9. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Minimum Requirements for the Environmental and Social Management Programme (ESMP) are attached in this document. It sets out as the minimum generic standards applicable to such a project. A detailed site specific ESMP should be drafted before commencement of the Construction phase.

The ESMP is intended to bridge the gap between the Environmental Assessment (EA) and the implementation of the project, particularly with regards to implementing the mitigation measures recommended in the Environmental Assessment (EA). Monitoring, auditing and taking corrective actions during implementation are crucial interventions to successfully implement the ESMP.

The ESMP detail actions to ensure compliance with regulatory bodies and further ensures that environmental performance is increased through mitigation measures 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.

9.1 ESMP Administration

The ESMP must be part of the Tender and Contract documentation. 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.

9.2 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 and Engineer's Representative (ER)

The Engineer shall delegate powers to the Engineer's Representative (ER) in respect of implementation of the ESMP. The Engineer 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 Contractor's appointment of the Environmental Control Officer (ECO).

Any on-site decisions regarding environmental management are ultimately the responsibility of the Engineer. The ER shall 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.
- Advising the Contractor and the Contractors ECO in finding environmentally responsible solutions to problems.
- Taking appropriate action if the specifications are not followed.
- Ordering the removal of person(s) and/or equipment not complying with the ESMP specifications.
- Issuing penalties for non-compliance to mitigation measures pertained in 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:

- Regular site inspections of all construction areas with regard to compliance with the ESMP.
- Evaluate and verifying adherence to the ESMP.
- Advising the Contractor in finding environmentally responsible solutions to ESMP non-compliance activities.
- Organise and facilitate environmental awareness training for all new personnel coming onto site.

9.3 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.

9.4 Public Participation

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

9.5 Environmental Auditing

Environmental auditing should be conducted at least once every three months during the construction phase. These environmental audits will be conducted by an environmental consultant with the required experience and sub-contracted by the Engineer.

Benefits derived from the audit process include:

- identification of environmental risks observed during a site visit;
- development or improvement of the environmental management system;
- suggested improvements to the ESMP;
- inspecting the required permits and licenses;

- increase in staff awareness with regards to the environment and the ESMP;
- inspect environmental incident reports, environmental monitoring and recording documentation. These documents will be compiled and filed by the ECO.

Commonly, the audit of a site will cover all environmental management procedures, operational activities & systems, and environmental issues.

9.6 Documentation, Record keeping and Reporting Procedures

The Contractor shall develop and implement an effective document handling and retrieval system for all ESMP documentation on site. This will ensure that there is adequate ESMP documentation control and will facilitate easy document access and evaluation. ESMP documentation should include (but are not limited to):

- ESMP implementation activity specifications;
- training records;
- site inspection reports;
- monitoring reports; and
- auditing reports.

The Environmental Control Officer is responsible for ensuring that the registration and updating of all relevant ESMP documentation is carried out. The ECO is responsible for ensuring that the latest versions of documents are used to conduct tasks which may impact the project environment.

9.7 Environmental Mitigation Measures / Environmental Management Plan

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
9.7.1 MANAGEMENT AND MONITORING	To ensure that the provisions of the ESMP are implemented during construction.	The independent environmental consultant shall monitor that all aspects of the ESMP are implemented during the construction phase of the project. The environmental consultant shall conduct site inspections and attend meetings. The site meeting agenda shall make provision for reporting on non-compliance issues related to the ESMP.	Environmental consultant together with the ECO.
9.7.2 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, community, and the Engineer. 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 10.3 above. d. The Contractor shall liaise with the social and environmental consultants regarding all issues related to community consultation and	Contractor/ Environmental Consultant to monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		negotiation as soon as possible after construction commences.	
9.7.3 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. The Contractor shall also liaise with the Traffic Authorities in this regard. d. Proper traffic and safety warning signs must be placed at the construction site as required by the Road Traffic and Transport Act, 1999 (Act 22 of 1999) and the Road Traffic and Transport Regulations promulgated in terms of the Act. e. The Contractor must adhere to the regulations pertaining to Health and Safety, with special reference to the provision of protective clothing. Failing to issue workers with the proper PPE, the Contract may be suspended until corrective actions were taken.	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		f. Dust protection masks shall be provided to task workers if they complain about dust. g. Surface dust will be contained by wetting dry surfaces periodically with a water bowser, sprinkler system or any suitable method. This applies to all individual construction areas on site and to the sections of the road affected. 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 all relevant Health and Safety Regulations for the specific activities associated with this project. j. The Contractor shall implement a HIV/AIDS awareness programme as part of Health and Safety. k. Blasting may only be conducted by a qualified person and all laws and regulations will be enforced before and during blasting. Blasting shall be done in accordance with Clause 1222 of the Standard Specification of the Roads Authority and the Explosives Act 26 of 1956 (Regulations promulgated as amended by the Explosive Amendment Act, 1993).	

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
9.7.4 CONSERVATION OF THE NATURAL AND HISTORICAL ENVIRONMENT	To minimise damage to soil, vegetation and historical resources during the construction phase. This includes soil crusting, soil erosion and unnecessary vegetation destruction. Management of water (domestic and construction).	a. The main contractor's camp shall not be constructed closer than 500m from any river, stream of tributary from any river / stream. b. 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 areas shall be disturbed or used for construction activities. c. 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. d. No off-road driving shall be allowed, except on the agreed haul and access roads. e. 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 or as directed by the Engineer. The areas on either side of the road reserve may not be cleared of vegetation, unless permission is given to do so for detours or access roads. This	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		measure is subject to the Roads Authority's specifications with regards to the road reserve. f. A prescribed penalty will be deducted from the Contractor's payment certificate for every mature tree removed without approval. g. No trees may be felled or live wood in the project area removed by any member of the construction team, including sub-contractors. Contravention of this arrangement is liable for a prescribed penalty. h. 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 wilfully and unnecessarily, or that any plants have been collected illegally, by any of the staff or sub- contractors. i. Trees that need to be trimmed should be done so with the right equipment and aesthetical acceptable. The use of a saw fit for its purpose is obligatory and the branches of trees will not be broken off by the use of other machinery. j. 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. k. Where compaction has taken place in disturbed areas, these areas must be ripped and covered with topsoil	

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		separately kept for this purpose. This aspect shall be provided for in the schedule of quantities – covered by the Standard Specification of the contract. l. Poaching or collecting of wild animals is prohibited. m. The killing of any animal (reptile, bird or mammal) is prohibited, unless for legal hunting purposes. n. 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 wild animals in the vicinity of the work sites. Such activities shall be reported to Nampol for prosecution. o. Pipelines for the pumping of construction water shall as far possibly run within the road reserve and along existing tracks and other roads. p. Water will not be allowed to be wasted. This includes water required for construction and domestic purposes.	
9.7.5 BORROW PIT MANAGEMENT AND REHABILITATION	To ensure proper soil management (combat soil erosion and promote biological activities). Preserve and manage natural vegetation. To ensure health and safety around the	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	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
	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.	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 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 Engineer shall draft a plan for each proposed borrow pit. Similarly, the Contractor shall draft such a plan for each borrow-pit proposed by him. This plan must indicate the required resources; borrow pit boundaries 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 applicable local headmen OR residents 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 containing organic material) shall be stockpiled separately and the stockpile	

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		maintained for use at the end of the contract to rehabilitate the borrow pits. h. The topsoil 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 20° (1:5) and evenly spreading the topsoil over the slopes to allow for the growth of new vegetation. j. All spoil material at the borrow pits shall be neatly shaped and covered with overburden (if available). 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 shall be compiled by the Contractor 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.	
9.7.6 WASTE AND POLLUTION MANAGEMENT	To avoid contribution to potential surface and groundwater pollution. To avoid contribution to potential soil pollution.	a. General 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.	Contractor will ensure the mitigation measures are enforced at his own expense.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
	To ensure that sound waste management practices are adhered to during construction.	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 waste in a responsible manner and not to litter. e. Waste bins will be placed in and around the construction site to facilitate proper waste management. f. No hazardous or domestic waste may remain on site after completion of the project. g. The construction of properly designed sewage facilities is required at the camp site. The sewage should either be removed on a regular basis and dumped at an approved sewage facility or where it is not possible, the sewage should be managed to such an extent that is does not cause any negative effects on the bio-physical or social environments. Proof of disposal shall be kept as record in the ECO file for environmental performance assessment purposes. No free-flowing sewage is acceptable. h. Toilet facilities will be available in the following ratio: 2 toilets for every 20 females and one toilet for every 20 males. The toilets should be such that these can be transported for various site selections and to be emptied at an	The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		approved sewage site. No person should have to walk more than 1km for the use of a toilet. i. 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. j. Servicing of vehicles is only permitted in the demarcated vehicle service area, except for large immobile vehicles which may be repaired on site, on condition that oils and lubricants are prevented from spilling through the use of drip trays or other suitable containers. k. 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. l. Machines operating during the day that show signs of excess leaking (verified by ECO or Engineer) should be withdrawn from the task and repaired by the contractor. m. Accidental spills will be cleaned immediately. The contaminated soil will be suitably disposed of in a container suitable for hazardous waste.	

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		n. Used oil / lubricants, and other hazardous materials shall be stored in separate containers (metal or plastic). These containers shall be stored in an area with an impermeable floor and bunded walls. The materials and used oils / lubricants shall be disposed of at an approved waste disposal site or for collection by an oil recycling company such as WESCO Salvage (this company collects 3significant quantities of oil from central locations throughout the country). o. Fuel tanks on site will be properly bunded. The volume of the bunded area will be enough to hold 1.5 times the capacity of the storage tanks. The floor of the bunded area will be impermeable (welded plastic sheets, concrete or clay) and the sides high enough to achieve the 1.5 times holding capacity. There will be a valve installed in the bunded area to allow rainwater drainage. p. Foam fire extinguishers will be near 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. q. 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	

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		other section of the road that is in use. This serves as a dust suppressor. r. Bitumen cleaning pits shall be constructed that are effectively lined with an impermeable material. No leaks / seepage is allowed from these bitumen pits. s. Should large quantities of bitumen need to be disposed, it can be done at a borrow pit with the following mitigation measures: (i) the borrow pit shall not be closer than 100m from any river, drainage tributary or stream ; (ii) The aquifer level shall not be closer than 10 meters to the borrow pit floor; (iii) a plastic lining will be laid underneath the proposed dumping area and the spoiled bitumen shall be covered with the same plastic lining as to prevent leaching; (iv) at least three meters of material shall be placed on top of the plastic lining.	
9.7.7 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 construction 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. 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	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		applies to big trees as mentioned in the ESMP only).	

9.8 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 Engineer 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:

- within the boundaries of the site, site extensions and haul/access roads there is evidence of contravention of these environmental Specification;
- environmental damage due to negligence;

- the Contractor fails to comply with corrective or other instructions issued by the Engineer within a specific time;

Penalties for the activities detailed below, will be imposed by the Engineer 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 or hydrocarbon spillages	A penalty equivalent in value to the cost of clean-up operation plus an N$ 5000 fine.
c.	Damage to indigenous vegetation	A penalty equivalent in value to the cost of restoration plus N$ 5 000
d.	Damage to sensitive environments	A penalty equivalent in value to the cost of restoration plus N$ 5 000
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$5 000 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$4 000
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$1 000
m.	Constant leakages from the sewage system.	N$ 15 000

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 Engineer, be doubled in value to a maximum value of N$ 30,000.

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 these Environmental Mitigation Measures and the Non-compliance section of this document.

10. CONCLUSION AND RECOMMENDATIONS

The environmental investigation to determine the sensitivity of the impacts associated with this project was done according the legal requirements of the Environmental Management Act No. 7 of 2007 and associated Regulations of 2012.

Even though there are some negative impacts are associated with upgrading to low volume seal standard, the significance of these impacts are considered to be low to medium and these negative impacts could further be reduced or avoided by proper implementation of the Environmental and Social Management Plan.

This project does not pose significant environmental risks because the existing alignment will be followed. 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 during construction.

The upgrade to low volume seal standard will bring about the most positive impacts associated with the operational phase of the project. These include reducing the vehicle operating cost for the road user, improved road user safety.