Environmental and Social Management Plan for the Consulting Services for the Design and Supervision of Urban Infrastructure Lot 2 (Karibib and Rundu Towns) Under the Development Workshop Namibia Programme

Prepared for: Development Workshop Namibia

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1. Introduction

The Environmental and Social Management Plan (ESMP) for the Karibib Bulk Infrastructure Development Project has been prepared to ensure that environmental and social risks are appropriately managed and mitigated throughout the project lifecycle. This site-specific ESMP outlines the measures required to minimize negative environmental and social impacts while enhancing positive outcomes associated with the construction and operation of sewer, water and electricity infrastructure in Usab Extension 6, Karibib.

The ESMP has been developed in accordance with the requirements of the Environmental Management Act (No. 7 of 2007) and associated Environmental Impact Assessment Regulations (2012), as well as relevant municipal by-laws and sectoral legislation. The document also integrates applicable international best practices, particularly those of KfW Development Bank and the International Finance Corporation (IFC) Performance Standards, to ensure that the project meets both national and donor expectations for environmental and social performance.

This ESMP forms a critical component of the project's environmental compliance framework and will guide the implementing contractor, project engineers, local authorities, and stakeholders during the pre-construction, construction, and operational phases.

2. Project Description

The Karibib Bulk Infrastructure Development Project forms part of a targeted urban upgrading initiative aimed at improving essential services within the Usab Extension 6 area, located northeast of Karibib in the Erongo Region. The project is spearheaded by Development Workshop Namibia (DWN) with financial support from the German development bank, KfW, under Programme Reference No. BMZ: 2019 67462. The overall aim is to enhance the provision of water, sanitation, and electricity infrastructure in a rapidly growing, low-income residential area that currently experiences limited access to basic services.

The project includes the installation of a 3.1-kilometre internal water distribution network, which will connect 253 unserviced residential plots to the town's potable water supply. This intervention will substantially improve public health and hygiene standards by reducing reliance on shared standpipes and informal water sources. The project also addresses critical sanitation needs through the construction of a 3.1-kilometre sewer reticulation network for household connections, as well as the upgrade of a 0.5-kilometre section of the existing trunk sewer, increasing its diameter from 160 mm to

450 mm to accommodate future demand. Additionally, a 1.2-kilometre gravity sewer main will be constructed to convey wastewater to the oxidation ponds. These existing ponds, which currently operate at suboptimal levels, will be rehabilitated as part of the project to ensure environmentally compliant effluent treatment.

In parallel, the project includes the provision of bulk electricity infrastructure to support formal household connections. This includes the installation of a 1.5-kilometre, 11 kV overhead line, as well as the construction of two 630 kVA substations. These upgrades will enable the electrification of residential plots, enhancing household safety, enabling small-scale economic activity, and reducing reliance on hazardous informal energy sources such as candles and paraffin.

The site is located on undeveloped municipal land owned by the Karibib Town Council. The terrain is generally flat to gently undulating, and no resettlement is required for the proposed works. Soils in the area are dominated by Calcisols and Leptosols, which are shallow, low in organic matter, and highly prone to erosion if disturbed. Geologically, the site lies within the Central Zone of the Damara Orogen, with marble formations typical of the Karibib region. The area is semi-arid, with annual rainfall ranging between 150 mm and 300 mm and evaporation exceeding 2,500 mm per year. These conditions necessitate careful environmental planning, particularly in relation to water use, dust suppression, and soil conservation.

Construction activities will include site clearance, vegetation stripping, trench excavation, pipe and cable laying, backfilling, compaction, installation of chambers and manholes, and mechanical and electrical works. Localized blasting may be required in areas with hard rock. A temporary construction camp will be established to house equipment, storage containers, and site offices, with associated water and waste management facilities. Following completion, the site will be rehabilitated through backfilling, waste removal, and limited landscaping.

The project is scheduled to commence in January 2026, with an estimated construction period of 12 months. Labour-intensive methods will be employed where feasible, with priority given to the employment of local residents, including youth and women. Resources such as gravel, sand, pipes, and fuel will be sourced from licensed suppliers, and all water used during construction will be abstracted legally from municipal sources or authorised boreholes. Environmental considerations will be integrated throughout, including the implementation of mitigation measures related to dust control, erosion prevention, noise reduction, and solid and liquid waste management.

In summary, the project is designed to meet the immediate and future service delivery needs of Usab Extension 6, while complying with national regulatory frameworks and international donor safeguards. It represents a critical step in improving public health,

promoting inclusive urban development, and reducing environmental risk in a rapidly expanding area of Karibib.

3. Legal and Policy Framework

The Karibib Bulk Infrastructure Development Project is subject to a wide range of environmental and social regulations at both national and international levels. The implementation of this Environmental and Social Management Plan (ESMP) is therefore grounded in compliance with applicable Namibian legislation, as well as the environmental safeguard policies of the project's international financiers, notably KfW and the International Finance Corporation (IFC).

At the national level, the project is principally governed by the Environmental Management Act (No. 7 of 2007) and the associated Environmental Impact Assessment Regulations (GN No. 30 of 2012). This legislation mandates that all listed activities with potential environmental or social impacts undergo a structured environmental assessment process prior to implementation. Several listed activities are triggered by this project, including the construction of water pipelines, sewer infrastructure, wastewater treatment facilities, and electrical transmission lines. Consequently, an Environmental Clearance Certificate (ECC) must be obtained from the Ministry of Environment, Forestry and Tourism (MEFT) before construction can commence.

In addition to the EMA, the project must comply with other sectoral laws, including the Water Resources Management Act (No. 11 of 2013), which governs water abstraction, effluent discharge, and borehole development. A water abstraction permit will be required if groundwater or borehole sources are used for construction water. The Local Authorities Act (No. 23 of 1992) provides the municipal framework for the provision of urban services such as sewerage, water, and electricity. The Public Health Act (No. 36 of 1919) and the Labour Act (No. 11 of 2007) further guide health, hygiene, and occupational safety standards applicable to the project.

The Soil Conservation Act (No. 76 of 1969) is also applicable, requiring that measures be taken to prevent soil erosion and degradation during construction. Vegetation clearance must be conducted in accordance with the Forest Act (No. 12 of 2001), particularly if protected species are present, and any disturbance to cultural heritage sites must comply with the National Heritage Act (No. 27 of 2004). A "chance find" procedure will be adopted during excavation to ensure immediate reporting and response to the discovery of archaeological material.

In terms of international standards, the project aligns with the IFC Performance Standards on Environmental and Social Sustainability (2012). These standards guide the assessment and management of environmental and social risks and include requirements related to labour and working conditions (PS2), resource efficiency and

pollution prevention (PS3), community health and safety (PS4), land acquisition (PS5), biodiversity conservation (PS6), indigenous peoples (PS7), and cultural heritage (PS8). For donor compliance, the project also adheres to the KfW Sustainability Guideline, which incorporates environmental, climate, and human rights considerations across all phases of project implementation.

Furthermore, the project draws on applicable guidance from the World Bank Group's Environmental, Health, and Safety (EHS) Guidelines, which outline good international industry practices (GIIP) for water and sanitation infrastructure, electrical transmission, and general construction practices. In cases where Namibian regulations differ from international guidelines, the more stringent standard will be applied, in accordance with donor expectations and the precautionary principle.

The integration of both national and international legal instruments into the ESMP ensures that all environmental and social risks are identified, assessed, and managed responsibly throughout the life of the project. The legal framework also serves as the basis for monitoring compliance, reporting, and auditing processes that will be implemented during construction and operation.

4. Environmental and Social Management Objectives

The purpose of this Environmental and Social Management Plan (ESMP) is to define a structured, proactive approach for mitigating potential environmental and social risks associated with the Karibib Bulk Infrastructure Development Project. The ESMP establishes the framework for integrating environmental safeguards and social performance considerations into all phases of project implementation — from planning and design through construction, operation, and eventual decommissioning or handover.

The overarching objective is to ensure that the project contributes positively to sustainable development outcomes while complying with all applicable environmental legislation, municipal by-laws, and international best practices. This includes the prevention, minimization, and remediation of adverse environmental impacts and the enhancement of positive socio-economic benefits resulting from improved service delivery.

Specific environmental and social management objectives include the following:

- To ensure legal compliance with the Environmental Management Act (No. 7 of 2007), Environmental Impact Assessment Regulations (2012), and all other relevant Namibian statutes and sector-specific regulations.
- To protect and conserve the natural environment by minimizing vegetation clearing, preventing soil erosion, avoiding pollution of water and air resources, and safeguarding biodiversity in and around the project area.

- To prevent harm to human health and safety by implementing effective measures for occupational health and safety, community safety (especially near open trenches and blasting areas), and noise and dust control during construction.
- To promote socio-economic benefits by maximizing local employment opportunities, stimulating local small businesses, and reducing the cost and improving the accessibility of serviced land for low-income households.
- To ensure meaningful stakeholder engagement, particularly by maintaining open lines of communication with affected communities, respecting community concerns, and integrating feedback into the project's design and mitigation processes.
- To ensure effective management of physical and cultural heritage resources by implementing chance-find procedures, staff training, and liaison with heritage authorities in the event of archaeological discoveries.
- To enable monitoring, evaluation, and adaptive management by establishing clear roles, responsibilities, and indicators for environmental and social performance tracking during implementation.
- To maintain transparency and accountability in the management of environmental and social risks, including timely reporting to the Karibib Town Council, the Ministry of Environment, Forestry and Tourism (MEFT), and the project financiers.

These objectives provide the basis for the development of targeted mitigation measures, monitoring plans, and institutional arrangements described in the subsequent sections of this ESMP. By aligning the project with both legal obligations and best practice principles, the ESMP seeks to enhance project sustainability and promote long-term community wellbeing.

5. Roles and Responsibilities

Effective implementation of the Environmental and Social Management Plan (ESMP) for the Karibib Bulk Infrastructure Development Project depends on clear delineation of roles and responsibilities among all stakeholders involved in project execution. This includes the project proponent, implementing agents, contractors, supervising engineers, and regulatory authorities. Each party is accountable for ensuring that mitigation measures, monitoring actions, and compliance obligations are executed in a timely and verifiable manner.

5.1 Project Proponent: Development Workshop Namibia (DWN)

As the project proponent and funding administrator, DWN holds overall responsibility for environmental and social compliance. DWN must:

- Ensure that the ESMP is included in tender and contract documentation.
- Oversee contractor and engineer compliance with all ESMP requirements.
- Liaise with regulatory authorities, including MEFT, for reporting and permit obligations.
- Facilitate stakeholder engagement and ensure effective grievance management.
- Submit monitoring and compliance reports to financiers (e.g. KfW) as required.

5.2 Implementing Consultant: SMEC Namibia

SMEC is responsible for detailed design, supervision of construction, and engineering quality control. Their role includes:

- Integrating mitigation measures into technical specifications and construction drawings.
- Supervising contractor implementation of environmental and social safeguards.
- Providing DWN with environmental performance updates and non-compliance reports.
- Ensuring all site staff are aware of ESMP requirements.

5.3 Environmental Consultant: Enviro Management Consultants Namibia (EMC)

EMC has prepared the Environmental Scoping Report and this ESMP and may be retained for periodic audits or support. EMC responsibilities include:

- Assisting with environmental training for site personnel.
- Conducting scheduled site inspections and environmental audits if contracted.
- Advising DWN and SMEC on corrective actions or adaptive management.
- Supporting reporting to MEFT and international donors, if required.

5.4 Construction Contractor

The principal contractor is responsible for implementing all mitigation measures during site establishment, construction, and decommissioning. Key obligations include:

- Appointing a dedicated Environmental Control Officer (ECO) to manage daily compliance.

- Implementing dust suppression, erosion control, spill prevention, and waste management practices.
- Ensuring all workers receive induction training on environmental and health & safety issues.
- Adhering to legal requirements, including permit conditions, working hours, and safety signage.
- Reporting any environmental incidents or chance archaeological finds immediately.

5.5 Karibib Town Council (KTC)

As the local authority and landowner, KTC plays a supporting role in:

- Monitoring compliance within municipal jurisdiction.
- Facilitating community engagement and grievance resolution.
- Coordinating service delivery and integration with existing infrastructure.
- Ensuring alignment with spatial planning and development priorities.

5.6 Ministry of Environment, Forestry and Tourism (MEFT)

The MEFT, through its Directorate of Environmental Affairs, is the competent authority for environmental regulation. Its responsibilities include:

- Reviewing and approving this ESMP and issuing the Environmental Clearance Certificate.
- Conducting ad hoc inspections or audits, as required.
- Reviewing environmental monitoring reports submitted by the proponent.
- Enforcing corrective actions in cases of non-compliance.

This guidelines of responsibilities ensures that environmental and social risks are managed collaboratively and transparently. It also allows for accountability throughout the project cycle, with built-in lines of communication between field teams, oversight engineers, regulatory bodies, and local stakeholders.

6. Environmental and Social Management Plan

ESMP implementation is a cyclical process that converts mitigation measures into actions and through cyclical monitoring, auditing, review and corrective action, ensures conformance with stated ESMP aims and objectives. Through monitoring and auditing, feedback for continual improvement in environmental performance must be provided and corrective action taken to ensure that the ESMP remains effective.

6.1 ESMP Administration

Copies of the ESMP shall be kept at the site office and will be distributed to all senior contract personnel. All senior personnel shall be required to familiarize themselves with the contents of this document.

6.2 Environmental Awareness Training

Before any work is commenced on the Site, the Contractor shall ensure that adequate environmental awareness training of senior site personnel takes place and that all construction workers receive an induction presentation on the importance and implications of the ESMP. The Contractor shall liaise with the Engineer during establishment phase to fix a date and venue for the training and to agree on the training content.

The Contractor shall provide a suitable venue and ensure that the specified employees attend the course. The Contractor shall ensure that all attendees sign an attendance register, and shall provide the ER with a copy of the attendance register. The presentation shall be conducted, as far as is possible, in the employees' language of choice.

As a minimum, training should include:

1. Explanation of the importance of complying with the ESMP.
2. Discussion of the potential environmental impacts of construction activities.
3. The benefits of improved personal performance.
4. Employees' roles and responsibilities, including emergency preparedness.
5. Explanation of the mitigation measures that must be implemented when carrying out their activities.
6. Explanation of the specifics of this ESMP and its specification (no-go areas, etc.)
7. Explanation of the management structure of individuals responsible for matters pertaining to the ESMP.
8. The contractor shall keep records of all environmental training sessions, including names, dates and the information presented.

6.3 Public Participation

An on-going process of public participation shall be maintained during construction to ensure the continued involvement of interested and affected parties (I&APs) in a meaningful way. Public meetings to discuss progress and any construction issues that may arise shall be held at least every two months and more regularly if deemed necessary by the ER. These meetings shall be arranged by the ECO but shall be facilitated by the ER. The Contractor shall present a progress report at each public meeting. All I&APs that participated in or were informed during the EIA shall be invited to each of the public meetings.

6.4 Mitigation Measures

This section outlines the proposed mitigation measures aimed at avoiding, minimizing, or offsetting the potential negative environmental and social impacts associated with the DWN infrastructure projects in Karibib. Each measure is linked to a specific identified impact and includes actions to be implemented primarily during the construction and operational phases. The effectiveness of these measures is critical to ensuring that the project remains compliant with national and international environmental and social safeguards, while also enhancing the long-term sustainability and community acceptance of the development.

Key Components and Mitigation Measures

Impact Component	Mitigation Measures	Responsible Party	Monitoring Indicator
Vegetation Clearing	Restrict clearance to surveyed and demarcated areas only. Preserve indigenous and protected species where possible. Do not clear vegetation more than two months in advance of operations Implement progressive clearing and immediate backfilling where applicable.	Contractor / ECO	Site inspection reports; photographic records; rehabilitation completion certificates

Impact Component	Mitigation Measures	Responsible Party	Monitoring Indicator
Dust Control	Apply water spray at all active construction areas and unpaved roads. Minimise drop heights for materials. Use dust screens near sensitive receptors (e.g. houses, clinics). Avoid excessive speed on haul roads (restrict to 30km/h).	Contractor	Visual inspections; community feedback logs (complaint register with grievance redress mechanism).
Noise Management	Limit noisy activities to between 07:00–18:00. Maintain and service construction machinery regularly. Provide advance notice to communities before high-noise activities. Use silencers/mufflers on generators and compressors. Make sure that noise levels don't exceed 80db in case of equipment or vehicle use.	Contractor / ECO	Noise level meter readings; incident reports; grievance redress mechanism
Soil Erosion	Schedule construction to avoid rainy season where possible. Stabilise stockpiles with coverings. Construct diversion channels, silt traps, and sediment fences around earthworks. Backfill trenches within the quickest possible time. Ensure that topsoil is stripped and stored properly. Topsoil should not be mixed with subsoil. Topsoil stockpile to be protected from erosion.	Contractor	Slope stability records; erosion features monitored; drainage inspections

Impact Component	Mitigation Measures	Responsible Party	Monitoring Indicator
Water Use	Source water from municipal supply where feasible. Apply for abstraction permits where groundwater is needed. Install flow meters on pumps and regularly inspect for leaks (during construction - to determine usage and intercept leaks). Avoid water wastage through efficient usage.	Contractor / KTC	Daily consumption records; valid permits; flow meter readings and records
Water and Soil Pollution Risk	Ensure sealed manholes and proper pond linings. Conduct regular maintenance on machines and storage facilities. Establish emergency response for spills. Align with Water Resources Management Act, IFC PS3. Appropriate and safe storage of fuels, construction materials, wastes and any materials that can cause spills (e.g. batteries from energy generators).	Contractor	Daily inspection records and spill logs.

Impact Component	Mitigation Measures	Responsible Party	Monitoring Indicator
Waste Management	The Contractor shall develop a Waste Management Plan (WMP) in line with local and international best practices. Separate recyclable, hazardous, and general waste at source. Store waste in clearly labelled containers. Schedule regular removal to licensed disposal or recycling facilities. Prohibit open burning and illegal dumping. Prevent littering by worker awareness.	Contractor	Waste transfer records; ECO audits Toolbox talks
Visual Impact	Use screening and buffers to hide temporary infrastructure. Rehabilitate disturbed areas post-construction. Address in line with IFC PS1 and local planning policies.	Contractor	Visual inspections and reporting.

Impact Component	Mitigation Measures	Responsible Party	Monitoring Indicator
Health and Safety	Establish and enforce a comprehensive Health and Safety Plan. Comply with the Labour Act, 2007 dealing with health and safety which are Sections 39 to 41 under Chapter 4. Conduct risk assessments prior to each task. Provide and maintain adequate PPE for all personnel. Conduct routine toolbox talks and emergency response drills. Ensure availability of trained first aiders and stocked first aid kits on-site. Install visible hazard signage. Ensure all H&S related incidents (e.g. observations, accidents) on site are recorded and followed up properly. Ensure minimum first aid provisions on site (suitably stocked first-aid kits; a person, respectively an adequate number of first-aid helpers and ensure that staff and workers are informed about first-aid arrangements)	Contractor	Safety incident records; attendance logs
Community health and safety	Fence off hazardous areas, use traffic signage, provide community awareness and emergency response plan. Align with IFC PS4, KfW community safety protocols.	Contractor	HSE checklist on a daily basis.

Impact Component	Mitigation Measures	Responsible Party	Monitoring Indicator
Economic and Livelyhood	Include clauses in tender documents requiring local hiring. Set minimum targets for local labour engagement. Publicly post job openings within the community. Ensure equal opportunity and fair treatment as required by the Namibian Labour Law. Conduct skills development sessions to enhance employability.	Contractor / KTC	Employment registers; grievance log
Improved Sanitation and Public Health	Maintain functional sewerage systems, promote hygiene awareness, monitor health indicators. Aligns with IFC PS4 public health goals.	Karibib TC	Monthly monitoring
Construction Traffic	Establish designated haul routes; avoid school and pedestrian zones. Implement speed limits and traffic signage (30km/h). Assign flag people at road crossings used by construction vehicles.	Contractor / ECO	Traffic incident records; signage audits; grievance redress mechanism – monthly reporting
Increased Workforce Presence	Provide adequate site facilities (toilets, mobile toilets, water, shelter); enforce strict code of conduct. Implement community interaction protocols and awareness training. This includes a Community Liason Officer (CLO) from the contractor.	Contractor / KTC	Worker conduct logs; grievance redress mechanism; facility inspection reports – monthly reporting
Risk to Archaeological Resources	Halt work if artifacts are found, engage National Heritage Council. Comply with Heritage Act and IFC PS8.	Contractor	Immediate reporting to the ER and contact the Heritage Council of Namibia.

Soil Contamination	Store hazardous materials on bunded surfaces; provide drip trays for stationary equipment; train workers in spill response. Monitor for leaks or accidental releases. And visual inspections of high risk areas.	Contractor / ECO	Spill log; hazardous storage inspections; incident reports – ad hoc
Localised Blasting Impacts	Conduct risk assessment before blasting. Notify communities by using notification boards and local media at least 7 days before commencement. Use controlled blasting techniques. Schedule blasting during low-activity times.	Contractor, Blasting Subcontractor	Vibration data; blast logs; community feedback
Blasting-Related Air Overpressure and Flyrock	Maintain safety buffers as per Blasting contractor specifications. Use blast mats where applicable. Brief all staff, evacuate nearby personnel and coordinate with regulators.	Contractor, Blasting Subcontractor	Incident reports; buffer zone adherence.
Local Employment Opportunities (Positive)	Recruit from Karibib and surrounding areas; advertise positions locally; monitor labour records.	DWN, Contractor	% Local hires; training provided – monthly feedback.
Stimulation of Local Businesses (Positive)	Prioritise local procurement; include SMEs in contracts; track expenditure on local services.	DWN, Contractor	Local supplier expenditure; SME participation – monthly feedback.

Appendix A at the end of this document has an Action Table and"To-Do" and "Not – To – Do" list which form part of this ESMP and the measures should be implemented as such.

6.5 Non-Compliance

A) Procedures

The Contractor shall comply with the environmental and social specifications and requirements on an on-going basis and any failure on his part to do so will entitle the ER to impose a penalty. In the event of non-compliance the following recommended process shall be followed:

1. The ER shall issue a notice of non-compliance to the Contractor through the ECO, stating the nature and magnitude of the contravention.

2. The Contractor shall act to correct the non-conformance within 24 hours of receipt of the notice, or within a period that may be specified within the notice.

3. The Contractor, through the ECO, shall provide the ER with a written statement describing the actions to be taken to discontinue the non-conformance, the actions taken to mitigate its effects and the expected results of the actions.

4. In the case of the Contractor failing to remedy the situation within the predetermined time frame, the Engineer shall impose a monetary penalty based on the conditions of contract.

5. In the case of non-compliance giving rise to physical environmental damage or destruction, the Engineer shall be entitled to undertake or to cause to be undertaken such remedial works as may be required to make good such damage and to recover from the Contractor the full costs incurred in doing so.

6. In the event of a dispute, difference of opinion, etc. between any parties with regard to or arising out of interpretation of the conditions of the ESMP, disagreement regarding the implementation or method of implementation of conditions of the ESMP, etc. any party shall be entitled to require that the issue be referred to specialists for determination.

7. The Engineer shall at all times have the right to stop work and/or certain activities on site in the case of non-compliance or failure to implement remedial measures.

B) Offenses and Penalties

Where the Contractor inflicts non-repairable damage upon the environment or fails to comply with any of the environmental specifications, he shall be liable to pay a penalty fine over and above any other contractual consequence.

The Contractor is deemed NOT to have complied with this Specification if:

a. within the boundaries of the site, site extensions and haul/access roads there is evidence of contravention of the Specification;

b. environmental or human damage due to negligence;

c. the Contractor fails to comply with corrective or other instructions issued by the ER within a specific time;

d. the Contractor fails to respond adequately to complaints from the public.

Penalties for the activities detailed below, will be imposed by the ER on the Contractor and/or his Subcontractors:

a.	Actions leading to erosion	A penalty equivalent in value to the cost of rehabilitation plus 20%
b.	Oil spills	A penalty equivalent in value to the cost of clean-up operation plus a N$ 3000 fine per occurance.
c.	Damage to indigenous vegetation	A penalty equivalent in value to the cost of restoration plus N$ 15 000
d.	Damage to sensitive environments	A penalty equivalent in value to the cost of restoration plus N$ 15 000
e.	Damage to cultural sites	A penalty to a maximum of N$100 000 shall be paid for any damage to any cultural/ historical sites
f.	Damage to trees	A penalty to a maximum of N$15 000 shall be paid for each tree removed without prior permission, or a maximum of N$5 000 for damage to any tree, which is to be retained on site.
g.	Damage to natural fauna	A penalty to a maximum of N$15 000 for damages to any natural occurring

		animals.
h.	Any persons, vehicles, plant, or thing related to the Contractors operations within the designated boundaries of a "no-go" area	N$5,000
j.	Litter on site	N$5,000
k.	Deliberate lighting of illegal fires on site	N$ 5,000
l.	Any person, vehicle, item of plant, or anything related to the Contractors operations causing a public nuisance	N$5,000

m. Sewage leaks from any toilet or sewage drain /tank - N$10,000

- Penalties may be issued per incident at the discretion of the Engineer. The Engineer will inform the Contractor of the contravention and the amount of the fine, and will deduct the amount from monies due under the Contract.
- For each subsequent similar offense the fine may, at the discretion of the ER, be doubled in value to a maximum value of N$10, 000.
- Payment of any fines in terms of the contract shall not absolve the offender from being liable from prosecution in terms of any law.
- In the case of a dispute in terms of this section, the Engineer shall determine as to what constitutes a transgression in terms of this document.

6.6 Grievance Mechanisms and Processes

A grievance is a concern or complaint raised by an individual or a group within communities affected by activities related to the operations of an organization. Such impacts could be from activities on implementation of a particular project by public or private entity. A grievance is raised because of the uncomfortable and unacceptable state perceived will occur or actual by an Individual or group or a community, result of an introduced event to a particular area.

A grievance mechanism is described as a project instrument that aims to give stakeholders or interested and affected parties (I&APs) the right to report all project-

related inadequacies, the right to denounce any kind of human rights violation or detrimental event of the project and to request redress or cessation of the detrimental event.

The instrument when implemented allows resolving grievances of affected individuals or communities at earliest localized level or within project's immediate domain, preventing escalation to unmanageable levels. This will resultantly benefit the aggrieved parties and the proposed project implementors.

The Contractor shall draft such a document indicating the process towards seeking redressal of grievances at different scales of operation. The following is a framework for such a document:

Table 1: Grievance Regress Nethodology

Step	Action	Responsibility
1	**Grievance Submission** – Complaints can be submitted verbally, in writing, or anonymously.	Community member / IAP
2	**Grievance Logging** – All grievances are entered into a formal grievance register.	Environmental Control Officer
3	**Acknowledgement** – Grievance receipt is acknowledged within 5 working days.	Environmental Control Officer
4	**Assessment & Investigation** – Complaint is reviewed, investigated, and solution proposed.	Project Management / ECO
5	**Resolution & Response** – Response is communicated to the complainant within 15 working days.	Project Manager / DWN
6	**Closure & Documentation** – If resolved, grievance is closed with written confirmation.	ECO / Grievance Committee
7	**Escalation** – If not resolved, grievance is referred to the Karibib Town Council or MEFT.	Grievance Committee

- Grievances can be submitted at on-site complaint boxes, municipal offices, DWN offices or via email/telephone;
- The process will accommodate illiterate, elderly, and marginalized persons through oral submissions;
- All information related to the GRS will be made available in local languages (e.g. Afrikaans, Damara/Nama).

6.7 Environmental Auditing

Environmental audits should be conducted at least once every three months during construction. Benefits derived from the audit process might include:

- identification of environmental risk;
- development or improvement of the environmental management system;
- avoidance of financial loss;
- avoidance of legal sanctions;
- increase in staff awareness;
- identify potential cost savings;
- improve dealings with employees, environmental groups, the community, regulators, media, shareholders, or insurance & finance institutions; and
- establish a history of environmentally responsible operations, e.g. through environmental incident reports, environmental monitoring & recording, & reporting to committees or Authorities.

Commonly, the environmental audit of a site will cover all management procedures, operational activities & systems, and environmental issues. The environmental audit will be compiled objectively and be conducted by an independent, competent entity.

7. Conclusion

The Karibib Bulk Infrastructure Development Project represents a significant and timely intervention aimed at improving access to essential municipal services—namely water supply, sanitation, and electricity—for low-income residents in Usab Extension 6. While the construction and operational phases of the project are associated with a range of environmental and social risks, these impacts are generally site-specific, short-term, and manageable through the diligent application of the mitigation measures outlined in this Environmental and Social Management Plan (ESMP).

This ESMP has been developed in strict compliance with the Environmental Management Act (No. 7 of 2007) and its associated regulations, and it further integrates the IFC Performance Standards, KfW Sustainability Guidelines, and applicable sectoral legislation. The plan provides clear, practical, and measurable actions to prevent environmental degradation, promote public and worker safety, and ensure community benefits are maximized. Roles and responsibilities have been clearly defined, and a robust monitoring and reporting framework will ensure that mitigation measures are implemented effectively throughout the project lifecycle.

The support of the Karibib Town Council, the commitment of the contractor, and the participation of local communities are critical to the success of this plan. Provided that the mitigation and monitoring measures outlined herein are rigorously applied, the project is expected to proceed in an environmentally responsible and socially inclusive manner, delivering long-term benefits to the people of Karibib and contributing to Namibia's broader development goals.

APPENDIX A

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN CHECKLIST

This document outlines the key elements of an Environmental and Social Management Plan (ESMP) Action Table, capturing the mitigation measures that need to be implemented in the context of the Project activities. The ESMP includes measures derived from the KfW standard bidding documents

Development Workshop Namibia (DWN) together with the contractor - shall use this template as guidance and amend it to the Project specifications, characteristics and risks as identified through the Site Assessment Tool. The ESMP Actions Table The ESMP Actions Table is structured as follows:

A – General requirements for ESHS Management,
B – Protection of Environment
C – Workers Health & Safety
D – Labour and Relations with Local Communities

This ESMP Action Table shall complement the **ESMP Report** prepared for the Project. The “Do and Don’t Table” (Appendix 1) provides guidance on general best practices to be used during (construction) works. These recommendations are to be used regardless of the content of the ESMP.

This checklist is a working document and should be reviewed / updated as required.

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
A: General Requirements for ESHS Management				
A1[1]. Responsibilities and Liabilities[2]	Ensure that all workers, suppliers and possible subcontractors are familiar and comply with the ESHS requirements and specifications of this ESMP.	Induction training performed and recorded for new and temporary employees. Contracts with subcontractors and suppliers	Contractor DWN	Review of induction / training records Review of Contracts to ensure that Project requirements are included
A4. Resources allocated to ESHS Management	Assign ESHS responsible staff[3] and define the requirements and responsibilities. Define person(s) responsible for contact with stakeholders (Relations officer or Community Liaison officer)	Document assigned responsibilities. Inform the relevant authorities/stakeholders about the ESHS responsible staff.	Contractor/ DWN	Review assignment of ESHS responsibilities. Records of notification to stakeholders
A6. Reporting	Reporting of progress and incidents, accidents, observations, near misses. These reports be submitted monthly to DW and included non-complience summaries.	Final Project-specific ESMP (note monitoring and reporting requirements) Records of ESHS and incident reporting	Contractor/ DWN	Review E&S Monitoring Checklist E&S audits
A7. Code of Conduct	Establish a Code of Conduct taking into consideration legislation, safety rules, substance abuse, environmental sensitivity, communicable diseases, gender issues (sexual harassment), respect for local beliefs and customs, community interactions etc.	Code of Conduct in place and rules shared with personnel. COC activities shall form part of the “Toolbox Talks” topics and recorded in the Environmental File.	Contractor/ DWN	Review of Code of Conduct induction records Review of reported punishable or misconduct behaviour Review of grievance records

1 Numbering is not continuous because it refers to the items of KfW standard bidding documents

2 Reminder: Bold and underlined ESMP items are always to be considered, regardless of the results of the Site Assessment.

3 Note: in many legislations an ESHS manager is required on sites employing 50 workers or more

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
A: General Requirements for ESHS Management				
A8. ESHS Training	Provide induction and training and awareness to the workforce regarding ESHS risks and mitigation measures (including indirect workers) tailored to Project scope. Refer to Section 12.3 of the Environmental Assessment Report. **ESHS Training**: Include **refreshers every 6 months** and note that training must be documented with attendance registers.	Training performed and recorded Attendance registers	Contractor/ DWN	Review of ESHS induction and training records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
B. Protection of the Environment				
B10. Protection of adjacent areas	Ensure to keep the buffer distances from permanent water course and outside of floodable areas; sensitive urban services and buildings (health centre, school, water supply for populations); any housing;	Marking the borders of works site boundaries in line with given limits and usage of warning signs	Contractor/ DWN	Site inspection prior to commencement of activities.
	Ensure that work site boundaries and limits are in accordance with plans agreed upon in advance. All construction activities should be carried out within boundaries.	Marking the borders of works site boundaries and usage of warning signs	Contractor/ DWN	Site inspection prior to commencement of activities.
	Ensure that means of protection are in place to avoid or minimise adverse effects on vegetation, soils, groundwater and surface water, biodiversity, natural drainage and the water quality in areas within the works area. Construction methods to minimise impacts to the extent possible.	No impacts identified in the adjacent environment	Contractor/ DWN	Site assessment prior to site selection. Site inspection prior to commencement of activities. Regular monitoring of adjacent natural resources.
	Protect excavation works with cut off ditches to prevent water from entering excavations.	No water entering excavations	Contractor/ DWN	Site inspection
	Restrict excavation activities during periods of intense rainfall. Use temporary bunding to reduce the risk of sediment, oil or chemical spills to the receiving waters.	No excavation during intense rainfall	Contractor/ DWN	Check weather forecast and inspect the site conditions prior to excavation.
	Minimise visual impacts by good house-keeping and erecting screens if required	Visual inspection and comparison with adjacent undisturbed areas.	Contractor/ DWN	Site inspection
	After construction, form reshaped land so that it is inherently stable, adequately drained and suitable for the desired long-term land use and allows natural regeneration of vegetation	Visual inspection and comparison with adjacent undisturbed areas.	Contractor/ DWN	Site inspection at completion

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
B. Protection of the Environment				
	Protect the soils by implementing the following: Restrict heavy machinery movement to designated access roads and construction corridors. Clearly demarcate no-go zones to protect undisturbed soil. Stabilize temporary spoil heaps with cover vegetation or biodegradable nets. Shape slopes to stable gradients and compact gently to prevent rill and gully erosion. Strip and store topsoil separately in low mounds (<2 m high). Cover stockpiles to prevent wind or rain erosion. Reuse stored topsoil for rehabilitation. As construction advances, rehabilitate disturbed areas in phases to minimize the area of exposed soil at any given time. Train construction personnel on best practices to minimize soil disturbance and report visible signs of erosion.	Visual inspection and comparison with adjacent undisturbed areas.	Contractor/ DWN	Site inspection at completion
B11. Selection of borrow areas, backfill material stockpile sites and access road	Select areas to be excavated, backfill material stockpile locations and access roads if applicable to the project.	Designated areas selected	Contractor/ DWN	Once during site selection
	Locate stockpile areas in areas where trees can act as buffers to prevent dust pollution	Designated areas selected	Contractor/ DWN	Once during site selection
	Deposit any excess material in areas approved by local authorities	Designated areas selected	Contractor/ DWN	Once during site selection
	Locate disposal site on low value land.	Designated areas selected	Contractor/ DWN	Once during site selection

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
B. Protection of the Environment				
B12. Pollution prevention	Ensure all works carried out minimise pollution risk (e.g. liquid effluents, air emissions, noise and vibration management, vehicle and equipment maintenance and selection, fuel, oil and chemical storage and handling) including the whole duration of the Project. The following detailed measures are required: Restrict refueling, servicing, and lubrication of machinery to designated areas equipped with bunded platforms and impermeable surfaces to contain spills. Store fuels, oils, and other hazardous substances in secure containers within bunded areas. Ensure bunds can hold at least 110% of the volume of the largest container. Provide fully stocked spill response kits at all fuel handling and storage locations. Train all site personnel in spill response procedures and environmental awareness. Place drip trays beneath stationary machinery, fuel tanks, and any vehicle showing signs of leakage. The contractor shall develop and implement an incident response plan detailing steps to be taken in the event of a spill or leak, including immediate containment and reporting procedures. Collect used oil, filters, and oily rags in sealed containers. Dispose of them via licensed waste handlers in accordance with Namibian hazardous waste regulations. Monitor for leaks or accidental releases.	Ensure that potential pollutants are not stored and handled within 50 m of sensitive receptors (particularly watercourses). Visual inspections is required to identify leaks	Contractor/ DWN	Regular site inspection Review of grievance records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
B. Protection of the Environment				
B13. Effluents	Ensure appropriate containment and storage of construction wastewater, including sanitary water. No untreated effluent is discharged. Maintain functional sewerage systems, promote hygiene awareness, monitor health indicators. Aligns with IFC PS4 public health goals.	No untreated wastewater discharge Documentation and control measures of disposed sewage	Contractor/ DWN Contractor/ DWN	Regular site inspection Review of grievance records Review disposal records
B14. Emissions and dust	Use to the extent possible, vehicles in appropriate technical conditions. Provide emissions control equipment where applicable (e.g. filters).	Technical Specification Sheet	Contractor/ DWN	Prior to commencement of works and each time new equipment/vehicle is used at the site. Review of grievance records Visual inspection on regular basis
	Use low sulphur content fuels, in line with legal provisions in force as well as local availability.	Technical Specification Sheet	Contractor/ DWN	Regular documentation inspection
	Ensure vehicles are switched off when not in use.	Engines switched off	Contractor/ DWN	Driver training Regular site inspection
	Best practice to ensure minimisation of dust emissions (e.g. proper stockpiling, watering etc.) during dry and windy conditions and transportation.	Watering conducted, no dust emissions are observed, no workers' grievances	Contractor/ DWN	Regular site inspection Review of grievance records
	Ensure speed limits (30km/h) on site and when passing local receptor areas. Sensitise drivers. Minimise drop heights for materials.	Speed signs installed Training performed and recorded Accident/incident reports	Contractor/ DWN	Random site inspection Review of grievance records Review of accident/incident records Review of training records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
B. Protection of the Environment				
B15. Noise and vibration	Avoid operations and vehicle movements at night.	Limit noisy activities to between 07:00–18:00.	Contractor/ DWN	Random site inspection Review of grievance records Review of accident/incident records Review of training records
	Locate stationary equipment (such as power generators) as far as possible from nearby receptors (e.g. worker resting areas, populated areas and environmentally sensitive areas). Make sure that noise levels don't exceed 80db in case of equipment or vehicle use. Maintain and service construction machinery regularly. Provide advance notice to communities before high-noise activities such as blasting.	Distances between equipment and receptors are kept Maintenance records	Contractor/ DWN	Review of grievance records Monitor noise levels in case of complaints
B16. Waste Management	Identify waste management facilities and waste management contractors. Ensure disposal through waste contractors licensed for treatment/removal/recycling of each of the waste types.	Waste management through licensed contractors, if feasible Waste management contracts Waste transfer notes	Contractor/ DWN	Inspect waste management facilities Proof of contractors' certifications Review of waste transfer records
	The Contractor shall develop a Waste Management Plan (WMP) in line with local and international best practices. Conduct monthly waste audits and include KPIs such as % of waste recycled or reused.	WMP approval and monitoring.	DWN	Review of WMP every 6 months.

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
B. Protection of the Environment				
	Ensure that all wastes produced are properly collected, segregated, stored, transported and treated	Waste collection areas existent, waste inventories Waste transfer notes	Contractor/ DWN	Regular site inspection Review of waste inventories Review of waste transfer records
	Minimise the waste production to the extent possible.	Records of waste production are kept Waste Management Plan Training performed and recorded	Contractor/ DWN	Monitor (e.g. monthly) the amount of waste produced Review of training records
	Document all waste related operations (type of wastes, quantities produced etc.).	Storage, transport and treatment of waste is documented Waste transfer notes Waste inventories	Contractor/ DWN	Review of waste transfer records Review of waste inventories
	Prohibit open burning of waste and illegal dumping.	Visual inspection for fire remains	DWN	Regular site inspection
	Prevent littering by worker awareness.	Visual inspection	Contractor/ DWN	Regular site inspection Toolbox Talks records on littering awareness
	Water pollution prevention in line with the Water Resources Management Act, IFC PS3	Permitting and licensing Pollution Control Obligations Monitoring and enforcement	Contractor/ DWN	Review of permits Site inspection

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
B. Protection of the Environment				
	Appropriate and safe storage of fuels, construction materials, wastes and any materials that can cause spills. Store hazardous materials on bunded surfaces with impermeable floors (either concrete or thick plastic liners) Provide drip trays for stationary equipment Train workers in spill response. Provide adequate sanitation (e.g., mobile toilets) for workers and ensure that waste is emptied and managed regularly by licensed providers.	Safe storage of materials Spill response procedure Spill response and remediation equipment in place.	Contractor/ DWN	Regular site inspection
B17. Vegetation clearing	Limit vegetation clearing to areas within the site boundary where it is strictly necessary. Bio-diversity walk through survey is required before work commencement.	Vegetation clearing minimal Marking the borders of works site boundaries	Contractor/ DWN	Site inspection prior to commencement of activities.
	Ensure that no chemicals/pesticides are used, burning of vegetation is restricted etc. Do not clear vegetation more than two months in advance of operations	No use of fires or chemicals on site Marking the borders of works site boundaries Usage of warning signs	Contractor/ DWN	Site inspection prior to commencement of activities. Site inspection during site clearance
	Implement progressive clearing and immediate backfilling where applicable.	Visual inspection	Contractor/ DWN	Site inspection
	Avoid clearing mature trees and endangered species.	No mature trees cleared	Contractor/ DWN	Site inspection prior to commencement of activities.
B18. Biodiversity	Avoid to the extent possible areas of ecological value.	Areas of ecological value avoided	Contractor/ DWN	Site assessment prior to site selection.

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
B. Protection of the Environment				
	Avoid natural habitat disturbance outside construction area.	No habitats disturbed outside construction area	Contractor/ DWN	Regular site inspection
	Relocate any slow moving fauna before activities commence.	Visual inspections.	Contractor / ECO and DWN	Site inspection before commencement
B19. Erosion control measures	If construction takes place on inclined surfaces/slopes, ensure preventive erosion control measures are applied (e.g. plan to retain trees and other vegetation, use of natural contours for roads and drainage networks, excavated drainage channels).	Preventive temporary and permanent erosion control measures in place Landscape and bio-restoration plan in place	Contractor/ DWN	Random site inspection to check if measures where applied
	Ensure that topsoil is stripped and stored properly. Topsoil should not be mixed with subsoil. Topsoil stockpile to be protected from erosion.	Topsoil salvaged and stored. Stockpile height limited	Contractor/ DWN	Monitor if topsoil is properly stripped and stored
	Schedule construction to avoid rainy season.	Mayor earthworks need to be concluded during the dry season	Contractor	Regular site inspection
	Backfill trenches within the quickest possible time.	Avoid long periods storage of excavated material	Contractor/ DWN	Regular site inspection
	After construction, topsoil to be used for restoration of the area.	Topsoil re-used for restoration	Contractor/ DWN	Site inspection at completion
B20. Site rehabilitation	Ensure that rehabilitated areas don't pose health and safety risks (such as holes, ponds).	Reinstatement completed	Contractor/ DWN	Site inspection at completion Inspection after heavy rainfalls
	Reinstatement of construction working area to the best possible after construction activities are completed.	Reinstatement completed	Contractor/ DWN	Site inspection at completion Inspection after heavy rainfalls

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
B. Protection of the Environment				
	Rehabilitate borrow areas, backfill material stockpile sites and access roads, where applicable.	Rehabilitation completed	Contractor/ DWN	Site inspection at completion
	Photo documentation (before and after) as part of verification.	Rehabilitation / Decommissioning	Contractor/ DWN	Monitoring process

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
C. Health and Safety				
C22. Health and Safety Plan	Develop a Health and Safety Plan to provide for a safe and healthy work environment, taking into account the ESHS impacts and risks level of the works. Fence off hazardous areas, use traffic signage, provide community awareness and emergency response plan. Align with IFC PS4, KfW community safety protocols.	H&S Plan in place Hazardous identification	Contractor/ DWN Contractor	Review of H&S Plan Site inspection and reporting Review of grievance records
C24. Accident reporting	Ensure all H&S related incidents (e.g. observations, accidents) on site are recorded and followed up properly.	Incident recording process in place	Contractor/ DWN	Check incident/accident records
C28. Personal protective equipment	Ensure the provision of Personal Protective Equipment (PPE) for workers **i. Eye and Face Protection** Safety glasses or face shields are worn any time work operations can cause foreign objects to get in the eye. For example, during welding, cutting, grinding, nailing (or when working with concrete	PPE used by everyone on-site Training performed and recorded	Contractor/Site Manager	Random site inspection Review training records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
C. Health and Safety				
	and/or harmful chemicals or when exposed to flying particles). Wear when exposed to any electrical hazards, including working on energized electrical systems. Eye and face protectors – select based on anticipated hazards. **ii. Foot Protection** Construction workers should wear work shoes or boots with slip-resistant and puncture-resistant soles. Safety-toed footwear is worn to prevent crushed toes when working around heavy equipment or falling objects. **iii. Hand Protection** Gloves should fit snugly. Workers should wear the right gloves for the job (examples: heavy-duty rubber gloves for concrete work; welding gloves for welding; insulated gloves and sleeves when exposed to electrical hazards). **iv. Head Protection** Wear hard hats where there is a potential for objects falling from above, bumps to the head from fixed objects, or of accidental head contact with electrical hazards. Hard hats – routinely inspect them for dents, cracks or deterioration; replace after a heavy blow or electrical shock; maintain in good condition. **v. Hearing Protection** Use earplugs/earmuffs in high noise work areas where chainsaws or heavy equipment are used; clean or replace earplugs regularly.			

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
C. Health and Safety				
C31. Emergency scenarios prevention	Ensure immediate cleaning of any spills and remediation of contaminated areas after construction.	Workers trained. Emergency Response Team (ERT) is in place	Contractor/ DWN	Random site inspection after spill events One-time inspection after construction Review of training records Review of ERT
	Provide necessary prevention equipment and teams on site in line with applicable regulations to respond to emergency scenarios e.g. fire, explosion, floods, natural hazards etc.	Prevention equipment and team is in place Training performed and recorded	Contractor/ DWN	Regular site inspection Review list of equipment Review of ERT Review of training records
	Maintain high standard in housekeeping on site. Construction materials and equipment should be stored properly.	Visual verification of good housekeeping on-site	Contractor/ DWN	Random site inspection
	Ensure that all blasting areas are clear before blasting. Obtain a siren and sound the siren for audio warning before blasting activities.	Safety personel shall be on site to verify impelementation.	Blasting contractor	Verify before blasting.
C33. First-aid	Ensure minimum first aid provisions on site (suitably stocked first-aid kits; a person, respectively an adequate number of first-aid helpers and ensure that staff and workers are informed about first-aid arrangements)	Suitable first aid kits on site Ensure the presence of first aid helpers in all shifts First aid certificates	Contractor/ DWN	Regular monitoring of first aid kits Review of first aider certificates Review of number of first aiders required by local legislation
C37. Access to health care	In case more than 35 workers are present on site, ensure that a hospital, medical clinic or a health centre can be reached within a period of 45 minutes.	Medical centres in the proximity of the site.	Contractor/ DWN	Medical centres in the proximity of the site identified once prior the commencement of works

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
C. Health and Safety				
C40. Hygiene, accommodation and food	Ensure provision of Health and Safety (H&S) and hygienic and sanitary facilities at the site, including shaded welfare areas, bathrooms, changing rooms and potable water. Ensure toilets and changing rooms are separated between male and female employees.	Appropriate H&S and sanitary facilities provided at site	Contractor/ DWN	Campsite inspection prior to accommodation of the workers. Regular inspection Review of grievance records
	Ensure the provision of adequate space, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, fire and disease-carrying animals, adequate sanitary and washing facilities, adequate lighting, and basic medical services, in accordance with all applicable health and safety regulations and norms.	Appropriate conditions for workers on site	Contractor/ DWN	Campsite inspection prior to accommodation of the workers. Regular inspection Review of grievance records
	Report any occurrence of any communicable diseases amongst the workforce (STD, HIV/AIDS, TB, malaria and Hepatitis B and C). Sensitise workers.	Communicable Diseases Register Training performed and recorded	Contractor/ DWN	Review of diseases register and disease prevention programme if available. Review of training records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
D. Labour and relations with local communities				
D42. Labour conditions	Ensure minimum legal labour standards as per ILO regulations (child/forced labour, sexual assault, no discrimination, equal opportunities, working hours, minimum wages) are met.	Grievance Mechanism Records, Training performed and recorded	Contractor/ DWN	Review of Inspection reports (also from labour authorities), Review of grievance records Review of training records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
D. Labour and relations with local communities				
	Ensure that all direct and indirect workers have access to and are aware about the Grievance Mechanism were they can raise workplace relevant complaints anonymously.	Grievance Mechanism in place and grievances recorded Training performed and recorded	Contractor/ DWN	Review of grievance register Review of training records
	Ensure all workers have the same rights and are treated equally.	Non-discrimination policy in place	Contractor/ DWN	Random site inspection Review of grievance register
D43. Local recruitment	Ensure local communities are preferred for the supply of goods and services to the Project and Project personnel, where appropriate.	Local Procurement and Employment Records	Contractor/ DWN	Review procurement and employment rules and records Review of grievance register
D44. Transport	Organise carpools/buses for worker transportation where needed. Ensure safe transportation is available for workers.	Carpools/ buses used	Contractor/ DWN	Review of grievance register
D47. Community interaction **Section 12.4 of the EA Report**	Engage/ communicate/inform communities regarding blasting and construction activities through the Contractors apponted CLO. Ensure consultations with the local authorities and communities regarding the construction and blasting. Obtain local knowledge regarding archaeological chance finds of and land acquisition matters.	Minutes of Meetings Grievance Mechanism – Section 12.7 of the Environmental Report	Contractor/ DWN	Review of grievance register Minutes of consultation meetings
	Initiate an efficient Grievance Mechanism to allow potentially affected individuals to raise their concerns	Grievance Mechanism in place. Grievances recorded	Contractor/ DWN	Review of grievance register

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
D. Labour and relations with local communities				
	Engage with the local community and potential affected households to understand their needs and identify the risk of damage to their livelihood basis through the Project (e.g. take of pasture land, lack of access to water). This is also important before blasting activities. Should land acquisition be inevitable, a timely and fair compensation should be given to all affected persons?	Minutes of Meetings Grievance Mechanism records Management Plan for Land Acquisition and Compensation if needed	Contractor/ DWN	Review of grievance register and meeting minutes
D48. Damage to people and property	Ensure all contractors implement Codes of Conduct concerning employment and workforce behavior (including but not limited to safety rules, zero tolerance for substance abuse, environmental sensitivity of the area, gender equality and sexual harassment, respect for the beliefs and customs of the populations and community relations in general).	Code of Conduct attached Grievance Mechanism records	Contractor/ DWN	Worker interviews, Review of grievance register
	Ensure that site areas are provided with appropriate security, fencing, signage and lighting. Use hazard notices/signs/barriers to protect children and other vulnerable people from harm and prevent access to non-workers.	H&S planning of construction site done, items installed	Contractor/ DWN	Inspection prior to the activities. Regular site inspection Review of grievance register
D49.Land acquisition and land take	Engage with the local community to understand the land ownership and land use. Avoid to the extent possible land take of both formal and informal land owners/land users. If land take is inevitable, no forced eviction should take place. Owners should be compensated prior to access to land.	Grievance Mechanism Management Plan for Land Acquisition and Compensation if needed	Contractor/ DWN	Once during site selection Review of grievance log Follow up of land acquisition/compensation process

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
D. Labour and relations with local communities				
D50. Traffic management	Ensure safe driving by Project personnel (e.g. through training/induction).	Driver Training Records as part of Induction training	Contractor/ DWN	Review of training records Review of grievance register
	Establish designated haul routes; avoid school and pedestrian zones.	Driver Training Records as part of Induction training	Contractor/ DWN	Review of training records Review of grievance register
	Assign flag people at road crossings used by construction vehicles.	Visual inspection	Contractor/ DWN	Review of training records Review of grievance register Visual inspection
	Target signage and outreach activities to improve public awareness of traffic changes and potential hazards for high-risk sections of public roads, including near the site and laydown areas.	Warning signs Minutes of Meetings	Contractor/ DWN	Inspection if traffic routes, Review of grievance register
D51. Fossils/ Archaeological Chance Finds	Establish specific procedures to manage the protection of archaeological and historical sites, chance finds and fossils. Halt work if artifacts are found, engage National Heritage Council. Comply with Heritage Act and IFC PS8.	Chance Finds Procedure Notification records to relevant authority Training records, Records about chance finds	Contractor/ DWN	Site inspection Review records of chance finds

This List was supplied by DWN and forms part of the ESMP mitigation measures for this project:

Topic	DO	DON'T
Land Use	• Prefer already disturbed areas for workers' accommodation, storage, workshop and the worksite. • Clearly mark "No-go" areas (cultivated lands or fruit trees, wetlands, grave sites or any sensitive environment or social site/area). • Avoid proximity to schools, health posts and households with vulnerable families. • Clean up the worksite and rehabilitate the site to its original condition. • Rehabilitate all temporary access tracks, haul roads and any other disturbed areas outside of the approved working areas to their original condition.	• Do not enter any worksites and areas without permissions and approvals. • Do not damage any households and associated structures, cultivated lands, fruit trees or any other potential source of income. • Do not undertake any activity and park your vehicles outside of the working area borders.
Noise	• Limit working hours for noisy activities working hours close to schools, hospitals, residents, religious buildings, etc. • Turn off vehicle engines if not required. • Keep the noise level to acceptable limits.	• Do not undertake any noisy activity during night time.
Dust and Air	• Minimize traffic wherever possible and drive slowly. • Spray the unpaved roads with water if you're working close to schools, hospitals, residential areas, etc. • Revegetate the disturbed areas as soon as activity is completed. • Drive slowly not to generate dust.	• Do not store cement, sand, excavated material without cover sheets or shelters. • Do not clear the vegetation cover if it's not required.

Topic	DO	DON'T
Water	• Refuel the vehicles at least 30 m away water courses. • Fence the construction site adjacent to the sensitive areas such as natural water courses, ponds, drains. • Divert the runoff / water the construction sites or disturbed areas, using ditches.	• Do not use any natural water resources to supply water (e.g. springs, streams, lakes without approval of relevant authorities, local leaders. • Do not discharge of hazardous substances, chemicals, construction material and wastes d into water courses, ponds, drainage systems. • Do not block the water flow.
Waste	• Keep the working site clean and tidy. • Store hazardous waste using secondary containment and restrict access to hazardous waste storage area to prevent harm to construction staff, environment and public. • Perform on site sorting to separate liquid, organic, demolition, hazardous, recyclables waste streams and identity the disposal pathway for each of them. • Use waste containers without any damages and leakages. • Reuse the excavated soil as much as possible for backfilling, landscaping and for other project areas where excavation material is required. • Collaborate with local authorities to transport and dispose waste in accordance with legal requirements.	• Do not burn any type of waste. • Do not dump waste at any un permitted area and especially near watercourses. • Do not leave any sharp or dangerous objects (knives, box cutters, scissors, broken glass, etc.) that may attract children's attention living close to the construction site.
Employment and Labour Rights	• Implement a fair and transparent employment process. • Provide workers with clear and understandable information regarding rights via contract documents in local language.	• Do not discriminate any workers or job applicants on the basis of their gender, marital status, nationality, ethnicity, age, religion or sexual orientation. • Do not recruit children (under 18 years old) or use forced labour.
Code of Conduct	• Establish a Code of Conduct for worker-community interaction and on-site behavior. Oblige workers to adhere to code of conduct.	
Grievances	• Establish and maintain grievance mechanism accessible for workers.	• Do not ignore community complaints

Topic	DO	DON'T
Community Safety	• Establish and maintain grievance mechanism for local communities adjacent to construction sites. • Secure worksites (temporary bridges, traffic controls, barricades, signs and warning lights). • Demarcate open trenches with high visible temporary fencing, undertake monitoring after rainfall, and prevent flooding of trenches. • Inform relevant authorities immediately in case of damages on utilities such as underground and aboveground electricity lines, water lines, gas lines, oil pipelines, etc. • Establish appropriate site boundary and access controls near settlements to prevent unauthorized entry to construction or activity sites especially by children (e.g. fencing of construction section in the vicinity of settlements or communities).	• Do not leave any holes and openings without secure fencing provided with fixed, clearly marked covers. • Do not exceed the speed limits.
Traffic Management	• Implement speed limits for all Project vehicles. • Equip vehicles with reverse signals. Ensure that truck drivers are accompanied by a flagman or watchman while reversing, unloading and loading. • Train all drivers on safety provisions. • Avoid routes with blind curves, blind intersections and very narrow roads alongside steep slopes. • Avoid routes that are frequently used by locals. • Use local traffic signage and collaborate with the responsible local authorities and communities. • Keep access roads in good condition and free from deposits, waste, construction material. • Use flagmen where appropriate and install clear and visible signage. • Avoid vehicle traffic during hours that children are travelling to and from school.	• Do not drive without a valid driver's license. • Do not use cell phones while driving.

Topic	DO	DON'T
Occupational Health and Safety	• Provide health and safety training to all Project employees and familiarize workers with the risks related with their activities. • Conduct risk assessment and define mitigation measures for each activity. • Record and report any workplace hazards or any incidents or injuries. • Provide the right PPE and make sure that all employees use them. • Keep PPEs in good condition and change them in case they are damaged. • Prohibit usage of alcohol or illegal drugs. • Use the right tool for the activity. • Use undamaged ladders if you need to climb up. • Implement good housekeeping to prevent trips, slips and falls. • Conduct daily tool-box talks / conversations on health and safety issues before starting works. • Conduct medical examination for all personnel before the activities start. • Provide sufficient drinking water for workforce. • Provide and maintain toilet facilities for workforce separately for female and male workers. • Provide one trained first aiders per 25 employees and adequate amount of first aid kits on site.	• Do not try to repair any broken equipment and machinery if you are not authorized. • Do not use of metal ladders close to overhead power lines? • Do not work without PPE. • Do not work alone or isolated.
Housekeeping	• Keep working areas clean and tidy. • Secure loose materials that have the potential to fall. • Keep aisles, stairways, passageways, ladders, etc. free of obstructions, materials, cables, chords, hoses, etc. • Keep materials away from the edge of excavations, trenches, roofs, etc. • Cover and secure open trenches, holes and other openings Avoid pools of stagnant water in working areas. • Undertake daily clean-up of activity area.	

Topic	DO	DON'T
Hazardous Material Management	• Store fuels, oils, chemicals and other hazardous materials on a suitably sized impervious and bunded base. • Label the containers clearly with content, handling, storage, expiration, and health and safety information. • Use drip trays during fueling and maintenance (e.g. changing oil) of equipment. • Install proper warning signs at hazardous material storage yards, lock gates and restrict access to authorized personnel. • Store hazardous waste using secondary containment and restrict access to hazardous waste storage area to prevent harm to construction staff, environment and public.	• Do not smoke close to hazardous materials. • Do not dispose of Hazardous Material inappropriately
Fire Prevention and Control	• Take all reasonable and precautionary steps to ensure that fires are not started as a consequence of Project activities on site. • Provide basic fire-fighting equipment available on site (including but not limited to, rubber beaters when working in grass/bush areas, at least one fire extinguisher of the appropriate type when welding or other 'hot' activities are undertaken). • Store flammable materials under conditions that will limit the potential for ignition and the spread of fires. • Train all employees on the fire risks and how to deal with any fires in case one occurs.	• Do not light fire for any reason, incl. waste burning. • Do not throw your cigarette butts on the ground.