ORANJEMUND TOWN COUNCIL

ENVIRONMENTAL MANAGEMENT PLAN REPORT FOR THE PROPOSED UPGRADING AND CONSTRUCTION OF THE ORANJEMUND AIRPORT ACCESS ROAD OFF THE MR118 ROAD AND TWO (2) BORROW PITS

ORANJEMUND, //KARAS REGION, NAMIBIA

DECEMBER 2025

Prepared For:

Engco Consulting Engineers

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Windhoek, Namibia

On behalf of:

Oranjemund Town Council

P.O Box 10,

Oranjemund, Namibia

DOCUMENT CONTROL	
REPORT TITLE	ENVIRONMENTAL MANAGEMENT PLAN REPORT FOR THE PROPOSED UPGRADING AND CONSTRUCTION OF THE ORANJEMUND AIRPORT ACCESS ROAD OFF THE MR118 ROAD AND TWO (2) BORROW PITS
I.N.K PROJECT NO	YP2401
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DATE OF REPORT COMPILATION	DECEMBER 2025
CURRENT REVISION	FINAL

ENVIRONMENTAL CONSULTANT'S EXPERTISE

I.N.K Enviro Consultants cc is the independent firm of environmental consultants that has been appointed by Oranjemund Town Council to conduct and manage the EIA process.

Immanuel N. Katali, an Environmental Assessment Practitioner, possesses a Bachelor of Arts (Honours) in Geography, Environmental Studies, and Sociology, and is currently pursuing a Master of Philosophy in Sustainable and Environmental Health Studies at Africa Research University (ARU). With a decade of relevant experience in conducting and overseeing Environmental and Social Impact Assessments (ESIAs) as well as Environmental Compliance and Monitoring Audits in Namibia, Immanuel is recognized as a certified Environmental Assessment Practitioner by the Environmental Assessment Professionals Association of Namibia (EAPAN).

DECLARATION OF INDEPENDENCE AND DISCLAIMER

I.N.K Enviro Consultants cc herewith declare that this report represents an independent assessment of the proposed upgrading and construction of the Oranjemund airport access road and associated borrow pits, on the request of Oranjemund Town Council. The Environmental Consultant has prepared this report based on an agreed scope of work and acts in all professional manner as an Independent Environmental Consultant to Oranjemund Town Council and exercises all reasonable skill and care in the provision of its environmental professional services and in a manner consistent with the level of expertise exercised by members of the environmental profession.

The information, statements and commentary contained in this report have been prepared by I.N.K Enviro Consultants cc from information provided by Oranjemund Town Council, public participation process conducted by Urban Green Sustainability Consulatnts and a Site Visit. I.N.K Enviro Consultants cc does not express an opinion as to the accuracy or completeness of the information provided, the assumptions made by the party that provided the information, or any conclusions reached. I.N.K Enviro Consultants cc has based this report on information received or obtained, on the basis that such information is accurate and, where it is represented to I.N.K Enviro Consultants cc as such, complete. I.N.K Enviro Consultants cc is not responsible and will not be held liable to any other person or organization for any loss or damage suffered by any other person or organization arising from matters dealt with or conclusions expressed in this report. This report is the sole property of the Oranjemund Town Council and must not be altered or added to without the prior consent of the Oranjemund Town Council.

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1 INTRODUCTION

The Oranjemund Town Council (hereinafter referred to as OTC) seeks to obtain an Environmental Clearance Certificates (ECCs) for their proposed upgrading and construction of the Oranjemund airport access road off the MR118 and two (2) borrow pits.

The study area (road) is situated between Oranjemund Airport and the MR118 road, positioned to the southeast of Oranjemund Town. Meanwhile, borrow pit A is located to the east of Oranjemund Town, while borrow pit B is found to the southwest, adjacent to the southern boundary of the Town's sewage works. (Refer to Figure 1).

Oranjemund Town is in //Karas Region, to the far south-western part of Namibia, where the Orange River meets the Atlantic Ocean.

1.1 Project Background

The Oranjemund Town Council (OTC) has been grappling with significant challenges in sustaining their gravel and surfaced road network, primarily due to inadequate funding. This shortfall has led to a deterioration of their road infrastructure, raising potential safety concerns for road users. In response to this funding deficiency, the OTC sought financial assistance from the Road Fund Administration, which was subsequently sanctioned under the Memorandum of Agreement (MOA). Among the roads requiring immediate repairs is the access road leading to Oranjemund Airport, branching off from the MR118 road.

This road has been identified and prioritized owing to its critical role in facilitating access to Oranjemund Airport, a gateway into Oranjemund Town. Consequently, the intention is to apply for an Environmental Clearance Certificate (ECC) to facilitate the upgrading and constructionof the Oranjemund Airport Access Road.

Considering the deteriorated condition of the existing roadway and the impending extension of the runway southward along the current alignment, the access road will not be merely repaired but rather enhanced to follow a new trajectory from the airport entrance gate to the MR118 road. The foundational material for the road construction will be sourced from two established borrow pits.

Prior to the commencement of the project, an environmental clearance is required based on an approved Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP). This report describes the EIA process being followed and provides an overview of the affected environment. It includes an assessment of the environmental impacts that the proposed activities are likely to have and sets out the consultants' recommendations. The proposed management and mitigation measures related to the proposed activities are documented in an EMP.

I.N.K Enviro Consultants cc (hereinafter referred to as I.N.K), an independent firm of environmental consultants, has been appointed by Engco Consultign Engineers on behalf of the Oranjemund Town Council, to undertake the Environmental Impact Assessment process for this project. For more details on the EIA process that was followed, please refer to Section 1.

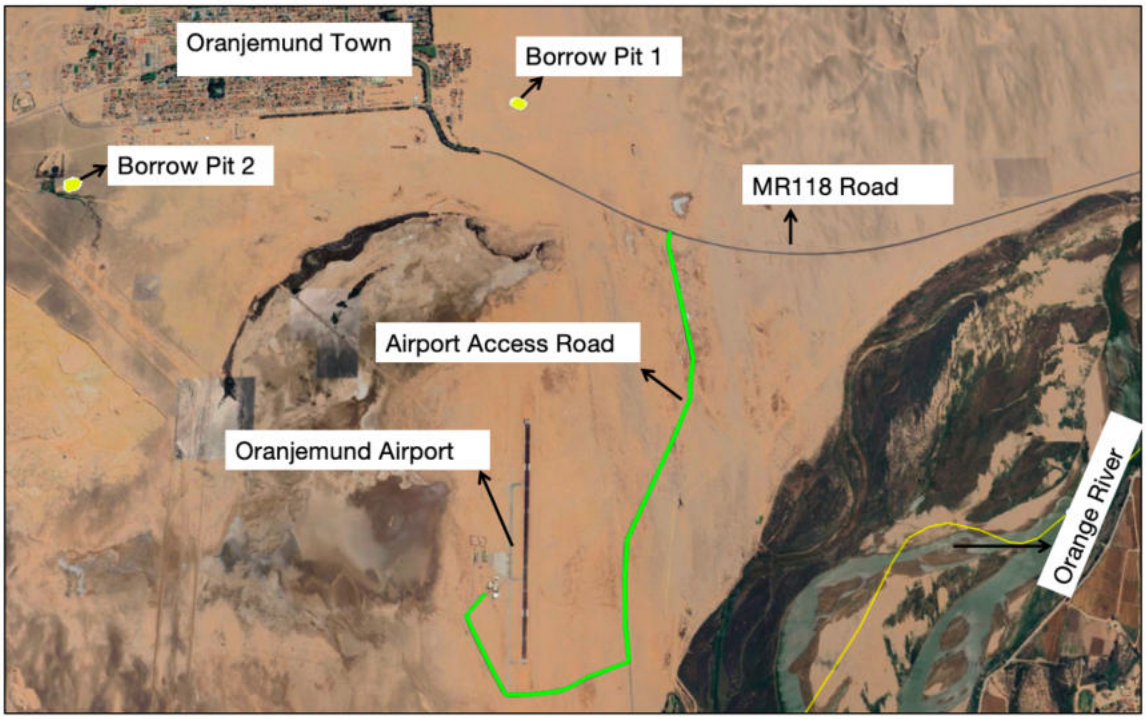

Figure 1: Proposed Road for Upgrade

1.2 Environmental Management Plan (EMP)

This EMP report serves as a managing tool for the road upgrade activities. The report details actions to ensure compliance with regulatory bodies and that environmental performance is verified through information on impacts as they occur.

The EMP will be implemented during the construction phase with the intention of implementing the recommended mitigation measures.

The document further serves as a guiding tool for the proponent, contractors and workforce on their roles and responsibilities concerning environmental management on site and provides an environmental monitoring framework for all project phases of the proposed activities. This environmental management plan aims to take a proactive route by addressing potential problems before they occur.

EMP implementation is a cyclical process that converts mitigation measures into actions and through cyclical monitoring, auditing, review and corrective action, ensures conformance with stated EMP 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 EMP remains effective.

1.3 Details of the persons who compiled this EMP

I.N.K Enviro Consultants cc is the independent firm of environmental consultants that has been appointed to compile the EMP prior to the construction activities.

Immanuel N. Katali, the Environmental Assessment Practitioner holds a B.Arts (Honors) Geography, Environmental Studies and Sociology and has over ten (10) years of relevant experience in conducting/managing Environmental Impact Assessments (EIAs), and Environmental Compliance/Monitoring Audits in Namibia. Immanuel is certified as an Environmental Assessment Practitioner under the Environmental Assessment Professionals Association of Namibia (EAPAN).

2 EMP ADMINISTRATION

Copies of the EMP shall be kept at the Oranjemund Town Council and will be distributed to all senior contract personnel. All senior personnel shall be required to familiarize themselves with the contents of this document.

3 ROLES AND RESPONSIBILITIES

The implementation of the EMP requires the involvement of several stakeholders, each fulfilling a different but vital role to ensure sound environmental management during each phase.

3.1 Engineer's Representative (ER)

The Engineer will delegate powers to the Engineer's Representative (ER) on site who will be required to execute his responsibilities, in compliance with relevant legislation and the EMP. The Engineer also has the responsibility to approve the appointment of the Health, Safety and Environment (HSE) Officer.

Any on-site decision regarding environmental management is ultimately the responsibility of the ER. The ER will have the following responsibilities in terms of the implementation of this EMP:

- Assisting the contractor in finding environmentally responsible solutions to problems with input from the ECO where necessary.
- Taking appropriate action if the specifications are not followed.
- Advising on the removal of person(s) and/or equipment not complying with the EMP specifications (via the ER).
- Ordering the removal of person(s) and/or equipment not complying with the EMP specifications.
- Issuing fines for transgressions of site rules and penalties for contravention of the EMP.
- Controlling that the necessary environmental authorizations and permits have been obtained by the Contractor.
- Auditing the implementation of the EMP and compliance with authorization monthly.

- Undertaking a continual review of the EMP and recommending additions and/or changes to the document after completion of the contract.

3.2 Environmental Control Officer (ECO)

The Environmental Control Officer (ECO) will be a competent person appointed by the contractor to implement the on-site environmental management of this EMP. The ECO shall be on site daily and the ECO's duties will include the following:

- Maintaining open and direct lines of communication between the ER, Employer, Contractor and interested and affected parties (I&APs) regarding environmental matters.
- Daily site inspections of all construction areas regarding compliance with the EMP.
- Daily monitoring and verifying adherence to the EMP monitoring and verifying that environmental impacts are kept to a minimum.
- Monitoring and verifying adherence to the EMP, monitoring and verifying that environmental impacts are kept to a minimum.
- Assisting the Contractor in finding environmentally responsible solutions to problems.
- Monitoring the undertaking by the Contractor of environmental awareness training for all new personal coming onto site.
- Convening and facilitating public meetings.
- Assisting the ER in ensuring that the necessary environmental authorizations and permits have been obtained.

3.3 Liaising with Contractors

The ECO is responsible for informing the contractors of any decisions that are taken concerning environmental management during construction phase. This may also include advising and informing the contractors of the necessary corrective action to be taken.

4 CONSTRUCTION PROCEDURES

The Contractor shall submit written procedures for all activities that could be potentially harmful to the environment. Such construction procedures shall include timing of activities, equipment and materials to be used (where applicable), visual screening, protection of the site, methods for cleaning the site both during construction and on completion of the works, disposal of waste and any other information deemed necessary. Construction procedures shall be submitted to the Principal Agent at least five working days prior to commencing work on an activity. The Contractor shall not commence work on any activity until such time as the construction procedure has been scrutinized and agreed to in writing by the Principal Agent.

In addition, the Principal Agent may call for emergency construction procedures to be submitted within 24 hours of work commencing on activities that are deemed harmful to the environment and for activities of which he was previously unaware. If necessary, changes may be made to construction procedures once construction has commenced. In such instances the proposed changes must be agreed to in writing by the Principal Agent prior to commencing with the change.

5 ENVIRONMENTAL MONITORING AND AUDITING

Auditing should be conducted at least once every 3 months by an Independent Environmental and Social Consultant during construction. Benefits derived from the audit process may 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 operational activities, e.g., through environmental incident reports, environmental monitoring and recording, and reporting to committees or authorities.
- Commonly, the audit of a site will cover all management procedures, operational activities and systems, and environmental issues. The environmental audit will be compiled objectively and conducted by independent entity.

6 ENVIRONMENTAL AWARENESS

Before any work commences on the site, the Contractor and ECO shall ensure that the EMP is distributed to all Subcontractors. 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.

It is the responsibility of the Subcontractors to ensure that their workers comply with the EMP measures during construction.

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, the contractor, along with the ECO should:

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

7 PUBLIC PARTICIPATION

An ongoing 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. The construction issues that may arise from the public shall be recorded and presented to the environmental consultant during the monthly compliance auditing.

7.1 Identification of Stakeholder Groups

A stakeholder for the proposed project is defined as a person, group or organisation that has direct or indirect stake in a Project/organization because it can affect or be affected by the Project or its Proponents' actions, objectives and policies. Stakeholders vary in terms of degree of interest, influence and control they have over the Project or the proponent.

During the environmental and social impact assessment consultations process, various activities as part of the development of the public consultation program were conducted

to determine the relevant stakeholders. From the field-consultations, key stakeholder groups were identified and categorised them as Primary and Secondary stakeholders, based on the nature and extent of impact of project and influence of stakeholders on the project.

7.2 Stakeholder Mapping and Analysis

Stakeholder mapping is a process of examining the relative influence that different individuals and groups have over a project as well as the influence of the project over them. The purpose of a stakeholder mapping is to:

- Identify each stakeholder group.
- Understand each group's specific issues, concern and expectations from the project.
- Measure their influence on the project.

Apart from categorization, stakeholders have also been classified in accordance with the level of influence they have over the Project as well as their priority to the Project proponent in terms of importance. The influence and priority have both been primarily rates as:

- **High Influence/Priority:** Which implies a high degree of influence of the stakeholder on the Project in terms of participation and decision making or a high priority for the Project proponent to engage that stakeholder.
- **Medium Influence/Priority**: Which implies a moderate level of influence and participation of the stakeholder in the Project as well as a priority level for the Project proponent to engage the stakeholder who are neither highly critical nor are insignificant in terms of influence.
- **Low Influence/Priority**: Which implies a low degree of influence of the stakeholder on the Project in terms of participation and decision making or a low priority for the Project proponent to engage.

Table 1: Stakeholder Significance and Engagement Required

Magnitude of Influence / Impact	Urgency / Likelihood of Influence on / by Stakeholder		
	Low	Medium	High
Negligible	Negligible	Negligible	Negligible
Small	Negligible	Minor	Moderate
Medium	Minor	Moderate	Urgent
Large	Moderate	Urgent	Urgent

7.3 Stakeholder Engagement Strategy

The Stakeholder Engagement Plan (SEP) shall be informed by a set of principles defining its core values underpinning interactions with identified stakeholders. Common principles based on international best practice.

Commitment is demonstrated when the need to understand, engage and identify the community is recognized and acted upon early in the process; Integrity occurs when engagement is conducted in a manner that fosters mutual respect and trust; Respect is created when the rights, cultural beliefs, values and interests of stakeholders and affected communities are recognized; Transparency is demonstrated when community concerns

are responded in a timely, open and effective manner; Inclusiveness is achieved when broad participation is encouraged and supported by appropriate participation opportunities; Trust is achieved through open and meaningful dialogue that respects and upholds beliefs, values and opinions.

The SEP is an overarching guidance that will need to be implemented throughout the project lifecycle, based on the experience gathered on the effectiveness of the existing methods of engagement and the implementation strategies. The engagement strategy proposed are informed by mapping of relevant stakeholder groups identified based on the review of project activities and feedback received through extensive field consultations undertaken as part of the study.

7.4 Engagement and Disclosure Methods

The Social and Community Supervisor shall be responsible for maintenance of the records of along with the members that engage with stakeholders during construction and operations phase, along with addition of addition of any new categories identified.

7.5 Grievance Redress Mechanism (GRM)

A grievance would usually mean some form of concern by a stakeholder which needs to be redressed to continue smooth implementation of the project. The GRM to uphold the Project's development outcomes as well as its social and environmental performance is designed to address concerns and complaints promptly and transparently with no direct or indirect retaliation on the aggrieved party. Grievances raised by stakeholders will need to be managed through an accountable and transparent process, at no cost.

The GRM will work within the existing national legal and accountability framework and will provide an additional opportunity to stakeholders and interested parties to resolve their project specific grievances. Therefore, a Grievance Redress Committee (GRC) should be established to address this need.

7.6 Grievance Handling Procedure

Any grievance reported will be brought to the notice of the proponent. The proponent should share prepare a Grievance form and make it available on their website, to the community. Grievance should then be submitted to the proponent via email or hardcopy

submissions to the proponent as per the address indicated on the form. Once the Grievances are validated, the proponent is required to provide swift communication that would be agreed between them and the Grieving Party. The GRM table and process flow is indicated below:

Table 2: GRM Steps

Step	Description	Timeline	Responsible Party
1. Submission	Grievance is submitted via various channels (phone, email, suggestion box, etc.)	Immediate	Community Liaison Officer / Focal Point
2. Acknowledgment	Confirmation of receipt is sent to the complainant (verbal or written)	Within 24 hours	Project Manager/GESI committee
3. Screening & Categorization	Grievance is reviewed, categorized (e.g., urgent, GBV-related), and logged	Within 5 working days	GESI committee
4. Investigation	Confidential and impartial investigation is conducted	Within 10 working days	GESI committee / Sector Specialist
5. Resolution & Response	Resolution is proposed and communicated to the complainant	Within 15 working days	Project Manager
6. Appeal (if needed)	Complainant may appeal if unsatisfied with the resolution	Within 10 working days of response	GESI committee
7. Closure	Grievance is marked as resolved and documented	Ongoing	Project Manager
8. Monitoring & Reporting	Trends and resolution rates are analyzed and reported regularly	Quarterly	Project Manager

The GRM is further summarized in a process flow diagram:

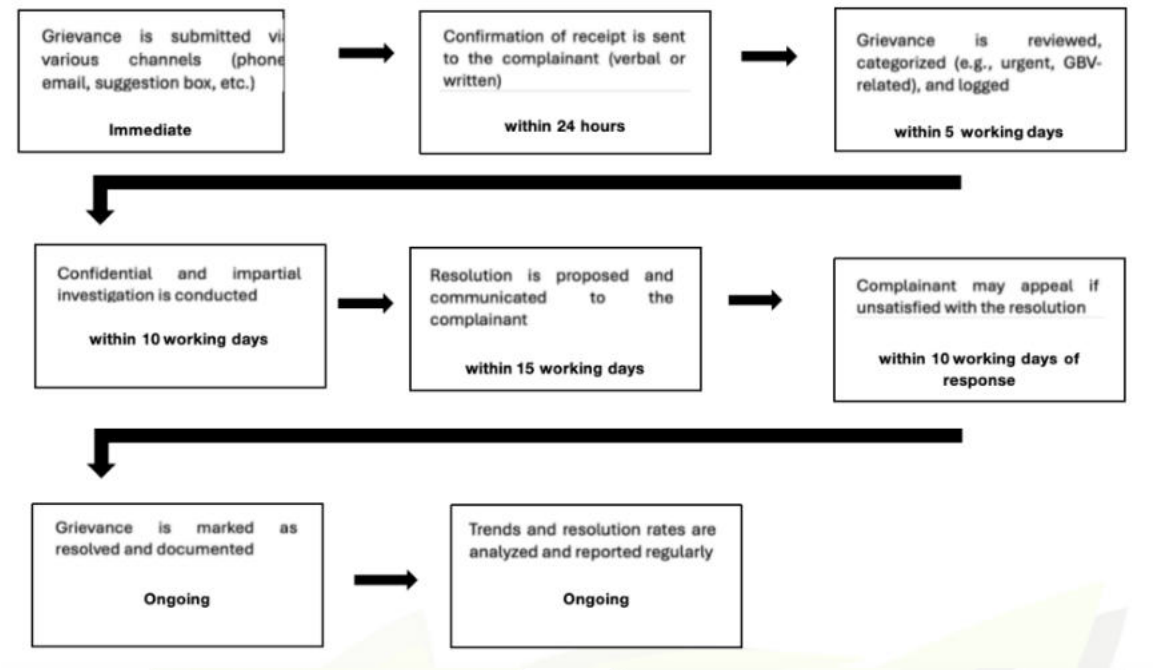

Figure 2: GRM Process Flow

7.7 As Low as Reasonably Possible (ALARP) Principle

For a risk to be ALARP, it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained. The ALARP principle arises from the fact that infinite time, effort and money could be spent in the attempt of reducing a risk to zero; not the fact that reducing the risk in half would require a finite time, effort and money. It should not be understood as simply a quantitative measure of benefit against detriment. It is more a best common practice of judgement of the balance of risk and societal benefit.

8 LEGAL FRAMEWORK

8.1 Introduction

The Republic of Namibia has five tiers of law and several policies relevant to environmental assessment and protection, which include:

- The Constitution.
- Statutory law.
- Common law.
- Customary law.
- International law.

As the main source of legislation, the Constitution of the Republic of Namibia (1990) makes provision for the creation and enforcement of applicable legislation. In this context and in accordance with its constitution, Namibia has passed numerous laws intended to protect the natural environment and mitigate against adverse environmental impacts.

The management and regulation of the activities fall within the jurisdiction of the Ministry of Works and Transport. The environmental regulations are guided and implemented by the DEA within the MEFT.

In the context of the proposed project activities, there are several laws and policies currently applicable.

The EIA Policy (1995) is enforced through the Environmental Management Act, 7 of 2007 and the EIA Regulations of 6 January 2012 (EIA Regulations). In terms of this legal framework certain identified activities may not commence without an environmental clearance issued by MEFT.

8.2 Applicable Authorities

8.2.1 Ministry of Environment, Forestry and Tourism

The mission of the Ministry of Environment, Forestry and Tourism is to promote biodiversity conservation in the Namibian environment through the sustainable utilization of natural resources and tourism development for the maximum social and economic

benefit of its citizens. MEFT develops, administers and enforces environmental legislation and policy.

The MEFT's Department of Environmental Affairs ("DEA") is mandated to give effect to Article 95L of the Constitution by promoting environmental sustainability. The Environmental Commissioner serves as head of the DEA. The DEA is responsible for, inter alia, the administration of the EIA process undertaken in terms of the Environmental Management Act, 2007 and the EIA Regulations 2012. The DEA will be responsible for issuing a decision on the application for an ECC. If approved, the DEA will issue an Environmental Clearance Certificate.

8.2.2 Ministry of Works and Transport

This Ministry is responsible for the development, regulation, and management of national infrastructure (roads, rail, air, water) and state assets, ensuring safe, efficient, and accessible transport for socio-economic growth, while also overseeing construction industry policies and technical support for government. This involves infrastructure planning, maintenance, development of new projects (like roads, railways, aerodromes), asset management, and ensuring compliance with industry standards for all transport modes.

8.2.3 Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR)

Namibia's Department of Water Affairs (under the Ministry of Agriculture, Fisheries, Water and Land Reform) mandates ensuring national water security, managing, protecting, developing, and conserving water resources, and providing equitable access to safe water and sanitation for all Namibians, coordinating rural and urban supply, ensuring compliance with standards, and responding to emergencies like floods or droughts, all guided by acts like the Water Resources Management Act, 2004. Ministry of Urban and Rural Development

The Ministry aims to create policies and frameworks for sustainable urban and rural growth, focusing heavily on decentralization, coordinating regional and local government, improving housing/shelter, managing land, and ensuring equitable service delivery to

reduce poverty and migration, thereby fostering better living conditions and economic opportunities in both settings.

8.2.4 Namibia Airports Company

The aim is to develop, manage, and operate Namibia's airports on sound business principles, ensuring safety, security, efficiency, and compliance with international standards, while supporting tourism and national development.

8.2.5 Namibia Civils Aviation Authority

Its aim is to ensure a safe, orderly, regular, and efficient civil aviation system in Namibia by regulating and overseeing safety and security in its airspace, while also providing vital Air Traffic & Navigation Services (ATNS) and ensuring compliance with international aviation standards like ICAO. Established under the Civil Aviation Act, 2016, it functions as a state-owned enterprise with responsibilities covering airworthiness, flight operations, licensing, aerodromes, security, and air traffic control.

8.2.6 Roads Authority

The Roads Authorities' mandate is to manage a nation's road network, ensuring it's safe, efficient, and supports economic growth through planning, design, construction, and maintenance, plus managing road safety, user charging, and vehicle licensing, as seen with Namibia's Roads Authority (RA) under laws like the Roads Ordinance. This involves everything from road surface upkeep and infrastructure to traffic management and securing funding, often incorporating public-private partnerships

8.3 The Integrated Coastal Management Bill

Once enacted, the Integrated Coastal Management Bill (2014) aims to establish a system of integrated coastal management in Namibia in order to promote the conservation of the coastal environment, maintaining the natural attributes of the coastal landscapes and seascapes, and ensuring the sustainable development and use of the natural resources within the coastal zone that is also socially, economically and ecologically justifiable.

8.4 Relevant Namibian Policies

Namibia's policies provide the framework to the applicable legislation. Whilst policies do not often carry the same legal recognition as official statutes, policies are used in providing support to legal interpretation or guidance for civil servants and other stakeholders in the implementation of government objectives.

8.4.1 The Namibia Vision 2030

The principles that underpin Vision 2030, a policy framework for Namibia's long-term national development, comprise the following:

- Good governance
- Partnership
- Capacity enhancement
- Comparative advantage
- Sustainable development
- Economic growth
- National sovereignty and human integrity
- Environment
- Peace and security

Vision 2030 states that natural environments are disappearing quickly. Consequently, the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought after commodities and must be regarded as valuable natural assets. Vision 2030 emphasises the importance of promoting healthy living which includes that most Namibians are provided with safe drinking water. The importance of developing wealth, livelihood, and the economy is also emphasized by Vision 2030. This includes infrastructure provision like transport, communication, water, and electricity.

8.5 Other Relevant Local Policies and Legislation

Below (Table 5) is a list of other applicable local policies and legislation for the proposed project.

Table 3: List of local policies and legislation

Local Legislation, and adopted Policies, Protocols and Agreements	Summary	Environmental principles
Road Traffic and Transport Act, (No. 22 of 1999).	provides for the establishment of the Transportation Commission of Namibia, and for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, and the control and regulation of road transport across Namibia's borders. It also addresses matters incidental to these areas.	To control of traffic on public roads, including traffic signs, speed limits, accidents, and offences related to driving.
Civil Aviation Act (No. 6 of 2016)	The Civil Aviation Act, 2016 (specifically Act No. 6 of 2016 in Namibia) mandates a comprehensive regulatory framework for civil aviation, establishing the Namibia Civil Aviation Authority (NCAA) to ensure safety, security, and efficiency in its airspace, by overseeing operator certification, licensing personnel, regulating aerodromes, managing air traffic, investigating accidents, and implementing international standards. Its core functions include creating rules (NAMCARs), certifying operators (AOCs), overseeing flight ops, licensing staff, securing against unlawful interference, and providing air navigation services.	Integrates environmental principles through supporting ICAO's goals for sustainable aviation, focusing on decarbonization via Sustainable Aviation Fuels (SAF), carbon offsetting (CORSIA), efficiency, and technology, with a core philosophy rooted in sustainable development, promoting conservation, and meeting global standards (ICAO Annexes) for a greener aviation sector in Namibia.

Pollution Control and Waste Management Bill	This Act promote sustainable development; to provide for the establishment of a body corporate to be known as the Pollution Control and Waste Management Agency; to prevent and regulate the discharge of pollutants to the air, water and land; to make provision for the establishment of an appropriate framework for integrated pollution prevention and control; to regulate noise, dust and odor pollution; to establish a 'system of waste planning and management; and to enable Namibia to comply with its obligations under international law in this regard.	The environmental principle specific to this Bill is pollution control.
Urban and Regional Planning Act no. 5 of 2018	This Act consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide for principles and standards of spatial planning.	Environmental principles specific to this act are harmonization and streamlining of spatial planning in order to avoid land use conflicts, delays in decision making and to minimize negative environmental impacts.
Atmospheric Pollution Prevention Ordinance 11 of 1976	To provide for the prevention of the pollution of the atmosphere	To prevent atmospheric pollution and minimize environmental impacts associated with it.
Water Resources Management Act 11 of 2013	To provide for the management, protection, development, use and conservation of water resources; to provide for the regulation and monitoring of water services and to provide for incidental matters.	Manage water resources, prevent water pollution and control water storage and provision.
Public and Environmental Health Act 1 of 2015	To provide a framework for a structured uniform public and environmental health system in Namibia.	Principles of this act includes protecting individuals and

		communities from public health risks, encourage community participation to create a healthy environment; and provide for early detection of diseases and public health risks.
National Climate Change Policy	This policy identifies technology development and transfer to be a key issue for which strategies and action plans should be developed.	Promote and encourage new and clean technologies to be developed to reduce greenhouse gas emissions.
Convention on Biological Diversity (CBD)	Namibia ratified the Convention on Biological Diversity in 1992. As a party to the CBD, the Namibian government is obliged to develop a national strategy for the conservation of biodiversity.	Environmental principles of this are to establish a system of protected areas and integrate biodiversity considerations into development planning.
Convention to Combat Desertification (UNCCD)	Namibia ratified the UN Convention to Combat Desertification in 1995. This convention addresses the socio-economic and biophysical drivers of land degradation and desertification.	Objectives are to adopt integrated strategies that improve land productivity, rehabilitate degraded areas, and ensure sustainable management of land and water resources, with a focus on improving community livelihoods.

International Conventions and Agreements

Below (Table 4) is a list of applicable international conventions and agreements for the proposed project.

Table 4: International conventions and agreements

Legislation	Summary	Environmental principles
2011 Guidelines for the Control and Management of Ship's Biofouling to minimize the Transfer of invasive Aquatic Species.	These guidelines are intended to provide a globally consistent approach to the management of biofouling organisms, which could present a bio-risk in local ports.	Prevent the transfer of invasive species and coordinating a timely and effective response to invasions which requires cooperation and collaboration among governments.
Stockholm Convention on Persistent Organic Pollution (2001)	Is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for longer periods.	To protect human health and the environment from persistent organic pollutants; especially those used in marine paints.
Vienna Convention for the protection of ozone layer (1985)	This Convention is aimed to promote cooperation among nations by exchanging information on the effects of human activities on the ozone layer.	To take control actions to protect the ozone layer.
Montreal protocol (1997)	Is a global agreement to protect the earth's ozone layer by phasing out the chemicals that depletes it.	Control substances and chemicals production that are depleting the ozone layer.
UN Framework on climate change (1992)	This framework was introduced to stabilize greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system.	Countries should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects.
Kyoto protocol (1997)	It is also designed to assist countries in adapting to the adverse of climate change. It facilitates the development and deployment of technologies that can help increase resilience to the impacts of climate change.	Reduce GHG emission at least by 18%.
Basel Convention (1992)	To protect human health and the environment against the adverse effects of hazardous wastes.	Reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes

Conventions on Wetland of International Importance (1971)	Conserving wetlands (swamps, marshes, lakes, mudflats, peat bogs and other bodies of water whether natural or artificial, permanent or temporary).	This convention establishes a management framework aimed at conserving the wetland and ensuring its wise use. The Walvis Bay is recognized under this convention.
Paris Agreement (2015)	Is a legally binding international treaty on climate change.	To limit global warming to preferably 1.5 degrees Celsius, compared to pre-industrial levels.
International Convention for the Control of and Management of Ships' Ballast Water and Sediments of 2004.	This Convention seeks to prevent the spread of harmful aquatic organisms from one region to another, by the establishment of standards and procedures for the management and control of ships' ballast water and sediments.	Protect the oceans from invasive aquatic species
Internal Convention on Biological Diversity	Among others, this Convention aims at conservation of biological diversity and promote sustainable development of biological components.	Conservation of biological diversity, sustainable use and equitable sharing of utilization of biodiversity, ecosystem assessment and monitoring and mitigation of adverse environmental impacts.

8.6.1 Applicable Listed Activities

The EIA Regulations promulgated in terms of the Environmental Management Act, identify certain activities which could have a substantially detrimental effect on the environment. These listed activities require environmental clearance from MEFT prior to commencing. The following listed activities (Table 5) identified in the regulations apply to the proposed project:

Table 5: Listed activities triggered by the proposed Project.

Listed activities
3. Mining and Quarrying Activities Other forms of mining or extraction of any natural resources whether regulated by law or not.
10. Infrastructure

Listed activities
3. Mining and Quarrying Activities Other forms of mining or extraction of any natural resources whether regulated by law or not.
1.1 The construction of facilities for - (b) public roads

9 ENVIRONMENTAL ACTION PLANS

The management measures proposed to mitigate the potential impacts relating to the construction phase are detailed in the action plans below.

9.1 Action plans to achieve objectives and goals

Table 6: Action Plan – MANAGEMENT AND MONITORING

Objective:

To ensure that the provisions of the EMP are implemented during construction.

Management and mitigation measures	Action plan	
	Frequency / target date	**Responsible parties**
• The contractor and ECO shall ensure that all aspects of EMP are implemented during construction. • The environmental consultant shall conduct quarterly site inspection and make provision for reporting on every aspect of the EMP.	Throughout construction	Contractor, ECO and Environmental Consultant.

Table 7: Action Plan – Communication and Stakeholder Consultation

Objective:

To ensure that all stakeholders are adequately informed throughout construction and that there is effective communication with and monthly feedback to the consultant.

Management and mitigation measures	Action plan	
	Frequency / target date	**Responsible parties**
• The Contractor shall appoint an ECO from the construction team to take responsibility for the implementation for all provisions of this EMP and to liaise between the contractor, subcontractors, community, client and consultant. • The Contractor shall at every site meeting report on the status of the implementation of all measures of the EMP. • The ECO shall liaise with the environmental consultants regarding all issues related to community consultation. • Initiate an efficient Grievance Mechanism to allow potentially affected individuals to voice their concerns on the project.	Throughout construction	Contractor/ ECO

Table 8: Action Plan - Labor Rights

Objective:

To ensure labour standards are complied with.

Management and mitigation measures	Action plan	
	Frequency / target date	**Responsible parties**
• Ensure that workers have access to and are aware about the Grievance Mechanism. • Ensure minimum legal labor standards as per ILO regulations (child/forced labor, no discrimination, working hours, minimum wages) are met. • The contractor should comply with relevant labor Laws as stipulated by the Labor act. • Ensure the workforce has access to primary healthcare on site. • Provide housing conditions (if applicable) in accordance with all applicable health and safety regulations and norms by ensuring the provision of adequate space, supply of water adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, noise, fire and disease-carrying animals, adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services. • Ensure all contractors implement code of conduct concerning employment and workforce behavior (including but not limited to safety rules, zero tolerance for substance abuse, environmental sensitivity of	Throughout construction	Contractor/ ECO

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
the area, dangers of sexually transmissible diseases and HIV/AIDS, gender equality and sexual harassment, respect for the beliefs and customs of the populations and community relations in general.) • In case of security personnel at the site, ensure proper training and in the use of force and appropriate conduct toward workers and affected communities.		

Table 9: **Action Plan – Health and Safety**

Objective:

To ensure health and safety of workers and the public at all times during construction

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
• The Contractor shall prepare a strategy to ensure the least possible disruption to traffic and potential safety hazards during construction. • The strategy should include a schedule of work including when and how road crossings (construction at existing intersections) will be made. • The Contractor shall also liaise with the Traffic Authorities for their approval in this regard.	Throughout construction	Contractor/ ECO

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
• Proper traffic and safety warning signs must be placed at the construction site to the satisfaction of the Engineer and the Roads Authority. • The Contractor must adhere to the regulations pertaining to Healthy and Safety, including the provision of personal protective clothing. • Dust protection masks shall be provided to task workers. • Potable water must be available to workers to avoid dehydration. This water should be of acceptable standards to avoid any illness. At least 5 liters of drinking water per person per day should be made available during construction. • The contractor must enforce relevant Health and safety Regulations for these specific activities. • Ensure speed limits on site and on transporting routes. • Use equipment and vehicles in appropriate technical conditions. • Ensure vehicles and equipment are switched off when not in use. • Use protective hearing equipment for workers conducting noisy activities. • Maintain high standard in housekeeping on site. • Ensure provision of health and safety (H&S) facilities at the project site, including shaded welfare areas. • Provide necessary fire prevention equipment on site in line with applicable regulations.		

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
• Limit the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas or close to residential houses (typically between 10 pm and 7 am). • Report any occurrence of any communicable diseases amongst the workforce (STD. HIV/AIDS.TB, malaria and Hepatitis B and C) and set up disease prevention programmed if needed. • Implement incident report access to incidents occurring on the construction site or caused by the construction activities shall be reported by the Contractor/subcontractor to the Project Implementing Agency (PIA) as soon as possible and not later than 24 hours after the incident occurred (including short- and long-term response measures). A major incident is a e.g., fatality, injury, major oil spill, social unrest, outbreak of violence, labour strikes etc. • The Contractor shall ensure that contact details of the local medical services are available to the relevant construction personnel prior to commencing work. • The Contractor shall take all the necessary precautions to ensure that fires are not started as a result of activities on site. The Contractor shall report all fires immediately to the Principal Agent.		

Table 10: **Action Plan – Conservation of the Natural, Heritage, Graves and Historical Environment**

Objective:

To minimise damage to soil, vegetation, heritage, graves and historical resources during the construction phase.

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
The “chance finds” procedure covers the actions to be taken from the discovery of a heritage site or item to its investigation and assessment by a trained heritage specialist or archaeologist or other appropriately qualified person. Action by person identifying archaeological or heritage material: • If operating machinery or equipment - stop work. • Identify the site with flag tape. • Determine GPS position if possible; and • Report findings to foreman. Action by foreman: • Report findings, site location and actions taken to superintendent; and • Cease any works in immediate vicinity. Action by superintendent: • Visit site and determine whether work can proceed without damage to findings. • Determine and mark exclusion boundary; and • Site location and details to be added to project GIS for field confirmation by archaeologist. Action by archaeologist:	Throughout construction	Contractor/ ECO

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
• Inspect site and confirm addition to project GIS. • Advise NHC and request written permission to remove findings from work area. In the event of discovering human remains: • Actions as above. • Field inspection by archaeologist to confirm that remains are human; and • Advise and liaise with NHC and Police. **Construction Management** • At the outset of construction (or during construction as may be applicable), the ECO and contractor shall visit all proposed haul roads, access roads, and other areas to be disturbed. Areas to be disturbed shall be clearly demarcated, and no land outside the road reserve shall be disturbed or used for construction activities. Detailed instructions and final arrangements for protection of sensitive areas, keeping of topsoil and rehabilitation of disturbed areas shall be made, in line with the guidelines in this document. The ECO shall be consulted before any new areas outside the road reserve are disturbed which have not yet been visited. • No off-road driving shall be allowed, except on the agreed haul and access roads. • Vegetation shall only be cleared within the road reserve.		

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
• The removal of material at borrow-pit site (if applicable) shall be focused where permission is given to do so for detours or access roads. • A prescribed penalty will be deducted from the contractor's payment certificate if it is shown that trees and/or branches outside the road reserve have been collected illegally, by any of the staff or sub-contractors. • Trees that need to be trimmed should be so with the right equipment and aesthetical acceptable manner. • Where topsoil is available, this must be stockpiled separately in 1,00 m high piles and this used to cover the damaged areas outside the road reserve such as access roads. • Where compaction has taken place in disturbed areas, these areas must be ripped and covered with topsoil separately kept for this purpose. This includes the road reserve where grass should be encouraged to re-ester the least significant vegetation exists. Poaching or collecting of wild animals is prohibited uncles a permit has been obtained. • A prescribed penalty will be deducted from the contractor's payment certificate if it is shown that any of his staff or sub-contractors are involved in trapping, hunting or any kind of collecting of animals in the vicinity of the work sites. Offenders will be handed to the authorities for prosecution.		

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
• Reinstatement of construction working area to the best possible after construction activities are completed. **Borrow Pit Management** • The Engineers and surveyors must draft a plan for approval before commencement of a borrow pit. This plan must indicate the required resources and sensitive areas that may not be mined (indication of the mature trees). • All borrow-pits must be rehabilitated. • Topsoil (the top layer of organic material, even if the topsoil is non-existent, the top layer of organic material) at borrow pits shall be stockpiled separately and the stockpile maintained for use at the end of the contract to rehabilitate borrow pits. • The borrow pits shall be rehabilitated by training the sides to a slope mot steeper than 30 degree and evenly spreading the topsoil over the areas to allow for the growth of new vegetation. • All spoil material at the borrow pits shall be neatly shaped and no loose material will be left inside the borrow pits. • Final payment will not be issued unless the environmental consultant is satisfied with the obligations listed under this section (borrow pit management'').		

Table 11: **Action Plan – Waste Management and Water Resource Management**

Objective:

-To avoid contribution to potential surface and groundwater pollution.

-To ensure that sound waste management practices are adhered to during construction.

Management and mitigation measures	Action plan	
	Frequency / target date	**Responsible parties**
• Ensure suitable receptacles with lids for waste disposal is available on site at all times. • Ensure animals do not have access to waste bins. • If rubbish containers are used, ensure these can be sealed from animals or strong wind and during transportation. • Written evidence of safe disposal of waste will be kept. • Regular environmental awareness should include potential risks associated with hydrocarbons. • Soil contaminated with hydrocarbons shall be excavated and stored in plastic bags inside a designated wheelie bin and transported for disposal at the nearest disposal facilities in the towns. • The Contractor shall ensure that he is familiar with the requirements for the safe storage, handling and disposal of petroleum, chemical, harmful and hazardous materials	Throughout construction	Contractor/ ECO

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
• Constriction rubble and other waste generated during construction must be disposed of on a regular basis at an approved waste disposal site. A temporary site may be demarcated for temporary storage of waste, but this area must be identified and clearly marked. • Adequate separate containers for hazardous and domestic waste must be provided on site. • The workforce must be sensitized to dispose of waste in a responsible manner and not to litter. • No waste my remain on site after completion of the project. • Hygienic, adequate toilet facilities should be available in the following ratio :2 toilets for every 50 females and one toilet for every 50 males. The toilets should be such that it can be transported for various site selections and to be emptied at an approved sewage site. No person should have to work more than 1 km for the use of a toilet. • Oils and lubricants are prevented from spilling using drip trays or other suitable containers. • Drip trays should be available for all equipment and parked vehicles used during construction. These trays should be placed underneath each vehicle while the vehicles are parked. The drip trays should be cleaned every morning and the spillage handled as hazardous waste. • Accidental spills must be cleaned immediately. The contaminated soil must be suitable for hazardous waste.		

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
• Oil, lubricants, and other hazardous materials must be store in separate containers (concrete liner, container, or metal or plastic drip tray) and stored for transport and disposal at an approved waste disposal site or for collection by an oil recycling company. • Fuel tanks on site must be properly bunded. The volume of the bunded must be sufficient to hold 1.5 times the capacity of the storage tanks. The floor of the bunded area must be impermeable and thew sides high enough to achieve the 1.5 times holding capacity. • Foam fire extinguishers must be in close proximity to fuel kept on site. There should be trained personnel to handle this equipment. At least two extinguishers should be placed at every fuel storage area. • The contractor shall utilize water only as specified in the approved water abstraction plan for the project. • Reuse wastewater wherever feasible. • Priorities the use of rainwater/stormwater over surface water/groundwater abstraction by using harvesting equipment and systems on site. • 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. • Carry out excavation works in cut off ditches to prevent water from entering excavations.		

Table 12: **Action Plan – Traffic Management**

Objective:

The objective of the management measure is to appropriately manage traffic impacts

Management and mitigation measures	Action plan	
	Frequency / target date	**Responsible parties**
• Signage should be placed to clearly indicate the speed limit when entering the site. All drivers must adhere to the speed limit when entering the site. • Ensure that temporary bypass roads are constructed for road users. • Ensure implementation of a detailed safety code of conduct for contractor; to be closely monitored with penalties enforced if necessary. • Ensure the trucks during construction keep their distance from one another, to allow other road users to pass safely. • Ensure that an Emergency Response Plan is in place, in event of an accident. • Ensure dust suppression methods such as sprinkling water on the gravel road is done at all times to limit the impact of dust on the neighbouring community.	Throughout construction	Contractor/ ECO

Table 13: **Action Plan – Social and Economic Management Plan**

Objective:

The objective of the management measures is to enhance the positive impacts associated with job creation and investment.

Management and mitigation measures	Action plan	
	Frequency / target date	**Responsible parties**
• Local people must be preferentially selected to encourage social growth and development in the region and Namibia as a country. • Management is urged to begin local selection and provide technical training as soon as possible to enable local people to compete for the lower skilled jobs and upskill themselves in anticipation of the proposed project. • Have zero tolerance to alcohol in the workplace. • Ensure that an Emergency Response Plan is in place, in event of an accident. • A First Aid Kit should be available at all times during the construction process.	Throughout construction	Contractor/ ECO

Table 14: Action Plan - Rehabilitation

Objective:

To rehabilitation the site office, work sites servitude areas, tracks and other areas disturbed during construction as close to their original a state as reasonably possible

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
• All construction sites should be photographed (1) before commencement, (2) after completion and (3) after rehabilitation of the activities. • All bunding areas, equipment, waste, temporary structures, stockpiles. must be removed from the work sites. • All disturbed areas shall be reshaped to theoretical contours; as close as possible to the natural conditions before construction commenced, including, detours, and temporary access routes. • All cuttings must be shaped with a slope to provide a natural appearance, without having to destroy significant vegetation on top of the slope.	Throughout construction	Contractor/ ECO

Management and mitigation measures	Action plan	
	Frequency / target date	Responsible parties
• Existing borrow pits adjacent to main roads need also be rehabilitated during rehabilitation phase. Final payment will not be issued unless the environmental consultant is satisfied with the obligations listed under this section.		

10 NON-COMPLIANCE

10.1 PROCEDURES

The Contractor shall comply with the environmental specifications and requirements on an ongoing 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:

- The ER shall issue a notice of non-compliance to the Contractor through the ECO, stating the nature and magnitude of the contravention.
- 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 noticed.
- The Contractor, though the ECO, shall provide the ER with a written statement describing the actions to taken to discontinue the non-conformance, the actions taken to mitigate its effects and the expected results of the actions.
- 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 condition of contract.
- 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.
- In the event of a dispute, difference of opinion, etc. between any parties regarding or arising out of interpretation of the conditions of the EMP, disagreement regarding the implementation or method of implementation of condition of the EPM, etc. any party shall be entitled to require that the issue be referred to specialists for determination.
- The Engineer shall always have the right to stop work and/or certain activities on site in the case of non-compliance or failure to implement remedial measures.

10.2 OFFENCESS 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 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:

Impact	Penalties
Actions leading to erosion	A penalty equivalent in value to the cost of rehabilitation plus 20%
Oil spills	A penalty equivalent in value to the cost of clean- Operation plus N$3000
Damage to sensitive environment outiside road reserve	A penalty equivalent in value to the cost of restoration plus N$5000
Damage to cultural and grave sites	A penalty to a maximum of N$100,000 shall Be paid for any damage to any cultural/grave/historical sites
Damage to trees outside road reserve	A penalty to a maximum of N$ 10,000 shall be paid for each tree removed outside the road reserve without a prior permission, or a maximum of N$ 5,000 for damage to any tree, which is to be retained on site
Damage to natural fauna	A penalty to a maximum of N$ 5,000 for damages to any natural occurring animal
Any person, vehicles, plant, or thing related to the Contractors operations within the designated boundaries of a ‘’no-go” area	N$ 4,000
Litter on site	N$ 1,000
Deliberate lighting of illegal fires on site	N$ 5,000
Individuals not making use of the site toilet facilities	N$ 1,000
Any unauthorized person, vehicle, item of plant, or anything related to the Contractors operations causing a public nuisance	N$ 2,000

- 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 offence, 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 sections, the Engineer shall determine as to what constitutes a transgression in terms of this document.