ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

DR 3562: MAKANGA ACCESS ROAD & DR 3525: MASIDA ACCESS ROAD

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1. INTRODUCTION

This Environmental and Social Management Plan (ESMP) has been prepared to guide the environmentally and socially responsible implementation of the proposed construction to Low Volume Seal Road standard of DR 3562 (Makanga Access Road, 3.54 km) and DR 3525 (Masida Access Road, 3.05 km) in the Linyanti Constituency, Zambezi Region, Namibia.

The ESMP operationalises the findings of the Environmental Scoping Report by translating identified risks and impacts into practical management, mitigation, monitoring, and compliance measures to be implemented during the construction and operational phases of the project. All mitigation and management measures referenced in this ESMP are contained in Section 5 and must be implemented in full.

This document serves as a stand-alone environmental management instrument and is binding on the Contractor. Compliance with the ESMP is a contractual obligation and will be monitored by the Engineer's Representative (ER) and the Environmental Control Officer (ECO). Non-compliance may result in corrective actions, penalties, or suspension of works, as prescribed in Section 5.

The ESMP has been prepared in accordance with:

- The Environmental Management Act, 2007 (Act No. 7 of 2007);
- The Environmental Impact Assessment Regulations (GN 29 and GN 30 of 2012);
- The Roads Authority Environmental Manual (2014); and
- Conditions of the Environmental Clearance Certificate (once issued).

2. PROJECT BACKGROUND

The Roads Authority of Namibia appointed Tulipamwe Consulting Engineers to provide consultancy services for the upgrading of access roads to schools and clinics in the Makanga and Masida villages. Enviro Management Consultants Namibia was appointed as the Environmental Assessment Practitioner to undertake the environmental assessment process and compile the Environmental Scoping Report and Environmental and Social Management Plan.

The project area is located in northeastern Namibia within the Zambezi Region. The roads provide access from the T0806 main road between Kongola and Katima Mulilo to the villages of Makanga and Masida. The existing roads are gravel/earth roads that are in poor condition and become difficult to use during the rainy season.

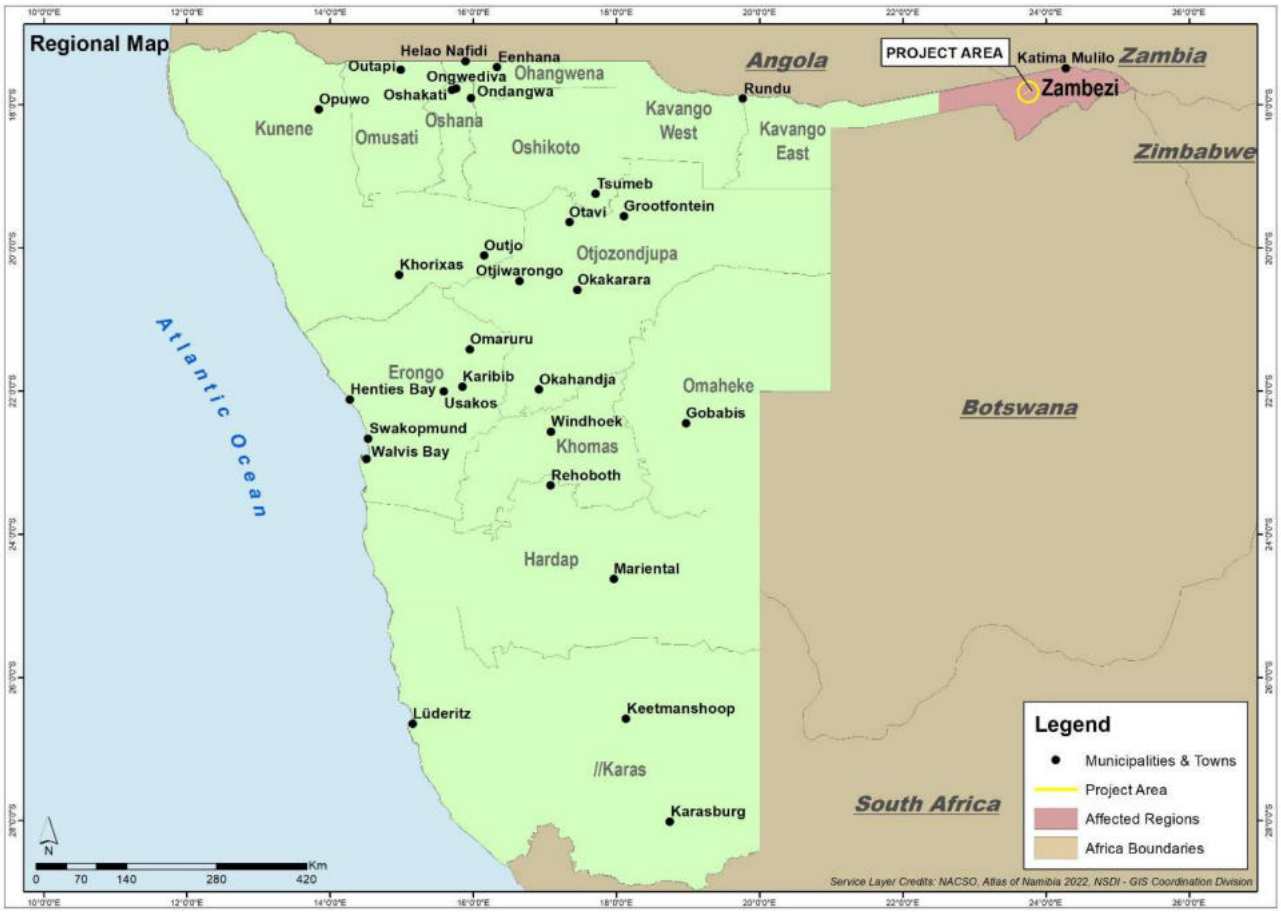
The proposed works include:

- Upgrading the existing roads to Low Volume Seal Road standard;
- Improving road width and alignment where required;

•Installation and upgrading of drainage structures;

•Improvement of road furniture and traffic safety features.

The project design follows the existing road alignment as far as practicable, thereby limiting additional land take, vegetation clearance, and disturbance to communities and the natural environment.



3. SUMMARY OF POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

The Environmental Scoping process identified a range of potential impacts associated with the construction and operation of the proposed roads. These impacts are summarised below. All impacts will be managed through the implementation of the mitigation measures outlined in Section 5 of this ESMP.

3.1 Biophysical Environment

Land Use, Soils, and Topography

Construction activities, earthworks, borrow pits, and temporary access routes may result in temporary disturbance of soils and localised changes to topography. Permanent land-use change is limited to the existing road reserve. Risks include soil erosion, compaction, and degradation if poorly managed. These impacts will be mitigated through the measures outlined in Section 5, including controlled disturbance, topsoil management, and rehabilitation.

Impact significance: Low.

Vegetation and Flora
Vegetation clearance will be required within the road reserve and at borrow pit sites. There is a risk of damage to protected tree species if controls are not enforced. Vegetation impacts will be mitigated through strict demarcation of disturbance areas, protection of mature trees, permitting where required, and penalties for unauthorised clearing, as prescribed in Section 5.

Impact significance: Low.

Fauna and Biodiversity
Construction activities may cause temporary disturbance to fauna due to noise, human presence, and vehicle movement, particularly in conservancy and community forest areas. These impacts will be mitigated through restrictions on hunting and wildlife disturbance, awareness measures, and enforcement mechanisms in Section 5.

Impact significance: Low and temporary.

Surface Water and Drainage
The road may alter natural surface runoff patterns and is exposed to flooding during the rainy season if drainage is inadequately managed. Impacts will be mitigated through appropriate drainage design and the implementation of water management measures outlined in Section 5.

Impact significance: Low to Medium.

Groundwater
There is a risk of localised groundwater contamination from hydrocarbons or sewage if poorly managed. Groundwater impacts will be mitigated through bunded fuel storage, spill prevention, controlled servicing areas, and proper sewage management as prescribed in Section 5.

Impact significance: Low.

3.2 Pollution and Nuisance Impacts

Air Quality (Dust and Emissions)
Dust generation from earthworks, hauling, and borrow pits and emissions from construction equipment are anticipated during construction. These impacts will be mitigated through dust suppression, equipment controls, and PPE provision in accordance with Section 5.

Impact significance: Medium during construction; Low during operation.

Noise and Vibration
Construction equipment and traffic will generate temporary noise and vibration impacts. These will be mitigated through operational controls and health and safety measures outlined in Section 5.

Impact significance: Low.

Waste and Hazardous Materials
Domestic waste, construction waste, sewage, and hazardous materials such as oils and fuels will be generated. Without proper controls, pollution of soil and water could occur. These impacts will be mitigated through waste segregation, approved disposal, spill prevention, and strict enforcement as outlined in Section 5.

Impact significance: Medium.

3.3 Socio-Economic Environment

Community Health and Safety
Construction activities and increased traffic pose safety risks to pedestrians, schoolchildren, and road users. Health risks may arise from poor sanitation or unmanaged workforce interactions. These impacts will be mitigated through traffic management, safety signage, health and safety plans, and awareness programmes as prescribed in Section 5.

Impact significance: Low to Medium.

Land Access and Property Impacts
Some fences, fields, or structures encroaching into the road reserve may be affected. Compensation and relocation will be managed in accordance with Roads Authority procedures and mitigation measures outlined in Section 5.

Impact significance: Medium.

Employment and Economic Benefits
The project will create temporary employment during construction and improve long-term access to services, schools, clinics, and markets. These are positive impacts associated with the project.
Impact significance: Positive (Medium).

Cultural and Heritage Resources
A memorial site near DR3525 requires protection from accidental damage. Cultural heritage impacts will be avoided through demarcation, awareness, and enforcement measures outlined in Section 5.

Impact significance: Low.

4. ROLE OF THE ESMP

This ESMP provides the framework to ensure that:

- Environmental and social risks are effectively managed;
- Legal and regulatory compliance is achieved;
- Roles and responsibilities are clearly defined;
- Monitoring, auditing, and corrective actions are implemented; and
- Stakeholder concerns are addressed through structured grievance mechanisms.

All mitigation measures contained in Section 5 of this ESMP are mandatory and shall be implemented for the duration of the project.

5. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Environmental and Social Management Program (ESMP) will be implemented during construction. The ESMP is intended to bridge the gap between the Environmental Impact Assessment (EIA) and the implementation of the project, particularly with regard to implementing the mitigation measures recommended in the Environmental Impact Assessment (EIA). Monitoring, auditing and taking corrective actions during implementation are crucial interventions to successfully implement the ESMP.

The ESMP details actions to ensure compliance with regulatory bodies and that environmental performance is verified through information on impacts as they occur. 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.

5.1 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.

5.2 Roles and Responsibilities

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

Engineer's Representative (ER)

The Engineer will delegate powers to the Engineer's Representative (ER) on site who would act as the Employer's implementing agent and has the responsibility to ensure that the Employer's responsibilities are executed in compliance with relevant legislation and the ESMP. The Engineer also has the responsibility to approve the appointment of the Environmental Control Officer (ECO).

Any on-site decisions regarding environmental management are ultimately the responsibility of the ER. The ER will have the following responsibilities in terms of the implementation of this ESMP:

- Controlling that the necessary environmental authorizations and permits have been obtained by the Contractor.

- Assisting the Contractor in finding environmentally responsible solutions to problems with input from the ECO (Environmental Control Officer) where necessary.
- Taking appropriate action if the specifications are not followed.
- Ordering the removal of person(s) and/or equipment not complying with the EMP specifications.
- Recommending and issuing fines for transgressions of site rules and penalties for contravention of the ESMP.
- Advising on the removal of person(s) and/or equipment not complying with the specifications.
- Auditing the implementation of the ESMP and compliance with authorization on a monthly basis.
- Undertaking a continual review of the ESMP and recommending additions and/or changes to the document after completion of the contract.

Environmental Control Officer (ECO)

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

- Assisting the ER in ensuring that the necessary environmental authorizations and permits have been obtained.
- Maintaining open and direct lines of communication between the ER, Employer, Contractor and interested and affected parties (I&APs) with regard to environmental matters.
- Convening and facilitating public meetings.
- Regular site inspections of all construction areas with regard to compliance with the ESMP.
- Monitoring and verifying adherence to the ESMP, 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 personnel coming onto site.

5.3 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:

- Explanation of the importance of complying with the ESMP.
- 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 ESMP and its specification (no-go areas, etc.)
- Explanation of the management structure of individuals responsible for matters pertaining to the ESMP.
- The contractor shall keep records of all environmental training sessions, including names, dates and the information presented.

5.4 Public Participation and Grievance Mechanisms

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.

5.5 Environmental Mitigation Measures

The following mitigation measures are sufficient to reduce or avoid negative impacts associated with the construction of a road. It is based on the activities mentioned in this report that will occur during the construction phase of the project:

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
12.5.1 MANAGEMENT AND MONITORING	To ensure that the provisions of the ESMP are implemented during construction.	a. The environmental and social consultant shall ensure that all aspects of the ESMP are implemented during construction. b. The environmental and social consultants shall attend regular site inspections and meetings and minutes shall make provision for reporting on every aspect of the ESMP.	Environmental and social consultant together with the ECO.
12.5.2 COMMUNICATION AND STAKEHOLDER CONSULTATION	To ensure that all stakeholders are adequately informed throughout construction and that there is effective communication with and feedback to the consultant and client.	a. The Contractor shall appoint an ECO from the construction team to take responsibility for the implementation for all provisions of this ESMP and to liaise between the contractor, client and consultants. The ECO must be appointed at least 14 days after the site-handover. b. The Contractor shall at every site meeting report on the status of the implementation of all provisions of the ESMP. c. The contractor shall implement the environmental awareness training as stipulated in Section 14.3 above. d. The Contractor shall liaise with the social and environmental consultants regarding all issues related to community consultation and negotiation as soon as possible after construction commences.	Contractor/ Environmental and Social Consultant to monitor.
12.5.3 HEALTH AND SAFETY	To ensure health and safety of workers and the public at all times during construction.	a. The Contractor shall submit a strategy to ensure the least possible disruption to traffic and potential safety hazards during construction. b. The strategy should include a schedule of work indicating when and how road crossings (construction at existing intersections) will be made. The schedule should be updated and distributed to all stakeholders. c. Proper traffic and safety warning signs must be placed at the construction site to the satisfaction of the Engineer, MEFT and Roads Authority. d. The Contractor must adhere to the regulations pertaining to Health and Safety, including the provision of protective clothing, failing which the Contract may be	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		suspended until corrective actions were taken. e. Dust protection masks shall be provided to task workers if they complain about dust. f. Surface dust will be contained by wetting dry surfaces periodically with a water bowser, sprinkler system or any suitable method. This applies for the construction site as well as all the roads. g. Dust at the crusher shall be suppressed by adding water sprayers at the distribution points on the various stages. h. Potable water shall be available to workers to avoid dehydration. This water shall be of acceptable standards to avoid any illness. At least 3 litres of drinking water per person per day shall be made available during construction. i. The contractor shall enforce relevant Health and Safety Regulations for specific activities related to the construction of a road. These activities include working with hazardous chemicals, moving equipment and traffic safety, elevated and overhead work, fall protection and noise. j. The applicable PPE shall be issued for the protection of the workforce: 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 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	

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		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. k. The contractor shall also comply with relevant Labour Laws as stipulated by the Labour Act of Namibia. l. The contractor shall compile a Health and Safety Management Plan for this project. This plan shall be implemented and forms part of the contractors contractual obligation.	
12.5.4 CONSERVATION OF THE NATURAL AND HISTORICAL	To minimise damage to soil, wildlife, vegetation and historical resources during the construction phase. This includes soil crusting, soil	a. At the outset of construction (or during construction as may be applicable), the ECO and the contractor shall visit all proposed borrow-pits, haul roads, access roads, camp sites, and other areas to be disturbed outside the road reserve. Areas to be disturbed shall be clearly demarcated, and no land outside these	Contractor will ensure the mitigation measures are enforced at his own expense.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
ENVIRONMENT	erosion and unnecessary wildlife habitat or vegetation destruction. Management of water (domestic and construction).	areas shall be disturbed or used for construction activities. b. 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 are disturbed which have not yet been visited. c. No off-road driving shall be allowed, except on the agreed haul and access roads. d. Vegetation shall be cleared within the road reserve as necessary for the construction of the road, while trees with a trunk diameter exceeding 500 mm (1 meter above ground) shall be left intact. The reserves on either side of this corridor may not be cleared of vegetation, unless permission is given to do so for detours or access roads. This measure is subjected to the Roads Authority of Namibia specifications with regards to the road reserve. e. A prescribed penalty will be deducted from the Contractors payment certificate for every mature tree removed without approval. f. No trees may be felled or live wood in the project area removed by any member of the construction team, including sub-contractors. Unauthorised harvesting of endemic flora and forest products and collection of firewood is strictly prohibited. Contravention of this arrangement is liable for a prescribed penalty. g. A prescribed penalty will be deducted from the contractor's payment certificate if it is shown that trees and/or branches have been broken down willfully and unnecessarily, or that any plants have been collected illegally, by any of the staff or sub- contractors. h. Trees that need to be trimmed should be done so with the right equipment and aesthetical acceptable. The use of any type of saw is obligatory and the branches of trees will not be broken off by the use of other machinery. i. 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 to borrow pits, and clearing and grubbing areas. j. Where compaction has taken place in disturbed areas, these areas must be	The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		ripped and covered with topsoil separately kept for this purpose. k. Poaching or collecting of wild animals is prohibited. l. The killing of any animal (reptile, bird or mammal) is prohibited. m. 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. n. Pipelines for the pumping of construction water shall as far possible run within the road reserve and along existing tracks and other roads. o. Water will not be allowed to be wasted. This includes water required for construction and domestic purposes.	
12.5.5 BORROW PIT MANAGEMENT AND REHABILITATION	To ensure proper soil management (combat soil erosion and promote biological activities). Preserve and manage natural vegetation and wildlife habitat. To ensure health and safety around the borrow pits (decommissioning phase). To stimulate ecological processes after decommissioning (to stimulate vegetation and other biological activities). To establish borrow pits which is aesthetically pleasing after decommissioning.	a. The removal of material at borrow-pit sites shall be focused where the least significant vegetation exists. If material is only available around significant mature trees (more than 500 cm circumference – 1 meter above ground), clusters of trees should be preserved while suitable material is excavated around them. A 3 meter buffer must be conserved around the cluster of mature trees. The ER shall visit all proposed borrow-pit areas and indicate where and how material may be removed, before works commence. **A cluster constitutes 5 or more trees in close proximity (within 20m radius).** b. The Contractor shall use safety tape to mark these tree clusters as to avoid confusion or miss-understandings. c. 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). d. The borrow pit areas will be clearly marked by using brightly painted markers. These markers will demarcate the area where materials might be removed and stored. e. All borrow-pits must be rehabilitated. f. The contractor shall liaise with the nominated community representative(s)	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		regarding whether their borrow-pits shall be shaped as water reservoirs during rehabilitation. g. At those borrow-pits not to be shaped as reservoirs, topsoil (the top layer of organic material, even if the topsoil in 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 the borrow pits. h. The top soil shall be marked as to inform the machine operators that the material is top soil and should be left alone for rehabilitation purposes. i. The borrow pits shall be rehabilitated by trimming the sides to a slope not steeper than 33° (1:3) and evenly spreading the top soil over the slopes to allow for the growth of new vegetation. j. All spoil material at the borrow pits shall be neatly shaped and no loose material (oversized) will be left inside the borrow pits. k. Access to borrow pits shall be controlled (using gates or manned positions). l. The borrow pit floor shall be levelled evenly as part of rehabilitation. m. A Borrow Pit Rehabilitation Plan will be compiled indicating the rehabilitation schedule (time-frames) for the various borrow pits to be rehabilitated. n. After the borrow pit has been rehabilitated, the Rehabilitation Checklist will be completed and signed by the relevant parties (See Appendix B).	
12.5.6 WASTE AND POLLUTION MANAGEMENT	To avoid contribution to potential surface and groundwater pollution. To avoid contribution to potential soil pollution. To ensure that sound waste management practices are adhered to during construction.	a. Construction rubble and other waste generated during construction will be disposed of on a regular basis at an approved waste disposal site. A temporary waste site may be demarcated for temporary storage of waste, but this area will be identified and clearly marked. b. The temporary domestic waste site will be fenced off with access control to the area. c. Adequate separate containers for hazardous and domestic waste will be provided on site and at the construction camp. d. The workforce will be sensitised to dispose of waste in a responsible manner and not to litter.	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		e. Waste bins will be placed in and around the construction site to facilitate proper waste management. f. No waste may remain on site after completion of the project. g. Toilet facilities will 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 walk more than 1km for the use of a toilet. h. A demarcated vehicle service area will be provided. This area will have an impermeable floor, oil trap and dedicated wash bay area. All used water will first run through the oil trap before the effluent is allowed to exit. The oil trap will be cleaned on a regular basis to ensure its efficiency. i. Servicing of vehicles is only permitted in the demarcated vehicle service area, except for large immobile vehicles which may be serviced on site, on condition that oils and lubricants are prevented from spilling through the use of drip trays or other suitable containers. j. Drip trays will be available for all vehicles that are intended to be used during construction. These trays will be placed underneath each vehicle while the vehicles are parked. The drip trays will be cleaned every morning, and the spillage handled as hazardous waste. k. Machines operating during the day that shows signs of excess leaking (verified by ECO or ER) should be withdrawn from the task and repaired by the contractor.	
		l. Oil, lubricants, and other hazardous materials will be stored 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 such as WESCO Salvage (this company collects significant quantities of oil from central locations throughout the country). m. Fuel tanks on site will be properly bunded. The volume of the bunded area will be sufficient to hold 1.5 times the capacity of the storage tanks. The floor of the bunded area will be impermeable and the sides high enough to achieve the	

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		1.5 times holding capacity. There will be a valve installed in the bunded area to allow rainwater drainage. n. Foam fire extinguishers will be in close proximity to fuel kept on site. There will be trained personnel to handle this equipment. At least two extinguishers will be placed at every fuel storage area. Fire extinguishers shall also be placed at the workshop or any other area where the risk of fire exist. All fire extinguishers shall be mounted on a pole with relevant signage indicating the presence of the extinguishers. o. Bitumen batching areas will make use of drip trays to prevent unnecessary spillage of any bitumen products. Cleaning of spray nozzles should be done on the bypass (if it is gravel) or any other section of the road that is in use. This serves as a dust suppressor. p. Accidental spillage of bitumen, oils and other hydrocarbons will be cleaned immediately. The contaminated soil will be suitably disposed of in a container suitable for hazardous waste. q. Disposal of bitumen only in designated/preapproved sites/areas.	
12.5.7 REHABILITATION OF CONSTRUCTION SITE, SERVITUDES AND CLEARED AREAS (WHICH INCLUDES STOCKPILES)	To rehabilitate the site office, work sites, servitude areas, tracks and other areas disturbed during construction as close to their original state as reasonably possible.	a. All bunded areas, equipment, waste, temporary structures, stockpiles etc. must be removed from the camp and work sites. b. All disturbed areas shall be reshaped to their original contours; as close as possible to the natural conditions before construction commenced, including the road reserve, detours, construction camps, and temporary access routes. c. Alien vegetation that occurs in the project corridor must be weeded. d. All cuttings must be shaped with a slope to provide a natural appearance, without having to destroy significant vegetation on top of the slope (this applies to big trees as mentioned in the ESMP only). e. Existing borrow pits adjacent to main roads need also be rehabilitated during rehabilitation phase.	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

5.6 Non-Compliance

A) Procedures

The Contractor shall comply with the environmental 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:

- 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 notice.
- 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.
- 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.
- 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 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.
- 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) Offences 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 or stakeholders.

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

5.7 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.

5.8 Environmental Monitoring and 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.

6 CONCLUSION AND RECOMMENDATIONS

This project does not pose significant environmental risks due to the fact that the existing alignment will be followed. The various negative impacts associated with the construction of roads can be mitigated through effective implementation of the Environmental and Social Management Plan.

Waste management, pollution prevention and control as well as effective borrow pit rehabilitation will prevent any significant long term negative effects associated with this project.

Upgrading of this road will increase the safety of road users due to the improved road surface.

Vehicle operating cost will be reduced due to the new road surface therefore having a positive financial effect on the road users.