



**ZHONGFU CONSTRUCTION ENGINEERING Co. Ltd.**

**The Ulaanbaatar Sustainable Urban Transport Project (USUTP):  
Construction of Selbe River Road  
CONTRACTOR'S ENVIRONMENTAL AND SOCIAL MANAGEMENT  
PLAN  
-Final Version**

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## **Abbreviations**

**BoQ** – Bill of Quantities

**C-ESMP** – Contractor’s Environmental and Social Management Plan

**Ca** – Calcium

**CLO** – Community Liaison Officer

**CO** – Carbon Monoxide

**Cr** – Chromium

**Cu** – Copper

**dB(A)** – A-weighted Decibel

**E&S** – Environmental and Social

**EHS** – Environment, Health and Safety

**EIA** – Environmental Impact Assessment

**EMP** – Environmental Management Plan

**ERP** – Emergency Response Plan

**ERAP**- Emergency Response Action Plan

**ESCAP** – Environmental and Social Code of Practice

**ESBA** – Environmental and Social Baseline Assessment

**ESF** – Environmental and Social Framework

**ESS** – Environmental and Social Standard

**GBV** – Gender-Based Violence

**Geo-index** – Geo-accumulation Index

**GRM** – Grievance Redress Mechanism

**HIV/AIDS** – Human Immunodeficiency Virus Infection and Acquired Immune Deficiency Syndrome

**IUCN** – International Union for Conservation of Nature

**K<sub>2</sub>O** – Potassium Oxide

**LMA** – Land Management Authority

**LMP** – Labor Management Plan

**Mg** – Magnesium

**MNS** – Mongolian National Standard(s)

**MUB** – Municipality of Ulaanbaatar

**NEMA** – National Emergency Management Agency

**Ni** – Nickel

**NO<sub>2</sub>** – Nitrite

**NGO** – Non-Governmental Organization

**OHS** – Occupational Health and Safety

**P<sub>2</sub>O<sub>5</sub>** – Phosphorus Pentoxide

**PAPs** – Project-Affected Persons

**Pb** – Lead

**PM<sub>10</sub>** – Particulate Matter (≤10 microns)

**PMO** – Project Management Office

**PPE** – Personal Protective Equipment

**PS** – Performance Standard

**RAP** – Resettlement Action Plan

**RDA** – Road Development Agency

**RoW** – Right of Way

**SEA** – Sexual Exploitation and Abuse

**SEP** – Stakeholder Engagement Plan

**SESO** – Site Environmental and Safety Officer

**SH** – Sexual Harassment

**SO<sub>2</sub>** – Sulphur Dioxide

**TMP** – Traffic Management Plan

**TSP** – Total Suspended Particulate

**UBED** – Ulaanbaatar Environmental Department

**USUT** – Ulaanbaatar Sustainable Urban Transport

**WB** – World Bank

**WMP** – Waste Management Plan

**WQI** – Water Quality Index

**Zn** – Zinc

**°C** – Degrees Celsius

**cm** – Centimeter

**dm<sup>2</sup>** – Square Decimeter

**dS/m** – DeciSiemens per Meter

**GJ** – Gigajoule

**hp** – Horsepower

**km** – Kilometer

**kW.h** – Kilowatt Hour

**m** – Meter

**m/s** – Meter per Second

**m<sup>2</sup>** – Square Meter

**m<sup>3</sup>/hr** – Cubic Meter per Hour

**m<sup>3</sup>/s** – Cubic Meter per Second

**mg-eq/100g** – Milligram Equivalent per 100 Gram

**mg/kg** – Milligram per Kilogram

**mg/m<sup>3</sup>** – Milligram per Cubic Meter

**mJ/cm<sup>2</sup>** – Millijoule per Square Centimeter

**mJ/m<sup>2</sup>** – Millijoule per Square Meter

**mm** – Millimeter

**MW.h** – Megawatt Hour

**pcs** – Pieces

**µg/m<sup>3</sup>** – Microgram per Cubic Meter

## 1. Project Information

### 1.1. Background

The Selbe River Road subproject is part of the Ulaanbaatar Sustainable Urban Transport Project (USUT), implemented by the Municipality of Ulaanbaatar (MUB) with support from the World Bank. The project aims to improve traffic flow, road safety, and climate resilience through the development of integrated and sustainable transport corridors in Ulaanbaatar City.



*Figure 1. Visualization of the Proposed Road Design*

As part of the USUT Component 1 (Integrated Corridor Development), the Selbe River Road represents one of two selected Type-2 corridors, alongside the Sun Road East Extension. The Type-2 classification refers to the construction of new road corridors to address urban transport bottlenecks and expand access to under-served areas.

The Selbe River Road subproject is a new road construction project with a total length of approximately 2.7 km, located in the 7th, 11th, 12th, and 13th khoroos of Sukhbaatar District, Ulaanbaatar, Mongolia. **Figure 2** presents the subproject map, sourced from the ESMP prepared during the design stage. The road is expected to serve as a key north-south corridor, improving connectivity and easing congestion in central Ulaanbaatar.

### 1.2. Contractor Details

The construction works for the Selbe River Road subproject will be carried out by Zhongfu Construction Engineering Co., Ltd, an international road construction company registered in China. The contractor is responsible for the full execution of works as per the contract drawings, technical specifications and environmental, and social requirements of the project.

### 1.3. Duration and Scope of Construction Work

Construction activities are scheduled to commence in July 2025 and are expected to be completed by October 2026. The indicated construction period is 480 calendar days. As the contractor for the Selbe River Road subproject, our work involves full-scale road construction

activities, beginning with greenfield conditions. The construction scope includes, but is not limited to, the following key tasks:

- Site preparation and earthworks, including clearing, excavation, embankment formation, and grading;
- Construction of the roadbed, including sub-base and base course layers to ensure pavement strength and stability;
- Paving with asphalt concrete to create a durable, all-weather surface suitable for high-traffic volumes;
- Stormwater drainage system construction, including culverts and side drains, to manage runoff and reduce flooding risk;
- Installation of pedestrian infrastructure, including sidewalks, crosswalks, and accessibility features for vulnerable users;
- Construction of intersections, with traffic signals and turning lanes where applicable;
- Utility relocation and protection, including power lines, communication cables, and water infrastructure;
- Installation of street lighting, road signs, and pavement markings for improved safety and visibility;
- Greening and landscaping measures to align with the project's climate resilience and livability goals.

The road will be designed and constructed based on Complete Street principles and the Safe Systems Approach, ensuring inclusive access and improved safety for all road users, including pedestrians, cyclists, public transport users, and private vehicle drivers.

This Contractor's Environmental and Social Management Plan (C-ESMP) outlines the measures that will be taken during the construction phase to mitigate potential environmental and social risks and impacts, ensure occupational health and safety, and comply with both national regulations and the World Bank Environmental and Social Framework (ESF).

The C-ESMP and its relevant appendices are living documents that will be updated as necessary, depending on the situation, associated risks, site conditions, and any incidents that occur. Further details on updates and revisions are provided in Section 15 of this plan.

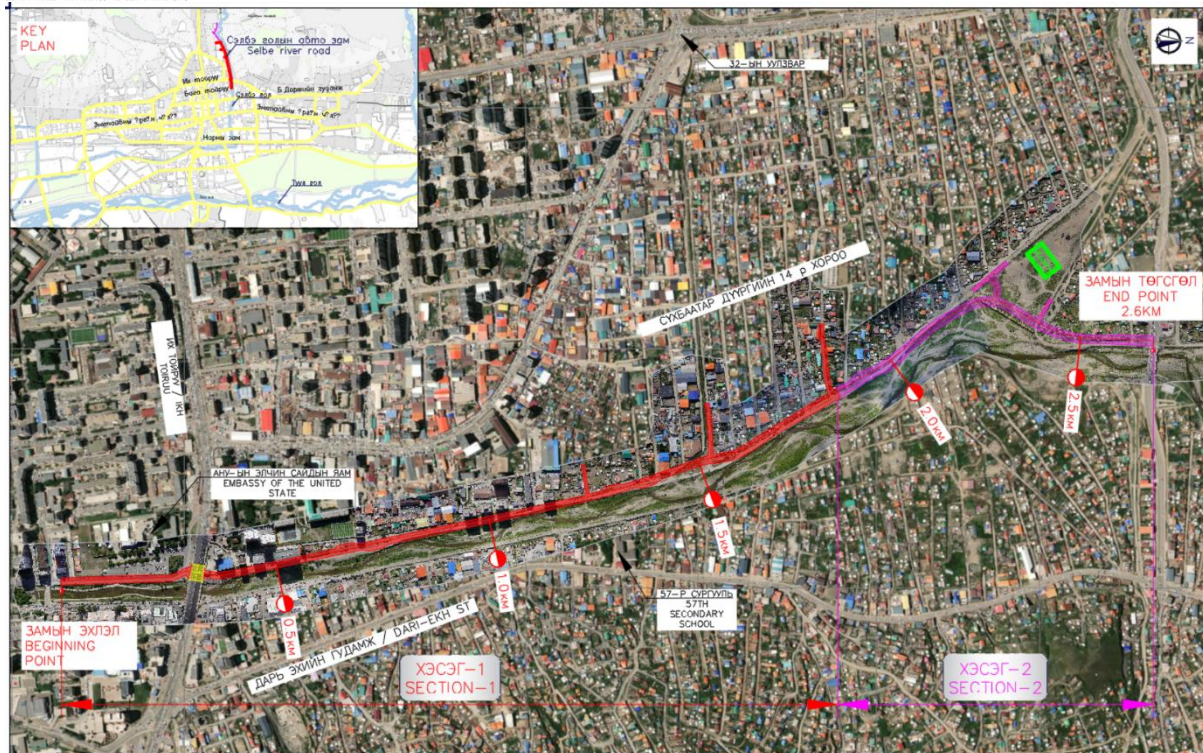


Figure 2. Project Road (Selbe River Road)

#### 1.4. Summary of Equipment, Machinery, and Workforce Planning

To support the implementation of road construction activities, preliminary planning for equipment, machinery, and workforce mobilization has been carried out in line with the initial construction schedule. A draft detailed Work Plan and Schedule for 2025 and 2026 is attached in the **Appendix 18**.

##### Plants and Material Production:

Two production plants are planned to be installed away from populated areas to minimize community disturbance:

- **Asphalt Concrete Plant** – 1 unit (200 tons/hour capacity)
  - **Cement-Crushed Stone Mixture Plant** – 1 unit (800 tons/hour capacity)
- Calibration and commissioning will be completed prior to use.

##### Equipment and Machinery:

An estimated **10 to 25 units** of equipment will be deployed monthly during the 2025 construction season. These estimates are based on preliminary planning and will be adjusted as needed based on the final construction program and work volume.

## Workforce Planning:

Workforce requirements are expected to range from **30 to 75 personnel per month** between July and November 2025. These figures will be refined and updated according to actual site progress and revised scheduling.

### Note:

All equipment, machinery, and labor deployment plans are **subject to revision** in coordination with the finalized work plan and actual site conditions. Any significant changes will be communicated to the Supervision Consultant, Employer and PMO for review and approval, and the C-ESMP will be updated accordingly.

*Table 1. Summary of Work Plan and Schedule*

| No.         | Work Item                                                        | Duration | Start Date                 | End Date                   |
|-------------|------------------------------------------------------------------|----------|----------------------------|----------------------------|
| <b>2025</b> |                                                                  |          |                            |                            |
| 1           | General (Mobilization, site office, camp, alignment setting out) | 7 days   | Thu, 17 Jul 2025 – 8:00 AM | Fri, 25 Jul 2025 – 5:00 PM |
| 2           | Clearing and Earthworks                                          | 74 days  | Sat, 26 Jul 2025 – 8:00 AM | Wed, 5 Nov 2025 – 5:00 PM  |
| 3           | Mechanically Stabilized Earth Wall (MSE Wall)                    | 72 days  | Sun, 10 Aug 2025 – 8:00 AM | Sat, 15 Nov 2025 – 5:00 PM |
| 4           | Retaining Walls                                                  | 42 days  | Mon, 4 Aug 2025 – 8:00 AM  | Tue, 30 Sep 2025 – 5:00 PM |
| 5           | Slope Protection                                                 | 59 days  | Fri, 22 Aug 2025 – 8:00 AM | Sat, 15 Nov 2025 – 5:00 PM |
| 6           | River Slope Protection                                           | 61 days  | Fri, 8 Aug 2025 – 8:00 AM  | Fri, 31 Oct 2025 – 5:00 PM |
| 7           | Drainage Structures                                              | 28 days  | Thu, 24 Jul 2025 – 8:00 AM | Sat, 30 Aug 2025 – 5:00 PM |
| 8           | Box Culverts                                                     | 29 days  | Wed, 23 Jul 2025 – 8:00 AM | Mon, 1 Sep 2025 – 5:00 PM  |
| 9           | Relocation of Engineering Networks                               | 56 days  | Wed, 23 Jul 2025 – 8:00 AM | Wed, 8 Oct 2025 – 5:00 PM  |
| <b>2026</b> |                                                                  |          |                            |                            |
| 10          | Earthworks                                                       | 11 days  | Tue, 7 Jul 2026 – 8:00 AM  | Tue, 21 Jul 2026 – 5:00 PM |
| 11          | Mechanically Stabilized Earth Wall (MSE Wall)                    | 31 days  | Mon, 20 Apr 2026 – 8:00 AM | Mon, 1 Jun 2026 – 5:00 PM  |
| 12          | Pavement Works                                                   | 104 days | Sun, 10 May 2026 – 8:00 AM | Wed, 30 Sep 2026 – 5:00 PM |
| 13          | Cycle Track Construction                                         | 34 days  | Wed, 5 Aug 2026 – 8:00 AM  | Sun, 20 Sep 2026 – 5:00 PM |
| 14          | Sidewalk Construction                                            | 36 days  | Mon, 29 Jun 2026 – 8:00 AM | Sat, 15 Aug 2026 – 5:00 PM |

|    |                                                              |         |                            |                            |
|----|--------------------------------------------------------------|---------|----------------------------|----------------------------|
| 15 | Service Road and Connector Road Construction                 | 30 days | Mon, 20 Jul 2026 – 8:00 AM | Fri, 28 Aug 2026 – 5:00 PM |
| 16 | Drainage Structures and Curb Installation                    | 34 days | Wed, 15 Apr 2026 – 8:00 AM | Mon, 1 Jun 2026 – 5:00 PM  |
| 17 | Rehabilitation Works                                         | 35 days | Tue, 1 Sep 2026 – 8:00 AM  | Mon, 19 Oct 2026 – 5:00 PM |
| 18 | Vegetation Works (Sidewalks and Green Areas)                 | 41 days | Sat, 5 Sep 2026 – 8:00 AM  | Fri, 30 Oct 2026 – 5:00 PM |
| 19 | Stair Installation (Sidewalk & River Access), Road Furniture | 22 days | Sat, 15 Aug 2026 – 8:00 AM | Fri, 30 Oct 2026 – 5:00 PM |
| 20 | Street Lighting Installation                                 | 38 days | Wed, 3 Jun 2026 – 8:00 AM  | Fri, 24 Jul 2026 – 5:00 PM |
| 21 | Traffic Signal Installation (Wiring and Equipment)           | 22 days | Sat, 15 Aug 2026 – 8:00 AM | Mon, 14 Sep 2026 – 5:00 PM |

### 1.5. Equipment and machinery planning

#### Plants:

A total of two (2) plants will be installed for material production. These will be located away from population centers, and calibration of the plants will be carried out prior to operation.

- **Asphalt Concrete Plant:** 1 unit (capacity: 200 tons/hour)
- **Cement-Crushed Stone Mixture Plant:** 1 unit (capacity: 800 tons/hour)

#### Equipment and Machinery:

Equipment and machinery represent the main workforce in road construction. The required quantities are planned monthly based on the construction schedule and volume of work. During the 2025 road construction season, between 10 and 25 units of machinery and equipment will be in operation.

*Table 2. Monthly Equipment Planning for 2025*

| Month                     | Jul (VII) | Aug (VIII) | Sep (IX) | Oct (X)  | Nov (XI) |
|---------------------------|-----------|------------|----------|----------|----------|
| Number of Equipment Units | 10 units  | 20 units   | 25 units | 20 units | 10 units |

### 1.6. Workforce planning

Workforce planning varies by month according to the project's construction schedule. The table below shows the planned number of workers from **July to November 2025**.

*Table 3. Monthly Workforce Planning for 2025*

| Month             | Jul (VII)  | Aug (VIII) | Sep (IX)   | Oct (X)    | Nov (XI)   |
|-------------------|------------|------------|------------|------------|------------|
| Number of Workers | 50 workers | 60 workers | 75 workers | 65 workers | 30 workers |

## 1.7. Structure of the C-ESMP and Interlinkage of Sub-Plans

The Contractor's Environmental and Social Management Plan (C-ESMP) is a comprehensive tool that guides the contractor in managing environmental and social (E&S) risks and obligations across the project lifecycle. The C-ESMP aligns with Mongolian national regulations and the World Bank's Environmental and Social Framework (ESF), including the Environmental and Social Standards (ESSs).

The plan is structured into two integrated parts:

- **Main Sections (Sections 1–15):** These cover project context, legal compliance, roles and responsibilities, mitigation strategies, monitoring, reporting, emergency planning, grievance management, and revision procedures.
- **Appendices:** These contain technical sub-plans and procedures that operationalize the commitments described in the main plan.

*Table 4. Core Structure and Section Linkages*

| Section                                              | Purpose                                                                                                            | Key Sub-Plans Linked from Appendices |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Sections 1–3: Baseline and Legal Context             | Introduces the project, E&S baseline, overall implementation schedule and applicable national and WB requirements. | Appendices 9, 10, 18                 |
| Sections 4–5: Roles and Mitigation Measures          | Defines institutional roles and phased mitigation during pre-construction, construction, and operation.            | Appendices 1–5, 12, 12.1, 12.2       |
| Sections 6–7: Monitoring and Reporting               | Describes monitoring indicators, frequency, methods, and reporting formats.                                        | Appendices 13, 14, 16                |
| Section 8: Training and Capacity Building            | Describes environmental and OHS training, induction, and awareness programs.                                       | Appendices 2.1, 7.1, 15              |
| Sections 9–10: Stakeholder Engagement and GRM        | Describes engagement strategies and grievance redress for workers and the public.                                  | Appendices 6, 10                     |
| Sections 11–12: Emergency and Traffic Management     | Covers ERP, COVID-19 response, first aid, and traffic/pedestrian safety.                                           | Appendices 3, 7, 7.1, 7.2            |
| Section 13: Waste and Hazardous Materials Management | Defines waste management hierarchy, disposal procedures, and documentation.                                        | Appendices 4, 5, 8                   |
| Section 14: Budget                                   | Summarizes costs of implementing mitigation and monitoring measures.                                               | Informed by all appendices           |
| Section 15: C-ESMP Updates and Revisions             | Outlines triggers, procedures, and records for revising the C-ESMP during implementation.                          | Version History Table                |

*Table 5: Appendices – Sub-Plan Interlinkages*

| Appendix      | Title                                                      | Linked Sections       | Purpose                                         |
|---------------|------------------------------------------------------------|-----------------------|-------------------------------------------------|
| Appendix 1    | Chance Find Procedure                                      | Sections 5.1, 11      | Cultural heritage protection during excavation. |
| Appendix 2    | Labor Management Procedure (LMP)                           | Sections 3.2, 5.1, 10 | Worker rights, conditions, and GRM.             |
| Appendix 2.1  | Internal LMP / ХАБЭА журам                                 | Sections 4, 8, 11     | OHS training and SOPs.                          |
| Appendix 3    | Traffic Management Plan (TMP)                              | Sections 5.2, 9, 12   | Traffic and pedestrian safety.                  |
| Appendix 4    | Environmental and Social Code of Practice (ESCAP)          | Sections 5, 7, 13     | General E&S good practice.                      |
| Appendix 5    | Camp Management Plan                                       | Sections 5.1, 13      | Worker accommodation and hygiene.               |
| Appendix 6    | Complaint Submission Form                                  | Sections 9–10         | Template for GRM system.                        |
| Appendix 7    | Emergency Response Action Plan                             | Section 11            | Emergency contact, response forms.              |
| Appendix 7.1  | First Aid Plan                                             | Sections 4, 11        | First aid equipment and response team.          |
| Appendix 7.2  | Internal ERP / Онцгой нөхцөлд ажиллах журам                | Section 11            | Contractor's ERP SOP.                           |
| Appendix 8    | Waste Disposal & Registration Forms                        | Section 13            | Waste handling records.                         |
| Appendix 9    | Photos of Trees Affected                                   | Sections 2.1, 5.2     | Baseline for landscaping.                       |
| Appendix 10   | Photos of Buildings & Services                             | Sections 2.2, 5.2, 9  | Visual E&S documentation.                       |
| Appendix 11   | Organizational Structure                                   | Section 4             | Roles and responsibilities chart.               |
| Appendix 12   | Topsoil Removal, Storage, and Reuse Plan                   | Sections 5.1, 5.2     | Soil conservation and reuse.                    |
| Appendix 12.1 | Contractor Topsoil Procedure / Өнгөн хөрстэй ажиллах журам | Sections 4, 5.2       | Topsoil SOP.                                    |
| Appendix 12.2 | Land Disturbance Procedure / Газар хөндөх журам            | Section 5.2           | Managing surface disturbance.                   |
| Appendix 13   | Drinking Water Quality Monitoring Plan                     | Section 6             | Worker health and sanitation.                   |
| Appendix 14   | Construction Dust, Noise, Vibration Plan                   | Sections 5.2, 6       | Observation-based monitoring methods.           |

|             |                                                   |                     |                                                                           |
|-------------|---------------------------------------------------|---------------------|---------------------------------------------------------------------------|
| Appendix 15 | Contractor's Training Plan                        | Section 8           | Training matrix, schedule, and content.                                   |
| Appendix 16 | Environmental Monitoring Daily Checklist          | Section 6, 14       | Daily implementation tracking.                                            |
| Appendix 17 | Environmental Landscaping and Rehabilitation Plan | Sections 5.2, 6, 13 | Ecological and visual restoration measures.                               |
| Appendix 18 | Work Plan and Schedule for 2025 and 2026          | Section 1           | Detailed timeline and sequencing of project activities for 2025 and 2026. |

## 2. Summary of Environmental and Social Baseline

This section provides a summary of the environmental and social baseline conditions for the Selbe River Road subproject area, located in the 7th, 11th, 12th, and 13th khoroos of Sukhbaatar District, Ulaanbaatar City. The baseline information presented here is based on the Environmental and Social Baseline Assessment (ESBA) developed during the design phase, as part of the Environmental and Social Management Plan (ESMP) prepared by the Consultant – CTI Engineering International.

The design-stage ESBA included documentation and analysis of environmental parameters such as topography, geology, climate, air and water quality, noise, soil characteristics, vegetation, and fauna. It also assessed the hydrological setting, including stormwater behavior and drainage capacity, and identified any environmentally sensitive areas along the Right-of-Way (RoW).

Social baseline conditions included a review of demographic characteristics, land use, community infrastructure, public facilities, and sensitive receptors within and around the project corridor.

As the Contractor, we rely on the findings of the design-stage ESMP and have incorporated its conclusions into this C-ESMP. No significant changes in baseline conditions have been observed at the time of mobilization. However, any relevant updates, site-specific observations, or additional risks identified during the pre-construction phase will be reflected in the mitigation measures and monitoring plans set out in this document.

### 2.1. Existing Environmental Conditions and Contractor Measures

As contractors, we acknowledge the following environmental baseline conditions based on the Design ESMP and will consider them in planning and executing construction activities.

#### **Topography and Landscape**

The project site is located in the Selbe River watershed, which varies in elevation from approximately 984 m to 2,033 m above sea level. The area consists of both mountainous terrain

(Dukhiin Davaa) and lowland alluvial valleys along the Selbe River. Earthworks and excavation will be planned with consideration to slope stability and runoff behavior in these conditions.

### Climate Conditions

According to data from Ulaanbaatar Station (2004–2022):

- Average annual air temperature: 1.05°C. Seasonal variations range from -19°C in winter to 17.5°C in summer.
- Ground freezing period: Mid-October to mid-April (approx. 195–200 days). This affects excavation, concrete curing, and asphalt works.
- Relative humidity: Annual average is 58%, dropping to ~50.7% in spring.
- Precipitation: Around 269 mm/year, with ~69% falling in summer. Rainfall may influence construction schedules and erosion risk.
- Wind: Average annual speed is 1.9 m/s, peaking at 3.1 m/s in spring. Wind conditions must be considered during lifting, material storage, and dust control.

### Air Quality

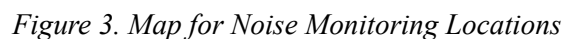
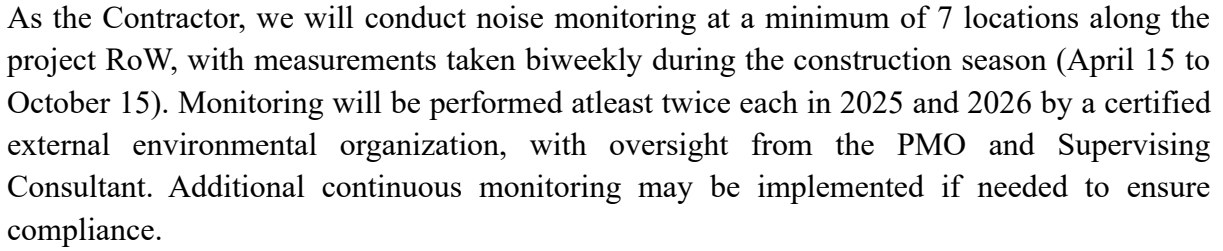
Baseline air quality in the project area is classified as “Good” (AQI 7.4–40.11). Construction activities may generate dust and particulates. The Contractor will monitor air quality at about every 300-500 m or at **7 locations (PK0+380, Left; PK0+380, Left; PK0+460 & PK0+520, Left; PK0+960 – PK1+040, Left; PK1+140, Left; PK1+100, Left; PK2+020, Left)** along the Selbe River Road subproject RoW, measuring CO, SO<sub>2</sub>, NO<sub>2</sub>, TSP, PM<sub>10</sub>, PM<sub>2.5</sub> (dust), and conducting visual dust observations, as instructed by the Engineer and as specified in the Technical Specifications.

Monitoring will occur biweekly during the construction season (April 15–October 15), with at least two rounds each year in 2025 and 2026. An external organization will assist, with oversight from the PMO and Supervising Consultant.

Dust control measures will include water spraying, covering materials during transport, and limiting vehicle speeds. All activities will follow Mongolian standards and World Bank EHS Guidelines.

### Noise Measurements

During the construction phase of the Selbe River Road subproject, noise levels are expected to increase due to the operation of heavy machinery such as bulldozers, excavators, and trucks. Baseline noise measurements taken during the design phase at 13 locations showed levels ranging from 46 dB(A) to 66.3 dB(A), with several sites exceeding the allowable limits set by Mongolian standards (MNS 4585:2016 – 60 dB(A) daytime, 45 dB(A) nighttime) and the World Bank’s guidelines (55 dB(A) daytime, 45 dB(A) nighttime). Specifically, locations 6, 7, 8, 9, 10, and 11 exceeded the national standard, and all but locations 2, 4, 5, and 13 exceeded the World Bank thresholds. These survey points were nearby Sta 0+100 to 1+700.



To mitigate noise impacts, the Contractor will restrict noisy activities to daytime hours, maintain machinery in good working order, install temporary noise barriers where necessary, and actively engage with the local community to address concerns.

## Geology, Hydrology, and Surface Water

The Selbe River Road subproject is located in the Selbe River Valley of the Tuul River basin, with underlying alluvial soils of sand, gravel, silt, and clay. These ground conditions will be considered during excavation, and drainage works to avoid erosion and instability.

The Selbe River flows seasonally, with higher volumes from April to September. Construction near the river will be planned to avoid disruption during peak flows and prevent sedimentation. Water quality monitoring in 2023 showed elevated levels of ammonium, nitrite, and phosphate at some locations, indicating pollution risks. The contractor will implement runoff controls and prevent any discharge into the river.

Sediment samples revealed high levels of heavy metals at certain points, especially near residential areas. To avoid further contamination, sediment disturbance will be minimized, and erosion control measures will be applied during construction.

The Contractor will monitor surface water quality at **4 locations**:

1. at PK0+080 Right side (N5310055, E644293)
2. at PK 0+500 Right side (N 5310470, E 644248)
3. at PK 1+020 Right side (N 5310983, E 644161)
4. at PK 2+180 Right side (N 5312050, E 643719) along the Selbe River within project RoW.



Figure 4. Surface Water Monitoring Locations

Parameters measured will include pH, electrical conductivity (EC), hardness, sodium (Na), potassium (K), calcium (Ca), magnesium (Mg), ammonium (NH<sub>4</sub>), iron (Fe), fluoride (F),



chloride (Cl), sulfate (SO<sub>4</sub>), nitrite (NO<sub>2</sub>), nitrate (NO<sub>3</sub>), phosphate (PO<sub>4</sub>), bicarbonate (HCO<sub>3</sub>), total dissolved solids (TDS), biochemical oxygen demand (BOD), and heavy metals, following the Mongolian standard MNS 4943:2015.

Visual observations of surface water turbidity will also be conducted. Monitoring will occur monthly during the construction season (April 15 to October 15), under the supervision of the PMO and Supervising Consultant. All activities will comply with relevant Mongolian standards (MNS 4586:1998) and WHO guidelines to ensure protection of water quality throughout construction.

### **Interaction of Selbe River and the Aquifer**

The Selbe River and its underlying aquifer exhibit significant seasonal interaction. During periods of high groundwater levels, groundwater feeds the river. While in low groundwater conditions, the river recharges the aquifer when not frozen. The extent of water infiltration depends on river flow and local soil characteristics.

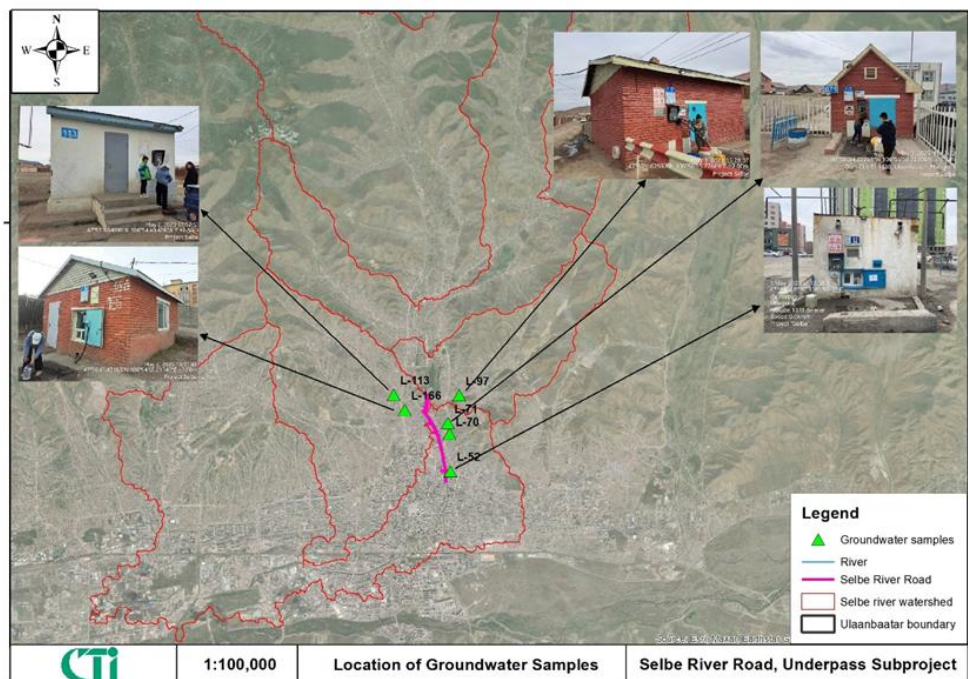
The Contractor will conduct aquatic invertebrate monitoring at 4 locations along the Selbe River within the project RoW. Monitoring will be performed bi-monthly during the construction season (April 15 to October 15) under the supervision of the PMO and Supervising Consultant. All monitoring activities will comply with World Bank Environmental, Health, and Safety (EHS) Guidelines to ensure aquatic ecosystem protection during construction.

### **Groundwater**

Groundwater samples collected near the project area show that chemical and heavy metal levels are within permissible limits according to Mongolian standards (MNS 0900:2018 and MNS 4586:1998). Key water quality parameters such as pH, electrical conductivity, hardness, and contaminant concentrations are compliant, indicating that the groundwater is suitable for use without significant contamination concerns.

The Contractor plans to use groundwater sources within the Selbe River catchment area to meet construction needs (e.g., dust suppression, concrete mixing) and provide drinking and domestic water for workers. The map (Figure 2), adapted from the design-stage ESMP prepared by Consultants CTII, identifies six groundwater sampling locations—L-52, L-70, L-71, L-97, L-113, and L-166—marked by green triangles near the project's Right of Way (RoW), which will serve as baseline monitoring points before and during construction.

In addition, two key water wells located directly along the project RoW—**Fresh Water Well at PK2+020 (Left)** and **Water Well at PK0+340(Right side)** -(Figure 5) —have been identified from the same source and incorporated into the monitoring to ensure construction activities do not adversely impact groundwater quality at these sensitive points.



*Figure 5. Groundwater Sampling Locations<sup>1</sup>*

The map also includes five residential water kiosks within densely populated areas near the alignment, comprising both small-scale kiosks embedded in housing clusters and larger public kiosks connected to the municipal water system. These kiosks were identified and mapped in the design-stage ESMP and reviewed for this report. After assessing their location, water supply type, and risk profile, it was concluded that these kiosks do not require inclusion in the routine groundwater monitoring program as they are supplied through protected municipal systems and are not hydraulically connected to the groundwater sources used for construction. They therefore pose a low risk of contamination from project activities.

<sup>1</sup> Source: ESMP – Selbe River Road, prepared by Consultants CTII, Figure 2: Groundwater Sampling Locations, p. 3-25.



Figure 6. Existing water wells

## Waste Management

Waste management in Ulaanbaatar faces challenges due to irregular collection, illegal dumping, and limited public awareness, despite updated laws. During the Selbe River Road subproject, the Contractor will generate inert (construction debris), non-hazardous (food waste, packaging), and limited hazardous waste (oils, lubricants, medical waste) from excavation, worker camps, and construction activities. No existing waste was observed onsite. Waste will be managed daily in coordination with Sukhbaatar District Landscaping and Service Company (TUK) following Mongolian regulations and World Bank EHS Guidelines. A detailed Waste Management Plan developed in Section 13.

## Soil Baseline and Monitoring Overview

The Selbe River Road subproject area lies within mountain and river plain soil zones, predominantly featuring mountain chernozem, kastanozem, and phaeozem soils. As part of the baseline assessment, soil samples were collected from over 30 locations. Chemical and physical properties were analyzed at 6 key locations, while heavy metal contamination was assessed at 30 points.

From the Contractor's perspective, soil quality monitoring will be conducted at 6 representative locations:

1. at PK0+400 Right side (N 5310372, E 644265)
2. at PK0+900 Left side (N 5310857, E 644141)
3. at PK 1+300 Right side (N 5311253, E 644075)
4. at PK 1+700 Right side (N 643931, E 5311628)

5. at PK 2+300 Left side (Camp) (N 643616, E 5312138)
6. at PK 2+600 Left side (N 643700, E 5312416) along the project's RoW.

This monitoring will cover chemical properties (including pH, salinity, electrical conductivity, carbonate content, nutrients, and particle size), heavy metals (Zn, Cr, Pb, Cu, Ni, As, Cd), bacteriological parameters, and visual inspections for contamination.

Monitoring is scheduled for every construction season and will be implemented by the Contractor in coordination with the PMO and Supervising Consultant, following Mongolian standards MNS 5850:2019, MNS 3297:2019, MNS 6341:2012, and MNS 5367:2004.

**Key findings from the baseline data indicate:**

- Soil pH values range from neutral to strongly alkaline (7.28–8.4).
- Salinity levels are low, with soils classified as non-saline to slightly saline.
- Carbonate content is minimal (0–1.81%).
- Soil organic matter and essential nutrients are present at moderate and variable levels.
- Soil texture includes moderately heavy soils with clay content exceeding 20% at some sites.
- Heavy metal concentrations remain within permissible limits, with no significant contamination detected.

The Contractor remains committed to regular soil monitoring to ensure compliance and minimize environmental impacts during construction.

**Vegetation and Tree Management**

General baseline information on flora and vegetation within the Selbe River Road subproject area was previously established in the Design ESMP. That assessment described the broader ecological setting of the project area, which lies within the Mongolia-Dagur mountain forest-steppe zone and documented a total of 201 plant species from 135 genera and 42 families. These include herbaceous species, shrubs, and trees, with no species identified as endangered or vulnerable under the IUCN Red List or Mongolia's national conservation lists. Due to the influence of urban development, much of the natural vegetation has been replaced or degraded, and the current flora is dominated by resilient species such as *Carex duriuscula*, *Potentilla spp.*, and *Artemisia spp.*

The design stage documents recorded a total of 41 trees and bushes including the following:

- 32 willows (*Salix glauca*),
- 7 poplars (*Populus laurifolia*), and
- 2 elms (*Ulmus pumila*).

Of these, the assessment determined that:

- 4 willow trees are non-viable and will not be relocated,
- 5 willow trees are outside the impact zone and will not be affected,

Building on this baseline, the Contractor carried out a specific field assessment in July 2025 focused on individual trees located within the project's RoW. Note that the counting excluded trees and shrubs inside the residential yards in the RoW. A total of 27 trees and shrubs were identified along the 2.7 km road alignment<sup>2</sup>, are located within the construction zone and will be affected by the infrastructure and construction process. These include:

*Table 6. List of Trees to be Relocated*

| Sta.         | Planted shrub | willows (Salix glauca) | poplars (Populus laurifolia) | poplars (Sapling tree) | elms (Ulmus pumila) | Note       |
|--------------|---------------|------------------------|------------------------------|------------------------|---------------------|------------|
| 0+240        | 3             |                        |                              |                        |                     | Left       |
| 0+580        |               | 3                      |                              |                        |                     | Right side |
| 0+600        |               |                        | 4                            |                        |                     | Right side |
| 0+700        |               | 4                      |                              |                        |                     | Right side |
| 0+750        |               |                        |                              | 1                      |                     | Right side |
| 0+860        |               | 1                      |                              | 1                      |                     | Right side |
| 0+880        |               | 1                      |                              |                        |                     | Right side |
| 0+890        |               | 4                      |                              |                        |                     | Right side |
| 1+700        |               |                        | 2                            |                        |                     | Right side |
| 2+360        |               |                        |                              |                        | 1                   | Right side |
| 2+520        |               |                        | 1                            |                        |                     | Left side  |
| 2+580        |               |                        |                              |                        | 1                   | Right side |
| <b>Total</b> | <b>3</b>      | <b>13</b>              | <b>7</b>                     | <b>2</b>               | <b>2</b>            |            |
|              |               |                        | <b>27</b>                    |                        |                     |            |

All these existing 27 trees and shrubs (excluding trees in the residential yards) are located within the construction zone and will be affected by the infrastructure and construction process. Sample photos of these trees' conditions and locations are shown in the Figure below and the full information is shown in Appendix 9.

<sup>2</sup> The coverage excluded a section 0+000 to 0+230, assuming the existing road geometry will not be changed at this section and no trees will be impacted.

Figure 7. Sample photos of the existing trees and shrubs



0+240 (left side side). Planted shrub - 3



0+580 (right side) Willow 3



0+600 (right side) Poplar - 4

Based on their condition, height (1.5–5 meters), and age, the ecological and economic value of each affected tree is estimated at approximately MNT 700,000 (27 count), totaling MNT 18,900,000. Accordingly, the Contractor plans to transplant all 27 impacted trees to locations designated by the district authority prior to construction activities. The transplantation will be

carried out in line with national standards (MNS 6258-1:2011; WB ESF, ESS1 and ESS6), including proper preparation of planting pits and maintenance after replanting. All detailed information regarding tree relocation is provided in **Appendix 17 Landscaping and Rehabilitation Plan**.

### **Protected Areas and Cultural Heritage**

As per the Design ESMP, there are no Special Protected Areas within or near the Selbe River Road subproject site. This has been confirmed through spatial analysis and mapping, as illustrated in the referenced figure.

Additionally, based on archaeological and paleontological surveys conducted during project preparation, no historical or cultural heritage sites, artifacts, or paleontological remains have been identified within the construction footprint.

Nevertheless, the Contractor acknowledges the importance of safeguarding cultural heritage. In line with the design stage of ESMP, the Contractor will follow the established Chance Find Procedures (outlined in **Appendix 1** of the C-ESMP). If any artifacts or cultural materials are unexpectedly discovered during excavation or construction activities, work will be halted immediately in the vicinity of the find, and the relevant local authorities will be notified without delay.

This ensures full compliance with national heritage laws and the World Bank's Environmental and Social Standards (ESS8), while minimizing the risk of unintentional damage to undiscovered cultural resources.

## **2.2. Social Baseline Summary**

The social baseline for the Selbe River Road subproject covers parts of Sukhbaatar District, specifically the 7th, 11th, 12th, and 13th khoroos. It is based on the Design ESMP and household surveys conducted between 2018 and 2023.

As of 2022, the total population in the subproject area is approximately 39,844, with a balanced gender distribution (53% female). The population experienced a moderate increase from 2018 to 2021, followed by a slight decline in 2022. Age distribution indicates a youthful demographic, with 35% minors (0–17 years) and 11% elderly (60+ years).

Educational attainment is relatively high; over one-third of residents have completed higher education. Around 35% of the employed population works in private enterprises, while unemployment stands at approximately 5.7% (2022). Nearly half of the households surveyed report difficulty in meeting financial needs, with monthly income ranging mostly between 500,000 and 2 million MNT.

The ethnic composition is predominantly Khalkh (around 90%), with no reported livelihood disparities across ethnic groups. Migration into the district continues, primarily for education, employment, and housing. A steady increase in small business registrations has been noted.

## Urban Development and Ger Areas

According to the Design ESMP, Ulaanbaatar faces persistent challenges in expanding and maintaining urban infrastructure, especially in ger areas, where nearly 60% of the city's population resides. These areas are typically unplanned, low-density settlements with limited access to centralized water, sanitation, heating, and waste services.

Within the subproject area, only the 7th Khoroo is fully connected to urban infrastructure. Other khoroos are dominated by ger settlements with minimal service connections. Although electricity access has improved and reliance on centralized heating has expanded among apartment residents, ger households remain largely dependent on kiosks for water, which often fall short of demand. Environmental health issues, primarily due to air and soil pollution and inadequate waste disposal, are widespread.

A lack of safe pedestrian infrastructure, such as sidewalks and bike paths, poses additional safety risks in the subproject corridor.

### Access to Public Services

Public services in education, health, and transport have improved but remain insufficient in ger areas. Student-teacher ratios are rising, and although health facilities are available, access is constrained by traffic congestion and limited transport options. The burden of non-communicable diseases remains high despite declining rates of communicable diseases.

Transport infrastructure is inadequate, with unpaved roads contributing to congestion. Many residents depend on public buses or walk short distances, but safety is compromised by poor road conditions, lack of signage, and insufficient lighting.

***From a contractor's perspective, these baseline conditions highlight the importance of:***

- Minimizing construction-related impacts, including dust and noise pollution;
- Maintaining safe and accessible routes for vulnerable groups;
- Coordinating with local authorities to mitigate disruptions to public utilities;
- Supporting infrastructure continuity and service access during work.

### Existing Conditions of the Corridor and Community Awareness

The existing 2.7 km unpaved road (originally designated for Selbe River Levee) along the Selbe River is primarily used by residents of the 11th, 12th, and 13th khoroos. The road is in poor condition and generates dust pollution, posing challenges for nearby households.

### Key findings from household surveys:

- 50% of respondents were aware of the proposed subproject, with awareness varying by khoroo.
- 23% use the road daily; 25% use it 1–3 times per week. Usage is highest in the 11th and 13th khoroos.

- 70% expressed dissatisfaction with road conditions; 68% were dissatisfied with nearby green facilities.
- Common concerns include a lack of road signage, unsafe crossings, inadequate disability access, and vehicle-related dust and noise.
- 35% of respondents anticipate negative impacts on daily life during construction, particularly concerning commuting and access to health services.
- However, 87% expressed support for the project, citing expected improvements in road safety, flood protection, and reduced congestion.
- Residents proposed the following mitigation measures:
  - Establish alternative traffic routes;
  - Implement dust and noise control;
  - Enhance worker and community safety measures.

### **Safety Concerns**

*Safety issues raised during focus group discussions and interviews include:*

- Increased risk of traffic accidents during construction, particularly for children and elderly residents near the Selbe River;
- Potential closure of crossings without adequate warning or detours;
- Relocation concerns potentially affecting population-based funding for local services (e.g., health centers).
- These concerns underscore the need for clear traffic signage, warning markers, and temporary access solutions throughout construction.

### **Vulnerability and Gender Considerations**

*Vulnerable groups in the project area include orphaned children, people with disabilities, and female-headed households. Key trends (2018–2022):*

- Increase in people with disabilities and half-orphaned children;
- Decrease in female-headed households with children.
- The contractor will prioritize inclusive engagement, ensuring that mitigation measures are responsive to the needs of vulnerable populations.

### **Gender-Based Violence and Social Challenges**

*The area faces serious social issues such as poverty, unemployment, and high rates of gender-based violence (GBV). A national study found that:*

- 1 in 10 women experienced non-partner sexual violence before age 15;
- 1 in 4 women condoned spousal abuse under certain conditions.
- Crime statistics also reflect a general increase in minor offenses.

The contractor must:

- Enforce zero-tolerance policies on workplace harassment;
- Provide training on GBV prevention and response;
- Establish safe and confidential grievance mechanisms, particularly accessible to women.

## Sensitive Receptors

High-sensitive receptors include front-row residences, vulnerable households, and communities adjacent to the 2.7 km road corridor. These groups are particularly susceptible to dust, noise, and road safety hazards.

### *The contractor will:*

- Disclose project information in a timely and culturally appropriate manner;
- Facilitate inclusive consultation processes;
- Integrate community feedback into planning and mitigation strategies;
- Monitor social impacts and adaptively manage risks throughout implementation.

### 2.2.1. Identification of Sensitive Receptors within Area of Influence

- As part of the environmental and social management planning, sensitive receptors within the project's area of influence have been identified and documented. These receptors are locations or populations that may be particularly vulnerable to impacts such as dust, noise, vibration, and access disruption during construction.
- The identification process involved site visits and visual inspection. Receptors were geotagged and photographed. These receptors must be given specific attention in environmental monitoring and mitigation, particularly with regard to air quality management (**see Appendix 14 – Construction Dust, Noise, Vibration Observation Plan**).

### Identified Sensitive Receptors:

*Table 7. Identified Sensitive Receptors*

| No. | Receptor Type              | Location Description | Coordinates       | Distance from Site | Environmental Concern  | Photo Reference |
|-----|----------------------------|----------------------|-------------------|--------------------|------------------------|-----------------|
| 1   | National Library           | PK0+000, Left        | N5309971, E644279 | Immediate vicinity | Dust, Noise, Vibration | Figure-1        |
| 2   | U.S. Embassy               | PK0+120, Left        | N5310036, E644277 | Immediate vicinity | Dust, Noise, Vibration | Figure-2        |
| 3   | Royal International School | PK0+380, Left        | N5310316, E644274 | ~20 m              | Dust, Noise, Vibration | Figure-3        |
| 4   | Royal Academy Building     | PK0+380, Left        | N5310370, E644257 | ~25 m              | Dust, Noise            | Figure-4        |

|    |                         |                              |                   |          |                        |                    |
|----|-------------------------|------------------------------|-------------------|----------|------------------------|--------------------|
| 5  | Ariun Ochir Apartments  | PK0+460 & PK0+520, Left      | N5310428, E644245 | ~30 m    | Dust, Noise            | Figure-5, Figure-6 |
| 6  | 12-Story Apartments     | PK0+960 – PK1+040, Left      | N5310893, E644148 | ~40 m    | Dust, Noise            | Figure-7           |
| 7  | 9-Story Apartment       | PK1+140, Left                | N5311089, E644105 | ~30 m    | Dust, Noise, Vibration | Figure-9           |
| 8  | 4-Story Brick Apartment | PK1+100, Left                | N5311051, E644111 | ~30 m    | Dust, Noise            | Figure-8           |
| 9  | Fresh Water Well        | PK2+020, Left                | N5311927, E643729 | Nearby   | Dust, Vibration        | Figure-10          |
| 10 | USUG Water Well         | PK2+340, Left                | N5312168, E643639 | Nearby   | Dust, Vibration        | Figure-13          |
| 11 | Bee Design Warehouse    | PK2+020, Left                | N5311931, E643719 | Adjacent | Dust                   | Figure-11          |
| 12 | Sak Furniture Factory   | PK2+180, Left                | N5312038, E643638 | Adjacent | Dust, Noise            | Figure-12          |
| 13 | School (inferred)       | Near PK0+380                 | N5310316, E644274 | Nearby   | Dust, Noise, Vibration | Figure-3, Figure-4 |
| 14 | Clinic (potential)      | Urban cluster (location TBD) |                   | ~50–70 m | Dust, Noise            | Not specified      |

- Photos, figures and coordinates of each receptor are appended in **Appendix 14** to support planning for dust, noise and vibration monitoring.
- All identified sensitive receptors are considered in the preparation of mitigation measures and the construction dust, noise and vibration observation plan. Monitoring frequency and mitigation intensity are adjusted based on proximity and sensitivity level.

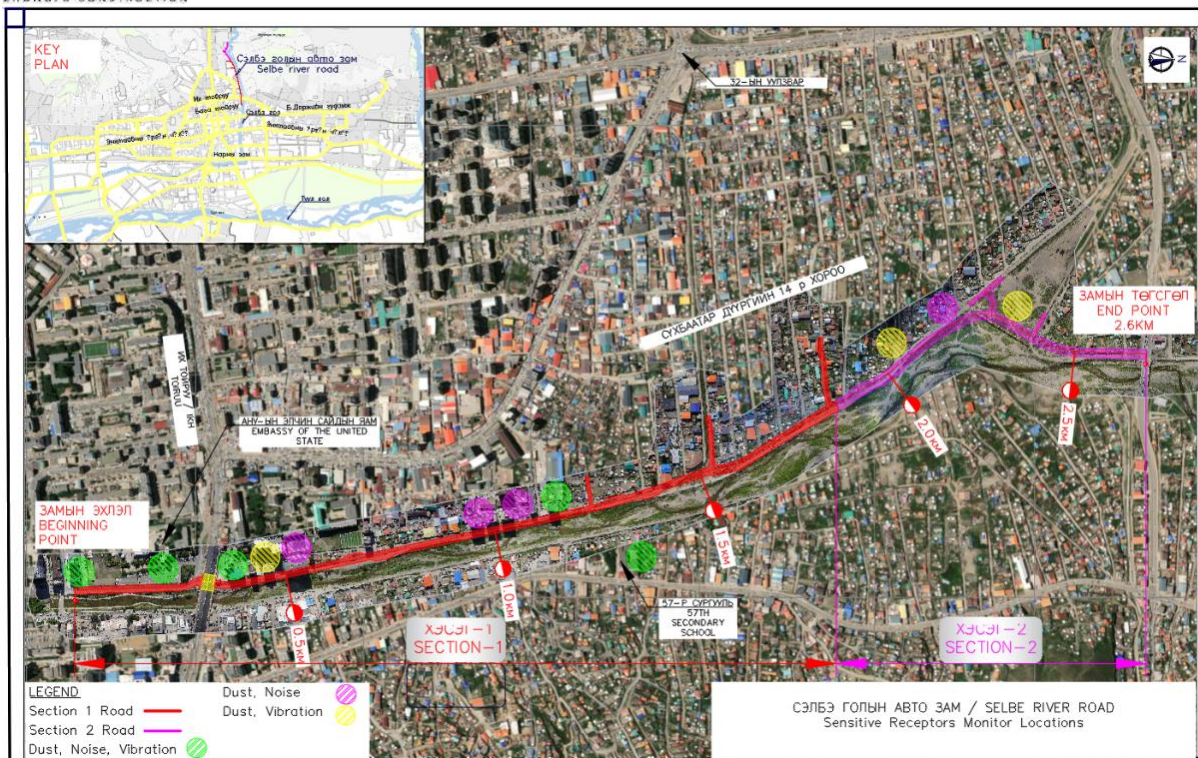


Figure 8. Monitoring Points and Sensitive Receptors

Figure 7 presents a map identifying the locations of sensitive receptors within the project's area of influence. Dust, noise, and vibration monitoring will be conducted at these locations, and noise barriers will be installed at the identified noise monitoring points.

### Business and Service Survey

The Contractor has conducted a field survey to assess businesses and service organizations located along the alignment.

This survey was carried out as part of construction preparedness activities to ensure early engagement with affected businesses and service providers. The Contractor has registered a total of 18 businesses and services on both sides of the Street, including small grocery and other stores, office, school, warehouse, plants and factories. In addition, the photos will serve as evidence that no cracks or damage occurred due to the construction works, and therefore, the contractor is not responsible. The photos of these are shown in detail in Appendix 10.

Table 8. Businesses and service organizations along the project alignment

| № | Sta.  |      | Businesses and service organizations                        |
|---|-------|------|-------------------------------------------------------------|
| 1 | 0+000 | Left | National Central Library of Mongolia                        |
| 2 | 0+120 | Left | Embassy of the United States                                |
| 3 | 0+380 | Left | "Royal international school" comprehensive secondary school |
| 4 | 0+420 | Left | Royal academy office building                               |

|    |               |      |                                                                                                                 |
|----|---------------|------|-----------------------------------------------------------------------------------------------------------------|
| 5  | 0+460         | Left | “Markhai” grocery store located on the 1st floor of a 9-story apartment building at 19th floor of “Ariun Ochir” |
| 6  | 0+520         | Left | “Celbe” grocery store located on the 1st floor of a 16-story apartment building at 21st floor of “Ariun Ochir”  |
| 7  | 0+840 ~ 0+880 | Left | Construction materials warehouse                                                                                |
| 8  | 0+890         | Left | Furniture factory                                                                                               |
| 9  | 0+910         | Left | Sandwich warehouse                                                                                              |
| 10 | 1+080         | Left | Vacuum window factory                                                                                           |
| 11 | 1+140         | Left | “Tamir” grocery store located on the 1st floor of a 9-story apartment building                                  |
| 12 | 1+420         | Left | “Buman Nayad” LLC Construction materials warehouse /Yellow sandwich warehouse/                                  |
| 13 | 1+480         | Left | “Redwood” Construction materials panel factory.                                                                 |
| 14 | 2+020         | Left | USUG Clean Water Distribution Center                                                                            |
| 15 | 2+080         | Left | “Zogiy Design” LLC Sandwich Warehouse                                                                           |
| 16 | 2+180         | Left | “Sak” Furniture Factory                                                                                         |
| 17 | 2+260         | Left | Furniture Factory /Sandwich Building/                                                                           |
| 18 | 2+667         | Left | “Tes Petroleum” gas station on the northeast side, “Sod Mongolian” gas station on the southeast side            |

### Summary and Conclusion of Social Baseline Overview

The Selbe River Road subproject is located in a corridor where communities—especially in the 11th, 12th, and 13th khoroos—face significant vulnerabilities due to poor road conditions, environmental health risks, and limited infrastructure. Community awareness is moderate, but the majority of residents support the project, anticipating improved infrastructure, traffic flow, flood protection, and pedestrian safety.

However, construction activities may disproportionately affect vulnerable groups, including children, the elderly, persons with disabilities, and female-headed households. Safety risks, service disruptions, and temporary relocation concerns require proactive management. Broader social issues, such as GBV and poverty, further necessitate sensitive and inclusive implementation.

As a contractor, these findings will inform our **Section 5-Environmental and Social Mitigation Measures**. Mitigation actions will be designed in alignment with the World Bank’s Environmental and Social Framework (ESF) standards. The contractor will implement mitigation measures to avoid, minimize, or compensate for potential adverse impacts and will promote inclusive benefits for all affected communities.

### 3. Legal and Institutional Framework

#### 3.1. Compliance with the World Bank's Environmental and Social Requirements

As the contractor for the project, we recognize that the Environmental and Social Management Framework (ESMF) has referred to the World Bank's Environmental, Health, and Safety (EHS) Guidelines and Good Practice Notes, considering the nature of the project activities. We are committed to carrying out all activities in accordance with our internal procedures, national environmental and social regulations, and the World Bank's requirements. These responsibilities are guided by the ESMP prepared during the design stage and are aligned with the World Bank's Environmental and Social Standards (ESSs), which define clear measures for managing environmental and social risks throughout project implementation.

**The project will adhere to the World Bank Environmental and Social Standards (ESSs) as outlined below. Each applicable ESS has been reviewed, and specific measures have been developed to comply with or consider their requirements during project implementation.**

*Table 9. Applicability and Implementation Measures for World Bank ESSs*

| ESS No. | Standard Title                                                          | Key Measures / Commitments                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESS1    | Assessment and Management of Environmental and Social Risks and Impacts | <ul style="list-style-type: none"> <li>• Key risks: air and noise pollution, water contamination, community safety.</li> <li>• Implement ESMP with regular monitoring (air, noise, water, soil).</li> <li>• Engage stakeholders throughout construction.</li> </ul>                                                                                                                                                                                             |
| ESS2    | Labor and Working Conditions                                            | <ul style="list-style-type: none"> <li>• Fair labor practices and provision of PPE/welfare facilities.</li> <li>• Code of Conduct to address GBV and workplace harassment.</li> <li>• Labor GRM established.</li> <li>• No child or forced labor.</li> <li>• Compliant with national laws and international standards.</li> <li>• Refer to: Appendix 2 – Labor Management Procedure, Appendix 2.1 – Internal Labor Management Procedure (Mongolian).</li> </ul> |
| ESS3    | Resource Efficiency and Pollution Prevention and Management             | <ul style="list-style-type: none"> <li>• Dust suppression, wastewater control, hazardous waste handling, groundwater protection.</li> <li>• Efficient use of water and materials.</li> <li>• Proper borrow pit rehabilitation.</li> <li>• Local permits and taxes for natural resource use secured.</li> <li>• Waste reduction and environmental certification compliance.</li> </ul>                                                                           |
| ESS4    | Community Health and Safety                                             | <ul style="list-style-type: none"> <li>• Manage public risks: dust, traffic, noise.</li> <li>• Protection of sensitive groups (children, elderly, PWD).</li> <li>• Noise barriers, emergency access, signage, and traffic management.</li> <li>• SEA/SH prevention via training and Code of Conduct.</li> <li>• Implement C-ESMP, Traffic Management Plan (Appendix 3), C-SEP (Section 9), and ESCOP (Appendix 4).</li> </ul>                                   |

|       |                                                                                               |                                                                                                                                                                                                                 |
|-------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESS5  | Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement                      | • Land acquisition and resettlement covered under RAP (design stage). • Contractor not responsible for RAP implementation. • Contractor to forward community concerns to LMA and PMO.                           |
| ESS6  | Biodiversity Conservation and Sustainable Management of Living Natural Resources              | • 27 mature trees affected. • Viable trees to be transplanted in coordination with authorities. • Minimize disruption to urban greenery.                                                                        |
| ESS7  | Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities | • No Indigenous Peoples identified in project area. • Contractor will monitor for changes and comply with ESS7 if relevant circumstances arise.                                                                 |
| ESS8  | Cultural Heritage                                                                             | • No known cultural heritage in project area. • Chance Find Procedures will be applied. • Work will be suspended and authorities notified in case of discoveries.                                               |
| ESS9  | Financial Intermediaries                                                                      | <b>Not Applicable</b> – No involvement of financial intermediaries in fund disbursement.                                                                                                                        |
| ESS10 | Stakeholder Engagement and Information Disclosure                                             | • Moderate awareness, strong project support (87%). • Ongoing engagement and accessible information disclosure. • Grievance response mechanisms in place. • Implementation in accordance with the detailed SEP. |

### 3.2. Applicable national laws and regulations

#### Mongolian National Laws, Standards, and Regulations

All project activities must comply with relevant Mongolian laws, regulations, and national standards. These legal instruments fall under key thematic areas, including environmental protection, occupational health and safety (OHS), labor, child protection, social welfare, and human rights. They ensure alignment with national policy priorities, regulatory compliance, and the safeguarding of the health, safety, and rights of all stakeholders involved in the Project.

#### A. Environmental Protection Laws and Standards

##### Key Legislation:

- **Law on Environmental Protection (Amended 2024):**  
The primary law governing environmental protection. It guarantees the right to a healthy environment, regulates natural resource use, and requires environmental assessments, conservation, and restoration measures to ensure sustainable development for current and future generations.

##### Relevant Standards:

| N | Standard Area | Standard Name | Code |
|---|---------------|---------------|------|
|---|---------------|---------------|------|

|   |       |                                                           |               |
|---|-------|-----------------------------------------------------------|---------------|
| 1 | Soil  | Soil quality – Permissible pollutant limits               | MNS 5850:2019 |
| 2 | Soil  | Urban soil – Sanitary indicators and pollution assessment | MNS 3297:2019 |
| 3 | Water | Permissible pollutants in underground water               | MNS 6148:2010 |
| 4 | Water | Drinking water – Sanitary and safety assessment           | MNS 0900:2018 |
| 5 | Air   | General technical requirements                            | MNS 4585:2016 |
| 6 | Air   | Pollutant concentration limits                            | MNS 5885:2008 |
| 7 | Waste | Domestic waste transportation requirements                | MNS 5344:2011 |

## B. Occupational Health and Safety (OHS) Laws and Standards

### Key Legislation:

- **Labor Law (Amended 2024):**  
Regulates employment relationships and includes specific provisions on OHS, working conditions, gender equality, and protections for minor workers.
- **Law on Labor Safety and Hygiene (Amended 2023):**  
Covers safety standards for buildings, equipment, chemicals, personal protective equipment (PPE), occupational diseases, and workplace inspections.
- **Constitution of Mongolia (Article 16):**  
Guarantees the right to safe and suitable working conditions.
- **National Program for Occupational Safety and Health Improvement (2001)**

### Relevant Standards:

| N | Standard Area     | Standard Name                                  | Code                                                       |
|---|-------------------|------------------------------------------------|------------------------------------------------------------|
| 1 | OHS Management    | Occupational Health & Safety Management System | OHSAS 18001:2012                                           |
| 2 | OHS Management    | Occupational Conditions & Safety Management    | MNS ISO 45001:2018                                         |
| 3 | Workplace Safety  | Workplace sanitary requirements                | MNS 4990:2015                                              |
| 4 | Fire Safety       | Fire classification and equipment              | MNS 4999:2000, MNS 5566:2015, MNS 4284:2017                |
| 5 | PPE               | Hand and respiratory protection                | MNS 5622:2011, MNS 6654:2017                               |
| 6 | Air & Lighting    | Ventilation, dust exposure, lighting           | MNS 5078:2001, MNS 6656:2017, MNS 6658:2017, MNS 6767:2019 |
| 7 | Noise & Vibration | Exposure limits for noise and vibration        | MNS 6768:2019, MNS 6769:2019, MNS 6770:2019                |

## C. Urban Development and City Standards (UCS)

These standards apply to infrastructure, construction, and environmental management in urban areas.

| N | Area                 | Standard Name                                                    | Code                                           |
|---|----------------------|------------------------------------------------------------------|------------------------------------------------|
| 1 | Urban Safety         | Public safety in road and construction projects                  | UCS 0301B:2022                                 |
| 2 | Water Infrastructure | Independent water supply systems                                 | UCS 0701B:2023                                 |
| 3 | Wastewater           | Wastewater wells and treatment facilities                        | UCS 0702B:2023                                 |
| 4 | Landscaping          | Green space and urban landscaping planning                       | UCS 0801A:2022                                 |
| 5 | Waste Management     | Collection, sorting, hazardous and construction waste management | UCS 1701A:2022, UCS 1703A:2022, UCS 1706A:2022 |
| 6 | Noise                | Noise pollution and mitigation guidelines                        | UCS 2001A:2023, UCS 2002A:2023                 |

## D. Labor and Social Protection Laws

### Key Legislation:

- **Labor Law (Amended 2024):**  
Covers employment rights, working hours, collective agreements, dispute resolution, and prohibits gender-based discrimination.
- **Law on Labor Safety and Hygiene (Amended 2023):**  
Regulates occupational safety, accident reporting, use of PPE, and industrial hazard controls.
- **Law on Sending Labor Force Abroad and Receiving Foreign Labor:**  
Ensures legal protection of Mongolian workers employed abroad and foreign workers in Mongolia.
- **Law on Social Welfare (Amended 2023):**  
Defines welfare benefits, pension systems, and the institutional framework for social services.

## E. Child Rights and Protection Laws

### Key Legislation:

- **Law on Child Rights (Amended 2022):**  
Ensures the protection, survival, and development of children under 18, and prohibits hazardous child labor.
- **Law on Child Protection (Amended 2022):**  
Addresses prevention and response to child abuse, exploitation, and harassment, and establishes coordination mechanisms.
- **Relevant Articles from the Labor Law:**
  - **Article 109:** Employment rules for minors aged 14–16.

- **Article 110:** Medical fitness requirements, prohibited occupations, and work hour limits for minors.
- Employers must maintain employment records of minors and notify labor authorities.
- Semi-annual medical exams are mandatory for all employed minors, funded by employers.

## **F. Social and Human Rights Laws**

### **Key Legislation:**

- **Law on the National Human Rights Commission (Amended 2022):**  
Establishes the mandate for human rights promotion, monitoring, and complaint resolution.
- **Law on Combating Domestic Violence (Amended 2024):**  
Protects victims of abuse, holds perpetrators accountable, and coordinates efforts among state agencies and NGOs.
- **Law on Promotion of Gender Equality (Amended 2024):**  
Ensures gender equity in all sectors, mandates gender-responsive planning and workplace policies and introduces strict measures against sexual harassment.

### **Additional Legal and Regulatory Areas**

During the design phase, as part of the **Environmental and Social Management Plan (ESMP)** prepared by the Consultant – **CTI Engineering International**, several additional thematic legal areas were thoroughly reviewed and incorporated. These include:

- **G. Construction and Urban Development Laws**
- **H. Disaster Risk and Emergency Preparedness**
- **I. Public Health and Community Safety**
- **J. Licensing, Enforcement, and Permitting Laws**
- **K. International Treaties and Conventions**

As the **Design-Stage ESMP** forms part of the Project contract documentation, any detailed legal and policy requirements or interpretations related to these areas should be referred to **Section 2 (Policy and Legal Framework)** of the ESMP. This avoids duplication and ensures alignment across all project compliance materials.

### **Alignment with National Legislation and World Bank Requirements**

As contractors, we acknowledge the legal gap analysis conducted in the design-stage ESMP, which assessed the alignment between Mongolian environmental and social legislation and the World Bank's ESF. The analysis confirmed that Mongolia has a comprehensive environmental legal framework, including the Law on Environmental Impact Assessment (EIA), which reflects key principles such as "polluter pays," risk-based assessment, and environmental protection.



While Mongolia's EIA law shares several common elements with the World Bank's ESF—such as risk-based project screening, the requirement for environmental management plans (EMP), and stakeholder participation—there are differences in implementation, particularly in the areas of institutional capacity and information disclosure. For example, public disclosure of EIA reports is not formally required under national law, whereas the ESF mandates proactive disclosure and engagement with stakeholders.

The World Bank's ESF also sets more detailed standards for the structure and content of ESMPs, requiring clear measures for mitigation, monitoring, institutional responsibilities, capacity building, and grievance redress.

As contractors, we commit to carrying out our responsibilities in full compliance with the applicable Mongolian laws and in accordance with the World Bank's ESF and EHS Guidelines. We also recognize and follow the design-stage ESMP findings to ensure that our activities remain consistent with both national and international environmental and social management requirements.

## 4. Roles and Responsibilities

As the construction contractor, we have established a dedicated Environmental and Social (E&S) team responsible for implementing our site-specific C-ESMP in full compliance with the national regulations of Mongolia and the World Bank ESF.

A Project-wide organizational chart (see Appendix 11) showing all key personnel of technical and a site-specific E&S management structure, to ensure daily compliance with the C-ESMP.

### Site-Level E&S Roles and Responsibilities

#### 1. Environmental Specialist

##### Responsibilities:

- Implement all environmental mitigation measures outlined in the C-ESMP.
- Conduct regular environmental inspections and monitoring (e.g., air quality, noise, vibration, and water quality).
- Maintain accurate environmental monitoring records and ensure legal compliance.
- Protect environmentally and culturally sensitive areas from construction impacts.
- Submit monthly environmental monitoring reports to the PMO.
- Update environmental plans and procedures in response to site conditions or regulatory changes.
- Coordinate with the PMO and Supervision Consultant on environmental performance.

#### 2. Social Specialist *(Also functions as Grievance Focal Point and Supervisor of Communication Officer)*

##### Responsibilities:

- Serve as the Grievance Focal Point, receiving and addressing worker and community grievances in accordance with the project GRM.
- Lead the implementation of the Contractor's Stakeholder Engagement Plan (C-SEP).
- Monitor social risks, worker welfare, and community impacts.
- Oversee the implementation of the SEA/SH and GBV Action Plan.
- Supervise the Communication and Training Specialist and provide guidance on public engagement strategies.
- Maintain grievance logs, ensure confidentiality, and track resolution timelines.
- Submit monthly social performance and grievance reports to the PMO.

#### 3. Occupational Health and Safety (OHS) Specialist

##### Responsibilities:

- Lead the implementation and regular review of the Occupational Health and Safety (OHS) Plan.
- Conduct risk assessments, safety audits, and accident investigations.

- Ensure compliance with worker safety protocols, proper use of PPE, and the Code of Conduct.
- Organize and document toolbox talks, drills, and emergency preparedness activities.
- Coordinate the Emergency Response Plan and site incident reporting.
- Keep accurate records of accidents, corrective actions, and OHS trainings.
- Support PMO oversight during construction and the defect liability period.

#### **4. Communication and Training Specialist (*Reports to the Social Specialist*)**

##### **Responsibilities:**

- Act as the Community Liaison Officer (CLO), maintaining direct communication with Project-Affected Persons (PAPs), local residents, and community stakeholders.
- Share updates on construction schedules, potential disturbances, and mitigation measures with nearby communities.
- Support the Social Specialist in conducting public consultations and stakeholder engagement activities.
- Organize and deliver training sessions for workers and subcontractors (e.g., on OHS, SEA/SH, GRM awareness).
- Ensure visibility of key E&S information onsite (signage, posters, contact details).
- Maintain training attendance records and prepare communication logs for monthly reporting.
- Ensure communication materials are culturally appropriate and accessible (local language, visual aids, etc.).

#### **Communication and Coordination with PMO and Supervision Consultant**

We maintain regular communication and coordination with the Project Management Office (PMO) and the Supervision Consultant to ensure smooth and compliant implementation of the Contractor's Environmental and Social Management Plan (C-ESMP).

#### **Coordination and Reporting Structure**

##### **Internal Reporting within the Contractor's Team**

- The Environmental Specialist, Social Specialist, OHS Specialist, and Communication & Training Specialist report directly to the Contractor's Project Manager.
- The Project Manager is responsible for integrating ESHS requirements into site operations and for reviewing and validating all E&S-related reports before submission.

##### **Coordination with the Supervision Consultant and PMO**

- The Contractor's Project Manager serves as the primary point of contact with the Supervision Consultant, submitting all required environmental, social, and safety documentation (e.g., C-ESMP monthly reports, incident reports).
- The Supervision Consultant reviews the Contractor's submissions, monitors compliance, and forwards findings and recommendations to the PMO.

- The PMO consolidates inputs from all contractors and submits project-wide ESHS reports to:
  - The Municipality of Ulaanbaatar (MUB), and
  - The World Bank.

### **Grievance Redress Mechanism (GRM) Reporting**

- The Contractor's Social Specialist, who also acts as the Grievance Focal Point, is responsible for managing day-to-day grievances received from workers and the community.
- A monthly GRM report is submitted directly to the PMO Social Specialist to ensure all grievances are centrally documented and integrated into overall project-level reporting to MUB and the World Bank.

### **Pre-Construction Phase**

Before the start of construction, we submit the Contractor's C-ESMP and its associated plans for review and clearance by the PMO. These include:

- Occupational Health and Safety (OHS) Plan
- Traffic Management Plan (TMP)
- Emergency Response Plan
- SEA/SH and GBV Action Plan
- Contractor's Stakeholder Engagement Plan (C-SEP)

### **During Construction**

Throughout the construction phase, we:

- Participate in regular site coordination meetings with the PMO and Supervision Consultant.
- Provide timely updates on the implementation of E&S measures and any compliance issues.
- Immediately address non-compliances and implement any corrective actions requested by the PMO or Supervision Consultant.
- Ensure full access to all relevant records and documentation, including monitoring data, inspection logs, training records, and grievance logs, during field visits, audits, or reviews.

### **Reporting Obligations**

- We submit monthly progress reports to the Supervision Consultant, which include:
  - Implementation status of C-ESMP measures
  - Monitoring results
  - Grievances received and resolved
  - Safety performance and any incidents or accidents



- We report any serious environmental or safety incident to both the PMO and the Supervision Consultant within 24 hours of occurrence.
- We provide the PMO with all necessary documentation and data required for consolidated reporting to the World Bank.

## 5. Environmental and Social Mitigation Measures

### Summary of Site-Specific Environmental and Social Risks and Impacts

Based on the field assessments, stakeholder consultations, and review of baseline conditions, the following key environmental and social risks and impacts have been identified at the project site:

#### Environmental Risks

- **Vegetation loss**, particularly 27 trees, along the alignment and in temporary work areas.
- **Soil disturbance and erosion** due to excavation and grading.
- **Dust and noise emissions** affect nearby residential and commercial areas.
- **Water contamination risks** from construction runoff, fuel storage, and camp sanitation.
- Potential for **flooding impacts** during the Selbe River's peak season.

#### Social Risks

- **Temporary access restrictions** to homes, shops, and social facilities.
- **Community safety hazards** related to traffic, heavy machinery, and open excavations.
- **Labor and working condition issues**, including OHS compliance and SEA/SH risk.
- **Stakeholder dissatisfaction** if not properly engaged or informed.
- Disruption to **vulnerable groups**, such as elderly residents and school children.

## 5.1. Pre-construction phase

| No. | Item                                         | Impacts and Issues                        | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                    | Implemented by | Supervised by               | Estimated Cost       | Timeframe             |
|-----|----------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------|----------------------|-----------------------|
| 1   | Preparation for Commencement of Construction | Development of the C-ESMP                 | 1.1 The Contractor has prepared the C-ESMP in accordance with ESMP, national regulations, and the World Bank ESF. It has been submitted for approval and will be updated as needed. 1.2 The C-ESMP includes: TMP (Appendix 3), LMP (Appendix 2), WMP (Section 13), ERP (Section 11, Appendices 7; 7.1 and Internal ERP-Appendix 7.2), SEP (Section 9), Chance Find Procedure (Appendix 1), and others. | Contractor     | Supervision Consultant, PMO | Included in contract | Before mobilization   |
| 2   | EMP Development and Approval                 | Delay in domestic EMP approval            | 2.1 Submit the domestic EMP to the UB Environmental Department for approval before site mobilization.                                                                                                                                                                                                                                                                                                  | Contractor     | Supervision Consultant, PMO | Included in contract | Before mobilization   |
| 3   | Capacity Building and Awareness              | Low awareness among workers and engineers | 3.1 Conduct training for all workers and site supervisors on C-ESMP requirements (Section 8). 3.2 Provide visual materials and pocket guides. Refer to <b>Appendix 2</b> – Labor Management Procedure<br>Formal LMP compliant with WB ESS2, covering employment terms, OHS, worker grievance, SEA/SH, and code of conduct. <b>Appendix 2.1</b> – Internal Labor Management Procedure (Mongolian)       | Contractor     | Supervision Consultant, PMO | Training budget      | Prior to construction |

|   |                                            |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                             |                          |                                |
|---|--------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------|--------------------------|--------------------------------|
|   |                                            |                                 | Contractor's operational procedure for worker health and safety, incident reporting, and daily site OHS responsibilities.                                                                                                                                                                                                                                                                                                                                                                       |            |                             |                          |                                |
| 4 | Contractor Capacity for EMP Implementation | Gaps in internal management     | 4.1 Appoint full-time on-site environmental and OHS staff.4.2 Integrate C-ESMP responsibilities into work procedures and job descriptions. Refer to <b>Appendix 2</b> – LMP (Formal LMP compliant with WB ESS2, covering employment terms, OHS, worker grievance, SEA/SH, and code of conduct). <b>Appendix 2.1</b> – Internal Labor Management Procedure (Mongolian) Contractor's operational procedure for worker health and safety, incident reporting, and daily site OHS responsibilities. | Contractor | Supervision Consultant, PMO | Staff salaries           | Ongoing                        |
| 5 | Environmental Monitoring Preparation       | Inadequate monitoring readiness | 5.1 Contract certified lab for baseline and periodic monitoring.5.2 Ensure lab capacity for key parameters. Refer to the Monitoring Plan (Section 6).                                                                                                                                                                                                                                                                                                                                           | Contractor | Supervision Consultant, PMO | Monitoring contract cost | Before and during construction |
| 6 | Permits and Approvals                      | Delays in site mobilization     | 6.1 Obtain all necessary permits (water use, electricity, mineral extraction, land use, access roads, etc.)6.2 Submit camp layout drawing for approval.6.3 Pay applicable fees.                                                                                                                                                                                                                                                                                                                 | Contractor | Supervision Consultant, PMO | Fees as per regulation   | Before mobilization            |
| 7 | Waste Transportation                       | Unregulated waste handling      | 7.1 Sign valid contract with licensed waste disposal company. Refer to the Waste Management Plan (Section 13).                                                                                                                                                                                                                                                                                                                                                                                  | Contractor | Supervision Consultant, PMO | Contract cost            | Throughout construction        |

|    |                              |                                       |                                                                                                                                                                     |            |                                               |                           |                               |
|----|------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------|---------------------------|-------------------------------|
|    | Arrangement                  |                                       |                                                                                                                                                                     |            |                                               |                           |                               |
| 8  | Utility Readiness            | Unsafe electrical installations       | 8.1 Obtain safe installation specs, install grounded systems, follow national safety codes.                                                                         | Contractor | Supervision Consultant, PMO                   | Installation cost         | Before energization           |
| 9  | Raw Material Source Planning | Unapproved extraction, land damage    | 9.1 Identify legal extraction sites.9.2 Obtain permits, sign site rehabilitation agreements.9.3 Rehabilitate sites post-use.                                        | Contractor | Supervision Consultant, PMO                   | Permit and rehabilitation | Throughout construction       |
| 10 | Water Resource Planning      | Water use and quality concerns        | 10.1 Prepare Water Use Plan per national standard.10.2 Use well water from approved khoroo and test quarterly.                                                      | Contractor | Supervision Consultant, PMO                   | Testing cost              | Throughout construction       |
| 11 | Air Quality Management       | Air pollution from machinery and dust | 11.1 Service equipment pre-mobilization and keep maintenance records.11.2 Suppress dust through watering, enforce speed limits, cover loads.                        | Contractor | Supervision Consultant, PMO                   | Equipment maintenance     | Throughout construction       |
| 12 | Temporary Land Use           | Access disruption during construction | 12.1 Avoid permanent acquisition.12.2 Plan detours and manage temporary road closures.12.3 Store materials in approved areas.12.4 Coordinate with local government. | Contractor | Supervision Consultant, PMO, Local Government | Coordination cost         | Prior and during construction |

|    |                                         |                                             |                                                                                                                                                                                                                                                                                                                                                                               |            |                                                 |                         |                               |
|----|-----------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------|-------------------------|-------------------------------|
| 13 | Tree Relocation (27 trees)              | Loss of vegetation                          | 13.1 Relocate or compensate in consultation with the Environmental Department and/or Green Development Division. Refer to the Landscaping and Rehabilitation Plan (Appendix 17), in compliance with Biodiversity and Vegetation Protection standards ( <b>MNS 6258-1:2011</b> ) and the World Bank Environmental and Social Framework (ESF), including <b>ESS1 and ESS6</b> . | Contractor | Supervision Consultant, PMO, Environmental Dept | Tree relocation cost    | Prior to clearing             |
| 14 | Camp Establishment and Signage          | Poor camp visibility and unauthorized setup | 14.1 Install bilingual signs at all camp entry/exit points.14.2 Obtain land-use permit for camp.14.3 Choose site with road access away from sensitive areas.14.4 Submit detailed plan for approval.                                                                                                                                                                           | Contractor | Supervision Consultant, PMO                     | Signage and camp setup  | Before construction           |
| 15 | Camp Setup and Storage                  | Safety, sanitation, visual impact           | 15.1 Level site, install fencing, relocate offices, storage, tanks, kitchens, and sanitation.15.2 Conduct basic landscaping and refer to layout Figure 8. Refer to Worker Camp management (Appendix 5).                                                                                                                                                                       | Contractor | Supervision Consultant, PMO                     | Camp setup cost         | Before construction           |
| 16 | Traffic Impact and Community Disruption | Congestion, detours, access restrictions    | 16.1 Develop TMP with Traffic Police, Road Agency, etc.16.2 Include haul routes, signage, detours, pedestrian crossings, and school/emergency access.16.3 Hold pre-construction consultations and revise TMP based on feedback.16.4 Install bilingual signage and pictograms.16.5 Train drivers and assign traffic focal point.16.6 Establish traffic-related GRM.            | Contractor | Supervision Consultant, PMO, Traffic Police     | Traffic management cost | Prior and during construction |

|    |                                      |                                             |                                                                                                                                                                                                                                                                             |            |                              |                        |                         |
|----|--------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------|------------------------|-------------------------|
|    |                                      |                                             | Refer to the Traffic Management Plan (Appendix 3) and the GRM (Section 10).                                                                                                                                                                                                 |            |                              |                        |                         |
| 17 | Access and Livelihood Mitigation     | Business access and vulnerable group safety | 17.1 Maintain access to homes, shops, and facilities.17.2 Install signs guiding customers to alternate entrances.17.3 Avoid peak business hours during disruptive works.17.4 Prioritize the elderly, disabled, and children in traffic planning.                            | Contractor | Supervision Consultant , PMO | Signage cost           | Throughout construction |
| 18 | Consultation, Disclosure, GRM        | Community dissatisfaction or confusion      | 18.1 Conduct consultations and disclose schedules, closures, and risks.18.2 Use posters, leaflets, verbal briefings, online updates.18.3 Include vulnerable groups.18.4 Monitor feedback and update plans accordingly. Refer to SEP (Section 9) and GRM (Section 10).       | Contractor | Supervision Consultant , PMO | Outreach budget        | Throughout construction |
| 19 | Occupational Health and Safety       | Worksite hazards and injuries               | 19.1 Comply with Mongolian law and <b>WB OHS standards</b> .19.2 Provide PPE, enforce height work limits, inspect PPE.19.3 Ensure access to clean drinking water and facilities. Refer to Labor Management Procedure (Appendix 2) and Internal LMP (Appendix 2.1-Mongolian) | Contractor | Supervision Consultant , PMO | PPE and training costs | Throughout construction |
| 20 | Infectious Disease and Public Health | Outbreaks or unsafe work conditions         | 20.1 Develop OHSP with COVID-19, STD, flu protocols.20.2 Conduct annual training, toolbox talks, and distribute hygiene supplies. Refer to Appendix 4-ESCOP.                                                                                                                | Contractor | Supervision Consultant , PMO | Training and supplies  | Throughout construction |
| 21 | Emergency Preparedness               | Lack of capacity to                         | 21.1 Develop EAP with emergency contact procedures, drills, and trained staff.21.2 Equip camps with extinguishers, alarms, and first                                                                                                                                        | Contractor | Supervision                  | Emergency equipment    | Throughout construction |

|    |                                        |                                           |                                                                                                                                                                                                                                                                |            |                              |               |                         |
|----|----------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------|---------------|-------------------------|
|    |                                        | handle incidents                          | aid.21.3 Station certified health staff on site. Refer to the Emergency Response Plan (Section 11).                                                                                                                                                            |            | Consultant , PMO             |               |                         |
| 22 | SEA/SH Prevention                      | Sexual exploitation, abuse, or harassment | 22.1 Implement zero-tolerance SEA/SH policy.22.2 Conduct training at hiring and quarterly.22.3 All workers sign Codes of Conduct.22.4 Establish confidential reporting channels and assign focal points. Refer to Labor Management Procedure (Appendix 2; 2.1) | Contractor | Supervision Consultant , PMO | Training cost | Throughout construction |
| 23 | Public Health and Safety Communication | Community risks and confusion             | 23.1 Actively inform residents using accessible language, pictograms, and bilingual posters on fences, notice boards, and in public spaces. Refer to SEP (Section 9).                                                                                          | Contractor | Supervision Consultant , PMO | Outreach cost | Throughout construction |
| 24 | Site Safety and Physical Protection    | Public injury or unauthorized access      | 24.1 Install fencing at camps and hazardous areas.24.2 Use weather-resistant signage at driver/pedestrian eye level with clear symbols. Refer to Worker Camp (Appendix 5).                                                                                     | Contractor | Supervision Consultant , PMO | Security cost | Throughout construction |
| 25 | Access Control and Security            | Safety threats from unauthorized access   | 25.1 Assign trained security staff 24/7 at high-risk areas.25.2 Guards trained on respectful interaction and non-violence. Refer to (Section 9).                                                                                                               | Contractor | Supervision Consultant , PMO | Security cost | Throughout construction |
| 26 | Staff Awareness Programs               | Low contractor/staff compliance           | 26.1 Conduct regular toolbox talks, distribute handbooks, and train on safety, rights, and respectful community interaction. Refer to Training and Awareness (Section 8).                                                                                      | Contractor | Supervision Consultant , PMO | Training cost | Throughout construction |

|    |                                   |                                                  |                                                                                                                                                                                                                                                                                                 |                  |                                  |                       |                         |
|----|-----------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------------|-----------------------|-------------------------|
| 27 | Land Acquisition and Resettlement | Land acquisition and displacement                | 27.1 RAP prepared during design stage. Contractor not responsible for implementation. Contractor to forward community concerns, if any, to LMA and PMO through the GRM. Refer to RAP (ESMP main document).                                                                                      | PMO / LMA        | Supervision Consultant, PMO, LMA | N/A                   | Design phase            |
| 28 | GRM Disclosure and Oversight      | Lack of community access to grievance mechanisms | 28.1 Provide GRM training to the contractor. Disseminate GRM contact details (phone, fax, email, addresses) at each khoroo. PMO to oversee and ensure functioning of the GRM as per ESMP framework. Refer to GRM (Section 10) and Appendix 2, 2.1 for worker-level grievance mechanism details. | Contractor / PMO | Supervision Consultant, PMO      | Training and outreach | Throughout construction |

## 5.2. Construction phase

| No. | Item                      | Impacts and Issues                                                                                | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                       | Implemented by | Supervised by               | Estimated Cost       | Timeframe               |
|-----|---------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------|----------------------|-------------------------|
| 1   | Soil and Vegetation Cover | - Soil disturbance, compaction, vegetation loss- Risk of erosion, soil degradation- Contamination | - Install temporary perimeter fencing and sanitary facilities.- Secure and regularly clean project site.- Segregate and reuse excavated material where possible.- Implement erosion control and spill containment measures.- Apply <b>MNS 5916:2008</b> standards for topsoil stockpiles.- Restore disturbed areas through greening and topsoil reuse.- Conduct soil quality monitoring ( $\geq 2$ times/year at $\geq 5$ | Contractor     | Supervision Consultant, PMO | Included in contract | Throughout construction |

|   |                                   |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                             |                      |                         |
|---|-----------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------|----------------------|-------------------------|
|   |                                   | n from spills and leaks                                                                                      | points) (Section 6).- Properly excavate and dispose of contaminated soil.- Accurately define work areas and protect land resources.<br><b>Refer to:</b><br><b>Appendix 12</b> – Topsoil Removal, Storage, and Reuse Plan<br><b>Appendix 12.1</b> – Contractor Topsoil Management Procedure (Mongolian) – Internal procedure (“Өнгөн хөрстэй ажиллах журам”) for stripping, transporting, and storing topsoil in accordance with national requirements<br><b>Appendix 12.2</b> – Land Disturbance Procedure and Permit Form – Required pre-approval process for all ground-disturbing activities. |            |                             |                      |                         |
| 2 | Air Quality, Noise, and Vibration | - Dust, emissions from machinery- Noise/vibration disturbing communities- Violation of air quality standards | - Sprinkle water periodically to suppress dust.- Ensure compliance with <b>MNS 4585:2016</b> air pollution standards.- Limit work to daytime hours; notify in advance of night works.- Use low-noise equipment and noise barriers.- Provide PPE (especially ear protection).- Monitor vibration where required.- Install signage and noise dampening near sensitive receptors. Refer to Appendix 14.                                                                                                                                                                                             | Contractor | Supervision Consultant, PMO | Included in contract | Throughout construction |

|   |                                    |                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                             |                         |                         |
|---|------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------|-------------------------|-------------------------|
| 3 | Surface and Ground Water           | - Contamination from spills/runoff- Changes in natural flow- Groundwater risk | - Avoid construction during rainy or high-precipitation periods.- Install sediment traps and drainage at camps/storage areas.- Follow <b>Joint Order A-230/127 (2015)</b> on protection zones.- Secure fuel storage in designated areas.- Clean RoW surroundings regularly to avoid pollution.- Protect nearby wetlands and streams.- Adhere to <b>Water Law Articles 28.4, 29.1</b> .- Provide hygienic drinking water and clean tanks.- Register and monitor wells per regulations. Refer to Water Management (Appendix 13). | Contractor | Supervision Consultant, PMO | Included in contract    | Throughout construction |
| 4 | Flooding Risk                      | - Flood damage to site/assets- Construction delays                            | - Avoid works during Selbe River flooding season.- Elevate vulnerable materials above flood level. - Ensure site drainage is operational.                                                                                                                                                                                                                                                                                                                                                                                      | Contractor | Supervision Consultant, PMO | Included in contract    | Seasonal                |
| 5 | Waste Management (incl. Hazardous) | - Site contamination- Improper waste segregation or disposal                  | - Implement site-specific Waste Management Plan.- Store solid waste in sealed containers.- Label and segregate hazardous waste.- Organize training on waste handling for workers.- Transport waste to licensed sites.- Securely store waste oil and lubricants.- Recycle asphalt pavement if removed.- Improve sorting and sealing of temporary storage points.- Ensure all activities comply with national waste laws. Refer to the Waste Management Plan (Section 13).                                                       | Contractor | Supervision Consultant, PMO | Waste management budget | Throughout construction |

|   |                                     |                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                     |            |                             |                        |                         |
|---|-------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------|------------------------|-------------------------|
| 6 | Fauna and Flora                     | - Habitat disturbance-<br>Dust and construction impacts on biodiversity                     | - Limit unnecessary clearing. - Reuse topsoil for replanting. - Implement Greening Plan post-construction. - Avoid sensitive areas and protect local vegetation.                                                                                                                                                                                                                                    | Contractor | Supervision Consultant, PMO | Included in contract   | Throughout construction |
| 7 | Community Safety and Health         | - Public safety risks, dust, noise-<br>Disruption of services-<br>Exposure to GBV/SEA risks | - Install pedestrian safety measures and clear signage.- Notify public of service disruptions (power, access, etc.).- Post notice boards with GRM details and contact info.- Assign Community Liaison Officer (CLO).- Conduct Code of Conduct and GBV/SEA training.- Implement Community Health and Safety Plan and SEP.- Limit working hours and minimize disruptions. Refer to ESCOP (Appendix 4) | Contractor | Supervision Consultant, PMO | Included in contract   | Throughout construction |
| 8 | Stakeholder Engagement & Grievances | - Public dissatisfaction<br>- Project delays                                                | - Update and implement SEP.- Operate and promote the GRM. - Hold regular information sessions. - Organize GRM training for staff. - Monitor and log complaints and actions taken. Refer to SEP (Section 9) and GRM (Section 10).                                                                                                                                                                    | Contractor | Supervision Consultant, PMO | Outreach budget        | Throughout construction |
| 9 | Worker Camp                         | - Conflict with community-<br>Sanitation risks                                              | - Locate camp away from residential zones. - Establish and enforce camp rules and Code of Conduct. - Provide health services, clean water, and sanitation. - Train workers to hygiene and camp discipline. Refer to Worker Camp                                                                                                                                                                     | Contractor | Supervision Consultant, PMO | Camp management budget | Throughout construction |

|    |                                    |                                                           |                                                                                                                                                                                                                                                                                                                                                 |            |                             |                         |                         |
|----|------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------|-------------------------|-------------------------|
|    |                                    |                                                           | Management (Appendix 5), LMP appendices 2; 2.1)                                                                                                                                                                                                                                                                                                 |            |                             |                         |                         |
| 10 | Employment and Local Benefits      | - Missed opportunities for locals- Community discontent   | - Hire local men and women where possible. - Promote the brigade approach. - Support small businesses and informal vendors. - Conduct job and bidding workshops. - Assist unemployed individuals in job matching.                                                                                                                               | Contractor | Supervision Consultant, PMO | Included in contract    | Throughout construction |
| 11 | Labor Conditions and Worker Rights | - Labor violations- Unsafe conditions, child labor risks  | - Enforce <b>Labor Law (2024 amendment)</b> and WB ESS2.- Verify age and contracts for all staff. - Provide regular labor rights and safety training. - Maintain Worker GRM. - Ensure fair treatment and cultural awareness. - Regularly inspect PPE and tools. Refer to Labor Management Procedure (Appendix 2 and Internal LMP Appendix 2.1). | Contractor | Supervision Consultant, PMO | Training and compliance | Throughout construction |
| 12 | Cultural Heritage                  | - Damage to unrecorded sites                              | - Implement Chance Find Procedure (Appendix 1). - Halt work immediately upon discovery. - Notify relevant authorities. - Support database development for heritage sites if needed.                                                                                                                                                             | Contractor | Supervision Consultant, PMO | N/A                     | Throughout construction |
| 13 | Traffic Safety and Machinery Use   | - Accidents from heavy vehicles- Unsafe site traffic flow | - Enforce Traffic Management Plan (Appendix 3). - Train and license equipment operators. - Use alarms for reversing vehicles. - Enforce speed limits and designated routes. - Restrict private/delivery vehicles to fixed routes. - Clearly mark emergency exits and ensure unobstructed passage.- Use only certified operators for machinery.  | Contractor | Supervision Consultant, PMO | Traffic management cost | Throughout construction |

|    |                          |                                                       |                                                                                                                                                                                                                                                                       |            |                             |            |                         |
|----|--------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------|------------|-------------------------|
| 14 | Worker and Public Health | - Injuries, illness, fire, disease- Unsafe food/water | - Implement Emergency Response Action Plan (Section 11; Appendix 7). - Provide clean drinking water and food.- Conduct regular safety drills.- Provide first aid kits and fire extinguish; Refer to ERP(Section11), LMP (Appendix 2), and Internal LMP (Appendix 2.1) | Contractor | Supervision Consultant, PMO | OHS budget | Throughout construction |
|----|--------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------|------------|-------------------------|

### 5.3. Operation phase

| No | Impact Type   | Potential Impact                                    | Mitigation Measures (Contractor's Responsibilities)                                                                                                                                                                                                                                                                                                                                                                                      | Implemented by                                                     | Supervised by                                                                | Estimated Cost  | Timeframe |
|----|---------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------|-----------|
| 1  | Environmental | Noise from Operation Activities                     | <ul style="list-style-type: none"> <li>Select and operate road maintenance equipment with low noise emissions.</li> <li>Conduct routine maintenance to minimize equipment noise and vibration.</li> <li>Install acoustic shields or vibration dampers where necessary.</li> <li>If noise exceeds national or WB thresholds, install temporary or permanent noise barriers near sensitive areas such as schools or residences.</li> </ul> | Contractor's Site Engineer and EHS Officer (daily & weekly checks) | PMO Environmental Specialist and Supervision E&S Specialist (monthly review) | To be estimated |           |
|    |               | Accumulation of Solid Waste in Camps and Workplaces | <ul style="list-style-type: none"> <li>Establish clearly marked waste collection points in all operational areas.</li> <li>Segregate waste into recyclable, organic, and hazardous categories.</li> <li>Store hazardous waste in secured containers and</li> </ul>                                                                                                                                                                       | Contractor's Waste Management Officer                              | PMO Environmental Specialist,                                                | To be estimated |           |

|  |  |                                                       |                                                                                                                                                                                                                                                                                                                                                                            |                                     |                                                                                       |                     |                 |
|--|--|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------|---------------------|-----------------|
|  |  |                                                       | arrange for licensed disposal. • Coordinate with local waste management service providers for scheduled removal. • Provide training to all staff on waste management procedures. • Rehabilitate any temporary storage or maintenance areas used. Refer to the Waste Management Plan (Section 13).                                                                          |                                     | Supervision E&S Specialist, and Local waste authorities                               |                     |                 |
|  |  | <b>Road Surface Degradation</b>                       | • Inspect road surface condition regularly during any contractor-assigned maintenance periods. • Identify and report defects such as cracks or potholes. • Carry out timely patching or resurfacing using high-quality materials. • Submit maintenance logs and defect reports to the PMO.                                                                                 | Contractor's Maintenance Supervisor | PMO / Consulting Engineer and Supervision E&S Specialist                              | To be estimated     | Periodic        |
|  |  | <b>Unrehabilitated or Poorly Restored Borrow Pits</b> | • Backfill, contour, and stabilize any borrow pits used by the contractor during construction. • Spread stored topsoil and reseed to promote vegetation recovery. • Install fencing or warning signage to prevent unauthorized access. • Ensure adequate drainage to avoid ponding or erosion. • Submit a site rehabilitation report including photos and GPS coordinates. | Contractor's Environmental Officer  | PMO Monitoring Team, Supervision E&S Specialist, and Local Environmental Inspectorate | To be estimated     | Upon Completion |
|  |  | <b>Environmental landscaping</b>                      | Landscaping, tree planting, and greening; rehabilitation of disturbed areas (technical and biological) will be carried out in compliance with                                                                                                                                                                                                                              | Contractor's Environmental Officer  | District Authority                                                                    | As per Appendix 17. |                 |

|  |               |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                     |                                                          |                 |  |
|--|---------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------|-----------------|--|
|  |               | <b>and Rehabilitation</b>                    | relevant national standards ( <b>MNS 5918:2023, MNS 6258-1:2011, MNS 6258-2:2011</b> ) and World Bank ESF standards ( <b>ESS1 and ESS6</b> ), as outlined in the detailed Landscaping and Rehabilitation Plan (Appendix 17). A detailed rehabilitation plan, in accordance with Technical Specifications Sections 138 and 139, will be developed at a later stage in consultation with the Contractor and the Consultant, closer to site demobilization and completion.                  |                                     |                                                          |                 |  |
|  | <b>Social</b> | <b>Increased Traffic Volume and Speed</b>    | <ul style="list-style-type: none"> <li>• Install appropriate traffic calming measures (e.g., speed bumps, road signs) where contractor operations contribute to increased traffic.</li> <li>• Maintain all installed signs and safety infrastructure.</li> <li>• Coordinate with local authorities to report high-risk areas.</li> <li>• Avoid operating during peak hours near schools and residential areas, where possible. Refer to Traffic Management Plan (Appendix 3).</li> </ul> | Contractor's Traffic Safety Officer | PMO and Local Traffic Police, Supervision E&S Specialist | To be estimated |  |
|  |               | <b>Pedestrian and Road User Safety Risks</b> | <ul style="list-style-type: none"> <li>• Provide adequate and visible road signage, speed limit signs, pedestrian crossings, and lighting in operational zones.</li> <li>• Train workers in first aid and emergency response procedures.</li> <li>• Develop and implement a Post-Crash Response Plan, including emergency contact lists and equipment.</li> <li>• Report all road-related incidents or near misses to PMO</li> </ul>                                                     | Contractor's Safety Officer         | PMO Safeguard Team, Supervision E&S Specialist, and      | To be estimated |  |

|  |  |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |                                                                                           |                 |  |
|--|--|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------|-----------------|--|
|  |  |                                            | within 24 hours. Refer to the Emergency Response Plan (Section 11; Appendix 7).                                                                                                                                                                                                                                                                                                                                                                                                   |                                    | Emergency Services (as needed)                                                            |                 |  |
|  |  | <b>Noise Impact to Sensitive Receptors</b> | <ul style="list-style-type: none"> <li>• Monitor noise levels near sensitive receptors (schools, clinics, residential areas).</li> <li>• Apply mitigation such as restricting noisy operations to daytime hours, maintaining mufflers, or erecting noise barriers.</li> <li>• Ensure all operations comply with Mongolian standards (e.g., <b>MNS 4585:2016</b>) and <b>WB EHS Guidelines</b>.</li> <li>• Keep a noise log and submit to PMO during monthly reporting.</li> </ul> | Contractor's Environmental Officer | PMO E&S Team, Supervision E&S Specialist, and Local Environmental Inspector (spot audits) | To be estimated |  |
|  |  |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |                                                                                           |                 |  |

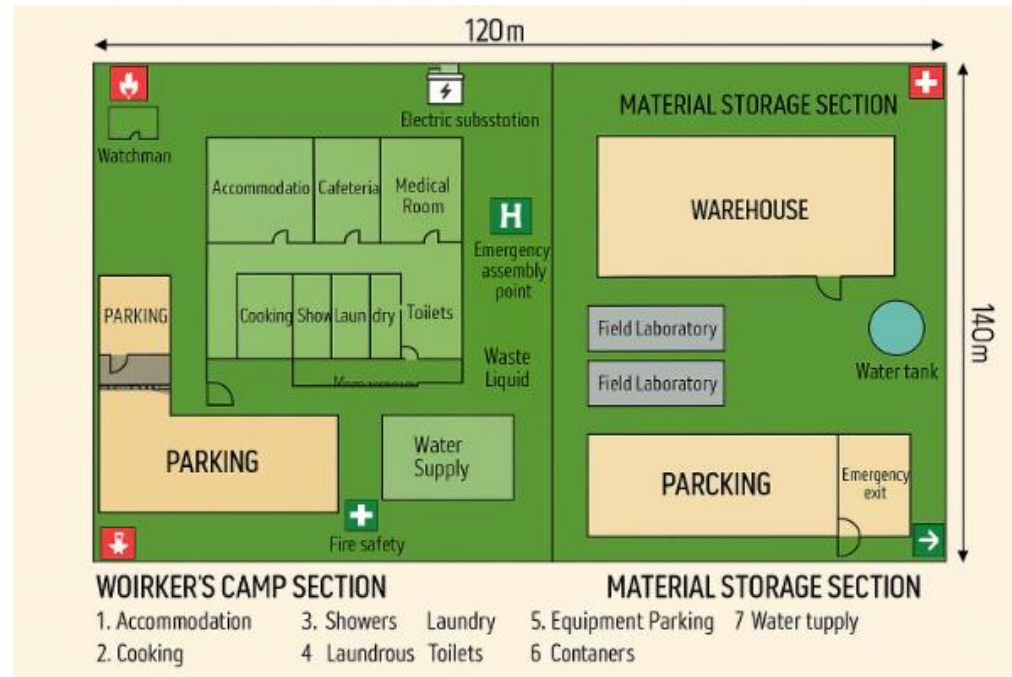


Figure 9. Camp layout

## 6. Monitoring Plan

Daily environmental monitoring will be conducted by the Contractor using a standardized **Daily Environmental Monitoring Checklist**. This checklist includes observations related to dust, noise, waste segregation, hazardous material handling, erosion control, and surface water protection. Completed forms will be filed on-site and reviewed weekly by the Environmental Specialist and the Supervising Consultant.

► **Refer to Appendix 16: Daily Environmental Monitoring Checklist Template**

*Table 10. Environmental Monitoring Plan – Construction Phase*

*(Construction Phase: July 2025–October 2026)*

| No | Monitoring Item     | Monitoring Location <sup>3</sup> | Method / Indicators                                                                                     | Environmental KPIs                                                                                   | Frequency                                                       | Responsible Party | Standards / Guidelines                                 |
|----|---------------------|----------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------|--------------------------------------------------------|
| 1  | Ambient Air Quality | 7 locations along project RoW    | SO <sub>2</sub> , NO <sub>2</sub> , TSP, PM <sub>10</sub> , PM <sub>2.5</sub> ; visual dust observation | PM <sub>10</sub> & PM <sub>2.5</sub> ≤ national/WB limits - ≤ 3 dust complaints/month from residents | Biweekly during construction season (15 April–15 Oct), 42 times | Contractor        | <b>MNS 4585:2016, MNS 5061:2001, WB EHS Guidelines</b> |

<sup>3</sup> Detailed monitoring locations have been previously presented in the 2.1. Existing Environmental Conditions and Contractor Measures sections. To avoid redundancy and preserve table formatting, they are not repeated below.

|   |                       |                                                                                                           |                                                                                                                                                                                            |                                                                                                  |                                                                 |            |  |                                               |
|---|-----------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|------------|--|-----------------------------------------------|
| 2 | Noise                 | Same 7 locations                                                                                          | Noise level in dB(A)                                                                                                                                                                       | - $\leq 65$ dB(A) during day, $\leq 55$ dB(A) at night - $\leq 2$ noise-related grievances/month | Biweekly during construction season (15 April–15 Oct), 42 times | Contractor |  | <b>MNS 0012–1–009:1985, WB EHS Guidelines</b> |
| 3 | Surface Water Quality | 4 river locations along RoW                                                                               | pH, EC, hardness, Na, K, Ca, Mg, NH <sub>4</sub> , Fe, F, Cl, SO <sub>4</sub> , NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , HCO <sub>3</sub> , TDS, BOD, heavy metals; turbidity | - All parameters within allowable limits - Turbidity increase $\leq 10\%$ from baseline          | Monthly during construction season (15 April–15 Oct), 30 times  | Contractor |  | <b>MNS 4943:2015, WHO Guidelines</b>          |
| 4 | Aquatic Invertebrates | Same 4 river locations: PK0+080 Right side; PK 0+500 Right side; PK 1+020 Right side; PK 2+180 Right side | Presence and diversity of aquatic invertebrates                                                                                                                                            | - No significant reduction ( $>20\%$ ) in aquatic diversity compared to baseline                 | Every 3 months (quarterly) – 9 times                            | Contractor |  | <b>WB EHS Guidelines</b>                      |

|   |                         |                                          |                                                                                                                                                                                                                     |                                                                                     |                                            |            |  |                                                                                        |
|---|-------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------|------------|--|----------------------------------------------------------------------------------------|
| 5 | Soil Quality            | 6 locations along RoW                    | pH, salinity, EC, CaCO <sub>3</sub> , NO <sub>3</sub> , P <sub>2</sub> O <sub>5</sub> , K <sub>2</sub> O, Mg <sup>2+</sup> , Ca <sup>2+</sup> , heavy metals (Zn, Cr, Pb, Cu, Ni, As, Cd); bacteriology; grain size | - No exceedance of heavy metal thresholds - Soil fertility indicators remain stable | Once per month (15 April–15 Oct), 36 times | Contractor |  | <b>MNS 5850:2019, MNS 6341:2012, MNS 3297:2019</b>                                     |
| 6 | Waste Management        | Camps, roadwork areas                    | Daily inspection, segregation logs, photo records                                                                                                                                                                   | - ≥ 90% solid waste segregated properly - ≤ 2 incidents of illegal disposal/month   | Biweekly (15 April–15 Oct), 42 times       | Contractor |  | <b>MUB Waste Management Guide, WB EHS, Law on Hygiene, Gov't Resolution 116 (2018)</b> |
| 7 | Socio-Economic Feedback | Local khoroos and administrative offices | Citizen surveys, community meetings, grievance records                                                                                                                                                              |                                                                                     | Once per year (October) – 3 times          | Contractor |  | <b>WB ESS5, Mongolian laws on community participation</b>                              |
| 8 | Road Safety Monitoring  | Along the project corridor               | Weekly accident logs, incident reviews                                                                                                                                                                              |                                                                                     | Weekly                                     | Contractor |  | <b>WB ESS4, WB Road Safety Good Practice Note</b>                                      |

|    |                                    |                              |                                                    |  |            |            |  |                                                              |
|----|------------------------------------|------------------------------|----------------------------------------------------|--|------------|------------|--|--------------------------------------------------------------|
| 9  | Traffic Management Plan Compliance | Access and haul roads        | Speed checks, TMP signage compliance               |  | Weekly     | Contractor |  | <b>TMP Plan, WB Road Safety Note, Mongolian Traffic Code</b> |
| 10 | Health & Safety, Spills, Hazards   | High-risk construction zones | PPE checks, hazard signage, spill kit availability |  | Continuous | Contractor |  | <b>WB EHS Guidelines, National OSH Laws</b>                  |

**Total Monitoring Budget (Construction Phase): ~ 601,428,571.44 MNT**

*Table 11: Additional KPIs for Socio-Economic, Traffic, and Health & Safety Monitoring*

| Monitoring Area                | Parameter / Indicator                                                    | Target / Limit                               | Frequency / Timing      | Responsibility                             | Reference / Standard                                  |
|--------------------------------|--------------------------------------------------------------------------|----------------------------------------------|-------------------------|--------------------------------------------|-------------------------------------------------------|
| <b>Socio-Economic Feedback</b> | Number of grievances/complaints received related to construction impacts | ≤ 3 complaints/month from residents          | Monthly                 | <b>Social Specialist / GRM Focal Point</b> | World Bank ESS10, Project GRM                         |
|                                | Timely resolution of complaints                                          | 100% resolved within 14 days                 | Monthly                 | <b>Social Specialist / GRM Focal Point</b> | WB ESS10                                              |
| <b>Road Safety Monitoring</b>  | Number of traffic accidents/incidents on RoW                             | Zero fatalities; ≤2 minor accidents per year | Monthly / Post-incident | <b>OHS Specialist / Traffic Officer</b>    | Mongolian Road Traffic Regulations, WB EHS Guidelines |
|                                | Compliance with road signage and speed limits                            | 100% compliance                              | Weekly                  | <b>OHS Specialist / Traffic Officer</b>    | Mongolian Traffic Rules, Project TMP                  |

|                                                  |                                                                        |                                                      |                         |                                                              |                                                |
|--------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------|-------------------------|--------------------------------------------------------------|------------------------------------------------|
| <b>Traffic Management Plan (TMP) Compliance</b>  | TMP implementation: signage, flagging, diversion, worker PPE           | 100% implementation at active sites                  | Weekly                  | <b>OHS Specialist, supervised by Project Manager</b>         | WB EHS Guidelines, Project TMP                 |
|                                                  | Vehicle/Equipment adherence to designated routes                       | No off-route driving without approval                | Weekly / Spot check     | <b>OHS Specialist / Traffic Officer</b>                      | Project TMP                                    |
| <b>Health &amp; Safety (Site Workers)</b>        | Use of PPE                                                             | 100% of workers wearing correct PPE                  | Daily / Spot check      | <b>OHS Specialist</b>                                        | Mongolian OHS Law, WB EHS Guidelines           |
|                                                  | Workplace injuries                                                     | Zero fatalities; minor injuries $\leq 2$ per quarter | Monthly / Post-incident | <b>OHS Specialist</b>                                        | Mongolian OHS Law, WB EHS Guidelines           |
| <b>Spills and Hazardous Materials</b>            | Number of spills/releases of chemicals, fuels, or hazardous substances | Zero major spills; $\leq 1$ minor spill/month        | Weekly / Event-based    | <b>Environmental Specialist, supported by OHS Specialist</b> | Mongolian Environmental Law, WB EHS Guidelines |
|                                                  | Spill response and cleanup                                             | 100% of spills cleaned within 24 hours               | Event-based             | <b>Environmental Specialist / HSE Officer</b>                | WB EHS Guidelines, Project SOP                 |
| <b>Hazard Reporting &amp; Corrective Actions</b> | Number of hazards reported and corrected                               | 100% reported hazards addressed within 7 days        | Weekly / Event-based    | <b>OHS Specialist, with oversight from Project Manager</b>   | WB ESS2, Project OHS Procedure                 |

## 7. Environmental and Social Reporting and File Keeping

### 7.1. Reporting Responsibilities and Schedule

Regular and accurate reporting is essential for successful ESMP implementation. It ensures compliance with mitigation measures, facilitates monitoring and accountability, and fulfills the requirements of both national legislation and the WB (ESS).

Table 12. Key Reporting Responsibilities and Reporting Schedule Summary

#### a) Key Reporting Responsibilities

| Institution                                         | Responsibilities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contractor</b>                                   | - Conduct environmental and social inspections at worksites and camps <b>at least once every two weeks</b> . - Prepare and submit <b>monthly Environmental and Social Progress Reports</b> to the <b>PMO</b> , including photographic evidence, site findings, violations, and corrective actions taken. - Maintain records of environmental permits, inspection findings, training activities, grievances, waste logs, and water consumption. - Submit the <b>annual ESMP Implementation Report (in Mongolian)</b> to the <b>Capital City Environmental Department (UBED)</b> and the <b>Sukhbaatar District Governor's Office</b> by <b>November 1st</b> . - Submit annual <b>waste management and water usage</b> records to the district environmental specialist. - Provide required documentation to the <b>khoroos' committees</b> annually. |
| <b>PMO (Project Management Office)</b>              | - Review monthly and annual reports submitted by the contractor. - Prepare and submit <b>biannual ESMP Implementation Reports</b> to the <b>World Bank</b> by <b>January 1st</b> and <b>July 1st</b> each year. These reports must include: – Summary of ESMP implementation and effectiveness; – Monitoring data and lab-certified reports (air, noise, water, etc.); – Summary of training, grievances, and mitigation progress. - Submit the <b>following year's EMP</b> (in Mongolian) to <b>UBED</b> for review and approval by <b>December 31st</b> . - Maintain reporting records and photographic evidence of site inspections, training, and grievance cases.                                                                                                                                                                              |
| <b>UBED (Capital City Environmental Department)</b> | - Review the <b>annual EMP Implementation Report</b> submitted by the contractor. - Review and approve the EMP for the <b>following year</b> . - Provide technical support and decisions related to borrow pit rehabilitation and environmental compliance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Environmental Monitoring Institute</b>           | - Conduct professional environmental quality monitoring (air, noise, water, and soil) as per the Contractor's monitoring schedule. - Use accredited laboratories for analysis. - Submit <b>2–3 monitoring</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                   |                                                                                                                                         |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|                   | <b>reports annually</b> to the Contractor and PMO, including certified data and photos.                                                 |
| <b>World Bank</b> | - Receive and archive <b>semi-annual ESMP Implementation Reports</b> from the PMO, along with supporting monitoring data and summaries. |

## b) Reporting Schedule Summary

| Report Type                                               | Prepared By          | Submitted To                            | Frequency      | Deadline            |
|-----------------------------------------------------------|----------------------|-----------------------------------------|----------------|---------------------|
| <b>Monthly Environmental &amp; Social Report</b>          | Contractor           | Supervision Consultant, PMO             | Monthly        | End of each month   |
| <b>Biweekly Site Inspection Record</b>                    | Contractor           | Supervision Consultant, PMO             | Biweekly       | Rolling             |
| <b>Annual C-ESMP Implementation Report (in Mongolian)</b> | Contractor           | UBED, District Gov't                    | Annual         | Nov 1st             |
| <b>Following Year's EMP (in Mongolian)</b>                | Contractor           | UBED                                    | Annual         | Dec 31st            |
| <b>Environmental Monitoring Reports</b>                   | Monitoring Institute | Contractor, Supervision Consultant, PMO | 2–3 times/year | As per schedule     |
| <b>Biannual C-ESMP Implementation Report</b>              | PMO                  | World Bank                              | Biannual       | Jan 1st and Jul 1st |

## 7.2. File Keeping and Documentation

All parties involved in C-ESMP implementation must ensure that relevant files are maintained properly. Appointed staff members from each institution are responsible for securing storage and timely updates of documentation related to environmental and social performance.

Table 13. File Keeping Responsibilities

| Institution       | File Keeping Requirements                                                                                                                      |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contractor</b> | - Maintain records of inspection dates, mitigation actions taken, and issues identified. - Archive monthly reports, photos of site conditions, |

|                                           |                                                                                                                                                                                                                                                                                             |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           | and documentation of corrective actions. - Retain environmental permits and approvals on-site. - Maintain training records, grievance logs, and subcontractor compliance evidence. - Archive official correspondence and recommendations received from the Supervision Consultant and PMO.  |
| <b>PMO</b>                                | - Store all contractor reports (monthly, annual), monitoring reports, and training records. - Maintain copies of submitted reports to the WB and UBED. - Archive photographic evidence of inspections, public engagement, and grievance redress. - Track document versions and submissions. |
| <b>UBED</b>                               | - Archive annual C-ESMP implementation reports and approved EMPs for the following year (in Mongolian). - Retain records and photos from site visits, reviews, and training activities. - Maintain documentation of complaints and environmental approvals.                                 |
| <b>Environmental Monitoring Institute</b> | - Retain all raw monitoring data, lab analysis results, and final reports. - Archive photos of sampling locations and fieldwork. - Keep a submission log of all reports shared with the contractor and PMO.                                                                                 |
| <b>World Bank</b>                         | - Maintain digital and/or hard copies of biannual C-ESMP Implementation Reports and supporting documents submitted by the PMO.                                                                                                                                                              |

## 8. Training and Capacity Building Plan

Effective training and capacity building are critical to ensure that all personnel involved in the project—managers, technical staff, operators, laborers, and subcontractors—understand and comply with environmental, social, occupational health and safety (OHS), and human resource management standards. The contractor will implement the training activities outlined in this section to ensure alignment with the ESMP and meet the requirements outlined during the design stage.

Training will focus on improving awareness, building capacity for risk management, ensuring compliance with relevant Mongolian regulations and World Bank ESS, and equipping workers with the knowledge needed to respond effectively to emergency situations, protect community wellbeing, and prevent environmental degradation.

### 8.1 Objectives of the Training Program

The key objectives of the training and capacity-building plan are to:

- Familiarize all workers with the ESMP and its requirements;
- Enhance the capacity of staff in managing environmental and social risks;
- Build knowledge of applicable legal frameworks and best practices;
- Ensure that contractors and subcontractors understand site-specific mitigation and monitoring responsibilities;
- Prepare workers for emergencies (spills, fire, electrical hazards, etc.);
- Promote safe conduct, respectful behavior, and effective grievance handling;
- Strengthen the roles of health and safety, environmental, and social personnel.

### 8.2 Scope and Responsibilities

The Contractor's HS Division will lead the implementation of the training program. Key responsibilities include:

- Organizing both internal and external training sessions;
- Coordinating with third-party training service providers;
- Ensuring attendance of relevant personnel;
- Maintaining training records (including date, participants, location, cost, and content);
- Evaluating the effectiveness of training and updating content as needed;
- Collaborating with PMO, Road Development Agency (RDA), and supervising consultants for joint training and oversight.

### 8.3 Summary of Training Program

The following table outlines the detailed training schedule categorized into Health and Safety, Environmental and Social, and Human Resource topics. This plan integrates both internal capacity-building actions and external training requirements, aligned with the ESMP and design-stage recommendations.

Table 14. General Contractor Training Schedule: Environmental, Social, Health & Safety, and HR Requirements

| Training Area                   | Topic                               | Description                                                              | Target Participants     | Timing                     | Responsible Unit                |  |
|---------------------------------|-------------------------------------|--------------------------------------------------------------------------|-------------------------|----------------------------|---------------------------------|--|
| <b>General Safety Induction</b> | Introductory ESHS Orientation       | Covers project-specific risks, laws, hazard symbols, GRM, and site rules | All newly hired workers | Q3 2025 onward (quarterly) | HS Division, HR                 |  |
| <b>OHS</b>                      | Emergency & Evacuation Preparedness | Fire, electrical, and chemical incident response                         | Entire site workforce   | Q3 2025, Q2 2026           | HS Division, Emergency Agency   |  |
|                                 | First Aid Response                  | CPR and basic injury care                                                | All workers             | Q3 2025                    | HS Division, Camp Medical Staff |  |
|                                 | Equipment & Machine Safety          | Safe use, pre-checks, PPE, alarms                                        | Operators, drivers      | Q3 2025                    | HS Division                     |  |
| <b>Environmental Management</b> | Spill & Waste Management            | Spill prevention, waste segregation & disposal                           | All site staff          | Q3 2025                    | Environmental Specialist        |  |

|                                   |                              |                                        |                            |         |                           |  |
|-----------------------------------|------------------------------|----------------------------------------|----------------------------|---------|---------------------------|--|
| <b>GRM &amp; Social Awareness</b> | GRM Procedures               | Complaint handling, confidentiality    | All workers                | Q3 2025 | Social Specialist         |  |
|                                   | Disease Prevention & Hygiene | COVID-19, HIV, sanitation practices    | Entire workforce           | Q3 2025 | Social Specialist, Doctor |  |
|                                   | Cultural Heritage Protection | Chance find procedures                 | All site staff             | Q3 2025 | Env. & Social Specialists |  |
| <b>Human Resources</b>            | Code of Conduct Briefing     | Ethics, behavior, disciplinary actions | Entire workforce           | Q3 2025 | HR Administration         |  |
|                                   | Gender & Inclusion           | Sensitivity, harassment prevention     | Drivers, guards, logistics | Q3 2025 | HR Administration         |  |
| <b>Camp &amp; Kitchen</b>         | Food & Camp Hygiene          | Safe food handling, kitchen rules      | Kitchen staff              | Q3 2025 | HS Division, Doctor       |  |

## 8.4 Monitoring and Record-Keeping

All training activities will be documented using signed attendance sheets, training content summaries, and photographic evidence where appropriate. The contractor will maintain a dedicated training log including:

- Training dates and topics;
- Participant names and positions, gender;
- Trainers and organizing units;
- Materials distributed and key learning points;
- Feedback from participants.

Training effectiveness will be reviewed periodically, and updates to training frequency, content, or target groups may be made in consultation with the PMO or supervising engineers.

## 8.5 Contractor detailed training plan

A detailed **Contractor's Training Plan** is provided in **Appendix 15**. The plan is structured according to the **project phases** and divided into:

- **Pre-construction Phase Training:** Focused on orientation, ESHS awareness, code of conduct, and site-specific risk training.
- **Construction Phase Training:** Covers technical, environmental, social, OHS topics, and emergency preparedness tailored to ongoing site activities.

All trainings are designed to ensure compliance with WB ESSs, national regulations, and project-specific requirements.

## 9. Stakeholder Engagement Plan (SEP)<sup>4</sup>

### 9.1. Project Background

The Selbe River Road Subproject, part of the Ulaanbaatar Sustainable Urban Transport Project, targets reduced congestion, safer mobility, and enhanced climate resilience through infrastructure improvements. The subproject spans 2.7 km in central Ulaanbaatar, covering the 7th, 11th, 12th, and 13th khoroos of Sukhbaatar District. Zhongfu Construction Engineering Co., Ltd, an international road construction company registered in China will implement the works from July 2025 to October 2026.

### 9.2. Purpose of the Stakeholder Engagement Plan

This SEP outlines the contractor's strategy to establish transparent, inclusive, and ongoing communication with stakeholders throughout the project lifecycle. Objectives include:

- Identifying relevant stakeholders and tailoring engagement strategies;
- Facilitating early and continuous information sharing;
- Implementing an effective grievance mechanism;
- Supporting adaptive management of social risks.

**The SEP complies with the World Bank's Environmental and Social Standard ESS10 and Mongolian national legislation.**

### 9.3. Legal and Policy Framework

**Engagement is guided by:**

- World Bank ESS10 – Stakeholder Engagement;
- Law on Urban Development;
- Law on Resolution of Applications and Complaints;

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<sup>4</sup> Source: Sources: (1) ESMP – Selbe River Road, prepared by consultants CTII; Stakeholder Engagement Plan, (2) with content provided by the PMO.

- Law on Transparency of Public Information;
- Law on Roads.

#### 9.4. Social Context and Sensitive Receptors

Based on recent surveys (2018–2023), the total population in the project area is 39,844 (2022), with 53% female. The area is characterized by a youthful demographic (35% under 18), low to moderate income levels, and 5.7% unemployment. While 7th khoroo is fully urbanized, the remaining khorooos consist mainly of ger areas with limited infrastructure.

##### **Sensitive receptors include:**

- Residences directly along the unpaved corridor (exposed to dust and vibration);
- Schools, kindergartens, and medical centers within 100m of the road;
- Female-headed households, elderly, people with disabilities, orphaned children;
- Frontline businesses dependent on road access;
- Pedestrians in areas lacking sidewalks, lighting, and signage.

Key risks involve increased air/noise pollution, traffic safety concerns, and temporary access disruptions. Community safety, especially for children and the elderly, requires heightened attention.

#### 9.5. Stakeholder Groups

##### **Stakeholders are grouped as follows:**

- Decision Makers: World Bank, Project Steering Committee, PMO, Governor’s Office;
- Utilities and Technical Partners: Power, telecom, sewerage, and water service providers;
- Government Agencies: City departments, khoroo and district offices;
- Directly Affected People: Residents, schools, businesses, and health centers in the corridor;
- Vulnerable Groups: Elderly, women-headed households, people with disabilities, and children;
- Emergency Services: Police, ambulance, fire and emergency responders;
- General Public: Road users and the broader community.

#### 9.6. Engagement Methods and Activities

**A multi-channel approach ensures inclusive and accessible communication. Activities include:**

- Public Notices: Displayed at khoroo offices, shops, and wells 3–5 days prior to works;

- Household and Business Visits: Targeted outreach to those directly impacted;
- SMS and Phone Alerts: Timely updates on schedule changes or emergency disruptions;
- Public Information Sessions: Held during construction and as needed;
- Printed Materials: Bilingual brochures and maps showing detours and impacts;
- Digital Platforms: Updates on websites (usut.mn, ulaanbaatar.mn) and social media pages (e.g., USUTP, khoroo pages).

### 9.7. Stakeholder Mapping Stakeholders are categorized as follows:

- Decision Makers: World Bank, PMO, Governor's Office;
- Utilities & Infrastructure Agencies: Water, sewer, power, telecom providers;
- Local Authorities: District/city departments, khoroo staff;
- Directly Affected Groups: Residents, businesses, institutions;
- Vulnerable Groups: Elderly, people with disabilities, female-headed households, children;
- Emergency Services: Police, ambulance, fire, civil defense;
- General Public: Users of the road and nearby services.

### 9.8. Engagement Strategy and Communication Tools To ensure timely and inclusive information sharing:

- Printed Notices: Displayed at khoroo offices, wells, and public spaces 3–5 days before construction;
- Door-to-door Outreach: Personal engagement with affected households and businesses;
- SMS Alerts/Phone Calls: Notification of urgent disruptions or changes;
- Community Meetings: Prior to and during construction, with Q&A sessions;
- Brochures and Flyers: Bilingual materials showing detours, work zones;
- Online Platforms: Project websites and active social media channels.

### 9.9. Engagement Timeline by Stakeholder

Table 15. Engagement Timeline

| Stakeholder         | Method                                    | Timing                | Responsible       |
|---------------------|-------------------------------------------|-----------------------|-------------------|
| Residents           | Meetings, door visits, flyers             | Pre- and during works | Social Specialist |
| Local Businesses    | Handouts, online postings                 | Pre- and during works | Social Specialist |
| Vulnerable Groups   | Coordination with khoroo & social workers | Pre- and during works | Social Specialist |
| Government Agencies | Official letters, emails                  | As needed             | Project Manager   |

|                           |                                        |                           |                   |
|---------------------------|----------------------------------------|---------------------------|-------------------|
| <b>CSOs/Media</b>         | Public briefings, digital bulletins    | Periodically              | Social Specialist |
| <b>Emergency Services</b> | Safety briefings, formal notifications | Before related activities | HSE Officer       |

### 9.10. Grievance Redress Mechanism (GRM)

The GRM is a vital tool to ensure public trust, allowing stakeholders to submit concerns confidentially and receive timely resolutions.

**Submission Channels:**

**Hotline (24/7):** 91999692, Social specialist

**Facebook Chatbot:** will be added.

**Complaint Boxes:** At each khoroo office, collected weekly

**On-Site Social Specialist:** Available for in-person support

**Email & Online Platforms:** Through PMO and project sites

**General Hotlines:** 11-11, 1800-1200

Table 16. Resolution Timeline

| Stage                      | Responsible Entity              | Action                                 | Timeline                 |
|----------------------------|---------------------------------|----------------------------------------|--------------------------|
| <b>Initial Review</b>      | Contractor / Khoroo Admin       | Receive, record, resolve if minor      | Within 2 working days    |
| <b>Escalation</b>          | Project Management Office (PMO) | Investigate, propose corrective action | Within 10 working days   |
| <b>Final Determination</b> | Governor's Office               | High-level review                      | Within 30 working days   |
| <b>Legal Action</b>        | Judicial System                 | If unresolved by above channels        | Based on legal timelines |

### 9.11. Contractor Responsibilities

**Contractor:** Execute SEP, run GRM, engage stakeholders;

**Khoroo Offices:** Disseminate info, assist with complaints;

**PMO:** Oversee SEP/GRM, analyze trends, ensure compliance;

**Capital City Authorities:** Handle complex escalated grievances.

### 9.12. SEP Disclosure and Monitoring

Disclosure and Monitoring SEP publication and outreach via:



- **Websites:** [www.usut.mn](http://www.usut.mn) , [www.ulaanbaatar.mn](http://www.ulaanbaatar.mn) ;
- **Facebook:** <https://www.facebook.com/share/p/1GSbMGLAJK/?mibextid=wwXIf>  
r
- Public boards in affected khoroos;
- Regular community sessions.

SEP performance monitoring includes:

- Tracking of stakeholder interactions;
- Analyzing grievance themes and response times;
- Adapting methods based on feedback.

**Monitoring includes tracking stakeholder feedback, complaint trends, and resolution timelines. Results will inform adjustments to communication practices.**

Contractor Contact Details

Contractor Name: Zhongfu Construction Engineering LLC

Address:

Tel: 91999692, Social specialist

Email: zhongfucons@gmail.com

This SEP is a living document and will be updated in consultation with stakeholders and in coordination with the Supervision Consultant and the PMO.

## 10. Grievance Redress Mechanism (Public and Workers)<sup>5</sup>

The Grievance Redress Mechanism (GRM) ensures that stakeholders—including affected people, local residents, and other interested parties—have accessible and responsive means to raise concerns related to the project. The GRM fosters transparency, timely resolution of issues, and enhanced accountability in accordance with the World Bank Environmental and Social Framework (ESF).

### Objectives

- Provide an accessible, inclusive, and transparent process for lodging and resolving grievances;
- Enable early identification and timely resolution of environmental and social risks and impacts;
- Enhance accountability and strengthen relationships between stakeholders and project implementers.

*Table 17. Key Principles*

| <b>Principle</b>                             | <b>Description</b>                                                                                                 |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b><i>Accessibility &amp; Simplicity</i></b> | Easy-to-understand, multilingual, and user-friendly system with multiple entry points.                             |
| <b><i>Non-Discrimination</i></b>             | Equal access for all, including women, men, elderly, youth, people with disabilities, and other vulnerable groups. |
| <b><i>Professional Handling</i></b>          | Trained staff responsible for grievance intake, tracking, and resolution.                                          |
| <b><i>Transparency</i></b>                   | All grievances and resolutions are systematically documented and reported.                                         |
| <b><i>Learning &amp; Improvement</i></b>     | GRM data informs adaptive project management and stakeholder engagement.                                           |

### Types of Complaints

Common grievance themes include:

- Dust and air pollution from construction activities;
- Noise and vibration from equipment;
- Disruption of traffic or road closures;
- Blocked property or pedestrian access;
- Improper conduct by Contractor staff;
- Perceived exclusion from project benefits or services.

<sup>5</sup> Source: GRM provided by the PMO.

*Table 18. Channels for Submitting Complaints*

Stakeholders can submit complaints via the following mechanisms:

| <b>Channel</b>                        | <b>Description</b>                                                                                                                               |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>24/7 Hotline and Chatbot</b>       | Operated by Contractor; real-time intake via voice and messaging.<br><b>Chatbot link: xxx.xxx</b><br><b>Hotline: 91999692, Social specialist</b> |
| <b>On-site Social Specialist</b>      | Available to assist complainants in-person and complete complaint forms.                                                                         |
| <b>Complaint Boxes (Khoroo level)</b> | Installed at khoroo offices; collected weekly (Thursdays at 9:00 AM).                                                                            |
| <b>PMO Online Platforms</b>           | Submissions via official website or email address.                                                                                               |
| <b>MUB Hotlines</b>                   | Public communication of the Capital City Governor's Office maintains two inquiry lines for public complaints.                                    |

*See Appendix 6 for the standardized Complaint Submission Form.*

*Table 19. Complaint Resolution Process*

| <b>Stage</b> | <b>Responsible Entity</b>          | <b>Actions</b>                                                                       | <b>Timeline</b>        |
|--------------|------------------------------------|--------------------------------------------------------------------------------------|------------------------|
| 1            | Contractor / Khoroo Administration | Receive and record complaint; resolve locally where possible; refer to GRM system    | Within 2 working days  |
| 2            | Project Management Office (PMO)    | Investigate unresolved complaints; instruct corrective actions                       | Within 10 working days |
| 3            | Capital City Governor's Office     | Escalate complex or unresolved issues; organize multi-stakeholder meetings if needed | Within 30 working days |
| 4            | Court System                       | Final resolution through legal process if other mechanisms fail                      | As per legal timelines |

*Table 20. Roles and Responsibilities*

| <b>Entity</b>     | <b>Role</b>                                                                                                             |
|-------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Contractor</b> | Operate hotline and chatbot; assign Social Specialist; collect complaints; resolve at field level; prepare GRM reports. |

|                                        |                                                                                                                                     |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Khoroo Administration</b>           | Assist with in-person intake; help residents fill complaint forms; forward complaints to PMO.                                       |
| <b>Project Management Office (PMO)</b> | Supervise GRM implementation; ensure data tracking; Investigate escalated complaints; decide on corrective actions; monitor trends. |
| <b>Capital City Governor's Office</b>  | Adjudicate unresolved issues; facilitate high-level stakeholder resolution.                                                         |
| <b>Courts</b>                          | Offer legal redress as a last resort.                                                                                               |

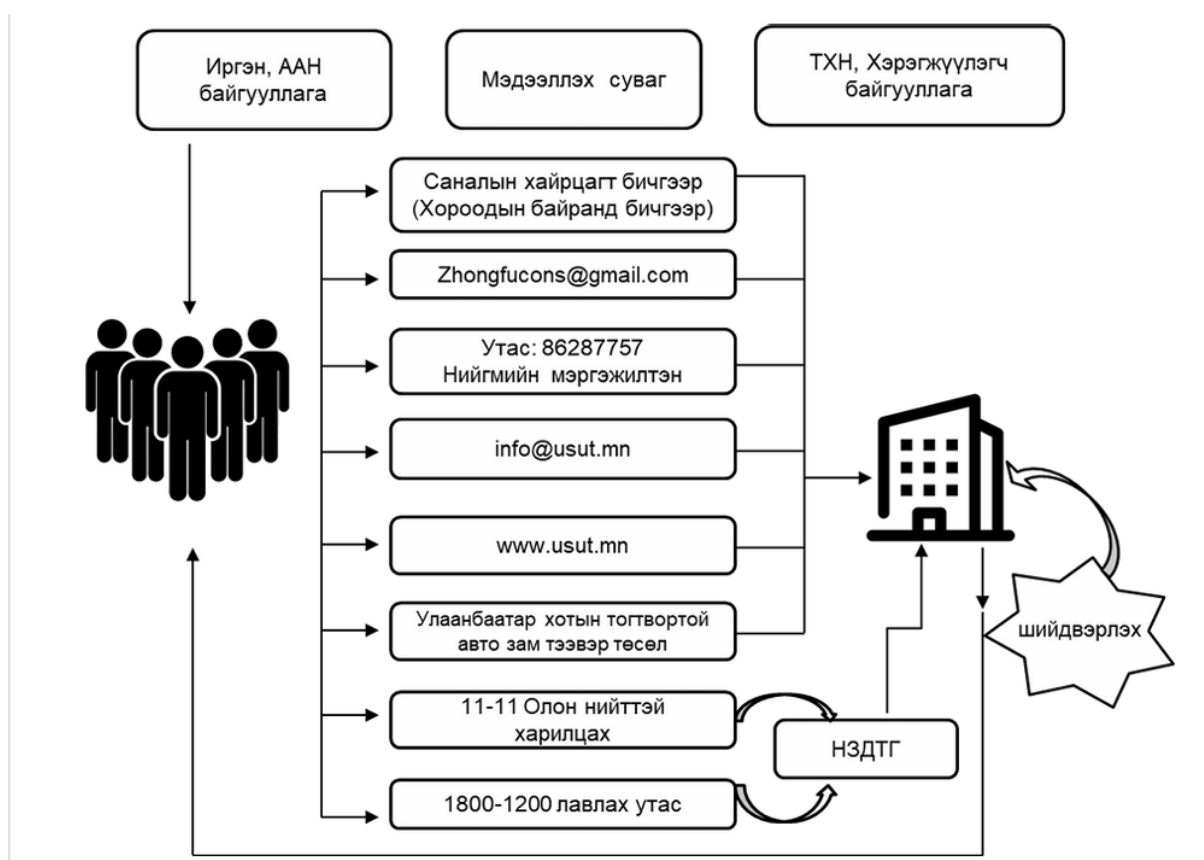


Figure 10. GRM

## Monitoring and Reporting

The **PMO** will monitor the functionality and effectiveness of the GRM. The **Contractor** is responsible for submitting monthly GRM reports to the PMO.

Each report shall include:

- Number and category of complaints received;
- Resolution status and timelines;
- Actions taken in response;

- Trends, recurrences, and lessons learned.

*Table 21. Worker Grievance Mechanism*

This process specifically applies to employees and is implemented through the Contractor's internal grievance management system.

**Step-by-Step Process**

| <b><i>Actor</i></b>                      | <b><i>Action</i></b>                                                                         |
|------------------------------------------|----------------------------------------------------------------------------------------------|
| <b><i>Employee</i></b>                   | Submit a complaint, suggestion, or request via the designated grievance box at the worksite. |
| <b><i>Social Specialist</i></b>          | Reviews and collects submissions from the box every 14 days and registers the grievance.     |
| <b><i>Notification to HR Manager</i></b> | The complaint or suggestion is forwarded to the Human Resources (HR) Manager for action.     |
| <b><i>HR Manager</i></b>                 | Reviews and escalates the issue to the management team as needed for resolution.             |
| <b><i>Decision Notification</i></b>      | The HR Manager informs the employee of the outcome or resolution decision.                   |

## 11. Emergency Response Plan (ERP)

### 11.1. Introduction

**This Emergency Response Plan (ERP)** provides the overarching strategy, responsibilities, and protocols for managing emergency situations during construction. A **detailed breakdown of specific response measures for various emergencies (e.g., earthquake, flood, fire, hydrocarbon spill, etc.) is provided in the Emergency Response Action Plan (ERAP) – see Appendix 7.** The ERAP includes condition-specific procedures, responsible parties, and time-based response actions, aligned with national legislation and World Bank ESS4 (Community Health and Safety) requirements. **First Aid and Medical Emergency Plan:** Outlines procedures for immediate on-site medical response, injured worker stabilization, transport to medical facilities, and first aid team responsibilities. It includes a list of certified staff, first aid equipment, clinic locations, and emergency contacts. (Refer to **Appendix 7.1**)

It is a live document, updated as necessary based on new risks, incidents, regulatory requirements, and lessons learned from drills and actual responses.

### 11.2. Emergency Preparedness

The project prioritizes risk prevention and readiness through systematic hazard assessment, emergency planning, regular inspections, equipment maintenance, and routine training. Emergency preparedness measures include:

**Hazard & Risk Assessments:** A site-specific emergency risk assessment (chemical, fire, flood, accident, etc.) will be conducted to identify potential hazards and required mitigation.

**Engineering & Administrative Controls:** Include containment bunds, alarms, shutoff systems, fire extinguishers, spill kits, and designated muster points.

#### **Standard Site Practices Include:**

**Inventory Control:** All hazardous materials will be tracked and recorded in an inventory logbook available for inspection.

**Storage:** Stored in accordance with MSDS and grouped per chemical compatibility.

**Disposal:** Disposal of contaminated or hazardous materials will follow Mongolian regulations and international best practices.

**Daily Toolbox Talks:** Pre-job briefings emphasize emergency readiness, safety culture, and spill/fire prevention.

#### **Emergency Response Card for Workers:**

Each worker will receive a personal emergency response card that outlines:

- Emergency contacts (site ERT, local services, police, MUB Emergency Bureau)
- Basic steps to follow during an emergency
- Evacuation procedures and muster point locations

#### **Coordination with Authorities:**

All emergency procedures will be aligned and regularly reviewed with NEMA, the MUB Emergency Bureau, and other relevant local emergency services.

#### **Emergency Drills:**

Emergency drills (fire, spill, evacuation, security threat) will be conducted quarterly, and full-site evacuation drills annually with documentation of attendance and results.

### **11.3. Roles and Responsibilities**

An Emergency Response Team (ERT) will be established and trained to respond to site-specific emergencies. Their contact details will be clearly posted at all worksites, near hazardous storage areas, and on emergency signage.

#### **Key ERP Personnel & Responsibilities:**

Project Manager:

- Provides adequate resources for ERP implementation
- Notifies supervisory consultancy team and external authorities in case of major emergencies
- Leads liaison with government emergency agencies

Safety Engineers:

- Coordinate ERP activities across all construction phases
- Review and update emergency procedures based on evolving risks

Health & Safety Specialist (HSS):

- Prepare and maintain the ERP and organize quarterly drills
- Ensure adequate spill response kits and firefighting equipment are in place
- Investigate incidents and enforce corrective actions

Environmental Specialist (ES):

- Manage site-specific environmental emergencies (spills, waste leaks)

- Ensure spill control materials are present, labeled, and accessible
- Maintain coordination with waste management systems

Social Specialist (SS):

- Ensure community risks and health concerns are addressed in ERP
- Participate in ERP training and emergency communication with community

All Workers and Subcontractors:

- Attend trainings, report any incidents or near misses
- Follow spill/fire response protocols
- Know evacuation routes and muster point procedures
- Subcontractors must comply with all ERP procedures as a contractual requirement.

#### 11.4. Potential Emergency Scenarios

The following emergency situations have been identified as relevant to the Project site and transport corridors:

- Fire or explosion
- Chemical spill or fuel leak
- Occupational injury or fatality
- Natural disasters (floods, earthquakes, lightning)
- Traffic or transport accident involving hazardous materials
- Public health emergencies (e.g., disease outbreaks)
- Security threats
- Chance finds (archaeological/cultural)

Each scenario includes tailored response procedures, evacuation plans, and designated response coordinators.

#### 11.5. Emergency Response Procedures

##### **First Aid & Medical Response:**

- All personnel will receive first aid training
- One certified first aider per work group
- First aid kits will be accessible at all worksites and vehicles

##### **Spill and Fire Response:**

- Small spills: controlled using absorbents and PPE
- Large spills: use spill containment kits, notify ERT and authorities

- Fire extinguishers to be maintained at all hazardous storage points
- Fire suppression training to be included in quarterly drills

**Evacuation Procedures:**

- Evacuation maps and muster points to be displayed on-site
- Workers to assemble at designated muster points
- Roll call and accountability check by supervisors
- Emergency drills to include evacuation walkthroughs

**Local Security Emergencies:**

- Site lockdown or evacuation led by Construction Team Leader
- Coordination with law enforcement
- Temporary relocation of non-essential staff if necessary

**Emergency Recovery:**

- The ERT remains in charge until “All Clear” declared
- Only after supervisor clearance can operations resume

## 11.6. Incident Investigation & Documentation

All incidents are logged immediately using standard reporting formats.

**Investigations will identify:**

- Root causes
- Effectiveness of ERP
- Gaps in training or equipment

Reports will be shared with the supervisory consultancy team and relevant authorities.

## 11.7. Training

**Training is mandatory for all personnel and will cover:**

- Types of emergencies and hazard identification
- Response procedures and evacuation drills
- PPE use and care
- Spill cleanup and fire suppression
- Cultural heritage chance finds procedures
- Communication protocol and reporting
- GRM procedures

**Refresher training will occur:**

- Quarterly for ERT
- Annually for all staff
- Immediately after any incident

Training records, including attendance sheets and topics, will be maintained onsite and submitted monthly.

## 11.8. Monitoring & Reporting

**Monitoring Activities Include:**

- Monthly inspection of spill/fire kits, signage, and alarm systems
- Review of training participation and drill reports
- Worker and community grievances related to safety and emergency response

**Indicators & Success Criteria:**

- Zero major spills or fire-related incidents
- 100% of emergency drills conducted on schedule
- ERP updates completed semi-annually or post-incident
- 95% of grievances resolved within 30 days

**Reporting Requirements:**

- Monthly ERP status reports to supervisory consultant team
- Documentation of all training, drills, and incidents
- Updated ERP to be submitted after any major change or incident

## 11.9. ERP Implementation & Monitoring Schedule

*Table 22. ERP Implementation & Monitoring Schedule*

| Date/<br>Frequency              | Action                                                          | Responsible Party | Notes                   |
|---------------------------------|-----------------------------------------------------------------|-------------------|-------------------------|
| Before<br>Construction<br>Start | Conduct formal hazard and risk assessment and document findings | Contractor        | Basis for tailoring ERP |

|                                   |                                                                                           |                             |                                              |
|-----------------------------------|-------------------------------------------------------------------------------------------|-----------------------------|----------------------------------------------|
| <b>Before Construction Start</b>  | Develop and issue Emergency Response Cards to all workers                                 | Contractor                  | Include emergency contacts, procedures       |
| <b>Before Construction Start</b>  | Establish Emergency Response Team (ERT) and assign roles                                  | Contractor                  | Train members and post contacts onsite       |
| <b>Before Construction Start</b>  | Coordinate ERP with Mongolian emergency authorities (NEMA, MUB Emergency Bureau)          | Contractor                  | Confirm communication protocols              |
| <b>Monthly (Starting Month 1)</b> | Conduct inspections of emergency equipment, spill kits, fire extinguishers                | Contractor                  | Document and report status                   |
| <b>Monthly</b>                    | Collect and document grievances via hotline, chatbot, onsite specialist, and khoroo boxes | Contractor                  | Prepare and submit monthly GRM report to PMO |
| <b>Quarterly (every 3 months)</b> | Conduct emergency drills (fire, spill, evacuation, security threat)                       | Contractor                  | Include community communication testing      |
| <b>Quarterly</b>                  | Review and update ERP based on lessons learned and regulatory changes                     | Contractor                  | Submit updates to supervisory consultants    |
| <b>Quarterly</b>                  | Provide refresher training for Emergency Response Team members                            | Contractor                  | Maintain training attendance records         |
| <b>Annually</b>                   | Conduct full-site evacuation drill with all personnel                                     | Contractor                  | Document results and corrective actions      |
| <b>Immediately After Incident</b> | Incident reporting, investigation, documentation, and corrective actions                  | Contractor                  | Share findings with authorities              |
| <b>Ongoing (Daily/Weekly)</b>     | Daily toolbox talks and safety briefings emphasizing emergency preparedness               | Contractor                  | Reinforce safety culture                     |
| <b>Every 6 months</b>             | Review GRM effectiveness, resolution timelines, and adjust procedures if needed           | PMO / Contractor            | Report findings in monthly PMO reports       |
| <b>Ongoing</b>                    | Ensure subcontractors comply with ERP procedures                                          | Supervision Consultant, PMO | Enforce through contractual obligations      |

#### GRM Summary (Community & Worker):

The ERP includes grievance redress mechanisms for both workers and affected communities. Workers can report grievances via the internal complaint box system, overseen by the contractor’s Social Specialist and HR Manager. Community members can submit complaints via hotline, chatbot, on-site personnel, or local khoroo offices. All grievances will be documented, addressed, and reported monthly to the PMO. See **Appendix 6** for the Complaint Form.

### 11.10. GRM Procedures and Resolution Timeline

The GRM process includes the following steps:

#### 1. Intake and Registration

- a. Complaints may be submitted through hotline, chatbot, in-person, email, or khoroo complaint boxes.
- b. The Contractor or Khoroo Administration logs and refers complaints into the GRM database.
- c. Timeline: Within 2 working days

#### 2. Initial Review and Local Resolution

- a. If possible, the Contractor resolves the issue directly on-site.
- b. If unresolved, the complaint is forwarded to the PMO.

#### 3. PMO Investigation

- a. The PMO investigates and instructs corrective actions.
- b. Timeline: Within 10 working days

#### 4. Escalation to Capital City Governor’s Office

- a. Complex or unresolved complaints may be escalated for multi-stakeholder engagement.
- b. Timeline: Within 30 working days

#### 5. Legal Resolution (if applicable)

- a. If resolution is not reached, complainants may approach the court system.

#### Roles and Responsibilities:

- **Contractor:** Operate grievance intake channels; resolve at field level; report monthly.
- **Khoroo Administration:** Facilitate complaint submissions and forward to PMO.
- **PMO:** Supervise the overall GRM; ensure resolution and data tracking.
- **Capital City Governor’s Office:** Adjudicate unresolved issues.
- **Court System:** Final legal remedy.

All steps must be documented. Monthly reports will include the number and category of complaints, resolution timelines, actions taken, and trends for continuous improvement.

#### Appendix 7.2: Contractor Internal Emergency Procedure

The Contractor’s internal emergency response document, titled “Онцгой нөхцөлд ажиллах журам”, is included in Appendix 7.2. This appendix provides detailed internal procedures, responsibilities, equipment, evacuation protocols, and site-specific organization to be followed in the event of fires, chemical spills, explosions, and other critical incidents at the construction site. While this document aligns with basic national occupational health and safety requirements, the Contractor must implement the broader ERP procedures outlined in the main body of this Plan to comply with the World Bank Environmental and Social Standards (ESS2, ESS4) and the project’s ESMP. Appendix 7.2 should be used as a supporting site-level reference and does not replace the obligations stated in this ERP

## **11.11. COVID-19 Emergency Response Plan**

### **11.11.1 Objective**

To prevent, control, and respond to COVID-19 cases among workers and community members associated with the project, minimizing health risks and disruptions.

### **11.11.2 Prevention Measures**

- Promote hygiene: handwashing stations, hand sanitizers across site and offices.
- Mandatory use of masks in enclosed spaces and where physical distancing is not possible.
- Daily health screening and temperature checks for workers and visitors.
- Enforce physical distancing during work and breaks.
- Limit site access to essential personnel only.

### **11.11.3 Response Procedures**

- Protocols for suspected or confirmed COVID-19 cases, including isolation, medical referral, and contact tracing.
- Communication channels for reporting symptoms or exposure.
- Temporary suspension or modification of work in affected areas.

### **11.11.4 Training and Awareness**

- Regular toolbox talks and updates on COVID-19 safety.
- Posters and signage on preventive measures and symptoms.

### **11.11.5 Coordination with Health Authorities**

- Liaison with local health departments for testing, vaccination, and case management.

### **11.11.6 Monitoring and Reporting**

- Record and report COVID-19 related incidents and measures taken.
- Adjust the plan as per evolving government guidance and pandemic status.

## 12. Traffic and Pedestrian Safety Management

Traffic and pedestrian safety are a critical concern during the construction phase of the Selbe River Road subproject. Construction activities may lead to temporary traffic disruptions, congestion, and safety risks for workers and local communities. The Contractor is responsible for implementing a Traffic and Pedestrian Safety Management program to mitigate these impacts, in compliance with national legislation, World Bank Environmental and Social Standards (especially ESS4), and relevant international guidelines. **The full Traffic Management Plan is provided in Appendix 3.**

Key safety measures include:

- Development and implementation of a site-specific **Traffic Management Plan (TMP)** prior to construction;
- Designation of a dedicated traffic safety coordinator by the Contractor;
- Provision of clear signage, barriers, and lighting around construction zones;
- Safe access arrangements for pedestrians, cyclists, and vehicles;
- Use of personal protective equipment (PPE) by workers and traffic controllers;
- Scheduling of vehicle movements to avoid peak traffic hours;
- Consultation with local authorities and communities regarding road closures or diversions;
- Maintenance of safe passage for emergency vehicles and access to essential services;
- Monitoring of traffic incidents, with clear reporting and emergency response procedures.

The **Contractor's TMP** includes site-specific traffic flow strategies, maps of lane closures and detours, signage standards, and procedures for accident response and public communication. This plan will be reviewed and approved by the Municipality Agencies – Road Development Agency, Traffic Police, Public Transport Policy Dep, Traffic Control Center Employer's representative, Supervising Consultant, PMO, and other relevant stakeholders before construction starts.

The Selbe River Road is quite difficult in terms of its position along the river basin/levee on one and active residential areas on the other side, with many houses, family yards, and buildings on the east side, while on the west side there are quite difficult sections such as the Selbe River, the river channel, and the flood protection levee. The current dirt road along the alignment is actually designated for flood protection levee purpose, and should not be used by public traffic, and is only used by local residents. Since the Selbe River is located along the proposed road, it is currently impossible to cross the river at any point. Therefore, there will not be many intersections with the road during the road construction work, only temporary construction roads and intersections will be made at necessary points.

The Contractor proposed to execute the construction by dividing the road into the following 2 sections:

- Section-1. Section between Sta. 0+000 ~1+860 – Southern Section,
- Section-2. Section between Sta. 1+860 ~2+667.386 – Northern Section,

The Contractor's camp is planned to be located on the east side of Sta. 2+340.

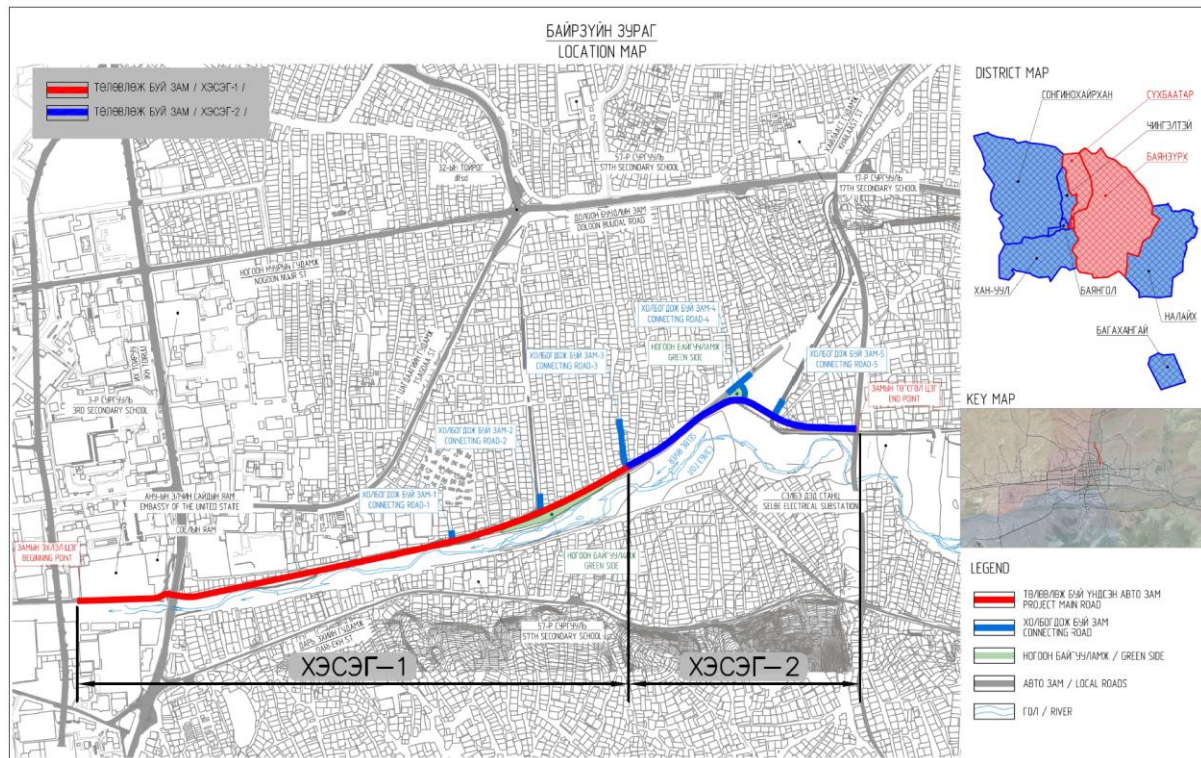


Figure 11. Construction Sections – TMP sections

Table 23. Summary plan for road closures of the Selbe River Road

| No | Location    | Length, m | Total time for the work of the subsection /days/ | Road closure start time | Road closure period /days/ | Work to be carried out during the road closure          | Description                                   |
|----|-------------|-----------|--------------------------------------------------|-------------------------|----------------------------|---------------------------------------------------------|-----------------------------------------------|
| 1  | 0+000~0+280 | 280       | 7                                                | 7/10/2026               | 2                          | Base, paving, and retaining wall work will be executed. | Temporary road impassable area                |
| 2  | 0+280~0+340 | 60        | 5                                                | 7/13/2026               | 2                          | Earthworks, base, and paving work will be carried       | 4-way intersection with main road, area where |

|   |                                                |      |    |           |   |                                                                                 |                                      |
|---|------------------------------------------------|------|----|-----------|---|---------------------------------------------------------------------------------|--------------------------------------|
|   |                                                |      |    |           |   | out at the intersection.                                                        | temporary road cannot be constructed |
| 3 | 0+340~1+860                                    | 1520 | 30 | 8/15/2025 | 5 | Protection and shifting work of electricity and water pipes along the alignment |                                      |
| 4 | 0+925                                          | 30   | 3  | 8/27/2025 | 1 | Protection of cross power lines                                                 |                                      |
| 5 | 1+580~2+160                                    | 30   | 18 | 8/25/2025 | 2 | High voltage line protection work will be carried out                           |                                      |
| 6 | 0+360, 1+550, 1+910                            | 90   | 18 | 8/15/2025 | 3 | Rainwater drainage line /transverse/                                            |                                      |
| 7 | 1+395, 1+575, 1+780; 1+790, 1+880~1+970, 2+250 | -    | 28 | 8/10/2025 | 6 | Road cross trench excavation                                                    | Overhead power line crossed          |
| 8 | 1+485, 2+340, 2+420                            | -    | 46 | 8/15/2025 | 6 | The road will be fully closed to build culverts                                 |                                      |

Note: Time may be subject to change due to Work Plan (approved) and other reasons. The actual closure date and time will be determined once the Construction Plan & Schedule is approved by the stakeholders.

Before closing the road, permission will be obtained from the Client and relevant authorities, and advance notice will be provided to the local community.

## **Section 2: Northern Section Traffic Management Plan - Length 807 m, Sta. 1+860 – 2+667 (807 m)**

The construction of the section between Sta.1+860~2+667.386 is planned to be carried out first. The land for this section has been cleared in most sections, and there will be relatively little pedestrian and vehicle traffic. Only temporary roads will be used along the route, and it is fully possible to organize the movement of other citizens without any obstacles. The actual closure date and time will be determined once the Construction Plan & Schedule is approved by the stakeholders. The next section of this report shows the layout of traffic plan of each section.



Figure 12. Sample Layout of TMP

### Section 1: Southern Section Traffic Management Plan - Length 1860 m, Sta. 0+000-1+860 (1860 m)

The Since it is not possible to build a temporary road in the section between Sta.0+000~0+300, it is possible to use the existing asphalt concrete road as a single lane. During paving and in the event of a complete road closure, it is expected that advance notice will be given and the road will be closed and opened in stages after obtaining permission from the relevant authorities to close the road. Sta.0+300~0+330 intersects with the existing /Ikh Toiruu/ road at the same level, and a 4-way intersection will be built at this point. Since it is connected to the existing road level, it will not interfere with the traffic of the Ikh Toiruu. Sta.0+330~0+640 is planned to use the newly built /one-lane road in this section to facilitate construction work and the people of the area. It is fully possible to build a temporary road along the proposed road in the section between Sta.00+640~2+667.34. The final intersection at Sta.2+667.34 will intersect with the existing Dar-Ekh~7-n station road at the same level, so only expansion works will be carried out. There will be no through traffic on this section. The auxiliary roads planned between Sta0+910~1+100, Sta1+160~1+360, Sta.1+660~1+820, Sta.1+900~2+030 will be constructed in the first stage. Since the land for these auxiliary roads has been cleared and is already included in the design, it is fully possible to build and allow traffic to pass through first.

## 13. Waste and Hazardous Materials Management

### 13.1. Introduction

#### 13.1.1. Purpose

This Waste Management Plan (WMP) has been developed to ensure proper management of all waste generated during construction activities of the Selbe River Road subproject. It aligns with the Mongolian regulatory framework, World Bank Environmental and Social Standards (ESS), and World Bank Environmental, Health, and Safety (EHS) Guidelines.



The WMP is a key sub-plan under the Contractor's Environmental and Social Management Plan (C-ESMP) and aims to minimize adverse environmental and social impacts related to waste generation and disposal during construction.

#### 13.1.2. Scope

This plan applies to the Contractor and all subcontractors involved in waste generation, handling, storage, transportation, and disposal during the subproject construction activities.

### 13.2. Regulatory and Policy Framework

#### 13.2.1. International Standards

- **World Bank ESS3: Resource Efficiency and Pollution Prevention and Management** — sets requirements on waste minimization, reuse, recycling, and safe disposal of hazardous and non-hazardous waste.
- **World Bank ESS4: Community Health and Safety** — requires minimization of community exposure to hazardous materials and emergency preparedness.
- **World Bank EHS Guidelines (Section 1.6 Waste Management):** Provides detailed guidance on managing hazardous and non-hazardous wastes, including waste hierarchy and transportation safety.

#### 13.2.2. Mongolian Legal Framework

- **Law on Waste (2017, amended 2022):** Governs reduction, sorting, collection, transportation, storage, reuse, recycling, and disposal of waste, emphasizing waste ownership and contractual obligations.
- **Law on Hazardous and Toxic Chemicals (2022):** Regulates handling of toxic chemicals, including hazardous wastes.
- **Law on Hygiene (2022):** Addresses environmental impacts on human health.
- Relevant Government Resolutions and Ministerial Orders related to waste disposal, landfill procedures, and waste classification.

### 13.2.3. Contractor's Responsibility

The Contractor must ensure full compliance with all above regulations and standards. Any deviations or updates to regulations during the project must be incorporated into the WMP and implemented promptly.

## 13.3. Organizational Structure and Responsibilities

*Table 24. Key Roles*

| Role                                        | Responsibilities                                                                                             |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Project Manager</b>                      | Oversees all waste management activities, ensures resource allocation, supervises ES, SS, and HSS.           |
| <b>Environmental Specialist (ES)</b>        | Develops, updates, and implements WMP; conducts daily inspections; trains workers; manages documentation.    |
| <b>Social Specialist (SS)</b>               | Manages stakeholder grievances related to waste; coordinates communication and training.                     |
| <b>Health &amp; Safety Specialist (HSS)</b> | Ensures health and safety in waste handling; manages camp safety; keeps safety records.                      |
| <b>All Workers</b>                          | Comply with waste segregation, storage, and handling procedures; participate in trainings; report incidents. |

## 13.4. Waste Management Principles and Hierarchy

The WMP follows the internationally recognized waste management hierarchy with focus on:

1. **Reduce** – Minimize waste generation at source.
2. **Reuse** – Use materials multiple times where possible.
3. **Recycle** – Separate and send recyclable materials for processing.
4. **Dispose** – Environmentally sound disposal of residual waste.

This hierarchy aligns with Mongolian Law on Waste, World Bank ESS3, and EHS Guidelines.

## 13.5. Waste Types, Segregation, Storage, and Disposal

The following classification aligns with WB ESS3 and Mongolian Law on Waste:

*Table 25. Waste Classification*

| Waste Type         | Description / Examples | Source              |
|--------------------|------------------------|---------------------|
| <b>Inert Waste</b> | Concrete, metal scraps | Construction debris |

|                            |                                                                                 |                                                         |
|----------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>Non-Hazardous Waste</b> | Food waste, glass, cardboard, plastic, aluminum cans, tires                     | Temporary camp, vehicle maintenance                     |
| <b>Hazardous Waste</b>     | Batteries, oil, lubricants, contaminated soil, fluorescent tubes, medical waste | Vehicle maintenance, site activities, temporary clinics |

Table 26. Types of Construction Waste and Disposal Methods

| Waste Stream                        | Type          | Source                  | Disposal Method                                                                |
|-------------------------------------|---------------|-------------------------|--------------------------------------------------------------------------------|
| <b>Concrete debris</b>              | Inert waste   | Construction works      | Sent to recycling facility or inert landfill                                   |
| <b>Metal scraps</b>                 | Inert waste   | Cutting/rebar /formwork | Collected and sent for metal recycling                                         |
| <b>Food waste</b>                   | Non-hazardous | Worker camp             | Segregated and sent to municipal solid waste facility                          |
| <b>Cardboard &amp; paper</b>        | Non-hazardous | Camp/packing            | Collected and recycled through licensed recyclers                              |
| <b>Plastic &amp; aluminum cans</b>  | Non-hazardous | Camp and offices        | Recycled where possible, otherwise disposed via authorized municipal collector |
| <b>Waste oil &amp; lubricants</b>   | Hazardous     | Equipment maintenance   | Temporarily stored and disposed via licensed hazardous waste handler           |
| <b>Batteries &amp; accumulators</b> | Hazardous     | Vehicles, tools         | Stored in battery boxes and handed over to certified disposal facility         |
| <b>Contaminated soil</b>            | Hazardous     | Excavation areas        | Isolated, tested, and disposed at licensed treatment/disposal site             |
| <b>Medical/clinical waste</b>       | Hazardous     | First aid center        | Sealed in medical containers and sent to health-hazardous waste disposal units |

### 13.5.1. On-site Waste Segregation and Storage

The Contractor shall ensure the following on-site segregation and temporary storage practices:

- **Temporary Waste Storage Area** must:
  - Be clearly fenced and signposted
  - Include separate bins or containers for:
    - Recyclables (wood, plastic, metal)
    - Non-recyclables
    - Construction waste
    - Hazardous waste
  - Have a waterproof base, secondary containment for liquid wastes, and shelter to prevent weather exposure
- **Visual communication tools** (e.g., pictograms) must be applied to bins and containers for worker understanding

- **Hazardous waste** shall be stored in sealed, labeled containers with warning signs, MSDS access, and spill containment

**Prohibited Practices:**

- Mixing construction and general waste
- Mixing hazardous waste with other waste streams
- Leaving temporary waste points uncleaned after project completion
- Unauthorized open-air dumping or burning

**13.5.2. Spill Prevention and Emergency Cleanup Procedure**

To minimize environmental and health risks from waste-related spills:

- **Spill Kits** (absorbents, PPE, containers) will be placed at:
  - Temporary storage points
  - Fuel and lubricant storage areas
  - Vehicle maintenance areas
- **First Aid Kit** and **Fire Extinguisher** must be available near hazardous waste zones
- **Response Protocol:**
  - Stop source of spill immediately
  - Contain the spread using spill kit tools
  - Notify Environmental Specialist (ES)
  - Record and report the incident as per ERP
  - Decontaminate area using approved materials
- **Training** on spill response shall be included in all induction sessions and periodic refreshers
- All incidents shall be recorded in the Waste Disposal Form and Incident Logbook and handled per the ERP.

**13.6. Waste Handling, Storage, and Transportation**

- Temporary waste storage sites shall be clearly marked, fenced, and segregated by waste type.
- Hazardous wastes must be stored in secure containers with secondary containment to prevent leaks.
- Segregation of wastes will be strictly enforced on site with bins for recyclables, non-recyclables, hazardous and construction wastes.
- Spill kits, fire extinguishers, and first aid kits will be located near storage areas.
- All waste transportation will be done by licensed waste management companies in compliance with national and international regulations.
- Open burning, mixing of hazardous and non-hazardous wastes, and illegal dumping are strictly prohibited.

## 13.7. Prohibitions

- No mixing of construction wastes with general or recyclable waste.
- No dumping of hazardous or construction waste outside designated points.
- Temporary waste points must be cleaned and handed over to the Environmental Specialist after completion of work.
- Intentional or repeated breaches of waste management rules may lead to penalties as per internal procedures.

## 13.8. Training and Awareness

- All workers must receive induction and periodic training on waste management principles, segregation, handling, and emergency procedures.
- Training records, attendance sheets, and materials will be maintained and made available for audits.

## 13.9. Monitoring and Reporting

### 13.9.1 Monitoring

The Environmental Specialist will carry out regular monitoring and inspections of waste management performance including:

- Waste quantities generated, segregated, recycled, and disposed.
- Compliance with storage and handling procedures.
- Reporting and investigation of any waste incidents or spills.
- Monitoring grievances related to waste management.

*Table 27. Indicators and Success Criteria*

| Indicator                                                        | Success Criteria                             |
|------------------------------------------------------------------|----------------------------------------------|
| <b>Submission and approval of site-specific WMP</b>              | WMP approved by supervisory consultancy team |
| <b>% of waste segregated at source</b>                           | ≥ 90%                                        |
| <b>Number of waste-related incidents or community grievances</b> | Zero                                         |
| <b>Compliance with hazardous waste handling and disposal</b>     | Full compliance                              |

### 13.9.3 Reporting

- Monthly reports will be submitted to the supervisory consultancy team covering:
  - Waste quantities and types generated, recycled, and disposed.
  - Training conducted and attendance.

- Any incidents or non-compliances and corrective actions taken.
- Summary of grievances and resolution status.
- Waste Disposal Forms and Waste Registers will be maintained onsite and archived for audit.

#### 13.9.4. Waste Registration

- Senior department staff shall register all construction and hazardous waste accumulation events using the designated forms and submit to the Environmental Specialist regularly.
- The Environmental Specialist will compile and include waste data in monthly and annual reports.

#### 13.9.5. Emergency Response

- Emergency procedures for spills or hazardous waste releases shall be established and communicated to all staff.
- Spill kits and emergency response equipment will be readily accessible.
- Any waste-related incidents must be recorded and reported promptly, with actions taken as per the project's ERP.

**13.9.6.** Further details, including the Waste Disposal and Registration Forms, can be found in **Appendix 8.**

## 14. Budget for C-ESMP Implementation

Please note: These are the Contractor's proposed costs for ESMP implementation as included in the BoQ, and they are part of the Contract.

*Table 28. Budget for C-ESMP Implementation*

| Description                                                                                | Quantity | Unit |     |     |
|--------------------------------------------------------------------------------------------|----------|------|-----|-----|
| <b>Training Costs</b>                                                                      |          |      |     |     |
| All required training for each ESMPs (LMP, ERP, WMP, TMP, etc) per year                    | 3        | time | xxx | xxx |
| <b>Public Consultation and Stakeholder engagement plan Implementation Costs</b>            |          |      |     |     |
| Stakeholder engagement activities and Community training (2 times per construction season) | 6        | time | xxx | xxx |

| Environmental Monitoring Costs                                                                                                                                                                                                                                                                                                                                                   |    |      |     |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------|-----|-----|
| Ambient Air Quality: SO <sub>2</sub> , NO <sub>2</sub> , TSP, PM <sub>10</sub> , PM <sub>2.5</sub> , concentration<br>Visual observation (dust)<br>(Biweekly during the construction season or period from 15, April to 15, October)                                                                                                                                             | 42 | time | xxx | xxx |
| Noise Measurement (Biweekly during the construction season or period from 15, April to 15, October)                                                                                                                                                                                                                                                                              | 42 | time | xxx | xxx |
| Surface Water Quality: (pH, EC, hardness, Na, K, Ca, Mg, NH <sub>4</sub> , Fe, F, Cl, SO <sub>4</sub> , NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , HCO <sub>3</sub> , TDS, BOD, heavy metals), indicator: MNS 4943:2015<br>Visual observation (surface water Turbidity) Monthly during the construction season or period from 15, April to 15, October                | 30 | time | xxx | xxx |
| Aquatic invertebrate monitoring (every 3 months)                                                                                                                                                                                                                                                                                                                                 | 9  | time | xxx | xxx |
| Soil quality: Chemical properties (pH, Salinity, EC, Ca CO <sub>3</sub> , N <sub>03</sub> , P <sub>2</sub> O <sub>5</sub> , K <sub>2</sub> O, Mg +2, Ca+2, particle size)<br>Heavy metals (at least, Zn, Cr, Pb, Cu, Ni, As and Cd)<br>Bacteriological<br>Visual observation (soil contamination) Monthly during the construction season or period from 15, April to 15, October | 36 | time | xxx | xxx |
| Waste management including hazardous materials (Biweekly during the construction season or period from 15, April to 15, October)                                                                                                                                                                                                                                                 | 42 | time | xxx | xxx |
| Emergency Response Plan Disseminations (per year)                                                                                                                                                                                                                                                                                                                                | 2  | time | xxx | xxx |

|                                                                            |   |      |     |     |
|----------------------------------------------------------------------------|---|------|-----|-----|
| Spill protection equipment for all construction season                     | 1 | LS   | xxx | xxx |
| Health and safety signs (for all construction season)                      | 1 | LS   | xxx | xxx |
| Project affected people and communities at Local administration (per year) | 3 | time | xxx | xxx |
|                                                                            |   |      |     | xxx |

## 15. C-ESMP Updates and Revisions

### Purpose:

This section outlines the procedures and contractual obligations related to the periodic review, update, and approval of the Contractor's Environmental and Social Management Plan (C-ESMP), ensuring it remains responsive to project changes and compliant with legal and lender requirements.

### Review Frequency and Requirements:

As per the General Conditions of Contract for Type 2–W2 works:

- The Contractor shall **review the C-ESMP at least every six (6) months** throughout the duration of the contract.
- The purpose of each review is to ensure that the plan's mitigation, monitoring, and management measures remain **appropriate and effective for the current stage of works**.
- Where necessary, the C-ESMP must be **updated** to reflect new risks, site conditions, legal amendments, or performance feedback.

### Update Triggers (in addition to 6-month review):

- Design or scope changes in the project.
- Incidents of non-compliance, audit findings, or significant grievances.
- Revised legal requirements or World Bank guidance.
- Recommendations from the Engineer, PMO, or supervising authorities.

### Approval and Communication Process:

#### 1. Submission:

All updated versions of the C-ESMP shall be formally **submitted to the Project Manager for review and approval**.

#### 2. Documentation:

Updates must be accompanied by a **Change Log** indicating:

- a. Date of revision
- b. Sections revised
- c. Summary of changes

- d. Reason for the update
- 3. **Dissemination:**
  - Upon approval:
    - a. The revised C-ESMP must be **distributed to all relevant personnel and subcontractors.**
    - b. Training and site briefings should be updated accordingly.
- 4. **Recordkeeping:**

All prior versions of the C-ESMP, along with approval records, shall be **maintained in the site E&S documentation archive** for verification and audit purposes.