, and equitable access for persons with disabilities, women, elderly passengers, and other vulnerable groups.

AIIB ESP Compliance Assessment

The Consultant will prepare a compliance table benchmarking the Project against AIIB's ESP (2019) and ESSs, identifying gaps, and specifying corrective actions. This table will form the basis for the ESAP.

Task 2B: Environmental and Social Audit

The Consultant will conduct an E&S Audit of the existing metro stations to identify legacy issues and assess the extent to which current operations align with national laws, AIIB's ESP (2019), and applicable ESSs. The Audit will:

- Review the Project's compliance with environmental permits, licenses, and authorizations, including reporting and monitoring obligations.

- Assess land acquisition and resettlement processes already undertaken, identify any outstanding grievances or unresolved cases, and determine alignment with ESS 2.
- Evaluate the organizational capacity of the Project entity, including staffing, roles, and procedures for managing environmental, social, labour, and OHS risks.
- Review the management of hazardous materials, including storage and disposal of fuels, oils, lubricants, asbestos, and other substances that may pose risks to workers, communities, or the environment. Prepare inventory of hazardous waste streams
- Review accident and incident records, including rates of industrial disease and injuries, and assess OHS procedures, emergency preparedness measures, and worker training.
- Assess labour and working conditions, including contracts, grievance management systems, non-discrimination, and protection against child and forced labour, with attention to gender and GBVH.
- Review supply chain risks, including procurement practices and whether supplier screening and monitoring address risks of child labour, forced labour, unsafe working conditions, and environmental non-compliance.
- Review past liabilities and unresolved legacy issues, such as historical contamination, unsafe infrastructure, or other environmental or social risks associated with previous activities at the stations.
- Assess public responsiveness, including how past grievances have been received and managed, the effectiveness of community engagement, and the visibility and accessibility of grievance mechanisms for affected stakeholders.
- Review community health and safety issues associated with past or ongoing operations, including traffic safety, access, and exposure to noise, dust, or vibration.
- Review of existing air quality data.
- Review of energy usage and energy efficiency.
- Conduct a SEA/SH (Sexual Exploitation, Abuse, and Sexual Harassment) risk screening for both existing operations and the proposed modernization works. This shall include assessment of station environments, staffing conditions, contractor presence, worker–community interaction, adequacy of grievance mechanisms, lighting and visibility in public areas, and safety considerations for women and vulnerable users. Based on screening results, recommend appropriate mitigation measures, which may include: codes of conduct, worker training, supervision protocols, safe reporting channels, community awareness, and improvements to station layout or lighting.
- Review of current evacuation procedures and require Baku Metro to update its Standard Operating Procedures (SOPs) to align with GIIP, ensuring escalators are not used as evacuation routes except where specifically engineered and certified for emergency egress (which is not the case at present). The assessment should also recommend:

    1. Training programs for station staff on appropriate evacuation methods and alternative egress routes;
    2. Clear station-level evacuation diagrams showing compliant routes;
    3. Regular emergency drills structured to reflect updated SOPs; and
    4. Documentation and evaluation of drill performance, including evacuation timing and lessons learned.

The Audit will identify non-compliances, gaps, and legacy risks, and recommend corrective measures to be incorporated into the ESAP.

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TASK 3: Reporting

Upon completion of Tasks 1 and 2, the Consultant shall prepare the following reports of the assessment findings.

Summary of Key Findings

Following the data review and site visit, the Consultant will deliver a Summary of Key Findings to present the initial issues identified. This report will summarize key risks and gaps and, where necessary, highlight the need for any additional studies (e.g., resettlement, livelihood, retrenchment, biodiversity, cultural heritage). The document may be delivered by email or in presentation format.

E&S Audit and Assessment Report

The Consultant will provide a concise but comprehensive report of the overall E&S Audit and Assessment.

Environmental and Social Action Plan (ESAP)

The Consultant shall prepare a project-specific ESAP to address issues identified during the Audit and Assessment. The ESAP will:

- Focus on measures needed to bring the operations into compliance with AIIB ESP/ESS requirements.
- Be presented in a matrix format, sequenced by priority, with each action numbered, clearly defined, time-bound, and assigned to a responsible party.
- Identify those actions that must be completed prior to financial close, where relevant.
- Include criteria for closure/verification of each action.
- Note any material budget implications (to be shared with the Client but not necessarily disclosed).

Where applicable, the Consultant will review existing corporate-level ESAPs previously developed with the Client and update them with project-specific action items. The ESAP will remain a concise document, with any supporting detail included in referenced sub-plans.

Non-Technical Summary (NTS)

The Consultant will prepare, in consultation with the Client, a concise, over-arching, standalone NTS. The NTS will be written in non-technical language and the Consultant will ensure that the NTS can be used to demonstrate compliance with the AIIB requirements and provide confirmation that the documents are ready for public disclosure.

Vista Environment

APPENDIX 1

SAMPLE REPORT FORMAT FOR AN E&S AUDIT AND ASSESSMENT REPORT

Note: The following is an indicative list of issues for possible inclusion in an E&S Audit and Assessment report. The Consultant is expected to use its professional judgement to determine what issues (either listed below or additional) are relevant to the Project. Issues which are not relevant to this project should be covered by a short statement that they have been considered but do not apply in this case.

Executive Summary

A concise summary description of the Project, its rationale, the existing operations and overall setting, significant environmental and social impacts, recommended mitigation and enhancement measures, monitoring proposals, and the extent of the Client's commitment to these recommendations and proposals.

1 | Project Description

Precise description of the Project within its geographical, environmental and socio-economic context. This should include information on whether and how the Project is part of a wider development plan/programme. A systematic comparison of feasible alternatives to the project in terms of location, project technology or design in terms of potential environmental and social impacts. This should include the 'do-nothing' option.

2 | Legal Requirements

Outline of the policy, legal, and administrative framework relevant to the Project, summarising applicable national and local environmental and social requirements, as well as international obligations adopted by the host country. The section should also identify applicable requirements of the AIIB ESP (2019) and outline the process and timeframe for public consultation, project appraisal, and implementation.

- Applicable AIIB ESP (2019).
- Host country regulatory framework, including permitting processes.
- Relevant regional and international treaties and conventions.
- Approach to benchmarking.

3 | Baseline Conditions

A description of relevant aspects of the physical and natural environment and socio-economic conditions in areas affected by the existing operations and the Project to include, inter alia:

- Air emissions and noise
- Biological and ecological resources (fauna, flora, biodiversity, protected species, critical habitats, ecosystems)
- Climatic factors and climate change (e.g. greenhouse gas emissions, including from land use, land use change and forestry, and sectors of population more affected by climate change)
- Cultural heritage, including architectural and archaeological heritage
- Energy usage

- Geomorphology and geology;
- Land (past and current use, permanent or temporary acquisition)
- Land use patterns
- Landscape and visual aspects; and,
- Material assets
- Mitigation potential and impacts relevant to adaptation;
- Other social issues: community, settlement patterns and residential properties, vulnerable groups
- Public and / or site specific transportation system
- Socio-economic status of the population (disaggregated by gender, age, ethnicity, and other social characteristics)
- Soil (organic matter, erosion, compaction, sealing)
- Stakeholder engagement practices
- Supply chain
- Water (accessibility, quantity and quality, surface and groundwater) and waste water management;
- Worker and public health and safety

4 | Potential Impacts

Identification of the potential environmental and social impacts that could be associated with the existing operations and the Project, including those of an indirect and cumulative nature. Impacts which are unlikely to arise or be insignificant should be recorded, together with the rationale for why they are considered to be unlikely or insignificant. Potential impacts must be considered at the following levels:

- Local impacts
- National impacts
- Regional/Global impacts

5 | Characterisation of Impacts and Opportunities

Identification and characterisation of positive and negative environmental and social impacts in terms of magnitude, significance, reversibility, extent and duration. The possibility for cumulative impacts is to be considered. Quantitative data must be employed to the greatest extent possible. The chapter should also identify opportunities for environmental and social enhancement and identify key uncertainties and data gaps. Both the existing operations and the following Project stages must be considered in this evaluation where appropriate:

- Construction phase
- Operation and maintenance
- Closure and decommissioning
- Residual environmental and social impacts

6 | Management of Impacts and Issues

An outline of the feasible cost-effective measures to avoid, minimise, mitigate or compensate for environmental and social impacts to acceptable levels and address other environmental and social issues; such as the need for worker health and safety improvements, inter-agency coordination, community involvement, institutional strengthening or training within the executing agency/ governmental agencies/Client or at the community level. Additionally, an outline of any measures that would enhance environmental and social aspects within the area affected by the Project and the existing operations and characterisation of the nature of any residual environmental and social impacts or issues that have not been addressed. A description of the financial provisions for potential risks (for example escrow accounts and insurance cover to provide for inter alia abandonment and decommissioning, site remediation and oil spills and other emergencies). Both the existing operations and the following Project stages must be considered where appropriate:

- Construction
- Implementation and maintenance
- Closure and decommissioning
- Residual environmental and social impacts

7 | Monitoring and Supervision

A description of how environmental and social impacts and issues will be monitored and managed in practice; including an indication of how the Project will be supervised by lenders and governmental agencies. Estimates should be provided for capital expenditure and operation and maintenance costs where possible. The following stages must be considered where appropriate:

- Construction
- Implementation and maintenance
- Closure and decommissioning"

8 | Mitigation and Management Plan

A record of all measures required to address environmental and social impacts and issues as well as monitoring and supervisory activities associated with these should be consolidated in tabular form. This should also indicate institutional responsibilities, timeframes and associated costs.

Appendices

- Names of those responsible for preparing the E&S Assessment
- References and sources of information
- Records of public meetings and consultations held
- Supporting technical data
- AIIB Compliance Summary Table