



# Western Corridor Limited

## Mutanda to Kaoma Road Project

### ESMS Structure and Architecture Document

Approved: CJ Dijkstra  
(Client Project Manager – WCL)

*Chris Dijkstra*

Signature

Approved: R Potgieter  
(ESG Director - Engiage Project Managers)

Signature

Date Issued:

1 August 2025

Document Control			
Document Number:	E3782-PM-K4-W311_0.0.1	Issue Date:	1 August 2025
Author:	J Makoni	Status:	
File Name:	ESMS Structure and Architecture Document	Revision:	00

*Table 1. Document Control*



---

## TABLE OF CONTENTS

TABLE OF CONTENTS	2
ACRONYMS AND ABBREVIATIONS	4
1. REVISION RECORD SHEET	5
2. EXECUTIVE SUMMARY	6
3. INTRODUCTION	7
3.1 Purpose of this Document	7
3.2 Project Overview	7
3.3 ESMS Objectives	8
4. ENVIRONMENTAL AND SOCIAL POLICY	9
Environmental Policy Principles:	9
Social Policy Principles:	9
5. SCOPE OF THE ESMS	11
5.1 Project Phases Covered	11
5.2 Activities Covered	11
5.3 Applicability	11
6. LEGAL AND REGULATORY	13
6.1 National Legislation	13
6.2 International Standards	13
7. ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES	15
7.1 Governance Structure	15
7.3 Contractor E&S Management	16
8. IDENTIFICATION AND ASSESSMENT OF E&S RISKS AND IMPACTS	17
8.1 E&S Risk Screening and Assessment Process	17
8.2 Key E&S Risks and Impacts Identified	18
Environmental Risks:	18
Social Risks:	18
8.3 Risk Update and Review	19
9. E&S MANAGEMENT PROGRAMS AND PROCEDURES	19
9.1 Overview of Management Programs	19
9.2 Environmental Management Procedures	19
9.3 Social Management Procedures	20
9.4 Health and Safety Management	21
9.5 Emergency Preparedness and Response	22
10. TRAINING AND COMPETENCY	23
10.1 E&S Training Framework	23
10.2 Competency Requirements	24
10.3 Training Records	24
11. STAKEHOLDER ENGAGEMENT AND GRIEVANCE MECHANISM	25
11.1 Stakeholder Engagement Approach	25



---

11.2 Community Grievance Mechanism	27
11.3 Worker Grievance Mechanism	28
12. MONITORING, REPORTING AND REVIEW	29
12.1 E&S Performance Monitoring	29
12.2 Internal Reporting	31
12.3 External Reporting	31
12.4 Management Review	32
13. ADAPTIVE MANAGEMENT AND CONTINUOUS IMPROVEMENT	33
14. DOCUMENT MANAGEMENT AND RECORD KEEPING	35
15. CONCLUSION	36



---

## ACRONYMS AND ABBREVIATIONS

CBE	Cost Budget Estimate
EPC	Engineer Procure and Construct
ESIA	Environmental and Social Impact Assessment
FQM	First Quantum Minerals Ltd
GRZ	Government of the Republic of Zambia
HSSE	Health, Safety, Social and Environment
ICW	Initial Construction Works
IFC	International Finance Corporation
NY	Nyeleti Consulting (Pty) Ltd
PC	Project Company
PMIS	Project Management Information System
PPP	Public Private Partnership
PSC	Project Steering Committee
RAP	Resettlement Action Plan
RDA	Roads Development Agency (Zambia)
RRM	Routine Road Maintenance
SDP	Site Development Plan
SPV	Special Purpose Vehicle (WCL)
SS	System Services
TES	Technical Engineering Specialists
WBS	Work Breakdown Structure
WCL	Western Corridor Limited
WIM	Weigh-in-motion





---

## 2. EXECUTIVE SUMMARY

This document presents the Environmental and Social Management System (ESMS) for the Western Corridor Limited (WCL) Mutanda to Kaoma Road Project. The ESMS provides a structured framework for identifying, assessing, managing, and monitoring environmental and social (E&S) risks and impacts throughout the project lifecycle.

The WCL project involves the rehabilitation and upgrade of 371 km of road between Mutanda and Kaoma in Zambia's North-Western and Western Provinces. The project is structured as a 25-year Public-Private Partnership (PPP) concession, comprising a 2-year construction phase followed by 23 years of operation and maintenance.

This ESMS has been developed in accordance with:

- Zambian national legislation, including the Environmental Management Act No. 12 of 2011
- International Finance Corporation (IFC) Performance Standards
- World Bank Environmental, Health, and Safety (EHS) Guidelines
- African Development Bank (AfDB) Integrated Safeguards System

The ESMS establishes:

- Clear E&S policy commitments and objectives
- Defined organizational structure with roles and responsibilities
- Systematic processes for E&S risk identification and assessment
- Comprehensive management programs and procedures
- Robust stakeholder engagement and grievance mechanisms
- Monitoring, reporting, and continuous improvement frameworks

This document serves as the blueprint of WCL's ESMS, demonstrating the company's commitment to sustainable development, environmental protection, and social responsibility. Detailed procedures, plans, and operational documents referenced herein are maintained internally and are available for review by lenders, regulators, and other authorized stakeholders upon request.



---

### 3. INTRODUCTION

#### 3.1 PURPOSE OF THIS DOCUMENT

This document describes the structure and architecture of the Environmental and Social Management System (ESMS) for the WCL Mutanda to Kaoma Road Project. It is designed to provide lenders, regulators, and other stakeholders with a clear understanding of how WCL manages environmental and social risks and opportunities.

This document is NOT a compilation of all detailed procedures and plans, but rather a high-level overview that demonstrates:

- The systematic approach to E&S management
- Key components of the ESMS
- Organizational capacity and responsibilities
- Integration of E&S considerations into project activities
- Mechanisms for monitoring, reporting, and continuous improvement

Detailed management plans, procedures, and operational documents are maintained separately and are available for review during due diligence or audit processes.

#### 3.2 PROJECT OVERVIEW

The Government of the Republic of Zambia (GRZ) has entered into a concession agreement valued at over USD 326 million with Western Corridor Limited (WCL) for the rehabilitation and upgrade of the 371 km D301 road between Mutanda and Kaoma.

Key Project Features:

- Total Length: 371 km traversing North-Western and Western Provinces
- Project Duration: 25 years (2 years construction + 23 years operation and maintenance)
- Implementation: Two phases
  - Phase 1: Mutanda to Kasempa (150 km)
  - Phase 2: Kasempa to Kaoma (221 km)
- Key Infrastructure:
  - Three toll plazas
  - Three weighbridges
  - Administration offices and operation/maintenance yards



- 
- Kaoma Western Bypass
  - Bridge upgrades over Lalafuta and Luena Rivers
  - Traffic circle in Kasempa Town

The project will significantly improve connectivity, reduce travel time and costs, enhance road safety, and stimulate economic development in the region.

### **3.3 ESMS OBJECTIVES**

The WCL ESMS aims to:

1. **Ensure Compliance:** Meet all applicable Zambian laws and international standards for E&S performance.
2. **Manage Risks:** Systematically identify, assess, and mitigate environmental and social risks throughout the project lifecycle.
3. **Enhance Benefits:** Maximize positive impacts on local communities, including employment, skills development, and infrastructure improvements.
4. **Protect Stakeholders:** Safeguard the health, safety, and well-being of workers, communities, and the environment.
5. **Engage Transparently:** Maintain open, inclusive, and culturally appropriate engagement with all stakeholders.
6. **Enable Accountability:** Establish clear responsibilities, monitoring mechanisms, and grievance redress processes.
7. **Drive Improvement:** Foster a culture of continuous learning and adaptive management.



---

## 4. ENVIRONMENTAL AND SOCIAL POLICY

WCL is committed to delivering the Mutanda to Kaoma Road Project in a manner that promotes sustainable development, protects the environment, and enhances the well-being of all stakeholders. The company's Environmental and Social Policy establishes the foundation for the ESMS and guides all project activities.

### **Environmental Policy Principles:**

- **Compliance:** Adhere to all applicable Zambian environmental laws, regulations, and international standards, including IFC Performance Standards and World Bank EHS Guidelines.
- **Pollution Prevention:** Minimize emissions, effluents, and waste generation through source reduction and proper management.
- **Resource Efficiency:** Promote efficient use of energy, water, and materials; encourage recycling and reuse.
- **Biodiversity Protection:** Avoid, minimize, or restore impacts on natural habitats and biodiversity, especially in sensitive areas such as the Kasonso Busanga Game Management Area.
- **Climate Change:** Integrate climate resilience and adaptation measures into project design and operations.

### **Social Policy Principles:**

- **Respect for Human Rights:** Uphold the rights and dignity of all individuals affected by the project, with special attention to vulnerable groups.
- **Stakeholder Engagement:** Ensure transparent, inclusive, and ongoing consultation with all stakeholders, including Project Affected Persons (PAPs), local communities, and government authorities.
- **Land Acquisition and Resettlement:** Manage land acquisition and resettlement in line with national law and international best practice, ensuring fair compensation, livelihood restoration, and minimal disruption.
- **Community Health and Safety:** Identify and mitigate risks to community health and safety arising from project activities.



- 
- Labour and Working Conditions: Provide safe, fair, and non-discriminatory working conditions for all workers, including contractors and subcontractors.
  - Grievance Mechanism: Maintain accessible and effective grievance redress mechanisms for communities and workers.

The full Environmental and Social Policy is communicated to all employees, contractors, and stakeholders, and is publicly available.



---

## 5. SCOPE OF THE ESMS

### 5.1 PROJECT PHASES COVERED

The ESMS applies to all phases of the project lifecycle:

- Pre-Construction: Planning, design, land acquisition, resettlement, and mobilization
- Construction: All civil works, infrastructure development, and associated activities (2 years)
- Operation and Maintenance: Toll collection, road maintenance, and facility operations (23 years)
- Decommissioning/Handover: Transfer of assets to the Government of Zambia at concession end

### 5.2 ACTIVITIES COVERED

The ESMS covers all project activities, including but not limited to:

- Road rehabilitation and upgrade works
- Construction of toll plazas, weighbridges, and associated infrastructure
- Bridge construction and upgrades
- Borrow pit and quarry operations
- Material sourcing, transportation, and storage
- Waste management and disposal
- Water abstraction and wastewater management
- Vegetation clearance and land preparation
- Worker accommodation and welfare facilities
- Community engagement and resettlement activities
- Operation and maintenance of completed infrastructure

### 5.3 APPLICABILITY

The ESMS applies to:

- WCL management and staff
- All contractors and subcontractors engaged in project activities
- Suppliers and service providers
- Joint venture partners and consultants



---

All parties working on the project are required to comply with the ESMS and its associated procedures. Contractor compliance is ensured through:

- E&S requirements in tender and contract documents
- Pre-qualification based on E&S capacity
- Mandatory contractor E&S management plans
- Regular monitoring and auditing
- Performance-based incentives and penalties



---

## 6. LEGAL AND REGULATORY

### 6.1 National Legislation

The ESMS ensures compliance with all applicable Zambian legislation, including:

- Environmental Management Act No. 12 of 2011: Overarching framework for environmental protection, ESIA requirements, and pollution control
- Environmental Impact Assessment Regulations (1997): Detailed EIA process requirements
- Lands Acquisition Act (Chapter 184): Governs land acquisition and compensation
- National Policy on Resettlement and Compensation: Guidelines for resettlement and livelihood restoration
- Occupational Health and Safety Act (2010): Worker health and safety requirements
- Employment Act (Chapter 268): Labour rights and working conditions
- Public Health Act (Chapter 295): Public health and sanitation requirements
- Water Resources Management Act (2011): Water abstraction and discharge permits
- Forests Act (2015): Protection of forest resources
- Zambia Wildlife Act (2015): Protection of wildlife and biodiversity
- National Heritage Conservation Act (1989): Protection of cultural heritage sites

WCL maintains a Legal Register that is regularly updated to ensure ongoing compliance with all applicable laws and regulations.

### 6.2 INTERNATIONAL STANDARDS

In addition to national legislation, the ESMS is aligned with international best practice standards:

#### **IFC Performance Standards (2012):**

- PS1: Assessment and Management of Environmental and Social Risks and Impacts
- PS2: Labor and Working Conditions
- PS3: Resource Efficiency and Pollution Prevention
- PS4: Community Health, Safety, and Security
- PS5: Land Acquisition and Involuntary Resettlement
- PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- PS7: Indigenous Peoples (not applicable to this project)



- 
- PS8: Cultural Heritage

**World Bank Environmental, Health, and Safety (EHS) Guidelines:**

- General EHS Guidelines
- EHS Guidelines for Toll Roads

**African Development Bank Integrated Safeguards System (ISS)**

**Equator Principles**

Where national legislation and international standards differ, WCL applies the more stringent requirement.

## **7. ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES**



## 7.1 GOVERNANCE STRUCTURE

E&S management is integrated into WCL's overall governance structure, with clear accountability from the Board level down to site operations.

Governance Hierarchy:

- WCL Board of Directors: Ultimate accountability for E&S performance; reviews E&S performance quarterly.
- Executive Management: Provides strategic direction and resources for ESMS implementation
- Project Steering Committee: Oversees project delivery including E&S performance; meets monthly
- Project Manager: Overall responsibility for ESMS implementation and performance
- E&S Management Team: Day-to-day implementation, monitoring, and reporting
- Site Management: Implementation of E&S measures at operational level

## 7.2 Key E&S Roles and Responsibilities

The following key roles have been established to ensure effective E&S management:

Role	Key Responsibilities
Project Manager	<ul style="list-style-type: none"> <li>• Overall accountability for ESMS implementation</li> <li>• Ensure adequate resources for E&amp;S management</li> <li>• Approve E&amp;S management plans and procedures</li> <li>• Review E&amp;S performance reports</li> <li>• Interface with lenders and regulators on E&amp;S matters</li> </ul>
Environmental Manager	<ul style="list-style-type: none"> <li>• Lead environmental management activities</li> <li>• Oversee environmental monitoring programs</li> <li>• Ensure compliance with environmental permits</li> <li>• Manage environmental incidents and corrective actions</li> <li>• Coordinate with ZEMA and other environmental authorities</li> </ul>
Health & Safety Manager	<ul style="list-style-type: none"> <li>• Develop and implement OHS management system</li> <li>• Conduct risk assessments and safety</li> </ul>



	inspections <ul style="list-style-type: none"> <li>• Investigate incidents and near-misses</li> <li>• Deliver OHS training programs</li> <li>• Ensure PPE provision and compliance</li> </ul>
Community Liaison Officers (CLOs)	<ul style="list-style-type: none"> <li>• Primary interface with affected communities</li> <li>• Facilitate stakeholder consultations and meetings</li> <li>• Receive and register community grievances</li> <li>• Disseminate project information</li> <li>• Monitor community feedback and concerns</li> </ul>
Site E&S Officers	<ul style="list-style-type: none"> <li>• Day-to-day E&amp;S implementation at construction sites</li> <li>• Conduct site inspections and monitoring</li> <li>• Ensure contractor compliance</li> <li>• Deliver toolbox talks and site inductions</li> <li>• Report E&amp;S incidents and non-compliances</li> </ul>

All E&S personnel have appropriate qualifications and experience. CVs and competency records are maintained on file.

### 7.3 CONTRACTOR E&S MANAGEMENT

Contractors are required to:

- Appoint qualified E&S personnel (minimum 1 E&S Officer per major contract)
- Develop and implement Contractor E&S Management Plans aligned with WCL ESMS
- Comply with all WCL E&S procedures and requirements
- Participate in E&S training and induction programs
- Report E&S incidents and performance data
- Implement corrective actions for non-compliances

WCL monitors contractor E&S performance through:

- Weekly site inspections
- Monthly E&S performance reviews
- Quarterly E&S audits
- Review of contractor E&S reports
- Community feedback and grievances

Contractor payments may be withheld for serious or repeated E&S non-compliances.



---

## 8. IDENTIFICATION AND ASSESSMENT OF E&S RISKS AND IMPACTS

### 8.1 E&S RISK SCREENING AND ASSESSMENT PROCESS

WCL has conducted comprehensive E&S risk and impact assessments in accordance with Zambian law and international standards:

- Environmental and Social Impact Assessment (ESIA): Approved by ZEMA in 2025, the ESIA identifies and assesses all significant environmental and social impacts of the project.
- Resettlement Planning Framework (RPF): Establishes principles and procedures for land acquisition and resettlement.
- Resettlement Action Plans (RAPs): Detailed plans for specific resettlement activities, including asset surveys, compensation, and livelihood restoration.
- Supplementary Studies: Including biodiversity assessments, traffic safety studies, and climate risk assessments.

The E&S assessment process follows a systematic approach:

1. Screening: Identify potential E&S issues and applicable standards
2. Scoping: Determine key issues requiring detailed assessment
3. Baseline Studies: Establish environmental and social baseline conditions
4. Impact Assessment: Predict and evaluate significance of impacts
5. Mitigation Design: Develop measures to avoid, minimize, or compensate for impacts
6. Residual Impact Assessment: Evaluate impacts after mitigation
7. Management Planning: Develop plans and procedures for implementation

### 8.2 KEY E&S RISKS AND IMPACTS IDENTIFIED

The ESIA and related studies have identified the following key E&S risks and impacts:

#### Environmental Risks:

- Biodiversity impacts: Habitat loss, wildlife disturbance, roadkill (particularly in Kasonso Busanga GMA)
- Invasive species: Spread of *Lantana camara* and other alien invasive species
- Water resources: Surface and groundwater contamination from construction activities, fuel/oil spills



- 
- Soil degradation: Erosion, loss of topsoil, sedimentation of water bodies
  - Air quality: Dust emissions from construction and material transport
  - Noise and vibration: Disturbance to communities and wildlife
  - Waste generation: Construction waste, hazardous waste, operational waste
  - Climate change: GHG emissions from construction and operations; climate vulnerability of infrastructure
  - Borrow pits and quarries: Land degradation, safety hazards, mosquito breeding

#### **Social Risks:**

- Land acquisition and resettlement: Displacement of households and agricultural fields; impacts on livelihoods
- Community health and safety: Traffic accidents, dust exposure, communicable diseases (HIV/AIDS, COVID-19)
- Labour influx: Pressure on local services, social tensions, GBV/SEA/SH risks
- Employment: Expectations for local employment; potential for discrimination
- Cultural heritage: Potential impacts on burial sites, shrines, and archaeological sites
- Vulnerable groups: Disproportionate impacts on women, elderly, disabled, and poor households
- Stakeholder relations: Grievances related to compensation, employment, project impacts
- Worker rights: Occupational health and safety, fair wages, working conditions
- Security: Risks associated with security personnel and community-security interactions

### **8.3 RISK UPDATE AND REVIEW**

E&S risks are not static and may evolve as the project progresses. WCL has established processes to ensure risks are regularly reviewed and updated:

- Quarterly Risk Reviews: E&S Management Team reviews risk register and updates as needed
- Change Management: Any significant project changes trigger E&S risk re-assessment
- Incident Learning: E&S incidents are investigated and risk assessments updated accordingly
- Stakeholder Feedback: Community concerns and grievances inform risk identification
- Annual ESMS Review: Comprehensive review of all E&S risks and management measures



---

Updated risk assessments are documented and communicated to relevant personnel and stakeholders.

## 9. E&S MANAGEMENT PROGRAMS AND PROCEDURES

### 9.1 OVERVIEW OF MANAGEMENT PROGRAMS

WCL has developed a comprehensive suite of management programs and procedures to address identified E&S risks and impacts. These documents provide detailed guidance for implementation and are aligned with the mitigation measures specified in the approved ESIA and ESMP.

The management framework consists of:

- Overarching Policies: High-level commitments and principles
- Management Plans: Strategic approaches to specific E&S topics
- Procedures: Step-by-step operational guidance
- Standards and Specifications: Technical requirements
- Forms and Templates: Tools for implementation and record-keeping

### 9.2 ENVIRONMENTAL MANAGEMENT PROCEDURES

The following environmental management procedures have been developed:

- **Air Emission and Greenhouse Gas (GHG) Management Procedure:** Controls dust emissions, vehicle emissions, and monitors GHG footprint
- **Water Use Management Procedure:** Governs water abstraction, use efficiency, and discharge management
- **Waste and Wastewater Management Procedure:** Covers waste segregation, storage, transport, and disposal; wastewater treatment
- **Soil Management Procedure:** Addresses topsoil management, erosion control, and land rehabilitation
- **Biodiversity Management Procedure:** Protects flora and fauna, manages wildlife corridors, implements animal rescue protocols
- **Alien Invasive Management Plan:** Prevents spread of invasive species, particularly *Lantana camara*



- 
- **Noise Management Procedure:** Controls noise from construction equipment and operations
  - **Hazardous Substance Management Procedure:** Safe storage, handling, and disposal of fuels, oils, chemicals
  - **Resource Efficiency and Pollution Prevention Plan:** Promotes efficient use of materials, energy, and water
  - **Rehabilitation Plan:** Restoration of disturbed areas, borrow pits, and temporary facilities
  - **Greenhouse Gas Emissions Monitoring Protocol:** Quantifies and reports GHG emissions
  - **Climate Risk Policy:** Addresses climate adaptation and resilience measures

Each procedure specifies:

Objectives and scope

- Roles and responsibilities
- Implementation requirements
- Monitoring and measurement
- Reporting and record-keeping
- Corrective action processes

### 9.3 SOCIAL MANAGEMENT PROCEDURES

The following social management procedures have been developed:

- **Stakeholder Management Framework:** Defines stakeholder identification, engagement approach, and communication methods
- **Internal Grievances Management Procedure:** Process for receiving, investigating, and resolving community and worker grievances
- **Resettlement Framework and Action Plans:** Governs land acquisition, compensation, and livelihood restoration
- **Land Acquisition Procedure:** Step-by-step process for acquiring land and assets
- **Labour Influx Management Plan:** Mitigates risks associated with worker influx including GBV/SEA/SH
- **Gender Based Violence Plan:** Prevention and response to GBV, SEA, and SH



- 
- **Sexual Exploitation and Abuse/Sexual Harassment Plan:** Specific measures to prevent and address SEA/SH
  - **HIV-AIDS Management Plan:** Awareness, prevention, and support programs
  - **COVID Response Management Plan:** Health protocols and pandemic response measures
  - **Local Content Plan:** Maximizes local employment and procurement opportunities
  - **CSR Development Procedure:** Framework for community investment and development initiatives
  - **Cultural Heritage Chance Find Procedure:** Protocol for discovering archaeological or cultural artifacts
  - **Human Rights, Gender and Non-Discrimination Policy:** Ensures respect for human rights and equality
  - **Child Labour Policy and Prevention Procedure:** Prohibits and prevents child labour
  - **Anti-Bribery and Corruption Policy:** Zero-tolerance approach to corruption
  - **Code of Conduct:** Expected behaviors for all project personnel

#### 9.4 HEALTH AND SAFETY MANAGEMENT

Worker and community health and safety is a top priority for WCL. The following H&S management documents are in place:

- **H&S Policy:** Commitment to zero harm and continuous improvement
- **Health and Safety Management Procedure:** Comprehensive OHS management system
- **Road Safety Management Procedure:** Addresses traffic safety risks during construction and operation
- **Security Management Procedure:** Manages security risks while respecting human rights
- **Contractor Management Procedure:** Ensures contractor OHS compliance
- **Competency and Training Standard:** Defines training requirements for all personnel

Key H&S measures include:

- Risk assessments for all activities
- Mandatory PPE provision and use
- Safety inductions and toolbox talks
- Regular safety inspections and audits
- Incident investigation and corrective action



- 
- Emergency response plans and drills
  - Occupational health monitoring
  - Community safety measures (signage, speed limits, barriers)

## 9.5 EMERGENCY PREPAREDNESS AND RESPONSE

WCL has developed Emergency Preparedness and Response Plans to address potential emergencies including:

- Fires and explosions
- Hazardous material spills
- Vehicle accidents
- Worker injuries
- Natural disasters (floods, storms)
- Security incidents
- Public health emergencies

Emergency response measures include:

- Emergency response teams with defined roles
- Emergency contact lists
- Emergency equipment and supplies
- Evacuation procedures
- Communication protocols
- Coordination with local emergency services
- Regular emergency drills and training
- Post-emergency investigation and review



## 10. TRAINING AND COMPETENCY

### 10.1 E&S TRAINING FRAMEWORK

WCL recognizes that effective ESMS implementation depends on competent personnel at all levels. A comprehensive E&S training program has been established to ensure all staff, contractors, and relevant stakeholders have the necessary knowledge and skills.

Training is delivered through multiple formats:

- Induction training for all new personnel
- Role-specific training for E&S personnel
- Toolbox talks on specific E&S topics
- Refresher training at regular intervals
- Specialized training (e.g., GRM, resettlement, biodiversity)
- Contractor training and capacity building
- Community awareness programs

### 10.2 COMPETENCY REQUIREMENTS

The Competency and Training Standard defines requirements for different roles:

Personnel Category	Training Requirements
All Personnel	<ul style="list-style-type: none"> <li>• E&amp;S induction (ESMS overview, E&amp;S Policy, Code of Conduct)</li> <li>• GRM awareness</li> <li>• Anti-corruption and ethics</li> <li>• HIV/AIDS awareness</li> </ul>
E&S Management Team	<ul style="list-style-type: none"> <li>• IFC Performance Standards</li> <li>• Zambian E&amp;S legislation</li> <li>• E&amp;S risk assessment</li> <li>• Stakeholder engagement</li> <li>• Grievance management</li> <li>• E&amp;S monitoring and reporting</li> </ul>
Site Supervisors	<ul style="list-style-type: none"> <li>• Environmental management procedures</li> <li>• Waste management</li> <li>• Spill response</li> <li>• Community relations</li> <li>• Incident reporting</li> </ul>



---

Construction Workers	<ul style="list-style-type: none"><li>• OHS requirements and PPE use</li><li>• Environmental awareness</li><li>• Waste segregation</li><li>• Cultural heritage chance finds</li><li>• Community interaction protocols</li></ul>
Contractors	<ul style="list-style-type: none"><li>• ESMS requirements</li><li>• Contractor E&amp;S obligations</li><li>• Specific procedures relevant to scope of work</li><li>• Emergency response</li></ul>

### 10.3 TRAINING RECORDS

All training activities are documented and records maintained including:

- Training attendance registers
- Training materials and presentations
- Competency assessments
- Training certificates
- Training effectiveness evaluations

Training records are reviewed during E&S audits to verify compliance with competency requirements.



---

## 11. STAKEHOLDER ENGAGEMENT AND GRIEVANCE MECHANISM

### 11.1 STAKEHOLDER ENGAGEMENT APPROACH

WCL is committed to transparent, inclusive, and culturally appropriate engagement with all project stakeholders. The Stakeholder Management Framework establishes a systematic approach to stakeholder engagement throughout the project lifecycle.

Key Stakeholder Groups:

- Project Affected Persons (PAPs): Households and individuals directly impacted by land acquisition or project activities
- Local Communities: Residents of villages along the project corridor
- Traditional Leaders: Chiefs and headmen in project districts
- Government Authorities: ZEMA, RDA, district councils, line ministries
- Civil Society: NGOs, CBOs, environmental and social organizations
- Workers: Project employees and contractor personnel
- Business Community: Local suppliers, service providers, transporters

Engagement Methods:

- Community meetings and focus group discussions
- One-on-one consultations with PAPs
- Meetings with traditional and civic leaders
- Public disclosure of project information
- Community Liaison Officers as primary interface
- Project information centers and notice boards
- Dedicated project phone line and WhatsApp
- Radio announcements and newspaper notices
- Stakeholder workshops and open days

Engagement Principles:

- Early and ongoing engagement throughout project lifecycle
- Culturally appropriate and accessible to all groups
- Information provided in local languages (English, Lozi, Kaonde)
- Special attention to vulnerable groups (women, elderly, disabled)



- 
- Two-way communication allowing stakeholder input
  - Documented and transparent process
  - Feedback incorporated into project decisions

Stakeholder Engagement Plan:

A detailed Stakeholder Engagement Plan (SEP) has been developed specifying:

- Stakeholder mapping and analysis
- Engagement activities and timelines
- Information disclosure requirements
- Roles and responsibilities
- Monitoring and reporting

## **11.2 COMMUNITY GRIEVANCE MECHANISM**

WCL has established an accessible and effective Grievance Redress Mechanism (GRM) to receive and resolve concerns from project-affected communities. The GRM is designed to be:

- Accessible: Multiple channels for submitting grievances
- Transparent: Clear process and timelines communicated
- Culturally appropriate: Respects local customs and languages
- Confidential: Protects complainant privacy
- Non-retaliatory: No negative consequences for raising concerns
- Timely: Defined response timeframes
- Fair: Impartial investigation and resolution

Grievance Submission Channels:

- In-person to Community Liaison Officers
- Phone, SMS, or WhatsApp to project grievance hotline
- Email to project grievance address
- Suggestion boxes at project sites and community locations
- Through traditional leaders
- Written letters to project office

Grievance Process:



- 
1. Submission: Grievance submitted through any channel
  2. Registration: Logged in Smartsheet Grievance Register with unique reference number
  3. Acknowledgement: Receipt acknowledged within 3 working days
  4. Assessment: Grievance categorized by type and severity
  5. Investigation: Relevant personnel investigate the issue
  6. Resolution: Proposed resolution communicated within 15 working days
  7. Implementation: Agreed resolution implemented
  8. Closure: Outcome documented and grievance closed
  9. Escalation: Unresolved grievances escalated to District Resettlement Working Group, Project Steering Committee, or external mediation

Grievance Categories:

- Compensation and resettlement
- Employment and procurement
- Environmental impacts (dust, noise, water, etc.)
- Community health and safety
- Contractor conduct
- Access and livelihoods
- Cultural heritage
- General project information

Monitoring and Reporting:

- Monthly grievance reports prepared by CLOs
- Quarterly analysis of grievance trends
- Reporting to lenders and ZEMA as required
- Lessons learned incorporated into ESMS improvement

### 11.3 WORKER GRIEVANCE MECHANISM

A separate Internal Grievances Management Procedure has been established for project workers (WCL employees and contractor personnel) to raise concerns related to:

- Working conditions and safety
- Wages and benefits
- Discrimination or harassment



- 
- Management practices
  - Contractual issues

The worker GRM follows similar principles to the community GRM and ensures workers can raise concerns without fear of retaliation. Workers are informed of the GRM during induction and through workplace notices.



---

## 12. MONITORING, REPORTING AND REVIEW

### 12.1 E&S PERFORMANCE MONITORING

WCL has established a comprehensive E&S monitoring program to track performance, verify compliance, and identify areas for improvement. Monitoring activities include:

Environmental Monitoring:

- Air quality (dust levels)
- Water quality (surface and groundwater)
- Noise levels
- Soil quality
- Waste generation and disposal
- Biodiversity (wildlife observations, roadkill incidents)
- GHG emissions
- Rehabilitation progress

Social Monitoring:

- Employment statistics (local vs. non-local, gender)
- Training records
- Stakeholder engagement activities
- Grievances received and resolved
- Compensation and resettlement progress
- Community health indicators
- Local procurement
- Incidents (accidents, security, GBV)

Health and Safety Monitoring:

- Safety inspections
- Incident and near-miss reporting
- PPE compliance
- OHS training
- Emergency drill effectiveness



---

#### Compliance Monitoring:

- Permit and license compliance
- Contractor E&S performance
- ESMS procedure implementation
- Corrective action closure

#### Monitoring Responsibilities:

- Site E&S Officers: Daily site observations and inspections
- Environmental Manager: Environmental monitoring program
- Social Manager: Social monitoring program
- OHS Manager: Health and safety monitoring
- External Consultants: Specialized monitoring (e.g., water quality testing)

All monitoring data is recorded, analysed, and reported through the ESMS reporting structure.

## 12.2 INTERNAL REPORTING

E&S performance is reported internally at multiple levels:

- Daily: Site E&S Officers report incidents and non-compliances to Site Manager and E&S Manager
- Weekly: Site E&S summary reports to Project Manager
- Monthly: Comprehensive E&S performance reports to Project Steering Committee including:
  - Monitoring results
  - Incidents and corrective actions
  - Grievance summary
  - Stakeholder engagement activities
  - Contractor performance
  - Training delivered
  - Key issues and recommendations
- Quarterly: E&S performance reports to Executive Management and Board
- Annually: ESMS performance review and improvement plan



---

The Monitoring and Evaluation Policy establishes the framework for internal reporting and performance tracking.

### **12.3 EXTERNAL REPORTING**

WCL reports E&S performance to external stakeholders as required:

- ZEMA: Annual environmental compliance reports; incident reports as required
- Lenders (AfDB and other DFIs): Quarterly E&S performance reports aligned with lender requirements
- Government of Zambia: Reports to RDA and relevant ministries as specified in concession agreement
- Communities: Public disclosure of key E&S information through community meetings, notice boards, and project website
- Public Disclosure: ESIA, ESMP, RAPs, and ESMS summary publicly available

All external reports are prepared in accordance with applicable requirements and submitted within specified timeframes.

### **12.4 MANAGEMENT REVIEW**

The ESMS is subject to regular management review to ensure its continuing suitability, adequacy, and effectiveness:

- Quarterly Reviews: E&S Management Team reviews ESMS performance, identifies issues, and recommends improvements
- Annual ESMS Review: Comprehensive review by Project Manager and Executive
- Management covering:
  - Achievement of E&S objectives
  - Compliance with legal and lender requirements
  - Effectiveness of management programs and procedures
  - Adequacy of resources
  - Stakeholder feedback and grievance trends
  - Incident analysis and lessons learned
  - Changes in project scope or context
  - Recommendations for ESMS updates



---

Management review outcomes are documented and result in:

- ESMS improvement actions
- Updates to procedures and plans
- Resource allocation decisions
- Training needs identification
- Communication to relevant personnel



---

### 13. ADAPTIVE MANAGEMENT AND CONTINUOUS IMPROVEMENT

WCL recognizes that the ESMS is a "living system" that must evolve based on experience, changing circumstances, and stakeholder feedback. An adaptive management approach is embedded in the ESMS through:

Continuous Improvement Mechanisms:

- Incident Investigation: All E&S incidents are investigated to identify root causes and prevent recurrence
- Corrective and Preventive Actions: Systematic process for addressing non-compliances and preventing future issues
- Lessons Learned: Regular capture and sharing of lessons from project experience
- Stakeholder Feedback: Community and worker input incorporated into ESMS improvements
- Monitoring Data Analysis: Trends and patterns inform management adjustments
- Audit Findings: Internal and external audit recommendations implemented
- Benchmarking: Learning from other projects and industry best practices

Triggers for ESMS Updates:

- Significant project changes (scope, design, schedule)
- Changes in legislation or lender requirements
- Identification of new or emerging risks
- Persistent non-compliances or incidents
- Stakeholder concerns or grievances
- Management review recommendations
- Audit findings
- Lessons learned from incidents

ESMS Document Control:

- All ESMS documents are version-controlled
- Changes are reviewed and approved by appropriate authority
- Updated documents are communicated to relevant personnel
- Training provided on significant changes



- 
- Document revision history maintained

The Risk Management Policy provides additional guidance on adaptive management and continuous improvement processes.



---

## 14. DOCUMENT MANAGEMENT AND RECORD KEEPING

Effective ESMS implementation requires robust document management and record-keeping systems. WCL maintains:

### Document Control:

- All ESMS documents have unique identification numbers
- Version control and revision history maintained
- Approval authorities defined for each document
- Periodic review and update schedules established
- Controlled distribution to ensure current versions in use
- Superseded documents archived

### Record Keeping:

Key E&S records maintained include:

- Monitoring data and reports
- Inspection and audit reports
- Incident and corrective action records
- Training attendance and competency records
- Stakeholder engagement records (meeting minutes, attendance, photos)
- Grievance register and resolution records
- Permit and license copies
- Contractor E&S plans and reports
- Correspondence with regulators and lenders

### Record Management:

- Records stored securely (physical and electronic through Smartsheet)
- Retention periods defined (minimum 7 years or as required by law/lenders)
- Access controls to protect confidential information
- Backup systems for electronic records
- Records available for audit and review



---

## 15. CONCLUSION

This ESMS Structure and Architecture Document demonstrates WCL's commitment to managing the environmental and social aspects of the Mutanda to Kaoma Road Project in a systematic, transparent, and effective manner.

The ESMS provides:

- A clear policy framework aligned with national legislation and international standards
- Defined organizational structure with competent personnel and clear responsibilities
- Systematic processes for identifying, assessing, and managing E&S risks
- Comprehensive management programs and procedures addressing all significant E&S issues
- Robust stakeholder engagement and grievance mechanisms
- Effective monitoring, reporting, and review systems
- A culture of continuous improvement and adaptive management

WCL recognizes that successful ESMS implementation requires:

- Sustained commitment from leadership
- Adequate resources (financial, human, technical)
- Competent and motivated personnel
- Effective communication and training
- Collaboration with stakeholders
- Transparency and accountability
- Willingness to learn and adapt

This document serves as the blueprint for WCL's ESMS. Detailed procedures, plans, and operational documents referenced herein are maintained internally and provide the operational guidance necessary for day-to-day implementation.

WCL is committed to:

- Full implementation of this ESMS throughout the project lifecycle
- Compliance with all applicable laws and lender requirements
- Transparent reporting of E&S performance
- Meaningful engagement with all stakeholders



- 
- Continuous improvement of E&S performance

The ESMS will be reviewed and updated regularly to ensure it remains effective and aligned with project needs, stakeholder expectations, and evolving best practices.